MEET THE NEW

marathon®

MOTORS AND DRIVES STANDARD PRODUCT

2025 | CATALOG

EXPERIENCE SERVICE LIKE NEVER BEFORE

MEET THE NEW MARATHON TEAM

Powered By WEG

With more than a century of experience, we bring unparalleled knowledge to every partnership, ensuring tailored solutions that meet the unique demands of your industry.:

- **Proudly North American Manufactured:** Quality products built with pride through North American Manufacturing.
- **More Stock Catalog products available:** Our diverse inventory is designed to cater to a wide range of needs, combining high performance with exceptional durability for long-term value.
- **Nationwide Inventory Locations:** Strategically placed across the country for faster delivery.
- **US-Based Customer Support:** Real people, real solutions, just a call away.

We're more than motors; we're your ***trusted ally*** in powering your success.

WWW.MARATHONELECTRIC.COM

marathon®

SOLUTIONS CLOSER THAN YOU THINK



CONTACT US TODAY

833-697-3203

At Marathon Electric, we power progress by keeping your operations running smoothly with dependable industrial motor solutions. From expert advice to quick turnaround on orders, our dedicated team is just one contact away, ready to help with motors over NEMA®*180 frame series and higher.

Do you want to send us an email ?

Orders | industrialmotororders@marathonelectric.com
Quotes | IndustrialMotorQuotes@marathonelectric.com
Technical Support | ind.motorstechnicalsupport@marathonelectric.com
Warranty Questions | industrialwarranty@marathonelectric.com
Parts | Parts.Orders@marathonelectric.com
General Questions | ind.motorinquiries@marathonelectric.com
Generator Support | Generatorinquiries@marathonelectric.com

*See back cover page for attribution.

PERFORMANCE FOR THE LONG RUN

30% | **MORE STOCK RATINGS FROM OUR STANDARD OFFERING**

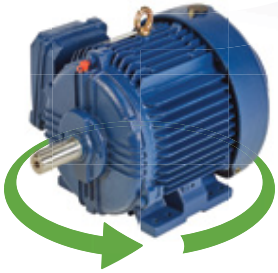
OUR ALL NEW CATALOG IS EASY TO USE AND HELPS YOU SELECT

THE RIGHT MOTOR FASTER.

Now offering more motor solutions, more motor applications. Finding the right motor is simplified.

E-TOOLS MATCHED TO THE WAY YOU WORK

Our comprehensive product offering is viewable online or on mobile devices. On our website, you can compare products and find Marathon® brand distributors near you. Our website provides easy access to all the information you need, whether you're behind a desk or in the field.



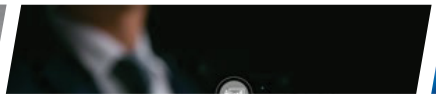
PRODUCT COMPARISON

MOTOR DRAWINGS

COMPETITOR CROSS REFERENCES

DISTRIBUTOR LOCATORS

MOBILE FRIENDLY SITE



MODIFICATIONS AT THE WAREHOUSE ENSURE CUSTOM SOLUTIONS FASTER

THE RIGHT MOTOR.
THE OPTIMAL FIT.
THE PERFECT SOLUTION.

MORE CHOICES FROM
ONE LEADING BRAND.

ENSURE CUSTOM SOLUTIONS FASTER.

We understand that no motor is perfect for every application. That's why we've expanded our modification offerings on a variety of models. We can ensure the motor solution that you need will be ready to work.

YOU'LL HAVE QUESTIONS. WE'LL HAVE ANSWERS.

As you review the industrial motors from this expanded offering, know that we're ready to assist. Our customer service professionals are here to guide you. Your local field representative is available to help you find the right solution for your application.

marathon®

FROM THE BEGINNING,
WE ARE LEADING
INNOVATION WITH PURPOSE.

marathon™ 100+ YEARS SINCE 1913

BUILDING OUR BRANDS
OVER 100 YEARS OF DEDICATION AND TEAM WORK

1913 Marathon®* Company Founded.

1960 1/20 HP through 3500 HP motors Introduced 95% of the motors installed.

1976 First Energy Efficient Polyphase HP motors.

1981 First two-speed motors, solid state switch with UL®* approval.

1986 Marathon XRI® product line introduced - leading the industry with NEMA Premium®*.

1996 BlackMAX® Motor was introduced to the market

1997 MAX GUARD® insulation system introduced.

2000 Blue Chip Series® Severe Duty Explosion Proof motor named Plant Engineering magazine product finalist.

2002 First true world class motor, IEC®* Globetrotter®, introduced.

2010 Permanent Magnet AC Motor introduced.

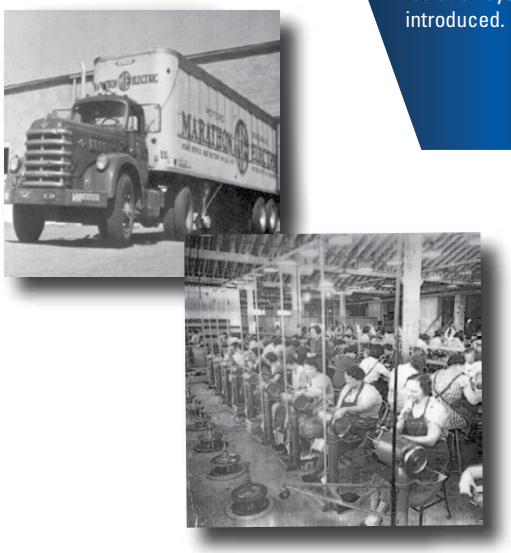
2012 Simplified "Marathon" becomes a flagship brand.

2013 Celebration of 100 years of the Marathon brand.

2019 Build a Manufacturing plant on Monterrey, Mexico. 250,000 Sq.Ft.

2020 Medium Voltage and ANEMA Endurance Series® Motors.

2024 Marathon Electric is acquired by WEG Group.



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GENERAL INFORMATION

MARATHON® MOTORS

Since 1913, the Marathon name has been recognized for engineering excellence, custom-designed products and an extensive product line of industrial quality motors. Available in all popular enclosures from 1 1/2 HP through 3500 HP and in a variety of mounting configurations. The unique design of Marathon motors provides more options to add accessories such as; blowers, brakes and encoders, to our motors. Our state-of-the-art lab facilities are equipped and staffed with the finest resources available to ensure successful utilization of our products. "Performance matched solutions™" to all leading brands of PWM drives, we have what it takes to be a leader in understanding the interaction of drives that are applied with AC induction motors.

WEBSITE AND E-COMMERCE

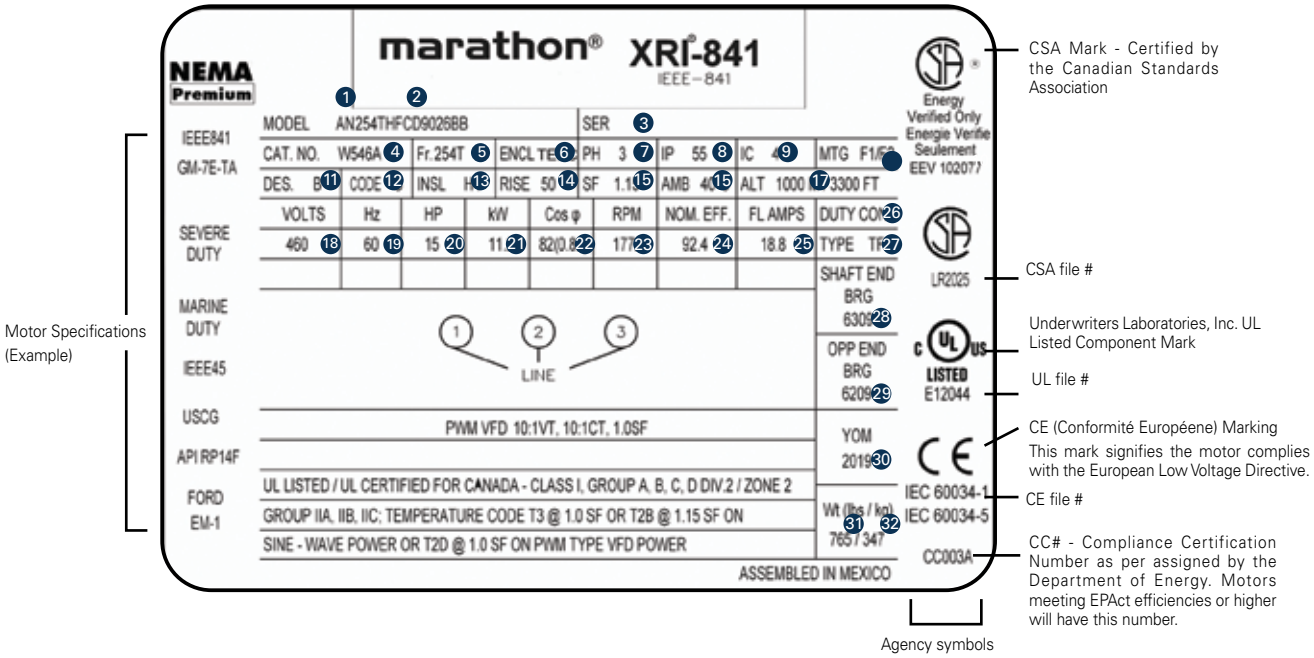
Information can be accessed instantly, any time of the day on our website. Marathon motor customers can also contact their sales representative for information.

THE FOLLOWING INFORMATION CAN BE FOUND ON OUR WEBSITE

- Stock availability
- Order status
- Shipping information
- Invoice information
- Product features and performance data
- Contact information

HOW TO READ THE NAMEPLATE

The nameplate is the key to selecting the proper replacement motor.



1. DATE CODE - The month and year manufactured
2. MODEL - The ID number
3. SER. - Serial number
4. PART NO. - Customer part number
5. FRAME - The size & mounting
6. ENCL - Enclosure (e.g. TEFC)
7. PH - Electrical phase usually 1 or 3
8. IP - International Protection rating of the enclosure to solids and liquids as defined by IEC 60034-5 and NEMA MG1
9. IC - Inherit Cooling
10. MTG. - Mounting
11. DES. - Code by NEMA®* or IEC®*
12. CODE - NEMA locked-rotor KVA
13. INS CL - Insulation class
14. RISE - The temperature rise over ambient expressed in °C when the motor operates at nameplated HP or KW
15. S.F. - Percentage of the rated horsepower the motor can safely operate at Example: 1.15 SF (115% of rated HP)
16. MAX AMB - The allowable surrounding air temperature
17. ALTITUDE - The allowable altitude
18. VOLTS - Voltage rating of the motor at the operating frequency
19. HZ - Input frequency of the power supply, usually 50 or 60 HZ
20. HP - Rated horsepower the motor will produce
21. KW - Rated output in watts
22. PF / COS - Power Factor / Cosine is the ratio of actual power to the apparent power
23. RPM - Full load speed at rated frequency
24. NOM EFF - Average efficiency
25. F.L. AMPS - The rated load current expressed in amps at nameplated horsepower with nameplate voltage and frequency
26. DUTY - Time rating under load
27. TYPE - Electrical type
28. SHAFT END BEARING - Manufacturer drive end bearing number
29. OPP. END BEARING - Manufacturer opposite drive end bearing number
30. MTH/YR MFG. - Month and year motor was manufactured
31. WT/LBS - Motor weight in pounds
32. WT/KG - Motor weight in kilograms

GENERAL INFORMATION

HOW TO READ THE MODEL NUMBER

Each Marathon® motor carries a model number that can be used to define some of the motor's physical and electrical characteristics.

Example: 2QA215TBDRA7076ALL

This is a breakdown of the model on the nameplate:

2	Q	A	215T	B	D	R	A	7076	AL	L
1	2	3	4	5	6	7	8	9	10	11

This is a breakdown of the model in the catalog:

215T	B	D	R	A	7076
4	5	6	7	8	9

1. DATE CODE

Year of Manufacture (Not shown in catalog listings)

2. THERMAL PROTECTION

(Not shown in catalog listings)

	UL®* Recognized Motor Protector Combination	UL Recognized Motor Construction
Automatic Reset	Automatic Reset	Automatic Reset
Q	Yes	Yes
S	No	No
U	No	Yes
W	#	Yes
Manual Reset	Manual Reset	Manual Reset
P	Yes	Yes
Z	No	Yes
X	No	No
None	None	None
V	No	Yes

Motor protector combination is U.L. Recognized only if motor is used in direct drive fan duty application, and is under locked rotor condition, or is running under no-load condition.

3. DATE CODE

Manufacturer (Not shown in catalog listings.)

4. NEMA® FRAME SIZE

(Integral motors - T and U designate standard shaft, TS and US designate short shaft)

5. ELECTRICAL TYPE

(Not shown in catalog listings)

Single-phase	
A	Permanent split capacitor
B	Capacitor start, capacitor run
C	Capacitor start, induction run
N	Split phase start, capacitor run
S	Split phase
Three-phase	
T	Three-phase
H	Inverter Duty/IEEE841 Inverter Duty
V	Medium Voltage
DC Power	
E	Permanent Magnet DC

6. ENCLOSURE

D	Dripproof
E	Explosion proof, non-ventilated
F	Totally enclosed, fan cooled
G	Explosion proof, fan cooled
O	Open
P	Partial
S	Semi-enclosed
T	Totally enclosed, non-ventilated
V	Wash Down, non-ventilated
W	Wash Down, fan cooled

7. FRAME CONSTRUCTION

Integral	
L	Aluminum (Full Frame)
Y	Aluminum (Full Frame)
Z	Aluminum (High Mount Down Frame)
H	Aluminum - Sourced
R	Rolled Steel (Full Frame)
W	Rolled Steel (Full Frame)
X	Rolled Steel (High Mount Down Frame)
B	Rolled Steel - Sourced
S	Cast Iron (Full Frame)
N	Cast Iron (Full Frame)
P	Cast Iron (High Mount Down Frame)
C	Cast Iron - Sourced
D	Stainless Steel

8.STYLE LETTER

(A, B, C, etc . indicate redesign)

9. SEQUENCE NUMBER

10. MINOR MODIFICATION LETTER(S)

Fractional - 1 letter; Integral - 2 letters

11. MANUFACTURING CODE

A code for the factory where the motor was manufactured.

*See back cover page for attribution.

GENERAL INFORMATION

ORDERING INFORMATION

When ordering, please include the model number, catalog number, description of the motor, quantity, shipping and billing instructions. For pricing of non-stock motors, or if you need assistance in selecting the proper motor, please contact your nearest Marathon sales representative or local Marathon Motor distributor. **All prices and data are subject to change without notice.**

CANCELLATIONS AND RETURNS

Stock product can be returned for credit as defined herein. Equipment must be in original packaging, unused in "as shipped" condition and is **limited to products currently maintained in stock inventory.** The quantity returned can't exceed normal stock quantity level. All motors returned must have date codes no older than 8 months from date of manufacture. The minimum restocking charge is 20% of the original net purchase price. Modified and build to order motors cannot be returned for credit. Return freight charges are the responsibility of the customer returning the motor for credit. **No returns will be accepted without prior authorization.**

NON-STOCK PRODUCT CANCELLATION POLICY

Cancellation charges for non-stock orders received and entered will be determined based on the percentage of completion in the engineering and manufacturing process, accounting for all costs plus a reasonable profit. Marathon's determination of the cancellation charges shall be conclusive.

DISCOUNTS AND MULTIPLIERS

Except as noted, all prices in this catalog are list prices. 200 and 575 volt 3 phase ratings utilize the same list price as 230/460 volt. NEMA®* short shaft (TS) utilize the same list price as standard shaft (T). Contact Marathon Motors for special bearing systems, including all requirements for sleeve or roller bearing. For your discount and multiplier, contact your local sales representative or local Marathon motor distributor.

MODIFICATION/ACCESSORIES

See the Modification/Accessories sections for more information on modifications to create special motor variations.

SERVICE

For service on any Marathon motor, contact your nearest Marathon authorized service station. For a complete listing of all domestic and foreign service stations, refer to our website.

STOCK, NON-STOCK AND BUILD UP MODELS

Standard motors listed in this catalog, as indicated with a check mark ***(√)*** next to the catalog number, are normally in stock. There is no minimum order quantity or minimum billing charge associated with stock motors, unless stated otherwise in your quotation or agreement with Marathon Motors.

Production of all build-up models may be subject to minimum order quantities or minimum order values. Please refer to factory for more details.

Other options may be available, please review current quotes and/or consult factory for current rules and offers. Build-up motors must be thoroughly described and with all application details at time of order, and/or associated with a formal quotation issued by Marathon. Inclusion of product features for similar motors documented in this catalog should not be assumed.

OPERATION AND MAINTENANCE

For information on operation and maintenance, please consult the manual or card shipped with your new motor. Additional copies of "Installation, Operation & Maintenance Instructions" (brochure SB181) are available upon request or through our website.

STORAGE PROCEDURES

In the event that long-term storage of motors is required, Marathon recommends the following precautions and procedures. This information is also contained in "Installation, Operation and Maintenance Instructions" (SB181).

A. Keep motors clean

1. Store indoors
2. Keep covered to eliminate airborne dust and dirt.
3. Cover openings for ventilation, conduit connections, etc. to prevent entry of rodents, snakes, birds and insects.

B. Keep motors dry

1. Store in a dry area indoors.
2. Temperature swings should be minimal to prevent condensation.
3. Space heaters are recommended to prevent condensation.
4. Treat unpainted flanges, shafts and fittings with a rust inhibitor.
5. Check insulation resistance before putting motor into service.

C. Keep bearings lubricated

1. Once per month, rotate shaft several turns to distribute grease in bearings.
2. If unit has been stored more than one year, add grease before start-up (refer to lubrication procedure).

DIMENSION DRAWINGS

See our website or request certified drawings through your Marathon sales engineer, representative or local Marathon motor distributor.

Our complete terms and condition of sale are available on our website. See back cover for the website link.

*See back cover page for attribution.

GENERAL INFORMATION

WARRANTY

Marathon® Motors warrants motors to be free from defects in materials and workmanship and to conform to Marathon's written specifications. For a copy of our Standard Terms and Conditions of Sale, please visit our website.

Motor Type	Warranty Period from date of Installation**	Warranty Period from date of Invoice**
Standard warranty for any product not shown below	12	18
Medium voltage	12	18
EPAct compliant (aluminum, steel & cast iron frame)	24	30
Blue Max® motor, Black Max® motor, and MICROMAX™ motor inverter duty	36	42
All NEMA Premium®* incl . ODP, Blue Chip Series motor, Severe duty, Explosion proof, etc.	36	42
Blue Chip Series® motor IEEE-841, Powerwash (EXT models only), Black Max PM	60	66

**Warranty period shown is in months, and is valid for whichever period expires first.

Note: Brake discs are considered a normal maintenance item and are not covered under warranty.

For more information on our warranty policy, refer to the "Terms and Conditions of Sale" posted on our website. See back cover for website link.

SUBMITTAL DATA

Mechanical and electrical submittal data is available on many stock catalog motors through our website by following the three steps listed on the next page. All other submittal data is available upon request when accompanied by a purchase order for the specified motor, subject to the following additional charges.

SUBMITTAL CHARGE SCHEDULE

Type	Elements	Net/ea
BASIC (.PDF Format)	Nameplate data	No Charge
	Motor characteristics	
	Performance data	
	Outline drawing	
	External connection diagram	
	Add for .dxf or .dwg format	$50
BASIC-PLUS (.PDF format)	All "BASIC" elements, tailored to specific order	$150
	"Cut sheets" of installed accessories	
	Add for .dxf or .dwg format	$20
ADDITIONAL ITEMS (.pdf formats)	Speed/ Torque curve	$100
	Torque capability curve	$100
	Certificate of conformance	$200
	Thermal damage curve (182T-326T frame)	$1000 + cost of additional motor
	Thermal damage curve (364T-6805 frame)	$3000 + cost of additional motor

***Does not imply re-testing

*See back cover page for attribution.

APPLICATION INFORMATION

AGENCY LISTINGS UL®* AND CSA®*

Marathon® Fire Pump motors, Hazardous locations motors (Division 1 "Explosion proof", some Division 2 motors), and some Nonhazardous (i.e. Ordinary) locations motors are UL Listed. Other motor types are UL Recognized, including models with inherent overheating protection as noted (i.e. thermally protected models). Marathon motors are also CSA®* certified for Hazardous Locations (Division 1 "Explosion proof", some Division 2 motors), as well as for non-hazardous (Ordinary) locations.

AC MOTORS

Non-Explosion Proof	Note 1	Note 2
NEMA®* 182-449 FRAME	E542721 (Recognized motors, Listed motors)	LR2025
NEMA 500 and 5000 Frame	—	LR2025
IEC®* 112-315 Frame	E542721(Recognized motors, Listed motors)	LR2025*
Thermally Protected motors	E542722	LR2025
Insulation Systems	E37900	LR2025
N. America Division 1/ Zone 1	**Note 1**	**Note 2**
NEMA 182-326 Frame	E12044	LR47504
NEMA 364-449	E12044	LR21839
Fire Pump Motors	**Note 1**	**Note 2**
NEMA 182-510 Frame ODP	EX5190	LR2025
NEMA 182-5011 Frame TEFC	EX5190	LR2025
IEC 112-355 Frame TEFC	EX5190	LR2025
N. America Division 2/ Zone 2	**Note 1**	**Note 2**
NEMA 182-449, 5000 Frame, totally enclosed, 3 Phase AC Induction	–	LR21839
NEMA 182-286 Frame, IEC 112-180 Frame, PMAC	–	LR21839
NEMA 213-449 Frame, TEFC, Sourced	E12044	–
ATEX Zone 1/ Zone 2 / Zone 21/ Zone 22	**Certificate No.**	
IEC 112-355 Frame, TEFC, Sourced	DEMKO 17 ATEX 1836X (Zone 2, Zone 22) DEMKO 18 ATEX 1982X (Zone 1, Zone 21)	
IECEx Zone 1/ Zone 2 / Zone 21/ Zone 22	**Certificate No.**	
IEC 112-355 Frame, TEFC, Sourced	IECEx UL 17.0014X (Zone 1, 2, 21, 22)	

Notes:

Note 1 - UL Certifications available online at www.ul.com, select "find a product certification" link and use "UL Product iQ" and search by UL file number."

Note 2 - CSA Certifications available online at www.csagroup.org/services-industries/product-listing/, enter desired CSA File No. using six digit numerical format (e.g. 002025, 021839, etc.)

* - Does not include coverage for use of VFD

CONFORMITY EUROPEAN (CE)

CE®* marking on the nameplates of Marathon motors is available upon request for most motors rated 600V or less. We do not apply the CE marking to explosion proof motors. The European "Low Voltage" Directive applies to electric motors. Contact a Marathon representative for details.

Non-explosion proof MICROMAX™, Black Max® and Blue Max® (TENV and TEFC) standard (catalog) models have the CE mark on the nameplate.

ATMOSPHERES EXPLOSIBLES (ATEX DIRECTIVE)

Mandatory by law, the European Union (EU) Directive 2014/34/EU requires that electric motors for use in potentially explosive atmospheres carry the CE mark, notified body identifier, Ex symbol, equipment group and category, plus the date code. See "European Installations" for additional details, located on the next page.

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

Marathon motors are manufactured in accordance with all applicable areas of NEMA®* standards in MG1-2021. When applied in accordance with the "Guidelines for the application of Three-phase motors on variable frequency drives", **Marathon motors are in full compliance with NEMA MG1-2021, Part 31, Section 31.4.4.2** , as pertaining to voltage spikes. 460-volt motors must withstand voltage spikes of up to 1431 volts; 575-volt motors must withstand spikes of up to 1789 volts. See "Insulation Systems" for additional detail on this subject.

COMMITMENT TO ROHS AND WEEE EUROPEAN DIRECTIVES

European Directive 2002/95/EC "Restriction of Use of Certain Hazardous Substances" (RoHS) and Directive 2002/96/EC "Directives on Waste Electrical and Electronic Equipment" (WEEE) were enacted to control the amount of certain hazardous substances contained in products shipped into the E.U. Restricted substances include lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers.

The scope of products covered, affecting motors, are:

- Small and large household appliances
- IT and telecommunications equipment
- Consumer equipment
- And more

The Directives do not currently apply to medical devices, monitoring and control instruments, spare parts for the repair reuse of electrical and electronic equipment placed on the market before July 1, 2006 and most military and state security equipment.

Marathon Motors has worked closely with suppliers to assure that product falling within the scope of these Directives meets the specified levels of these substances. The Directives took effect July 1st, 2006; however, many products were converted in May and June.

*See back cover page for attribution.

APPLICATION INFORMATION

BEARINGS

Frame size	Standard type shield ball	Comments
182 - 184T	Sealed Ball	
182 - 444T	Double Shield Ball	
284 - 449TS	Single Shield Ball	
445T - 6805	Double Shield Ball	Direct - coupled loads
445T - 6805	Roller (DE)/Ball	Belted loads

Note: Belting data must be provided on all belted applications.

Download the Form SB0395E Belting Data Form.

To Find more about guidelines for belted Applications consult the form SB528.

Standard horizontal motors can be mounted in a vertical shaft down orientation (except brakemotors). Contact a factory representative for shaft-up mounting arrangements, or submit a belt & chain submittal form to quote.

Motors for use in vertical shaft up or shaft down configurations must be reviewed by engineering before ordering.

Marathon® motors use Mobil POLYREX EM®* grease, a specially formulated bearing grease designed for electric motors. POLYREX EM provides superior lubricity, durability and resists corrosion, rust and washout.

Maximum safe mechanical speed capability is a function of bearing size, type and grease selection, as well as rotor balance specifications. Consult the "Maximum Safe Mechanical Speed Limits" chart in the "Overspeed Capability" section. Note that these values do not imply maximum constant horsepower RPM.

EFFICIENCY

The efficiency of a motor is the ratio of its useful power output to its total power input and is usually expressed in a percentage. Marathon motors are available with standard, high efficient EPAct, and **NEMA Premium®*** efficient ratings. Standard efficiency motors may only be used on applications that are exempt from legislated efficiencies. The high efficient motor line is in compliance with the Energy Policy Act of 1992 (EPAct) and/or Canadian efficiencies as set by Natural Resources Canada (NRCan). The Energy Independence and Security Act of 2007 **(EISA07**) law on December 19, 2010, requiring current EPAct-compliant motors to meet NEMA Premium efficiencies, and most EPAct-exempt motors to meet EPAct levels. XRI® Premium efficient motors in this catalog meet NEMA Premium unless otherwise noted.

The XRI® motor line is a premium efficiency line, which exceeds mandated efficiencies of EPAct and /or NRCan. Unless otherwise noted, XRI premium efficient motors in this catalog meet NEMA Premium the newly promoted efficiency levels by NEMA and the Consortium for Energy Efficiency (CEE).

ELECTRICAL TYPE/STARTING METHOD

Motors in this catalog are capacitor start, split phase, permanent split capacitor, Three-phase, PMAC Capacitor start motors have high starting torque, high breakdown torque, and relatively low starting current. Split phase motors have medium starting torque and medium starting current. Permanent split capacitor motors have low starting torque and low starting current. Three-phase motors have high starting, extra breakdown torque, and typically very low starting current. Single-phase motors cannot be applied on variable frequency drives with Three-phase output. PMAC which must incorporate a PM-Drive

ENCLOSURE AND METHOD OF COOLING

Marathon motors are available in various enclosures; Dripproof (DP), Dripproof Force Ventilated (DPFV), Totally Enclosed Fan Cooled (TEFC), Totally Enclosed Non-Ventilated (TENV), Totally Enclosed (TEAO) and Totally Enclosed Blower Cooled (TEBC). Application conditions will determine the type of motor enclosure required.

Dripproof motors have open enclosures and are suitable for indoor use and in relatively clean atmospheres. Dripproof motors have ventilating openings constructed so that drops of liquid or solid particles falling on the machine at an angle of not greater than 15 degrees from the vertical cannot enter the machine.

Totally enclosed motors are suitable for use in humid environments or dusty, contaminated atmospheres. Totally enclosed non-ventilated motors are NOT cooled by external means. Totally enclosed fan cooled motors are cooled by external means that are part of the motor but not in the internal workings of the motor. Totally enclosed air over motors are sufficiently cooled by external means, provided by the customer.

NEMA® FRAME DESIGNATION

Motor dimensions and frame assignment numbers are interrelated by NEMA standards.

MEDIUM MOTORS

Frame sizes for medium motors are three or four digits, followed by various letters - for example, 213TC.

The first two digits of the frame number equal four times the D dimension in inches (the distance between the centerline of the shaft and bottom of motor's feet). When that product is not a whole number, the next higher whole number is used.

For example, a 213T series frame has a D dimension equal to 5 25 inches ' 4 x 5.25 = 21. The third (and fourth when applicable) digit is obtained from the value of 2F in inches by referring to the columns headed 0 to 1 5 in NEMA MG 1 -1 993, Table 11 -1 .

For example, a 213T frame has a 2F dimension equal to 5.50 inches. Going to Table 11 -1 , the third digit is 3.

The letters T, U, HP, HPH, JM, JP, LP, LPH and VP and VPH fill the position immediately following the three or four digits in the frame size.

T - Currently used as part of the frame designation for which standard dimensions have been established. 213T.

U - Previously used as part of the frame designation for which standard dimensions have been established. U frame motors are no longer included in the NEMA MG 1 Standard. 284U.

JM and JP - close-coupled pump (CCP) motor having antifriction bearings and special NEMA defined dimensions.

Unique features include a C-Face style mounting bracket, special stepped shaft with a drilled & tapped hole, and a locked drive-end bearing 213JM.

HP. HPH. LP. LPH and VP - vertical solid-shaft motors with special NEMA defined dimensions. 445HP.

The following letters may appear next in the frame size.

S or R - S defines a standard short shaft and appears only with 284T (324U) and larger frame assignments. 286TS. R defines a motor with its drive end shaft tapered and extended per NEMA dimensions 213TR.

C. D. P or PH - the letters C and D define a C-Face bracket and a D-Flange respectively. P and H define vertical hollow-shaft

motors having specific NEMA defined dimensions. 213TC.

FC or FD - these letters define a C-Face bracket or a D-Flange on the end opposite the normal drive shaft (F for fan end for example). (405TSCFC), Y or Z - the letter Y represents special mounting dimensions (either bracket face or foot pattern) and Z represents special shaft dimensions and can denote a standard or special double shaft extension. 326TZ.

For clarity for double shafts see the following dimensions:

PREFIX LETTERS

Motor manufacturers may use any letter as a prefix to the frame number, but such a letter will have no reference to standard mounting dimensions. Marathon typically uses the letters G, K and L to differentiate frames with the same frame number but different overall lengths ("C" dimension).

HAZARDOUS DUTY® MOTORS

Hazardous Duty motors are totally enclosed (fan-cooled, non-ventilated, or explosion proof) motors designed for applications in hazardous atmospheres containing flammable gases, flammable liquid-produced vapors (Class I), or combustible dust (Class II).

NORTH AMERICAN INSTALLATIONS

North American standards for electric motors generally fall into one of two divisions. Division 1 Explosion Proof motors are UL®* Listed in accordance with NFPA Class I (Flammable gases, vapors, liquids) or Class II (Combustible Dusts) and Groups (gases, vapors, liquids, or dusts), depending upon the atmosphere. Division 2 motors are either CSA®* Certified or UL Listed and are marked similar to Division 1 equipment. Marathon's Division 1 motors, as well as Division 2 motors, are certified for both sine-wave and Inverter duty applications.

EUROPEAN INSTALLATIONS

Motors for hazardous locations in Europe must meet a different set of standards and require different markings than those of North America. CENELEC sets the standards for equipment in hazardous locations for Europe. Motors for use in explosive atmospheres in Europe are often referred to as flameproof or increased Safety (Zone 1) or non-sparking or increased safety (Zone 2) motors. These motors must comply with the ATEX Directive. The ATEX Directive covers all electrical equipment used in explosive atmospheres. To ensure compliance with the Directive, equipment must meet the essential ATEX requirements and carry the CE®* mark on the nameplate. Other information required on the nameplate includes the Ex symbol, group & category, Ex protection method, gas group, and temperature code, example (II 3 G Ex IIC T3 Gc).

Additional details located on next page. See Tables.

NEMA Double End Extensions - Dimensions (all values in inches)

Frame	T		TM		TS		U		UM		US	
	Diameter	Length	Diameter	Length	Diameter	Length	Diameter	Length	Diameter	Length	Diameter	Length
Size	(U or FU)	(N-W) or (FU-FW)	(U or FU)	(N-W) or (FU-FW)	(U or FU)	(N-W) or (FU-FW)	(U or FU)	(N-W) or (FU-FW)	(U or FU)	(N-W) or (FU-FW)	(U or FU)	(N-W) or (FU-FW)
182-184	1 1/8	2 3/4	7/8	2 1/4	-	-	7/8	2 1/4	-	-	-	-
213-215	1 3/8	2 3/8	1 1/8	2 3/4	-	-	1 1/8	3	7/8	2 1/4	-	-
254-256	1 5/8	4	1 3/8	3 3/8	-	-	1 3/8	3 3/4	1 1/8	3	-	-
284-286	1 7/8	4 5/8	1 5/8	4	1 5/8	3 1/4	1 5/8	4 7/8	1 3/8	3 3/4	-	-
324-326	2 1/8	5 1/4	1 7/8	4 5/8	1 7/8	3 1/4	1 7/8	5 5/8	1 5/8	4 7/8	1 5/8	3 1/4
364-365	2 3/8	5 7/8	1 7/8	4 5/8	1 7/8	3 1/4	2 1/8	6 3/8	1 7/8	5 5/8	1 7/8	3 3/4
404-405	2 7/8	7 1/4	2 1/8	5 1/4	2 1/8	4 1/4	2 3/4	7 1/8	1 7/8	6 3/8	2 1/8	4 1/4
444-449	3 3/8	8 1/2	2 3/8	5 7/8	2 3/8	4 3/4	2 7/8	8 5/8	2 1/8	7 1/8	2 1/8	4 1/4

APPLICATION INFORMATION

DEGREES OF PROTECTION THE FIRST & SECOND NUMBERS

Indices of protection of electrical equipment enclosures in accordance with NEMA MG-1, IEC 60034-5, and IEC 60529

IEC	NEMA	First #	Basic Description/ Definition Solids & Dusts	Second #	Basic Description Definition (Note 1) Water
IP00	Open	0	Non-Protected Machine	0	Non-Protected Machine
IP12	Drip-proof	1 (Note 2)	Machine protected against solid objects greater than 1.968 in. (50 mm)	1	Machine protected against dripping water; Dripping water (vertically falling drops) shall have no harmful effect.
IP22	Drip-proof Guarded	2 (Note 2)	Machine protected against solid objects greater than 0.4724 in. (12 mm)	2	Machine protected against dripping water when tilted up to 15°; Vertically dripping water shall have no harmful effect when the machine is tilted at any angle up to 15° from its normal position.
IP23	Weather Protected 1	2 (Note 2)	Machine protected against solid objects greater than 0.4724 in. (12 mm)	3	Machine protected against spraying water; Water falling as a spray at an angle up to 60° from the vertical shall have no harmful effect.
IP24	Weather Protected 2	2 (Note 2)	Machine protected against solid objects greater than 0.4724 in. (12 mm)	4	Machine protected against splashing water; Water splashing against the machine from any direction shall have no harmful effect.
IP44	Totally Enclosed Guarded (Typically TEFC)	4 (Note 2)	Machine protected against solid objects greater than 0.0394 in. (1 mm)	4	Machine protected against splashing water; Water splashing against the machine from any direction shall have no harmful effect.
IP54	Totally Enclosed Severe Duty	5 (Note 3)	Dust-protected machine; Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the machine.	4	Machine protected against splashing water; Water splashing against the machine from any direction shall have no harmful effect.
IP55	Waterproof (TE severe duty w/ Forsheda®* seals)	5 (Note 3)	Dust-protected machine; Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the machine.	5	Machine protected against water jets; Water projected by a nozzle against the machine from any direction shall have no harmful effect.
IP56	Waterproof (TE severe duty, Inpro®* Seals both ends, waterproof conduit box)	5 (Note 3)	Dust-protected machine; Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the machine.	6	Machine protected against heavy seas; Water from heavy seas or water projected in powerful jets shall not enter the machine in harmful quantities.
IP66	Protected from total dust ingress	6 (Note 3)	Dust-tight machine; No ingress of dust	6	Machine protected against heavy seas; Water from heavy seas or water projected in powerful jets shall not enter the machine in harmful quantities.
IP67	Protected from total dust ingress	6 (Note 3)	Dust-tight machine; No ingress of dust	7	Machine protected against the effects of Immersion for 30-Min duration Ingress of water in the machine in a harmful quantity shall not be possible when the machine is immersed in water under stated conditions of pressure and time. (Example Machine in a 30 ft Column of Water)
IP68	Protected from total dust ingress	6 (Note 3)	Dust-tight machine; No ingress of dust	8	Machine protected against continuous submersion (Note 2); The machine is suitable for continuous submersion in water under conditions which shall be specified by the manufacturer.
IP69K	Protected from total dust ingress	6 (Note 3)	Dust-tight machine; No ingress of dust	9K	High Pressure and High Temperature water jet; The IP69K rating means a piece of equipment can withstand intensive cleaning with high-pressure, high-temperature jets

Blue Shade is for "Most Commonly Used"

NOTES FOR FIRST #

1. The brief description given in column 2 in this table should not be used to specify the type of protection.
2. Machines assigned a first characteristic numeral 1, 2, 3, or 4 will exclude both regularly or irregularly shaped solid objects provided that three normally perpendicular dimensions of the object exceed the appropriate figure in column "Definition."
3. The degree of protection against dust defined by this standard is a general one. When the nature of the dust (dimensions of particles, their nature, for instance fibrous particles) is specified, test conditions should be determined by agreement between manufacturer and user.

NOTES FOR SECOND# —

1. The brief description given in column 2 in this table should not be used to specify the type of protection.
2. Normally, this means that the machine is hermetically sealed. However, with certain types of machines it can mean that water can enter but only in such a manner that it produces no harmful effect.

Example of an IP55 machine
IP : Degree of protection

5 : Machine protected against dust and accidental contact.
Test result: no dust enters in harmful quantities, no risk of direct contact with rotating parts. The test will last for 2 hours.

5 : Machine protected against jets of water from all directions from hoses at 3 m
distance with a flow rate of 12.5 l/min at 0.3 bar.
The test will last for 3 minutes. Test result: no damage from water projected onto the machine

*See back cover page for attribution.

APPLICATION INFORMATION

MARATHON® HAZARDOUS DUTY MOTOR AREA CLASSIFICATION CHART

NORTH AMERICAN CLASS I HAZARDOUS LOCATIONS (Flammable Gases, Vapors or Mists)		CLASS II AREA CLASSIFICATION (Combustible Dusts)	
Division 1 Explosion Proof	**Division 2 TEFC & TENV**	**Division 1 Explosion Proof**	**Division 2 TEFC & TENV**
Group A ①	Group A		
Group B ①	Group B		
Group C	Group C		
Group D	Group D		
-	-	Group E ①	
-	-	Group F	Group F (#)
-	-	Group G	Group G (#)

① Group is not available as a Marathon motor.

(#) Contact factory representative for availability.

Note: Catalog Division 1 motors are nameplated Class I, Group C, D, Class II Group F, G, with T3C Temperature Code. These motors can be additionally nameplated as "Zone 1 Group IIB" for applications in North America using the Zone marking scheme.

Note: Catalog Division 2 motors are nameplated Class I, Group A, B, C, D, Div 2/Zone 2 Group IIA, IIB, IIC, T3 @ 1.0SF and T2B @ 1.15SF on sine-wave power, T2D @ 1.0SF on PWM Type VFD. Contact factory representative for availability of other Temperature Codes

Note: Contact factory representative for motors for use in potentially explosive atmospheres in Europe (ATEX Certification) or Global (IECEx Certification)

INSULATION SYSTEMS

Class B

General Purpose motors that employ Class B insulation systems have a total temperature rating of 130°C and maximum allowable temperature rise of 80°C at 1.0 S.F.

Class F

Motors with a Class F system have a total temperature rating of 155°C, with a maximum temperature rise of 105°C at 1.0 S.F. Many Marathon® motor designs utilize a Class F system but limit temperature rise to no higher than "B" rise, providing thermal "headroom" for longer insulation life.

Class H

Class H insulated motors have a total temperature rating of 180°C and maximum allowable temperature rise of 125°C. All Marathon motors that employ a Class H system are designed to operate between "B" and "F" rise, giving the user a generous thermal cushion.

CR^{200}

Corona Resistant, 200° rated magnet wire is utilized in numerous general purpose and inverter duty motor designs to extend insulation life under the rigors of steep fronted voltage spikes, common with today's IGBT inverters. Refer to page 17 for product lines that employ the use of CR200 magnet wire.

Motors with the CR^{200} insulation system can be operated at up to 475 feet from the drive on 460 volt systems, at 3 KHz carrier frequency. For other voltages and/or carrier frequency combinations, contact a factory representative.

MAX GUARD® INSULATION

All PMAC- Black Max®, Blue Max®, Blue Chip Series®, XRI® Severe Duty and XRI-841 (IEEE841) motors feature the MAX GUARD® insulation system, either in conjunction with Class F or Class H materials. Combining corona-resistant magnet wire (CR^{200}) with our patented "low stress" winding configuration and uncompromising quality standards.

MAX GUARD motors deliver long, dependable motor life under the adverse thermal and dielectric stresses imposed by IGBT-based variable frequency drives.

MAX GUARD motors surpass the requirements of NEMA®* MG1-2021, Part 31, Section 4.4.2. 460 Volt (or lower) motors equipped with MAX GUARD insulation can be operated at any distance from the drive and at any carrier frequency. 575 Volt motors can be operated at up to 650 feet cable length at 3 KHz.

*See back cover page for attribution.

APPLICATION INFORMATION

MOUNTING

Most Marathon motors are designed for horizontal mounting (shaft parallel with ground), unless designed otherwise, such as Vertical P base motors. As a general rule, a horizontal motor can also be mounted in a vertical shaft down orientation. Horizontal motors should never be mounted in a vertical shaft up orientation without consulting your application engineer, as this practice can cause damage to the motor, which is not covered under warranty. Brakemotors should not be mounted vertically (up or down), unless the brake has been specifically designed for such.

NEMA SERVICE FACTOR RATINGS

Service factor is defined as the permissible amount of overload a motor will handle within its insulation class without overheating. When voltage and frequency are maintained at nameplate rated values, the motor may be overloaded up to the horsepower obtained by multiplying the rated horsepower by the service factor shown on the nameplate. As a note, locked rotor torque, locked rotor current and the breakdown torque are unchanged.

Service factor is used in order to accommodate inaccuracy predicting system horsepower needs, to lengthen insulation life by lowering winding temperature at rated load, to handle intermittent or occasional overloads, to compensate for low or unbalanced supply voltages, and to allow use of non-sinusoidal power supply at rated load.

Several cautions must be observed when using a service factor. Operation at service factor load will usually reduce the speed, life, and efficiency. The service factor is established for operation at rated voltage, frequency, ambient, and sea level. Any changes to one or more of these may cause problems with the motor overheating.

The table below lists the NEMA service factors for Single-phase, phase, dripproof motors. Totally enclosed and explosion proof motors 1.0 service factor except where noted.

HP	3600	1800	1200	900
1	1.25	1.15	1.15	1.15
1.5 & up	1.15	1.15	1.15	1.15

OVERLOAD PROTECTION

There are many choices for motor overload protection and it will depend on end-user's application and expectations and costs: thermocouples, thermistors, winding and bearing detectors, and more. A manual overload must be physically reset to restart the motor. An automatic thermal overload will stop the motor when it is overloaded or overheated and restart it after the motor has cooled down. None means the motor has no protection. Thermostats are embedded in the winding and connected to the motor starter control circuit. Marathon motors are normally provided with one closed thermostat per phase.

CAUTION! A motor with an automatic reset protector must not be used where automatic restarting (after motor cool-down) would endanger personnel or equipment. Such application should use a manual reset protector.

PAYBACK ANALYSIS

How To Calculate Savings Saving electrical energy reduces the power bill. However, a sensible energy cost savings evaluation must equate the energy savings with the extra cost usually associated with a premium efficient motor.

Where:
HP = load on the motor
EffA = efficiency of motor A at HP
EffB = efficiency of motor B at HP
EffA < EffB
Hours = hours of operation under load
$/KWh = average cost of electricity per kilowatt hr.

Operating load and time substantially affect savings. A motor loaded to half its rated load uses only half the full load input power and the savings can be only half as great. A motor operated on a two shift, five-day schedule uses twice as much power as the same motor operating on one shift. Meaningful calculations must reflect an effort to incorporate typical average values for these variables.

HOW TO CALCULATE PAYBACK

Once the annual savings are known, the time needed for the savings to cover the motor price premium can be calculated as follows:

$$\text{Payback Period (years)} = \frac{\text{Price B - Price A}}{\text{Yearly Savings}}$$

A more complex analysis may take into account life cycle costs and return on investment. Your local electric utility may have a demand side energy management (DSM) program which pays cash incentives or rebates for the purchase of motors whose nominal efficiency meets or exceeds a level specified by the utility. The Payback Period equation must be modified to take into account rebates.

$$\text{Payback Period (years)} = \frac{\text{Price B - Price A - Rebate}}{\text{Yearly Savings}}$$

Most Marathon motors have efficiency ratings which should qualify for a rebate from participating utilities. Check with your local utility for details on their specific program.

PHASE/POWER SUPPLY

Is the power supply Three-phase or Single-phase? Most home farm applications require Single-phase motors, while most factories, large commercial and industrial users require three-phase motors. Single-phase motors can be used on Three-phase systems. Three-phase motors, however, cannot be operated from phase systems. Motor damage will result.

ROTATION

Most motors in this catalog are reversible by electrical reconnection or by physical orientation. The standard rotation from the factory for a Single-phase Marathon motor is counterclockwise, when viewing the opposite shaft end of the motor.

SPEED/RPM

3600, 1800, and 1200 are the most common 60HZ synchronous speeds with full load speed equivalents of 3450, 1725, and 1150.

APPLICATION INFORMATION

TERMINOLOGIES–

Ambient Temperature – Temperature of the medium, such as air, water or earth, into which the heat of the equipment is dissipated.

Across The Line Start – A method of motor starting that applies full line voltage to the motor. The motor is connected directly to the power source.

Base Speed – Nameplate rating where the motor will develop rated HP at rated load and voltage. With AC systems, it is commonly the point where 60 Hz is applied to the induction motor.

Bearings – Parts that assist objects rotation.

Bearing Current Protection (BCP) – usually consists of a Shaft Grounding Ring that gives electric current a low- resistance path between the shaft and frame. Rather than arcing through the bearings, currents flow harmlessly through the ring.

Breakaway Torque – The torque required to start a machine from standstill.

Breakdown Torque (BDT) – The maximum torque that an AC motor will develop with rated voltage applied at rated frequency while rotating.

Cogging – A condition in which a motor does not rotate smoothly but "steps" or "jerks" from one position to another during shaft revolution. Cogging is most pronounced at low motor speeds and can cause objectionable vibrations in the driven machine.

Continuous Duty – The continuous rating is the maximum constant load that can be carried continuously without exceeding established temperature rise limitations under prescribed conditions of load and within the limitations of established standards.

Definite Purpose Motor – Any motor design, listed and offered in standard ratings with standard operating characteristics and mechanical construction, for use under service conditions other than usual or for use on a particular type of application (NEMA®*).

Duty Cycle – The relationship between the operating and resting times or repeatable operation at different loads and/or speeds.

Efficiency – Ratio of power output to power input indicated as a percentage. In motors, it is the effectiveness with which a motor converts electrical power into mechanical power.

Frequency – Number of cycles per second of alternating current 60HZ used primarily in North America, 50HZ normally used overseas.

Full Load Torque (FLT) – The torque necessary to produce rated horsepower at full load speed.

General Purpose Motor – This motor has a continuous duty rating and NEMA A or B design, listed and offered in standard ratings with standard operating characteristics and mechanical construction for use under usual service conditions without restriction to a particular application or type of application (NEMA).

Hazardous duty – A duty performed under circumstances in which an accident could result in serious injury or death.

Inertia – A measure of a body's resistance to changes in velocity, whether the body is at rest or moving at a constant velocity. The velocity can be either linear or rotational. The moment of inertia (WK^2) is the product of the weight (W) of an object and the square of the radius of gyration (K^2). The radius of gyration is a measure of how the mass of the object is distributed about the axis of rotation. WK^2 is usually expressed in units of lb-ft^2.

Inrush Current – The initial surge of current into the windings. Inrush current can be up to ten times higher than the continuously needed current because there is low initial resistance.

Intermittent Duty – A motor that never reaches equilibrium temperature, but is permitted to cool down (to ambient temperature) between operations. For example, a crane, hoist or machine tool motor is often rated for 15, 30 or 60 minute duty.

Inverter duty – Refers to a motor whose speed is controlled by an inverter, or VFD (variable frequency drive). The difference between an inverter-duty motor and a standard motor is in the construction. These motors are specifically designed to operate at low speeds and not overheat.

Load Sharing – An application condition in which two or more similar-sized AC Induction motors are mechanically connected to each other and powered from the same inverter. Optimum load sharing is achieved with higher slip (NEMA Design B or C) motors.

Locked Rotor Current (LRA) – Steady state current taken from the line with the rotor at standstill, at rated voltage and frequency. This is the current when starting the motor and load across the line.

Locked Rotor Torque (LRT) – The minimum torque that a motor will develop at rest for all angular positions of the rotor, with rated voltage applied at rated frequency.

Max Guard™ – Is an Insulation System to provide long, reliable service life under the stresses of today's fast switching IGBT-based drives.

No Load (Conditions) – The state of a machine rotating at normal speed under rated conditions, but when no output is required from it.

Overload protection – Safety mechanisms that activate or "trip" motor operations in the event of a motor overheating/overloading. There are two types of protectors – automatic resets and manual resets depending on choice of the application engineer of the motor to ensure safety in an application.

Part Winding Start (PWS) – A method of reduced voltage starting that applies power to only one set of windings, then to the other set as the motor comes up to speed.

Power Factor – Power factor is the ratio of real power (kW) to total kVA, or the ratio of actual power (W) to apparent power (volt-amperes).

Reactance – The opposition to the flow of current made by an induction coil or a capacitor. Performance data expresses stator reactance as X1 and rotor reactance as X2.

Resistance – The opposition to voltage or current in an electrical circuit. Performance data expresses stator resistance as R1 and rotor resistance as R2.

Rotor – The rotating member of a machine with a shaft.

Service Factor (SF) – When used on a motor nameplate, a number which indicates how much above the nameplate rating a motor can be loaded intermittently without causing serious degradation (i.e. a motor with 1.15 SF can produce 15% greater torque than one with

*See back cover page for attribution.

APPLICATION INFORMATION

1.0 SF, within temperature constraints).

Squirrel Cage Induction Motor – When used on a motor nameplate, a number which indicates how much above the nameplate rating a motor can be loaded without causing serious degradation (i.e. a motor with 1.15 SF can produce 15% greater torque than one with 1.0 SF, within temperature constraints).

Shock Load – The load seen by a clutch, brake or motor in a system that transmits high peak loads. This type of load is present in crushers, separators, grinders, conveyors, winches and cranes.

Slip – The difference between the speed of the rotating magnetic field (synchronous speed) and mechanical rotational Speed (rotor speed) of AC induction motors. Usually expressed as a percentage of synchronous speed.

Special Purpose Motor – A motor with special operating characteristics, special mechanical construction, or both, designed for a particular application and not falling within the definition of a general purpose or definite purpose motor (NEMA®*).

Speed Range – The minimum and maximum speeds at which a motor must operate under constant or variable torque load conditions. A 50:1 speed range for a motor with top speed of 1800 RPM means the motor must operate as low as 36 RPM and still operate within specifications.

Starting Torque – The torque exerted by the motor during the starting period.

Stator – The stationary portion of the magnetic circuit and the associated windings and leads of a rotating machine.

Synchronous Speed – The speed of an AC induction motor's rotating magnetic field. It is determined by the frequency applied to the stator and the number of magnetic poles present in each phase of the stator windings. Mathematically, it is expressed as Sync Speed (RPM) = 120 x Applied Frequency (Hz)/Number of Poles per phase.

Torque – A turning force applied to a shaft, tending to cause rotation. Torque is normally measured in "pound-feet" and is equal to the force applied times the radius through which it acts.

Torque-to-Inertia Ratio – The rated motor torque divided by its rotor inertia. Helps determine a motor's ability to accelerate loads and/or respond to commands from a drive to change speed or direction.

Voltage Drop – The reduction in voltage level from the source to the load caused by conductor resistance.

Wye Start Delta Run (YD) – A method of reduced voltage starting that first connects a motor in a wye to reduce voltage, then reconnects the motor in a delta to provide full line voltage.

FORMULAS & CONVERSION FACTORS

Horsepower (HP)	= (Torque (lb-ft) x RPM) / 5252
Horsepower (HP)	= (Torque (lb-in) x RPM) / 63025
Torque (lb-ft)	= (HP x 5252) / RPM
Torque (lb-in)	= (HP x 63025) / RPM
Efficiency	= Power Out / Power In
Synchronous RPM	= 120 x Frequency / # Poles
Ohms	= Volts / Amperes (R = E/I)
Amperes	= Volts / Ohms (I = E/R)
Volts	= Amperes x Ohms (E = IR)
Static Torque (T)	= F x R (lb-ft) F = Force (lb) R = pully or drum radius (ft)
Pound-feet (torque)	= .7376 x Newton-meters
Newton-meters (torque)	= 1.3558 x lb-ft
Power (HP)	= Torque (lb-ft) x 2ϖ x RPM / 33000
Temperature (Celsius)	= 5/9 x (F° – 32)
Temperature (Fahrenheit)	= (9/5 x C°) + 32
1 Kilowatt (KW)	= 1.341 Horsepower
1 Horsepower	= 746 watts (.746 KW)
Brake Torque	= (5252 x P / N) x SF P = HP N = RPM SF = 1.4
Use 2.0 to 2.5 SF for cranes and hoists (consult crane manufacturer or end-user).	

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VARIABLE SPEED OPERATION

Guidelines for application of general purpose, Three-phase, single speed motors on variable frequency drives meets NEMA®* MG1-2006 part 30 and part 31 section 4.4.2.[3] Unless stated otherwise, motor nameplates do NOT include listed speed range.

Enclosure	Efficiency	Variable Torque								
NEMA Motors		All Frames	182-215		254-286		324-365		404-449	
		All Poles	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole
ODP	Standard (EPAct exempt)	10:1	2:1	2:1	Contact Engineering					
	EPAct compliant	10:1	2:1	2:1	2:1	2:1	Contact Engineering			
	NEMA Premium®*	10:1	10:1	10:1	10:1	10:1	10:1	10:1	2:1	2:1
TEFC	Standard (EPAct exempt)	10:1	2:1	2:1	Contact Engineering					
	EPAct compliant	10:1	2:1	10:1	2:1	10:1	2:1	2:1	2:1	2:1
	NEMA Premium	10:1	2:1	20:1	2:1	20:1	2:1	20:1 (1)	2:1	20:1 (1)
TENV	EPAct compliant	10:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1
	NEMA Premium	10:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1
Washdown TEFC	Standard (EPAct exempt)	10:1	10:1 (2)	10:1 (2)	N/A	N/A	N/A	N/A	N/A	N/A
	EPAct compliant	10:1	10:1 (2)	10:1 (2)	N/A	N/A	N/A	N/A	N/A	N/A
	NEMA Premium	10:1	10:1 (2)	10:1 (2)	N/A	N/A	N/A	N/A	N/A	N/A
Washdown TENV	Standard (EPAct exempt)	10:1	1000:1	1000:1	N/A	N/A	N/A	N/A	N/A	N/A
	EPAct compliant	10:1	1000:1	1000:1	N/A	N/A	N/A	N/A	N/A	N/A
	NEMA Premium	10:1	1000:1	1000:1	N/A	N/A	N/A	N/A	N/A	N/A
Explosion Proof	All efficiency levels	Explosion Proof motors must be properly nameplated with inverter duty information prior to use on VFD. See Marathon® motor catalog pages for specific rating capabilities. Motors with automatic overload protectors cannot be used on VFDs.								
IEC®* Motors		All Frames	100-225	250-315						
All enclosures	All efficiency levels	10:1	Up to 10:1	Up to 2:1						

Notes:
(1) 324-449T, 4 & 6 Pole XRI® motors are rated for 20:1 C.T. with fan modification; otherwise rated for 2:1 C.T. continuous duty, or 20:1 C.T. 60 minute duty at lowest RPM.
(2) Washdown TEFC motors are rated for 10:1 C.T. 60 minute duty or 2:1 C.T. continuous duty at lowest RPM.
(3) NEMA Part 30 equates to Inverter Rated and NEMA Part 31 equates to Inverter Duty/Vector Duty

APPLICATION NOTES.

Bearing Current Mitigation

Marathon recommends that any motors used with variable frequency drives be equipped with suitable means to protect the motor bearings from shaft currents caused by common mode voltages inherent with operation on a non-sinusoidal power supply. Marathon offers several options for motors in non-classified (non-hazardous) locations, including ground brushes, insulated bearings and non-contact shaft grounding rings. For more information on ground brushes and bearing currents, see the VARIABLE SPEED OPERATION section. For installation cost and available options, see the MOD CENTRAL section.

Restricted Use

DO NOT APPLY THE FOLLOWING MOTORS ON VARIABLE FREQUENCY DRIVES: Single-phase motors, motors with inherent overload protection or automatic overloads, Multi-speed motors, motors with 1.0 service factor on sine wave power.

Hazardous Locations

Hazardous Locations Consult with your sales representative or contractor when applying motors and drives into hazardous locations, either Division/Zone 1 or Division/Zone 2 areas.

MAXIMUM CABLE LENGTHS FROM THE MOTOR TO DRIVE

Product Description	3 Khz Carrier Frequency (Phase to Phase)¤		
	230 Volt	460 Volt	575 Volt
182-326 NEMA, 100-225 IEC frames	600 ft.	125 ft.	40 ft.
364-5013 NEMA, 250-315 IEC frames	1000 ft.	225 ft.	60 ft.
Motors with CR200 corona resistant magnet wire Motors with MAX GUARD® insulation system Form-wound low voltage motors	1500 ft.	475 ft.	140 ft.
Motors with MAX GUARD insulation system	Unlimited	Unlimited	650 ft.
Form-wound low voltage motors	Unlimited	Unlimited	650 ft.

STANDARD MOTOR INSULATION SYSTEMS

Cr200 Corona-Resistant Magnet Wire	Max Guard® Insulation System¤
microMAX™ inverter duty	Black Max® Vector duty motor - All product Blue Max® Vector duty motor - All products
4-in-1® Three-phase, C-face with removable base Standard Three-phase stock brakemotors	Powerwash® motor - Three-phase Blue Chip Series® XRI® severe duty motor
XRI SD and XRI IEEE 841	XRI SD and XRI-841 motor (IEEE841 compliant) Automotive duty "T" Frame
MAX +	Automotive duty "T" Frame Blue Chip Series / Hazardous Explosion Proof, XRI® Premium Efficiency Motor Globetrotter® IEC metric motors

¤Higher carrier frequencies require shorter cable length to obtain normal (50Khrs) insulation life.

*See back cover page for attribution.

VARIABLE SPEED OPERATION

VARIABLE SPEED INFORMATION

Marathon® Vector duty and Inverter duty motors, unless otherwise stated, are rated for continuous operation in a 40°C ambient and for altitudes up to 3300 feet (1000 meters) above sea level. Special application considerations, such as high or low ambient, intermittent ratings, high altitude, duty cycle rated, rated, extended constant horsepower range, special base speed, voltage or frequency, or any other special requirements, should be reviewed by a factory representative.

It is the responsibility of the startup personnel during commissioning of the VFD/motor system to properly tune the drive to the motor for the specific application. The correct voltage boost and volts/hertz settings are application dependent and unique to each motor design. Procedures for these adjustments should be in your VFD user manual. Many Vector Duty and Inverter Duty motors in this catalog are equipped with thermostats; warranty coverage may be denied if they are not properly utilized.

WARNING! Power factor correction capacitors should never be installed between the drive and the motor.

INVERTER DUTY OR INVERTER RATED

"Inverter Duty" (often called "Inverter Rated") motors are suitable for use with Variable Frequency Drives, as long as operation is within the application guidelines published in this catalog. In general, Marathon Three-phase, general purpose, Design B motors are considered "Inverter Duty", and meet or exceed the requirements of NEMA®* MG1, Part 30. As required under Federal law, these motors comply with EPAct efficiencies when operating from utility power.

Many Marathon motor product lines have been enhanced to facilitate reliable operation on today's variable speed drives, including wider constant torque speed range (up to 20:1) and improved insulation systems that withstand voltage spikes common with variable frequency operation.

Inverter Duty (Rated) motors are most often used in 10:1 speed range, variable torque or constant torque applications. A vector control is usually required for operation beyond 10:1 CT.

Refer to "Guidelines for Application of General Purpose, Single Speed Three-phase Motors on Variable Frequency Drives" in this section of this catalog for the allowable speed range and cable length restrictions (from VFD to motor). Additional detail regarding a specific product's capabilities is available on its catalog page, or by consulting your application engineer.

VECTOR DUTY

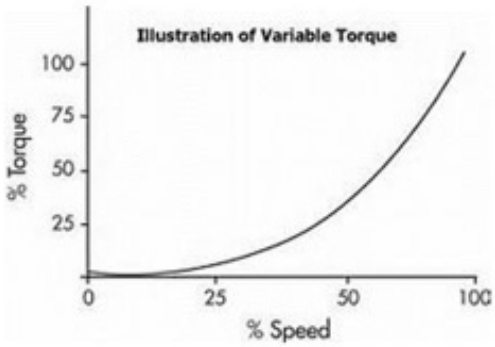
"Vector Duty" describes a class of motors that are used in conjunction with Open- (without encoder) or Closed-Loop (with encoder) Vector controls, that provide enhanced performance under low speed operating conditions, or in cases where torque (rather than speed) must be controlled.
"Vector Duty" motors can be applied to Volts/Hertz (scalar) drives as well.

The Marathon "MAX" family, consisting of Blue Max®, Black Max® and microMAX™ motors, have been specifically designed for optimal operation on vector or volts/hertz controls. These motors feature a wide constant torque (up to 2000:1) and/or constant horsepower (up to 4:1) speed range and are performance-matched to all current technology IGBT drives.

Vector Duty motors meet or exceed the requirements of NEMA MG1, Part 31 and are equipped with an enhanced MAX GUARD® or CR[200]. Consult the catalog page for each product's capabilities and features. As these motors are specifically designed for operation through an inverter, they are exempt from EPAct and EISA legislation. Model numbers contain the letter "H" in the "Electrical Type" field. See "HOW TO READ THE MODEL NUMBER".

VARIABLE TORQUE LOADS

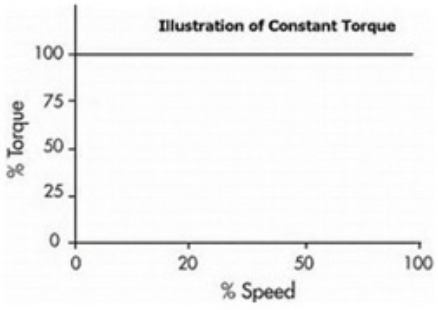
Some applications include Pumps, Fans, and Blowers. Torque varies as the square of the speed, and horsepower as the cube of the speed. Operation below base speed significantly lightens the load on the motor. While most variable torque applications do not require the motor to operate below half speed, the motor is fully capable of operation to zero speed. Operation above base speed significantly adds to the load on the motor; therefore, a factory representative must review applications requiring variable torque above base speed. Refer to the application chart found on the Variable Speed Operation chart for use of general purpose Three-phase motors on variable frequency drives. Marathon microMAX, Black Max or Blue Max motors are not necessarily required for operation in variable torque loads. A bypass circuit is often employed in variable torque applications. If this device is intended to be used, selection of a NEMA Design B motor is recommended, to withstand the inrush current during across-the-line starting.



CONSTANT TORQUE LOADS

Applications include conveyors, elevators, hoists, extruders, positive displacement pumps, mixers and converting equipment. Torque remains constant throughout the range of operation, and extra care should be taken in the proper application of motors, especially at very low speeds. Most constant torque applications don't require operation below 10:1 (i.e. 6 Hz operation on a 60 Hz motor), but an increasing number of applications historically reserved or servo and/or stepper systems are being served with motors capable of operation beyond 20:1, up to 2000:1 (zero speed, constant torque). Refer to the application chart found on the Variable Speed Operation chart for use of general purpose Three-phase motors on variable frequency drives.

CONSTANT TORQUE LOADS (CONT'D.)



*See back cover page for attribution.

VARIABLE SPEED OPERATION

Applications requiring greater than 20:1 C.T. are ideal for microMAX, Black Max or Blue Max motors. These motors provide full rated torque within their listed speed range, without exceeding a Class F temperature rating while under inverter power (many operate at Class B). Ratings in this catalog have been developed, based on extensive testing on IGBT inverters, set at a minimum 3 KHz (or equivalent) carrier frequency.

Marathon® vector duty and inverter duty motors are designed for operation at 150% of rated load for one minute, up to the base speed of the motor (overload capability declines to 100% as the motor reaches maximum constant HP speed). These motors accommodate constant horsepower operation to 1-1/2 to 2 times base speed, subject to the motor's maximum safe mechanical speed limit. Refer to the maximum safe mechanical speed chart, as well as the performance section for each motor's capability.

Motors rated for zero RPM continuous duty (1000:1 or 2000:1) must be powered by vector drives to produce rated torque without overheating. Optimum zero speed and low-speed full torque performance may require a closed loop vector drive (with encoder feedback).

CONSTANT HORSEPOWER LOADS

Applications include coil winders, band saws, grinders, and turret lathes. Operation requires the motor to deliver the same horsepower rating, regardless of shaft speed. Torque increases at low speed and decreases at higher speed. Most general purpose motors can deliver constant horsepower up to 1 1/2 times base speed (consult a factory
representative to verify performance). However, many constant HP applications require operation to twice base speed, and some, such as coil winders, up to 4 times base speed. MICROMAX, Black Max and Blue Max motors are designed for 1 1/2 to 2 times base speed, and the wide CHP motors, contact a Marathon distributor for higher than 2 times base speed.

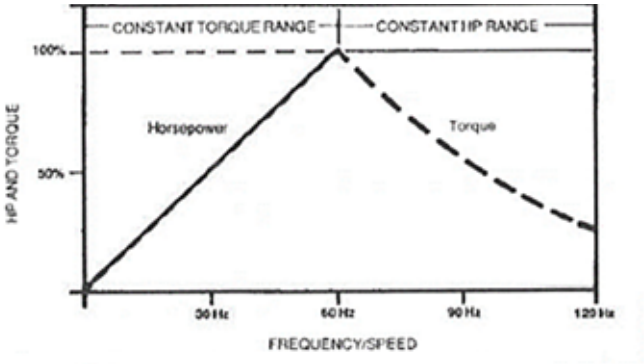


Figure 1 – Conventional VF Installation

BEARING CURRENTS

As stated NEMA* MG1-31.4.4.3, to protect a motor from inverter-sourced shaft voltages, either both bearings must be insulated or the motor shaft must be effectively grounded. Marathon offers several effective means to protect the bearings from inverter sourced EDM (electrical discharge machining). A shaft grounding device is standard in Blue Max motors, in frame sizes 444T and larger. Insulating the motor bearings will not prevent damage to bearings of a connected load, and insulated couplings should be employed to protect the load. Adding a ground brush to a motor with insulated bearings will divert motor shaft currents and help protect the bearings of the connected load.

THE MARATHON SOLUTION TO BEARING CURRENTS

A variety of Marathon products have the BCP device. Models are noted with a -P type catalog number, or a "P" footnote features a current mitigation device.

MOTOR GROUNDING

Frames and accessories of all motors must be grounded in accordance with the National Electric Code (NEC) Article 430. Refer to NEC Article 250 for general information on grounding. Proper grounding of inverter-driven motors is essential to protect personnel and livestock from inverter-sourced common mode voltages, which may reach hazardous levels on the frame of ungrounded or poorly grounded motors.

LOW INPUT VOLTAGE

If, due to lower utility supply voltage, the input voltage from the VFD to the motor is lower than the motor's rated voltage, de-rating of the motor's base frequency, horsepower, full load RPM, and constant HP RPM is required. The revised values can be calculated by multiplying by the ratio of the
voltage change. For example, to operate a 460 volt motor from an inverter fed by 50 or 60 HZ, 400 volt utility power, the multiplier is 400/460 or 0.87.

The VFD can be reprogrammed to match the new base point values, allowing the motor to provide rated torque at rated current from the new base speed down to its original minimum constant torque speed. The motor's CHP range will begin at the new base frequency and will be shortened by the same ratio as described above.

OVERSPEED CAPABILITY

Maximum safe mechanical speed capability is a function of bearing size and type, lubrication, rotor balancing technique and specifications, air gap, enclosure, frame construction and connection to the driven load. In addition, consideration must be given to ambient noise levels, as operation above base speed will increase motor noise and vibration, and reduce bearing life. Under no circumstances should bearing hub temperature exceed 100°C. Belted loads should not exceed 60 Hz operating RPM by more than 25% (NEMA®* "TS" shafts are not suitable for belted loads). Due to external cooling fans, TEFC (and Explosion Proof Fan Cooled) motors are limited to 4000 RPM maximum speed.

Marathon® Motors, through extensive testing in our state-of-the-art laboratory and in actual field experience, has developed a number of high speed motors whose maximum safe mechanical speed exceeds the values in the table below. The following table depicts maximum safe speed limits for continuous operation, direct-coupled, non-explosion proof motors, and does not imply constant horsepower capability. Please consult a factory representative for requirements beyond those listed, or for intermittent duty motors.

Additional detail regarding a specific product's capabilities is available on its catalog page, or by consulting your application engineer.

VARIABLE SPEED OPERATION

MAXIMUM SAFE MECHANICAL SPEED LIMITS (ODP, TENV,DPFV OR TEBC ENCLOSURES) 60 HZ BASE FREQUENCY

Frame Size	2-Pole	4, 6 or 8-Pole
182-184	7200	5400
213-256	5400	4200
284-286	5400	3600
324-326	4000	3600
364-365	4000	2800
404-449	3600	2800
5000 Fr	N/A	CALL
6800 Fr	N/A	CALL

HIGH SPEED OPERATION

When motors are run at speeds above base speed, mechanical limitations can develop. Critical areas of concern include bearing life, rotor integrity, balance, fan integrity (on self-cooled motors), and breakdown.

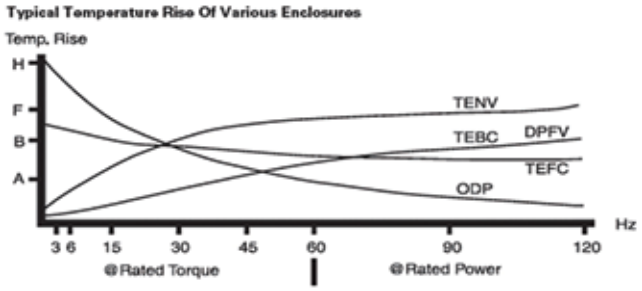
As the motor's speed crosses into constant horsepower operating range, the motor's breakdown torque (BDT) begins to decrease since the inverter voltage cannot be raised above the supply voltage even though the frequency is still increasing. Don't hesitate to get in touch with us for help reviewing your application when applying motors over the nominal maximum speed rating.

OTHER APPLICATION CONSIDERATION

For proper selection, the following should be considered:

- Horsepower or torque requirements at various speeds.
- Desired speed range of the load and motor.
- Acceleration and deceleration rate requirements of the process being controlled.
- Starting requirements including the frequency of starting and a description of the load (reflected inertia at the motor, load torque during starting).
- Whether the application is a continuous process or duty cycle of starts, stops and speed changes.
- A general description of the type of application including the environment in which the VFD system components must operate (determines motor enclosure and/or explosion proof classification).
- Description of the available electrical power supply and wiring.
- Special performance requirements, if any.
- Whether the drive will be configured with a by-pass circuit. In case of its deployment, the motor will operate like its fixed speed counterpart and may require a NEMA B design which limits in-rush current, or selection of a larger motor starter or other protective circuitry.
- Load sharing
- Mounting and other mechanical considerations

Additional detail regarding a specific product's capabilities is available on its catalog page, or by consulting your application engineer.



- *See back cover page for attribution.

GENERAL PURPOSE MOTORS
SINGLE PHASE ODP MOTORS
STANDARD AND PREMIUM EFFICIENCY

marathon®

For use where exposure to water, dust and dirt exists. Ideally suited for use on pumps, compressors, fans, conveyors, and other industrial equipment.

Specifications

115/208 & 230V - Rigid mount - 1 HP - 10 HP
182T through 215T frame

C-FACE Motors - 3 HP - 7 1/2 HP -184TC - 215TC

Features

- Durable rolled steel construction
- NEMA®* Design B performance
- Meets or exceeds NEMA service factors
  Double shielded ball bearings
- Continuous duty
- Thermally protected ratings
- UL®* Recognized component listing
- and CSA®* Certified

*See back cover page for attribution.

GENERAL PURPOSE MOTORS

SINGLE-PHASE, (NEMA®* SERVICE FACTOR), DRIPPROOF

FEATURES

- Heavy gauge steel frame and base
- Ball bearings
- Capacitor start / capacitor run designs
- Capacitor start / induction run designs as noted
- Service factor, as noted
- UL®* Recognized and CSA®* certified

RIGID BASE

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1	1200	115/230	182T	NONE	I141A	182TCDW17084		15.6/7.8	83	14.19	2, 13, 18
2	1800	115/208-230	182T	NONE	-	131515.00	√	24.5/13-12.4	59	13.19	2, 13, 18
	1800	115/208-230	182T	MANUAL	-	131536.00	√	24.5/13-12.4	66	13.19	2, 13, 19
	1800	115/208-230	182T	AUTO	-	131535.00		24.5/13-12.4	66	13.19	2, 13, 20
3	3600	115/208-230	182T	NONE	-	131636.00	√	28/15.2-14	77	14.18	1, 13, 18
	1800	115/208-230	184T	NONE	-	131534.00	√	33.8/18-16.9	78	14.19	2, 13, 19
	1800	115/230	184T	MANUAL	-	131561.00	¶	33.8/16.9	79	14.19	2, 13, 19
	1800	115/230	184T	AUTO	-	131530.00		33.8/16.9	72	14.19	2, 13, 19
	1200	230	215T	NONE	I144	215TBDW7079	¶	16.0	134	18.05	1, 13, 18
5	3600	208-230	184T	NONE	-	131616.00	√	24.0-22.0	87	14.69	1, 13, 18
	1800	208-230	184T	NONE	-	131537.00	√	23.0-21.0	86	14.69	1, 13, 18
	1800	208	184T	NONE	-	131560.00	√	23.2	85	14.69	1, 13, 18
	1800	208-230	184T	MANUAL	-	131622.00	√	23.0-21.0	85	14.69	2, 13, 18
7 1/2	3600	208-230	184T	TSTAT	-	132044.00	√	34.0-31.0	110	16.69	2, 13, 19
	3600	208-230	213T	NONE	-	140680.00		33.5-30.5	0	18.04	**1, 13, 18**
	1800	230	215T	NONE	-	140155.00	√	40.5	116	17.26	1, 13, 18
10	3600	208-230	215T	NONE	-	140681.00	√	41.5-37.0	126	18.05	2, 13, 19
	1800	230	215T	NONE	-	141430.00	√	39.0	159	14.79	2, 13, 20

FEATURES

- Heavy gauge steel frame and base
- Ball bearings mechanically locked on shaft end
- Capacitor start / capacitor run designs
- Capacitor start / induction run designs as noted

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	115/230	184TC	NONE	–	131544.00	¶	33.8/16.9	76	14.20	2, 13, 18
5	3600	208-230	184TC	NONE	–	131777.00		23.0-22.2	73	14.70	1, 13, 18
	1800	208-230	184TC	NONE	–	131539.00		23.0-21.0	84	14.70	1, 13, 18

FEATURES

- Heavy gauge steel frame and base
- Capacitor start / capacitor run designs
- Capacitor start / induction run designs as noted

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	208-230	184TC	MANUAL	–	131853.00		14.6-13.8	100	13.20	1, 13, 18
	1800	115/230	184TC	MANUAL	–	131629.00	√	33.8/16.9	69	14.20	2, 13, 18
5	3600	208-230	184TC	NONE	–	131781.00	¶	23.0-22.2	73	14.70	1, 13, 18
	1800	208-230	184TC	MANUAL	–	131630.00	√	23.0-21.0	80	14.70	1, 13, 18
7 1/2	3600	208-230	184TC	TSTAT	–	132043.00	√	34.0-31.0	112	16.70	1, 13, 18
	1800	230	215TC	NONE	–	140806.00	√	36.0	120	17.26	1, 13, 18

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue have efficiency levels that meet the USA efficiency legislations.

*See back cover page for attribution.

SINGLE PHASE TEFC MOTORS

STANDARD AND PREMIUM EFFICIENCY

marathon®

For use where exposure to water, dust and dirt exists. Ideally suited for use on pumps, compressors, fans, conveyors, and other industrial equipment.

Standard and Premium Efficiency General Purpose
115/208 - 230 Volt
Rigid Mount - 2 HP - 10 HP - 182T through 215T frame
C Face Motors - 3 HP - 10 HP - 184TC through 215TC

Features

- Durable rolled steel construction
- NEMA® Design B performance
- Meets or exceeds NEMA service factors
- Double shielded ball bearings
- Continuous duty
- Thermally protected ratings
- UL® recognized component listing and CSA® Certified

*See back cover page for attribution.

GENERAL PURPOSE MOTORS

SINGLE-PHASE, TOTALLY ENCLOSED

FEATURES

- Heavy gauge steel constructions
- Ball bearings
- Capacitor start / capacitor run designs
- Service factor, as noted
- UL®* Recognized and CSA®* certified

RIGID BASE

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/208-230	182T	NONE	I212	182TBFR5326		20.0/10.8-10.0	53	15.65	F, 1, 18
	1800	115/208-230	182T	NONE	–	131509.00	√	24.8/13-12.4	68	14.46	1, 13, 17
3	3600	115/208-230	182T	NONE	I206	182TBFR5301		24.6/13.9-12.3	57	15.81	1, 13, 17
	3600	115/208-230	182T	NONE	–	131637.00	√	26.8/14.4-13.4	81	14.96	2, 13, 18
	1800	115/208-230	184T	NONE	–	131533.00	√	33.6/18-16.8	86	16.46	1, 13, 17
	1800	208-230	184T	MANUAL	–	131855.00		14.4-13.6	88	14.96	2, 13, 18
	1800	115/208-230	184T	NONE	I213A	184TBFW17044	√	28.4/14.8-14.2	72	14.96	1, 13, 14, 17
5	3600	208-230	184T	NONE	I223A	184TBFW7701	√	22.0-19.8	90	16.49	1, 13, 14, 17
	3600	230	184T	NONE	–	131549.00	√	19.8	96	16.96	2, 13, 18
	3600	230	184T	MANUAL	–	132042.00	√	19.8	103	16.97	2, 13, 18
	1800	230	184T	NONE	–	131538.00	√	23.0	98	17.46	2, 13, 17
	1800	208-230	184T	MANUAL	–	131856.00	√	23.0-21.0	85	15.96	2, 13, 17
	1800	208-230	184T	NONE	I214A	184TBFW7726	√	21.5-19.5	103	17.46	1, 13, 14, 18
	1800	208-230	213T	NONE	I216	213TBFW7026	√	24.5-22.0	106	18.73	1, 14, 17
7 1/2	3600	208-230	213T	NONE	I224	213TBFW7001	√	36.0-32.0	112	20.23	1, 14, 17
	3600	208-230	213T	NONE	–	140684.00	√	36.0-32.0	113	18.34	2, 13, 17
	1800	230	215T	NONE	–	141428.00	√	30.5	172	21.09	2, 13, 18
	1800	208-230	215T	NONE	I215	215TBFW7026	√	35.0-30.0	133	21.48	1, 14, 17, F
10	3600	208-230	215T	NONE	I225	215TBFW7001		44.0-41.5	141	20.23	1, 14, 17, F
	3600	208-230	215T	NONE	–	140685.00	√	44.0-41.5	145	19.84	2, 13, 17
	1800	230	215T	NONE	–	140581.00	√	40.0	212	20.71	2, 13, 18
	1800	230	215T	NONE	I217	215TBFW7027	√	41.5	144	21.48	1, 14, 17

FEATURES

- Ball bearings mechanically locked on shaft end
- Suitable for horizontal or vertical mounting
- Capacitor start / capacitor run designs
- Capacitor start / induction run designs as noted
- Will accept brake kits, see accessory section (except as noted)
- Heavy gauge steel constructions
- Service factor, as noted
- UL Recognized and CSA certified

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230	184TC	MANUAL	–	131857.00	√	12.8	107	17.61	2, 13, 18
	1800	115/208-230	184TC	MANUAL	–	131631.00	√	33.6/18-16.8	87	16.47	1, 13, 17
5	3600	230	184TC	MANUAL	–	131632.00	√	19.8	106	16.97	2, 13, 18
	1800	230	184TC	MANUAL	–	131633.00	√	23.0	107	16.97	2, 13, 17
7 1/2	3600	208-230	213TC	NONE	I324	213TBFBD7009	√	36.0-32.0	150	19.07	**2, 13, 17**
	1800	230	215TC	NONE	–	141429.00		30.5	171	21.82	2, 13, 18, 24
10	3600	208-230	215TC	NONE	–	140695.00	√	44.0-41.5	152	20.57	2, 13, 17, 24
	1800	230	215TC	NONE	–	140678.00	√	40.0	159	20.71	2, 13, 18, 24

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Catalog numbers (Cat No.) highlighted in bold blue have efficiency levels that meet the USA efficiency legislations.

*See back cover page for attribution.

GLOBETROTTER ® MOTORS
THREE PHASE, DP, TEFC

marathon®

For use where exposure to water, dust and corrosives exists. Ideally suited for use on pumps, compressors, fans, blowers, conveyors, machine tools and other industrial applications.

Features

- Inverter-rated
- Class F insulation system
- Shielded ball bearings for direct coupled applications
- 182T-365T models steel frame
- 404T-449T models cast iron frame
- Dynamically balanced rotors
- Torques exceed NEMA®* performance standards
- UL®* Recognized component listing and CSA®* Certified

*See back cover page for attribution.

GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, DRIPPROOF

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- **NEMA Premium models are in compliance with EISA2007**
- Bearing Current Protection™ (BCP), as noted
- 182T-365T models steel frame (exceptions highlighted in blue)
- 404T-449T models cast iron frame
- Inverter duty 10:1 variable torque and 2:1 constant torque, 1.0 SF
- 1.15 service factor
- Class F insulation
- Standard assembly F1, reversible to F2 assembly
- Dual frame mounting holes
- UL®* Recognized, CSA®* certified, CE®* mark
- Three year warranty

RIGID BASE

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1 1/2	1200	208-230/460	182T		**GT0005A**	182TTDBD6076	√	86.5	4.2/2.1	69	12.25		A160A
	900	230/460	184T		**GT00103**	184TTDBD6101		77.0	5/2.5	79	13.25		A160A
2	1200	208-230/460	184T		**GT0008A**	184TTDBD6076	√	87.5	5.4/2.7	79	13.25		A160A
	1200	208-230/460	184T		**GT0008A-P**	184TTDBD6078		87.5	5.4/2.7	79	13.25	P	A160A
	900	230/460	213T		**GT00105**	213TTDBD6101	√	86.5	6.8/3.4	136	17.52		A161A
3	1800	200	182T		**GT0810**	182TTDBD6039	√	89.5	9.2	75	12.25		A160A
	1800	208-230/460	182T		**GT0010A**	182TTDBD6026	√	89.5	6.8/3.4	64	12.25		A160A
	1800	208-230/460	182T		**GT0010A-P**	182TTDBD6070	√	89.5	6.8/3.4	69	12.25	P	A160A
	1800	208-230/460	182T	TSTAT	**GT6024**	182TTDBD6428	¶	89.5	6.8/3.4	65	12.25	TS	A160A
	1800	575	182T		**GT0110**	182TTDBD6030	√	89.5	3.2	64	12.25		A160A
	1200	230/460	213T		**GT0011A**	213TTDBD6076	√	88.5	7.2/3.6	115	17.52		A161A
5	3600	200	182T		**GT0812**	182TTDBD6000		86.5	15.2	55	13.72		A160A
	3600	208-230/460	182T		**GT0012A**	182TTDBD6001	√	86.5	13.2/6.6	55	12.25		A160A
	3600	230/460	182T		**GT0012A-P**	182TTDBD6002	¶	86.5	13.2/6.6	85	12.25	P	A160A
	3600	575	182T		**GT0112**	182TTDBD6005	¶	86.5	5.3	58	12.25		A160A
	1800	208-230/460	184T		**GT0013A**	184TTDBD6026	√	89.5	10.4/5.2	77	13.25		A160A
	1800	230/460	184T		**GT0013A-P**	184TTDBD6070	√	89.5	10.4/5.2	84	13.25	P	A160A
	1800	208-230/460	184T	TSTAT	**GT6030**	184TTDBD6428	¶	89.5	10.4/5.2	84	13.25	TS	A160A
	1800	230/460	184T		**GT2313**	184TTDBD6034	¶	89.5	12.6/6.3	79	13.25		A160A
	1800	200	184T		**GT0813**	184TTDBD6039	√	89.5	15.2	86	13.25		A160A
	1800	575	184T		**GT0113**	184TTDBD6030	√	89.5	5.3	90	13.25		A160A
	1200	230/460	215T		**GT0014A**	215TTDBD6076	√	89.5	11/5.5	128	17.52		A161A
	1200	230/460	215T		**GT0014A-P**	215TTDBD6077		89.5	11/5.5	138	17.52	P	A161A
	900	230/460	254T		**GT00109**	254TTDBD6101		88.5	11.2/5.6	275	22.64		A163A
	3600	200	184T		**GT0815**	184TTDBD6000		88.5	21.2	98	13.25		A160A
7 1/2	3600	208-230/460	184T		**GT0015A**	184TTDBD6001	√	88.5	16.4/8.2	64	13.25		A160A
	3600	208-230/460	184T		**GT0015A-P**	184TTDBD6002	¶	88.5	16.4/8.2	98	13.25	P	A160A
	3600	208-230/460	184T	TSTAT	**GT6033**	184TTDBD6006		88.5	16.4/8.2	70	17.52	TS	A160A
	3600	575	184T		**GT0115**	184TTDBD6005	¶	88.5	7.4	76	13.25		A160A
	1800	200	213T		**GT0816**	213TTDBD6039	√	91.0	22.8	126	17.52		A161A
	1800	208-230/460	213T		**GT0016A**	213TTDBD6026	√	91.0	16.8/8.4	122	17.52		A161A
	1800	230/460	213T		**GT0016A-P**	213TTDBD6070	√	91.0	16.8/8.4	121	17.52	P	A161A
	1800	230/460	213T		**GT2316**	213TTDBD6034	¶	91.0	19.8/9.9	135	17.52		A161A
	1800	575	213T		**GT0116**	213TTDBD6030	√	91.0	7.9	123	17.52		A161A
	1200	230/460	254T		**GT0057**	254TTDBD6076	√	90.2	17.6/8.8	205	22.64		A163A
	900	230/460	256T		**GT00111**	256TTDBD6101		89.5	17.6/8.8	254	24.22		A163A
10	3600	200	215T		**GT0818**	213TTDBD6000		89.5	27.8	125	17.52		A161
	3600	230/460	213T		**GT0018A**	213TTDBD6001	√	89.5	22/11	125	17.52		A161
	1800	200	215T		**GT0819**	215TTDBD6039	√	91.7	29.2	140	17.52		A161
	1800	208-230/460	215T		**GT0019A**	215TTDBD6026	√	91.7	23.4/11.7	143	17.52		A161
	1800	208-230/460	215T		**GT0019A-P**	215TTDBD6070	√	91.7	23.4/11.7	136	17.52	P	A161
	1800	575	215T		**GT0119**	215TTDBD6030	√	91.7	10.2	143	17.52		A161
	1200	208-230/460	256T		**GT0058**	256TTDBD6076	√	91.7	24.4/12.2	254	24.22		A163A
	900	230/460	284T		**GT00113**	284TTDBD6101		90.2	26.2/13.1	350	25.71	YD	A165A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

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*See back cover page for attribution.

GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, DRIPPROOF

RIGID BASE

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
15	3600	200	215T		**GT0821**	215TTDBD6000		90.2	41.5	128	17.52		A161
	3600	208-230/460	215T		**GT0021A**	215TTDBD6001	√	90.2	29.8/14.9	128	17.52		A161
	3600	575	215T		**GT0121**	215TTDBD6005		90.2	14.4	128	17.52		A161
	1800	200	254T		**GT0859**	254TTDBD6039	¶	93.0	43.5	300	22.64		A163A
	1800	230/460	254T		**GT0059**	254TTDBD6026	√	93.0	32/16	271	22.64		A163A
	1800	230/460	254T		**GT0059-P**	254TTDBD6070	√	93.0	32/16	275	22.64	P	A163A
	1800	575	254T		**GT0159**	254TTDBD6030	¶	93.0	15.1	289	22.64		A163A
	1200	230/460	284T		**GT0060**	284TTDBD6076	√	91.7	35/17.5	318	25.71	YD	A165A
	900	230/460	286T		**GT00115**	286TTDBD6101		90.2	35/17.6	371	27.09	YD	A165A
20	3600	200	254T		**GT0861**	254TTDBD6000		91.0	55	315	22.64		A162A
	3600	230/460	254T		**GT0061**	254TTDBD6001	√	91.0	45/22.5	289	22.64		A162A
	3600	575	254T		**GT0161**	254TTDBD6005		91.0	19.2	315	22.64		A162A
	1800	200	256T		**GT0862**	256TTDBD6039	√	93.0	56	320	24.22		A163A
	1800	230/460	256T		**GT0062**	256TTDBD6026	√	93.0	45/22.4	313	24.22		A163A
	1800	230/460	256T		**GT0062-P**	256TTDBD6070	¶	93.0	45/22.4	289	24.22	P	A163A
	1800	575	256T		**GT0162**	256TTDBD6030	¶	93.0	19.5	313	24.22		A163A
	1200	230/460	286T		**GT0063**	286TTDBD6076	√	92.4	48.5/24.3	362	27.09	YD	A165A
25	3600	230/460	256T		**GT0064**	256TTDBD6001	√	91.7	58/29	232	24.22		A162A
	1800	230/460	284T		**GT0065**	284TTDBD6026	√	93.6	61/30.5	329	25.71	YD	A165A
	1800	230/460	284T		**GT0065-P**	284TTDBD6070	√	93.6	61/30.5	383	25.71	P, YD	A165A
	1800	230/460	284TS		**GT0066**	284TSTDBD6026		93.6	61/30.5	324	24.34	YD	A165A
	1800	575	284T		**GT0165**	284TTDBD6030	√	93.6	25.2	280	25.71		A165A
	1200	230/460	324T		**GT0068**	324TTDBD6076	√	93.0	63/31.5	430	28.55	YD	A167A
30	3600	230/460	284TS		**GT0069**	284TSTDBD6001	√	91.7	71.5/36	315	24.34	YD	A164A
	1800	230/460	286T		**GT0067**	286TTDBD6026	√	94.1	73/36.5	362	27.09	YD	A165A
	1800	230/460	286T		**GT0067-P**	286TTDBD6070	√	94.1	73/36.5	425	27.09	P, YD	A165A
	1800	230/460	286TS		**GT0070**	286TSTDBD6026	√	94.1	73/36.5	366	25.72	YD	A165A
	1800	575	286T		**GT0167**	286TTDBD6030	√	94.1	29.2	430	27.09		A165A
	1200	230/460	326T		**GT0071**	326TTDBD6076	√	93.6	74/37	530	29.73	YD	A167A
40	3600	230/460	286TS		**GT0072**	286TSTDBD6001	√	92.4	86/43	348	25.72	YD	A164A
	1800	230/460	324T		**GT0073**	324TTDBD6026	√	94.1	87.5/43.5	501	28.55	YD	A167A
	1800	230/460	324TS		**GT0074**	324TSTDBD6026	√	94.1	87.5/43.5	452	27.05	YD	A167A
	1800	575	324T		**GT0173**	324TTDBD6030	¶	94.1	38	512	28.55		A167A
	1200	230/460	364T		**GT0075**	364TTDBD6086	√	94.1	90/45	673	31.69	YD	A169A
50	3600	230/460	324TS		**GT0076**	324TSTDBD6001	√	93.0	112/56	459	27.05	YD	A166A
	1800	230/460	326T		**GT0077**	326TTDBD6026	√	94.5	114/57	556	29.73	YD	A167A
	1800	230/460	326T		**GT0077-P**	326TTDBD6070	√	94.5	114/57	551	29.73	P, YD	A167A
	1800	230/460	326TS		**GT0078**	326TSTDBD6026	√	94.5	114/57	512	28.23	YD	A167A
	1800	575	326T		**GT0177**	326TTDBD6030	¶	94.5	47	575	29.73		A167A
	1200	230/460	365T		**GT0079**	365TTDBD6086	√	94.1	116/58	756	33.27	YD	A169A
60	3600	230/460	326TS		**GT0080**	326TSTDBD6001	√	93.6	136/68	523	28.23	YD	A166A
	1800	230/460	364T		**GT0081**	364TTDBD6060	√	95.0	139/69.5	677	31.69	YD	A169A
	1800	230/460	364TS		**GT0082**	364TSTDBD6060	√	95.0	139/69.5	738	29.57	YD	A169A
	1800	575	364T		**GT0181**	364TTDBD6030	√	95.0	56	305	31.69		A169A
	1200	230/460	404T		**GT0041A**	404TTDCD6086	√	94.5	142/71	1147	37.20	YD	A415A
75	3600	230/460	364TS		**GT0083**	364TSTDBD6001	√	93.6	166/83	706	29.57	YD	A168A
	1800	230/460	365T		**GT0084**	365TTDBD6060	√	95.0	166/83	781	33.27	YD	A169A
	1800	230/460	365TS		**GT0085**	365TSTDBD6060	√	95.0	166/83	776	31.14	YD	A169A
	1800	230/460	365TS		**GT0085-P**	365TSTDBD6061		95	166/83	835	31.14	P, YD	A169A
	1800	575	365T		**GT0184**	365TTDBD6030	√	95.0	68.5	384	33.27		A169A
	1200	230/460	405T		**GT0044A**	405TTDCD6081	√	94.5	170/85	1268	38.78	YD	A415A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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GLOBETROTTER® GENERAL PURPOSE MOTORS

THREE-PHASE, DRIPPROOF

RIGID BASE

HP	RPM	VOLTS	FRAME	OVER LOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
100	3600	230/460	365TS		**GT0086**	365TSTDBD6001	√	93.6	210/105	728	31.14	YD	A168A
	1800	230/460	404T		**GT0046A**	404TTDCD6060	√	95.4	210/105	1219	37.20	YD	A415A
	1800	230/460	404TS		**GT0093A**	404TSTDCD6060	√	95.4	210/105	1211	33.86	YD	A415A
	1800	575	404T		**GT0146**	404TTDCD6030	¶	95.4	91	553	37.20		A415A
	1200	230/460	444T		**GT0047A**	444TTDCD6077	√	95.0	211/106	1500	44.57	YD	A417A
125	3600	460	404TS		**GT0048A**	404TSTDCD6001	√	95.0	136	1065	33.86	PW	A414A
	1800	460	405T		**GT0049A**	405TTDCD6060	√	95.4	138	1303	38.78	PW	A415A
	1800	460	405T		**GT0049A-P**	405TTDCD6061	√	95.4	138	1303	38.78	PW	A415A
	1800	460	405TS		**GT0088**	405TSTDCD6060	√	95.4	138	1305	35.44	PW	A415A
	1800	575	405TS		**GT0149**	405TTDCD6030	√	95.4	113	591	35.44		A415A
	1200	460	445T		**GT0050A**	445TTDCD6076	√	95.0	140	1753	44.57	PW	A417A
150	3600	460	405TS		**GT0051A**	405TSTDCD6007	√	94.1	167	1149	35.44	PW	A414A
	1800	460	444T		**GT0052A**	444TTDCD6060	√	95.8	170	1786	44.57	PW	A417A
	1800	460	444T		**GT0052A-P**	444TTDCD6061		95.8	170	1786	44.57	PW	A417A
	1800	460	444TS		**GT0089**	444TSTDCD6060	√	95.8	170	1739	40.83	PW	A417A
	1800	575	444T		**GT0152**	444TTDCD6030	¶	95.8	134	880	44.57		A417A
	1200	460	447T		**GT0053A**	447TTDCD6077	√	95.4	175	2021	49.69	PW	A417A
200	3600	460	444TS		**GT0054A**	444TSTDCD6003	√	95.0	197	1947	40.83	PW	A416A
	1800	460	445T		**GT0055A**	445TTDCD6060	√	95.8	203	2017	44.57	PW	A417A
	1800	460	445T		**GT0055A-P**	445TTDCD6061		95.8	203	2017	44.57	PW	A417A
	1800	460	445TS		**GT0090**	445TSTDCD6060	√	95.8	203	1958	40.83	PW	A417A
	1800	575	445TS		**GT0155**	445TTDCD6030	¶	95.8	178	915	40.83		A417A
	1200	460	449T		**GT00016**	449TTDCD6077	√	95.4	230	2227	49.69	RB, PW	N/A
	1200	460	449T		**GT0056A**	449TTDCD6076	√	95.4	210	2227	49.69	PW	A417A
250	3600	460	445TS		**GT00017**	445TSTDCD6001	√	95.0	262	1787	40.83	YD	A416A
	1800	460	447T		**GT00018**	447TTDCD6026	√	95.8	272	2241	49.69	YD	A417A
	1800	460	447T		**GT00020**	447TTDCD6033	√	95.8	272	2238	49.69	RB, YD	N/A
	1200	460	447T		**GT00021**	447TTDCD6086	√	95.8	280	2450	49.69	YD	A417A
	1200	460	447T		**GT00022**	447TTDCD6076		95.8	280	2450	49.69	RB, YD	N/A
300	3600	460	447TS		**GT00023**	447TSTDCD6002	√	95.4	323	2200	45.95	YD	A416A
	1800	460	447T		**GT00024**	447TTDCD6060	√	95.8	338	2508	49.69	YD	A417A
	1800	460	447TS		**GT00025**	447TSTDCD6060	√	95.8	338	2046	45.95	YD	A417A
	1200	460	449T		**GT00027**	449TTDCD6086	√	95.8	354	2462	49.69	YD	A417A
350	3600	460	447TS		**GT00029**	447TSTDCD6003	¶	95.4	387	2341	45.95	YD	A416A
	1800	460	447TS		**GT00032**	447TSTDCD6040	√	95.8	409	2510	45.95	YD	A417A
400	3600	460	449TS		**GT00036**	449TSTDCD6001	√	95.8	453	2384	45.95	YD	A416A
	1800	460	449T		**GT00037**	449TTDCD6060	√	95.8	478	2574	49.69	YD	A417A
	1800	460	449TS		**GT00039**	449TSTDCD6060	√	95.8	478	2550	45.95	YD	A417A
450	3600	460	449TS		**GT00041**	449TSTDCD6002	√	96.5	520	2384	45.95	YD	A416A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, DRIPPROOF

C-FACE RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	**GT0210**	182TTDBD6028	√	89.5	8.6-8/4	80	13.00	
	1800	208-230/460	182TC	**GT0210-P**	182TTDBD6069		89.5	8.6-8/4	70	13.00	
5	3600	230/460	182TC	**GT0212**	182TTDBD6003	√	86.5	13.2/6.6	65	13.00	
	1800	230/460	184TC	**GT0213**	184TTDBD6028	√	89.5	13.2/6.6	98	14.00	
	1800	230/460	184TC	**GT0213-P**	184TTDBD6069		89.5	13.2/6.6	92	14.00	
7 1/2	3600	230/460	184TC	**GT0215**	184TTDBD6003	√	88.5	18.4/9.2	77	14.00	
	1800	208-230/460	213TC	**GT0216-P**	213TTDBD6069	¶	91.0	21.2-19.8/9.9	135	19.04	
	1800	230/460	213TC	**GT0216**	213TTDBD6028	√	91.0	19.8/9.9	135	19.04	
10	3600	230/460	213TC	**GT0218**	213TTDBD6003	√	89.5	24.2/12.1	123	19.04	
	1800	230/460	215TC	**GT0219**	215TTDBD6028	√	91.7	25.4/12.7	151	19.04	
	1800	208-230/460	215TC	**GT0219-P**	215TTDBD6069	¶	91.7	27.8-25.4/12.7	149	19.04	
15	3600	230/460	215TC	**GT0221**	215TTDBD6003	√	90.2	36.0/18.0	131	19.04	
	1800	230/460	254TC	**GT0259**	254TTDBD6028	√	93.0	37.5/18.8	284	23.14	
	1800	208-230/460	254TC	**GT0259-P**	254TTDBD6069	¶	93.0	40.5-37.5/18.8	0	23.14	
20	3600	208-230/460	254TC	**GT0261**	254TTDBD6003		91.0	51.5-48.0/24.0	315	23.14	
	1800	230/460	256TC	**GT0262**	256TTDBD6028	√	93.0	48.5/24.3	254	24.72	
	1800	208-230/460	256TC	**GT0262-P**	256TTDBD6069		93.0	53.0-48.5/24.3	254	24.72	
25	3600	230/460	256TC	**GT0264**	256TTDBD6003	√	91.7	59.5/29.7	275	24.72	
	1800	230/460	284TC	**GT0265-P**	284TTDBD6069	¶	93.6	63.0/31.5	290	25.71	YD
	1800	230/460	284TC	**GT0265**	284TTDBD6028	¶	93.6	63.0/31.5	400	25.71	YD
	1800	230/460	284TSC	**GT0266**	284TSTDBD6028		93.6	63.0/31.5	329	24.34	YD
30	3600	230/460	284TSC	**GT0269**	284TSTDBD6003		91.7	71.5/35.5	350	24.34	YD
	1800	230/460	286TC	**GT0267**	286TTDBD6028	¶	94.1	73.0/36.5	365	27.09	YD
	1800	208-230/460	286TC	**GT0267-P**	286TTDBD6069		94.1	78.0-73.0/36.5	425	27.09	YD
	1800	230/460	286TSC	**GT0270**	286TSTDBD6028	√	94.1	73.0/36.5	467	25.72	YD
40	3600	208-230/460	286TSC	**GT0272**	286TSTDBD6003		92.4	102-93.0/46.5	425	25.72	YD
	1800	230/460	324TC	**GT0273**	324TTDBD6028	¶	94.1	95.5/47.5	455	28.55	YD
	1800	575	324TC	**GT2173**	324TTDBD6035		94.1	38.0	455	28.55	
50	3600	208-230/460	324TSC	**GT0276**	324TSTDBD6003		93.0	127-115/57.5	459	27.05	YD
	1800	230/460	326TC	**GT0277**	326TTDBD6028	√	94.5	118/59.0	677	29.73	YD
	1800	230/460	326TSC	**GT0278**	326TSTDBD6028		94.5	118/59.0	588	28.23	YD
	1800	575	326TC	**GT2177**	326TTDBD6035		94.5	47.0	610	29.73	
60	3600	208-230/460	326TSC	**GT0280**	326TSTDBD6003		93.6	151-136/68.0	523	28.23	YD
	1800	230/460	364TC	**GT0281**	364TTDBD6028	√	95.0	138/69.0	792	31.69	YD
	1800	230/460	364TSC	**GT0282**	364TSTDBD6028		95.0	138/69.0	792	31.69	YD
75	3600	208-230/460	364TSC	**GT0283**	364TSTDBD6003	√	93.6	192-172/86.0	710	31.69	YD
	1800	230/460	365TC	**GT0284**	365TTDBD6028	√	95.0	171/85.5	781	33.27	YD
	1800	230/460	365TSC	**GT0285**	365TSTDBD6028	√	95.0	171/85.5	862	33.27	YD
100	3600	208-230/460	365TSC	**GT0286**	365TSTDBD6003		93.6	250-228/114	725	33.27	YD
	1800	208-230/460	404TC	**GT0246**	404TTDCD6028	√	95.4	250-228/114	1219	37.20	YD
	1800	230/460	404TSC	**GT0293**	404TSTDCD6028	√	95.4	230/115	1340	33.86	YD
125	3600	460	404TSC	**GT0248**	404TSTDCD6003	√	94.1	139	1065	33.86	PW
	1800	460	405TSC	**GT0288**	405TSTDCD6028	√	95.4	142	780	35.44	PW
150	3600	460	405TSC	**GT0251**	405TSTDCD6003	√	94.1	165	1149	35.44	PW
	1800	460	444TSC	**GT0289**	444TSTDCD6028	√	95.8	168	1996	40.63	PW
200	1800	460	445TSC	**GT0290**	445TSTDCD6028		95.8	223	2200	40.63	PW

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, DRIPPROOF

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	**GT0310**	182TTDBD6029	√	89.5	8.0/4.0	68	13.0	
5	3600	230/460	182TC	**GT0312**	182TTDBD6004	√	86.5	13.2/6.6	60	13.0	
	1800	230/460	184TC	**GT0313**	184TTDBD6029	√	89.5	13.2/6.6	120	14.00	
7 1/2	3600	230/460	184TC	**GT0315**	184TTDBD6004	√	88.5	18.4/9.2	120	14.00	
	1800	230/460	213TC	**GT0316**	213TTDBD6029		91	19.8/9.9	133	19.04	
	1200	230/460	254TC	**GT0317**	254TTDBD6081		90.2	20.2/10.1	230	22.96	
10	3600	230/460	213TC	**GT0318**	213TTDBD6004	√	89.5	24.2/12.1	113	19.04	
	1800	230/460	215TC	**GT0319**	215TTDBD6034		91.7	25.2/12.6	144	19.95	
	1200	208-230/460	256TC	**GT0320**	256TTDBD6081		91.7	27.8-25.6/12.8	285	24.54	
15	3600	230/460	215TC	**GT0321**	215TTDBD6004		90.2	36.0/18.0	127	19.04	
	1800	208-230/460	254TC	**GT0359**	254TTDBD6029	√	93	40.5-37.5/18.8	127	19.95	
	1200	230/460	284TC	**GT0360**	284TTDBD6081	¶	91.7	41.0/20.6	127	25.61	YD
20	3600	230/460	254TC	**GT0361**	254TTDBD6004	√	91	48.0/24.0	296	22.64	
	1800	230/460	256TC	**GT0362**	256TTDBD6029	√	93	48.5/24.3	256	22.64	
25	3600	208-230/460	256TC	**GT0364**	256TTDBD6004	√	91.7	64.0-59.5/29.7	298	25.71	
	1800	208-230/460	284TC	**GT0365**	284TTDBD6029	√	93.6	68.0-63.0/31.5	329	25.71	YD
30	3600	230/460	284TSC	**GT0369**	284TSTDBD6004	√	91.7	71.5/35.5	412	24.34	YD

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

GLOBETROTTER® TOTALLY ENCLOSED MOTORS

THREE-PHASE, CAST IRON, GENERAL PURPOSE

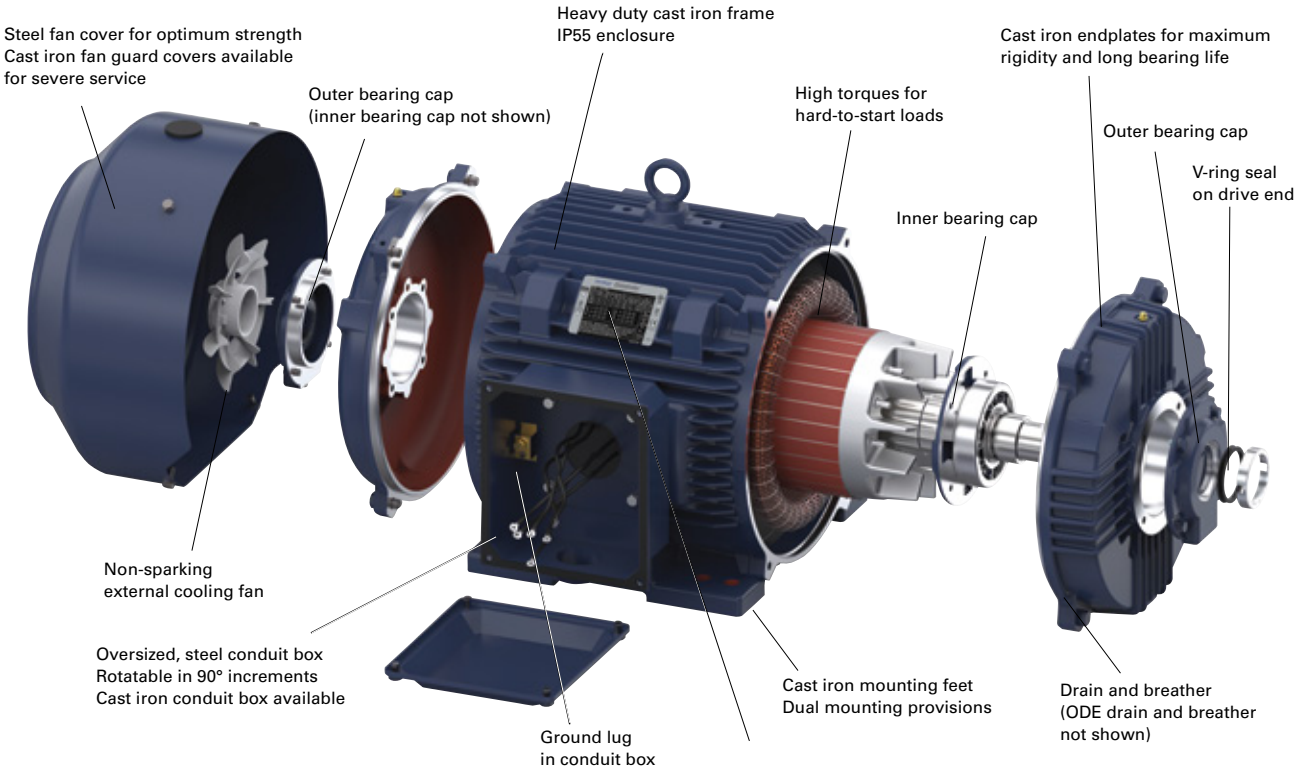
For reliable performance in heavy-duty industrial applications, nothing beats the Marathon® Globetrotter. With their cast iron construction and 1.15 service factor, they are ideal to get the Job done.

The totally enclosed cast iron Globetrotter motors include:

- IP55 protection
- Division 2/ Zone 2, Class I (gases), Groups A, B, C, D
- Dual frame mounting holes
- F1 to F2 mounting capability

Additional Features

- Enhanced quality from a dependable product
- Ability to stock interchangeable parts and modifications



GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- **NEMA Premium models are in compliance with EISA 2007**
- Cast iron fame material, as noted
- Rolled steel C-face models are Hazardous Duty® Division 2
- Hazardous Duty Division 2 UL certification nameplate, as noted
- Division 2 / Zone 2 Class 1 (gases), Groups A, B, C, D
- IP55 enclosure on cast iron frames, as noted
- Inverter duty 10:1 variable torque and 10:1 constant torque, 1.0 SF
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Meets temperature code T2B
- Class F Insulation
- Standard assembly F1, reversible to F2 assembly
- For C-Face, D-Flange, or cast iron upgrade kits, see accessory section
- UL®* Recognized, CSA®* certified, CE®* mark
- Three year warranty

IP55 Inverter Duty 3 YEARS WARRANTY

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1	900	230/460	182T	Y	**GT10101**	182TTFCD6101		75.5	4.0/2.0	76	15.08	75	A420
1 1/2	1200	230/460	182T	Y	**GT1005A**	182TTFCD6076	√	87.5	4.6/2.3	93	15.08	75	A420
	1200	230/460	182T	Y	**GT10102**	182TTTCD6101		87.5	4.6/2.3	92	12.68	75, N	A420
	1200	230/460	182T	N	**GT1505**	182TTFBD6080	√	87.5	4.6/2.3	80	15.10	75	A401
	1200	575	182T	Y	**GT1105A**	182TTFCD6080	¶	87.5	1.8	93	15.08	75	A420
	900	230/460	184T	Y	**GT10103**	184TTFCD6101	√	78.5	5.2/2.6	105	16.08	75	A420
	900	230/460	184T	N	**GT15103**	184TTFBD6101	¶	78.5	5.0/2.5	70	16.10	75	A401
	1200	230/460	184T	Y	**GT1008A**	184TTFCD6076	√	88.5	6.2/3.1	110	16.08	75	A420
	1200	230/460	184T	N	**GT1508**	184TTFBD6080	¶	88.5	6.2/3.1	88	16.10	75	A401
	1200	575	184T	Y	**GT1108A**	184TTFCD6080	¶	88.5	2.5	86	16.08	75	A420
	900	230/460	213T	Y	**GT10105**	213TTFCD6101		84.0	6.4/3.2	133	18.53	75	A421
3	3600	200	182T	N	**GT1859**	182TTFBD6000		86.5	9.2	73	15.10	75	A401
	3600	230/460	182T	Y	**GT1009A**	182TTFCD6001	√	86.5	8.0/4.0	79	15.08	75, A	A420
	3600	230/460	182T	N	**GT1509**	182TTFBD6002	√	86.5	8.0/4.0	60	15.10	75	A401
	3600	575	182T	Y	**GT1109A**	182TTFCD6005	¶	86.5	3.2	79	15.08	75	A420
	1800	200	182T	N	**GT1860**	182TTFBD6039	¶	89.5	9.6	69	15.10	75	A401
	1800	200/400	182T	Y	**GT1810**	182TTFCD6039	√	89.5	9.5/4.7	102	15.08	75	A420
	1800	230/460	182T	Y	**GT1010A**	182TTFCD6026	√	89.5	8.6-8.3/4.1	94	15.08	75	A420
	1800	230/460	182T	Y	**GT1010A-P**	182TTFCD6070	√	89.5	8.3/4.1	98	15.08	P, 75	A420
	1800	230/460	182T	N	**GT1510**	182TTFBD6027	√	89.5	8.3/4.1	80	15.10	75	A401
	1800	230/460	182T	N	**GT1510-P**	182TTFBD6070	√	89.5	8.3/4.1	77	15.10	P, 75	A401
	1800	575	182T	Y	**GT1110A**	182TTFCD6030	√	89.5	3.3	86	15.08	75	A420
	1200	230/460	213T	Y	**GT1011A**	213TTFCD6076	√	89.5	8.6/4.3	157	18.53	75	A421
	1200	230/460	213T	N	**GT1511**	213TTFBD6080	√	89.5	8.6/4.3	149	18.35	75	A171
	1200	575	213T	Y	**GT1111A**	213TTFCD6080	√	89.5	3.4	130	18.53	75	A421
	900	230/460	215T	Y	**GT10107**	215TTFCD6101	√	85.5	9.2/4.6	200	20.03	75	A421
5	3600	200	184T	N	**GT1862**	184TTFBD6000	¶	88.5	14.3	78	16.10	75	A401
	3600	230/460	184T	Y	**GT1012A**	184TTFCD6001	√	88.5	12.4/6.2	94	16.08	75, A	A420
	3600	230/460	184T	N	**GT1512**	184TTFBD6002	√	88.5	12.4/6.2	74	16.10	75	A401
	3600	575	184T	Y	**GT1112A**	184TTFCD6005	√	88.5	5.0	82	16.08	75	A420
	1800	200	184T	N	**GT1863**	184TTFBD6039	√	89.5	15.2	93	16.10	75	A401
	1800	200/400	184T	Y	**GT1813**	184TTFCD6039	¶	89.5	15.2/7.6	117	16.08	75	A420
	1800	230/460	184T	Y	**GT1013A**	184TTFCD6026	√	89.5	13.2/6.6	99	16.08	75, A	A420
	1800	230/460	184T	Y	**GT1013A-P**	184TTFCD6070	√	89.5	13.2/6.6	115	16.08	P, 75	A420
	1800	230/460	184T	N	**GT1513**	184TTFBD6027	√	89.5	13.2/6.6	92	16.10	75	A401
	1800	230/460	184T	N	**GT1513-P**	184TTFBD6070		89.5	13.2/6.6	103	16.10	P, 75	A401
	1800	575	184T	Y	**GT1113A**	184TTFCD6030	√	89.5	5.3	99	16.08	75	A420
	1200	230/460	215T	Y	**GT1014A**	215TTFCD6076	√	89.5	13.6/6.8	146	20.03	75	A421
	1200	230*460	215T	y	**GT1014A-P**	215TTFCD6077	√	89.5	13.6/6.8	146	20.03	75	A421

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

Continued on next page.

*See back cover page for attribution.

GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
5	1200	230/460	215T	N	**GT1514**	215TTFBD6080	√	89.5	13.6/6.8	170	19.85	75	A171
	1200	575	215T	Y	**GT1114A**	215TTFCD6080	¶	89.5	5.5	146	20.03	75	A421
	900	230/460	254T	Y	**GT10109**	254TTFCD6101		86.5	14.2/7.1	250	24.15	75	A173A
7 1/2	3600	200	213T	N	**GT1865**	213TTFBD6000	√	89.5	21.2	150	18.35	75	A171
	3600	230/460	213T	N	**GT1515**	213TTFBD6002	√	89.5	18.4/9.2	100	18.35	75	A171
	3600	230/460	213T	Y	**GT1015A**	213TTFCD6001	√	89.5	18.4/9.2	135	18.53	75, A	A421
	3600	575	213T	Y	**GT1115A**	213TTFCD6005	¶	89.5	7.4	135	18.53	75	A421
	1800	200	213T	Y	**GT1816**	213TTFCD6039	¶	91.7	21.9	194	18.53	75	A421
	1800	200	213T	N	**GT1866**	213TTFBD6039	√	91.7	21.9	150	18.35	75	A171
	1800	230/460	213T	Y	**GT1016A**	213TTFCD6026	√	91.7	20.6-19.5/9.5	171	18.53	75	A421
	1800	230/460	213T	Y	**GT1016A-P**	213TTFCD6070	√	91.7	19.0/9.5	206	18.53	P, 75	A421
	1800	230/460	213T	N	**GT1516**	213TTFBD6027	√	91.7	19.0/9.5	150	18.35	75	A171
	1800	230/460	213T	N	**GT1516-P**	213TTFBD6070	√	93.3	19/9.5	150	18.35	P, 75	A171
	1800	575	213T	Y	**GT1116A**	213TTFCD6030	√	91.7	7.6	152	18.53	75	A421
	1200	230/460	254T	Y	**GT1017A**	254TTFCD6076	√	91.0	19.8/9.9	247	24.15	75	A173A
	1200	575	254T	Y	**GT1117A**	254TTFCD6080	¶	91.0	7.9	247	24.15	75	A173A
	900	230/460	256T	Y	**GT10111**	256TTFCD6101	√	86.5	21.0/10.5	250	25.89	75	A173A
10	3600	200	215T	N	**GT1868**	215TTFBD6000		90.2	27.2	162	19.85	75	A171
	3600	230/460	215T	Y	**GT1018A**	215TTFCD6001	√	90.2	23.6/11.8	152	20.03	75	A421
	3600	230/460	215T	N	**GT1518**	215TTFBD6002	√	90.2	23.6/11.8	200	19.85	75	A171
	3600	575	215T	Y	**GT1118A**	215TTFCD6005	¶	90.2	9.5	152	18.53	75	A421
	1800	200	215T	Y	**GT1819**	215TTFCD6039		91.7	28.8	183	20.03	75	A421
	1800	200	215T	N	**GT1869**	215TTFBD6039		91.7	28.8	162	19.85	75	A171
	1800	230/460	215T	Y	**GT1019A**	215TTFCD6026	√	91.7	27.3-25.0/12.5	165	20.30	75	A421
	1800	230/460	215T	Y	**GT1019A-P**	215TTFCD6070	√	91.7	27.3-25.0/12.5	192	20.03	P, 75	A421
	1800	230/460	215T	N	**GT1519**	215TTFBD6027	√	91.7	27.3-25.0/12.5	162	19.85	75	A171
	1800	230/460	215T	N	**GT1519-P**	215TTFBD6070	√	91.7	27.3-25.0/12.5	162	19.85	P, 75	A171
	1800	575	215T	Y	**GT1119A**	215TTFCD6030	√	91.7	10.0	148	20.03	75	A421
	1200	230/460	256T	Y	**GT1020A**	256TTFCD6076	√	91.0	25.8/12.9	265	25.89	75	A173A
	1200	230/460	256T	Y	**GT1020A-P**	256TTFCD6077	¶	91.0	25.8/12.9	265	25.89	75	A173A
	1200	575	256T	Y	**GT1120A**	256TTFCD6080	¶	91.0	10.3	324	25.89	75	A173A
	900	230/460	284T	Y	**GT10113**	284TTFCD6101	¶	89.5	27.6/13.8	425	26.65	75	A175A
15	3600	230/460	215T	Y	**GT10114**	215TTFCD16001	√	91.0	35.5/17.8	150	20.03	75	A421
	3600	230/460	254T	Y	**GT1021A**	254TTFCD6001	√	91.0	35.5/17.8	301	24.15	75	A173A
	3600	575	254T	Y	**GT1121A**	254TTFCD6005	¶	91.0	14.3	293	24.15	75	A173A
	1800	200	254T	Y	**GT1822**	254TTFCD6039	¶	92.4	43.5	229	24.15	75	A173A
	1800	230/460	254T	Y	**GT1022A**	254TTFCD6026	√	92.4	40.0-37.5/18.8	271	24.15	75	A173A
	1800	230/460	254T	Y	**GT1022A-P**	254TTFCD6070	√	92.4	37.5/18.8	318	24.15	P, 75	A173A
	1800	575	254T	Y	**GT1122A**	254TTFCD6030	√	92.4	15.1	260	24.15	75	A173A
	1200	230/460	284T	Y	**GT1023A**	284TTFCD6076	√	91.7	40.0/20.0	412	26.65	YD	A175A
	1200	230/460	284T	Y	**GT1023A-P**	284TTFCD6079	¶	91.7	40.0/20.0	412	26.65	YD	A175A
	1200	575	284T	Y	**GT1123A**	284TTFCD6080	¶	91.7	16.0	525	26.65		A175A
	900	230/460	286T	Y	**GT10115**	286TTFCD6106	√	89.5	40.0/20.0	530	28.14		A175A
20	3600	230/460	256T	Y	**GT1024A**	256TTFCD6001	√	91.0	47.5/23.7	265	25.89	75	A173A
	3600	575	256T	Y	**GT1124A**	256TTFCD6005	¶	91.0	19.0	322	25.89	75	A173A
	1800	200/400	256T	Y	**GT1825**	256TTFCD6039	√	93.0	55.5/27.8	335	25.89	75	A173A
	1800	230/460	256T	Y	**GT1025A**	256TTFCD6026	√	93.0	53.0-48.5/24.2	315	25.89	75	A173A
	1800	230/460	256T	Y	**GT1025A-P**	256TTFCD6070	√	93.0	48.5/24.2	361	25.89	P, 75	A173A
	1800	575	256T	Y	**GT1125A**	256TTFCD6030	√	93.0	19.4	335	25.89	75	A173A
	1200	230/460	286T	Y	**GT1026A**	286TTFCD6076	√	91.7	56.0-52.0/26.0	386	28.14	YD	A175A
	1200	230/460	286T	Y	**GT1026A-P**	286TTFCD6077	¶	91.7	56.0-52.0/26.0	386	28.14	YD	A175A
	1200	575	286T	Y	**GT1126A**	286TTFCD6080	¶	91.7	20.8	549	28.14		A175A
	900	230/460	324T	Y	**GT10117**	324TTFCD6101	¶	90.2	54.0/27.0	607	29.69		A177A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
25	3600	230/460	284TS	Y	**GT1027A**	284TSTFCD6001	√	91.7	60.0/30.0	386	25.28	YD	A175A
	3600	575	284TS	Y	**GT1127A**	284TSTFCD6005	¶	91.7	24.0	500	25.28		A175A
	1800	230/460	284T	Y	**GT1028A**	284TTFCD6026	√	93.6	65.0-60.0/30.0	399	26.65	YD	A175A
	1800	230/460	284T	Y	**GT1028A-P**	284TTFCD6070	√	93.6	60.0/30.0	492	26.65	P, YD	A175A
	1800	230/460	284TS	Y	**GT1057**	284TSTFCD6026	¶	93.6	60.0/30.0	186	25.28	YD	A175A
	1800	575	284T	Y	**GT1128A**	284TTFCD6030	√	93.6	24.0	395	26.65		A175A
	1200	230/460	324T	Y	**GT1029A**	324TTFCD6076	√	93.0	64.0/32.0	516	29.69	YD	A177A
	1200	230/460	324T	Y	**GT1029A-P**	324TTFCD6087	¶	93.0	64.0/32.0	516	29.69	YD	A177A
	1200	575	324T	Y	**GT1129A**	324TTFCD6080	¶	93.0	25.6	516	29.69		A177A
30	3600	230/460	286TS	Y	**GT1030A**	286TSTFCD6001	√	91.7	71.0/35.5	353	26.77	YD	A175A
	3600	575	286TS	Y	**GT1130A**	286TSTFCD6005	¶	91.7	28.5	432	26.77		A175A
	1800	230/460	286T	Y	**GT1031A**	286TTFCD6026	√	93.6	78.0-71.0/35.5	437	28.14	YD	A175A
	1800	230/460	286T	Y	**GT1031A-P**	286TTFCD6070	√	93.6	71.0/35.5	407	28.14	P, YD	A175A
	1800	230/460	286TS	Y	**GT1058**	286TSTFCD6026	¶	93.6	71.0/35.5	410	26.77	YD	A175A
	1800	575	286T	Y	**GT1131A**	286TTFCD6030	√	93.6	28.4	487	28.14		A175A
	1200	230/460	326T	Y	**GT1032A**	326TTFCD6076	√	93.0	76.0/38.0	1136	31.19	YD	A177A
	1200	575	326T	Y	**GT1132A**	326TTFCD6080	¶	93.0	30.5	670	31.19		A177A
40	3600	230/460	324TS	Y	**GT1033A**	324TSTFCD6001	√	92.4	92.0/46.0	512	28.19	YD	A177A
	3600	575	324TS	Y	**GT1133A**	324TSTFCD6005	¶	92.4	37.0	690	28.19		A177A
	1800	230/460	324T	Y	**GT1034A**	324TTFCD6026	√	94.1	95.0/47.5	624	29.69	YD	A177A
	1800	230/460	324T	Y	**GT1034A-P**	324TTFCD6070	√	94.1	95.0/47.5	609	29.69	P, YD	A177A
	1800	230/460	324TS	Y	**GT1059**	324TSTFCD6026	√	94.1	95.0/47.5	558	28.19	YD	A177A
	1800	575	324T	Y	**GT1134A**	324TTFCD6030	√	94.1	38.0	560	29.69		A177A
	1200	230/460	364T	Y	**GT1035A**	364TTFCD6086	√	94.1	96.0/48.0	849	33.32	YD	A179A
	1200	575	364T	Y	**GT1135A**	364TTFCD6080	√	94.1	38.5	831	33.32		A179A
50	3600	230/460	326TS	Y	**GT1036A**	326TSTFCD6001	√	94.1	113/56.5	580	28.19	YD	A177A
	3600	575	326TS	Y	**GT1136A**	326TSTFCD6005	¶	94.1	45.0	640	29.69		A177A
	1800	230/460	326T	Y	**GT1037A**	326TTFCD6026	√	94.5	117/58.5	611	31.19	YD	A177A
	1800	230/460	326T	Y	**GT1037A-P**	326TTFCD6070	√	94.5	117/58.5	680	31.19	P, YD	A177A
	1800	230/460	326TS	Y	**GT1060**	326TSTFCD6026	√	94.5	117/58.5	609	29.69	YD	A177A
	1800	575	326T	Y	**GT1137A**	326TTFCD6030	√	94.5	47.0	617	31.19		A177A
	1200	230/460	365T	Y	**GT1038A**	365TTFCD6086	√	94.1	121/60.5	878	34.30	YD	A179A
	1200	575	365T	Y	**GT1138A**	365TTFCD6080	¶	94.1	48.5	1100	34.30		A179A
60	3600	230/460	364TS	Y	**GT1039A**	364TSTFCD6001	√	93.6	135/67.5	897	31.19	YD	A179A
	3600	575	364TS	Y	**GT1139A**	364TSTFCD6005	¶	93.6	54.0	776	31.19		A179A
	1800	230/460	364T	Y	**GT1040A**	364TTFCD6036	√	95.0	136/68.0	831	33.32	YD	A179A
	1800	230/460	364T	Y	**GT1040A-P**	364TTFCD6037	¶	95.0	136/68.0	831	33.32	YD	A179A
	1800	230/460	364TS	Y	**GT1061**	364TSTFCD6036	√	95.0	136/68.0	807	31.19	YD	A179A
	1800	575	364T	Y	**GT1140A**	364TTFCD6040	√	95.0	54.5	807	33.32		A179A
	1200	230/460	404T	Y	**GT1041A**	404TTFCD6086	√	94.5	143/71.5	1131	38.77	YD	A425A
	1200	575	404T	Y	**GT1141A**	404TTFCD6080	√	94.5	57.0	1217	38.77		A425A
75	3600	230/460	365TS	Y	**GT1042A**	365TSTFCD6001	√	94.5	168/84.0	950	32.17	YD	A179A
	3600	575	365TS	Y	**GT1142A**	365TSTFCD6002	√	94.5	67.0	933	32.17		A179A
	1800	230/460	365T	Y	**GT1043A**	365TTFCD6036	√	95.5	170/85.0	915	34.30	YD	A179A
	1800	230/460	365T	Y	**GT1043A-P**	365TTFCD6037	¶	95.5	170/85.0	915	34.30	YD	A179A
	1800	230/460	365TS	Y	**GT1062**	365TSTFCD6036	√	95.5	170/85.0	908	32.17	YD	A179A
	1800	575	365T	Y	**GT1143A**	365TTFCD6040	√	95.5	68.0	922	34.30		A179A
	1200	230/460	405T	Y	**GT1044A**	405TTFCD6086	√	94.5	178/89.0	1303	38.77	YD	A425A
	1800	230/460	365T	Y	**GT1043A-P**	365TTFCD6037	¶	95.5	170/85.0	915	34.30	YD	A179A
	1200	575	405T	Y	**GT1144A**	405TTFCD6080	√	94.5	71.0	1200	38.77		A425A

Continued on next page.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
	3600	230/460	405TS	Y	**GT1045A**	405TSTFCD6001	√	94.5	222/111	1039	35.77	YD	A424A
	3600	575	405TS	Y	**GT1145A**	405TSTFCD6005	√	94.5	89.0	1129	35.77		A424A
	1800	230/460	405T	Y	**GT1046A**	405TTFCD6036	√	95.4	226/113	1202	38.77	YD	A425A
	1800	230/460	405T	Y	**GT1046A-P**	405TTFCD6037	√	95.4	226/113	1325	38.77	P, YD	A425A
100	1800	230/460	405TS	Y	**GT1063**	405TSTFCD6036	√	95.4	226/113	1270	35.77	YD	A425A
	1800	575	405T	Y	**GT1146A**	405TTFCD6040	√	95.4	90.5	1292	38.77		A425A
	1200	230/460	444T	Y	**GT1047A**	444TTFCD6086	√	95.0	229/115	1764	46.71	YD	A427A
	1200	230/460	444T	Y	**GT1047A-P**	444TTFCD6077	¶	95.0	229/115	1764	46.71	YD	A427A
	1200	575	444T	Y	**GT1147A**	444TTFCD6080	√	95.0	91.5	1850	46.71		A427A
	3600	460	444TS	Y	**GT1048A**	444TSTFCD6001		95.0	138	1566	42.96	PW	A426A
	3600	575	444TS	Y	**GT1148A**	444TSTFCD16002	¶	95.0	110	1667	42.96		A426A
	1800	460	444T	Y	**GT1049A**	444TTFCD6036	√	95.4	140	1705	46.71	PW	A427A
125	1800	460	444T	Y	**GT1049A-P**	444TTFCD6037	√	95.4	140	1705	46.71	PW	A427A
	1800	460	444TS	Y	**GT1064**	444TSTFCD6036	√	95.4	140	1909	42.96	PW	A427A
	1800	575	444T	Y	**GT1149A**	444TTFCD6044	√	95.4	112	1566	46.71		A427A
	1200	460	445T	Y	**GT1050A**	445TTFCD6086	√	95.0	143	1852	46.71	PW	A427A
	1200	575	445T	Y	**GT1150A**	445TTFCD6080	√	95.0	114	1852	46.71		A427A
	3600	460	445TS	Y	**GT1051A**	445TSTFCD6001	√	95.0	161	1786	42.96	PW	A426A
	3600	575	445TS	Y	**GT1151A**	445TSTFCD6005	√	95.0	128	1881	42.96		A426A
	1800	460	445T	Y	**GT1052A**	445TTFCD6036	√	95.8	169	1764	46.71	PW	A427A
	1800	460	445T	Y	**GT1052A-P**	445TTFCD6038	√	95.8	169	1950	46.71	P, PW	A427A
150	1800	460	445TS	Y	**GT1065**	445TSTFCD6036	√	95.8	169	1742	42.96	PW	A425A
	1800	575	445T	Y	**GT1152A**	445TTFCD6037	√	95.8	135	1874	46.71		A427A
	1200	460	445T	Y	**GT10135**	445TTFCD6088	√	95.8	171	1895	51.08	PW, RB	A427A
	1200	460	447T	Y	**GT1053A**	447TTFCD6087	√	95.8	171	2452	55.21	PW	A427A
	1200	575	447T	Y	**GT1153A**	447TTFCD6080	√	95.8	136	2500	55.21		A427A
	3600	460	447TS	Y	**GT1054A**	447TSTFCD6004	√	95.4	217	2311	51.46	PW	A426A
	3600	575	447TS	Y	**GT1154A**	447TSTFCD6005	√	95.4	174	2328	51.46		A426A
	1800	460	447T	Y	**GT1055A**	447TTFCD6038	√	96.5	219	2300	55.21	PW	A427A
	1800	460	447T	Y	**GT1055A-P**	447TTFCD6037	¶	96.5	219	2300	55.21	PW	A427A
200	1800	460	447TS	Y	**GT1066**	447TSTFCD6038	√	96.5	219	2275	51.46	PW	A427A
	1800	575	447T	Y	**GT1155A**	447TTFCD6039	√	96.5	175	990	55.21		A427A
	1200	460	449T	Y	**GT1056A**	449TTFCD6088	√	95.8	230	2494	55.21	PW	A427A
	1200	460	449T	Y	**GT1056A-P**	449TTFCD6087	¶	95.8	230	2494	55.21	PW	A427A
	1200	575	449T	Y	**GT1156A**	449TTFCD6080	√	95.8	184	2370	55.21		A427A
	3600	460	449TS	Y	**GT1068**	449TSTFCD6005	√	95.8	266	2458	51.46	PW	A426A
	1800	460	449T	Y	**GT1069**	449TTFCD6026	√	96.2	272	2500	55.21	PW	A427A
250	1800	460	449T	Y	**GT1070**	449TTFCD6038	√	96.2	272	2520	55.21	RB, PW	A427A
	1200	460	449T	Y	**GT10138**	449TTFCD6086	√	95.8	285	2745	55.21	RB	A427A
	1200	460	449T	Y	**GT1071**	449TTFCD6076	√	95.8	285	2745	55.21	PW	A427A
	3600	460	449TS	Y	**GT1072**	449TSTFCD6006	√	95.8	320	2495	51.46	PW	A426A
	1800	460	449T	Y	**GT1073**	449TTFCD6027	√	96.2	332	2680	55.21	PW	A427A
300	1800	460	449T	Y	**GT1073-P**	449TTFCD16374	√	96.2	332	2700	55.21	P, PW	A427A
	1200	460	449T	Y	**GT1075**	449TTFCD6077	√	95.8	342	2995	59.15	PW	A427A
	1200	460	449T	Y	**GT1076**	449TTFCD6390		95.8	342	2995	59.15	RB	A427A
	3600	460	449TS	Y	**GT1077**	449TSTFCD6003	√	95.8	373	2739	51.46	PW	A426A
350	1800	460	449T	Y	**GT1078**	449TTFCD6036	√	96.2	390	2770	55.21	PW	A427A
	1800	460	449T	Y	**GT1079**	449TTFCD16333		96.2	390	3125	55.21	RB, PW	A427A
	3600	460	449TS	Y	**GT1083**	449TSTFCD6004	√	95.8	327	2960	55.40	PW	A426A
400	1800	460	449T	Y	**GT1084**	449TTFCD16375	√	96.2	440	3258	59.15	PW	A427A
	1800	460	449T	Y	**GT1085**	449TTFCD16334	√	96.2	440	3125	59.15	RB, PW	A427A
450	1800	460	449T	Y	**E292**	449TTFS6065	√	96.5	515	3645	56.79		A623

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	N	**GT1305A**	182TTFBD6079	√	87.5	4.6/2.3	91	15.85	
2	1200	230/460	184TC	N	**GT1308A**	184TTFBD6079	¶	88.5	6.2/3.1	94	16.85	
3	3600	230/460	182TC	N	**GT1309A**	182TTFBD6004	√	86.5	8.0/4.0	83	15.85	
	1800	230/460	56C	N	**GT13195**	182TTFBD16029	√	89.5	8.0/4.0	87	14.62	
	1800	230/460	182TC	N	**GT1310A**	182TTFBD6029	√	89.5	8.0/4.0	87	15.85	
	1800	575	182TC	N	**GT1910**	182TTFBD6044	¶	89.5	3.6	87	15.85	
	1200	230/460	213TC	N	**GT1311A**	213TTFBD6079	¶	89.5	8.6/4.3	136	19.10	
5	3600	230/460	184TC	N	**GT1312A**	184TTFBD6004	√	88.5	12.4/6.2	95	16.85	
	1800	230/460	184TC	N	**GT1313A**	184TTFBD6029	√	89.5	13.2/6.6	110	16.85	
	1200	230/460	215TC	N	**GT1314A**	215TTFBD6079	√	89.5	13.6/6.8	145	20.70	
7 1/2	3600	230/460	184TC	N	**GT13192**	184TTFBD6005	√	89.5	17.6/8.8	120	16.85	
	3600	230/460	213TC	N	**GT1315A**	213TTFBD6004	√	89.5	18.4/9.2	119	19.10	
	1800	230/460	213TC	N	**GT1316A**	213TTFBD6029	√	91.7	19.0/9.5	153	19.10	
10	3600	230/460	215TC	N	**GT1318A**	215TTFBD6004	√	90.2	23.6/11.8	155	20.70	
	1800	230/460	215TC	N	**GT1319A**	215TTFBD6029	√	91.7	27.3-25.0/12.5	165	20.70	
15	3600	230/460	215TC	N	**GT13174**	215TTFBD6005	√	91.7	35.0/17.4	150	20.70	
	1800	230/460	254TC	Y	**GT1322**	254TTFCD6042	¶	92.4	37.5/18.8	318	24.65	
20	1800	230/460	256TC	Y	**GT1325**	256TTFCD6042		93.0	48.5/24.2	330	26.39	
40	1800	230/460	324TC	Y	**GT1334**	324TTFCD6039	¶	94.1	95.0/47.5	624	29.69	YD

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	N	**GT1205A**	182TTFBD6078	√	87.5	4.6/2.3	91	15.85	
2	1200	230/460	184TC	N	**GT1208A**	184TTFBD6078	√	88.5	6.2/3.1	104	16.85	
3	3600	230/460	182TC	N	**GT1209A**	182TTFBD6003	√	86.5	8.0/4.0	83	15.85	
	3600	575	182TC	N	**GT1409A**	182TTFBD6007	¶	86.5	3.2	83	15.85	
	1800	230/460	182TC	N	**GT1210A**	182TTFBD6028	√	89.5	8.0/4.0	105	15.85	
	1800	230/460	182TC	N	**GT1210A-P**	182TTFBD6030	¶	89.5	8.0/4.0	105	15.85	
	1800	575	182TC	N	**GT1410A**	182TTFBD6032	¶	89.5	3.2	108	15.85	
	1200	230/460	213TC	N	**GT1211A**	213TTFBD6078	√	89.5	8.6/4.3	164	19.10	
5	3600	230/460	184TC	N	**GT1212A**	184TTFBD6003	√	88.5	12.4/6.2	97	16.85	
	3600	575	184TC	N	**GT1412A**	184TTFBD6007	¶	88.5	5.0	97	16.85	
	1800	230/460	184TC	N	**GT1213A**	184TTFBD6028	√	89.5	13.2/6.6	105	16.85	
	1800	230/460	184TC	N	**GT1213A-P**	184TTFBD6030	¶	89.5	13.2/6.6	105	16.85	
	1800	575	184TC	N	**GT1413A**	184TTFBD6032	√	89.5	5.2	105	16.85	
	1200	230/460	215TC	N	**GT1214A**	215TTFBD6078	√	89.5	13.6/6.8	185	20.70	
7 1/2	3600	230/460	213TC	N	**GT1215A**	213TTFBD6003	√	89.5	18.4/9.2	136	19.10	
	3600	575	213TC	N	**GT1415A**	213TTFBD6007	¶	89.5	7.4	138	19.10	
	1800	230/460	213TC	N	**GT1216A**	213TTFBD6028	√	91.7	19/9.5	158	19.10	
	1800	230/460	213TC	N	**GT1216A-P**	213TTFBD6030	√	91.7	19/9.5	158	19.10	
	1800	575	213TC	N	**GT1416A**	213TTFBD6032	¶	91.7	7.6	157	19.10	
	1200	230/460	254TC	Y	**GT1217A**	254TTFCD6078	¶	91.0	19.8/9.9	315	24.65	
10	3600	230/460	215TC	N	**GT1218A**	215TTFBD6003	√	90.2	23.6/11.8	155	20.70	
	3600	230/460	215TC	N	**GT1218A-P**	215TTFBD6010	√	90.2	23.6/11.8	155	20.70	
	3600	575	215TC	N	**GT1418A**	215TTFBD6007	¶	90.2	10.0	172	20.70	
	1800	230/460	215TC	N	**GT1219A**	215TTFBD6028	√	91.7	27.3-25.0/12.5	175	20.70	
	1800	230/460	215TC	N	**GT1219A-P**	215TTFBD6030	¶	91.7	27.3-25.0/12.5	175	20.70	
	1800	575	215TC	N	**GT1419A**	215TTFBD6032	¶	91.7	10.0	186	20.70	
	1200	230/460	256TC	Y	**GT1220A**	256TTFCD6078	√	91.0	25.8/12.9	345	26.39	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

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GLOBETROTTER GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
15	3600	230/460	215TC	N	**GT12174**	215TTFBD6001	√	91.7	35.0/17.4	158	20.70	
	3600	230/460	254TC	Y	**GT1221A**	254TTFCD6003	√	91.0	35.5/17.8	336	24.65	
	3600	575	254TC	Y	**GT1421A**	254TTFCD6007	¶	91.0	14.0	336	24.65	
	1800	230/460	254TC	Y	**GT1222A**	254TTFCD6028	√	92.4	37.5/18.8	311	24.65	
	1800	575	254TC	Y	**GT1422A**	254TTFCD6032	¶	92.4	15.0	325	24.65	
	1200	230/460	284TC	Y	**GT1223**	284TTFCD6078	¶	91.7	40.0/20.0	450	26.65	YD
20	3600	230/460	256TC	Y	**GT1224A**	256TTFCD6003	√	91.0	47.5/23.7	330	26.39	
	1800	230/460	256TC	Y	**GT1225A**	256TTFCD6028	√	93.0	48.5/24.2	330	26.39	
	1800	230/460	256TC	Y	**GT1225A-P**	256TTFCD6029	¶	93.0	48.5/24.2	293	26.39	
	1200	230/460	286TC	Y	**GT1226**	286TTFCD6078		91.7	52.0/26.0	530	28.14	YD
25	3600	230/460	284TSC		**GT1227A**	284TSTFCD6003	√	91.7	60.0/30.0	293	25.28	YD
	3600	230/460	284TC		**GT12127**	284TTFCD6001	√	91.7	60.0/30.0	385	25.28	YD
	1800	230/460	284TC	Y	**GT1228A**	284TTFCD6028	√	93.6	60.0/30.0	500	26.65	YD
	1200	230/460	324TC	Y	**GT1229**	324TTFCD6078		93.0	64.0/32.0	645	29.69	YD
30	3600	230/460	286TC	Y	**GT12130**	286TTFCD6001	¶	91.7	71.0/35.5	353	28.14	YD
	3600	230/460	286TSC	Y	**GT1230A**	286TSTFCD6003	√	91.7	71.0/35.5	500	26.77	YD
	1800	230/460	286TC	Y	**GT1231A**	286TTFCD6028	√	93.6	71.0/35.5	504	28.14	YD
	1800	230/460	286TC	Y	**GT1231A-P**	286TTFCD6031	¶	93.6	71.0/35.5	441	28.14	YD
	1200	230/460	326TC	Y	**GT1232**	326TTFCD6078		93.0	76.0/38.0	730	31.19	YD
40	3600	230/460	324TSC	Y	**GT1233A**	324TSTFCD6003	√	92.4	92.0/46.0	675	28.19	YD
	1800	230/460	324TC	Y	**GT1234A**	324TTFCD6028	√	94.1	95.0/47.5	750	29.69	YD
	1800	230/460	324TC	Y	**GT1234A-P**	324TTFCD6029	¶	94.1	95.0/47.5	646	29.69	YD
	1800	230/460	324TSC	Y	**GT1259**	324TSTFCD6028	√	94.1	95.0/47.5	558	28.19	YD
	1200	230/460	364TC	Y	**GT1235**	364TTFCD6078	√	94.1	96.0/48.0	900	33.32	YD
50	3600	230/460	326TSC	Y	**GT1236A**	326TSTFCD6003	√	94.1	113/56.5	725	29.69	YD
	1800	230/460	326TC	Y	**GT1237A**	326TTFCD6028	√	94.5	117/58.5	775	31.19	YD
	1800	230/460	326TC	Y	**GT1237A-P**	326TTFCD6029	¶	94.5	117/58.5	701	31.19	YD
	1800	230/460	326TSC	Y	**GT1260**	326TSTFCD6028	√	94.5	117/58.5	609	29.69	YD
	1200	230/460	365TC	Y	**GT1238**	365TTFCD6078	√	94.1	121/60.5	1040	34.30	YD
60	3600	230/460	364TSC	Y	**GT1239A**	364TSTFCD6003	√	93.6	135/67.5	925	31.19	YD
	1800	230/460	364TC	Y	**GT1240A**	364TTFCD6038	√	95.0	138/69.0	1000	33.32	YD
	1800	230/460	364TSC	Y	**GT1261**	364TSTFCD6038		95.0	138/69.0	1000	31.19	YD
	1200	230/460	404TC	Y	**GT1241**	404TTFCD6078		94.5	143/71.5	1360	38.77	YD
75	3600	230/460	365TSC	Y	**GT1242A**	365TSTFCD6003	√	94.5	168/84.0	1025	32.17	YD
	1800	230/460	365TC	Y	**GT1243A**	365TTFCD6038	√	95.4	171/85.5	1100	34.30	YD
	1800	230/460	365TC	Y	**GT1243A-P**	365TTFCD6039	√	95.4	170/85.0	937	34.30	YD
	1800	230/460	365TSC	Y	**GT1262**	365TSTFCD6038	¶	95.4	172/86.0	908	32.17	YD
	1200	230/460	405TC	Y	**GT1244**	405TTFCD6078		94.5	178/89.0	1450	38.77	YD
100	3600	230/460	405TSC	Y	**GT1245A**	405TSTFCD6003	√	94.5	222/111	1250	35.77	YD
	1800	230/460	405TC	Y	**GT1246A**	405TTFCD6038	√	95.4	226/113	1375	38.77	YD
	1800	230/460	405TSC	Y	**GT1263**	405TSTFCD6038	√	95.4	226/113	1191	35.77	YD
	1200	230/460	444TC	Y	**GT1247**	444TTFCD6078		95.0	229/115	1764	46.71	YD
125	1800	460	444TSC	Y	**GT1264**	444TSTFCD6038	√	95.4	140	1720	42.96	PW

C-FACE FOOTED (RIGID BASE) BCP, F3 - TOP MOUNTED CONDUIT BOX

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	N	**GT12309**	182TTFBD6015	√	86.5	7.6/3.8	83	15.75	
	1800	230/460	182TC	N	**GT12310**	182TTFBD6035	√	89.5	7.8/3.9	105	15.75	
5	3600	230/460	184TC	N	**GT12312**	184TTFBD6015	√	88.5	13.4/6.7	97	16.73	
	1800	230/460	184TC	N	**GT12313**	184TTFBD6035	√	89.5	12.4/6.2	105	16.73	
7 1/2	3600	230/460	213TC	N	**GT12315**	213TTFBD6015	√	89.5	18.4/9.2	136	19.12	
	1800	230/460	213TC	N	**GT12316**	213TTFBD6035		91.7	19.0/9.5	158	19.12	
10	3600	230/460	215TC	N	**GT12318**	215TTFBD6015		90.2	23.6/11.8	155	20.62	
	1800	208-230/460	215TC	N	**GT12319**	215TTFBD6035		91.7	27.3-25.0/12.5	150	20.62	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

ALUMINUM GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

For use where exposure to water, dust and corrosives exists.
Ideally suited for use on pumps, compressors, fans, blowers, conveyors, machine tools and other industrial applications.

FEATURES

- **IP43 Ingress Protection**
- **NEMA Premium models are in compliance with EISA 2007**
- 182T to 286T frame
- Cast Aluminum Frame with cast iron end brackets
- Steel conduit box with steel fan guard
- Nameplated for 60 & 50HZ
- Inverter Rated - Any Inverter or VFD Brand
- Inverter duty 4:1 constant torque and 10:1 variable torque, 1.0 SF
- MAX Guard® Class F Insulation
- 1.25 service factor (SF) on sinewave, 1.0 service factor on IGBT power
- Standard assembly F1, reversible to F2 assembly
- For C-Face, D-Flange, kits available, see accessory section
- UL®* Recognized, CSA®* certified, CE®* mark
- Three year warranty

RIGID BASE (ALUMINUM FRAME)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	FOOT NOTES
1.5	1200	230/460	182T		LM33561		87.5	5.2/2.6	73	AL
	900	230/460	184T		LM33562		78.9	5.7/2.85	85	AL
2	1200	230/460	184T		LM33563	√	88.5	6.4/3.2	80	AL
	900	230/460	213T		LM34145	√	86.5	10.0/5.0	142	AL
3	3600	230/460	182T		LM33564		86.5	7.8/3.9	83	AL
	1800	230/460	182T		LM33486		89.5	7.8/3.9	77	AL
	1200	230/460	213T		LM16030		89.5	8.8/4.4	98	AL
	900	230/460	215T		LM34304		86.5	10.2/5.1	160	AL
5	3600	230/460	184T		LM33565		88.5	12/6	89	AL
	1800	230/460	184T		LM33487		89.5	12.6/6.3	85	AL
	1200	230/460	215T		LM16033		89.5	13.8/6.9	138	AL
	900	230/460	254T		LM32803	√	87.5	15/7.5	187	AL
7.5	3600	230/460	213T		LM28968		90.2	17.8/8.9	98	AL
	1800	230/460	213T		LM16029		91.7	19.2/9.6	102	AL
	1200	230/460	254T		LM15672		91	19.8/9.9	209	AL
	900	230/460	256T		LM32807		86.5	23/11.5	265	AL
10	3600	230/460	215T		LM16031		91.7	23.6/11.8	185	AL
	1800	230/460	215T		LM16032		91.7	25/12.5	160	AL
	1200	230/460	256T		LM15675		91	26.2/13.1	294	AL
15	3600	230/460	254T		LM15670		91.7	35/17.5	215	AL
	1800	230/460	254T		LM15671	√	92.4	37.5/18.8	209	AL
20	3600	230/460	256T		LM15673	√	92.4	47/23.4	325	AL
	1800	230/460	256T		LM15674	√	93	48/24.1	295	AL
25	3600	230/460	284TS		LM13960		92.4	56/28	385	AL
	1800	230/460	284T		LM13961		93.6	64/32	495	AL
30	3600	230/460	286T		LM32813		92.4	66/33	438	AL
	1800	230/460	286T		LM13964		93.6	75/37.5	426	AL

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

ALUMINUM GENERAL PURPOSE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

C-FACE RIGID BASE (ALUMINUM FRAME)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	FOOT NOTES
1	900	230/460	182TC	-	LM33566		75.5	4.2/2.1	77	AL
1.5	1200	230/460	182TC	-	LM33567	¶	87.5	5.2/2.6	95	AL
	900	230/460	184TC	-	LM32827		86.5	15/7.5	133	AL
2	1200	230/460	184TC	-	LM33569	¶	88.5	6.4/3.2	88	AL
	900	230/460	213TC	-	LM34174		86.5	45873	147	AL
3	3600	230/460	182TC	-	LM33570		86.5	7.8/3.9	95	AL
	1800	230/460	182TC	-	LM33485		89.5	7.8/3.9	67	AL
	1200	230/460	213TC	-	LM16744		89.5	8.8/4.4	131	AL
	900	230/460	215TC	-	LM32834		84	10.6/5.3	152	AL
5	3600	230/460	184TC	-	LM33571		88.5	12/6	104	AL
	1800	230/460	184TC	-	LM33484		89.5	12.6/6.3	85	AL
	1200	230/460	215TC	-	LM16748		89.5	13.8/6.9	150	AL
	900	230/460	254TC	-	LM32836		87.5	15/7.5	244	AL
7.5	3600	230/460	213TC	-	LM16750		90.2	17.8/8.9	148	AL
	1800	230/460	213TC	-	LM16752		91.7	19.2/9.6	141	AL
	1200	230/460	254TC	-	LM16753		91	19.8/9.9	235	AL
	900	230/460	256TC	-	LM32839		86.5	23/11.5	203	AL
10	3600	230/460	215TC	-	LM16755		91.7	23.6/11.8	150	AL
	1800	230/460	215TC	-	LM16757	√	91.7	25/12.5	150	AL
	1200	230/460	256TC	-	LM16759		91	26.2/13.1	248	AL
15	3600	230/460	254TC	-	LM16761		91.7	35/17.5	213	AL
	1800	230/460	254TC	-	LM16762	√	92.4	37.5/18.8	250	AL
20	3600	230/460	256TC	-	LM16766		92.4	51-47/23.4	285	AL
	1800	230/460	256TC	-	LM16767		93	48/24.1	288	AL
25	3600	230/460	284TSC	-	LM16770		92.4	56/28	280	AL
	1800	230/460	284TC	-	LM16772	√	93.6	64/32	280	AL
	1800	230/460	284TSC	-	LM32654	√	93.6	65/32.5	282	AL
30	3600	230/460	286TSC	-	LM16773		92.4	66/33	416	AL
	1800	230/460	286TC	-	LM16774		93.6	75/37.5	361	AL
	1800	230/460	286TSC	-	LM32842		93.6	75/37.5	432	AL

C-FACE FOOTLESS (ALUMINUM FRAME)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	FOOT NOTES
3	1800	230/460	182TC	-	LM33573		89.5	7.8/3.9	67	AL
5	1800	230/460	184TC	-	LM33575		89.5	12.6/6.3	85	AL
7.5	1800	230/460	213TC	-	LM16826		91.7	19.2/9.6	141	AL
10	1800	230/460	215TC	-	LM34166		91.7	25/12.5	150	AL
15	1800	230/460	254TC	-	LM16828		92.4	37.5/18.8	250	AL
20	1800	230/460	256TC	-	LM16829		93	48/24.1	288	AL

XRI-SEVERE DUTY MOTORS

TEFC COOLING TOWER: SINGLE-SPEED, THREE-PHASE

FEATURES

- 100% cast iron construction for rigidity and reduced vibration
- Internal and external epoxy paint
- MAX GUARD® motor Class F insulation system
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower
- Extended grease tubes, regreasable in service
- T-drains provided for effective drainage (Installed in both endshields)
- Suitable for shaft down mounting
- Shaft slinger
- Forsheda®* seals on both ends
- Ball bearings
- Actual test and vibration data supplied with each motor
- UL®* recognized (through 5011) and CSA®* certified
- Suitable for 10:1 VT and CT (as noted) on VFD
- Three year warranty

IP55 MAX GUARD NEMA Premium XRI Inverter Duty

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF	F.L. AMPS	WT.	"C" DIM.
3	1800	230/460	182T	**U867B**	182TTFCD6557	√	10:1	89.5	8.0/4.0	145	15.20
5	1800	230/460	184T	**U868B**	184TTFCD6555	¶	10:1	89.5	13.0/6.5	128	16.20
7 1/2	1800	230/460	213T	**U869C**	213TTFCD6550	√	10:1	91.7	19.0/9.5	226	18.53
	1800	230/460	213T	**U869B**	213TTFND6550	¶	20:1	91.7	19.2/9.6	226	19.63
10	1800	230/460	215T	**U870C**	215TTFCD6546	¶	10:1	91.7	25.0/12.5	245	20.03
15	1800	230/460	254T	**U871B**	254TTFCD16568	√	10:1	92.4	37.5/18.8	349	24.15
20	1800	230/460	256T	**U872B**	256TTFCD16574	√	10:1	93.0	48.5/24.2	375	25.89
25	1800	230/460	284T	**U873B**	284TTFCD6832	√	10:1	93.6	60.0/30.0	440	26.64
25	1800	230/460	284T	**U873A**	284TTFNA16832	¶	10:1	93.6	62.0/31.0	468	26.63
30	1800	230/460	286T	**U874B**	286TTFCD16572	√	10:1	93.6	71.0/35.5	503	28.14
30	1800	230/460	286T	**U874A**	286TTFNA16572	¶	10:1	94.1	73.0/36.5	487	28.13
40	1800	230/460	324T	**U875B**	324TTFCD6837	¶	2:1	94.1	95.0/47.5	567	29.85
50	1800	230/460	326T	**U876B**	326TTFCD16574	√	2:1	94.5	117/58.5	644	31.35
60	1800	230/460	364T	**U877B**	364TTFCD6558		2:1	95.0	136/68.0	1078	33.40
75	1800	230/460	365T	**U878B**	365TTFCD16827		2:1	95.5	170/85.0	1169	34.40
100	1800	230/460	405T	**U879B**	405TTFCD16834	√	2:1	95.4	226/113	1458	38.88
125	1800	460	444T	**U880B**	444TTFCD16549		2:1	95.4	140	1990	46.83
150	1800	460	445T	**U881B**	445TTFCD16866	√	2:1	95.8	169	2343	46.83
200	1800	460	445T	**U882B**	445TTFCD16852		2:1	96.5	219	2556	51.20
250	1800	460	449T	**U884B**	449TTFCD36649	√	2:1	96.2	272	2409	55.33

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.
Specifications are subject to change without notice.
*See back cover page for attribution.

XRI-SEVERE DUTY MOTORS

TEAO COOLING TOWER: SINGLE-SPEED, THREE-PHASE

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Bearing Current Protection (BCP)
- 100% cast iron construction for rigidity and reduced vibration
- Internal and external epoxy paint
- MAX GUARD® motor Class F insulation system
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower
- Extended grease tubes, regreasable in service
- T-drains provided for effective drainage (Installed in both endshields)
- Suitable for all angle mounting
- Inpro/Seal®* quality VBX®* bearing isolators
- Ball bearings
- Actual test and vibration data supplied with each motor
- UL®* Recognized and CSA®* certified
- Suitable for 10:1 VT and 20:1 CT on VFD
- Three year warranty

IP56 NEMA Premium XRI Inverter Duty MAX GUARD BCP BEARING CURRENT PROTECTION

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF	F.L. AMPS	WT.
3	1800	230/460	182T	**U1867A**	182TTTCD16571	√	10:1	89.5	8.0/4.0	200
	1200	230/460	213T	**U1852**	213TTTCD6580		10:1	89.5	8.6/4.3	102
5	1800	230/460	184T	**U1868A**	184TTTCD16545	√	10:1	89.5	13.0/6.5	225
	1800	230/460	184T	**U1868**	184TTTN16545	¶	20:1	90.2	12.4/6.2	144
	1200	230/460	215T	**U1853**	215TTTCD6580		10:1	89.5	13.6/6.8	176
7 1/2	1800	230/460	213T	**U1869B**	213TTTCD16539	√	10:1	91.7	19.0/9.5	210
	1200	230/460	254T	**U1854**	254TTTCD6580		10:1	91.0	22.0/11.0	247
10	1800	230/460	215T	**U1870B**	215TTTCD16541	√	10:1	91.7	25.0/12.5	331
	1200	230/460	256T	**U1855**	256TTTCD6580		10:1	91.0	27.0/13.5	265
15	1800	230/460	254T	**U1871A**	254TTTCD16545		10:1	92.4	37.5/18.8	357
	1200	230/460	284T	**U1856**	284TTTCD6580		10:1	91.7	40.0/20.0	412
20	1800	230/460	256T	**U1872A**	256TTTCD16544	√	10:1	93.0	48.5/24.2	463
	1200	230/460	286T	**U1857**	286TTTCD6580		10:1	91.7	52.0/26.0	385
25	1800	230/460	284T	**U1873A**	284TTTCD16540	√	10:1	93.6	60.0/30.0	490
	1200	230/460	324T	**U1858**	324TTTCD6580		10:1	93.0	62.0/31.0	516
30	1800	230/460	286T	**U1874A**	286TTTCD16541	√	10:1	93.6	71.0/35.5	613
	1200	230/460	326T	**U1859**	326TTTCD6580		10:1	93.0	77.0/38.5	758
40	1800	230/460	324T	**U1875A**	324TTTCD16535		2:1	94.1	95.0/47.5	775
	1200	230/460	364T	**U1860**	364TTTCD6580		2:1	94.1	104/52.0	849
50	1800	230/460	326T	**U1876A**	326TTTCD16533		2:1	94.5	117/58.5	850
	1200	230/460	365T	**U1861**	365TTTCD6580		2:1	94.1	125/62.5	878
60	1800	230/460	364T	**U1877A**	364TTTCD16534	√	2:1	95.0	136/68.0	980
	1200	230/460	404T	**U1862**	404TTTCD6580		2:1	94.5	150/75.0	1131
75	1800	230/460	365T	**U1878A**	365TTTCD16536		2:1	95.5	170/85.0	930
	1200	230/460	405T	**U1863**	405TTTCD6580		2:1	95.0	177/88.5	1175
100	1800	230/460	405T	**U1879A**	405TTTCD16537	√	2:1	95.4	226/113	1162
	1200	230/460	444T	**U1864**	444TTTCD6580		2:1	95.0	230/115	1764
125	1800	460	444T	**U1880A**	444TTTCD16535	√	2:1	95.4	140	1650
	1200	460	445T	**U1865**	445TTTCD6580		2:1	95.0	143	1852
150	1800	460	445T	**U1881A**	445TTTCD16536		2:1	95.8	169	1670
	1200	460	445T	**U1866**	445TTTCD16580		2:1	95.8	171	1895
200	1800	460	445T	**U1882A**	445TTTCD16537	√	2:1	96.5	219	2042
	1200	460	447/449T	**U1883**	449TTTCD6580		2:1	95.8	230	2494
250	1800	460	447/449T	**U1884A**	449TTTCD16539	√	2:1	96.2	272	2409
	1200	460	447/449T	**U1885**	449TTTCD16580		2:1	95.8	284	2745

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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*See back cover page for attribution.

BLUE CHIP® XRI®-SD AND BLUE CHIP® XRI-841 MOTORS

DESIGNED FOR EXTREME APPLICATIONS

marathon®

Guaranteed efficiencies offer an extra Return On your Investment (ROI) when using these premium efficiency motors on high cycle or long run applications.

Features

- Available stock ready to ship
- 1 HP to 400 HP
- Meets or exceeds NEMA Premium®* efficiencies
- MAX GUARD® motor Class H insulation system
- Precision balanced to .08""/sec
- Extended grease tubes, regreasable in service
- Corrosion resistant bronze sintered drain and breather

*See back cover page for attribution.

GLOBETROTTER® MOTOR VERSUS BLUE CHIP® XRI®-SD MOTOR AND BLUE CHIP® XRI®-841 MOTOR

Specifications	Features	Globetrotter TEFC Motors	Blue chip XRI-Severe Duty Motor	Blue Chip XRI-IEEE841 Motor
Enclosures	Totally Enclosed Fan Cooled (TEFC)	•	•	•
	Totally Enclosed Non-Ventilated (TENV)	•	•	•
	Open dripproof	•		
Voltage	200 volt	•		
	230/460 volt through 100 HP; 460 volts 125 HP and larger	•	•	
	460 volt (three lead)		•	•
	575 volt (three lead)	•	•	•
Service Factor (sine wave)	1.15	•	•	•
	1.25 though 40 HP (with nameplate mod)	•	•	•
Inverter Duty	10:1 variable torque	•	•	•
	Up to 10:1 constant torque	•	•	•
	Up to 20:1 constant torque	•	•	•
	Provisions to add hollow shaft encoder (TEFC only)	•	•	•
Insulation System	Class F, Non-hygroscopic system 184T-449T	•		
	Class H, Non-hygroscopic system		•	•
	Max Guard® motor		•	•
Balance	Special balance average 0.08 in/sec		•	•
Bearings & Lubrication	Shielded ball bearings, C-3 fit with premium Mobil Polyrex®* EM grease (-30°C to +150°C)	•	•	•
	Open Bearings	•		
	Open Bearings (Roller Bearings only)		•	•
	Zerk fittings	•	•	•
	Extended grease tubes for regreasing without disassembly	•	•	•
Bearing Caps	182T and larger		•	•
	254T and larger (Open Dripproof)	•		
	324T and larger (Totally Enclosed)	•		
Construction	Rolled Steel	•		
	Cast Iron	•	•	•
Conduit Box	Steel 182T-449T, NPT threaded, cast iron 5000 frame	•		
	Cast iron, oversized, fully gasketed		•	•
Leads	Lead lugs 364T and larger		•	•
	Permanently marked leads with lead separator		•	•
Fan Guard (TEFC)	Steel	•		
	Cast iron	•	•	•
Fan (External)	Non-sparking polypropylene (TEFC)	•	•	•
Drains	Corrosion resistant bronze sintered drain and breather		•	•
	Drilled and tapped hole	•		
Epoxy Finish	Internal and external corrosion resistant epoxy		•	•
Hardware	Corrosion resistant zinc dichromate plated hex head hardware		•	•
	Listing provisions, 182T and larger	•	•	•
IP Code	IP21 (Open Dripproof)	•		
	IP43 (Rolled Steel)	•		
	IP55 (Cast Iron)	•	•[1]	
	IP56			•
Ground	Ground lug provision in conduit box	•	•	•
	External grounding provision			•
Nameplate	Stainless steel - includes NEMA®* nominal efficiency and power factor	•	•	•
	AFBMA®* bearing identification plate		•	•
Seals	V-Ring (Forsheda) seal on drive end	•	•	
	Inpro/ Seal®* VBX®* bearing isolators on drive end of TENV and both ends of TEFC			•
Marine Duty	Meets IEEE45 and USCG		•	•
	Meets API RP14F for offshore platforms			•
Division 2 Hazardous Duty	CSA®* Certification nameplate, Class I Groups A,B,C,D, Temperature Code T2B	•	•	•
Motor Testing	Actual short commercial test data plus max. vibration test supplied with each motor		•	
	Actual short commercial test data plus 2 additional vibration tests supplied with each motor			•
Agency Listings	UL®* recognized	•	•	•
	CSA certified	•	•	•
	CE®* mark	•	•	•
Warranty	36 mo. From date of first use, 42 mo. From date of invoice	•	•	
	60 mo. From date of first use, 66 mo. From date of invoice			•
	Optional extended warranties are available	•	•	•

*See back cover page for attribution.

1 = Except as Noted

BLUE CHIP® XRI®-SEVERE DUTY / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

Chemical plants, paper mills, refineries, mines, food processing, foundries, and other severe duty environments where long life and ultra-high efficiency are desired. Guaranteed efficiencies offer an extra return on your Investment when using these premium efficiency motors on high cycle or long run applications.

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- **NEMA Premium models are in compliance with EISA 2007**
- **Meets Ford®* EM1 automotive duty specification**
- **Meets IEEE45 USCG Marine Duty, IP55 construction**
- 100% cast iron construction for rigidity and reduced vibration
- Provisions to add stub shaft for an encoder (182T-449T, TEFC only)
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Suitable for use on a VFD, 10:1 variable torque and constant torque as noted
- MAX GUARD® motor Class H insulation system
- BCP (-P) models are not Hazardous Duty® motors certified for Division 2 locations
- Hazardous Duty motor Division 2 CSA certification nameplate
- Division 2 / Zone 2 Class I (gases), Groups A, B, C, D
- Meets temperature code T2B
- Precision balanced to .08"/sec
- Internal and external epoxy paint
- Bearing caps (both ends)
- Extended grease tubes, regreasable in service
- Corrosion resistant bronze sintered drain and breather
- Constant torque speed range is listed in CT speed range column
- Actual test and vibration data supplied with each motor
- UL®* Recognized (through 5011) and CSA®* certified and CE®* mark

Models through 40Hp are capable of

- 1.25 service factor (sinewave only)
- 50Hz at same HP, 1.0 service factor (sinewave only)
- Any nameplate changes are subject to modification charges (see MOD central section)
- Contact your sales representative for optional nameplate markings on 50 HP and larger

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
	1200	230/460	182T	**E465A**	182TTTCD6578		10:1	87.5	4.6/2.3	106	12.82	N,75	A641A
1 1/2	1200	460	182T	**E632A**	182TTTCD6576	¶	10:1	87.5	2.3	109	12.82	N,75	A641A
	1200	460	182T	**E380B**	182TTFCD16584	¶	10:1	87.5	2.3	118	15.20	75	A641A
	1200	230/460	184T	**E468A**	184TTTCD6582	√	10:1	88.5	6.0/3.0	124	13.62	N,75	A641A
2	1200	460	184T	**E633A**	184TTTCD6576	√	10:1	88.5	3.0	102	13.82	N,75	A641A
	1200	460	184T	**E388B**	184TTFCD6576		10:1	88.5	3.0	129	16.20	75	A641A
	3600	230/460	182T	**E390A**	182TTFCD6501	¶	10:1	86.5	8.0/4.0	97	15.20	75	A641A
	3600	460	182T	**E601A**	182TTTCD6501	√	2:1	89.5	3.5	103	12.74	N,75	A641A
	3600	575	182T	**E392A**	182TTFCD6505	¶	2:1	86.5	3.2	100	15.20	75	A641A
	3600	575	182T	**E853A**	182TTTCD6505		2:1	89.5	2.8	103	13.82	N,75	A641A
3	1800	230/460	182T	**E470A**	182TTTCD6538	√	10:1	89.5	7.8/3.9	112	13.82	N,75	A641A
	1800	460	182T	**E616A**	182TTTCD6526	√	10:1	89.5	3.9	112	13.82	N,75	A641A
	1800	575	182T	**E669A**	182TTTCD6530	¶	10:1	89.5	3.1	120	13.82	N,75	A641A
	1200	230/460	213T	**E471B**	213TTFCD6594	√	20:1	89.5	8.6/4.3	179	18.53	A,75	A646A
	1200	460	213T	**E634B**	213TTFCD6576	√	20:1	89.5	4.3	179	18.53	A,75	A646A
	3600	230/460	184T	**E472A**	184TTFCD6810	√	20:1	88.5	12.0/6.0	103	16.20	75	A641A
	3600	460	184T	**E602A**	184TTFCD6501	√	10:1	88.5	6.0	106	16.20	75	A641A
	3600	575	184T	**E655A**	184TTFCD6505	¶	2:1	88.5	4.8	111	16.20	75	A641A
	1800	230/460	184T	**E473A**	184TTFCD6844	√	20:1	89.5	13.0/6.5	126	16.20	75	A641A
5	1800	460	184T	**E617A**	184TTFCD6526	√	20:1	89.5	6.5	118	16.20	75	A641A
	1800	575	184T	**E670A**	184TTFCD6530	¶	10:1	89.5	5.2	118	16.20	75	A641A
	1200	230/460	215T	**E474B**	215TTFCD6881	√	20:1	89.5	13.6/6.8	209	20.03	75	A646A
	1200	460	215T	**E635B**	215TTFCD6576	√	20:1	89.5	6.8	203	20.03	75	A646A
	1200	575	215T	**E683B**	215TTFCD6580	¶	10:1	89.5	5.5	194	20.03	75	A646A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Continued on next page.

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BLUE CHIP® XRI®-SEVERE DUTY / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
7 1/2	3600	230/460	213T	**E475B**	213TTTCD6502	√	2:1	91.0	17.4/8.7	176	15.97	N,75	A646A
	3600	460	213T	**E396B**	213TTFCD6501	¶	20:1	89.5	9.0	156	18.53	75	A646A
	3600	460	213T	**E603B**	213TTTCD6501	√	2:1	91.0	8.7	176	15.97	N,75	A646A
	3600	575	213T	**E656B**	213TTTCD6505	¶	2:1	91.0	7.0	188	15.97	N,75	A646A
	1800	230/460	213T	**E476B**	213TTFCD6531	√	20:1	91.7	19.0/9.5	197	18.53	75	A646A
	1800	460	213T	**E618B**	213TTFCD6526	√	20:1	91.7	9.5	205	18.53	75	A646A
	1800	575	213T	**E671B**	213TTFCD6530	¶	10:1	91.7	7.6	201	18.53	75	A646A
	1200	230/460	254T	**E477A**	254TTFCD6590	√	10:1	91.0	19.8/9.9	299	24.15	75	A284A
	1200	460	254T	**E636A**	254TTFCD6576	√	10:1	91.0	9.9	299	24.15	75	A284A
	1200	575	254T	**E684A**	254TTFCD6578	¶	10:1	91.0	7.9	297	24.15	75	A284A
10	3600	230/460	215T	**E478B**	215TTFCD6807	√	20:1	90.2	23.6/11.8	210	20.03	75	A646A
	3600	460	215T	**E604B**	215TTFCD6501	√	20:1	90.2	11.8	227	20.03	75	A646A
	3600	575	215T	**E657B**	215TTFCD6505		2:1	90.2	9.5	195	20.03	75	A646A
	1800	230/460	215T	**E479B**	215TTFCD6527	√	20:1	91.7	25.0/12.5	228	20.03	75	A646A
	1800	230/460	215T	**E479B-P**	215TTFCD16847	¶	10:1	91.7	25.0/12.5	212	20.03	P,75	A646A
	1800	460	215T	**E619B**	215TTFCD6526	√	20:1	91.7	12.5	212	20.03	75	A646A
	1800	575	215T	**E672B**	215TTFCD6530	¶	10:1	91.7	10.0	216	20.03	75	A646A
	1200	230/460	256T	**E480A**	256TTFCD6596	√	10:1	91.0	25.8/12.9	319	25.89	75	A284A
	1200	460	256T	**E637A**	256TTFCD6576	√	10:1	91.0	12.9	344	25.89	75	A284A
	1200	575	256T	**E685A**	256TTFCD6578		10:1	91.0	10.3	317	25.89	75	A284A
15	3600	230/460	254T	**E481A**	254TTFCD6515	√	20:1	91.0	35.5/17.8	335	24.15	75	A284A
	3600	460	254T	**E605A**	254TTFCD6501	√	20:1	91.0	17.8	333	24.15	75	A284A
	3600	575	254T	**E658A**	254TTFCD6503	¶	2:1	91.0	14.3	335	24.15	75	A284A
	1800	230/460	254T	**E482A**	254TTFCD6529	√	10:1	92.4	36.5/18.4	345	24.15	75	A284A
	1800	460	254T	**E620A**	254TTFCD6526	√	20:1	92.4	18.4	347	24.15	75	A284A
	1800	460	254T	**E620A-P**	254TTFCD16838	¶	10:1	92.4	18.4	347	24.15	P,75	A284A
	1800	575	254T	**E673A**	254TTFCD6528	√	10:1	92.4	14.7	327	24.15	75	A284A
	1200	230/460	284T	**E483A**	284TTFCD6876	√	10:1	91.7	40.0/20.0	479	26.64		A618A
	1200	460	284T	**E638A**	284TTFCD6576	√	10:1	91.7	20.0	479	26.64		A618A
	1200	575	284T	**E694A**	284TTFCD6580		10:1	91.7	16.0	479	26.64		A618A
20	3600	230/460	256T	**E484A**	256TTFCD6523	√	2:1	91.0	47.0/23.5	345	25.89	75	A284A
	3600	460	256T	**E606A**	256TTFCD6501	√	2:1	91.0	23.5	375	25.89	75	A284A
	3600	575	256T	**E659A**	256TTFCD6503		2:1	91.0	19.0	375	25.89	75	A284A
	1800	230/460	256T	**E485A**	256TTFCD6529	√	10:1	93.0	48.5/24.2	355	25.89	75	A284A
	1800	460	256T	**E621A**	256TTFCD6526	√	20:1	93.0	24.2	425	25.89	75	A284A
	1800	460	256T	**E621A-P**	256TTFCD16855	√	10:1	93.0	24.2	425	25.89	P,75	A284A
	1800	575	256T	**E674A**	256TTFCD6528	¶	10:1	93.0	19.4	425	25.89	75	A284A
	1200	230/460	286T	**E486A**	286TTFCD6876	√	10:1	91.7	52.0/26.0	479	28.14		A618A
	1200	460	286T	**E639A**	286TTFCD6576	√	10:1	91.7	26.0	490	28.14		A618A
	1200	575	286T	**E695A**	286TTFCD6580		10:1	91.7	20.8	450	28.14		A618A
25	3600	230/460	284TS	**E487A**	284TSTFCD6807	√	2:1	91.7	60.0/30.0	450	25.27		A618A
	3600	460	284TS	**E607A**	284TSTFCD6501	√	2:1	91.7	30.0	440	25.27		A618A
	3600	575	284TS	**E660A**	284TSTFCD6502		2:1	91.7	24.0	481	25.27		A618A
	1800	230/460	284T	**E488A**	284TTFCD6837	√	10:1	93.6	60.0/30.0	494	26.64		A618A
	1800	230/460	284T	**E1228**	284TTFCD6635	√	10:1	93.6	60.0/30.0	483	26.64	RB	A618A
	1800	460	284T	**E622A**	284TTFCD6526	√	10:1	93.6	30.0	486	26.64		A618A
	1800	460	284T	**E622A-P**	284TTFCD16851	¶	20:1	93.6	30.0	486	26.64	P	A618A
	1800	575	284T	**E675A**	284TTFCD6527	¶	20:1	93.6	24.0	432	26.64		A618A
	1200	460	324T	**E640A**	324TTFCD6576	√	20:1	93.0	32.0	620	29.85		A177A
	1200	460	324T	**E1229**	324TTFCD6685	√	2:1	93.0	32.0	620	29.85	RB	A177A
	1200	575	324T	**E696A**	324TTFCD6577		20:1	93.0	25.6	675	29.85		A177A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

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BLUE CHIP® XRI®-SEVERE DUTY / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
30	3600	230/460	286TS	**E490A**	286TSTFCD6804	√	2:1	91.7	71.0/35.5	450	26.77		A618A
	3600	460	286TS	**E608A**	286TSTFCD6501	¶	2:1	91.7	35.5	450	26.77		A618A
	1800	230/460	286T	**E491A**	286TTFCD6570	√	2:1	93.6	71.0/35.5	529	28.14		A618A
	1800	230/460	286T	**E1231**	286TTFCD6635	√	2:1	93.6	71.0/35.5	529	28.14	RB	A618A
	1800	460	286T	**E623A**	286TTFCD6526	√	2:1	93.6	35.5	527	28.14		A618A
	1800	460	286T	**E623A-P**	286TTFCD16847		10:1	93.6	35.5	530	28.14	P	A618A
	1800	575	286T	**E676A**	286TTFCD6527	√	2:1	93.6	28.4	525	28.14		A618A
	1200	460	326T	**E641A**	326TTFCD6576	√	20:1	93.0	38.0	658	31.35		A177A
	1200	460	326T	**E1232**	326TTFCD6685	√	2:1	93.0	38.0	658	31.35	RB	A177A
	1200	575	326T	**E400A**	326TTFCD6580	√	2:1	93.0	30.5	658	31.35		A177A
40	3600	460	324TS	**E609A**	324TSTFCD6501	√	2:1	92.4	46.0	600	28.35		A177A
	3600	575	324TS	**E662A**	324TSTFCD6505		2:1	92.4	37.0	452	28.35		A177A
	1800	460	324T	**E624A**	324TTFCD6526	√	20:1	94.1	47.5	702	29.85		A177A
	1800	460	324T	**E624A-P**	324TTFCD16860	¶	2:1	94.1	47.5	657	29.85	P	A177A
	1800	460	324T	**E1234**	324TTFCD6635	√	2:1	94.1	47.5	708	29.85	RB	A177A
	1800	575	324T	**E677A**	324TTFCD6527	¶	20:1	94.1	38.0	670	29.85		A177A
	1200	460	364T	**E642B**	364TTFCD16584	√	2:1	94.1	48.0	882	33.40		A179A
	1200	460	364T	**E1235**	364TTFCD6685	√	2:1	94.1	48.0	882	33.40	RB	A179A
	1200	575	364T	**E401B**	364TTFCD16585	√	2:1	94.1	38.5	882	33.40		A179A
50	3600	460	326TS	**E610A**	326TSTFCD6501	√	2:1	94.1	56.5	695	29.85		A177A
	3600	575	326TS	**E663A**	326TSTFCD6502		2:1	94.1	45.0	725	29.85		A177A
	1800	460	326T	**E625A**	326TTFCD6526	√	2:1	94.5	58.5	716	31.35		A177A
	1800	460	326T	**E625A-P**	326TTFCD16844	√	2:1	94.5	58.5	730	31.35	P	A177A
	1800	460	326T	**E1237**	326TTFCD6635	¶	2:1	94.5	58.5	730	31.35	RB	A177A
	1800	460	326TS	**E453A**	326TSTFCD6536	¶	10:1	94.5	58.5	765	29.85		A177A
	1800	575	326T	**E678A**	326TTFCD6527	¶	2:1	94.5	47.0	730	31.35		A177A
	1200	460	365T	**E643B**	365TTFCD16591	√	10:1	94.1	60.5	987	34.40		A179A
	1200	460	365T	**E1238**	365TTFCD6685	¶	2:1	94.1	60.5	987	34.40	RB	A179A
	1200	575	365T	**E402B**	365TTFCD16592	√	2:1	94.1	48.5	1001	34.40		A179A
60	3600	460	364TS	**E611A**	364TSTFCD6501	√	2:1	93.6	68.5	830	33.27		A179A
	3600	575	364TS	**E664A**	364TSTFCD6505	√	2:1	93.6	55.0	900	33.27		A179A
	1800	460	364T	**E626A**	364TTFCD6536	√	10:1	95.0	68.0	932	33.40		A179A
	1800	460	364T	**E626A-P**	364TTFCD16833	√	10:1	95.0	68.0	900	33.40	P	A179A
	1800	460	364T	**E1240**	364TTFCD6635	√	2:1	95.0	68.0	948	33.40	RB	A179A
	1800	460	364T	**E1240-P**	364TTFCD6535		2:1	95.0	68.0	805	33.40	P,RB	A179A
	1800	460	364TS	**E454A**	364TSTFCD6526	√	20:1	95.0	68.0	980	33.27		A179A
	1800	575	364T	**E679A**	364TTFCD6537	¶	20:1	95.0	54.5	980	33.40		A179A
	1200	460	404T	**E644A**	404TTFCD6586	√	20:1	94.5	71.5	1200	38.88		A425A
	1200	460	404T	**E1241**	404TTFCD6685	√	2:1	94.5	71.5	1215	38.88	RB	A425A
	1200	575	404T	**E403A**	404TTFCD6592		2:1	94.5	57.0	1200	38.88		A425A
75	3600	460	365TS	**E612A**	365TSTFCD6501	√	2:1	94.1	84.0	939	34.27		A179A
	3600	575	365TS	**E665A**	365TSTFCD6502		2:1	94.5	67.0	939	34.27		A179A
	1800	460	365T	**E627A**	365TTFCD6536	√	10:1	95.5	85.0	979	34.40		A179A
	1800	460	365T	**E627A-P**	365TTFCD16862	√	2:1	95.5	85.0	1064	34.40	P	A179A
	1800	460	365T	**E1243**	365TTFCD6635	√	2:1	95.5	85.0	1064	34.40	RB	A179A
	1800	460	365TS	**E455A**	365TSTFCD6526	√	2:1	95.5	85.0	1028	34.27		A179A
	1800	575	365T	**E680A**	365TTFCD6537		10:1	95.5	68.0	1028	34.40		A179A
	1200	460	405T	**E645A**	405TTFCD6586	√	2:1	94.5	89.0	1306	38.88		A425A
	1200	460	405T	**E1244**	405TTFCD6685	√	2:1	94.5	89.0	1306	38.88	RB	A425A
	1200	575	405T	**E404A**	405TTFCD6587		20:1	94.5	71.0	1295	38.88		A425A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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*See back cover page for attribution.

Continued on next page.

BLUE CHIP® XRI®-SEVERE DUTY / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
100	3600	460	405TS	E613A	405TSTFCD6501	√	2:1	94.5	111	1185	35.88		A424A
	3600	575	405TS	E493A	405TSTFCD6502		2:1	94.5	89.0	1146	35.88		A424A
	1800	460	405T	E628A	405TTFCD6536	√	2:1	95.4	113	1325	38.88		A425A
	1800	460	405T	E628A-P	405TTFCD16865	√	2:1	95.4	113	1295	38.88	P	A425A
	1800	460	405T	E1246	405TTFCD6635	√	2:1	95.4	113	1295	38.77	RB	A425A
	1800	460	405TS	E456A	405TSTFCD6526	¶	2:1	95.4	113	1295	35.88		A427A
	1800	575	405T	E681A	405TTFCD6538	¶	2:1	95.4	90.5	1295	38.88		A425A
	1200	460	444T	E646B	444TTFCD16581	√	2:1	95.0	115	1864	46.83		A427A
	1200	460	444T	E1247	444TTFCD6685	√	2:1	95.0	115	1864	46.71	RB	A427A
	1200	575	444T	E405B	444TTFCD16582		2:1	95.0	91.5	1859	46.71		A427A
125	3600	460	444TS	E614A	444TSTFCD6501	√	2:1	95.0	138	1680	43.08		A426A
	3600	575	444TS	E494A	444TSTFCD6505	√	2:1	95.0	110	1761	43.08		A426A
	1800	460	444T	E629A	444TTFCD6536	√	2:1	95.4	140	1707	46.83		A427A
	1800	460	444T	E629A-P	444TTFCD16574		2:1	95.4	140	1707	46.83	P	A427A
	1800	460	444T	E1249	444TTFCD6635	√	2:1	95.4	140	1867	46.83	RB	A427A
	1800	460	444TS	E457A	444TSTFCD6526	¶	2:1	95.4	140	1707	43.08		A427A
	1800	575	444T	E697A	444TTFCD6540	¶	2:1	95.4	112	1707	46.83		A427A
	1200	460	445T	E647A	445TTFCD6586	¶	2:1	95.0	143	1961	46.83		A427A
	1200	460	445T	E1250	445TTFCD6685	√	2:1	95.0	143	1950	46.83	RB	A427A
	1200	575	445T	E406A	445TTFCD6590		2:1	95.0	114	1961	46.83		A427A
150	3600	460	445TS	E615A	445TSTFCD6501	√	2:1	95.0	161	1909	43.08		A426A
	3600	575	445TS	E495A	445TSTFCD6502		2:1	95.0	128	1909	43.08		A426A
	1800	460	445T	E630A	445TTFCD6536	√	2:1	95.8	169	1900	46.83		A427A
	1800	460	445T	E1252	445TTFCD6635	√	2:1	95.8	169	1867	46.83	RB	A427A
	1800	460	445TS	E458A	445TSTFCD6526	¶	2:1	95.8	169	1900	43.08		A427A
	1800	575	445T	E682A	445TTFCD6537		2:1	95.8	135	1900	46.83		A427A
	1200	460	445T	E448A	445TTFCD6587	√	2:1	95.8	171	2429	51.20	RB	A427A
	1200	575	445T	E407A	445TTFCD6591	√	2:1	95.8	136	2483	51.20		A427A
	1200	575	447T	E1353	447TTFCD6680	√	2:1	95.8	136	2483	51.20	RB	A427A
200	3600	460	445TS	E449A	445TSTFCD6505	√	2:1	95.4	217	2278	47.45	A	A426A
	3600	575	445TS	E496A	445TSTFCD6506		2:1	95.4	174	2303	47.45	A	A426A
	1800	460	445T	E631A	445TTFCD6538	√	2:1	96.5	219	2276	51.20	RB	A427A
	1800	460	445TS	E459A	445TSTFCD6528	¶	2:1	96.5	219	2257	47.45		A427A
	1800	460	449T	E770A	449TTFCD6530	¶	2:1	96.5	219	2309	55.33		A427A
	1800	460	449T	E854A	449TTFCD6540	¶	2:1	96.5	219	2310	55.33	RB	A427A
	1800	575	449T	E856A	449TTFCD6564	√	2:1	96.5	175	2310	55.33	RB	A427A
	1200	460	449T	E773A	449TTFCD6578	√	2:1	95.8	230	2568	55.33		A427A
	1200	460	449T	E687A	449TTFCD6588	√	2:1	95.8	230	2570	55.33	RB	A427A
	1200	575	449T	E408A	449TTFCD6582		2:1	95.8	184	2570	55.33	RB	A427A
250	3600	460	449TS	E699A	449TSTFCD6503	√	2:1	95.8	266	2458	51.58		A426A
	1800	460	449T	E771A	449TTFCD6528	√	2:1	96.2	272	2638	55.33		A427A
	1800	460	449T	E690A	449TTFCD6538	√	2:1	96.2	272	2770	55.33	RB	A427A
	1200	460	449T	E774A	449TTFCD6577	¶	2:1	95.8	285	2213	55.33		A427A
300	3600	460	449TS	E698A	449TSTFCD6502	√	2:1	95.8	320	2549	51.58		A426A
	1800	460	449T	E772A	449TTFCD6527	¶	2:1	96.2	332	2840	55.33		A427A
	1800	460	449T	E691A	449TTFCD6537	√	2:1	96.2	332	2473	55.33	RB	A427A
	1800	575	449T	E345A	449TTFCD16534	√	2:1	96.2	266	2978	55.33		A427A
	1200	460	449T	E360	449TTFCD6576	√	2:1	95.8	342	3154	59.27	13	A427A
350	3600	460	449TS	E769A	449TSTFCD6501	√	2:1	95.8	373	2621	51.58		A426A
	1800	460	449T	E692A	449TTFCD6536	√	2:1	96.2	390	2860	55.33	RB	A427A
400	3600	460	449TS	E369A	449TSTFCD6500		2:1	95.8	427	2996	55.51	13	A426A
	1800	460	449T	E776A	449TTFCD16553	√	NA	96.5	440	3154	59.27	13	A427A

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BLUE CHIP® XRI®-SEVERE DUTY / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	**E025**	182TTFCD6588	√	10:1	87.5	4.6/2.3	106	15.95	
2	1200	230/460	184TC	**E028**	184TTFCD6588		10:1	88.5	6.0/3.0	125	16.95	
3	1800	230/460	182TC	**E030**	182TTFCD6540	√	10:1	89.5	8.0/4.0	153	15.95	
	1200	230/460	213TC	**E031**	213TTFCD6588		10:1	89.5	8.6/4.3	221	19.28	A
5	1800	230/460	184TC	**E033**	184TTFCD6540	√	10:1	89.5	13.0/6.5	105	16.95	
	1200	230/460	215TC	**E034**	215TTFCD6588		10:1	89.5	13.6/6.8	225	20.78	
7 1/2	1800	230/460	213TC	**E036**	213TTFCD6540	√	10:1	91.7	19.0/9.5	221	19.28	
	1200	230/460	254TC	**E037**	254TTFCD6588		10:1	91.0	19.8/9.9	367	24.65	
10	1800	230/460	215TC	**E039**	215TTFCD6540	√	10:1	91.7	25.0/12.5	237	20.78	
	1200	230/460	256TC	**E040**	256TTFCD6588		10:1	91.0	25.8/12.9	367	26.39	
15	1800	230/460	254TC	**E042**	254TTFCD6540	√	10:1	92.4	36.5/18.4	367	24.65	
	1200	230/460	284TC	**E043**	284TTFCD6588		10:1	91.7	40.0/20.0	502	26.64	
20	1800	230/460	256TC	**E045**	256TTFCD6540	√	10:1	93.0	48.5/24.2	367	26.39	
	1200	230/460	286TC	**E046**	286TTFCD6588		10:1	91.7	52.0/26.0	620	28.14	
25	1800	230/460	284TC	**E048**	284TTFCD6540	√	10:1	93.6	60.0/30.0	502	26.64	
	1200	460	324TC	**E049**	324TTFCD6588		2:1	93.0	32.0	730	29.85	
30	1800	230/460	286TC	**E051**	286TTFCD6540	√	2:1	93.6	71.0/35.5	620	28.14	
	1200	460	326TC	**E052**	326TTFCD6588	√	2:1	93.0	38.0	730	31.35	
40	1800	460	324TC	**E054**	324TTFCD6540	√	2:1	94.1	47.5	780	29.85	
	1200	460	364TC	**E055**	364TTFCD6588	√	2:1	94.1	48.0	955	33.40	
50	1800	460	326TC	**E057**	326TTFCD6540	√	2:1	94.5	58.5	780	31.35	
	1200	460	365TC	**E058**	365TTFCD6588		2:1	94.1	60.5	1010	34.40	
60	1800	460	364TC	**E060**	364TTFCD6540	√	2:1	95.0	68.0	940	33.40	
	1200	460	404TC	**E061**	404TTFCD6588		2:1	94.5	71.5	1220	38.88	
75	1800	460	365TC	**E063**	365TTFCD6540	√	2:1	95.5	85.0	1120	34.40	
	1200	460	405TC	**E064**	405TTFCD6588		2:1	94.5	89.0	1320	38.88	
100	1800	460	405TC	**E066**	405TTFCD6540	√	2:1	95.4	113	1340	38.88	
	1200	460	444TC	**E067**	444TTFCD6588		2:1	95.0	115	2020	46.83	

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Specifications are subject to change without notice.

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BLUE CHIP® XRI®-841 / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

For extreme applications in the process industries such as chemical plants, pulp and paper mills, refineries, above-ground mines, food processing, foundries, and other severe duty environments where long life and ultra-high efficiency are required. Guaranteed efficiencies offer an extra return on your investment when using these premium efficiency motors on high cycle or long run time applications

FEATURES

- **Meets or exceeds NEMA Premium efficiencies**
- **NEMA Premium models are in compliance with EISA 2007**
- **Meets IEEE-841 standard for severe duty motor applications**
- **Meets GM 7E-TA® and exceed Ford® EM1 specifications**
- Meets IEEE45 USCG Marine Duty, IP56 construction
- 100% cast iron construction for rigidity and reduced vibration
- Inpro/Seal®* VBX®* bearing isolators
- Provisions to add stub shaft for an encoder (182T-449T, TEFC only)
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Suitable for use on a VFD, 10:1 variable torque and constant torque as noted
- BCP (-P) models are not Hazardous Duty® motors certified for Division 2 locations
- Hazardous Duty™ Division 2 CSA certification nameplate
- Division 2 / Zone 2 Class I (gases), Groups A, B, C, D
- Meets temperature code T2B
- MAX GUARD® motor Class H insulation system
- Internal and external epoxy paint
- Bearing caps (both ends)
- Extended grease tubes, regreasable in service
- Corrosion resistant bronze sintered drain and breather
- Actual test and vibration data supplied with each motor
- UL®* Recognized (through 5011) and CSA®* certified and CE®* mark

Models through 40 HP are capable of

- 1.25 service factor (sinewave only)
- 50Hz at same HP, 1.0 service factor (sinewave only)
- Any nameplate changes are subject to modification charges (see MOD central section)
- Contact your sales representative for optional nameplate markings on 50 HP and larger.

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1	900	460	182T	**W504A**	182THFCD19101	√	10:1	75.5	2.0	90	15.20	75	A182B
1 1/2	1200	460	182T	**W509A**	182THTCD9076		2:1	87.5	2.3	111	12.82	N,75	A182B
	1200	460	182T	**W509A-P**	182THTCD9077		2:1	87.5	2.3	113	12.82	N,P,75	A182B
	900	460	184T	**W510A**	184THFCD9101		2:1	78.5	2.5	97	16.20	75	A182B
2	1200	460	184T	**W515A**	184THTCD9076	¶	2:1	88.5	3.0	124	13.82	N,75	A182B
	1200	460	184T	**W515A-P**	184THTCD9077		2:1	88.5	3.0	126	13.82	N,P,75	A182B
	900	460	213T	**W516A**	213THFCD9101		2:1	84.0	3.2	150	18.53	75	A183B
3	3600	460	182T	**W517A**	182THTCD9001	¶	2:1	89.5	3.5	100	13.82	N,75	A182B
	3600	460	182T	**W517A-P**	182THTCD9002	¶	2:1	89.5	3.5	105	13.82	N,P,75	A182B
	1800	460	182T	**W519A**	182THTCD9026	√	2:1	89.5	3.9	109	13.82	N,75	A182B
	1800	460	182T	**W519A-P**	182THTCD9037	¶	2:1	89.5	3.9	144	13.82	N,P,75	A182B
	1800	575	182T	**W520A**	182THTCD19033	√	2:1	89.5	3.1	109	13.82	N,75	A182B
	1200	460	213T	**W521B**	213THFCD9076	¶	2:1	89.5	4.3	184	18.53	75	A183B
	1200	460	213T	**W521B-P**	213THFCD9077		2:1	89.5	4.3	212	18.53	P,75	A183B
	900	460	215T	**W522B**	215THFCD9101	√	2:1	85.5	4.6	167	20.03	75	A183B
5	3600	460	184T	**W523A**	184THFCD9001	√	2:1	88.5	6.0	101	16.20	75	A182B
	3600	460	184T	**W523A-P**	184THFCD9002		2:1	88.5	6.0	100	16.20	P,75	A182B
	3600	575	184T	**W524A**	184THFCD19006		2:1	88.5	4.8	102	16.20	75	A182B
	1800	460	184T	**W525A**	184THFCD9026	√	2:1	89.5	6.5	109	16.20	75	A182B
	1800	460	184T	**W525A-P**	184THFCD9037	¶	2:1	89.5	6.5	116	16.20	P,75	A182B
	1800	575	184T	**W526A**	184THFCD9030	¶	2:1	89.5	5.2	118	16.20	75	A182B
	1200	460	215T	**W527B**	215THFCD9076	¶	2:1	89.5	6.8	178	20.03	75	A183B
	1200	460	215T	**W527B-P**	215THFCD9077		2:1	89.5	6.8	222	20.03	P,75	A183B
	1200	575	215T	**W528B**	215THFCD19077		2:1	89.5	5.5	222	20.03	75	A183B
	900	460	254T	**W529A**	254THFCD9101	√	2:1	86.5	7.1	332	24.15	75	A184A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Continued on next page.

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BLUE CHIP® XRI®-841 / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
7 1/2	3600	460	213T	**W530B**	213THTCD9001	√	2:1	91.7	8.6	204	17.47	N,75	A183B
	3600	460	213T	**W530B-P**	213THTCD9002		2:1	91.7	8.6	204	17.47	N,P,75	A183B
	3600	575	213T	**W531A**	213THTCD19005	¶	2:1	91.7	6.9	204	17.47	N,75	A183B
	1800	460	213T	**W532B**	213THFCD9026	√	2:1	91.7	9.5	215	18.53	75	A183B
	1800	460	213T	**W532B-P**	213THFCD9037	√	2:1	91.7	9.5	213	18.53	P,75	A183B
	1800	575	213T	**W533B**	213THFCD9030	¶	2:1	91.7	7.6	207	18.53	75	A183B
	1200	460	254T	**W534A**	254THFCD9076	√	2:1	91.0	9.9	299	24.15	75	A184A
	1200	460	254T	**W534A-P**	254THFCD9077		2:1	91.0	9.9	310	24.15	P,75	A184A
	900	460	256T	**W536A**	256THFCD9101		2:1	86.5	10.5	386	25.89	75	A184A
10	3600	460	215T	**W537B**	215THFCD9001	√	2:1	90.2	11.8	200	20.03	75	A183B
	3600	460	215T	**W537B-P**	215THFCD9002	√	2:1	90.2	11.8	222	20.03	P,75	A183B
	3600	575	215T	**W538B**	215THFCD19006		2:1	90.2	9.5	200	20.03	75	A183B
	1800	460	215T	**W539B**	215THFCD9026	√	2:1	91.7	12.5	216	20.03	75	A183B
	1800	460	215T	**W539B-P**	215THFCD9037	√	2:1	91.7	12.5	229	20.03	P,75	A183B
	1800	575	215T	**W540B**	215THFCD19033		2:1	91.7	10.0	216	20.03	75	A183B
	1200	460	256T	**W541A**	256THFCD9076		2:1	91.0	12.9	319	25.89	75	A184A
	1200	460	256T	**W541A-P**	256THFCD9077	√	2:1	91.0	12.9	386	25.89	P,75	A184A
	1200	575	256T	**W542A**	256THFCD19081	√	2:1	91.0	10.3	317	25.89	75	A184A
	900	460	284T	**W543A**	284THFCD19102	√	2:1	89.5	13.8	500	26.64		A186A
15	3600	460	254T	**W544A**	254THFCD9001	√	2:1	91.0	17.8	296	24.15	75	A184A
	3600	460	254T	**W544A-P**	254THFCD9002	√	2:1	91.0	17.8	310	24.15	P,75	A184A
	3600	575	254T	**W545A**	254THFCD9005	√	2:1	91.0	14.3	296	24.15	75	A184A
	1800	460	254T	**W546A**	254THFCD9026	√	2:1	92.4	18.4	293	24.15	75	A184A
	1800	460	254T	**W546A-P**	254THFCD19065	¶	2:1	92.4	18.4	315	24.15	P,75	A184A
	1800	575	254T	**W547A**	254THFCD9030		2:1	92.4	15.1	310	24.15	75	A184A
	1200	460	284T	**W548A**	284THFCD9076	√	2:1	91.7	20.0	427	26.64		A186A
	1200	460	284T	**W548A-P**	284THFCD9077	¶	2:1	91.7	20.0	438	26.64	P	A186A
	1200	575	284T	**W549A**	284THFCD19084		2:1	91.7	16.0	427	26.64		A186A
	900	460	286T	**W550A**	286THFCD19101	√	2:1	89.5	20.0	479	28.14		A186A
20	3600	460	256T	**W551A**	256THFCD9001	√	2:1	91.0	23.5	338	25.89	75	A184A
	3600	460	256T	**W551A-P**	256THFCD9002		2:1	91.0	23.7	349	25.89	P,75	A184A
	3600	575	256T	**W552A**	256THFCD9005		2:1	91.0	18.8	338	25.89	75	A184A
	1800	460	256T	**W553A**	256THFCD9026	√	2:1	93.0	24.2	322	25.89	75	A184A
	1800	460	256T	**W553A-P**	256THFCD19056	√	2:1	93.0	24.2	344	25.89	P,75	A184A
	1800	575	256T	**W554A**	256THFCD19033		2:1	93.0	19.4	320	25.89	75	A184A
	1200	460	286T	**W555A**	286THFCD9076	√	2:1	91.7	26.0	489	28.14		A186A
	1200	460	286T	**W555A-P**	286THFCD9077		2:1	91.7	26.0	489	28.14	P	A186A
	1200	575	286T	**W556A**	286THFCD19077	¶	2:1	91.7	20.8	432	28.14		A186A
	900	460	324T	**W557A**	324THFCD9101	√	2:1	90.2	27.0	605	29.85		A187A
25	3600	460	284TS	**W558A**	284TSHFCD9001	√	2:1	91.7	30.0	370	25.27		A186A
	3600	460	284TS	**W558A-P**	284TSHFCD9002		2:1	91.7	30.0	391	25.27	P	A186A
	3600	575	284TS	**W559A**	284TSHFCD9005		2:1	91.7	24.0	386	25.27		A186A
	1800	460	284T	**W560A**	284THFCD9026	√	2:1	93.6	30.0	441	26.64		A186A
	1800	460	284T	**W560A-P**	284THFCD19048	√	2:1	93.6	30.0	493	26.64	P	A186A
	1800	575	284T	**W561A**	284THFCD19033	¶	2:1	93.6	24.0	441	26.64		A186A
	1200	460	324T	**W562A**	324THFCD9076	√	2:1	93.0	32.0	600	29.85		A187A
	1200	460	324T	**W562A-P**	324THFCD9077	¶	2:1	93.0	32.0	625	29.85	P	A187A
	1200	575	324T	**W563A**	324THFCD9080	√	2:1	93.0	24.0	601	29.85		A187A
	900	460	326T	**W564A**	326THFCD9101	√	2:1	90.2	33.5	757	31.35		A187A
30	3600	460	286TS	**W565A**	286TSHFCD9001	√	2:1	91.7	35.5	397	26.77		A186A
	3600	460	286TS	**W565A-P**	286TSHFCD9002		2:1	91.7	35.5	467	26.77	P	A186A
	3600	575	286TS	**W566A**	286TSHFCD9005		2:1	91.7	28.5	397	26.77		A186A
	1800	460	286T	**W567A**	286THFCD9026	√	2:1	93.6	35.5	469	28.14		A186A
	1800	460	286T	**W567A-P**	286THFCD19066	√	2:1	93.6	35.5	531	28.14	P	A186A

Continued on next page.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

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BLUE CHIP® XRI®-841 / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
30	1800	575	286T	**W568A**	286THFCD19033	√	2:1	93.6	28.4	467	28.14		A186A
	1200	460	326T	**W569A**	326THFCD9076	√	2:1	93.0	38.0	647	31.35		A187A
	1200	460	326T	**W569A-P**	326THFCD9077	√	2:1	93.0	38.0	685	31.35	P	A187A
	1200	575	326T	**W643A**	326THFCD19078		2:1	93.0	30.5	645	31.35		A187A
	900	460	364T	**W570A**	364THFCD9101	√	2:1	91.7	39.0	730	33.40		A188A
40	3600	460	324TS	**W571A**	324TSHFCD9001	¶	2:1	92.4	46.0	595	28.35		A187A
	3600	460	324TS	**W571A-P**	324TSHFCD9002		2:1	92.4	46.0	616	28.35	P	A187A
	3600	575	324TS	**W572A**	324TSHFCD9005	√	2:1	92.4	37.0	595	28.35		A187A
	1800	460	324T	**W573A**	324THFCD9026	√	2:1	94.1	47.5	657	29.85		A187A
	1800	460	324T	**W573A-P**	324THFCD19058	√	2:1	94.1	47.5	687	29.85	P	A187A
	1800	575	324T	**W574A**	324THFCD19033		2:1	94.1	38.0	657	29.85		A187A
	1200	460	364T	**W575B**	364THFCD19087	√	2:1	94.1	38.0	887	33.40		A188A
	1200	460	364T	**W575B-P**	364THFCD9077	√	2:1	94.1	38.0	918	33.40	P	A188A
	1200	575	364T	**W639A**	364THFCD19077	√	2:1	94.1	38.5	887	33.40		A188A
	900	460	365T	**W576A**	365THFCD19101		2:1	91.7	51.5	1001	34.40		A188A
50	3600	460	326TS	**W577A**	326TSHFCD9001	¶	2:1	94.1	56.5	690	29.85		A187A
	3600	460	326TS	**W577A-P**	326TSHFCD9002		2:1	94.1	56.5	702	29.85	P	A187A
	3600	575	326TS	**W578A**	326TSHFCD9005	¶	2:1	94.1	46.0	690	29.85		A187A
	1800	460	326T	**W580A**	326THFCD9026	√	2:1	94.5	58.5	730	31.35		A187A
	1800	460	326T	**W580A-P**	326THFCD19071	√	2:1	94.5	58.5	744	31.35	P	A187A
	1800	460	326TS	**W579A**	326TSHFCD9036	√	2:1	94.5	58.5	728	29.85		A187A
	1800	575	326T	**W581A**	326THFCD19033		2:1	94.5	47.0	730	31.35		A187A
	1200	460	365T	**W582B**	365THFCD19086	√	2:1	94.1	60.5	974	34.40		A188A
	1200	460	365T	**W582B-P**	365THFCD9077	√	2:1	94.1	60.5	1001	34.40	P	A188A
	1200	575	365T	**W640A**	365THFCD19077	¶	2:1	94.1	48.5	974	34.40		A188A
	900	460	404T	**W583A**	404THFCD9101	¶	2:1	92.4	62.0	1338	38.88		A190A
60	3600	460	364TS	**W584A**	364TSHFCD9001	√	2:1	93.6	67.5	833	33.27		A188A
	3600	460	364TS	**W584A-P**	364TSHFCD9002		2:1	93.6	67.5	886	33.27	P	A188A
	3600	575	364TS	**W585A**	364TSHFCD9005	√	2:1	93.6	54.0	833	33.27		A188A
	1800	460	364T	**W587A**	364THFCD9036	√	2:1	95.0	68.0	878	33.40		A188A
	1800	460	364T	**W587A-P**	364THFCD19061	√	2:1	95.0	68.0	944	33.40	P	A188A
	1800	460	364TS	**W586A**	364TSHFCD9026		2:1	95.0	68.0	875	33.40		A188A
	1800	575	364T	**W588A**	364THFCD19033		2:1	95.0	54.5	875	33.40		A188A
	1200	460	404T	**W589A**	404THFCD9086	¶	2:1	94.5	71.5	1292	38.88		A190A
	1200	460	404T	**W589A-P**	404THFCD9077	√	2:1	94.5	71.5	1195	38.88	P	A190A
	900	460	405T	**W590A**	405THFCD19101	√	2:1	92.4	74.5	1328	38.88		A190A
75	3600	460	365TS	**W591A**	365TSHFCD9001	¶	2:1	94.5	84.0	900	34.27		A188A
	3600	460	365TS	**W591A-P**	365TSHFCD9002		2:1	94.5	84.0	1047	34.27	P	A188A
	3600	575	365TS	**W592A**	365TSHFCD19002	√	2:1	94.5	67.0	900	34.27		A188A
	1800	460	365T	**W594A**	365THFCD9036	√	2:1	95.5	85.0	988	34.40		A188A
	1800	460	365T	**W594A-P**	365THFCD19065	√	2:1	95.5	85.0	1063	34.40	P	A188A
	1800	460	365TS	**W593B**	365TSHFCD19034	¶	2:1	95.5	85.0	981	34.27		A188A
	1800	575	365T	**W595A**	365THFCD9044		2:1	95.5	68.0	988	34.40		A188A
	1200	460	405T	**W596A**	405THFCD9086	¶	2:1	94.5	89.0	1292	38.88		A190A
	1200	460	405T	**W596A-P**	405THFCD9077	√	2:1	94.5	89.0	1338	38.88	P	A190A
	1200	575	405T	**W686**	405THFS19081		2:1	94.5	72.0	1297	37.14		A190
	900	460	444T	**W597A**	444THFCD9101		2:1	93.6	92.0	1867	46.83		A194A
100	3600	460	405TS	**W598A**	405TSHFCD9001	¶	2:1	94.5	111	1125	35.88		A191A
	3600	460	405TS	**W598A-P**	405TSHFCD9002		2:1	94.5	111	1190	35.88	P	A191A
	1800	460	405T	**W600A**	405THFCD9036	√	2:1	95.4	113	1283	38.88		A190A
	1800	460	405T	**W600A-P**	405THFCD19327	√	2:1	95.4	113	1349	38.88	P	A190A
	1800	460	405TS	**W599A**	405TSHFCD9026	√	2:1	95.4	113	1257	35.88		A190A
	1800	575	405T	**W601A**	405THFCD9040	¶	2:1	95.4	90.5	1295	38.88		A190A
	1200	460	444T	**W636A**	444THFCD19081	√	2:1	95.0	115	1830	46.83		A194A
	1200	460	444T	**W636A-P**	444THFCD9077	√	2:1	95.0	115	1932	46.83	P	A194A
	900	460	445T	**W603A**	445THFCD9106	√	2:1	93.6	123	2048	46.83		A194A

Continued on next page.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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BLUE CHIP® XRI®-841 / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
125	3600	460	444TS	**W604B**	444TSHFCD19002	√	2:1	95.0	138	1649	43.08		A195A
	3600	460	444TS	**W604B-P**	444TSHFCD9002	√	2:1	95.0	138	1761	43.08	P	A195A
	1800	460	444T	**W606A**	444THFCD9036	√	2:1	95.4	140	1676	46.83		A194A
	1800	460	444T	**W606A-P**	444THFCD19044	√	2:1	95.4	140	1707	46.83	P	A194A
	1800	575	444T	**W607A**	444THFCD9040	¶	2:1	95.4	112	1707	46.83		A194A
	1200	460	445T	**W608A**	445THFCD9086	¶	2:1	95.0	143	1932	46.83		A194A
	1200	460	445T	**W608A-P**	445THFCD9077		2:1	95.0	143	1867	46.83	P	A194A
	900	460	445T	**W609A**	445THFCD9102		2:1	94.1	162	2432	51.20		A194A
150	3600	460	445TS	**W610A**	445TSHFCD9001	¶	2:1	95.0	161	1870	43.08		A195A
	3600	460	445TS	**W610A-P**	445TSHFCD9002		2:1	95.0	161	1825	43.08	P	A195A
	1800	460	445T	**W612A**	445THFCD9036	¶	2:1	95.8	169	1857	46.83		A194A
	1800	460	445T	**W612A-P**	445THFCD19071	√	2:1	95.8	169	1900	46.83	P	A194A
	1800	460	445T	**W620**	445THFCD19038	¶	2:1	95.8	169	1857	46.83	RB	A194A
	1800	460	445TS	**W611A**	445TSHFCD9026	√	2:1	95.8	169	1835	43.08		A194A
	1800	575	445T	**W613A**	445THFCD9037		2:1	95.8	135	1900	46.83		A194A
	1800	575	445T	**W641A**	445THFCD19033	√	2:1	95.8	135	1900	46.83	RB	A194A
	1200	460	445T	**W614A**	445THFCD9087		2:1	95.8	171	2404	51.20	RB	A194A
	1200	460	445T	**W614A-P**	445THFCD9078		2:1	95.8	171	2432	51.20	P,RB	A194A
	900	460	449T	**W615A**	449THFCD9101		2:1	94.1	192	2568	55.33		A194A
200	3600	460	445TS	**W616A**	445TSHFCD9005	√	2:1	95.4	217	2303	47.45	A	A195A
	3600	460	445TS	**W616A-P**	445TSHFCD9003		2:1	95.4	217	2303	47.45	A,P	A195A
	1800	460	445T	**W618A**	445THFCD9038	√	2:1	96.5	219	2276	51.20	RB	A194A
	1800	460	445T	**W618A-P**	445THFCD19070		2:1	96.5	219	2276	51.20	P,RB	A194A
	1800	460	445TS	**W617A**	445TSHFCD9028		2:1	96.5	219	2231	51.20		A194A
	1800	460	449T	**W619A**	449THFCD9030	¶	2:1	96.5	219	2309	55.33		A194A
	1800	460	449T	**W619A-P**	449THFCD9037		2:1	96.5	219	2399	55.33	P	A194A
	1800	575	445T	**W642A**	445THFCD19034	¶	2:1	96.5	175	2309	51.20	RB	A194A
	1200	460	449T	**W621A**	449THFCD19092	√	2:1	95.8	230	2568	55.33		A194A
	1200	460	449T	**W621A-P**	449THFCD9077		2:1	95.8	230	2568	55.33	P	A194A
	1200	460	449T	**W622A**	449THFCD9088	¶	2:1	95.8	230	2570	55.33	RB	A194A
	1200	460	449T	**W622A-P**	449THFCD9807		2:1	95.8	230	2599	55.33	P,RB	A194A
	1200	575	449T	**W630A**	449THFCD19079		2:1	95.8	184	2570	55.33	RB	A194A
250	3600	460	449TS	**W624A**	449TSHFCD9003		2:1	95.8	266	2471	55.51		A195A
	3600	460	449TS	**W624A-P**	449TSHFCD9004		2:1	95.8	266	2491	55.51	P	A195A
	1800	460	449T	**W626A**	449THFCD9028	¶	2:1	96.2	272	2612	55.33		A194A
	1800	460	449T	**W626A-P**	449THFCD19342	√	2:1	96.2	272	2612	55.33	P	A194A
	1200	460	449T	**W629A**	449THFCD19091	¶	2:1	95.8	285	2710	55.33	RB	A194A
300	3600	460	449TS	**W631A**	449TSHFCD9002		2:1	95.8	320	2996	55.51		A195A
	3600	460	449TS	**W631A-P**	449TSHFCD9018		2:1	95.8	320	2996	55.51	P	A195A
	1800	460	449T	**W632A**	449THFCD9027	√	2:1	96.2	332	2780	55.33		A194A
	1800	460	449T	**W632A-P**	449THFCD9070		2:1	96.2	332	2361	55.33	P	A194A
	1200	460	449T	**W657**	449THFCD9078	√	2:1	95.8	342	3200	59.27	13	A194A
350	3600	460	449TS	**W634A**	449TSHFCD9001		2:1	95.8	373	2635	55.51		A195A
	3600	460	449TS	**W634A-P**	449TSHFCD9021		2:1	95.8	373	2996	55.51	P	A195A
	1800	460	449T	**W635A**	449THFCD9036	√	2:1	96.2	390	2834	55.33	RB	A194A
	1800	460	449T	**W635A-P**	449THFCD9071		2:1	96.2	390	2361	55.33	P,RB	A194A
400	3600	460	449TS	**W659**	449TSHFCD9000		2:1	95.8	427	3230	55.51	13	A195A
	3600	460	449TS	**W659A-P**	449TSHFCD9023		2:1	95.8	427	2996	55.51	P,13	A195A
	1800	460	449T	**W660**	449THFCD9026		2:1	96.5	440	3154	59.27	13	A194A
	1800	460	449T	**W660A-P**	449THFCD9061		2:1	96.2	442	3199	59.27	P,13	A194A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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BLUE CHIP® XRI®-841 / AUTOMOTIVE DUTY MOTORS

NEMA PREMIUM®*, XRI®, THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTED (RIGID BASE), VERTICAL SHAFT DOWN, BCP

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	460	182TCV	**W017-P**	182THTCD9010	√	2:1	89.5	3.5	105	14.56	P
	1800	460	182TCV	**W019-P**	182THFCD9040		2:1	89.5	4.0	112	16.95	P
5	1800	460	184TCV	**W025-P**	184THFCD9040	√	2:1	89.5	6.5	120	16.95	P
7 1/2	3600	460	213TCV	**W030-P**	213THTCD9010	√	2:1	91.7	8.6	204	18.22	P
	1800	460	213TCV	**W032-P**	213THFCD9040	¶	2:1	91.7	9.5	200	19.28	P
10	3600	460	215TCV	**W037-P**	215THFCD9010	√	2:1	90.2	11.8	216	20.78	P
	1800	460	215TCV	**W039-P**	215THFCD9040		2:1	91.7	12.5	210	20.78	P
15	3600	460	254TCV	**W044-P**	254THFCD9010	√	2:1	91.0	17.8	310	24.65	P
	1800	460	254TCV	**W046-P**	254THFCD9040	¶	2:1	92.4	18.4	361	24.65	P
20	1800	460	256TCV	**W053-P**	256THFCD9040		2:1	93.0	24.2	455	26.39	P
25	1800	460	284TCV	**W060-P**	284THFCD9040	√	2:1	93.6	30.0	575	28.14	P
30	1800	460	286TCV	**W067-P**	286THFCD9040	√	2:1	93.6	35.5	600	28.14	P
40	1800	460	324TCV	**W073-P**	324THFCD9040	√	2:1	94.1	47.5	650	31.35	P
50	1800	460	326TCV	**W080-P**	326THFCD9040	¶	2:1	94.5	58.5	775	31.35	P
60	1800	460	364TCV	**W087-P**	364THFCD9040	√	2:1	95.0	68.0	910	33.40	P
75	1800	460	365TCV	**W094-P**	365THFCD9040	√	2:1	95.5	85.0	1050	34.40	P
100	1800	460	405TCV	**W100-P**	405THFCD9042	√	2:1	95.4	113	1363	38.88	P
125	1800	460	444TCV	**W106-P**	444THFCD9042	√	2:1	95.4	140	2375	44.83	P
150	1800	460	445TCV	**W112-P**	445THFCD9040	√	2:1	95.8	169	2375	46.83	P
200	1800	460	445TSCV	**W117-P**	445TSHFCD9042	√	2:1	96.5	219	2225	43.08	P
	1800	460	445TCV	**W118-P**	445THFCD9042		2:1	96.5	219	2375	46.83	P

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BLUE CHIP® HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

marathon®

HIGH PERFORMANCE & HIGH EFFICIENCY

Features

- Three phase motors
- Premium efficient models
- IP54 Ingress Protection
- Severe Duty 182T to 449T Frames
- Double shielded ball bearings
- Class F thermostats
- NEMA®* 1.0 or 1.15 service factor
- UL®* listed file no. E12044, CSA®* certified under file LR21839

Applications

- Used in severe duty environments that you may find in foundries, pulp, paper mills, waste management facilities, above ground mines, refineries or other applications that demand corrosion protection for long motor life and dependability
- Please check and verify national and local codes. Always consult a NFPA local authority and electrician for installing / before installing and connecting motors

*See back cover page for attribution.

BLUE CHIP® HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G , BLUE CHIP XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE-PHASE

APPLICATIONS

For use on fans, blowers, pumps, conveyors, machine tools and other equipment installed in hazardous environments as defined by the motor's explosion proof class and group rating. Consult the National Electric Code and your local regulations for the proper selection of motors in hazardous locations.

FEATURES

- **Meets NEMA Premium efficiencies**
- **NEMA Premium models are in compliance with EISA 2007**
- Blue Chip® series, 100% cast iron construction for rigidity and reduced vibration
- 1.15 service factor on sinewave, (except as noted) or 1.0 service factor on IBGT power
- 10:1 variable torque, see CT Speed Range column for constant torque.
- MAX GUARD® motor Class F insulation system
- External surface treated with epoxy paint
- Internal and external surfaces treated with epoxy paint
- Normally closed thermostats (must be connected to control circuit)
- Nameplated 60/50 Hz, 190/380 volts, at next lower HP, as noted
- UL®* Listed file no. E12044
- CSA®* certified file no. LR47504

SEE MOD CENTRAL FOR:

- Ball bearings (except as noted)

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	TEMP CODE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182T	**U040A**	182TTGN6576	√	10:1	T3B	87.5	4.4/2.2	139	15.87	13,68
	1200	230/460	182T	**U040B**	182TTGCD6576		10:1	T3C	87.5	4.6/2.3	158	15.87	13,17,68
2	1200	230/460	184T	**U041A**	184TTGN6576		10:1	T3B	88.5	6.0/3.0	163	17.87	13,68
3	3600	230/460	182T	**U060A**	182TTGN6501	√	10:1	T3B	87.5	7.6/3.8	144	15.87	13,68
	3600	230/460	182T	**U060B**	182TTGCD6501		10:1	T3C	86.5	8.0/4.0	126	15.87	13,17,68
	1800	230/460	182T	**U004A**	182TTGN6526	√	10:1	T3B	90.2	8.0/4.0	145	15.87	13,68
	1800	230/460	182T	**U004B**	182TTGCD6526		10:1	T3C	89.5	8.0/4.0	147	15.87	13,17,68
	1800	230/460	182T	**U989-P**	182TTGN6541		10:1	T3B	90.2	8.0/4.0	147	15.87	P,13,68
	1800	230/460	182T	**U004B-P**	182TTGCD6541	√	10:1	T3C	89.5	8.0/4.0	148	15.87	P,13,17,68
	1800	575	182T	**U023A**	182TTGN6530	¶	10:1	T3B	90.2	3.2	139	15.87	13
	1800	575	182T	**U023B**	182TTGCD6530		10:1	T3C	89.5	3.2	141	15.87	13,17
	1200	230/460	213T	**U042A**	213TTGN6576	√	10:1	T3B	89.5	8.8/4.4	216	19.63	13,68
	1200	230/460	213T	**U042B**	213TTGCD6576		NA	T3C	89.5	8.6/4.3	240	22.63	13,17,68
5	3600	230/460	184T	**U061A**	184TTGN6501	√	10:1	T3B	88.5	11.8/5.9	167	17.87	13,68
	3600	230/460	184T	**U061B**	184TTGCD6501		10:1	T3C	88.5	12.0/6.0	140	17.87	13,17,68
	1800	230/460	184T	**U005A**	184TTGN6526	√	10:1	T3B	90.2	12.4/6.2	166	17.87	13,68
	1800	230/460	184T	**U005B**	184TTGCD6526		10:1	T3C	89.5	13.0/6.5	158	17.87	13,17,68
	1800	230/460	184T	**U990-P**	184TTGN6544		10:1	T3B	90.2	12.4/6.2	158	17.87	13,68
	1800	230/460	184T	**U005B-P**	184TTGCD6544	√	10:1	T3C	89.5	13.0/6.5	156	17.87	P,13,17,68
	1800	575	184T	**U024A**	184TTGN6530	¶	10:1	T3B	90.2	5.0	129	17.87	13
	1200	230/460	215T	**U043B**	215TTGND6576	√	10:1	T3B	89.5	13.8/6.9	206	22.63	13,68
7 1/2	3600	230/460	213T	**U062B**	213TTGND6501	√	10:1	T3C	89.5	18.2/9.1	220	19.63	13,68
	3600	230/460	213T	**U062C**	213TTGCD6501		10:1	T3C	89.5	18.0/9.0	216	19.63	13,17,68
	1800	230/460	213T	**U006B**	213TTGND6526	√	10:1	T3B	91.7	19.2/9.6	366	19.63	13,68
	1800	230/460	213T	**U006C**	213TTGCD6526		10:1	T3C	91.7	19.0/9.5	228	19.63	13,68
	1800	230/460	213T	**U991B**	213TTGND6540	√	10:1	T3B	91.7	19.2/9.6	235	19.63	13,68
	1800	230/460	213T	**U991C**	213TTGCD6540		10:1	T3B	91.7	19.0/9.5	230	0.00	13,68
	1800	208-230/460	213T	**U991B-P**	213TTGND16548	¶	10:1	T3B	91.7	19.0/9.5	235	19.63	P,13,68
	1800	230/460	213T	**U006C-P**	213TTGCD16548		10:1	T3C	91.7	19.0/9.5	258	19.63	P,13,68
	1800	575	213T	**U025B**	213TTGND16537	¶	10:1	T3B	91.7	7.7	234	19.63	13
	1800	575	213T	**U025C**	213TTGCD16537		10:1	T3C	91.7	7.6	241	19.63	13
	1200	230/460	254T	**E500**	254TTGN6576	√	10:1	T3B	91.0	19.8/9.9	345	23.65	13,68

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

Continued on next page.

*See back cover page for attribution.

BLUE CHIP® HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G , BLUE CHIP XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE-PHASE

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	TEMP CODE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
10	3600	230/460	215T	**U063B**	215TTGND6501	√	10:1	T3B	90.2	23.8/11.9	252	19.63	13,68
	3600	230/460	215T	**U063C**	215TTGCD6501		NA	T3C	90.2	23.6/11.8	240	19.63	13,17,68
	1800	230/460	215T	**U007B**	215TTGND6526	√	10:1	T3B	91.7	26.6/13.3	257	22.63	13,68
	1800	230/460	215T	**U007C**	215TTGCD6526		10:1	T3C	91.7	25.0/12.5	258	22.63	13,17,68
	1800	230/460	215T	**U007B-P**	215TTGND16527		10:1	T3B	91.7	26.6/13.3	257	22.63	P,13,68
	1800	230/460	215T	**U007C-P**	215TTGCD16539		10:1	T3C	91.7	25.0/12.5	210	22.63	P,13,17,68
	1800	230/460	215T	**U992B**	215TTGND6539	¶	2:1	T3B	91.7	26.6/13.3	264	22.63	13,68
	1800	575	215T	**U026B**	215TTGND16532	√	10:1	T3B	91.7	10.7	220	22.63	13
	1800	575	215T	**U026C**	215TTGCD16532		10:1	T3C	91.7	10.0	258	22.63	13,17
	1200	230/460	256T	**E501**	256TTGN6576	¶	10:1	T3B	91.0	26.2/13.1	360	25.40	13,68
15	3600	230/460	254T	**E502**	254TTGN6507	√	10:1	T3B	91.7	35.0/17.5	357	23.65	13,68
	3600	230/460	254T	**E502A**	254TTGCD6507		10:1	T3C	91.0	35.5/17.8	359	23.52	13,17,68
	1800	230/460	254T	**E503**	254TTGN6531	√	10:1	T3B	92.4	37.5/18.8	385	23.65	13,68
	1800	230/460	254T	**E503A**	254TTGCD6531		10:1	T3C	92.4	36.5/18.4	385	23.52	13,17,68
	1800	230/460	254T	**E503-P**	254TTGN16549	√	10:1	T3B	92.4	36.5/18.4	372	23.52	P,13,68
	1800	230/460	254T	**E503A-P**	254TTGCD16549		10:1	T3C	92.4	36.5/18.4	377	23.52	P,13,17,68
	1800	575	254T	**U027A**	254TTGN16541	¶	10:1	T3B	92.4	15.1	369	23.65	13
	1200	230/460	284T	**E504**	284TTGN6576	√	10:1	T3B	91.7	41.0/20.4	536	24.89	13,68
	1200	230/460	284T	**E504A**	284TTGCD6576		10:1	T3C	91.7	40.0/20.0	513	26.34	13,17,68
20	3600	230/460	256T	**E505**	256TTGN16509	√	10:1	T3B	92.4	47.0/23.4	397	25.40	13,68
	3600	230/460	256T	**E505A**	256TTGCD6501		10:1	T3C	91.0	47.5/23.7	369	25.27	13,17,68
	1800	230/460	256T	**E506**	256TTGN6531	√	10:1	T3B	93.0	48.0/24.1	409	25.40	13,68
	1800	230/460	256T	**E506A**	256TTGCD6526		NA	T3C	93.0	48.5/24.2	369	25.27	13,17,68
	1800	230/460	256T	**E506-P**	256TTGN16552	√	10:1	T3B	93.0	48.5/24.2	403	25.27	P,13,68
	1800	230/460	256T	**E506A-P**	256TTGCD16552		10:1	T3C	93.0	48.5/24.2	369	25.27	P,13,17,68
	1800	575	256T	**U028A**	256TTGN16540	¶	2:1	T3B	93.0	19.5	428	25.40	13
	1200	230/460	286T	**E507**	286TTGN16577	√	10:1	T3B	91.7	53.5/26.8	593	26.39	13
	1200	230/460	286T	**E507A**	286TTGCD16577		10:1	T3C	91.7	51.0/25.5	604	27.69	13
25	3600	230/460	284TS	**E546**	284TSTGN6503	√	10:1	T3B	93.0	57.5/28.8	412	24.97	13,68
	3600	230/460	284TS	**E546A**	284TSTGCD6503		10:1	T3B	91.7	60.0/30.0	460	24.97	13,68
	1800	230/460	284T	**E547**	284TTGN6533	√	10:1	T3B	93.6	62.0/31.0	536	24.89	13,68
	1800	230/460	284T	**E547A**	284TTGCD6533		10:1	T3C	93.6	60.0/30.0	561	26.34	13,17,68
	1800	230/460	284T	**E547-P**	284TTGN16550	√	10:1	T3B	93.6	60.0/30.0	539	26.34	P,13,68
	1800	230/460	284T	**E547A-P**	284TTGCD16550		10:1	T3C	93.6	60.0/30.0	600	26.34	P,13,17,68
	1800	230/460	284TS	**U076A**	284TSTGN16531	√	10:1	T3B	93.6	62.0/31.0	489	24.97	13,68
	1800	230/460	284TS	**U076B**	284TSTGCD16531		10:1	T3C	93.6	60.0/30.0	489	24.97	13,17,68
	1800	575	284T	**U029A**	284TTGN16539		2:1	T3B	93.6	24.8	553	26.39	13
	1200	230/460	324T	**U048A**	324TTGS16577	¶	10:1	T3B	93.0	65.0/32.5	737	28.87	13,68
30	3600	230/460	286TS	**E563**	286TSTGN6501		10:1	T3B	93.0	67.0/33.5	487	26.47	13,68
	1800	230/460	286T	**E564**	286TTGN6537	¶	10:1	T3B	94.1	73.0/36.5	588	26.39	13,68
	1800	230/460	286T	**E564A**	286TTGCD6526		10:1	T3C	93.6	71.0/35.5	656	27.84	13,17,68
	1800	230/460	286T	**E564-P**	286TTGN16546	√	10:1	T3B	94.1	71.0/35.5	590	27.84	P,13,68
	1800	230/460	286T	**E564A-P**	286TTGCD16546		10:1	T3C	93.6	71.0/35.5	613	27.84	P,13,17,68
	1800	230/460	286TS	**U077A**	286TSTGN16531		2:1	T3B	94.1	73.0/36.5	523	26.47	13,68
	1800	575	286T	**U030A**	286TTGN16533	√	10:1	T3B	94.1	29.2	482	26.39	13
	1800	575	286T	**U030B**	286TTGCD16533		10:1	T3C	93.6	28.4	550	27.84	13,17
	1200	230/460	326T	**E565**	326TTGS6578	¶	10:1	T3C	93.0	77.0/38.5	900	30.37	13,17,68
40	3600	230/460	324TS	**E566**	324TSTGS6501	√	10:1	T3C	93.6	94.0/47.0	734	28.87	13,17,68
	1800	230/460	324T	**E567**	324TTGS6529	√	10:1	T3C	94.1	95.0/47.5	759	30.37	13,17,68
	1800	230/460	324T	**E567-P**	324TTGS16541	√	10:1	T3C	94.1	95.0/47.5	775	30.37	P,13,17,68
	1800	230/460	324TS	**U078A**	324TSTGS16531	¶	10:1	T3C	94.1	95.0/47.5	770	28.87	13,17,68
	1800	575	324T	**U031A**	324TTGS16535	¶	10:1	T3C	94.1	38.0	768	30.37	13,17
	1200	230/460	364T	**E568A**	364TTGS16577	¶	10:1	T3C	94.1	100/50.0	1042	31.50	13,17,68
50	3600	230/460	326TS	**E569**	326TSTGS6501	√	10:1	T3C	94.5	118/59.0	831	30.37	13,17,68
	1800	230/460	326T	**E570**	326TTGS6532	√	2:1	T3C	94.5	123/61.5	791	30.37	13,17,68
	1800	230/460	326T	**E570-P**	326TTGS16546	√	2:1	T3C	94.5	123/61.5	810	30.37	P,13,17,68
	1800	230/460	326TS	**U079A**	326TSTGS16532	¶	NA	T3C	94.5	120/60.0	797	28.87	13,17,68
	1800	575	326T	**U032A**	326TTGS16539	¶	2:1	T3C	94.5	49.0	800	30.37	13,17
	1200	230/460	365T	**E571**	365TTGS16577	√	2:1	T3C	94.5	123/61.5	1099	32.50	13,17

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

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BLUE CHIP® HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G , BLUE CHIP XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE-PHASE

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	TEMP CODE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
60	3600	230/460	364TS	**E572**	364TSTGS6506	¶	2:1	T3C	94.5	134/67.0	1033	29.38	13,17
	1800	230/460	364T	**E573A**	364TTGS16536	√	10:1	T3C	95.0	138/69.0	1076	31.50	13,17,68
	1800	230/460	364TS	**U080A**	364TSTGS16531		2:1	T3B	95.0	138/69.0	1145	29.38	13,17,68
	1800	575	364T	**U033A**	364TTGS16537	¶	2:1	T3C	95.0	56.0	1110	31.50	13,17
	1200	230/460	404T	**E574**	404TTGS6588	√	10:1	T3C	94.5	144/72.0	1295	35.62	13,17
75	3600	230/460	365TS	**E575**	365TSTGS16503	¶	10:1	T3B	94.1	169/84.5	1097	30.38	13,68
	1800	230/460	365T	**E576A**	365TTGS16540	√	2:1	T3C	95.4	174/87.0	1150	32.50	13,17,68
	1800	230/460	365TS	**U081A**	365TSTGS16532		2:1	T3B	95.4	174/87.0	1180	30.38	13,68
	1800	575	365T	**U034A**	365TTGS16032		2:1	T3B	95.4	69	1180	32.50	13,17
	1200	230/460	405T	**E577**	405TTGS6589	¶	2:1	T3B	94.5	180/90.0	1388	37.12	13
100	3600	230/460	405TS	**E578**	405TSTGS6503	¶	10:1	T3B	94.5	216/108	1349	34.12	13
	1800	230/460	405T	**E594**	405TTGS6548	√	2:1	T3C	95.4	226/113	1479	37.12	13,68
	1800	230/460	405TS	**U082A**	405TSTGS16531	¶	2:1	T3B	95.4	226/113	1410	34.12	13,68
	1800	575	405T	**U035A**	405TTGS16539	¶	2:1	T3C	95.4	90.5	1408	37.12	13
	1200	230/460	444T	**E580A**	444TTGN16580	¶	2:1	T3C	95.0	248/124	2020	41.35	13,68
125	3600	460	444TS	**U073A**	444TSTGN16502	√	10:1	T3B	95.4	139	2088	36.70	13,68
	1800	460	444T	**E582A**	444TTGN16532	¶	10:1	T3B	95.8	143	2122	41.35	13,68
	1800	460	444TS	**U083A**	444TSTGN16531	¶	10:1	T3B	95.8	143	2064	37.60	13,68
	1800	575	444T	**U036A**	444TTGN16533	¶	10:1	T3B	95.8	114	2113	41.35	13
	1200	460	445T	**E583**	445TTGN6597	¶	2:1	T3B	95.0	155	2200	43.25	RB,13
150	3600	460	445TS	**E584**	445TSTGN16505	¶	10:1	T3B	95.8	168	2264	39.60	13
	1800	460	445T	**E585**	445TTGN6542	¶	10:1	T3B	95.8	172	2173	43.35	13,68
	1800	460	445TS	**U084A**	445TSTGN16531	¶	10:1	T3B	95.8	172	2200	39.60	13,68
	1800	575	445T	**U037A**	445TTGN16544		2:1	T3B	95.8	138	2152	43.35	13
	1200	460	445T	**U090A**	445TTGN16588	¶	10:1	T3B	95.8	181	2526	43.35	RB,13,68
200	3600	460	445TS	**U075A**	445TSTGN16506		2:1	T3B	95.4	224	2360	39.59	13,68
	1800	460	445T	**E588**	445TTGN6538	¶	2:1	T3B	96.2	224	2500	43.19	13,68
	1800	575	445T	**U038A**	445TTGN16543	¶	2:1	T3B	96.2	179	2485	43.35	13
	1200	460	449T	**U091A**	449TTGS16585	¶	10:1	T3B	95.8	240	3066	51.85	RB,13,68
250	3600	460	449TS	**E595A**	449TSTGS16506		10:1	T3B	95.8	270	2750	48.19	13,17,68
	1800	460	449T	**E591**	449TTGS16537	¶	10:1	T3B	96.5	285	3012	51.85	RB,13
300	1800	460	447/449T	**E596**	449TTGS16554	¶	2:1	T3B	96.5	339	3240	51.85	RB,13,17,68
350	1800	460	447/449T	**H504A**	449TTGS16557	√	2:1	T3B	96.2	395	3300	51.85	RB,13,17

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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BLUE CHIP® HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G , BLUE CHIP XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE-PHASE

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	TEMP CODE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	**C372**	182TTGCD6505		10:1	T3C	86.5	8.0/4.0	115	16.62	13,68
	3600	230/460	182TC	**C372A**	825125.00		10:1	T3B	87.5	7.6/3.8	95	16.62	13,68
	1800	230/460	182TC	**C364A**	182TTGN6569	√	10:1	T3B	90.2	8.0/4.0	172	16.63	P,13,68
	1800	230/460	182TC	**C364B**	182TTGCD6569		10:1	T3C	89.5	8.0/4.0	145	16.62	13,17,68
	1800	575	182TC	**C368A**	182TTGN6536	√	10:1	T3B	90.2	3.2	119	16.63	P,13
	1800	575	182TC	**C368B**	182TTGCD6536		10:1	T3C	89.5	3.2	151	16.62	13,17
5	3600	230/460	184TC	**C373**	184TTGCD6505		10:1	T3C	88.5	12.0/6.0	135	18.62	13,68
	3600	230/460	184TC	**C373A**	825127.00		10:1	T3B	88.5	11.8/5.9	168	18.62	13
	1800	230/460	184TC	**C365A**	184TTGN6575	√	10:1	T3B	90.2	12.4/6.2	174	18.63	13,68
	1800	230/460	184TC	**C365B**	184TTGCD6575		10:1	T3C	89.5	13.0/6.5	168	16.62	13,17,68
	1800	575	184TC	**C369A**	184TTGN6537	¶	10:1	T3B	90.2	5.0	147	18.63	13
7 1/2	3600	230/460	213TC	**C374**	213TTGCD6505		10:1	T3C	89.5	18.0/9.0	146	20.45	13,17,68
	3600	230/460	213TC	**C374A**	825072.00	√	10:1	T3B	90.2	19.0/9.5	221	20.45	13,68
	1800	230/460	213TC	**C366B**	213TTGND6528	√	10:1	T3B	91.7	19.2/9.6	256	20.45	13,68
	1800	230/460	213TC	**C366C**	213TTGCD6528		10:1	T3C	91.7	19.0/9.5	249	20.45	13,68
	1800	575	213TC	**C370B**	213TTGND6536		10:1	T3B	91.7	7.7	243	20.45	13
10	3600	230/460	215TC	**C377**	215TTGCD6505		10:1	T3C	90.2	23.6/11.8	190	23.45	13,17,68
	3600	230/460	215TC	**C377A**	825074.00		10:1	T3B	91.7	23.6/11.8	160	23.45	13,68
	1800	230/460	215TC	**C367B**	215TTGND6528	√	2:1	T3B	91.7	26.6/13.3	268	23.45	13,68
	1800	230/460	215TC	**C367C**	215TTGCD6528		10:1	T3C	91.7	25.0/12.5	230	23.45	13,17,68
	1800	575	215TC	**C371A**	215TTGN16534		2:1	T3B	91.7	10.0	280	23.45	13
15	3600	230/460	254TC	**C378**	254TTGCD6505		10:1	T3C	91.0	35.5/17.8	435	23.93	13,17,68
	3600	230/460	254TC	**C378A**	825076.00		10:1	T3B	91.7	35.0/17.5	245	23.93	13,68
	1800	230/460	254TC	**C379**	254TTGCD6528		10:1	T3C	92.4	37.5/18.8	435	23.93	13,17,68
	1800	230/460	254TC	**C379A**	825077.00		10:1	T3B	92.4	37.5/18.8	246	23.93	13,68
20	3600	230/460	256TC	**C500**	256TTGCD6505		10:1	T3C	91.0	47.5/23.7	435	25.68	13,17,68
	3600	230/460	256TC	**C500A**	825078.00		10:1	T3B	92.4	47.0/23.4	271	25.68	13,68
	1800	230/460	256TC	**C501A**	825079.00	¶	10:1	T3B	93.0	48.0/24.1	273	25.68	13,68
25	3600	230/460	284TSC	**C502**	284TSTGCD6505		10:1	T3C	91.7	58.5/29.2	460	26.33	13,17,68
	3600	230/460	284TSC	**C502A**	825080.00		10:1	T3B	93.0	57.5/28.8	373	26.33	13,68
	1800	230/460	284TC	**C503**	284TTGCD6528		10:1	T3C	93.6	60.0/30.0	575	26.33	13,17,68
	1800	230/460	284TC	**C503A**	825081.00		10:1	T3B	93.6	62.0/31.0	375	26.33	13,68
30	1800	230/460	286TC	**C504**	286TTGCD6528		10:1	T3C	93.6	71.0/35.5	600	27.84	13,17,68
	1800	230/460	286TC	**C504A**	825082.00		10:1	T3B	94.1	73.0/36.5	395	27.84	13,68

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	TEMP CODE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	**C303B**	182TTGN16003	√	10:1	T3B	87.5	7.6/3.8	165	18.63	13,17,68
	3600	230/460	182TC	**C303C**	182TTGCD16003		10:1	T3C	86.5	8.0/4.0	165	18.63	13,17,68
	1800	230/460	182TC	**C323A**	182TTGN4068	√	10:1	T3B	90.2	8.0/4.0	164	18.63	13,17,68
	1800	230/460	182TC	**C323B**	182TTGCD4068		10:1	T3C	89.5	8.0/4.0	151	18.63	13,17,68
5	3600	230/460	184TC	**C304B**	184TTGN16004	√	10:1	T3B	88.5	12.4/6.2	175	18.63	13,17,68
	3600	230/460	184TC	**C304C**	184TTGCD16004		10:1	T3C	88.5	12.0/6.0	155	18.63	13,17,68
	1800	230/460	184TC	**C324B**	184TTGN16027	√	NA	T3B	90.2	12.4/6.2	220	18.63	13,17,68
	1800	230/460	184TC	**C324C**	184TTGCD16027		10:1	T3C	89.5	13.0/6.5	165	18.63	13,17,68
7 1/2	3600	230/460	213TC	**C305B**	213TTGND16001	√	10:1	T3B	89.5	18.2/9.1	245	23.45	13,17,68
	1800	230/460	213TC	**C325C**	213TTGND16027		NA	T3B	91.7	19.2/9.6	261	23.45	13,17,68
	1800	230/460	213TC	**C325D**	213TTGCD16027		10:1	T3C	91.7	19.0/9.5	245	18.63	13,68
10	3600	230/460	215TC	**C306B**	215TTGND16006		10:1	T3B	90.2	23.8/11.9	260	23.45	13,17,68
	1800	230/460	215TC	**C326B**	215TTGND16029	¶	NA	T3B	91.7	26.6/13.3	266	23.45	13,17,68
	1800	230/460	215TC	**C326C**	215TTGCD16029		10:1	T3C	91.7	25.0/12.5	280	18.63	13,17,68
15	3600	230/460	254TC	**C307B**	254TTGN16524		2:1	T3B	91.0	36.0/18.0	376	25.77	13,17,68
	1800	230/460	254TC	**C327B**	254TTGN16034	√	10:1	T3B	92.4	37.5/18.8	399	25.77	13,17,68
	1800	230/460	254TC	**C327C**	254TTGCD16034		10:1	T3C	92.4	36.5/18.4	424	18.63	13,17,68
20	3600	230/460	256TC	**C308B**	256TTGN16004	√	10:1	T3B	92.4	47.0/23.4	436	25.77	13,68
	3600	230/460	256TC	**C308C**	256TTGCD16004		10:1	T3C	91.0	47.5/23.7	357	18.63	13,17,68
	1800	230/460	256TC	**C328B**	256TTGN16034		2:1	T3B	93.0	48.0/24.1	441	25.77	13,17,68

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

Blue shaded areas are cast iron frames.

*See back cover page for definition.

INVERTER DUTY MOTORS

LONG, DEPENDABLE MOTOR LIFE

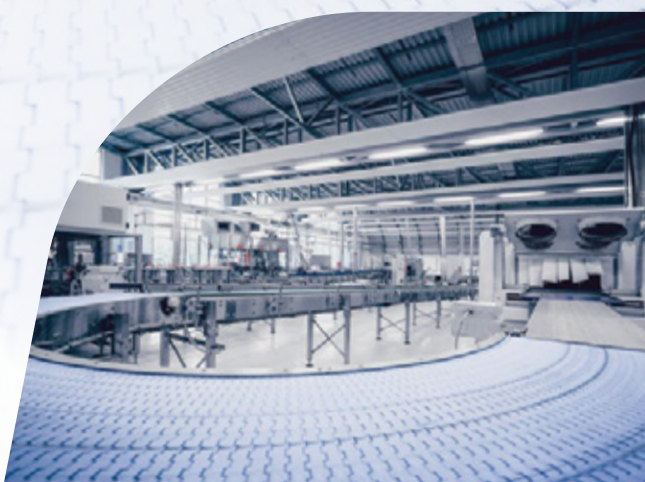
marathon®

Features

- Ideally suited for IGBT inverters
- Inverter duty insulation system
- Over temperature protection
- BlueMax® 2000 models - 2000:1 speed range
- Provisions for encoder mounting
- MicroMax® Plus models include a 1024 a PPR encoder
- Drip-proof and totally enclosed models available
- Precision balanced rotor assemblies

Applications

- Constant torque conveyors and machine tools or variable torque (pumps and fans) applications within the stated speed range of the motor



INVERTER (VECTOR) DUTY: MICROMAX MOTORS

20:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE

APPLICATIONS

Designed for direct replacement of PMDC or any other variable speed application where up to 1000:1 constant torque speed range is required. Typical uses include: machine tools, conveyers, packaging machines, batching machines, and printing equipment.

FEATURES

- Designed to replace PMDC motors (when used with VFD)
- Class H insulation with CR[200] corona resistant magnet wire
- Removable rigid base, as noted
- Continuous duty at 40ºC ambient
- Top mounted conduit boxes as found on PMDC motors
- Eliminates brush and commutator maintenance
- UL®* recognized and CSA®* certified
- Three year warranty

IP43

3 YEARS WARRANTY

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y1999	182THFW7729	√	87.5	8.4/4.2	64	13.97	TEFC	2.0	6
	1800	230/460	182TC	Y999	182THFR7729		87.5	8.4/4.2	86	16.19	TEFC	2.0	
5	1800	230/460	184TC	Y1372	184THFW7726	√	87.5	13/6.5	92	13.97	TEFC	2.0	6
	1800	230/460	184TC	Y372	184THFR7726		88.5	13.4/6.7	94	16.69	TEFC	2.0	
7 1/2	1800	230/460	213TC	Y994A	213THFBD7726		90.6	19/9.5	180	20.97	TEFC	2.0	
	1800	230/460	213TC	Y994	213THFW7726		89.5	21.4/10.7	128	20.97	TEFC	2.0	
	1800	575	213TC	Y995A	213THFBD7736		90.6	7.6	175	20.97	TEFC	2.0	
	1800	575	213TC	Y995	213THFW7736		89.5	8.6	128	20.97	TEFC	2.0	
10	1800	230/460	215TC	Y996A	215THFBD7726	√	91.0	26.6/13.3	190	20.97	TEFC	2.0	
	1800	230/460	215TC	Y996	215THFW7726		91.0	27.6/13.8	157	22.22	TEFC	2.0	
	1800	575	215TC	Y997A	215THFBD7736		91.0	10.7	200	20.97	TEFC	2.0	
	1800	575	215TC	Y997	215THFW7736		91.0	11.1	157	22.22	TEFC	2.0	

INVERTER (VECTOR) DUTY: MICROMAX PLUS MOTORS

1000:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE, WITH ENCODER

APPLICATIONS

The MICROMAX® PLUS incorporates low rotor inertia for fast starts, stops, and reversals. Coupled with an encoder makes this useful in applications traditionally served encoder on by servo systems.

ADDITIONAL FEATURES

- Integrated Dynapar®* HS20 1024 ppr encoder
- Class F insulation with CR[200] corona resistant magnet wire
- Constant torque operation from 0 to base speed on vector drive
- Continuous duty at 40ºC ambient
- Optimized for operation on IGBT inverter
- UL recognized, CSA certified, and CE®* mark
- Three year warranty

IP43

3 YEARS WARRANTY

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y286A	182THTY17041	√	87.5	9.6/4.8	80	16.19	TENV	2.0	6, AL
	1800	230/460	182TC	Y286	182THTL17041		88.5	8.4/4.2	95	17.19	TENV	2.0	6, AL
5	1800	230/460	184TC	Y287A	184THTY17038	√	89.5	13.4/6.7	93	17.69	TENV	2.0	6, AL
	1800	230/460	184TC	Y287	184THTL17038		89.5	14.0/7.0	112	19.19	TENV	2.0	6, AL

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLACK MAX® MOTORS

1000:1 CONSTANT TORQUE, TENV, THREE-PHASE

APPLICATIONS

Designed for inverter or vector applications where up to a 1000:1 constant torque speed range is required. Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps compressors, textile processing, and other industrial machinery installed in dusty or dirty environments.

FEATURES

- MAX GUARD® Class F insulation system
- Constant torque operation from 0 to base speed on vector drive
- Continuous duty at 40ºC ambient
- Optimized for operation with IGBT inverter (NEMA®* Design A)
- Normally closed thermostats (one per phase, Class F)
- Ball bearings
- Field reversible to F2
- Encoder and brake provisions included on opposite drive end, (maximum 10 lb-ft brake, see modifications and/or accessory kits sections)
- UL®* recognized, CSA®* certified, and CE®* mark
- Three year warranty

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
2	1200	230/460	184TC	Y540	184THTL7776	√	82.5	6.6/3.3	88	17.35	TENV	2.0	174609.00M	174623.00M	AL
3	1800	230/460	182TC	Y541	182THTL7726		85.5	8.4/4.2	95	17.80	TENV	2.0	174611.00M	174675.00M	AL
	1800	575	182TC	Y558	182THTL7736		85.5	3.4	95	17.80	TENV	2.0	-	174632.00M	AL
	1200	230/460	213TC	Y542	213THTL7776	√	82.5	9.4/4.7	118	19.04	TENV	2.0	174611.00M	176124.00M	AL
5	1800	230/460	184TC	Y543	184THTL7726		89.5	14.0/7.0	110	19.35	TENV	2.0	174615.00M	176148.00M	AL
	1800	575	184TC	Y559	184THTL7736		89.5	5.6	110	19.35	TENV	2.0	-	174634.00M	AL
	1200	230/460	215TC	Y544	215THTL7776	√	84.0	15.4/7.7	146	21.53	TENV	2.0	174615.00M	176148.00M	AL
7 1/2	1800	230/460	213TC	Y545	213THTL7726	√	90.2	21/10.5	135	20.96	TENV	2.0	174616.00M	176148.00M	AL
	1800	575	213TC	Y560	213THTL7736		90.2	8.4	146	20.96	TENV	2.0	-	174636.00M	AL
	1200	230/460	254TC	Y546	254THTL5776	√	87.5	22.0/11.0	223	25.37	TENV	2.0	174616.00M	176148.00M	AL
10	1800	230/460	215TC	Y547	215THTL7726	√	90.2	27/13.5	183	23.46	TENV	2.0	174617.00M	176148.00M	AL
	1800	575	215TC	Y561	215THTL7736	√	90.2	10.8	219	23.46	TENV	2.0	-	174636.00M	AL
	1200	230/460	256TC	Y548	256THTL5776	√	89.5	28.0/14.0	229	26.87	TENV	2.0	174617.00M	176148.00M	AL
15	1800	230/460	254TC	Y549	254THTL5726	√	91.7	40.0/20.0	229	27.91	TENV	2.0	174618.00M	174628.00M	AL,H
	1800	575	254TC	Y562	254THTL5736		91.7	16.0	260	27.91	TENV	2.0	-	174637.00M	AL
20	1800	230/460	256TC	Y552	256THTNA7026		93.6	52.0/26.0	300	27.13	TENV	2.0	174619.00M	176151.00M	
	1800	575	256TC	Y563	256THTNA7036		93.6	20.8	300	27.13	TENV	2.0	-	174638.00M	
25	1800	230/460	284TC	Y553	284THTNA7026		93.6	62.0/31.0	379	27.50	TENV	2.0	174619.00M	176151.00M	
	1800	575	284TC	Y567	284THTNA7036		93.6	24.8	379	27.50	TENV	2.0	-	174639.00M	
30	1800	230/460	286TC	Y393	286THTNA7026		94.5	74.0/37.0	575	29.00	TENV	2.0	186064.00M	176152.00M	
	1800	575	286TC	Y394	286THTNA7036		94.5	29.6	575	29.00	TENV	2.0	-	174599.00M	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLACK MAX® MOTORS

1000:1 CONSTANT TORQUE, TENV, THREE-PHASE

APPLICATIONS.

Designed for inverter or vector applications where up to a 1000:1 constant torque speed range is required. Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps compressors, textile processing, and other industrial machinery installed in dusty or dirty environments.

IP55 MAX GUARD 3 YEARS WARRANTY

FEATURES

- MAX GUARD® Class H insulation system (Except when noted).
- Constant torque operation from 0 to base speed on vector drive
- Continuous duty at 40°C ambient
- Optimized for operation with IGBT inverter (NEMA®* Design A)
- Normally closed thermostats (one per phase, Class F)
- Ball bearings
- Field reversible to F2 (except as noted)
- Encoder and brake provisions included on opposite drive end, (maximum 10 lb-ft brake, see modifications and/or accessory kits sections)
- UL®* recognized, CSA®* certified, and CE®* mark
- Three year warranty

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
2	1200	230/460	184TC	Y540A	184THTHD7776		85.5	6.6/3.3	88	16.82	TENV	2.0	174609.00M	174623.00M	AL
3	1800	230/460	182TC	Y541A	182THTY7726	√	87.5	8.2/4.1	77	16.19	TENV	2.0	174611.00M	174675.00M	AL,F,IP43
	1800	575	182TC	Y558A	182THTY7736	√	87.5	3.3	89	16.19	TENV	2.0	-	174632.00M	AL,F,IP43
	1200	230/460	213TC	Y542A	213THTHD7776		88.5	9.6/4.8	105	18.95	TENV	2.0	174611.00M	176124.00M	AL
5	1800	230/460	184TC	Y543A	184THTY7726	√	89.5	13.4/6.7	92	17.69	TENV	2.0	174615.00M	176148.00M	AL,F,IP43
	1800	575	184TC	Y559A	184THTY7736	√	89.5	5.4	96	17.69	TENV	2.0	-	174634.00M	AL,F,IP43
	1200	230/460	215TC	Y544A	215THTHD7776		88.0	15/7.5	146	18.95	TENV	2.0	174615.00M	176148.00M	AL
7.5	1800	230/460	213TC	Y545A	213THTHD7726		90.6	20.0/10.0	144	18.95	TENV	2.0	174616.00M	176146.00M	AL
	1800	575	213TC	Y560A	213THTHD7736		90.6	8.0	144	18.95	TENV	2.0	-	174636.00M	AL
	1200	230/460	254TC	Y546A	254THTHD5776		89.5	20.8/10.4	223	23.58	TENV	2.0	174616.00M	176148.00M	AL
10	1800	230/460	215TC	Y547A	215THTHD7726		91.7	25/12.5	219	20.45	TENV	2.0	174617.00M	176148.00M	AL
	1800	575	215TC	Y561A	215THTHD7736		91.7	10.0	218	20.45	TENV	2.0	-	174636.00M	AL
	1200	230/460	256TC	Y548A	256THTHD5776		89.5	26.8/13.4	229	25.31	TENV	2.0	174617.00M	176148.00M	AL
15	1800	230/460	254TC	Y549A	254THTHD5726		92.9	35/17.5	260	23.58	TENV	2.0	174618.00M	174628.00M	AL
	1800	575	254TC	Y562A	254THTHD5736		92.9	14.0	260	23.58	TENV	2.0	-	174637.00M	AL
20	1800	230/460	256TC	Y552A	256THTCD7026	√	93.6	49/24.5	340	25.31	TENV	2.0	174619.00M	176151.00M	
	1800	575	256TC	Y563A	256THTCD7036	√	93.6	19.6	340	25.31	TENV	2.0	-	174638.00M	
25	1800	230/460	284TC	Y553A	284THTCD7026	√	93.6	59/29.5	445	27.00	TENV	2.0	174619.00M	176151.00M	
	1800	575	284TC	Y567A	284THTCD7036	√	93.6	23.6	430	27.00	TENV	2.0	-	174639.00M	
30	1800	230/460	286TC	Y393A	286THTCD7026	√	93.8	74.0/37.0	475	28.50	TENV	2.0	186064.00M	176152.00M	
	1800	575	286TC	Y394A	286THTCD7036		93.8	29.6	475	28.50	TENV	2.0	-	174599.00M	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 MOTORS

2000:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE

APPLICATIONS:

Designed for inverter or vector applications where up to a 2000:1 constant torque speed range is required. Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps compressors, textile processing, and other industrial machinery installed in dusty or dirty environments where cast iron construction is required.

FEATURES

- MAX GUARD® Class H insulation system
- Constant torque operation from 0 to base speed on vector drive, including TEFC (On volts/hertz drives, TEFC motors are limited to 20:1 constant torque)
- Optimized for operation with IGBT inverter
- Bearing current protection (BCP), mounted internally
- C-Face foot mount through 100 HP, as noted
- Normally closed thermostats (one per phase, Class F)
- Continuous duty at 40° C ambient
- 1.0 service factor ("B" rise on TEBC motors)

MADE IN THE USA | IP43 | MAX GUARD | BCP BEARING CURRENT PROTECTION | 3 YEARS WARRANTY

RIGID BASE AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
3	1800	230/460	182TC	Y527	182THTN8028		90.2	8.0/4.0	113	19.05	TENV	2.0	174611.00M	174675.00M	
5	1800	230/460	184TC	Y564	184THTS8028		88.5	13.4/6.7	122	18.10	TENV	2.0	174615.00M	176148.00M	
7 1/2	1800	230/460	213TC	Y595	213THFS8028		88.5	19.4/9.7	192	22.25	TEFC	2.0	174616.00M	176146.00M	
	1800	230/460	213TC	Y565	213THTS8038		90.2	21/10.5	212	21.55	TENV	2.0	174616.00M	176148.00M	
10	1800	230/460	215TC	Y596	215THFS8029		90.2	25.4/12.7	252	23.75	TEFC	2.0	174617.00M	176148.00M	
	1800	230/460	215TC	Y566	215THTS8038		91.0	26.0/13.0	272	22.80	TENV	2.0	174617.00M	176148.00M	
15	1800	230/460	254TC	Y597	254THFNA8038		90.2	37/18.5	350	23.80	TEFC	2.0	174618.00M	174628.00M	
	1800	230/460	254TC	Y509	254THTNA8058		93.0	40.5/20.2	334	23.80	TENV	2.0	174618.00M	174628.00M	
	1200	230/460	284TC	Y395	284THFPA8086		88.5	40.0/20.0	500	29.82	TEBC-AXIAL	2.0	174618.00M	174628.00M	BP
20	1800	230/460	256TC	Y598	256THFNA8038		91.0	52.0/26.	377	25.55	TEFC	2.0	174619.00M	176151.00M	
	1800	230/460	256TC	Y510	256THTNA8038		93.6	52.0/26.0	425	27.13	TENV	2.0	174619.00M	176151.00M	
	1200	230/460	286TC	Y582	286THFPA8086		87.5	52.5/26.2	660	31.32	TEBC-AXIAL	2.0	174619.00M	176151.00M	BP
25	1800	230/460	284T	Y569	284THFPA8028	√	91.7	63/31.5	393	29.82	TEFC	2.0	174619.00M	176152.00M	
	1800	230/460	284TC	Y511	284THFPA8038	√	91.7	63/31.5	470	29.82	TEBC-AXIAL	2.0	174619.00M	176152.00M	BP
	1200	230/460	324TC	Y583	324THFPA8086		91.7	67/33.5	633	40.41	TEBC-AXIAL	2.0	174619.00M	176152.00M	BP
30	1800	230/460	286T	Y570	286THFNA8028	√	93.0	77/38.5	497	31.14	TEFC	2.0	186064.00M	176152.00M	
	1800	230/460	286TC	Y512	286THFPA8038	√	91.0	74.0/37.0	520	38.98	TEBC-AXIAL	2.0	186064.00M	176152.00M	BP
	1200	230/460	326TC	Y584	326THFPA8086		89.5	80.5/40	627	41.91	TEBC-AXIAL	2.0	186064.00M	176152.00M	BP
40	1800	230/460	324T	Y571	324THFPA8028		91.7	100.0/50.0	545	32.27	TEFC	2.0	186065.00M	174992.00M	
	1800	230/460	324TC	Y513	324THFPA8038	√	91.7	100.0/50.0	608	40.41	TEBC-AXIAL	2.0	186065.00M	174992.00M	BP
	1200	230/460	364TC	Y585	364THFS8391		91.0	107/53.5	1011	42.67	TEBC-AXIAL	2.0	186065.00M	174992.00M	BP
50	1800	230/460	326T	Y572	326THFS8028	√	93.0	123/61.5	765	33.59	TEFC	2.0	186066.00M	174711.00M	
	1800	230/460	326TC	Y514	326THFPA8038	√	93.0	120.0/60.0	686	41.91	TEBC-AXIAL	2.0	186066.00M	174711.00M	BP
	1200	230/460	365TC	Y586	365THFS8380		93.0	130.0/65.0	1081	43.67	TEBC-AXIAL	2.0	186066.00M	174711.00M	BP
60	1800	230/460	364T	Y573	364THFS8036	√	92.4	146.0/73.0	965	34.03	TEFC	2.0	186002.00M	174711.00M	
	1800	230/460	364TC	Y515	364THFS8046	√	92.4	146.0/73.0	1062	42.67	TEBC-AXIAL	2.0	186002.00M	174711.00M	BP
	1200	230/460	404TC	Y587	404THFS8092		92.4	142.0/71.0	1350	48.22	TEBC-AXIAL	2.0	186002.00M	174711.00M	BP
75	1800	230/460	365T	Y574	365THFS8036	√	94.1	184.0/92.0	1061	35.03	TEFC	2.0	186067.00M	186057.00M	
	1800	230/460	365TC	Y516	365THFS8046	√	93.0	180.0/90.0	1026	38.04	TEBC-AXIAL	2.0	186067.00M	186057.00M	BP
	1200	230/460	405TC	Y588	405THFS8378	√	94.1	180.0/90.0	1387	48.46	TEBC-AXIAL	2.0	186067.00M	186057.00M	BP
100	1800	230/460	405T	Y575	405THFS8036	√	94.5	230.0/115.0	1308	40.43	TEFC	2.0	-	186060.00M	
	1800	230/460	405TC	Y517	405THFS8046		94.5	230.0/115.0	1529	48.46	TEBC-AXIAL	2.0	-	186060.00M	BP
	1200	230/460	444TC	Y589	444THFN8384	√	94.5	250.0/125.0	2120	56.28	TEBC-AXIAL	2.0	-	186060.00M	BP

Continued on next page.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 MOTORS

2000:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE

RIGID BASE AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
125	1800	460	444T	Y576	444THFN8036		94.5	143.0	2053	45.54	TEFC	2.0	-	186060.00M	
	1800	460	444T	Y518	444THFN8046	√	95.0	138.0	2010	56.28	TEBC-AXIAL	2.0	-	186060.00M	BP
150	1800	460	445T	Y577	445THFN8036	√	94.5	170.0	2247	45.54	TEFC	2.0	-	186060.00M	
	1800	460	445T	Y519	445THFN8046	√	94.5	170.0	2310	56.28	TEBC-AXIAL	2.0	-	186060.00M	BP
200	1800	460	445T	Y578	445THFN8040		95.0	230.0	2388	45.54	TEFC	2.0	-	-	
	1800	460	445T	Y520	445THFN8050	√	95.0	230.0	2430	56.28	TEBC-AXIAL	2.0	-	-	BP
250	1800	460	449T	Y579	449THFS8036		95.0	280.0	2900	28.25	TEFC	2.0	-	-	
	1800	460	449T	Y531	449THFS8046	√	95.0	295.0	2991	67.02	TEBC-AXIAL	2.0	-	-	BP
300	1800	460	449T	Y580	449THFS8037	√	95.4	330.0	3077	28.25	TEFC	2.0	-	-	
	1800	460	447/449T	Y532	449THFS8047	√	95.4	327.0	2950	67.02	TEBC-AXIAL	2.0	-	-	BP
350	1800	460	449T	Y533	449THFS8048	√	95.4	385.0	3099	67.02	TEBC-AXIAL	2.0	-	-	BP

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 MOTORS

2000:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE

APPLICATIONS:

Designed for inverter or vector applications where up to a 2000:1 constant torque speed range is required. Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps compressors, textile processing, and other industrial machinery installed in dusty or dirty environments where cast iron construction is required.

FEATURES

- MAX GUARD® Class H insulation system
- Constant torque operation from 0 to base speed on vector drive, including TEFC (On volts/hertz drives, TEFC motors are limited to 20:1 constant torque)
- Optimized for operation with IGBT inverter
- Bearing current protection (BCP), mounted internally
- C-Face foot mount through 100 HP, as noted
- Normally closed thermostats (one per phase, Class F)
- Continuous duty at 40° C ambient
- 1.0 service factor ("B" rise on TEBC motors)
- Blue Chip Series® quality, cast iron frame and brackets
- Ball bearings (roller bearing available 360 frame & larger)
- Field reversible to F2
- Encoder provisions included on opposite drive end (see modification and/or accessory kits sections)
- UL®* Recognized, CSA®* Certified, and CE®* Mark
- Three year warranty

RIGID BASE AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
3	1800	230/460	182TC	Y527A	182THTCD8028		89.5	8.0/4.0	127	15.81	TENV	2.0	174611.00M	174675.00M	
5	1800	230/460	184TC	Y564A	184THTCD8028		89.5	13/6.5	133	16.81	TENV	2.0	174615.00M	174676.00M	
7.5	1800	230/460	213TC	Y595A	213THFCD8028		90.6	19/9.5	180	21.47	TEFC	2.0	174616.00M	176146.00M	
7.5	1800	230/460	213TC	Y565A	213THTCD8038		90.6	20.0/10.0	310	18.95	TENV	2.0	174616.00M	176146.00M	
10	1800	230/460	215TC	Y596A	215THFCD8029		90.6	24.0/12.0	190	22.97	TEFC	1.5	174617.00M	176148.00M	
10	1800	230/460	215TC	Y566A	215THTCD8038		91.7	25/12.5	325	20.45	TENV	2.0	174617.00M	176148.00M	
15	1800	230/460	254TC	Y597A	254THFCD8038		91.5	35/17.5	300	26.85	TEFC	1.5	174618.00M	174628.00M	
15	1800	230/460	254TC	Y509A	254THTCD8058		92.9	35/17.5	280	23.56	TENV	2.0	174618.00M	174628.00M	
15	1200	230/460	284TC	Y395A	284THFCD8086		91.0	39/19.5	375	33.77	TEBC-AXIAL	1.5	174618.00M	174628.00M	BP
20	1800	230/460	256TC	Y598A	256THFCD8038		92.0	46.0/23.0	335	28.58	TEFC	1.5	174619.00M	176151.00M	
20	1800	230/460	256TC	Y510A	256THTCD8038		93.6	49/24.5	340	25.31	TENV	2.0	174619.00M	176151.00M	
20	1200	230/460	286TC	Y582A	286THFCD8086		91.4	51/25.5	435	35.27	TEBC-AXIAL	1.5	174619.00M	176151.00M	BP
25	1800	230/460	284T	Y569A	284THFCD8028		92.7	57/28.5	390	28.83	TEFC	1.5	174619.00M	176151.00M	
25	1800	230/460	284TC	Y511A	284THFCD8038		92.7	57/28.5	417	33.77	TEBC-AXIAL	1.5	174619.00M	176151.00M	BP
25	1200	230/460	324TC	Y583A	324THFCD8086		92.4	61/30.5	575	36.45	TEBC-AXIAL	1.5	174619.00M	176151.00M	BP
30	1800	230/460	286T	Y570A	286THFCD8028		93.6	70.5/35.5	450	30.33	TEFC	2.0	186064.00M	176152.00M	
30	1800	230/460	286TC	Y512A	286THFCD8038		93.6	70.5/35.5	451	35.27	TEBC-AXIAL	1.5	186064.00M	176152.00M	BP
30	1200	230/460	326TC	Y584A	326THFCD8086		92.4	72.0/36.0	630	37.95	TEBC-AXIAL	1.5	186064.00M	176152.00M	BP
40	1800	230/460	324T	Y571A	324THFCD8028		92.4	89/44.5	610	32.04	TEFC	1.5	186065.00M	174992.00M	
40	1800	230/460	324TC	Y513A	324THFCD8038		92.4	89/44.5	610	36.45	TEBC-AXIAL	1.5	186065.00M	174992.00M	BP
40	1200	230/460	364TC	Y585A	364THFCD8391		93.3	91/45.5	900	39.71	TEBC-AXIAL	1.5	186065.00M	174992.00M	BP
50	1800	230/460	326T	Y572A	326THFCD8028		93.0	111/55.5	616	33.54	TEFC	1.5	186066.00M	174711.00M	
50	1800	230/460	326TC	Y514A	326THFCD8038		93.0	111/55.5	625	37.95	TEBC-AXIAL	1.5	186066.00M	174711.00M	BP
50	1200	230/460	365TC	Y586A	365THFCD8380		93.3	114.0/57.0	920	40.71	TEBC-AXIAL	1.5	186066.00M	174711.00M	BP
60	1800	230/460	364T	Y573A	364THFCD8036		95.0	135/67.5	850	35.61	TEFC	2.0	186002.00M	174711.00M	
60	1800	230/460	364TC	Y515A	364THFCD8046		95.0	135/67.5	875	39.71	TEBC-AXIAL	1.5	186002.00M	174711.00M	BP
60	1200	230/460	404TC	Y587A	404THFCD8092		94.1	143/71.5	1190	46.13	TEBC-AXIAL	1.5	186002.00M	174711.00M	BP
75	1800	230/460	365T	Y574A	365THFCD8036	C/A	95.5	170.0/85.0	980	36.59	TEFC	2.0	186067.00M	186056.00M	
75	1800	230/460	365TC	Y516A	365THFCD8046	C/A	95.5	170.0/85.0	970	40.71	TEBC-AXIAL	2.0	186067.00M	186056.00M	BP
75	1200	230/460	405TC	Y588A	405THFCD8378	C/A	94.1	174.0/87.0	1280	46.13	TEBC-AXIAL	1.5	186067.00M	186056.00M	BP
100	1800	230/460	405T	Y575A	405THFCD8036	C/A	95.4	224.0/112.0	1275	41.06	TEFC	1.5	-	186060.00M	
100	1800	230/460	405TC	Y517A	405THFCD8046	C/A	95.4	224.0/112.0	1265	46.13	TEBC-AXIAL	1.5	-	186060.00M	BP
100	1200	230/460	444TC	Y589A	444THFCD8384	C/A	95.0	228.0/114.0	1730	53.80	TEBC-AXIAL	1.5	-	186060.00M	BP
125	1800	460	444T	Y576A	444THFCD8036	C/A	95.0	135.0	1650	49.01	TEFC	1.5	-	186060.00M	BP

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√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 MOTORS

2000:1 CONSTANT TORQUE, TOTALLY ENCLOSED, THREE-PHASE

RIGID BASE AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	LOW VOLTAGE DRIVE OPTION	HIGH VOLTAGE DRIVE OPTION	FOOT NOTES
125	1800	460	444T	Y518A	444THFCD8046	C/A	95.0	135.0	1595	53.80	TEBC-AXIAL	1.5	-	186060.00M	
150	1800	460	445T	Y577A	445THFCD8036	C/A	95.4	161.0	1887	49.01	TEFC	1.5	-	186067.00M	BP
150	1800	460	445T	Y519A	445THFCD8046	C/A	95.4	161.0	1820	53.80	TEBC-AXIAL	1.5	-	186067.00M	
200	1800	460	445T	Y578A	445THFCD8040	C/A	95.4	214.0	2204	53.38	TEFC	1.5	-	-	BP
200	1800	460	445T	Y520A	445THFCD8050	C/A	95.4	214.0	2120	58.17	TEBC-AXIAL	1.5	-	-	
250	1800	460	449T	Y579A	449THFCD8036	C/A	95.8	265.0	2593	57.52	TEFC	1.5	-	-	BP
250	1800	460	449T	Y531A	449THFCD8046	C/A	95.8	265.0	2523	62.30	TEBC-AXIAL	1.5	-	-	
300	1800	460	449T	Y580A	449THFCD8037	C/A	95.8	318.0	2800	57.52	TEFC	1.5	-	-	BP
300	1800	460	447/449T	Y532A	449THFCD8047	C/A	95.8	318.0	2766	62.30	TEBC-AXIAL	1.5	-	-	
350	1800	460	449T	Y533A	449THFCD8048	C/A	95.8	370.0	2898	66.30	TEBC-AXIAL	1.5	-	-	BP

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 HAZARDOUS DUTY® EXPLOSION PROOF MOTORS

2000:1 CONSTANT TORQUE, EXPLOSION PROOF, THREE-PHASE, WITH ENCODER CLASS I AND II, GROUPS C & D, F & G

APPLICATIONS:

Designed for industrial applications with vector drives where up to a 2000:1 constant torque speed range and/or precise speed or torque regulation is required, including positioning equipment. Used in dirty, dusty or caustic environments where cast iron construction is required, and installed in hazardous environments as defined by the motor's explosion proof class and group rating. Consult the National Electrical Code and your local regulations for the proper selection of motors in hazardous locations.

FEATURES

- **Meets temperature code T3B**
- BEI®* H38 explosion proof encoder 1024 ppr, Class I Groups C & D, Class II Groups E, F, G included
- MAX GUARD® Class F insulation system
- Constant torque operation from 0 to base speed on vector drive
- Continuous duty at 40ºC ambient
- Optimized for operation with IGBT inverter (NEMA®* design A)
- Normally closed thermostats (one per phase, Class F)
- Ball bearings
- Cast iron frame and brackets
- F1 standard, NOT field reversible to F2
- UL®* Listed file no. E12044
- CSA®* certified file no. LR47504
- Three year warranty

IP54 MAX GUARD 3 YEARS WARRANTY

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y980	182THES8048	√	86.5	8.2/4.1	117	24.82	EPNV	2.0	
5	1800	230/460	213TC	Y981	213THES8053	√	90.2	13/6.5	240	26.17	EPNV	1.5	
7.5	1800	230/460	254TC	Y982	254THEN8058	√	91.7	22.0/11.0	344	30.20	EPNV	2.0	
10	1800	230/460	254TC	Y983	254THEN8059	√	91.7	27/13.5	376	30.20	EPNV	2.0	
15	1800	230/460	256TC	Y984	256THEN17031	√	93.0	36.0/18.0	432	31.95	EPNV	2.0	
20	1800	230/460	284TC	Y985	284THEN8032	√	93.6	53/26.5	555	33.16	EPNV	1.5	

C-FACE FOOTED (RIGID BASE) MADE IN MEXICO

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y980A	182THECD8048		89.5	8.0/4.0	117	24.82	EPNV	2.0	
5	1800	230/460	213TC	Y981A	213THECD8053		89.5	13/6.5	241	26.17	EPNV	1.5	
7.5	1800	230/460	254TC	Y982A	254THECD8058		91.7	19/9.5	344	30.20	EPNV	2.0	
10	1800	230/460	254TC	Y983A	254THECD8059		91.7	25/12.5	391	30.20	EPNV	2.0	
15	1800	230/460	256TC	Y984A	256THECD8059		92.9	35/17.5	435	31.95	EPNV	2.0	H
20	1800	230/460	284TC	Y985A	284THECD8032		93.0	47/23.5	555	33.16	EPNV	1.5	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.

*See back cover page for attribution.

INVERTER (VECTOR) DUTY: BLUE MAX® 2000 BRAKE MOTORS

2000:1 CONSTANT TORQUE, TENV, THREE-PHASE

APPLICATIONS: Designed for vector applications where up to a 2000:1 constant torque speed range is required. For use on conveyors, machine tools, cranes, hoists, and other industrial machinery requiring quick stop and/or holding torque.

FEATURES

- MAX GUARD® Class F insulation system
- Constant torque operation from 0 to base speed on vector drive
- Optimized for operation with IGBT inverter (NEMA®* design A)
- Normally closed thermostats (one per phase, Class F)
- Ball bearings
- Will accept encoder through Mod Central
- Stearns® brakes, 56 series through 15 Lb-Ft, 87 series, 25 Lb-Ft and larger
- Includes 140% rated spring-set self-adjusting NEMA 2 disk brake (Brake coil voltage matches motor)
- Universal mounting up to 15 Lb-Ft, (see comment below and Mod Central for vertical mounting)
- Horizontal mounting (see comment below and Mod Central for vertical mounting)
- UL®* recognized, CSA®* certified, and CE®* mark
- Three year warranty (brake disks are exempt)

IP55 MAX GUARD 3 YEARS WARRANTY

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	TORQUE RATING (LB/FT)	230V VFD CAT#	460V OR 575V VFD CAT#	FOOT NOTE
3	1800	230/460	182TC	Y988	182THTS8048	√	84.0	8.2/4.1	118	19.67	TENV	2.0	15	174611.00M	174675.00M	IP43
5	1800	230/460	184TC	Y989	184THTS8056	√	88.5	13.4/6.7	161	25.58	TENV	2.0	25	174615.00M	176148.00M	IP43
7.5	1800	230/460	213TC	Y990	213THTS8071	√	90.2	21/10.5	256	27.58	TENV	2.0	35	174616.00M	176148.00M	IP43
10	1800	230/460	215TC	Y991	215THTS8071	√	91.0	26.0/13.0	302	28.83	TENV	2.0	50	174617.00M	176148.00M	IP43
15	1800	230/460	254TC	Y992	254THTNA8071	√	93.0	40.5/20.2	384	31.53	TENV	2.0	75	174618.00M	174628.00M	IP43
20	1800	230/460	256TC	Y993	256THTNA8071	√	93.6	52.0/26.0	485	35.68	TENV	2.0	105	174619.00M	176151.00M	IP43

C-FACE FOOTED (RIGID BASE) MADE IN MEXICO

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	TORQUE RATING (LB/FT)	230V VFD CAT#	460V OR 575V VFD CAT#	FOOT NOTE
3	1800	230/460	182TC	Y988A	182THTCD8048		89.5	8.0/4.0	195	18.85	TENV	2.0	15	174611.00M	174675.00M	H
5	1800	230/460	184TC	Y989A	184THTCD8056		89.5	13/6.5	120	23.15	TENV	2.0	25	174615.00M	174676.00M	H
7.5	1800	230/460	213TC	Y990A	213THTCD8071		90.6	20.0/10.0	185	24.42	TENV	2.0	35	174616.00M	176146.00M	H
10	1800	230/460	215TC	Y991B	215THTCD8071		91.7	25/12.5	211	26.92	TENV	2.0	50	174617.00M	176148.00M	H
15	1800	230/460	254TC	Y992A	254THTCD8071		92.9	35/17.5	290	30.55	TENV	2.0	75	174618.00M	174628.00M	H
20	1800	230/460	256TC	Y993A	256THTCD8071		93.6	49/24.5	355	32.28	TENV	2.0	105	174619.00M	176151.00M	H

1024 PPR ENCODERS THROUGH MOD CENTRAL

BRAND	MODEL	CAT. NO.	KIT NUMBER	STOCK	"BRAKE FITS MOTOR CAT. NO."	WT.
Avtron*	AV56	A749	KIT AV561024BRK-182	√	Y988A	4
	AV85	A750	KIT AV851024BRK-184	√	Y989A	5
		A751	KIT AV851024BRK-210	√	Y990A, Y991B	8
		A752	KIT AV851024BRK-250	√	Y992A, Y993A	8
Northstar*	ST56	A789	KIT ST561024-182NV	√	Y988A	4
	ST85	A790	KIT ST851024-184NV	√	Y989A	8
		A791	KIT ST851024-210NV	√	Y990A, Y991B	8
		A792	KIT ST851024-250NV	√	Y992A, Y993A	8

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

MARATHON® BLACKMAX®-PM™ PERMANENT MAGNET AC MOTOR

THE NEXT STEP IN ELECTRIC MOTOR EFFICIENCY

Why choose a Permanent Magnet Motor over Induction Motors?

- In an induction motor, the current is induced into the rotor from the field (stator) through the air gap and conducted through aluminum bars, typically die cast into the rotor lamination slots
- By the use of permanent magnets embedded within the rotor, 180-280 frame PMAC motors provide increased efficiency

Delivering high efficiency levels of up to IE4

The motor's efficiency profile remains flatter than the profile of an equivalent induction motor as the speed and load decline, allowing the user to capture even greater energy savings when the motor is operated at the application's ideal speed

Applications

- Constant torque conveyors and machine tools or variable torque (pumps and fans)
- Data centers
- Blowers
- Compressors
- Elevator applications
- General industrial applications

MAX GUARD INSULATION SYSTEM

MARATHON® BLACKMAX®-PM AC MOTORS

TENV AND TEFC THREE-PHASE
INDUSTRIAL, CAST IRON FRAME (NEMA 182-286T FRAME MODELS)

FEATURES

- Permanent magnet AC motors requires an AC inverter for operation
- Marathon drive available easy selection
- IP54 (IP43 Rolled Steel) as standard with IP55 and IP56 as optional
- Bearing Current Protection BCP (SGR) inside stock motors
- Ultra Efficient™ Premium-Plus exceeds NEMA Premium®* (IE4)
- Class H MAX GUARD® insulation system (Cast Iron Frames only)
- Class F MAX GUARD insulation system in Rolled Steel Frames
- Available in Cast Iron & Rolled Steel construction
- Severe Duty, TEFC, TENV and TEBC are available
- Provisions for encoder mounting
- Precision balanced rotor assemblies
- Normally closed thermostats (One per phase, Class F)
- High power density, low weight design
- Optional terminal block, Consult Factory
- UL®*, CSA®* and CE®*
- Five year warranty

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	NEMA FRAME	TORQUE (LB-FT)	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	LOW VOLTAGE DRIVE OPTION (CAT#)	HIGH VOLTAGE DRIVE OPTION (CAT#)	FOOT NOTES
3	1800	230/460	182TC	8.8	**SY006A**	182TPNSB10237	√	92.9	6.8/3.4	137	17.50	186086.00M	186090.00M	N
	1800	230/460	182TC	8.8	**SY066**	182TPFRB10194	√	91.4	6.6/3.3	110	16.42	186086.00M	186090.00M	
	1200	230/460	182TC	13.1	**SY036**	182TPFRB10181	√	93.0	7.0/3.5	116	16.42	186086.00M	186090.00M	
5	1800	230/460	184TC	14.6	**SY007A**	184TPNSB10236	√	94.9	11.6/5.8	140	17.50	174615.00M	186091.00M	
	1800	230/460	184TC	14.6	**SY067**	184TPFRB10214	√	93.9	11.7/5.8	130	16.42	174615.00M	186091.00M	
7 1/2	1800	230/460	213TC	21.9	**SY008A**	213TPNSB10234	√	94.3	18.6/9.3	190	20.41	174616.00M	176146.00M	N
	1800	230/460	213TC	21.9	**SY068**	213TPFRB10230	√	94.1	16.6/8.3	125	19.47	174616.00M	176146.00M	
10	1800	230/460	215TC	29.2	**SY009A**	215TPNSB10235	√	93.9	24.6/12.3	208	20.41	174617.00M	176148.00M	N
	1800	230/460	215TC	29.2	**SY069**	215TPFRB10219	√	94.5	24.7/12.4	139	20.97	174617.00M	176148.00M	
15	1800	460	254TC	43.8	**SY010**	254TPFSA10088	√	94.0	18.0	392	25.68	-	174628.00M	
20	1800	460	256TC	58.4	**SY011**	256TPFSA10087	√	94.5	24.0	386	25.68	-	176151.00M	
25	1800	460	284TC	72.9	**SY012**	284TPFSA10112	√	94.5	30.0	408	26.21	-	176151.00M	
30	1800	460	286TC	87.5	**SY013**	286TPFSA10090	√	95.4	35.5	456	27.71	-	176152.00M	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
Blue shaded areas are cast iron frames.

*See back cover page for attribution.

TERRAMAX® IEC MOTORS

marathon®

IEC®* GLOBAL STANDARD MOTORS
DELIVERING A WORLD OF OPPORTUNITY

Features

- IP55 Enclosure Protection
- Dual Frame Mounting Holes
- F1 To F2 Mounting Capability
- 1.5 to 100 hp or IEC 100 and larger frame size
- Meets IE3 European and NEMA Premium®* efficiencies
- Cast Iron frame construction
- Wye Start-Delta Run on 160 Frame and larger
- Bearing caps on 160 Frame and larger
- 10:1 variable torque, constant torque speed range as noted
- 1.15 Service Factor on 60 Hz sine wave, 1.0 SF or VFD
- Top Mounted/Oversized gasketed terminal box
- UL®* Listed, UL Certified for Canada and CE®* mark

Applications

- Fans
- Pumps
- Compressors
- Conveyors
- Other equipment requiring IEC®* dimensions and
- electrical standards

*See back cover page for attribution.

TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED

IP55 MARINE DUTY Inverter Duty 3 YEARS WARRANTY

APPLICATIONS

For use on fans, pumps, compressors, conveyors, and other equipment requiring IEC dimensions and electrical standards. The TerraMAX® motor is not only designed to International standards, but meets NEMA®* performance and efficiency standards making it suitable for requirements worldwide.

FEATURES

- **Meets IE3 European and NEMA Premium®* efficiencies**
- Cast Iron frame construction
- Nameplated 60/50 Hz at next lower HP
- IP55 weatherproof enclosure
- Wye Start-Delta Run on 160 frame and larger, as noted
- Bearing caps on 160 frame and larger
- 10:1 variable torque, constant torque speed range
- 1.15 service factor on 60 Hz sine wave, 1.0 SF or VFD
- Top mounted/oversized gasketed terminal box
- Meets IEEE45, IEC60092 & USCG CFR46 Marine Duty
- IEC design "N" with NEMA "B" torques
- Terminal blocks, stud type, zero creepage
- B5 and B14 flange mounting kits
- Meets IEC 34 electrical standards
- Meets IEC 72 dimensions and tolerances
- UL®* Listed, UL Certified for Canada, & CE®* Mark
- Three Year Warranty

B3 RIGID BASE

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
1 1/2-1.1	1200/1000	230/460	200/400	100L	**R317A**	TCA1P13AE211GAA009	√	2:1	87.5	4.4/2.2	39	398		A554B
	1200/1000	575	480	100L	**R417**	TCA1P13AP211GAA009	√	2:1	87.5	1.7	39	398		A554B
2-1.5	1200/1000	230/460	200/400	100L	**R320B**	TCA1P53AE211GAA009	√	2:1	88.5	6.0/3.0	94	398		A554B
	1200/1000	575	480	100L	**R420B**	TCA1P53AP211GAA009	√	2:1	88.5	2.4	43	398		A554B
3-2.2	1800/1500	230/460	200/400	100L	**R322B**	TCA2P22AE211GAA009	√	2:1	89.5	7.8/3.9	97	398		A554B
	1800/1500	575	480	100L	**R422B**	TCA2P22AP211GAA009	√	2:1	89.5	3.1	44	398		A554B
	1200/1000	230/460	200/400	112M	**R323B**	TCA2P23AE211GAA009	√	2:1	89.5	8.8/4.4	127	399		A555C
	1200/1000	575	480	112M	**R423**	TCA2P23AP211GAA009	√	2:1	89.5	3.3	127	399		A555C
4-3	3600/3000	230/460	200/400	100L	**R351B**	TCA0031AE211GAA009	√	2:1	88.5	9.7/4.8	91	398		A554B
	3600/3000	575	480	100L	**R451B**	TCA0031AP211GAA009	√	2:1	88.5	3.9	41	398		A554B
	1800/1500	230/460	200/400	100L	**R352B**	TCA0032AE211GAA009	√	2:1	89.5	10.4/5.2	104	398		A554B
	1800/1500	575	480	100L	**R452B**	TCA0032AP211GAA009	√	2:1	89.5	4.2	47	398		A554B
	1200/1000	230/460	200/400	132S	**R353B**	TCA0033AE211GAA009	√	2:1	89.5	11.6/5.8	76	465		A550A
	1200/1000	575	480	132S	**R453**	TCA0033AP211GAA009	√	2:1	89.5	4.9	76	465		A550A
5 1/2-4.1	3600/3000	230/460	200/400	112M	**R324B**	TCA0041AE211GAA009	√	2:1	89.5	12.4/6.2	116	399		A555C
	3600/3000	575	480	112M	**R424B**	TCA0041AP211GAA009	√	2:1	89.5	5.0	53	399		A555C
	1800/1500	230/460	200/400	112M	**R325B**	TCA0042AE211GAA009	√	2:1	91.7	13.8/6.9	122	399		A555C
	1800/1500	575	480	112M	**R425B**	TCA0042AP211GAA009	√	2:1	91.7	5.5	57	399		A555C
	1200/1000	230/460	200/400	132M	**R326B**	TCA0043AE211GAA009	√	2:1	91.0	16.2/8.1	86	503		A550A
	1200/1000	575	480	132M	**R426**	TCA0043AP211GAA009	√	2:1	91.0	5.7	86	503		A550A
7 1/2-5.5	3600/3000	230/460	200/400	132S	**R327B**	TCA5P51AE211GAA009	√	2:1	89.5	17.6/8.8	167	465		A550A
	3600/3000	575	480	132S	**R427B**	TCA5P51AP211GAA009	√	2:1	89.5	7.1	76	465		A550A
	1800/1500	230/460	200/400	132S	**R328B**	TCA5P52AE211GAA009	√	2:1	91.7	19.6/9.8	179	465		A550A
	1800/1500	575	480	132S	**R428B**	TCA5P52AP211GAA009	√	2:1	91.7	7.9	92	465		A550A
	1200/1000	230/460	200/400	132M	**R329B**	TCA5P53AE211GAA009	√	2:1	91.0	20.8/10.4	220	503		A550A
	1200/1000	575	480	132M	**R429**	TCA5P53AP211GAA009	√	2:1	91.0	8.2	220	503		A550A

Continued on next page.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED

B3 RIGID BASE

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
10-7.5	3600/3000	230/460	200/400	132S	**R330B**	TCA7P51AE211GAA009	√	2:1	90.2	23.8/11.9	187	465		A550A
	3600/3000	575	480	132S	**R430B**	TCA7P51AP211GAA009	√	2:1	90.2	9.5	85	465		A550A
	1800/1500	230/460	200/400	132M	**R331B**	TCA7P52AE211GAA009	√	2:1	91.7	25.4/12.7	217	503		A550A
	1800/1500	460	400	132M	**R1331**	TCA7P52AD211GAA009	√	2:1	91.7	12.7	217	503		A550A
	1800/1500	575	480	132M	**R431B**	TCA7P52AP211GAA009	√	2:1	91.7	10.2	98	503		A550A
	1200/1000	230/460	200/400	160M	**R332B**	TCA7P53AE211GAA009	√	2:1	91.0	26.4/13.2	143	622	YD	A551A
	1200/1000	575	480	160M	**R432**	TCA7P53AP211GAA009	√	2:1	91.0	11.3	143	622		A551A
15-11	3600/3000	230/460	200/400	160M	**R333B**	TCA0111AE211GAA009	√	2:1	91.0	34.0/16.9	310	622	YD	A551A
	3600/3000	575	480	160M	**R433**	TCA0111AP211GAA009	√	2:1	91.0	13.5	141	622		A551A
	1800/1500	230/460	200/400	160M	**R334B**	TCA0112AE211GAA009	√	2:1	92.4	37.5/18.7	326	622	YD	A551A
	1800/1500	460	400	160M	**R1334**	TCA0112AD211GAA009	√	2:1	92.4	18.7	326	622	YD	A551A
	1800/1500	575	480	160M	**R434**	TCA0112AP211GAA009	√	2:1	92.4	15.0	148	622		A551A
	1200/1000	230/460	200/400	160L	**R335B**	TCA0113AE211GAA009	√	2:1	91.7	38.0/19.1	172	666	YD	A551A
	1200/1000	575	480	160L	**R435**	TCA0113AP211GAA009	√	2:1	91.7	15.3	415	666		A551A
20-15	3600/3000	230/460	200/400	160M	**R336B**	TCA0151AE211GAA009	√	2:1	91.0	45.5/22.8	146	622	YD	A551A
	3600/3000	575	480	160M	**R436**	TCA0151AP211GAA009	√	2:1	91.0	18.3	146	622		A551A
	1800/1500	230/460	200/400	160L	**R337B**	TCA0152AE211GAA009	√	2:1	93.0	50.0/25.0	163	666	YD	A551A
	1800/1500	460	400	160L	**R1337**	TCA0152AD211GAA009	√	2:1	93.0	25.0	163	666		A551A
	1800/1500	575	480	160L	**R437**	TCA0152AP211GAA009	√	2:1	93.0	20.1	163	666		A551A
	1200/1000	230/460	200/400	180L	**R338B**	TCA0153AE211GAA009	√	2:1	91.7	53.5/26.7	216	750	YD	A552A
	1200/1000	575	480	180L	**R438**	TCA0153AP211GAA009	√	2:1	91.7	21.4	415	750		A552A
25-18.5	3600/3000	230/460	200/400	160L	**R339B**	TCA18P1AE211GAA009	√	2:1	91.7	56.0/28.0	166	666	YD	A551A
	3600/3000	575	480	160L	**R439**	TCA18P1AP211GAA009	√	2:1	91.7	22.5	166	666		A551A
	1800/1500	230/460	200/400	180M	**R340B**	TCA18P2AE211GAA009	√	2:1	93.6	62.0/31.0	509	712	YD	A552A
	1800/1500	460	400	180M	**R1340**	TCA18P2AD211GAA009	√	2:1	93.6	31.0	509	712		A552A
	1800/1500	575	480	180M	**R440**	TCA18P2AP211GAA009	√	2:1	93.6	24.8	231	712		A552A
	1200/1000	230/460	200/400	200L	**R341B**	TCA18P3AE211GAA009	√	2:1	93.0	64.0/32.0	628	769	YD	A553A
	1200/1000	575	480	200L	**R441**	TCA18P3AP211GAA009	√	2:1	93.0	25.6	415	769		A553A
30-22	3600/3000	230/460	200/400	180M	**R342B**	TCA0221AE211GAA009	√	2:1	91.7	68.0/34.0	199	712	YD	A552A
	3600/3000	575	480	180M	**R442**	TCA0221AP211GAA009	√	2:1	91.7	27.2	199	712		A552A
	1800/1500	230/460	200/400	180L	**R343B**	TCA0222AE211GAA009	√	2:1	93.6	72.0/36.0	250	750	YD	A552A
	1800/1500	460	400	180L	**R1343**	TCA0222AD211GAA009	√	2:1	93.6	36.0	250	750		A552A
	1800/1500	575	480	180L	**R443**	TCA0222AP211GAA009	√	2:1	93.6	28.8	250	750		A552A
	1200/1000	230/460	200/400	200L	**R344B**	TCA0223AE211GAA009	√	2:1	93.0	76.0/38.0	661	769	YD	A553A
	1200/1000	575	480	200L	**R444**	TCA0223AP211GAA009	√	2:1	93.0	30.5	415	769		A553A
40-30	3600/3000	230/460	200/400	200L	**R345B**	TCA0301AE211GAA009	√	2:1	92.4	92.0/46.0	269	769	YD	A553A
	3600/3000	575	480	200L	**R445**	TCA0301AP211GAA009	√	2:1	92.4	37.0	572	769		A553A
	1800/1500	230/460	200/400	200L	**R346B**	TCA0302AE211GAA009	√	2:1	94.1	94.0/47.0	300	769	YD	A553A
	1800/1500	460	400	200L	**R1346**	TCA0302AD211GAA009	√	2:1	94.1	47.0	300	769		A553A
	1800/1500	575	480	200L	**R446**	TCA0302AP211GAA009	√	2:1	94.1	37.5	300	769		A553A
	1200/1000	230/460	200/400	225M	**R347B**	TCA0303AE211GAA009	√	2:1	94.1	100/50.0	424	862	YD	A580A
	1200/1000	575	480	225M	**R447**	TCA0303AP211GAA009	√	2:1	94.1	40.0	415	862		A580A
50-37	3600/3000	230/460	200/400	200L	**R348B**	TCA0371AE211GAA009	√	2:1	93.0	112/56.0	296	769	YD	A553A
	3600/3000	575	480	200L	**R448**	TCA0371AP211GAA009	√	2:1	93.0	45.0	296	769		A553A
	1800/1500	230/460	200/400	225S	**R349B**	TCA0372AE211GAA009	√	2:1	94.5	118/59.0	415	837	YD	A580A
	1800/1500	460	400	225S	**R1349**	TCA0372AD211GAA009	√	2:1	94.5	59.0	415	837		A580A
50-37	1800/1500	575	480	225S	**R449**	TCA0372AP211GAA009	√	2:1	94.5	47.0	415	837		A580A
	1200/1000	230/460	200/400	250M	**R350B**	TCA0373AE211GAA009	√	2:1	94.1	124/62.0	1144	941	YD	A594A
	1200/1000	575	480	250M	**R450**	TCA0373AP211GAA009	√	2:1	94.1	49.5	415	941		A594A
60-45	3600/3000	230/460	200/400	225M	**R500A**	TCA0451AE211GAA009	√	2:1	93.6	138/69.0	406	832	YD	A580A
	1800/1500	230/460	200/400	225M	**R501A**	TCA0452AE211GAA009	√	2:1	95.0	142/71.0	455	862	YD	A580A
	1200/1000	230/460	200/400	280S	**R502A**	TCA0453AE211GAA009	√	2:1	94.5	146/73.0	638	1060	YD	A596A

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

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TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED

B3 RIGID BASE

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
75-55	3600/3000	230/460	200/400	250M	**R503A**	TCA0551AE211GAA009	√	2:1	93.6	166/83.0	515	941	YD	A594A
	1800/1500	230/460	200/400	250M	**R504A**	TCA0552AE211GAA009	√	2:1	95.4	174/87.0	590	941	YD	A594A
	1200/1000	230/460	200/400	280M	**R505A**	TCA0553AE211GAA009	√	2:1	94.5	174/87.0	679	1111	YD	A596A
100-75	3600/3000	230/460	200/400	280S	**R506A**	TCA0751AE211GAA009	√	2:1	94.1	222/111	737	1060	YD	A595
	1800/1500	230/460	200/400	280S	**R507A**	TCA0752AE211GAA009	√	2:1	95.4	230/115	757	1060	YD	A596A
	1200/1000	230/460	200/400	315S	**R508A**	TCA0753AE211GAA009	√	2:1	95.0	246/123	821	1206	YD	A598A

B5 "FF" (D-FLANGE) - FOOTLESS

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES
1 1/2-1.1	1200	230/460	200/400	100L	**R217**	TCA1P13AE221GAA009	√	2:1	87.5	4.4/2.2	85	398	
2-1.5	1200	230/460	200/400	100L	**R220**	TCA1P53AE221GAA009	√	2:1	88.5	6.0/3.0	99	398	
3-2.2	1800	230/460	200/400	100L	**R222**	TCA2P22AE221GAA009	√	2:1	89.5	7.8/3.9	97	398	
	1200	230/460	200/400	100L	**R223**	TCA2P23AE221GAA009	√	2:1	89.5	8.8/4.4	127	399	
4-3	3600	230/460	200/400	100L	**R251**	TCA0031AE221GAA009	√	2:1	88.5	9.7/4.8	41	398	
	1800	230/460	200/400	100L	**R252**	TCA0032AE221GAA009	√	2:1	89.5	10.4/5.2	103	398	
	1200	230/460	200/400	132S	**R253**	TCA0033AE221GAA009	√	2:1	89.5	11.6/5.8	76	465	
5 1/2-4.1	3600	230/460	200/400	112M	**R224**	TCA0041AE221GAA009	√	2:1	89.5	12.4/6.2	116	399	
	1800	230/460	200/400	112M	**R225**	TCA0042AE221GAA009	√	2:1	91.7	13.8/6.9	126	399	
	1200	230/460	200/400	132M	**R226**	TCA0043AE221GAA009	√	2:1	91.0	16.2/8.1	189	503	
7 1/2-5.5	3600	230/460	200/400	132S	**R227**	TCA5P51AE221GAA009	√	2:1	89.5	17.6/8.8	76	465	
	1800	230/460	200/400	132S	**R228**	TCA5P52AE221GAA009	√	2:1	91.7	19.6/9.8	202	465	
	1200	230/460	200/400	132M	**R229**	TCA5P53AE221GAA009	√	2:1	91.0	20.8/10.4	100	503	
10-7.5	3600	230/460	200/400	132S	**R230**	TCA7P51AE221GAA009	√	2:1	90.2	23.8/11.9	85	465	
	1800	230/460	200/400	132M	**R231**	TCA7P52AE221GAA009	√	2:1	91.7	25.4/12.7	216	503	
	1200	230/460	200/400	160M	**R232**	TCA7P53AE221GAA009	√	2:1	91.0	26.4/13.2	143	622	YD
15-11	3600	230/460	200/400	160M	**R233**	TCA0111AE221GAA009	√	2:1	91.0	34.0/16.9	141	622	YD
	1800	230/460	200/400	160M	**R234**	TCA0112AE221GAA009	√	2:1	92.4	37.5/18.7	148	622	YD
	1200	230/460	200/400	160L	**R235**	TCA0113AE221GAA009	√	2:1	91.7	38.0/19.1	172	666	YD
20-15	3600	230/460	200/400	160M	**R236**	TCA0151AE221GAA009	√	2:1	91.0	45.5/22.8	324	622	YD
	1800	230/460	200/400	160L	**R237**	TCA0152AE221GAA009	√	2:1	93.0	50.0/25.0	359	666	YD
	1200	230/460	200/400	180L	**R238**	TCA0153AE221GAA009	√	2:1	91.7	53.5/26.7	216	750	YD
25-18.5	3600	230/460	200/400	160L	**R239**	TCA18P1AE221GAA009	√	2:1	91.7	56.0/28.0	365	666	YD
	1800	230/460	200/400	180M	**R240**	TCA18P2AE221GAA009	√	2:1	93.6	62.0/31.0	231	712	YD
30-22	3600	230/460	200/400	180M	**R242**	TCA0221AE221GAA009	√	2:1	91.7	68.0/34.0	199	712	YD
	1800	230/460	200/400	180L	**R243**	TCA0222AE221GAA009	√	2:1	93.6	72.0/36.0	250	750	YD

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

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TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED, B14 MOUNTING

B14 "FT" (C-FACE) - FOOTLESS

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1 1/2-1.1	1200	230/460	200/400	100L	**R617**	TCA1P13AE271GAA009	√	2:1	87.5	4.4/2.2	39	398	
2-1.5	1200	230/460	200/400	100L	**R620**	TCA1P53AE271GAA009	√	2:1	88.5	6.0/3.0	43	398	
3-2.2	1800	230/460	200/400	100L	**R622**	TCA2P22AE271GAA009	√	2:1	89.5	7.8/3.9	97	398	
	1200	230/460	200/400	112L	**R623**	TCA2P23AE271GAA009	√	2:1	89.5	8.8/4.4	128	399	
4-3	3600	230/460	200/400	100L	**R651**	TCA0031AE271GAA009	√	2:1	88.5	9.7/4.8	41	398	
	1800	230/460	200/400	100L	**R652**	TCA0032AE271GAA009	√	2:1	89.5	10.4/5.2	47	398	
	1200	230/460	200/400	132S	**R653**	TCA0033AE271GAA009	√	2:1	89.5	11.6/5.8	76	465	
5 1/2-4.1	3600	230/460	200/400	112M	**R624**	TCA0041AE271GAA009	√	2:1	89.5	12.4/6.2	53	399	
	1800	230/460	200/400	112M	**R625**	TCA0042AE271GAA009	√	2:1	91.7	13.8/6.9	57	399	
	1200	230/460	200/400	132M	**R626**	TCA0043AE271GAA009	√	2:1	91.0	16.2/8.1	190	503	
7 1/2-5.5	3600	230/460	200/400	132S	**R627**	TCA5P51AE271GAA009	√	2:1	89.5	17.6/8.8	76	465	
	1800	230/460	200/400	132S	**R628**	TCA5P52AE271GAA009	√	2:1	91.7	19.6/9.8	92	465	
	1200	230/460	200/400	132M	**R629**	TCA5P53AE271GAA009	√	2:1	91.0	20.8/10.4	100	503	
10-7.5	3600	230/460	200/400	132S	**R630**	TCA7P51AE271GAA009	√	2:1	90.2	23.8/11.9	85	465	
	1800	230/460	200/400	132M	**R631**	TCA7P52AE271GAA009	√	2:1	91.7	25.4/12.7	98	503	
	1200	230/460	200/400	160M	**R632**	TCA7P53AE271GAA009	√	2:1	91.0	26.4/13.2	143	622	YD
15-11	3600	230/460	200/400	160M	**R633**	TCA0111AE271GAA009	√	2:1	91.0	34.0/16.9	141	622	YD
	1800	230/460	200/400	160M	**R634**	TCA0112AE271GAA009	√	2:1	92.4	37.5/18.7	326	622	YD
	1200	230/460	200/400	160L	**R635**	TCA0113AE271GAA009	√	2:1	91.7	38.0/19.1	172	666	YD
20-15	3600	230/460	200/400	160M	**R636**	TCA0151AE271GAA009	√	2:1	91.0	45.5/22.8	146	622	YD
	1800	230/460	200/400	160L	**R637**	TCA0152AE271GAA009	√	2:1	93.0	50.0/25.0	163	666	YD
25-18.5	3600	230/460	200/400	160L	**R639**	TCA18P1AE271GAA009	√	2:1	91.7	56.0/28.0	166	666	YD

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED, B35 MOUNTING

B35 "FF" (D-FLANGE) - FOOTED

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1 1/2-1.1	1200	230/460	200/400	100L	**R817**	TCA1P13AE231GAA009	√	2:1	84.1	4.3/2.1	90	398	
2-1.5	1200	230/460	200/400	100L	**R820**	TCA1P53AE231GAA009	√	2:1	86.5	5.45/2.7	99	398	
3-2.2	1800	230/460	200/400	100L	**R822**	TCA2P22AE231GAA009	√	2:1	86.5	7.2/3.6	101	398	
	1200	230/460	200/400	100L	**R823**	TCA2P23AE231GAA009	√	2:1	89.5	8.8/4.4	132	399	
4-3	3600	230/460	200/400	100L	**R851**	TCA0031AE231GAA009	√	2:1	88.5	9.7/4.8	95	398	
	1800	230/460	200/400	100L	**R852**	TCA0032AE231GAA009	√	2:1	89.5	10.4/5.2	108	398	
	1200	230/460	200/400	132S	**R853**	TCA0033AE231GAA009	√	2:1	89.5	11.6/5.8	174	465	
5 1/2-4.1	3600	230/460	200/400	112M	**R824**	TCA0041AE231GAA009	√	2:1	89.5	12.4/6.2	121	399	
	1800	230/460	200/400	112M	**R825**	TCA0042AE231GAA009	√	2:1	91.7	13.8/6.9	130	399	
	1200	230/460	200/400	132M	**R826**	TCA0043AE231GAA009	√	2:1	91.0	16.2/8.1	196	503	
7 1/2-5.5	3600	230/460	200/400	132S	**R827**	TCA5P51AE231GAA009	√	2:1	89.5	17.6/8.8	174	465	
	1800	230/460	200/400	132S	**R828**	TCA5P52AE231GAA009	√	2:1	91.7	19.6/9.8	209	465	
	1200	230/460	200/400	132M	**R829**	TCA5P53AE231GAA009	√	2:1	91.0	20.8/10.4	227	503	
10-7.5	3600	230/460	200/400	132S	**R830**	TCA7P51AE231GAA009	√	2:1	90.2	23.8/11.9	194	465	
	1800	230/460	200/400	132M	**R831**	TCA7P52AE231GAA009	√	2:1	91.7	25.4/12.7	223	503	
	1200	230/460	200/400	160M	**R832**	TCA7P53AE231GAA009	√	2:1	91.0	26.4/13.2	331	622	YD
15-11	3600	230/460	200/400	160M	**R833**	TCA0111AE231GAA009	√	2:1	91.0	34.0/16.9	326	622	YD
	1800	230/460	200/400	160M	**R834**	TCA0112AE231GAA009	√	2:1	92.4	37.5/18.7	342	622	YD
	1200	230/460	200/400	160L	**R835**	TCA0113AE231GAA009	√	2:1	91.7	38.0/19.1	395	666	YD
20-15	3600	230/460	200/400	160M	**R836**	TCA0151AE231GAA009	√	2:1	91.0	45.5/22.8	337	622	YD
	1800	230/460	200/400	160L	**R837**	TCA0152AE231GAA009	√	2:1	93.0	50.0/25.0	375	666	YD
	1200	230/460	200/400	180L	**R838**	TCA0153AE231GAA009	√	2:1	91.7	53.5/26.7	498	750	YD
25-18.5	3600	230/460	200/400	160L	**R839**	TCA18P1AE231GAA009	√	2:1	91.7	56.0/28.0	381	666	YD
	1800	230/460	200/400	180M	**R840**	TCA18P2AE231GAA009	√	2:1	93.6	62.0/31.0	531	712	YD
	1200	230/460	200/400	200L	**R841**	TCA18P3AE231GAA009	√	2:1	93.0	64.0/32.0	297	769	YD
30-22	3600	230/460	200/400	180M	**R842**	TCA0221AE231GAA009	√	2:1	91.7	68.0/34.0	209	712	YD
	1800	230/460	200/400	180L	**R843**	TCA0222AE231GAA009	√	2:1	93.6	72.0/36.0	573	750	YD
	1200	230/460	200/400	200L	**R844**	TCA0223AE231GAA009	√	2:1	93.0	76.0/38.0	688	769	YD
40-30	3600	230/460	200/400	200L	**R845**	TCA0301AE231GAA009	√	2:1	92.4	92.0/46.0	620	769	YD
	1800	230/460	200/400	200L	**R846**	TCA0302AE231GAA009	√	2:1	94.1	94.0/47.0	312	769	YD
	1200	230/460	200/400	225M	**R847**	TCA0303AE231GAA009	√	2:1	94.1	100/50.0	964	862	YD
50-37	3600	230/460	200/400	200L	**R848**	TCA0371AE231GAA009	√	2:1	93.0	112/56.0	679	769	YD
	1800	230/460	200/400	225S	**R849**	TCA0372AE231GAA009	√	2:1	94.5	118/59.0	944	837	YD
	1200	230/460	200/400	250M	**R850**	TCA0373AE231GAA009	√	2:1	94.1	124/62.0	1180	941	YD
60-45	3600	230/460	200/400	225M	**R854**	TCA0451AE231GAA009	√	2:1	93.6	138/69.0	924	832	YD
	1800	230/460	200/400	225M	**R855**	TCA0452AE231GAA009	√	2:1	95.0	142/71.0	1032	862	YD
	1200	230/460	200/400	280S	**R856**	TCA0453AE231GAA009	√	2:1	94.5	146/73.0	1451	1060	YD
75-55	3600	230/460	200/400	250M	**R857**	TCA0551AE231GAA009	√	2:1	93.6	166/83.0	1171	941	YD
	1800	230/460	200/400	250M	**R858**	TCA0552AE231GAA009	√	2:1	95.4	174/87.0	1336	941	YD
	1200	230/460	200/400	280M	**R859**	TCA0553AE231GAA009	√	2:1	94.5	174/87.0	699	1111	YD
100-75	3600	230/460	200/400	280S	**R860**	TCA0751AE231GAA009	√	2:1	94.1	222/111	757	1060	YD
	1800	230/460	200/400	280S	**R861**	TCA0752AE231GAA009	√	2:1	95.4	230/115	777	1060	YD
	1200	230/460	200/400	315S	**R862**	TCA0753AE231GAA009	√	2:1	95.0	246/123	785	1206	YD

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED, B34 MOUNTING

B34 "FT" (C-FACE) - FOOTED

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1 1/2-1.1	1200	230/460	200/400	100L	**R917**	TCA1P13AE251GAA009	√	2:1	84.1	4.3/2.1	90	398	
2-1.5	1200	230/460	200/400	100L	**R920**	TCA1P53AE251GAA009	√	2:1	86.5	5.4/2.7	99	398	
3-2.2	1800	230/460	200/400	100L	**R922**	TCA2P22AE251GAA009	√	2:1	86.5	7.2/3.6	101	398	
	1200	230/460	200/400	100L	**R923**	TCA2P23AE251GAA009	√	2:1	89.5	8.8/4.4	132	399	
4-3	3600	230/460	200/400	100L	**R951**	TCA0031AE251GAA009	√	2:1	88.5	9.7/4.8	92	398	
	1800	230/460	200/400	100L	**R952**	TCA0032AE251GAA009	√	2:1	89.5	10.4/5.2	48	398	
	1200	230/460	200/400	132S	**R953**	TCA0033AE251GAA009	√	2:1	89.5	11.6/5.8	77	465	
5 1/2-4.1	3600	230/460	200/400	112M	**R924**	TCA0041AE251GAA009	√	2:1	89.5	12.4/6.2	54	399	
	1800	230/460	200/400	112M	**R925**	TCA0042AE251GAA009	√	2:1	91.7	13.8/6.9	58	399	
	1200	230/460	200/400	132M	**R926**	TCA0043AE251GAA009	√	2:1	91.0	16.2/8.1	87	503	
7 1/2-5.5	3600	230/460	200/400	132S	**R927**	TCA5P51AE251GAA009	√	2:1	89.5	17.6/8.8	77	465	
	1800	230/460	200/400	132S	**R928**	TCA5P52AE251GAA009	√	2:1	91.7	19.6/9.8	93	465	
	1200	230/460	200/400	132M	**R929**	TCA5P53AE251GAA009	√	2:1	91.0	20.8/10.4	101	503	
10-7.5	3600	230/460	200/400	132S	**R930**	TCA7P51AE251GAA009	√	2:1	90.2	23.8/11.9	189	465	
	1800	230/460	200/400	132M	**R931**	TCA7P52AE251GAA009	√	2:1	91.7	25.4/12.7	99	503	
	1200	230/460	200/400	160M	**R932**	TCA7P53AE251GAA009	√	2:1	91.0	26.4/13.2	146	622	YD
15-11	3600	230/460	200/400	160M	**R933**	TCA0111AE251GAA009	√	2:1	91.0	34.0/16.9	144	622	YD
	1800	230/460	200/400	160M	**R934**	TCA0112AE251GAA009	√	2:1	92.4	37.5/18.7	151	622	YD
	1200	230/460	200/400	160L	**R935**	TCA0113AE251GAA009	√	2:1	91.7	38.0/19.1	175	666	YD
20-15	3600	230/460	200/400	160M	**R936**	TCA0151AE251GAA009	√	2:1	91.0	45.5/22.8	149	622	YD
	1800	230/460	200/400	160L	**R937**	TCA0152AE251GAA009	√	2:1	93.0	50.0/25.0	166	666	YD
25-18.5	3600	230/460	200/400	160L	**R939**	TCA18P1AE251GAA009	√	2:1	91.7	56.0/28.0	169	666	YD

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED, BRAKE MOTOR

APPLICATIONS

These motors meet North American performance standards, premium energy efficiency mandates and have a 1.15 service factor. Typically used for replacement on machine tools, textile tools, textile machinery and other equipment with metric dimensions, but requires the high torque and performance of motors designed for use in North America.

FEATURES

- **Meets IE3 European and NEMA Premium®* efficiencies**
- Cast Iron frame construction
- 60/50 Hz interchangeability
- 230 volt brake coil
- IP55 enclosure protection
- B3 mounting
- B5 & B14 flange kits available
- UL®* Listed, UL Certified for Canada, & CE®* Mark
- Three Year Warranty

IP55

3 YEARS WARRANTY

B3 RIGID BASE

HP - kW	RPM 60/50HZ	VOLTS 60HZ	VOLTS 50HZ	IEC FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	60HZ F.L. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
	1800	230/460	24	100L	**R1022**	100LTFC6626	√	2:1	89.5	7.2/3.6	110	398		A571A
	1800	230/460	44	100L	**R1052**	112MTFC6630	√	2:1	89.5	10.4/5.2	130	398		A572A
	1800	230/460	74	112M	**R1025**	112MTFC6636	√	2:1	89.5	13.8/6.9	58	399		A554B

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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*See back cover page for attribution.

HVAC - FAN MOTORS

SINGLE AND THREE PHASE

marathon®

Features

- Various voltages and mounting types available
- Single and three phase fan duty motors
- Rigid base, resilient base, pedestal base, belly band mount and extended thru-bolt mount types
- Drip-proof, TEFC, TEAO and DPAO designs
- General purpose duty
- Agricultural duty
- UL®* recognized and CSA®* certified

Multi-speed Features

- Two-Speed, single and dual winding (1-WDG & 2-WDG) designs
- ODP & TEFC Designs
- Ball bearing designs
- Single voltage designs

Applications

- Ideally suited for a variety of fan applications requiring the motor to either be mounted in or out of the air stream for proper ventilation. Some motors have an epoxy finish for harsh applications and other motors have a baked on enamel finish
- Industrial, commercial and agricultural fan motors available. Dripproof motors are intended for use in environments that are relatively clean and dry

*See back cover page for attribution.

One-winding designs versus the two-winding designs has a significant cost shown in price books, this will always be the case. The one-winding design will have an optimized design on the high speed only. It will generally stay on the same diameter of that of a single speed motor.

- I.e.: 1-wdg, 4/8 pole, 2/4 pole, 6/12 pole
- I.e.: 2-wdg, 4/8 pole, 2/4 pole, 6/12 pole
- I.e.: 2-wdg, 2/8 pole, 4/6 pole, 6/8 pole

Example 1: High Speed – 10HP and 1800RPM or 4 Poles. Remember the number of poles is calculated (120*60)/1800 = 4 Poles)

Next, you can calculate the Low Speed based on knowing what the speed the customer wants, say 900RPM or 8 Poles. Now you can take $(4/8)^2$ for VTQ to determine the Low HP or (4/8) for CTQ to determine the Low HP.

Your answers should be for VTQ.

Low HP - 10HP (4/8)2 = 2.5HP, CTQ Low HP - 10HP (4/8) = 5HP.

- Variable torque (VTQ) motors are typically used on applications such as fans, blowers and centrifugal pumps
- Constant torque (CTQ) motors are typically used on mixers, compressors, conveyors, extractors, feeders and laundry machinery
- Constant horsepower (CHP) motors are typically used on machine tools such as drills, lathes, punch presses and milling machines

HVAC - FAN MOTORS

MULTI-SPEED / 2-SPEED

THREE-PHASE - VARIABLE AND CONSTANT TORQUE

FEATURES

- Two-Speed, single winding (1-WDG & 2-WDG) designs
- DP & TEFC Designs
- Ball bearing designs
- Single voltage designs
- Single voltage designs, note 200-230V means same electrical connection not 200 through a range to 230V
- Dripproof motors are intended for use in environments that are relatively clean and dry

1-WINDING, VARIABLE TORQUE, DP, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	Service Factor	"C" DIM.	FOOT NOTES
5/1.25	1800/900	460	184T	Y1487	184TTDW7209		85.5	6.9	80	1.15	14.72	13
7.5/1.88	1800/900	200-230	213T	Y488	213TTDW7202	¶	86.5	21.6-19.8	110	1.15	17.30	
10/2.5	1800/900	460	215T	Y491	215TTDW7201	¶	86.5	12.5	106	1.15	17.30	
15/3.75	1800/900	460	256T	Y492	256TTDX7207	¶	87.5	18.4	217	1.15	22.32	

ADDITIONAL FEATURES

- Economical two-winding design

2-WINDING, VARIABLE TORQUE, DP, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	Service Factor	"C" DIM.	FOOT NOTES
5/2.22	1800/1200	460	215T	Y415	215TTDW7203	¶	85.5	6.5	106	1.15	17.30	
7.5/1.9	1800/900	460	254T	Y470	254TTDX7201	¶	85.5	10.5	135	1.15	20.57	
7.5/3.3	1800/1200	200-230	254T	Y456	254TTDX7278	√	87.5	20.8-18.4	175	1.15	22.32	
	1800/1200	460	254T	Y418	254TTDX7208	¶	84.0	10.0	154	1.15	20.57	
10/2.5	1800/900	460	256T	Y471	256TTDX7253	¶	86.5	12.9	145	1.15	22.32	
10/4.4	1800/1200	200-230	256T	Y457	256TTDX7263	¶	88.5	28-26	214	1.15	22.32	
	1800/1200	460	256T	Y458	256TTDX7264	¶	87.5	12.0	214	1.15	22.32	
15/3.8	1800/900	460	284T	Y472	284TTDP7205	¶	88.5	18.0	300	1.15	23.49	

HVAC - FAN MOTORS

MULTI-SPEED / 2-SPEED

1- WINDING, CONSTANT TORQUE, TEFC, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	Service Factor	""C" DIM."	FOOT NOTES
2 / 1	1800/900	460	184T	–	131471.00		80.0	2.9 - 2.9	72	1.0	13.96	

1-WINDING, CONSTANT TORQUE, TEFC, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	Service Factor	""C" DIM."	FOOT NOTES
2 / 1	1800/900	208 - 230	184T	–	131473.00		80.0	5.8- 5.7	72	1.0	13.96	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

BRAKE MOTORS
THREE-PHASE, DRIPPROOF

FEATURES
- **Meets or exceeds NEMA Premium®* efficiencies.**
- **NEMA Premium models are in compliance with EISA 2007**
- Stearns® brakes, 56,000 series through 25 Lb-Ft, 87,000 series above 35 Lb-Ft and larger
- Brake has manual wear adjustment up to 25 lb-ft. for longer pad life
- Brake leads are terminated at the brake
- Universal mounting up to 15 Lb-Ft, for larger brakes, see mod section
- CR[200] corona resistant magnet wire and motor can be operated 10:1 variable torque (2:1 constant torque as noted)
- 1.15 service factor

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT..	"C" DIM	BRAKE RATING (LB/FT)	FOOT NOTES
3	1800	230/460	182T	**K566**	182TTDBD6341	√	89.5	8.0/4.0	70	18.03	15	99, FT
	1800	230/460	182TC	**K580**	182TTDBD6040	√	89.5	8.0/4.0	70	19.08	15	99, CFL
	1800	230/460	182TC	**C434**	182TTDBD6034		89.5	8.6-8.0/4.0	70	21.10	15	99, CFT
5	1800	230/460	184TC	**K582**	184TTDBD6040	√	89.5	12.6/6.3	85	20.08	25	99, CFL
7 1/2	1800	230/460	213TC	**C438**	213TTDBD16038		91.0	21.2-19.8/9.9	135	26.57	35	99, CFT
10	1800	230/460	215T	**K572**	215TTDBD6341		91.7	27.8-25.4/12.7	140	26.33	50	FT

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

*See back cover page for attribution.

BRAKE MOTORS

THREE-PHASE, TOTALLY ENCLOSED

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies.**
- **NEMA Premium models are in compliance with EISA 2007**
- Stearns® brakes, 56,000 series through 25 Lb-Ft, 87,000 series above 35 Lb-Ft and larger
- Brake has manual wear adjustment up to 25 lb-ft. for longer pad life
- Brake leads are terminated at the brake
- Universal mounting up to 15 Lb-Ft, for larger brakes, see mod section
- CR^{200} corona resistant magnet wire and motor can be operated 10:1 variable torque (2:1 constant torque as noted)
- 1.15 service factor, 1.0 service factor where foot noted

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT..	"C" DIM	BRAKE RATING (LB/FT)	FOOT NOTES
3	1800	230/460	182T	**K445**	182TTFBD6341	√	89.5	8.3/4.15	93	20.35	15	99
5	1800	230/460	184T	**K447**	184TTFBD6341	√	89.5	13.2/6.6	104	21.35	25	99
7 1/2	1800	230/460	213T	**K448**	213TTFBD6341	√	91.7	20.4-19.0/9.5	223	23.85	45	99
10	1800	230/460	215T	**K449**	215TTFBD6341	√	91.7	27.6-25.0/12.5	241	25.35	45	

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT..	"C" DIM	BRAKE RATING (LB/FT)	FOOT NOTES
3	1800	230/460	182TC	**K478**	182TTFBD6040	√	89.5	8.3/4.15	105	19.08	15	99
5	1800	230/460	184TC	**K480**	184TTFBD6040	√	89.5	13.2/6.6	104	20.08	25	99
7 1/2	1800	230/460	213TC	**K481**	213TTFBD6040	√	91.7	19.0/9.5	223	24.62	45	99
10	1800	230/460	215TC	**K482**	215TTFBD6040	√	91.7	25.0/12.5	241	26.12	45	99

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT..	"C" DIM	BRAKE RATING (LB/FT)	FOOT NOTES
3	1800	230/460	182TC	**C409**	182TTFBD6034	√	89.5	8.3/4.15	90	21.10	15	99
	1800	230/460	182TC	**C405**	182TTTL7034	√	89.5	7.8/3.9	143	18.85	15	AL,N,99
5	1800	230/460	184TC	**C411**	184TTFBD6041	√	89.5	13.2/6.6	97	22.10	25	99
	1800	230/460	184TC	**C406**	184TTTL7041	√	89.5	12.4/6.2	145	19.85	25	AL,N,17,99
7 1/2	1800	230/460	213TC	**C412**	213TTFBD16038	√	91.7	19.0/9.5	216	24.62	45	99
	1800	230/460	213TC	**C407A**	213TTTL16038	√	91.7	19.0/9.5	246	24.42	35	AL,N,17,99
10	1800	208-230/460	215TC	**C413**	215TTFBD16050	√	91.7	27.6-25.0/12.5	228	26.12	45	99
	1800	230/460	215TC	**C408A**	215TTTLD16027	√	91.7	25.0/12.5	257	26.92	50	AL,N,17,99

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
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Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

FARM DUTY / AGRICULTURE, HIGH TORQUE MOTORS

SINGLE-PHASE, TEFC

FEATURES

- Shaft end mechanically locked on C-face models
- Ball bearings
- 1.15 service factor (except as noted)
- Capacitor start design for high starting torque
- Capacitor start/capacitor run design for higher efficiency, as noted
- Low temperature manual reset thermal protector
- Totally enclosed and fully gasketed construction for dirty environments
- Condensate drains
- Shaft slinger
- UL®* recognized and CSA®* certified

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/208-230	182T	–	131541.00	√	72.0	24.8/13.0-12.4	65	14.46	
3	1800	230	184T	–	131542.00	√	75.5	19.0	86	16.46	
5	1800	230	184T	–	131543.00	√	82.5	20.5	98	17.46	
7 1/2	1800	230	215T	–	140707.00	√	85.5	32.0	157	20.21	
10	1800	230	215T	–	140706.00	√	86.5	40.0	155	20.71	

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230	184TC	–	131994.00		75.5	19.0	107	16.47	
5	1800	230	184TC	–	131995.00	√	82.5	20.5	100	17.47	

FARM RATED® MOTORS

EXTRA HIGH TORQUE, SINGLE-PHASE, TEFC
C-FACE ROUND BODY

FEATURES

- High starting torque
- 1.00 service factor (except as noted)
- Ball bearings
- Class B or F insulation, as noted
- Reversible
- Removable condensate drain plugs
- Manual reset thermal protector
- All parts are corrosion resistant
- UL recognized and CSA certified

C-FACE (ROUND BODY)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230	184TC	–	131603.00	¶	75.5	19.0	107	16.44	F, 2, 13
5	1800	230	184TC	–	131602.00		82.5	20.5	107	17.44	F, 1, 13

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
Blue shaded areas are cast iron frames.
*See back cover page for attribution.

FARM DUTY / AGRICULTURE, EXTRA-HIGH TORQUE CHORE MOTOR

SINGLE-PHASE, TEFC, RIGID BASE

FEATURES

- Class F insulation
- 1.15 Service factor (except as noted)
- Ball bearings
- 300% and greater starting torque for hard-to-start applications
- Totally enclosed and fully gasketed for dirty environments
- 213/215TZ models have 1-1/8" shaft, 182TZ model has 7/8" shaft
- Manual reset thermal protector
- Condensate drains
- Shaft slinger
- UL®* recognized and CSA®* certified

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/208-230	182T	–	131541.00	√	72.0	24.8/13.0-12.4	65	14.46	
3	1800	230	184T	–	131542.00	√	75.5	19.0	86	16.46	
5	1800	230	215T	–	141433.00		82.5	22.6	125	18.71	
	1800	230	215TZ	–	141432.00		82.5	22.6	153	18.71	
7 1/2	1800	230	215T	–	141434.00	√	85.5	30.5	152	21.09	
	1800	230	215TZ	–	141427.00	√	85.5	30.5	159	21.09	
10	1800	230	215T	–	140414.00	√	86.5	40.0	156	20.71	

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230	184TC	–	131994.00		75.5	19.0	105.0	16.47	
5	1800	230	184TC	–	131995.00	√	82.5	20.5	105.0	17.47	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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*See back cover page for attribution.

CROP DRYER, Single-phase MOTORS

DRIPPROOF/AIR OVER, RIGID BASE

APPLICATIONS

Crop dryers with air over/fan on shaft designs.

FEATURES

- Double sealed ball bearings
- Continuous duty
- Class F insulation system
- Thermostats for thermal overload protection (auto reset protector on Z304)
- 34" long leads for ease of installation
- Keyed shafts with 1/4"-20 UNC tapped hole in end
- Capacitors included, shipped loose on catalog Z307 and Z308, mounted on all other models
- Extra nameplate included, loose, for remote mounting

SINGLE-PHASE OPEN/AIR OVER RIGID BASE

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5-7	3600	230	182TZ	TSTAT	–	131847.00	√	81.0	26.8-35.27	94	16.44	
7.5-10	3600	230	182TZ	TSTAT	–	131848.00	√	82.5	31.0-42.0	98	16.44	
	3600	230	184TZ	TSTAT	–	132637.00		82.5	31.0-40.0	98	16.82	
10-15	3600	230	215TVZ	TSTAT	–	141084.00		84.0	40.0-59.0	159	20.08	
	3600	230	215TZ	TSTAT	–	140640.00	√	85.0	39.5-61.5	162	20.42	
	3600	230	215TZ	TSTAT	–	141385.00		84.5	40.4-57.5	162	20.85	
16	1800	230	256TZ	NONE	–	851034.00	√	91.0	70.0-61.0	308	28.65	

SINGLE-PHASE TEAO RIGID BASE

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5-7	3600	230	182TZ	TSTAT	–	132391.00		83.0	20.8-28.6	98	17.44	
7.5-10.5	3600	230	182TZ	TSTAT	–	132392.00		85.5	30.0-38.0	108	17.44	
10-15	3600	230	215TZ	TSTAT	–	141220.00		82.5	45.8-68.5	136	18.17	

SINGLE-PHASE TEFC RIGID BASE

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
10	1800	230	215TZ	None	–	141311.00	√	86.5	40.0	192	21.72	
15	1800	208-230	256TZ	None	–	851150.00	√	89.0	64.5-58.0	308	28.91	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

CROP DRYER, Three-phase MOTORS

OPEN/AIR OVER, RIGID BASE

APPLICATIONS

Crop dryers with air over/fan on shaft designs where Three-phase power is available.

FEATURES

- Ball bearings
- Thermostats for thermal overload protection
- 34" long leads exit elbow connector in bracket
- Keyed shafts with 1/4"-20 UNC tapped hole in end
- Extra nameplate included, loose, for remote mounting
- Continuous duty
- Class F insulation

THREE-PHASE OPEN/AIR OVER / DPAO

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5-7	3600	230/460	184TZ	**B131849**	182TTDBD6014		86.5	12.6/6.3	100	13.00	
7-10	3600	230/460	184TZ	**B131850**	184TTDBD6014	√	88.5	17.8/8.9	107	14.00	

THREE-PHASE TOTALLY ENCLOSED AIR OVER / TEAO RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	OVER LOAD	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5-7	3600	208-230/460	184TZ	–	**132393.00**		TSTATS	89.5	13.1-16.5/8.3 18.3-16.5/8.25	100	13.00	
7-10	3600	208-230/460	184TZ	–	**132394.00**		TSTATS	85.5	19.7-24.8/12.4 28.1-24.8/12.4	107	14.00	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) and Model numbers highlighted in bold blue are premium efficient.

CROP DRYER CENTRIFUGAL FAN

SINGLE-PHASE, TEFC, RIGID BASE

FEATURES

- Capacitor start/capacitor run design for high starting torque and low amps
- Ball bearings, mechanically locked on shaft end
- Heavy gauge steel frame and base
- 1.15 service factor (unless otherwise noted)
- UL®* recognized and CSA®* certified
- Thermostats for thermal overload protection
- Shaft 1" longer than NEMA®* standard for extra clearance

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	F.L. AMPS	SERVICE FACTOR	WT.	"C" DIM.	FOOT NOTES
3	1800	208-230	182T		132640.00	√	14.4-13.4	1.15	81	14.96	
5	1800	230	184TZ		132639.00		23.0	1.00	104	18.46	
7 1/2	1800	230	215TZ		141392.00		30.0	1.00	159	22.97	
10	3600	208-230	215T		141394.00		44.0-41.5	1.00	145	19.84	
	1800	230	215TZ		141393.00	√	40.0	1.00	158	22.97	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

*See back cover page for attribution.

GRAIN DRYER / CENTRIFUGAL FAN MOTORS

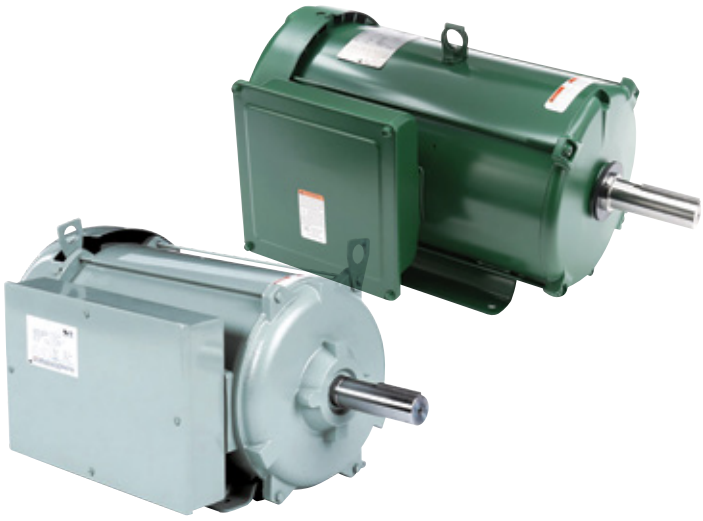
SINGLE AND THREE-PHASE, RIGID BASE

FEATURES

- NEMA Premium®* and EPAct efficiency
- Rodent screens (ODP only)
- Re-greasable bearings
- Cast Iron construction
- 1" longer shaft than NEMA standard
- Inverter duty insulation system
- UL®* Recognized and CSA ®*certified

ADDITIONAL FEATURES

- Shaft seals both ends
- Epoxy painted
- Normally Closed T-stats



SINGLE-PHASE, (TEFC), RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	1800	230	215TZ	–	141437.00		85.5	30.5	172	22.47	
10	1800	230	215TZ	–	141311.00	√	86.5	40.0	192	21.72	
15	1800	208-230	256TZ		851150.00	√	89.0	64.5-58.0	308	28.65	

THREE-PHASE, DRIPPROOF, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
10	1800	230/460	215TZ	**Y313**	215TTDBD6327	√	91.7	25.4/12.7	136	18.31	
15	1800	230/460	254TZ	**Y315**	254TTDBD6327		93.0	37.5/18.8	320	23.31	
	1800	230/460	254TZ	**Y316**	254TTDCD6327		93.0	37.5/18.8	332	23.64	
20	1800	230/460	256TZ	**Y318**	256TTDCD6327		93.0	48.5/24.3	384	25.22	
	1800	230/460	256TZ	**Y317**	256TTDBD6327		93.0	48.5/24.3	325	24.88	
25	1800	230/460	284TZ	**Y320**	284TTDCD6327		93.6	62.5/31	479	26.71	
25	1800	230/460	284TZ	**Y319**	284TTDBD6327		93.6	62.5/31.0	310	26.60	
30	1800	230/460	286TZ	**Y322**	286TTDCD6327		94.1	73/36.5	494	28.09	
	1800	230/460	286TZ	**Y321**	286TTDBD6327	√	94.1	73.0/36.5	416	27.98	

THREE-PHASE, TEFC, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TZ	**Y007**	182TTFCD6327		89.5	8.0/4.0	100	16.20	
5	1800	230/460	184TZ	**Y009**	184TTFCD6327		89.5	13.0/6.5	107	17.20	
7 1/2	1800	230/460	213TZ	**Y011**	213TTFCD6327		91.7	19.0/9.5	120	19.53	
10	1800	230/460	215TZ	**Y013**	215TTFCD6327		91.7	25.0/12.5	320	21.03	
15	1800	230/460	254TZ	**Y015**	254TTFCD6327		92.4	37.5/18.8	325	25.15	
20	1800	230/460	256TZ	**Y017**	256TTFCD6327		93.0	48.5/24.2	310	26.89	
25	1800	230/460	284TZ	**Y019**	284TTFCD6327		93.6	60.0/30.0	412	27.64	
30	1800	230/460	286TZ	**Y021**	286TTFCD6327		93.6	71.0/35.5	495	29.14	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

*See back cover page for attribution.

TOBACCO BARN MOTORS

FEATURES

- Drip-proof airover designs
- Class H insulation for high ambient conditions
- 80° C ambient rated
- 120 inch leads
- Oversized double sealed bearings
- 1/4-20 tapped hole at end of shaft

SINGLE-PHASE - DPAO - RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	1800	230	215TVZ	–	140830.00	√	84.0	34.5	125	18.04	
10	1800	230	215TVZ	–	140816.00	√	82.5	44.0	150	20.65	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

CATFISH POND MOTORS

APPLICATIONS

Designed for outdoor pond aeration applications

FEATURES

- High torque designs
- Epoxy painted for corrosion protection
- Double sealed ball bearings
- Drain holes provided to purge condensation

THREE-PHASE TOTALLY ENCLOSED AIR OVER / TEAO RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	OVER LOAD	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
10	1800	230	215TC	–	140833.00		MANUAL	91.7	26.8/13.4	182	19.71	

marathon®

More than a 100 years of Manufacturing Excellence

POWERWASH™ Motors

FOR SHEDDING WATER, NOTHING BEATS POWERWASH™

marathon®

Designed to meet the demanding washdown conditions that you may find in food processing plants, chemical processing, pharmaceutical plants and the beverage and brewing industries.

Features

- USDA-approved white epoxy finish
- Stainless steel motors
- Encapsulated stainless steel motors available
- NEMA®* **flange motors**
- Single Phase & Three Phase and wash down duty motors
- Rigid base and C face mount types
- BISSC approved designs
- Double lip contact seals and v-ring seals used for shaft seals
- **PowerWash™ - Encapsulated and premium efficient models**
- Washdown brakemotors and pump motors available
- **Marathon Inverted Rated Insulation System (MAX Guard)**
- UL®* **recognized and CSA®** * **certified**

MAX GUARD INSULATION SYSTEM

*See back cover page for attribution.

POWERWASH® MOTORS
BROAD PRODUCT RANGE

POWERWASH XT

Enhanced performance in wet, humid areas

FEATURES

- Our original moisture-shedding motor
- Durable USDA-approved white epoxy finish
- Stainless steel shaft, conduit box cover, nameplate, fan guard
- Drains for all mounting orientations
- Meets IP55 enclosure protection

POWERWASH SXT

Stainless Steel exterior for tough demanding wash down applications

FEATURES

- All exterior components of 300-Series stainless steel, including motor frame, endshield and conduit box castings
- Moisture resistant sealant between frame and endbells
- Full-fact nameplate is laser-etched on the motor frame
- Four locations for T-drains provided on each endshield
- Meets IP55 enclosure protection

POWERWASH SXT PLUS

Maximum service in critically clean or corrosive environments

FEATURES

- All exterior components of 300-Series stainless steel
- Endshields o-ring sealed to frame
- Meets IP56 enclosure protection
- (SGRs) shaft grounding rings
- Laser etched full fact nameplate

POWERWASH EXT

Fully encapsulated motors designed for extreme washdown conditions

FEATURES

- Fully encapsulated stainless steel motor
- All exterior components are 300-Series stainless steel
- (SRGs) shaft grounding rings
- Meets IP69 enclosure protection
- 360° rotatable conduit box
- Full fact nameplate is laser etched

THE MOTORS THAT STAND UP TO POWERWASH™

MARATHON ® POWERWASH® MOTORS FEATURES AT A GLANCE

FEATURE	Powerwash XT	Powerwash SXT	Powerwash SXT Plus	Powerwash EXT
SEALING ADVANTAGES				
Complete motor encapsulation				■
Interior corrosion protection	■	■	■	■
Motor breather plugs/drain plugs	■	■	■	Not needed for total encapsulation
Shaft seals on both ends of TEFC motors	■	■	■	■
Two-piece shaft seal				■
Viton®* seals between endbells and frame			■	■
O-ring sealed openings			■	■
Potted lead entrance				■
INSTALLATION AND MAINTENANCE				
Color-coded leads				■
Non-wicking lead wires				■
Sealed bearings	■	■	■	■
Internally locked shaft-end bearing	■	■	■	■
Screw-on conduit box cover				■
360° rotatable conduit box				■
Q-Car™ rotor cartridge change-out				■
CERTIFICATIONS				
Nameplate permanently etched in frame		■	■	■
60Hz and 50Hz data on nameplate	■	■	■	■
CE®* mark on nameplate	■	■	■	■
Standard motors built with Inverter-rated insulation system and marked on nameplate (1 HP and higher)	■	■	■	■
IP Ratings	IP55	IP55	IP56	IP69
UL®*, CSA®* Listed	■	■	■	■
BISCC approved			■	■
SPECIAL CONSIDERATIONS				
Pump motor designs	■			
Local inventory support	■	■	■	■

POWERWASH EXT HANDLES THE HARSHEST WASHDOWN ENVIRONMENTS.

1. Poultry processing plants. 2. Cheese processing plants. 3. Water bottling plants.
4. Conveying for bottling industry for breweries. 5. Chemical processing plants.
6. Pharmaceutical plants. 7. Brewery equipment. 8. Seafood processing plants.

*See back cover page for attribution.

POWERWASH® MOTORS ARE BUILT TO HANDLE HIGH-PRESSURE WASHDOWNS!*

POWERWASH XT MODEL SHOWN

Stainless-steel or white polypropylene fan guard on all Washguard motor frames.

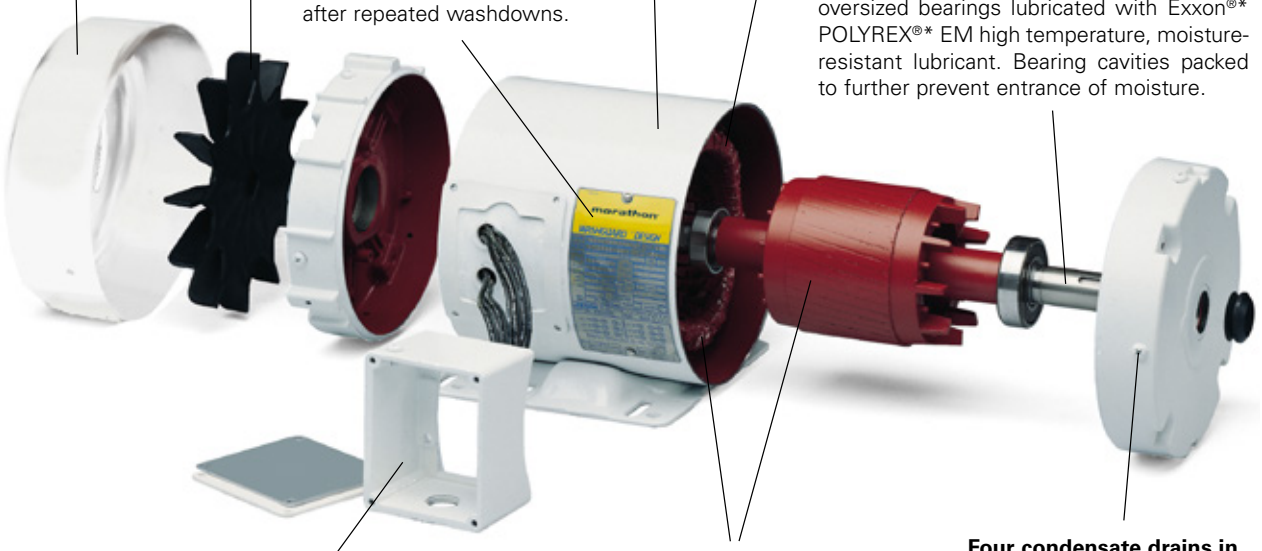
Composite fan is chemically-inert and static-free. Fan is positively positioned on shaft on TEFC designs only.

Stainless-steel, "full-fact" nameplate includes information on motor efficiency and connections. Readable even after repeated washdowns.

USDA-approved, white epoxy finish for superior protection and resistance to caustic cleaning solutions.

Encapsulated starting switch (single-phase Powerwash motors) uses a patented, field-proven design that is immune to moisture, shock and vibration. No moving parts or exposed contacts to become corroded or inoperable.

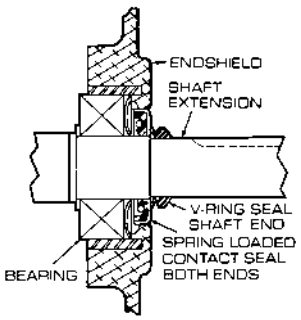
Moisture-resistant shaft system includes 303 stainless-steel shaft and lubricated, spring-loaded contact seals in each endshield. Patented V-ring Forsheda®* seal on shaft end to deflect water (see inset). Double-sealed, oversized bearings lubricated with Exxon®* POLYREX®* EM high temperature, moisture-resistant lubricant. Bearing cavities packed to further prevent entrance of moisture.



Cast, oversized conduit box with tough, high-temperature nitrile gaskets and stainless-steel cover and hardware. Oversized design with threaded entrance. All machined fits are sealed and nylon gaskets are used under bolt heads.

Interior coatings protect against moisture and corrosion. Frame, base, endshields, rotor, and interior components are protected by enamel and polyester compounds of outstanding adhesion and resistance to moisture, acids, alkalies, and oils. High temperature, moisture resistant MaxGuard® insulation system assures long life on inverter service. Windings are immersed and cured in polyester insulating compound.

Four condensate drains in each endshield (at three, six, nine, and twelve o'clock) purge condensate and water which may enter the motor.



Contact seal and V-ring seal prevent water from high pressure washdown.

Also excellent for applications requiring a motor that is "tropicalized"!

*See back cover page for attribution.

POWERWASH® MOTORS

SINGLE-PHASE, POWERWASH XT EPOXY PAINTED

FEATURES

- Ingress Protection Code is IP55
- Encapsulated electronic starting switch is impervious to moisture
- Capacitor start induction run design for high starting torque unless otherwise noted
- Class F insulation
- 1.15 service factor
- Double sealed ball bearings
- 303 stainless steel shaft with spring loaded contact seals in each endshield
- Stainless steel conduit box cover, nameplate, fan guard (TEFC) and hardware
- Cast oversized conduit box with high temperature nitrile gaskets and threaded entrance
- Plugged drain holes in each endshield for all angle mounting
- Internal corrosion resistant coatings on frame, base, endshields, rotor and stator
- USDA-approved, white epoxy RUST-OLEUM®* paint
- UL®* recognized, CSA®* certified and CE®* mark

SINGLE-PHASE - TEFC - RIGID BASE - FEATURING ELECTRONIC SOLID STATE ENCAPSULATED SWITCH

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/208-230	182T	**131571.00M**	182TCWW7026	√	71	25.2/12.6-2.6	63	13.46	

Specifications are subject to change without notice.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

POWERWASH® MOTORS

THREE-PHASE, POWERWASH XT EPOXY PAINTED

FEATURES

- Ingress Protection Code is IP55
- 10:1 variable torque, constant torque speed range as listed below
- Maxguard™ inverter duty class F insulation system
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Double sealed ball bearings
- 303 stainless steel shaft with spring loaded contact seals in each endshield (Drive end only on TENV motors)
- Stainless steel conduit box cover, nameplate, fan guard (TEFC only) and hardware
- Cast oversized conduit box with high temperature nitrile gaskets and threaded entrance
- Plugged drain holes in each endshield for all angle mounting
- Internal corrosion resistant coatings on frame, base, endshields, rotor and stator
- USDA-approved, white epoxy RUST-OLEUM®* paint
- UL®* recognized, CSA®* certified and CE®* mark
- Smaller ratings are available from Commercial Segment

IP55

MAX GUARD

TEFC - RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182T	**132388.00M**	182TTWW16003		10:1	86.5	8.2-7.4/3.7&9.0/4.5	85	13.96	
	1800	230/460	182T	**132196.00M**	182TTWW6027	√	10:1	89.5	7.8/3.9	76	14.46	
5	3600	230/460	184T	**132202.00M**	184TTWW6004	√	10:1	88.5	12.0/6.0	87	14.96	
	1800	230/460	184T	**132197.00M**	184TTWW6027	√	10:1	89.5	12.6/6.3	94	14.96	
7.5	3600	230/460	184T	**132306.00M**	184TTWW6003	√	10:1	90.1	17.6/8.8&15.0/7.5	103	15.96	
	1800	230/460	213T	**140819.00M**	213TTWRD6027	√	10:1	91.7	20.8-19.6/9.8&16.6/8.3	137	18.04	
	3600	230/460	213T	**132204.00M**	213TTWW16002	√	10:1	90.1	17.6/8.8&15.0/7.5	133	16.59	
10	1800	230/460	215T	**140820.00M**	215TTWRD6027	√	10:1	91.7	14.0-26.4/13.2&27.4/13.7	165	19.54	

TEFC C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	**132439.00M**	182TTWW16026	√	10:1	89.5	7.8/3.9&6.6/3.3	79	14.47	
5	1800	230/460	184TC	**132440.00M**	184TTWW16026	√	10:1	89.5	12.6/6.3&10.0/5.0	108	14.97	
5	3600	230/460	184TC	**132441.00M**	184TTWW16004	√	10:1	88.5	12.0/6.0&9.2/4.6	70.0	14.97	
7.5	3600	230/460	213TC	**141267.00M**	213TTWWD16003	√	10:1	89.5	18.6/9.3&16.0/8.0	126.0	18.77	
	1800	230/460	213TC	**141266.00M**	213TTWWD16028	√	10:1	91.7	19.6/9.8&16.6/8.3	162	18.77	
10	3600	230/460	215TC	**141269.00M**	215TTWW16002	√	10:1	91.7	23.6/11.8&22.0/11.0	171	21.83	
	1800	230/460	215TC	**141268.00M**	215TTWWD16027	√	10:1	91.7	26.4/13.2&27.4/13.7	174	20.27	
15	3600	230/460	215TC	**141357.00M**	215TTWWD16006	√	10:1	91.0	35.0/17.6&29.0/14.5	152	20.27	

TEFC C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	**132563.00M**	182TTWW16087	√	10:1	87.5	6.0/3.0&5.2/2.6	80	14.97	
3	3600	230/460	182TC	**132199.00M**	182TTWW16002	√	10:1	86.5	7.4/3.7&9.0/4.5	65	14.97	
	1800	230/460	182TC	**132198.00M**	182TTWW6026	√	10:1	89.5	7.8/3.9	76	14.47	
5	1800	575	182/4TC	**132265.00M**	182TTWW16031		10:1	89.5	5.1	85	14.97	
	3600	230/460	184TC	**132200.00M**	184TTWW6001	√	10:1	88.5	12.0/6.0&9.2/4.6	115	14.97	
	1800	230/460	184TC	**132201.00M**	184TTWW6026	√	10:1	89.5	12.6/6.3&10.0/5.0	88	14.97	
7.5	3600	230/460	184TC	**132205.00M**	184TTWW16002	√	10:1	90.1	17.6/8.8&15.0/7.5	120	15.97	
	1800	230/460	213TC	**140822.00M**	213TTWR6026	√	10:1	91.7	21.6/10.8&24.8/12.4	157	18.71	
	3600	230/460	213TC	**141120.00M**	213TTWRD6002	√	10:1	89.5	19.7-18.6/9.3&16.0/8.0	126	18.77	
10	1800	230/460	215TC	**140821.00M**	215TTWRD6026	√	10:1	91.7	14.0-26.4/13.2&27.4/13.7	174	20.27	
	3600	230/460	215TC	**140823.00M**	215TTWW16003	√	10:1	91.7	23.6/11.8&22.0/11.0	172	21.83	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

* Requires nameplate modification.

*See back cover page for attribution.

POWERWASH® MOTORS

THREE-PHASE, POWERWASH XT EPOXY PAINTED

APPLICATION

- Designed for continuous duty service on close- coupled pumps using NEMA®* JM mounting provisions.

IP55

MAX GUARD

CLOSE COUPLED PUMP, JM, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182JM	**132442.00M**	182TTWW16027	√	10:1	89.5	7.8/3.9&6.6/3.3	76	16.13	
5.0	3600	230/460	184JM	**132443.00M**	184TTWW16005	√	10:1	88.5	12.0/6.0&9.2/4.6	95	16.63	
	1800	230/460	184JM	**132444.00M**	184TTWW16027	√	10:1	89.5	12.6/6.3&10.0/5.0	80	16.63	
7.5	3600	230/460	184JM	**132446.00M**	184TTWW16006	√	10:1	90.1	17.6/8.8&15.0/7.5	76	17.63	
	1800	230/460	213JM	**141270.00M**	213TTWWD16026	√	10:1	91.7	19.6/9.8&16.6/8.3	220	19.90	
10	3600	230/460	215JM	**141271.00M**	215TTWWD16005	√	10:1	90.2	23.6/11.8&22.0/11.0	140	21.40	
	1800	230/460	215JM	**141272.00M**	215TTWWD16026	√	10:1	91.7	26.4/13.2&27.4/13.7	160	21.40	
15	3600	230/460	215JM	**141358.00M**	215TTWWD16007	√	10:1	91.0	35.0/17.6&29.0/14.5	165	21.40	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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* Requires nameplate modification.

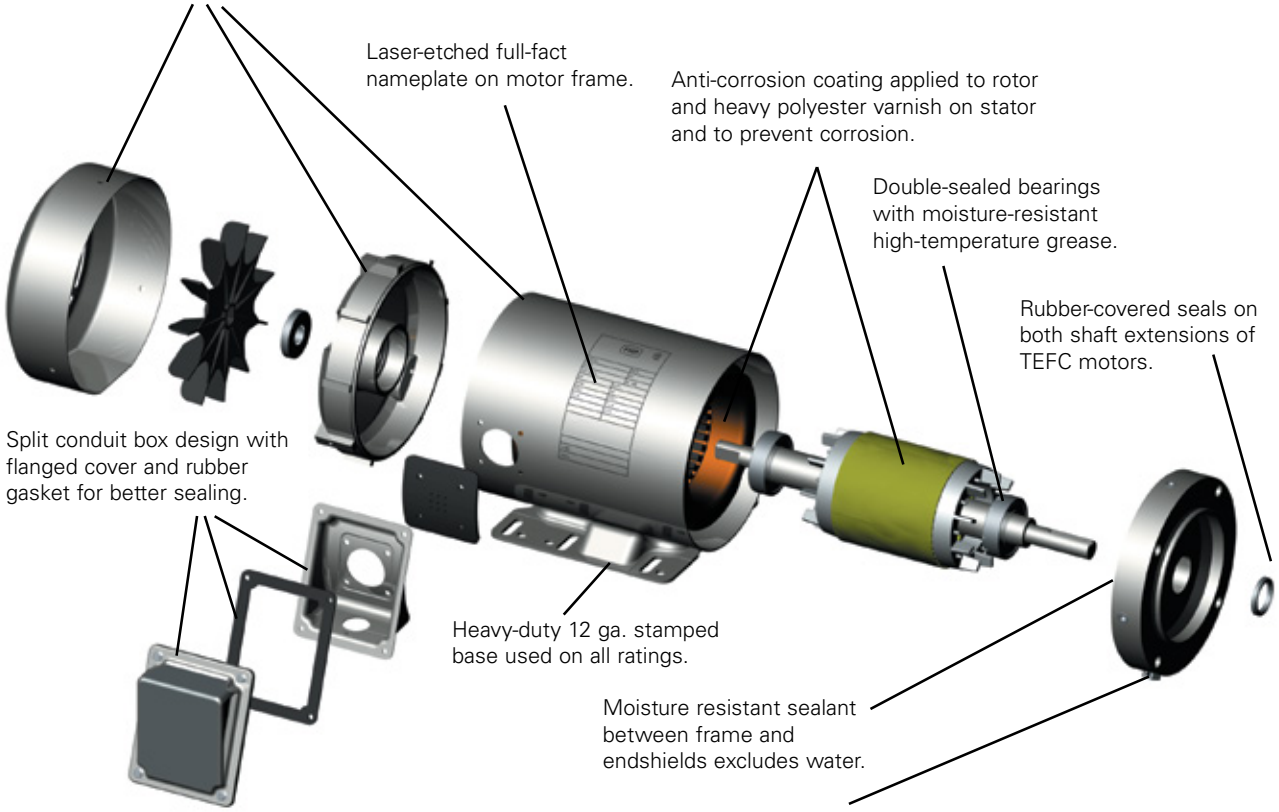
*See back cover page for attribution.

POWERWASH® MOTORS

POWERWASH SXT - ALL STAINLESS MOTORS

Designed for long life in demanding washdown applications. Powerwash SXT Stainless Extremely Tough!

Built with all stainless steel external components to prevent corrosion and well sealed against moisture and condensation to protect internal components, the SXT all-stainless steel motors are able to withstand the severe washdown environments found in the food processing, chemical processing, and beverage industries.



POWERWASH® MOTORS

THREE-PHASE, POWERWASH SXT- ALL STAINLESS

FEATURES

- Inverter speed range as listed below
- MAXguard™ inverter duty class F insulation system
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Double sealed ball bearings
- 303 stainless steel shaft with spring loaded contact seals in each endshield (Drive end only on TENV motors)
- 100% stainless steel construction
- Laser etched nameplate
- Oversized conduit box with high temperature nitrile gaskets and threaded entrance
- Plugged drain holes in each endshield for all angle mounting
- Internal anti-corrosion coating applied
- UL®* recognized, CSA®* certified and CE®* mark

IP55

MAX GUARD

TEFC C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	**194000.00M**	194000.00	√	10:1 VT	86.5	6.9/3.45&5.6/2.8	80	16.97	
	1800	230/460	182TC	**194001.00M**	194001.00	√	10:1 VT	89.5	7.2/3.6&6.0/3.0	117	16.97	
5	3600	230/460	184TC	**194002.00M**	194002.00	√	10:1 VT	88.5	11.0/5.5&8.0/4.0	120	16.97	
	1800	230/460	184TC	**194003.00M**	194003.00	√	10:1 VT	89.5	12.4/6.2&9.2/4.6	143	16.97	
	3600	575	184TC	**194104.00M**	194104.00		10:1 VT	88.5	4.4	143	18.14	
	1800	575	184TC	**194105.00M**	194105.00		10:1 VT	89.5	5.0	140	18.14	
7.5	3600	230/460	213TC	**194004.00M**	194004.00	√	10:1 VT	89.5	17.4/8.7&14.2/7.1	156	21.57	
	1800	230/460	213TC	**194005.00M**	194005.00	√	10:1 VT	91.7	19.4/9.7&16.6/8.3	185	21.57	
	1800	575	213TC	**194106.00M**	194106.00		10:1 VT	91.7	7.8	185	21.57	
10	3600	230/460	215TC	**194006.00M**	194006.00	√	10:1 VT	90.2	22.8/11.4&20.8/10.4	176	21.57	
	1800	230/460	215TC	**194007.00M**	194007.00	√	10:1 VT	91.7	25.2/12.6&23.0/11.5	207	21.57	
15	3600	208-230/460	254TC	**194008.00M**	194008.00	√	4:1 CT	91.0	38.0-34.5/17.2&27.6/13.8	303	23.65	
	1800	208-230/460	254TC	**194009.00M**	194009.00	√	4:1 CT	92.4	38.0-35.5/17.8&30.0/15.1	307	23.65	
20	3600	208-230/460	256TC	**194010.00M**	194010.00	√	4:1 CT	91.0	50.5-45.0/22.5&41.0/20.5	375	25.00	
	1800	208-230/460	256TC	**194011.00M**	194011.00	√	2:1 CT	93.0	52.0-47.0/23.6&43.0/21.4	358	25.00	
25	3600	208-230/460	284TC	**194012.00M**	194012.00	√	2:1 CT	91.7	63.0-56.5/28.3&54.5/27.3	414	26.97	
	1800	208-230/460	284TC	**194013.00M**	194013.00	√	2:1 CT	93.6	65.0-57.5/28.8&57/28.5	425	26.97	
30	3600	208-230/460	286TC	**194014.00M**	194014.00	√	2:1 CT	91.7	76.0-68.0/34.0&69.0/34.5	425	27.95	
	1800	208-230/460	286TC	**194015.00M**	194015.00	√	2:1 CT	93.6	76.0-68.0/34.0&69.0/34.5	475	27.95	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
* Requires nameplate modification.
*See back cover page for attribution.

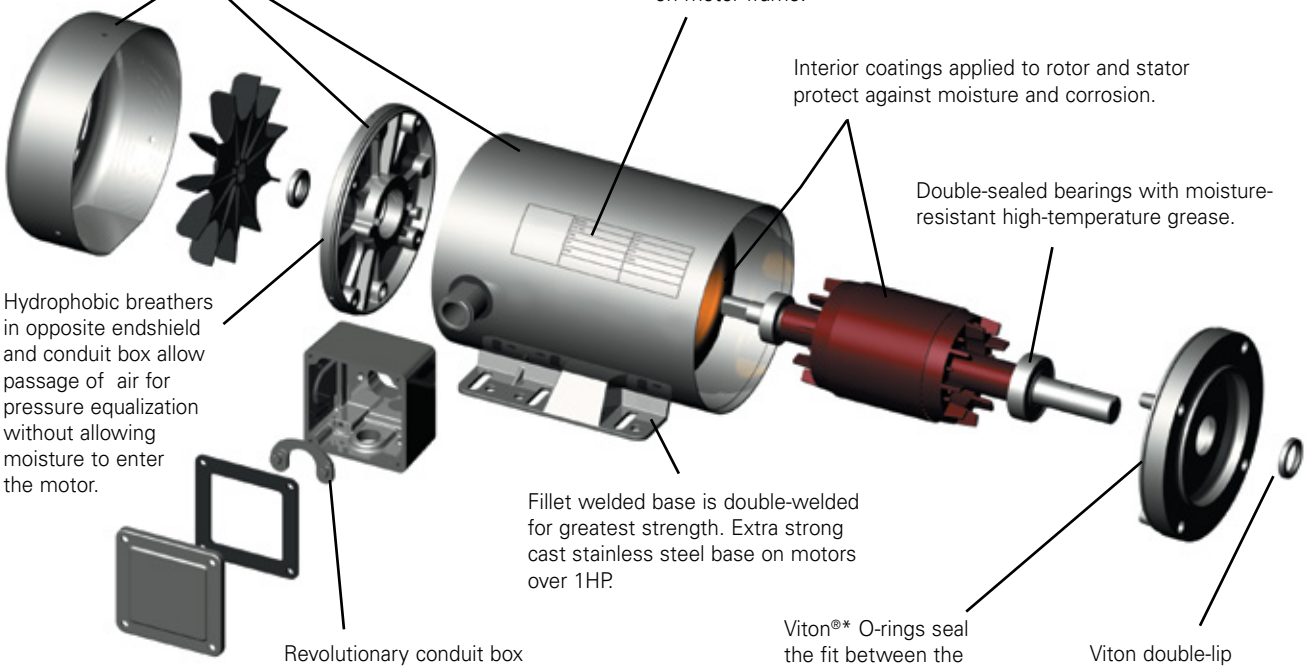
POWERWASH® MOTORS
POWERWASH SXT PLUS
PREMIUM - ALL STAINLESS
THREE-PHASE

300-Series stainless steel exterior components – frame, base, endshields, shaft extension, fan guard, hardware, conduit box and cover – for maximum corrosion resistance.

Laser-etched full-fact nameplate on motor frame.

Interior coatings applied to rotor and stator protect against moisture and corrosion.

Double-sealed bearings with moisture-resistant high-temperature grease.



Hydrophobic breathers in opposite endshield and conduit box allow passage of air for pressure equalization without allowing moisture to enter the motor.

Fillet welded base is double-welded for greatest strength. Extra strong cast stainless steel base on motors over 1HP.

Revolutionary conduit box mounting uses pressure clip to assure maximum sealing and allows easy repositioning for multiple conduit entry locations.

Viton®* O-rings seal the fit between the frame and endshields to exclude moisture and resist harsh chemicals

Viton double-lip shaft seals on both ends of TEFC motors

*See back cover page for attribution.

POWERWASH® MOTORS

POWERWASH SXT PLUS - THREE-PHASE PREMIUM ALL STAINLESS

GENERAL SPECIFICATIONS:

Designed specifically to meet the demanding sanitation requirements of the pharmaceutical, food processing and beverage industries. These motors are also ideal in clean room and severe chemical-processing applications involving frequent washdown with nitric acid and caustic lye.

MECHANICAL PROTECTION FEATURES:

- All exterior components are 300-series stainless steel
- Nothing on the motor's exterior is painted or coated in any way
- All sealing components are Viton®* for superior chemical resistance
- Full fact nameplate is laser etched on the motor frame – no separately attached nameplate to trap dirt or contaminants
- Endshields are O-ring sealed to the frame
- Double lip shaft seals on both ends of TEFC motors (shaft end only on TENV motors)
- Removable hydrophobic breathers in opposite shaft endbell and conduit box equaliz pressure without allowing moisture to enter
- Exterior fastener use minimized reducing the number of entry points for moisture. There are holes in the frame for attaching a nameplate. Bearing lock screws are located inside the motor and the conduit box mounted screws have been eliminated
- Double-sealed bearings are pre-lubricated with moisture-resistant high-temperature grease for long life
- Interior coatings applied to rotor and stator protect against corrosion
- New conduit box mounting system provides optimum sealing
- Ease to clean construction is BISSC Certified for bakery applications

ELECTRICAL PERFORMANCE AND PROTECTION FEATURES:

- Powerwash motor efficiencies meet EPACT® mandates for non-exempt motors when tested without shaft seals.
- Windings are immersed and cured in polyester insulating varnish for extra moisture-resistance
- Marathon ® motors exclusive MAXGuard™ Inverter-Rated Insulation System provides extra protection and long life, especially in inverter-driven applications

STANDARDS AND APPROVALS:

- Three-phase motors are UL®* component recognized – file number E57948, guide number PRGY2
- CSA®* Energy Efficiency Verification Program, report number EEV 78720-1
- Construction is CSA Certified for safety report number LR33543 and listed under BISSC authorization number 769

*See back cover page for attribution.

POWERWASH® MOTORS

THREE-PHASE - POWERWASH SXT PLUS ALL STAINLESS

FEATURES

- Suitable for use on VFD 10:1 variable torque, 10:1 (TEFC) or 1000:1 (TENV) constant torque, 1.0 service factor
- MAX GUARD® Class F insulation system
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Double sealed ball bearings with moisture resistant, high temperature grease
- 300 series stainless steel external construction: frame, end- shields, shaft, conduit box, mounting base and hardware for superior corrosion resistance
- Internal corrosion resistant coatings on rotor and heavy polyester varnish on the stator
- 100% paint-free construction
- Viton®* o-rings, shaft seals, and gaskets for superior sealing against chemicals
- Hydrophobic breather in OP endshield and conduit box equalize air pressure
- Nameplate information laser etched on frame
- BISSC certified for baking industry
- UL®* recognized, CSA®* certified and CE®* mark

IP56 Inverter Duty MAX GUARD CERTIFIED BISSC

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1.5	1200	230/460	182TC	**132565.00M**	182TTWD16076	√	10:1	87.5	6.45/3.2&5.6/2.8	91	14.77	
3	3600	230/460	182TC	**132203.00M**	182TTWD16001	√	10:1	86.5	8.8/4.4&10.7/5.35	85	14.27	
	1800	230/460	182TC	**132206.00M**	182TTWD6031	√	10:1	89.5	8.8/4.4	90	14.77	
5	3600	575	184TC	**132267.00M**	184TTWW16007	√	10:1	88.5	4.8	103	14.97	
	3600	230/460	184TC	**132207.00M**	184TTWD16002		10:1	88.5	14.8/7.4&17.3/8.65	100	15.27	
	1800	230/460	184TC	**132208.00M**	184TTWD6031	√	10:1	89.5	14.4/7.2	101	15.77	
7.5	3600	230/460	213TC	**140825.00M**	213TTWD16002	√	10:1	90.2	20.0/10.0&16.6/8.3	168	18.69	
	1800	230/460	213TC	**140826.00M**	213TTWDD6031	√	10:1	91.7	21.8/10.9	173	18.69	
10	3600	230/460	215TC	**140827.00M**	215TTWD16002	√	10:1	91.7	26.0/13.0&24.8/12.4	182	18.69	
	1800	230/460	215TC	**140828.00M**	215TTWDD6031	√	10:1	91.7	29.6/14.8	203	18.69	

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	**132447.00M**	182TTWD16026	√	10:1	89.5	8.8/4.4&7.45/3.7	65	14.77	
5	1800	230/460	184TC	**132448.00M**	184TTWD16032	√	10:1	89.5	14.4/7.2&11.2/5.6	75	15.77	
	3600	230/460	184TC	**132449.00M**	184TTWD16004	√	10:1	88.5	13.6/6.8	97	15.27	

C-FACE FOOTED (RIGID) JM PUMP

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182JM	**132450.00M**	182TTWD16027	√	10:1	89.5	8.8/4.4&7.45/3.7	86	14.8	
5	3600	230/460	184JM	**132451.00M**	184TTWD16003	√	10:1	88.5	13.6/6.8&10.2/5.1	100	15.27	
	1800	230/460	184JM	**132452.00M**	184TTWD16033	√	10:1	87.5	14.8/7.4&11.6/5.8	88	14.77	
7.5	3600	230/460	213JM	**N160**	213TTWD14002	√	10:1	88.5	18.4/9.2&15.0/7.5	200	19.81	
	1800	230/460	213JM	**141273.00M**	213TTWDD16026	√	10:1	89.5	22.0/11.0&18.0/9.0	157	19.81	
	3600	230/460	213JM	**141274.00M**	213TTWD16003	√	10:1	89.5	18.6/9.3&16.0/8.0	170	19.81	
10.0	3600	230/460	215JM	**141275.00M**	215TTWD16003	√	10:1	90.2	26.8/13.4&25.0/12.5	182	18.69	
	1800	230/460	215JM	**141276.00M**	215TTWD16026	√	10:1	91.7	29.6/14.8&30.5/15.2	200	18.69	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

* Requires nameplate modification.

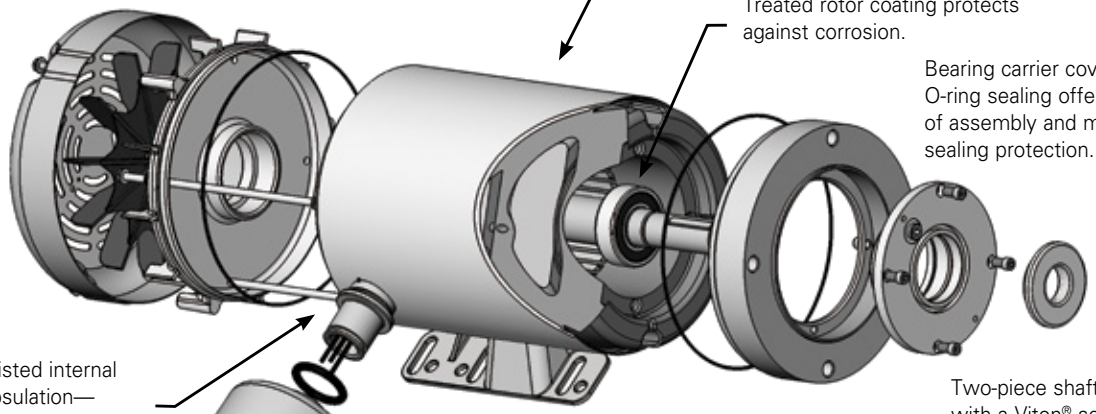
POWERWASH® MOTORS

POWERWASH EXT-ENCAPSULATED ALL STAINLESS MOTORS

THREE-PHASE, NEMA®* PREMIUM
TEFC MOTOR DESIGN SHOWN

It's what's inside that keeps what's outside- out.

300 Series stainless steel components include the frame, base, conduit box cover, endshields and bearing carrier cover. It's the perfect motor design for extreme washdown conditions.



IP69 CERTIFIED

MAX GUARD INSULATION SYSTEM

3A SANITARY STANDARDS INC. CERTIFIED BISSC

*See back cover page for attribution.

POWERWASH® MOTORS

POWERWASH EXT ALL STAINLESS
THREE-PHASE, NEMA PREMIUM®* RATINGS

GENERAL SPECIFICATIONS

These revolutionary designed stainless steel motors are built using our "Voice of the customer" design criteria to withstand extreme washdown and sanitation requirements of the food processing, pharmaceutical, packaging and beverage industries. Our innovative hydro sealed system "HS2" protects from the "outside-in" by reducing entrance points of contaminants and eliminates the need for drain plugs and breathers. This proven process also minimizes exterior hardware, which may trap application elements. Our unique Q-Car™ rotor cartridge seal system, "Q-Car", gives quick access to the interior of the motor should the need arise. 300-series stainless steel used on all exterior surface gives ideal protection against severe chemical-processing applications and frequent washdown processes using salt water, nitric acids and solvents.

MECHANICAL PROTECTION FEATURES

- Easily removed Q-Car rotor cartridge for easy bearing replacement. Disassembles by removing four bolts saving you time and money
- Full-fact nameplate permanently laser etched into motor frame will never be separated from motor
- Double-sealed ball bearings with high temperature grease
- Two-piece shaft seal resists water for improved performance in vertical installations. Provides three points of protection on both ends of the motor
- Colored, non-wicking leads for easy connection and installation
- Chemical and abrasion resistant lead markers
- 360° rotatable round conduit box for convenient wire placement
- Conduit box lead hole location rotatable on TEFC designs
- NEMA Premium efficiency - 3 HP and above
- IP69 certified enclosure protection

ELECTRICAL PERFORMANCE AND PROTECTION FEATURES

- Fully encapsulated internal epoxy encapsulation —including both endbells— reduces air pockets where condensation can occur. Points of entry for contaminants are minimized, and drain plugs and breathers are eliminated.
- Our exclusive IRIS® inverter rated insulation system provides extra protection and long life, especially when used in applications driven by an inverter
- 10:1 constant torque operation

STANDARDS AND APPROVALS

- Motors are UL®* component recognized – file number E57948, guide number PRGY2
- CSA®* Energy Efficiency Verification Program, report number EEV 78720-1
- Construction is CSA Certified for safety, report number LR33543 and listed under BISSC authorization number 7690,0625
- IP69 Certified IEC60529
- IP69K tested per DIN 40050-9

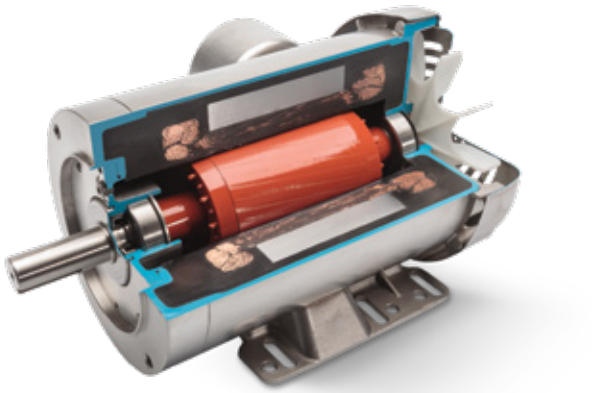
*See back cover page for attribution.

POWERWASH®MOTORS

THREE-PHASE - POWERWASH EXT ENCAPSULATED ALL STAINLESS STANDARD & NEMA PREMIUM®* RATINGS

FEATURES

- IP69 certified enclosure protection
- Fully encapsulated internal epoxy encapsulation reduces points of entry for contaminants and eliminates need for drain plugs and breathers
- Two-piece shaft seal technology provides three points of protection on both ends of the motor
- Easily removed Q-Car™ rotor cartridge makes bearing replacement ultra simple
- 360° rotatable round conduit box for convenient wire placement
- Colored, non-wicking, chemical and abrasion-resistant leads for easy connection and installation
- UL®* recognized, CSA®* certified and CE®* mark
- Smaller ratings are available from Commercial Segment



IP69 MAX GUARD

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182T	**132646.00M**	184TTWD16008	√	10:1	86.5	7.6/3.8	85	15.78	-
	1800	230/460	182T	**132647.00M**	184TTWD16038	√	10:1	89.5	7.8/3.9	90	15.78	-
5	3600	230/460	184T	**132648.00M**	184TTWD16009	√	10:1	88.5	12.4/6.2	103	15.78	-
	1800	230/460	184T	**132649.00M**	184TTWD16039	√	10:1	89.5	12.6/6.3	103	15.78	-
7 1/2	3600	230/460	213T	**141409.00M**	215TTWDD16001	√	10:1	89.5	18.6/9.3	168	19.18	-
	1800	230/460	213T	**141410.00M**	213TTWDD16027	√	10:1	91.7	19.2/9.6	173	19.18	-
10	3600	230/460	215T	**141411.00M**	215TTWDD16003	√	10:1	90.2	23.6/11.8	182	19.18	-
	1800	230/460	215T	**141412.00M**	215TTWDD16026	√	10:1	91.7	26.4/13.2	203	19.18	-

Q-CAR™ ACCESSORY KITS - POWERWASH SXT-EXT MOTORS

Kit makes replacing worn bearings ultra simple. No special tools, no damaged seals.

FEATURES

- The kit ensures a perfectly fitted and watertight bearing with no additional machining required in a matter of minutes
- Maintains factory IP69 rating
- Easily replaced in the field reducing costly downtime

KIT #	Where Used	KIT DESCRIPTION	STOCK	WT.
176332.00	132646.00	Q-CAR KIT - TEFC Design, 3HP, 3600RPM, 184TC	√	36
176333.00	132647.00	Q-CAR KIT - TEFC Design, 3HP, 1800RPM, 184TC	√	28
176334.00	132648.00	Q-CAR KIT - TEFC Design, 5HP, 3600RPM, 184TC	√	37
176335.00	132649.00	Q-CAR KIT - TEFC Design, 5HP, 1800RPM, 184TC	√	30
176336.00	141409.00	Q-CAR KIT - TEFC Design, 7.5HP, 3600RPM, 213TC	√	45
176337.00	141410.00	Q-CAR KIT - TEFC Design, 7.5HP, 1800RPM, 213TC	√	45
176338.00	141411.00	Q-CAR KIT - TEFC Design, 10HP, 3600RPM, 215TC	√	50
176339.00	141412.00	Q-CAR KIT - TEFC Design, 10HP, 1800RPM, 215TC	√	50

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Model numbers highlighted in bold blue are premium efficient.

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JM MOTORS

SINGLE-PHASE, DRIPPROOF

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in environments that are relatively clean and dry variable

FEATURES

- NEMA®* JM pump shaft dimensions
- Ball bearings, mechanically locked on shaft end
- Capacitor start design for high starting torque
- Capacitor start / capacitor run design for higher efficiency, as noted
- Continuous duty
- 1.15 service factor
- UL®* recognized and CSA®* certified

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/230	182JM	Z405A	182TCDW7074	√	75.5	23.0/11.5	87	16.09	13
3	3600	115/230	182JM	Z406A	182TCDW7318	√	75.5	32.0/16.1	60	15.32	13
	1800	115/230	184JM	Z407A	184TCDW7047	√	75.5	33.5/16.8	78	17.59	13
5	3600	230	184JM	Z408A	184TBDW17007	√	80.0	22.0	80	16.32	1, 13
	1800	230	213JM	Z409	213TCDW7027	√	78.5	28.0	115	19.92	
7 1/2	3600	230	213JM	Z410	213TCDW7002	√	78.5	37.0	106	18.42	
	1800	230	215JM	Z411	215TBDW7029	√	84.0	34.5	120	19.92	1
10	3600	230	215JM	Z412	215TCDW7002	√	81.5	47.0	150	19.92	
	1800	230	215JM	Z413	215TBDW7027	√	82.5	44.0	159	21.17	1

CLOSE-COUPLED PUMP, JM MOTORS

SINGLE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in damp, dusty, or dirty environments.

FEATURES

- NEMA JM pump shaft dimensions
- Ball bearings, mechanically locked on shaft end
- Capacitor start design for high starting torque
- Capacitor start / capacitor run design for higher efficiency, as noted
- Continuous duty
- 1.15 service factor
- UL recognized and CSA certified

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230	184JM		132457.00		80.0	14.0	82	18.59	18
5	3600	230	184JM	Z433	184TBFW7315	√	82.5	19.8	89	18.59	13
7 1/2	3600	230	213JM	Z434	213TBFW7010		81.5	32.0	90	20.59	
10	3600	230	215JM	Z435	215TBFW7010	√	83.8	41.5	180	22.09	18

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JP MOTORS

SINGLE-PHASE, DRIPPROOF

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in environments that are relatively clean and dry variable

FEATURES

- NEMA®* JP pump shaft dimensions
- Ball bearings, mechanically locked on shaft end
- Capacitor start design for high starting torque
- Capacitor start / capacitor run design for higher efficiency, as noted
- Continuous duty
- 1.15 service factor
- UL®* recognized and CSA®* certified

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	115/230	182JP	Z425	182TCDR8005	¶	74.0	32.0/16.0	87	18.65	13
5	3600	230	184JP	Z427A	184TBDW17011	√	80.0	22.0	89	19.46	1, 13
7 1/2	3600	230	213JP	Z429	213TCDW7003	√	78.5	37.0	118	22.29	95
10	3600	230	215JP	Z431	215TCDW7004	√	81.5	47.0	135	23.79	95

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JM MOTORS

THREE-PHASE, DRIPPROOF

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in environments that are relatively clean and dry variable

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Suitable for use on a VFD. 10:1 variable torque and constant torque as noted
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- NEMA®* JM pump shaft dimensions
- JMV frame for vertical mount without base (includes drip cover)
- Ball bearings, mechanically locked on shaft end
- Class F Insulation (except as noted)
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Standard assembly F1, reversible to F2 assembly (except as noted)
- UL®* recognized, CSA®* certified and CE®* marked.

C-FACE FOOTLESS (VERTICAL) AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JM	**GT0405A**	182TTDBD6082	¶	2:1	86.5	4.6/2.3	77	14.64	A,68
	1200	575	182JM	**GT0505A**	182TTDBD6092		2:1	86.5	1.9	77	14.64	A
2	1200	230/460	184JM	**GT0408A**	184TTDBD6082	¶	2:1	87.5	6.0/3.0	91	15.64	68
	1200	575	184JM	**GT0508A**	184TTDBD6092		2:1	87.5	2.4	91	15.64	
3	1800	230/460	182JM	**GT0410A**	182TTDBD6032	√	2:1	89.5	8.0/4.0	92	14.64	A,68
	1800	208-230/460	182JM	**GT0410A-P**	182TTDBD6072		2:1	89.5	8.6-8.0/4.0	82	14.97	A,68
	1800	208-230/460	182JMV	**GT4110**	182TTDBD6044	√	2:1	89.5	8.6-8.0/4.0	70	16.64	A,27,68
	1800	575	182JM	**GT0510A**	182TTDBD6033		2:1	89.5	3.2	92	16.64	A
	1200	230/460	213JM	**GT0411A**	213TTDBD6082	¶	10:1	88.5	8.4/4.2	132	19.15	68
	1200	575	213JM	**GT0511A**	213TTDBD6092		2:1	88.5	3.4	130	19.15	
5	3600	230/460	182JMV	**M316B**	182TTDW17008	√	NA	86.5	12.4/6.2	95	14.95	13,27,68
	3600	230/460	182JM	**GT0412A**	182TTDBD6007	√	2:1	86.5	13.2/6.6	77	14.64	A,68
	3600	230/460	182JMV	**E153B**	182TTDW16021	¶	NA	86.5	12.4/6.2	46	14.95	13,27,68
	3600	575	182JM	**GT0512A**	182TTDBD6008		2:1	86.5	5.3	68	14.64	A
	1800	230/460	184JM	**GT0413A**	184TTDBD6032	√	2:1	89.5	13.2/6.6	70	15.64	A,68
	1800	230/460	184JM	**GT0413A-P**	184TTDBD6072		2:1	89.5	13.2/6.6	92	15.97	A,68
	1800	230/460	184JMV	**GT4113**	184TTDBD6044	√	2:1	89.5	13.2/6.6	70	17.64	A,27,68
	1800	575	184JM	**GT0513A**	184TTDBD6033		2:1	89.5	5.3	175	15.64	A
	1200	230/460	215JM	**GT0414A**	215TTDBD6082		4:1	89.5	13.8/6.9	112	19.15	68
	1200	575	215JM	**GT0514A**	215TTDBD6092	¶	4:1	89.5	5.5	210	19.15	
7 1/2	3600	230/460	184JM	**GT0415A**	184TTDBD6007	√	NA	88.5	18.4/9.2	66	15.64	A,68
	3600	208-230/460	184JM	**GT0415A-P**	184TTDBD6009		NA	88.5	19.6-18.4/9.2	100	15.97	A,68
	3600	230/460	184JMV	**E163B**	184TTDW16310	√	NA	88.5	17.8/8.9	90	17.12	A,13,27,68
	3600	575	184JM	**GT0515A**	184TTDBD6008		NA	88.5	7.4	72	15.64	A
	1800	200	213JMV	**E167A**	213TTDWD16347	¶	NA	91.0	23.0	122	20.44	27
	1800	230/460	213JM	**GT0416A**	213TTDBD6032	√	2:1	91.0	19.8/9.9	136	19.15	68
	1800	230/460	213JM	**GT0416A-P**	213TTDBD6072		2:1	91.0	19.8/9.9	135	19.15	68
	1800	230/460	213JMV	**E168A**	213TTDWD16333	√	NA	91.0	20.0/10.0	122	20.44	27,68
	1800	230/460	213JMV	**GT4116**	213TTDBD6044	√	2:1	91.0	19.8/9.9	128	20.87	27,68
	1800	575	213JM	**GT0516A**	213TTDBD6033		10:1	91.0	7.9	128	19.15	
	1200	230/460	254JM	**GT0457**	254TTDBD6082	¶	10:1	90.2	20.2/10.1	221	24.41	68
	1200	575	254JM	**GT0557**	254TTDBD6092		2:1	90.2	8.1	322	24.41	
10	3600	230/460	213JM	**GT0418A**	213TTDBD6007	√	NA	89.5	24.2/12.1	107	19.15	68
	3600	575	213JM	**GT0518A**	213TTDBD6008		NA	89.5	9.7	100	19.15	
	1800	230/460	215JM	**GT0419A**	215TTDBD6032	√	10:1	91.7	25.4/12.7	185	19.15	68
	1800	230/460	215JM	**GT0419A-P**	215TTDBD6072		NA	91.7	25.4/12.7	140	19.15	68
	1800	230/460	215JMV	**E178A**	215TTDWD16349	¶	NA	91.7	26.2/13.1	134	20.44	BI,27,68
	1800	575	215JM	**GT0519A**	215TTDBD6033		10:1	91.7	10.2	186	19.15	
	1200	230/460	256JM	**GT0458**	256TTDBD6082	¶	2:1	91.7	25.6/12.8	267	25.99	68
	1200	575	256JM	**GT0558**	256TTDBD6092		2:1	91.7	10.3	285	25.99	

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Continued on next page.

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JM MOTORS

THREE-PHASE, DRIPPROOF, C-FACE FOOTLESS (VERTICAL) AND C-FACE FOOTED (RIGID BASE)

C-FACE FOOTLESS (VERTICAL) AND C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
15	3600	230/460	215JM	**GT0421A**	215TTDBD6007	√	NA	90.2	36.0/18.0	135	19.15	68
	3600	230/460	215JMV	**E183A**	215TTDWD4023	√	NA	91.0	36.5/18.2	124	20.44	27,68
	3600	230/460	215JMV	**GT4121**	215TTDBD6014	√	NA	90.2	36.0/18.0	125	20.87	27,68
	3600	575	215JM	**GT0521A**	215TTDBD6008	¶	2:1	90.2	14.4	186	19.15	
	3600	575	215JMV	**GT4221**	215TTDBD6016		2:1	90.2	14.4	125	20.87	27
	1800	230/460	254JM	**GT0459**	254TTDBD6032	√	2:1	93.0	37.5/18.8	287	24.41	68
	1800	208-230/460	254JM	**GT0459-P**	254TTDBD6072		2:1	93.0	40.5-37.5/18.8	340	24.67	68
	1800	230/460	254JMV	**E188A**	254TTDR16027	√	NA	93.0	38.0/18.9	284	25.45	BI,27,68
	1800	230/460	254JMV	**GT4159**	254TTDBD6044	√	2:1	93.0	37.5/18.8	602	26.30	27,68
	1800	575	254JM	**GT0559**	254TTDBD6033		2:1	93.0	15.1	243	24.41	
	1200	230/460	284JM	**GT0460**	284TTDBD6082	¶	2:1	91.7	41.0/20.6	411	26.58	68
	1200	575	284JM	**GT0560**	284TTDBD6092		2:1	91.7	16.5	353	26.58	
20	3600	230/460	254JM	**GT0461**	254TTDBD6007	√	2:1	91.0	48.0/24.0	275	24.41	68
	3600	575	254JM	**GT0561**	254TTDBD6008	¶	2:1	91.0	19.2	284	24.41	
	1800	230/460	256JM	**GT0462**	256TTDBD6032	√	2:1	93.0	48.5/24.3	311	25.99	68
	1800	230/460	256JM	**GT0462-P**	256TTDBD6072		2:1	93.0	48.5/24.3	370	26.24	68
	1800	575	256JM	**GT0562**	256TTDBD6033	¶	2:1	93.0	19.5	290	25.99	
	1200	230/460	286JM	**GT0463**	286TTDBD6082	¶	NA	92.4	52.5/26.3	178	27.09	68
	1200	575	286JM	**GT0563**	286TTDBD6092		NA	92.4	21.1	390	27.09	
25	3600	230/460	256JM	**GT0464**	256TTDBD6007	√	2:1	91.7	59.5/29.7	291	25.99	68
	3600	575	256JM	**GT0564**	256TTDBD6008		NA	91.7	23.8	302	25.99	
	1800	230/460	284JM	**GT0465**	284TTDBD6032	√	2:1	93.6	63.0/31.5	359	26.58	68
	1800	230/460	284JM	**GT0465-P**	284TTDBD6072		2:1	93.6	62.5/31.0	300	26.78	68
	1800	575	284JM	**GT0565**	284TTDBD6033		2:1	93.6	25.0	423	26.58	
	1200	230/460	324JM	**GT0468**	324TTDBD6082		4:1	93.0	65.0/32.5	474	28.94	68
	1200	575	324JM	**GT0568**	324TTDBD6092		4:1	93.0	26.0	523	28.94	
30	3600	230/460	284JM	**GT0469**	284TTDBD6007	√	NA	91.7	71.5/35.5	357	26.58	68
	3600	575	284JM	**GT0569**	284TTDBD6008		NA	91.7	28.6	357	26.58	
	1800	230/460	286JM	**GT0467**	286TTDBD6032	√	2:1	94.1	73.0/36.5	397	27.09	68
	1800	230/460	286JM	**GT0467-P**	286TTDBD6072		NA	94.1	73.0/36.5	425	28.16	68
	1800	575	286JM	**GT0567**	286TTDBD6033		2:1	94.1	29.2	545	27.09	
	1200	230/460	326JM	**GT0471**	326TTDBD6082	¶	2:1	93.6	75.0/37.5	625	30.12	68
	1200	575	326JM	**GT0571**	326TTDBD6092		2:1	93.6	30.0	734	30.12	
40	3600	230/460	286JM	**GT0472**	286TTDBD6007	√	NA	92.4	93.0/46.5	397	27.09	68
	3600	575	286JM	**GT0572**	286TTDBD6008	¶	NA	92.4	37.0	462	27.09	
	1800	230/460	324JM	**GT0473**	324TTDBD6032	√	4:1	94.1	95.5/47.5	490	28.94	68
	1800	575	324JM	**GT0573**	324TTDBD6033		4:1	94.1	38.0	552	28.94	
50	3600	230/460	324JM	**GT0476**	324TTDBD6007	¶	4:1	93.0	115/57.5	535	28.94	68
	3600	575	324JM	**GT0576**	324TTDBD6008		4:1	93.0	46.0	657	28.94	
	1800	230/460	326JM	**GT0477**	326TTDBD6032	¶	4:1	94.5	118/59.0	542	30.12	68
	1800	575	326JM	**GT0577**	326TTDBD6033		4:1	94.5	47.0	604	30.12	

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

CLOSE-COUPLED PUMP, JM MOTORS

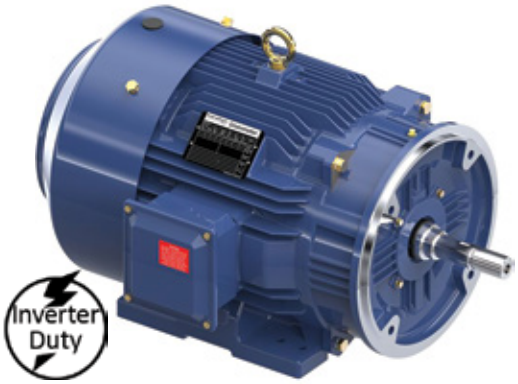
THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in damp, dusty, or dirty environments.

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Division 2 / Zone 2 Class 1 (gases), Groups A, B, C, D (as noted)
- Suitable for use on a VFD. 10:1 variable torque and constant torque as noted
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- NEMA®* JM pump shaft dimensions
- Ball bearings, mechanically locked on shaft end
- Class F Insulation
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Standard assembly F1, reversible to F2 assembly
- UL®* recognized, CSA®* certified and CE®* marked.



C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	IP	DIV II	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JM	**GT3105A**	182TTFBD6082	¶	10:1	43	Y	87.5	4.6/2.3	33	17.37	A,68
	1200	575	182JM	**GT3205A**	182TTFBD6092		10:1	43	Y	87.5	1.8	104	17.37	A
2	1200	230/460	184JM	**GT3108A**	184TTFBD6082	¶	10:1	43	Y	88.5	6.2/3.1	112	18.37	A,68
	1200	575	184JM	**GT3208A**	184TTFBD6092		10:1	43	Y	88.5	2.5	112	18.37	A
3	3600	230/460	182JM	**GT3109A**	182TTFBD6006	√	10:1	43	Y	86.5	8.0/4.0	126	17.37	A,68
	3600	575	182JM	**GT3209A**	182TTFBD6008		10:1	43	Y	86.5	3.2	126	17.37	A
	1800	230/460	182JM	**GT3110A**	182TTFBD6031	√	10:1	43	Y	89.5	8.3/4.2	75	17.37	A,68
	1800	230/460	182JM	**GT3110A-P**	182TTFBD6072		10:1	43	N	89.5	8.3/4.2	90	17.37	A,68
	1800	575	182JM	**GT3210A**	182TTFBD6033		10:1	43	Y	89.5	3.2	142	17.37	A
	1200	230/460	213JM	**GT3111A**	213TTFBD6082	¶	10:1	43	Y	89.5	8.6/4.3	133	20.27	68
	1200	575	213JM	**GT3211A**	213TTFBD6092		10:1	43	Y	89.5	3.5	140	20.27	
5	3600	230/460	184JM	**GT3112A**	184TTFBD6006	√	2:1	43	Y	88.5	12.4/6.2	90	18.37	A,68
	3600	575	184JM	**GT3212A**	184TTFBD6008		2:1	43	Y	88.5	5.0	90	18.37	A
	1800	230/460	184JM	**GT3113A**	184TTFBD6031	√	10:1	43	Y	89.5	13.2/6.6	114	18.37	A,68
	1800	230/460	184JM	**GT3113A-P**	184TTFBD6072		10:1	43	N	89.5	13.2/6.6	107	18.37	A,P,68
	1800	575	184JM	**GT3213A**	184TTFBD6033		10:1	43	Y	89.5	5.2	114	18.37	A
	1200	230/460	215JM	**GT3114A**	215TTFBD6082	¶	10:1	43	Y	89.5	13.6/6.8	167	21.85	68
	1200	575	215JM	**GT3214A**	215TTFBD6092		10:1	43	Y	89.5	5.5	155	21.85	
7 1/2	3600	230/460	213JM	**GT3115A**	213TTFBD6006	√	2:1	43	Y	89.5	18.0/9.0	140	20.27	68
	3600	575	213JM	**GT3215A**	213TTFBD6008	¶	2:1	43	Y	89.5	7.2	133	20.27	
	1800	230/460	213JM	**GT3116A**	213TTFBD6031	√	10:1	43	Y	91.7	19.0/9.5	163	20.27	68
	1800	230/460	213JM	**GT3116A-P**	213TTFBD6072		10:1	43	N	91.7	19.0/9.5	156	20.27	P,68
	1800	575	213JM	**GT3216A**	213TTFBD6033	¶	10:1	43	Y	91.7	7.6	162	20.27	
	1200	230/460	254JM	**GT3117A**	254TTFCD6082	¶	10:1	55	Y	91.0	19.8/9.9	254	26.15	68
	1200	575	254JM	**GT3217A**	254TTFCD6092		10:1	55	Y	91.0	7.9	254	26.15	
10	3600	230/460	215JM	**GT3118A**	215TTFBD6006	√	2:1	43	Y	90.2	23.6/11.8	170	21.85	68
	3600	230/460	215JM	**GT3118A-P**	215TTFBD6009	√	2:1	43	N	90.2	23.6/11.8	160	21.85	P,68
	3600	575	215JM	**GT3218A**	215TTFBD6008	¶	2:1	43	Y	90.2	9.5	163	21.85	
	1800	230/460	215JM	**GT3119A**	215TTFBD6031	√	10:1	43	Y	91.7	25.0/12.5	185	21.85	68
	1800	208-230/460	215JM	**GT3119A-P**	215TTFBD6072		10:1	43	N	91.7	27.3-25.0/12.5	180	21.85	P,68
	1800	575	215JM	**GT3219A**	215TTFBD6033		10:1	43	Y	91.7	10.0	171	21.85	
	1200	230/460	256JM	**GT3120A**	256TTFCD6082	¶	10:1	55	Y	91.0	25.8/12.9	325	27.89	68
	1200	575	256JM	**GT3220A**	256TTFCD6092		10:1	55	Y	91.0	10.3	316	27.89	

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.

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*See back cover page for attribution.

CLOSE-COUPLED PUMP, JM MOTORS

THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	IP	DIV II	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	FOOT NOTES
15	3600	230/460	215JM	**GT31111**	215TTFBD6020	√	2:1	43	Y	91.7	35.0/17.4	190	21.85	A,68
	3600	230/460	254JM	**U344A**	254TTFL16008	¶	NA	43	N	91.0	36.0/18.0	302	25.52	AL,68
	3600	230/460	254JM	**GT3121A**	254TTFCD6006	√	2:1	55	Y	91.0	35.5/17.8	251	26.15	68
	3600	575	254JM	**GT3221A**	254TTFCD6008		2:1	55	Y	91.0	14.3	295	26.15	
	1800	230/460	254JM	**U348A**	254TTFL16045	¶	NA	43	N	92.4	37.5/18.8	251	25.52	AL,68
	1800	230/460	254JM	**GT3122A**	254TTFCD6031	√	10:1	55	Y	92.4	36.5/18.4	309	26.15	68
	1800	230/460	254JM	**GT3122A-P**	254TTFCD6072		10:1	55	N	92.4	37.5/18.8	300	26.15	P,68
	1800	575	254JM	**GT3222A**	254TTFCD6033	¶	10:1	55	Y	92.4	14.7	309	26.15	
	1200	230/460	284JM	**GT3123A**	284TTFCD6082	¶	10:1	55	Y	91.7	40.0/20.0	351	27.52	68
	1200	575	284JM	**GT3223A**	284TTFCD6092		10:1	55	Y	91.7	16.0	413	27.52	
20	3600	230/460	256JM	**U351A**	256TTFL16004	¶	NA	43	N	92.4	47.0/23.4	272	27.27	AL,68
	3600	230/460	256JM	**GT3124A**	256TTFCD6006	√	2:1	55	Y	91.0	47.0/23.5	269	27.89	68
	3600	575	256JM	**GT3224A**	256TTFCD6008	¶	2:1	55	Y	91.0	18.8	312	27.89	
	1800	230/460	256JM	**U354A**	256TTFL16042	¶	NA	43	N	93.0	48.0/24.1	230	27.27	AL,68
	1800	230/460	256JM	**GT3125A**	256TTFCD6031	√	10:1	55	Y	93.0	48.5/24.2	291	27.89	68
	1800	230/460	256JM	**GT3125A-P**	256TTFCD6072		10:1	55	N	93.0	48.5/24.2	360	27.89	P,68
	1800	575	256JM	**GT3225A**	256TTFCD6033		10:1	55	Y	93.0	19.4	360	27.89	
	1200	230/460	286JM	**GT3126A**	286TTFCD6082		10:1	55	Y	91.7	52.0/26.0	458	29.02	68
	1200	575	286JM	**GT3226A**	286TTFCD6092		10:1	55	Y	91.7	20.8	457	29.02	
25	3600	230/460	284JM	**GT3127A**	284TTFCD6006	√	2:1	55	Y	91.7	60.0/30.0	403	27.52	68
	3600	575	284JM	**GT3227A**	284TTFCD6008		2:1	55	Y	91.7	24.0	405	27.52	
	1800	230/460	284JM	**GT3128A**	284TTFCD6032	√	10:1	55	Y	93.6	60.0/30.0	342	27.52	68
	1800	230/460	284JM	**GT3128A-P**	284TTFCD6072		10:1	55	N	93.6	60.0/30.0	462	27.52	P,68
	1800	575	284JM	**GT3228A**	284TTFCD6033		10:1	55	Y	93.6	24.0	404	27.52	
	1200	230/460	324JM	**GT3129A**	324TTFCD6082		2:1	55	Y	93.0	64.0/32.0	520	32.93	68
	1200	575	324JM	**GT3229A**	324TTFCD6092		2:1	55	Y	93.0	25.6	520	32.93	
30	3600	230/460	286JM	**GT3130A**	286TTFCD6006	√	2:1	55	Y	91.7	71.0/35.5	364	29.02	68
	3600	575	286JM	**GT3230A**	286TTFCD6008	¶	2:1	55	Y	91.7	28.5	540	29.02	
	1800	230/460	286JM	**GT3131A**	286TTFCD6032	√	2:1	55	Y	93.6	71.0/35.5	437	29.02	68
	1800	230/460	286JM	**GT3131A-P**	286TTFCD6072		10:1	55	N	93.6	71.0/35.5	500	29.02	P,68
	1800	575	286JM	**GT3231A**	286TTFCD6033		10:1	55	Y	93.6	28.4	500	29.02	
	1200	230/460	326JM	**GT3132A**	326TTFCD6082	¶	2:1	55	Y	93.0	76.0/38.0	683	34.11	68
	1200	575	326JM	**GT3232A**	326TTFCD6092		2:1	55	Y	93.0	30.5	647	34.11	
40	3600	230/460	324JM	**GT3133A**	324TTFCD6007	√	2:1	55	Y	92.4	92.0/46.0	525	32.93	68
	3600	575	324JM	**GT3233A**	324TTFCD6008	¶	2:1	55	Y	92.4	37.0	643	32.93	
	1800	230/460	324JM	**GT3134A**	324TTFCD6031	¶	10:1	55	Y	94.1	95.0/47.5	259	32.93	68
	1800	575	324JM	**GT3234A**	324TTFCD6033		2:1	55	Y	94.1	38.0	571	32.93	
50	3600	230/460	326JM	**GT3136A**	326TTFCD6007	√	2:1	55	Y	94.1	113/56.5	595	34.11	68
	3600	575	326JM	**GT3236A**	326TTFCD6008	¶	2:1	55	Y	94.1	45.0	732	34.11	
	1800	230/460	326JM	**GT3137A**	326TTFCD6031	¶	2:1	55	Y	94.5	117/58.5	698	34.11	68
	1800	575	326JM	**GT3237A**	326TTFCD6033		2:1	55	Y	94.5	47.0	698	34.11	

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

CLOSE-COUPLED PUMP, JP MOTORS

THREE-PHASE, DRIPPROOF

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in environments that are relatively clean and dry variable

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Suitable for use on a VFD. 10:1 variable torque and constant torque as noted
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- NEMA®* JP pump shaft dimensions
- JPV frame for vertical mount without base (includes drip cover)
- Ball bearings, mechanically locked on shaft end
- Class F Insulation (except as noted)
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Standard assembly F1, reversible to F2 assembly (except as noted)
- UL®* recognized, CSA®* certified and CE®* marked.

C-FACE FOOTED (RIGID BASE) AND C-FACE FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	"F.L. AMPS"	"EST WT."	""C" DIM."	FOOT NOTES
1 1/2	1200	208-230/460	182JP	**GT2405A**	182TTDBD6085		2:1	86.5	4.8-4.6/2.3	44	17.70	A,68
	1200	575	182JP	**GT2505A**	182TTDBD6095		2:1	86.5	1.9	44	17.70	A
2	1200	208-230/460	184JP	**GT2408A**	184TTDBD6085		2:1	87.5	6.4-6.0/3.0	76	18.70	68
	1200	575	184JP	**GT2508A**	184TTDBD6095		2:1	87.5	2.4	76	18.70	
3	1800	230/460	182JP	**GT2410A**	182TTDBD6037	√	2:1	89.5	8.0/4.0	80	17.70	A,68
	1800	575	182JP	**GT2510A**	182TTDBD6038		2:1	89.5	3.2	81	17.70	A
	1200	230/460	213JP	**GT2411A**	213TTDBD6085	¶	2:1	88.5	8.4/4.2	139	23.11	68
	1200	575	213JP	**GT2511A**	213TTDBD6095		2:1	88.5	3.4	135	23.11	
5	3600	230/460	182JP	**GT2412A**	182TTDBD6012	¶	2:1	86.5	13.2/6.6	83	17.70	A,68
	3600	575	182JP	**GT2512A**	182TTDBD6013		2:1	86.5	5.3	83	17.70	A
	3600	575	182JPV	**GT4512**	182TTDBD6019		2:1	86.5	5.3	58	19.58	A,27
	1800	230/460	184JP	**GT2413A**	184TTDBD6037	¶	2:1	89.5	13.2/6.6	86	18.70	A,68
	1800	575	184JP	**GT2513A**	184TTDBD6038		2:1	89.5	5.3	120	18.70	A
	1200	230/460	215JP	**GT2414A**	215TTDBD6085	¶	10:1	89.5	13.8/6.9	158	23.11	68
	1200	575	215JP	**GT2514A**	215TTDBD6095		4:1	89.5	5.5	120	23.11	
7 1/2	3600	230/460	184JP	**GT2415A**	184TTDBD6012	√	NA	88.5	18.4/9.2	88	18.70	A,68
	3600	575	184JP	**GT2515A**	184TTDBD6013		NA	88.5	7.4	80	18.70	A
	1800	230/460	213JP	**GT2416A**	213TTDBD6037	¶	2:1	91.0	19.8/9.9	153	23.11	68
	1800	575	213JP	**GT2516A**	213TTDBD6038		2:1	91.0	7.9	230	23.11	
	1200	230/460	254JP	**GT2457**	254TTDBD6085		10:1	90.2	20.2/10.1	289	27.32	68
	1200	575	254JP	**GT2557**	254TTDBD6095		2:1	90.2	8.1	289	27.32	
10	3600	230/460	213JP	**GT2418A**	213TTDBD6012	√	NA	89.5	24.2/12.1	158	23.11	68
	3600	575	213JP	**GT2518A**	213TTDBD6013		2:1	89.5	9.7	156	23.11	
	1800	230/460	215JP	**GT2419A**	215TTDBD6037	¶	10:1	91.7	25.4/12.7	153	23.11	68
	1800	575	215JP	**GT2519A**	215TTDBD6038		10:1	91.7	10.2	105	23.11	
	1200	230/460	256JP	**GT2458**	256TTDBD6085	¶	2:1	91.7	25.6/12.8	269	28.90	68
	1200	575	256JP	**GT2558**	256TTDBD6095		2:1	91.7	10.3	269	28.90	

Continued on next page.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JP MOTORS

THREE-PHASE, DRIPPROOF, C-FACE FOOTLESS (VERTICAL) AND C-FACE FOOTED (RIGID BASE)

C-FACE FOOTED (RIGID BASE) AND C-FACE FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	CT SPEED RANGE	NOM. EFF.	"F.L. AMPS"	"EST WT."	""C" DIM."	FOOT NOTES
15	3600	230/460	215JP	**GT2421A**	215TTDBD6012	¶	NA	90.2	36.0/18.0	165	23.11	68
	3600	575	215JP	**GT2521A**	215TTDBD6013		2:1	90.2	14.4	153	23.11	
	1800	208-230/460	254JPV	**GT4459**	254TTDBD6046	√	2:1	93.0	40.5-37.5/18.8	290	29.21	27,68
	1800	230/460	254JPV	**U210A**	254TTDR16028		NA	93.0	38.0/18.9	290	27.92	27,68
	1800	230/460	254JP	**GT2459**	254TTDBD6037	√	2:1	93.0	37.5/18.8	263	27.32	68
	1800	575	254JP	**GT2559**	254TTDBD6038		2:1	93.0	15.1	309	27.32	
	1200	230/460	284JP	**GT2460**	284TTDBD6085		2:1	91.7	41.0/20.6	420	29.53	68
	1200	575	284JP	**GT2560**	284TTDBD6095		2:1	91.7	16.5	465	29.53	
20	3600	230/460	254JP	**GT2461**	254TTDBD6012	¶	2:1	91.0	48.0/24.0	232	27.32	68
	3600	575	254JP	**GT2561**	254TTDBD6013		2:1	91.0	19.2	105	27.32	
	1800	230/460	256JP	**GT2462**	256TTDBD6037	√	2:1	93.0	48.5/24.3	269	28.90	68
	1800	575	256JP	**GT2562**	256TTDBD6038	¶	2:1	93.0	19.5	304	28.90	
	1200	230/460	286JP	**GT2463**	286TTDBD6085	¶	NA	92.4	52.5/26.3	392	30.91	68
	1200	575	286JP	**GT2563**	286TTDBD6095		NA	92.4	21.1	463	30.91	
25	3600	230/460	256JP	**GT2464**	256TTDBD6012	√	2:1	91.7	59.5/29.7	249	28.90	68
	3600	575	256JP	**GT2564**	256TTDBD6013	¶	NA	91.7	23.8	313	28.90	
	1800	230/460	284JP	**GT2465**	284TTDBD6037	√	2:1	93.6	63.0/31.5	426	29.53	68
	1800	575	284JP	**GT2565**	284TTDBD6038		2:1	93.6	25.0	449	29.53	
	1200	230/460	324JP	**GT2468**	324TTDBD6085	¶	4:1	93.0	65.0/32.5	474	31.82	68
	1200	575	324JP	**GT2568**	324TTDBD6095		4:1	93.0	26.0	535	31.82	
30	3600	230/460	284JP	**GT2469**	284TTDBD6012	¶	NA	91.7	71.5/35.5	426	29.53	68
	3600	575	284JP	**GT2569**	284TTDBD6013		NA	91.7	28.6	403	29.53	
	1800	230/460	286JP	**GT2467**	286TTDBD6037	¶	2:1	94.1	73.0/36.5	485	30.91	68
	1800	575	286JP	**GT2567**	286TTDBD6038		2:1	94.1	29.2	463	30.91	
	1200	208-230/460	326JP	**GT2471**	326TTDBD6085		4:1	93.6	82.0-75.0/37.5	564	33.00	68
	1200	575	326JP	**GT2571**	326TTDBD6095		2:1	93.6	30.0	560	33.00	
40	3600	230/460	286JP	**GT2472**	286TTDBD6012	¶	NA	92.4	93.0/46.5	340	30.91	68
	3600	575	286JP	**GT2572**	286TTDBD6013		NA	92.4	37.0	455	30.91	
	1800	230/460	324JP	**GT2473**	324TTDBD6037	√	4:1	94.1	95.5/47.5	539	31.82	68
	1800	575	324JP	**GT2573**	324TTDBD6038	¶	4:1	94.1	38.0	552	31.82	
50	3600	230/460	324JP	**GT2476**	324TTDBD6012	√	2:1	93.0	115/57.5	226	31.82	68
	3600	575	324JP	**GT2576**	324TTDBD6013		4:1	93.0	46.0	567	31.82	
	1800	230/460	326JP	**GT2477**	326TTDBD6037	√	4:1	94.5	118/59.0	542	33.00	68
	1800	575	326JP	**GT2577**	326TTDBD6038		4:1	94.5	47.0	700	33.00	

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

CLOSE-COUPLED PUMP, JP MOTORS

THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

Close-coupled pumps where the pump impeller is mounted directly on the motor shaft in damp, dusty, or dirty environments.

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Division 2 / Zone 2 Class 1 (gases), Groups A, B, C, D (as noted)
- Suitable for use on a VFD. 10:1 variable torque and constant torque as noted
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power (except as noted)
- NEMA®* JP pump shaft dimensions
- Ball bearings, mechanically locked on shaft end
- Class F Insulation
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Standard assembly F1, reversible to F2 assembly (except as noted)
- UL®* recognized, CSA®* certified and CE®* marked.

Inverter Duty

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	IP	DIV II	NOM. EFF.	"F.L. AMPS"	"EST WT."	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JP	**GT3405A**	182TTFBD6085		10:1	43	Y	87.5	4.6/2.3	104	20.44	A,68
	1200	575	182JP	**GT3505A**	182TTFBD6095		10:1	43	Y	87.5	1.8	104	20.44	A
2	1200	230/460	184JP	**GT3408A**	184TTFBD6085		10:1	43	Y	88.5	6.2/3.1	112	21.44	A,68
	1200	575	184JP	**GT3508A**	184TTFBD6095		10:1	43	Y	88.5	2.5	112	21.44	A
3	3600	230/460	182JP	**GT3409A**	182TTFBD6012	¶	10:1	43	Y	86.5	8.0/4.0	126	20.44	A,68
	3600	575	182JP	**GT3509A**	182TTFBD6013		10:1	43	Y	86.5	3.2	126	20.44	A
	1800	230/460	182JP	**GT3410A**	182TTFBD6037	√	10:1	43	Y	89.5	8.3/4.2	142	20.44	A,68
	1800	575	182JP	**GT3510A**	182TTFBD6038		10:1	43	Y	89.5	3.2	142	20.44	A
	1200	230/460	213JP	**GT3411A**	213TTFBD6085	√	10:1	43	Y	89.5	8.6/4.3	149	24.13	68
	1200	575	213JP	**GT3511A**	213TTFBD6095		10:1	43	Y	89.5	3.5	149	24.13	
5	3600	230/460	184JP	**GT3412A**	184TTFBD6012	√	2:1	43	Y	88.5	12.4/6.2	100	21.44	A,68
	3600	575	184JP	**GT3512A**	184TTFBD6013		2:1	43	Y	88.5	5.0	100	21.44	A
	1800	230/460	184JP	**GT3413A**	184TTFBD6037	√	10:1	43	Y	89.5	13.2/6.6	97	21.44	A,68
	1800	575	184JP	**GT3513A**	184TTFBD6038		10:1	43	Y	89.5	5.2	96	21.44	A
	1200	230/460	215JP	**GT3414A**	215TTFBD6085	√	10:1	43	Y	89.5	13.6/6.8	163	25.63	68
	1200	575	215JP	**GT3514A**	215TTFBD6095		10:1	43	Y	89.5	5.5	168	25.63	
7 1/2	3600	230/460	213JP	**GT3415A**	213TTFBD6012	√	2:1	43	Y	89.5	18.0/9.0	180	24.13	68
	3600	575	213JP	**GT3515A**	213TTFBD6013	¶	2:1	43	Y	89.5	7.2	165	24.13	
	1800	230/460	213JP	**GT3416A**	213TTFBD6037	√	10:1	43	Y	91.7	19.0/9.5	167	24.13	68
	1800	575	213JP	**GT3516A**	213TTFBD6038	¶	10:1	43	Y	91.7	7.6	167	24.13	
	1200	230/460	254JP	**GT3417A**	254TTFCD6085	¶	10:1	55	Y	91.0	19.8/9.9	256	29.03	68
	1200	575	254JP	**GT3517A**	254TTFCD6095		10:1	55	Y	91.0	7.9	256	29.03	
10	3600	230/460	215JP	**GT3418A**	215TTFBD6012	√	2:1	43	Y	90.2	23.6/11.8	167	25.63	68
	3600	575	215JP	**GT3518A**	215TTFBD6013		2:1	43	Y	90.2	9.5	165	25.63	
	1800	230/460	215JP	**GT3419A**	215TTFBD6037	√	10:1	43	Y	91.7	25.0/12.5	167	25.63	68
	1800	575	215JP	**GT3519A**	215TTFBD6038		10:1	43	Y	91.7	10.0	180	25.63	
	1200	230/460	256JP	**GT3420A**	256TTFCD6085	√	10:1	55	Y	91.0	25.8/12.9	276	30.76	68
	1200	575	256JP	**GT3520A**	256TTFCD6095	¶	10:1	55	Y	91.0	10.3	323	30.76	

Blue shaded areas are cast iron frames.

Continued on next page.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

CLOSE-COUPLED PUMP, JP MOTORS

THREE-PHASE, TOTALLY ENCLOSED

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	IP	DIV II	NOM. EFF.	"F.L. AMPS"	"EST WT."	"C" DIM.	FOOT NOTES
15	3600	230/460	254JP	GT3421A	254TTFCD6012	¶	2:1	55	Y	91.0	35.5/17.8	320	29.03	68
	3600	575	254JP	GT3521A	254TTFCD6013		2:1	55	Y	91.0	14.3	319	29.03	
	1800	230/460	254JP	GT3422A	254TTFCD6037	√	10:1	55	Y	92.4	36.5/18.4	365	29.03	68
	1800	575	254JP	GT3522A	254TTFCD6038		10:1	55	Y	92.4	15.1	365	29.03	
	1200	230/460	284JP	GT3423A	284TTFCD6085	¶	10:1	55	Y	91.7	40.0/20.0	351	30.40	68
	1200	575	284JP	GT3523A	284TTFCD6095		10:1	55	Y	91.7	16.0	415	30.40	
20	3600	230/460	256JP	GT3424A	256TTFCD6012	√	2:1	55	Y	91.0	47.0/23.5	276	30.76	68
	3600	575	256JP	GT3524A	256TTFCD6013		2:1	55	Y	91.0	19.0	386	30.76	
	1800	230/460	256JP	GT3425A	256TTFCD6037	√	10:1	55	Y	93.0	48.5/24.2	295	30.76	68
	1800	575	256JP	GT3525A	256TTFCD6038		10:1	55	Y	93.0	19.4	363	30.76	
	1200	230/460	286JP	GT3426A	286TTFCD6085	¶	10:1	55	Y	91.7	52.0/26.0	458	31.90	68
	1200	575	286JP	GT3526A	286TTFCD6095		10:1	55	Y	91.7	20.8	463	31.90	
25	3600	230/460	284JP	GT3427A	284TTFCD6012	√	2:1	55	Y	91.7	60.0/30.0	342	30.40	68
	3600	575	284JP	GT3527A	284TTFCD6013		2:1	55	Y	91.7	24.0	342	30.40	
	1800	230/460	284JP	GT3428A	284TTFCD6037	√	10:1	55	Y	93.6	60.0/30.0	406	30.40	68
	1800	575	284JP	GT3528A	284TTFCD6038		10:1	55	Y	93.6	24.0	551	30.40	
	1200	230/460	324JP	GT3429A	324TTFCD6085		2:1	55	Y	93.0	64.0/32.0	525	32.82	68
	1200	575	324JP	GT3529A	324TTFCD6095		2:1	55	Y	93.0	25.6	525	32.82	
30	3600	230/460	286JP	GT3430A	286TTFCD6012	¶	2:1	55	Y	91.7	71.0/35.5	368	31.90	68
	3600	575	286JP	GT3530A	286TTFCD6013		2:1	55	Y	91.7	28.5	432	31.90	
	1800	230/460	286JP	GT3431A	286TTFCD6037	√	2:1	55	Y	93.6	71.0/35.5	443	31.90	68
	1800	575	286JP	GT3531A	286TTFCD6038		10:1	55	Y	93.6	28.4	542	31.90	
	1200	230/460	326JP	GT3432A	326TTFCD6085		2:1	55	Y	93.0	76.0/38.0	630	34.31	68
	1200	575	326JP	GT3532A	326TTFCD6095		2:1	55	Y	93.0	30.5	651	34.31	
40	3600	230/460	324JP	GT3433A	324TTFCD6012	√	2:1	55	Y	92.4	92.0/46.0	520	32.82	68
	3600	575	324JP	GT3533A	324TTFCD6013		2:1	55	Y	92.4	37.0	527	32.82	
	1800	230/460	324JP	GT3434A	324TTFCD6037	√	10:1	55	Y	94.1	95.0/47.5	647	32.82	68
	1800	575	324JP	GT3534A	324TTFCD6038	¶	2:1	55	Y	94.1	38.0	571	32.82	
50	3600	230/460	326JP	GT3436A	326TTFCD6012	¶	2:1	55	Y	94.1	113/56.5	732	34.31	68
	3600	575	326JP	GT3536A	326TTFCD6013		2:1	55	Y	94.1	45.0	732	34.31	
	1800	230/460	326JP	GT3437A	326TTFCD6037	√	2:1	55	Y	94.5	117/58.5	698	34.31	68
	1800	575	326JP	GT3537A	326TTFCD6038		2:1	55	Y	94.5	47.0	698	34.31	

Blue shaded areas are cast iron frames.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

FIRE PUMP MOTORS

THREE-PHASE, ODP, RIGID BASE, EPACT EFFICIENCY

APPLICATIONS

For use on pumps designed for fire pump duty and installed per NFPA-20. These dripproof motors are intended for installation in relatively clean and dry environments.

FEATURES

- **UL®* file EX5190, CSA®* file LR2025 and CE®* mark**
- 50° C ambient
- Ball bearings
- 1.15 service factor (except as noted)
- Red paint on 25 HP through 250 HP
- NEMA®* design B, code G or less
- Will accept C-Face kits (except as noted), see accessories section for kits
- 230/460 and 460 Volt models rated for 50 HZ at next lower HP, 1.15 SF, as noted
- Single voltage motors have 12 leads and are suitable for wye-delta, across the line, or part winding start
- Dual voltage motors have 12 leads, suitable for wye-delta or across the line start on either voltage, or part winding start on low voltage

FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
25	3600	190/380-400	256T	U501A	256TTDBD4020		91.0	70.0/35.0-33.5	284	24.22	
	3600	230/460	256T	U500A	256TTDBD4024	√	91.0	58.0/29.0	229	24.22	68
	3600	575	256T	U1100	256TTDBD4008		91.0	23.2	274	24.22	
	1800	190/380-400	284T	U1052	284TTDBD4047		91.7	74.0/36.5-34.5	320	25.71	
	1800	230/460	284T	U552	284TTDBD4027	√	91.7	61.0/30.5	378	25.71	68
	1800	575	284T	U1101	284TTDBD4035		91.7	24.4	378	25.71	
30	3600	190/380-400	284TS	U1053	284TSTDBD4007		91.0	87.0/43.5-41.0	374	24.34	
	3600	230/460	284TS	U553	284TSTDBD4002	√	91.0	72.0/36.0	315	24.34	68
	3600	575	284TS	U1103	284TSTDBD4008		91.0	28.8	374	24.34	
	1800	190/380-400	286T	U1054	286TTDBD14042		92.4	87.0/43.0-41.0	366	27.09	
	1800	230/460	286T	U554	286TTDBD4041	√	92.4	72.0/36.0	362	27.09	68
	1800	575	286T	U1104	286TTDBD4035		92.4	28.8	424	27.09	
40	3600	190/380-400	286TS	U1155	286TSTDBD4023		91.7	114/57.0-54.0	357	25.72	
	3600	230/460	286TS	U592	286TSTDBD4022	√	91.7	94.0/47.0	362	25.72	68
	3600	575	286TS	U1106	286TSTDBD4008		91.7	37.5	421	25.72	
	1800	190/380-400	324T	U511A	324TTDCD14049		93.0	114/56.5-53.5	249	28.55	
	1800	230/460	324T	U510A	324TTDCD4038	√	93.0	94.0/47.0	556	28.55	68
	1800	575	324T	U1107	324TTDCD4035		93.0	37.5	599	28.55	
50	3600	190/380-400	324TS	U513A	324TSTDCD4007		92.4	138/69.0-67.0	633	27.05	
	3600	230/460	324TS	U512A	324TSTDCD4010	√	92.4	114/57.0	547	27.05	68
	3600	575	324TS	U1109	324TSTDCD4008		92.4	45.5	252	27.05	
	1800	190/380-400	326T	U515A	326TTDCD4344		93.6	145/72.0-68.5	591	29.73	
	1800	230/460	326T	U514A	326TTDCD4345	√	93.6	120/60.0	266	29.73	68
	1800	575	326T	U1110	326TTDCD4035		93.6	48	324	29.73	
60	3600	190/380-400	326TS	U517A	326TSTDCD4022		93.0	165/82.5-77.5	694	28.23	
	3600	230/460	326TS	U516A	326TSTDCD4024	√	93.0	136/68.0	611	28.23	68
	3600	575	326TS	U1112	326TSTDCD4008		93.0	54.5	610	28.23	
	1800	190/380-400	364TS	U519A	364TSTDCD4337		93.6	167/83.5-80.0	839	29.57	
	1800	230/460	364TS	U518B	364TSTDCD4333	√	93.6	138/69.0	836	29.57	68
	1800	575	364TS	U1113	364TSTDCD4035		93.6	55.0	846	29.57	

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Blue shaded areas are cast iron frames.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

FIRE PUMP MOTORS

THREE-PHASE, ODP, RIGID BASE, EPACT EFFICIENCY

FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
75	3600	230/460	364TS	**U522B**	364TSTDCD4026	√	93.0	170/85.0	800	29.57	68
	3600	575	364TS	**U1115**	364TSTDCD4008		93.0	68.0	807	29.57	
	1800	190/380-400	365TS	**U525B**	365TSTDCD4348		94.1	205/103	416	29.57	
	3600	575	364TS	**U1115**	364TSTDCD4008		93.0	68.0	807	29.57	
	1800	190/380-400	365TS	**U525B**	365TSTDCD4348		94.1	205/103	416	29.57	
	1800	230/460	365TS	**U524A**	365TSTDCD4332		94.1	170/85.0	416	29.57	68
	1800	575	365TS	**U1116**	365TSTDCD4035		94.1	68.0	416	31.14	
100	3600	190/380-400	365TS	**U1526A**	365TSTDCD4303		93.0	276/138-132	927	31.10	
	3600	230/460	365TS	**U526A**	365TSTDCD4025	√	93.0	228/114	384	31.14	68
	3600	575	365TS	**U1118**	365TSTDCD4008		93.0	91.0	919	31.14	
	1800	190/380	404TS	**U1528B**	404TSTDCD4335		94.1	274/137	2249	31.44	
	1800	230/460	404TS	**U528B**	404TSTDCD4334	√	94.1	226/113	1258	31.44	68
	1800	575	404TS	**U1119A**	404TSTDCD4031		94.1	90.5	1070	31.44	
	1500	415	404TS	**U1428**	404TSTDCD4029	√	92.7	127	1075	31.44	
125	3600	380	404TS	**U1530B**	404TSTDCD14009		93.6	168	1143	31.44	
	3600	460	404TS	**U530B**	404TSTDCD4018	¶	93.6	139	1165	31.44	68
	3600	575	404TS	**U1121A**	404TSTDCD4002	√	93.6	111	1070	31.44	
	1500	415	404TS	**U1430**	404TSTDCD4005		93.0	155	1080	31.44	
	1800	200/400	405TS	**U533**	405TSTDS4333		94.5	331/166	1070	31.00	
	1800	380	405TS	**U1532B**	405TSTDCD4335		94.5	170	1417	31.44	
	1800	460	405TS	**U532B**	405TSTDCD4334	¶	94.5	141	1428	31.44	68
	1800	575	405TS	**U1122A**	405TSTDCD4031		94.5	112	1428	31.44	
	1500	415	405TS	**U1432**	405TSTDCD4029	√	93.0	157	1071	31.44	
150	3600	380	405TS	**U1534B**	405TSTDCD14019		93.6	200	1238	31.44	
	3600	460	405TS	**U534B**	405TSTDCD14306	√	93.6	165	1241	31.44	68
	3600	575	405TS	**U1124A**	405TSTDCD4002		93.6	132	1241	31.44	
	1800	380	444TS	**U1535B**	444TSTDCD14038		95.0	204	1771	36.47	
	1800	460	444TS	**U535B**	444TSTDCD4333	√	95.0	169	1771	36.47	68
	1800	575	444TS	**U1125A**	444TSTDCD4031		95.0	135	1771	36.47	
200	3600	380	444TS	**U1536B**	444TSTDCD14014		94.5	264	1728	36.47	
	3600	460	444TS	**U536B**	444TSTDCD4011	√	94.5	218	1728	36.47	68
	3600	575	444TS	**U1127A**	444TSTDCD4002		94.5	174	1728	36.47	
	1800	380	445TS	**U1537B**	445TSTDCD14046		95.0	270	2122	36.47	
	1800	460	445TS	**U537C**	445TSTDCD4334		95.0	223	2122	36.47	68
	1800	575	445TS	**U1128A**	445TSTDCD4030		95.0	178	2122	36.47	
250	3600	380	445TS	**U1539B**	445TSTDCD14024		94.5	329	1425	36.47	
	3600	460	445TS	**U539C**	445TSTDCD4001		94.5	272	1425	36.47	68
	3600	575	445TS	**U1130A**	445TSTDCD4002	¶	94.5	217	1425	36.47	
	1800	380	445TS	**U1540B**	445TSTDCD14065		95.4	338	2262	36.47	
	1800	460	445TS	**U540B**	445TSTDCD14027	√	95.4	279	2262	36.47	68
	1800	575	445TS	**U1131A**	445TSTDCD4031		95.4	223	2262	36.47	
300	3600	460	447TS	**U541**	447TSTDCD4002	¶	95.0	322	2046	45.76	68
	1800	460	447TS	**U542**	447TSTDCD4026	√	95.4	328	2714	45.76	68
350	3600	460	447TS	**U543**	447TSTDCD4003	¶	95.5	377	2046	45.76	68
	1800	460	447TS	**U544**	447TSTDCD4027		95.5	385	2046	45.76	68
400	3600	460	447TS	**U545**	447TSTDCD4005		95.6	429	2354	45.76	68
	1800	460	447TS	**U546**	447TSTDCD4028		95.4	442	2354	45.76	68
450	3600	460	449TS	**H818**	449TSTDN7001		95.8	502	2544	45.76	68
	1800	460	449TS	**H815A**	449TSTDN14033	√	95.8	505	2564	44.58	17, 68
500	3600	460	449TS	**H819A**	449TSTDN14005	√	95.8	546	2620	44.58	68
	1800	460	449TS	**H816**	449TSTDN7027	√	95.8	560	2695	44.58	17, 68

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Blue shaded areas are cast iron frames.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

FIRE PUMP MOTORS

THREE-PHASE, TEFC, RIGID BASE, EPACT EFFICIENCY

APPLICATIONS

For use on pumps designed for fire pump duty and installed per NFPA-20. Fire Pump motors are not recommended for use with variable frequency drives.

FEATURES

- **UL®* file EX5190, CSA®* file LR2025 and CE®* mark**
- 40° C ambient
- Ball bearings
- 1.15 service factor (except as noted)
- Red paint on 25 HP through 250 HP
- NEMA®* design B, code G or less
- Will accept C-Face kits (except as noted), see accessories section for kits
- 230/460 and 460 Volt models rated for 50 HZ at next lower HP, 1.15 SF, as noted
- Single voltage motors have 12 leads and are suitable for wye-delta, across the line, or part winding start
- Dual voltage motors have 12 leads, suitable for wye-delta or across the line start on either voltage, or part winding start on low voltage

FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
15	3600	230/460	254T	**Y1608**	254TTFPA14014		90.2	35.0/17.5	262	23.47		A239
	1800	230/460	254T	**Y1609**	254TTFNA14336	¶	91.0	39.0/19.5	297	23.65		A284
20	3600	230/460	256T	**Y1610**	256TTFNA14022		90.2	46.5/23.2	682	25.40		A284
	1800	230/460	256T	**Y1611**	256TTFNA14071		91.0	50.0/25.0	331	25.27		A284
25	3600	230/460	284TS	**Y1612**	284TSTFPA14007		91.0	59.0/29.5	378	24.93		A617
	1800	230/460	284T	**Y1613**	284TTFPA14055		92.4	61.0/30.5	369	26.39		A617
30	3600	230/460	286TS	**Y1614**	286TSTFPA14006		91.0	70.0/35.0	413	26.43		A617
	1800	230/460	286T	**Y1615**	286TTFNA14050		92.4	72.0/36.0	484	27.71		A618
40	3600	230/460	324TS	**Y1616**	324TSTFPA14010		91.7	92.0/46.0	531	27.47		A619
	1800	230/460	324T	**Y1618**	324TTFPA14071		93.0	100/50.0	583	28.97		A619
50	3600	230/460	326TS	**Y1619**	326TSTFPA14013		92.4	112/56.0	522	28.97		A619
	1800	230/460	326T	**Y1621**	326TTFS14046		93.0	122/61.0	681	30.38		A214
60	3600	230/460	364TS	**Y1622**	364TSTFS14009		93.0	138/69.0	815	29.38		A396
	1800	230/460	364T	**Y1624**	364TTFS14064		93.6	142/71.0	882	31.52		A395
75	3600	230/460	365TS	**Y1625**	365TSTFS14009		93.0	172/86.0	911	30.38		A396
	1800	230/460	365T	**Y1627**	365TTFS14071		94.1	176/88.0	990	32.52		A395
100	3600	230/460	405TS	**Y1628**	405TSTFS14007		94.1	224/112	1103	34.13		A226
	1800	230/460	405T	**Y1630**	405TTFS14328		94.5	224/112	1234	37.13		A223
125	3600	460	444TS	**Y1631**	444TSTFN14004		94.5	140	1818	39.60		A621
	1800	460	444T	**Y1633**	444TTFN14048		94.5	145	1798	43.35		A620
150	3600	460	445TS	**Y1634**	445TSTFN14013		94.5	165	1981	39.60		A621
	1800	460	445TS	**Y1635**	445TSTFN14067		95.0	170	1860	39.60		A621
	1800	460	445T	**Y1636**	445TTFN14337		95.0	170	2025	43.35		A620
200	3600	460	445TS	**Y1637**	445TSTFN14014		95.0	220	2108	39.60		A621
	1800	460	445TS	**Y1638**	445TSTFN14066		95.0	224	2164	39.60		A621
	1800	460	445T	**Y1639**	445TTFN14338		95.0	224	1878	43.35		A620
250	3600	460	449TS	**Y1640**	449TSTFS14012		95.4	270	2700	48.11		A624
	1800	460	449TS	**Y1641**	449TSTFS14040		95.4	285	2732	48.11		A624

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*See back cover page for attribution.

FIRE PUMP MOTORS

THREE-PHASE, TEFC, RIGID BASE, EPACT EFFICIENCY

FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
250	1800	460	449T	**Y1642**	449TTFS14055		95.0	290	2550	51.86		A623
300	3600	460	447/449TS	**Y1643**	449TSTFS14013		95.4	328	2902	47.88		A624
	1800	460	449TS	**Y1644**	449TSTFS14045		95.4	335	2720	48.11		A624
	1800	460	449T	**Y1645**	449TTFS14057		95.4	335	3041	51.86		A623
350	3600	460	449TS	**Y1646**	449TSTFS14010		95.8	382	3088	47.88		A624
	1800	460	449TS	**Y1647**	449TSTFS14044		95.4	400	2720	48.11		A624
	1800	460	449T	**Y1648**	449TTFS14056		95.4	400	3202	51.86		A623
400	3600	460	5011S	**Y1649**	––		95.4	432	5500	67.19		
	1800	460	5011L	**Y1650**	––		95.4	448	5500	67.19		
450	3600	460	5011L	**Y1651**	––		95.4	515	5845	67.19		
	1800	460	5011L	**Y1652**	––		95.4	495	5942	67.19		

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

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VERTICAL SOLID SHAFT P-BASE MOTORS

NEMA PREMIUM ®*, THREE-PHASE, DRIPPROOF

APPLICATIONS

For use on: Vertical end suction, short couple, centrifugal, non-clog, mix flow, turbine, and propeller pumps. HP type shafts, per NEMA®*MG-1 18.625. HPH and TCV type shafts, Single-phase, and other modifications such as adding screens are also available through special order. Contact your sales representative for more information.

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Normal and medium thrust
- Rolled steel frames are normal thrust. Cast iron frames are medium thrust
- Ball bearings and angular contact bearings for medium thrust applications
- Class F insulation
- 1.15 service factor
- Suitable for 230 volt part winding start through 100 HP (dual voltage motors)
- Heavy duty lifting lugs
- Drip cover/canopy cap included
- UL®* recognized, CSA®* certified
- UL Listed for Fire Pump applications (except as noted)

FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	"CAT. NO."	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	DOWN THRUST	BASE DIA.	FOOT NOTES
3	3600	230/460	182HPV	**M800B**	-		85.5		113	14.00	260	9.88	98
	1800	230/460	182HPV	**M801B**	182TTDR16072		89.5	7.8/3.9	109	17.18	390	9.88	98
	1200	230/460	213HPV	**M802B**	213TTDWD16089		88.5	9.0/4.5	129	20.30	560	9.88	98
5	3600	230/460	182HPV	**M803B**	-		86.5		121	17.68	310	9.88	98
	1800	230/460	184HPV	**M804B**	184TTDR16009		89.5	12.6/6.3	120	17.18	490	9.88	98
	1200	230/460	215HPV	**M805B**	215TTDWD16091		89.5	13.8/6.9	129	21.55	650	9.88	98
7 1/2	3600	230/460	184HPV	**M806B**	-		88.5		128	16.91	380	9.88	98
	1800	230/460	213HPV	**M807B**	213TTDWD16342		91.0	20.0/10.0	123	20.30	560	9.88	98
	1200	230/460	254HPV	**M808B**	254TTDX16086		90.2	21.4/10.7	37	24.30	720	9.88	98
	900	230/460	254HPV	**M708**	-		89.5	8.4/4.2	271	16.91	3000	9.88	
10	3600	230/460	213HPV	**M809B**	213TTDWD16007		89.5	24.2/12.1	140	21.01	450	9.88	98
	1800	230/460	215HPV	**M810B**	215TTDWD16350		91.7	26.2/13.1	123	20.30	560	9.88	98
	1200	230/460	256HPV	**M711**	256TTDN16082		91.7	26.0/13.0	468	24.30	3000	9.88	
	900	230/460	284HPV	**M712**	-		90.2	8.4/4.2	560	27.26	4125	9.88	
15	3600	230/460	215HPV	**M813B**	215TTDWD14018		90.2	36.5/18.2	129	21.55	520	9.88	98
	1800	230/460	254HPV	**M814B**	254TTDX16054		93.0	38.5/19.2	227	24.30	640	9.88	98
	1200	230/460	284HPV	**M715**	284TTDN16087		91.7	41.0/20.4	570	27.06	1950	12.55	
	900	230/460	284HPV	**M716**	-		90.2	8.4/4.2	590	28.76	4125	12.55	
20	3600	230/460	254HPV	**M717**	-		91.0	47.0/23.5	326	24.30	640	9.88	
	1800	230/460	256HPV	**M818B**	256TTDR16029		93.6	49.0/24.5	281	24.30	640	9.88	98
	1800	230/460	256HPV	**M718A**	256TTDN16067		93.6	48.0/24.0	284	27.87	2400	9.88	
	1200	230/460	286HPV	**M719**	286TTDN16093		92.4	52.0/26.0	562	29.56	3000	12.55	
	900	230/460	324HPV	**M720**	324TTDN16101		91.0	60.0/30.0	465	30.56	4125	16.38	

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√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
*See back cover page for attribution.

VERTICAL SOLID SHAFT P-BASE MOTORS

THREE-PHASE, DRIPPROOF

FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	"CAT. NO."	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	DOWN THRUST	BASE DIA.	FOOT NOTES
25	3600	230/460	256HPV	**M721A**	256TTDN16018		91.7	58.0/29.0	357	27.84	1950	9.88	
	1800	230/460	284HPV	**M722**	284TTDN16063		93.6	62.0/31.0	289	27.06	2625	12.55	
	1200	230/460	324HPV	**M823B**	324TTDR16091		93.0	65.0/32.5	588	30.06	1000	16.38	98
	1200	230/460	324HPV	**M723**	324TTDN16077		93.0	65.0/32.5	601	31.93	3750	16.38	
	900	230/460	326HPV	**M724**	326TTDN16101		91.0	73.0/36.5	531	31.93	4125	16.38	
30	3600	230/460	284HPV	**M825B**	284TTDN16007		93.6	68.0/34.0	292	27.06	2063	12.55	
	1800	230/460	286HPV	**M726**	286TTDN16330		94.1	74.0/37.0	628	29.56	2625	12.55	
	1200	230/460	324HPV	**M727**	324TTDN16078		93.6	77.0/38.5	354	33.44	3750	16.38	
	900	230/460	364HPV	**M728**	364TTDS16105		91.7	82.0/41.0	700	29.00	4125	16.50	
40	3600	230/460	286HPV	**M729**	286TTDN16011		93.6	90.0/45.0	602	28.56	2063	12.55	
	1800	230/460	324HPV	**M730**	-		94.1		784	28.06	3000	16.38	
	1200	230/460	364HPV	**M731**	364TTDS16088		94.1	101/50.5	784	28.06	3750	16.50	
	900	230/460	365HPV	**M732**	365TTDS16101		91.7	105/52.5	784	29.00	4125	16.50	
50	3600	230/460	324HPV	**M733**	-		93.0	117/58.5	510	29.56	2250	16.38	
	1800	230/460	326HPV	**M734**	326TTDN16035		94.5	124/62.0	615	30.56	3000	16.38	
	1200	230/460	365HPV	**M735**	365TTDS16086		94.1	125/62.5	1040	29.00	3750	16.50	
	900	230/460	404HPV	**M736**	404TTDS16102		92.4	65.0	1064	31.75	5250	16.50	
60	3600	230/460	326HPV	**M737**	-		93.6		645	30.56	2250	16.38	
	1800	230/460	364HPV	**M738**	364TTDS16052		95.0	139/69.5	745	34.19	3000	16.50	
	1200	230/460	404HPV	**M739**	404TTDS16093		95.0	146/73.0	1130	31.75	4500	16.50	
	900	230/460	405HPV	**M740**	405TTDS16102		93.0	160/80.0	1889	31.75	5250	16.50	
75	3600	230/460	364HPV	**M741**	364TTDS16009		94.5	170/85.0	733	29.00	2250	16.50	
	1800	230/460	365HPV	**M742**	365TTDS16072		95.0	174/87.0	800	29.00	3000	16.50	
	1200	230/460	405HPV	**M743**	405TTDS16089		95.0	180/90.0	1097	31.75	4500	16.50	
	900	460	444HPV	**M744**	444TTDN16101		93.6	107	1548	36.02	6000	16.38	
100	3600	230/460	365HPV	**M745**	365TTDS16016		94.1	230/115	784	29.00	2250	16.50	
	1800	230/460	404HPV	**M746**	404TTDS16332		95.4	226/113	1162	35.64	3375	16.50	
	1200	230/460	444HPV	**M747**	444TTDN16078		95.0	246/123	1548	36.02	5250	16.38	
	900	460	445HPV	**M748**	445TTDN16101		94.1	135	1548	36.02	6000	16.38	
125	3600	460	404HPV	**M749**	404TTDS16010		95.0	138	1009	31.75	2250	16.50	
	1800	460	405HPV	**M750**	405TTDS16070		95.4	141	1400	31.75	3375	16.50	
	1200	460	445HPV	**M751**	445TTDN16080		95.0	152	1548	36.02	5250	16.38	
	900	460	505HPV	**M752**	505UTDS16102		94.5	170	1976	38.75	6000	20.00	98
150	3600	460	405HPV	**M753**	405TTDS16010		95.0	165	1082	31.75	2250	16.50	
	1800	460	444HPV	**M754**	444TTDN16027		95.8	172	1548	36.02	3375	16.38	
	1200	460	445HPV	**M755**	445TTDN16079		95.4	178	1548	36.02	5250	16.38	
	900	460	505HPV	**M756**	505UTDS16103		94.5	191	2148	38.75	6000	20.00	98
200	3600	460	444HPV	**M757**	444TTDN16003		95.0	220	1548	36.02	2250	16.38	
	1800	460	445HPV	**M758**	445TTDN16031		95.8	226	1548	36.02	3375	16.38	
	1200	460	505HPV	**M759**	505UTDS16076		95.4	240	2140	38.75	5250	20.00	98
	900	460	505HPV	**M760**	505UTDS16101		94.1	265	1960	38.75	6000	20.00	98
250	3600	460	445HPV	**M761**	445TTDN16002		95.4	275	1446	36.02	2250	16.38	
	1800	460	445HPV	**M762**	445TTDN16032		95.8	282	1548	36.02	3750	16.38	
	1200	460	508HPV	**M763**	508UTDS16078		95.8	300	2318	38.75	5250	20.00	98

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*See back cover page for attribution.

VERTICAL SOLID SHAFT P-BASE MOTORS

NEMA PREMIUM®*, THREE-PHASE, TOTALLY ENCLOSED

APPLICATIONS

For use on: Vertical end suction, short couple, centrifugal, non-clog, mix flow, turbine, and propeller pumps. HP type shafts, per NEMA® MG-1, 18.625. Totally enclosed fan cooled construction restricts the free exchange of ambient air inside the motor. Suitable for demanding applications in the process industries. HPH type shafts, severe duty features, explosion proof, and other modifications are also available through special order. Contact your sales representative for more information.

FEATURES

- **Meets or exceeds NEMA Premium®* efficiencies**
- Normal thrust
- Class F insulation
- 1.15 service factor
- Suitable for 230 volt part winding start through 100 HP (dual voltage motors)
- Heavy duty lifting lugs drip cover/canopy cap included over/canopy cap included
- UL®* recognized, CSA®* certified

FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	DOWN THRUST	BASE DIA.	FOOT NOTES
3	3600	230/460	182HPV	**M875B**	182TTFR16017		87.5	7.6/3.8	109	18.05	260	9.88	
	1800	230/460	182HPV	**M876B**	182TTFR16035		89.5	8.0/4.0	0	18.05	390	9.88	
	1200	230/460	213HPV	**M877B**	213TTFW16085		89.5	8.8/4.4	172	22.66	560	9.88	
5	3600	230/460	184HPV	**M787B**	-		88.5	8.4/4.2	#N/A	20.05	390	9.88	
	1800	230/460	184HPV	**M879B**	184TTFR16054		90.2	12.4/6.2	160	20.05	490	9.88	
	1200	230/460	215HPV	**M880B**	215TTFWD16084		89.5	15.6/7.8	139	23.91	650	9.88	
7 1/2	3600	230/460	213HPV	**M881B**	213TTFWD16016		89.5	18.6/9.3	157	22.66	380	9.88	
	1800	230/460	213HPV	**M882B**	-		91.7	8.4/4.2	#N/A	22.66	490	9.88	
	1200	230/460	254HPV	**M883B**	254TTFNA16088		91.0	19.8/9.9	422	28.26	720	9.88	
10	3600	230/460	215HPV	**M884B**	215TTFWD16017		90.2	23.6/11.8	172	22.66	450	9.88	
	1800	230/460	215HPV	**M885B**	215TTFWD16057		91.7	26.4/13.2	158	23.91	560	9.88	
	1200	230/460	256HPV	**M886B**	256TTFNA16099		91.0	26.2/13.1	1059	28.26	720	9.88	
15	3600	230/460	254HPV	**M888B**	-		91.0		#N/A	28.26	520	9.88	
	1800	230/460	254HPV	**M889B**	-		92.4		#N/A	28.26	640	9.88	
	1800	230/460	284HPV	**M890B**	284TTFPA16033		92.4	36.0/18.0	400	28.88	800	9.88	
20	3600	230/460	256HPV	**M892B**	256TTFNA16106		91.0	48.0/24.0	413	28.26	520	9.88	
	1800	230/460	256HPV	**M893B**	256TTFNA16031		93.0	48.0/24.1	536	28.26	640	9.88	
	1200	230/460	286HPV	**M894B**	286TTFNA16096		92.1	53.5/26.7	438	30.84	800	9.88	
25	3600	230/460	284HPV	**M896B**	284TTFNA16015		93.6	56.0/28.1	542	30.84	550	9.88	
	1800	230/460	284HPV	**M897B**	284TTFNA16131		93.6	62.0/31.0	466	28.88	700	9.88	
	1200	230/460	324HPV	**M898B**	324TTFS16087		93.0	65.0/32.5	778	35.62	1000	16.38	
30	3600	230/460	286HPV	**M900B**	286TTFNA16021		93.0	67.0/33.5	2834	27.38	550	9.88	
	1800	230/460	286HPV	**M901B**	286TTFNA16341		94.1	73.0/36.5	1846	27.38	700	9.88	
	1200	230/460	326HPV	**M902B**	326TTFS16377		93.0	77.0/38.5	37	35.62	1000	16.38	
40	3600	230/460	324HPV	**M904B**	324TTFS16011		93.0	94.0/47.0	742	35.62	600	16.38	
	1800	230/460	324HPV	**M905B**	324TTFS6041		94.1	95.0/47.5	820	35.62	800	16.38	
	1200	230/460	364HPV	**M906B**	364TTFS16087		94.1	100/50.0	934	37.61	1000	16.38	
50	3600	230/460	326HPV	**M908B**	-		93.0	#N/A	#N/A	34.59	700	16.38	
	1800	230/460	326HPV	**M909B**	326TTFS16037		94.5	120/60.0	825	34.59	800	16.38	
	1200	230/460	365HPV	**M910B**	365TTFS16088		94.5	123/61.5	1158	37.61	1000	16.38	
60	3600	230/460	364HPV	**M912B**	364TTFS16008		94.5	134/67.0	1064	37.61	600	16.38	
	1800	230/460	364HPV	**M913B**	364TTFS6059		95.0	140/70.0	1116	37.61	800	16.38	
	1200	230/460	404HPV	**M914B**	404TTFS16086		94.5	144/72.0	1307	40.58	1400	16.38	
75	3600	230/460	365HPV	**M916B**	365TTFS16013		94.5	168/84.0	1059	37.61	600	16.38	
	1800	230/460	365HPV	**M917B**	365TTFS16132		95.4	172/86.0	1190	37.61	800	16.38	
	1200	230/460	405HPV	**M918B**	405TTFS16082		94.5	180/90.0	1460	40.58	1400	16.38	

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Blue shaded areas are cast iron frames.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

VERTICAL SOLID SHAFT P-BASE MOTORS

NEMA PREMIUM®*, THREE-PHASE, TOTALLY ENCLOSED

FOOTLESS (VERTICAL)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	DOWN THRUST	BASE DIA.	FOOT NOTES
100	3600	230/460	405HPV	**M920B**	405TTFS16004		94.1	224/112	1362	40.58	600	16.38	
	1800	230/460	405HPV	**M921B**	405TTFS16129		95.4	226/113	1449	40.58	900	16.38	
	1200	230/460	444HPV	**M922B**	444TTFN16081		95.0	248/124	2110	43.50	1400	16.38	
125	3600	460	444HPV	**M924B**	444TTFN16001		95.0	142	2128	43.50	600	16.38	
	1800	460	444HPV	**M925B**	444TTFN16045		95.4	146	2122	43.50	1000	16.38	
	1200	460	445HPV	**M926B**	445TTFN16091		95.0	155	2276	43.50	1400	16.38	
150	3600	460	445HPV	**M928B**	445TTFN16001		95.8	168	2162	43.50	600	16.38	
	1800	460	445HPV	**M929B**	445TTFN16361		95.8	170	2298	43.50	1000	16.38	
200	1800	460	445HPV	**M933B**	445TTFN16359		96.2	226	2490	43.50	1000	16.38	

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*See back cover page for attribution.

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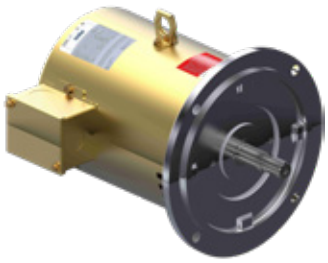
POOL PUMP MOTORS

SINGLE AND THREE-PHASE, DRIPPROOF



APPLICATIONS

Purex Hydrotech®* East Side "L" Series and "C" Series commercial pump replacement motors.

FEATURES

- Class F insulation
- External Slinger

D-FLANGE FOOTLESS - SINGLE-PHASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5	3600	220/440	184TDZ	V214M2	V214M2		78.5	25.4	108	17.32	

D-FLANGE FOOTLESS - THREE-PHASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5	3600	220/440	182TDZ	R237M2A	R237M2A		86.5	13.0/6.5	48	14.32	
	3600	220/440	182TDZ	R237M2B	R237M2B		86.5	13.8/6.9	40	14.26	
7 1/2	3600	220/440	184TDZ	R232M2B	R232M2B		88.5	19.2/9.6	40	14.26	
10	3600	220/440	213TDZ	R338M2B	R338M2B		89.5	253.3/12.7	125	18.17	
15	3600	220/440	215TDZ	R339M2A	R339M2A		91.0	38.0/19.0	127	18.04	

POOL PUMP MOTORS

SINGLE AND THREE-PHASE, DRIPPROOF

APPLICATIONS

Pentair®* pool pump replacement motors

FEATURES

- Class F insulation
- 303 Stainless Steel shaft extension

C-FACE FOOTED (RIGID BASE) - SINGLE-PHASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	3600	230	213JMZ	CEQ750	CEQ750		88.5	34.0	84	19.92	

C-FACE FOOTED (RIGID BASE) - THREE-PHASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5	3600	230/460	182JMZ	CEQK500V1	CEQK500V1		86.5	14.8/7.4	64	15.27	
7 1/2	3600	230/460	184JMZ	CEQK750V1	CEQK750V1		88.5	21.0/10.5	79	16.27	
10	3600	230/460	213JMZ	CEQK1000	CEQK1000		90.2	25.6/12.8	105	19.78	
	3600	230/460	213JMZ	CEQK1000V1	CEQK1000V1		89.5	27.6/13.8	85	19.80	
15	3600	230/460	215JMZ	CEQK1500V1	CEQK1500V1		90.2	41.0/20.6	95	19.80	

Blue shaded areas are cast iron frames.

Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

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POOL PUMP MOTORS

SINGLE AND THREE-PHASE, DRIPPROOF

APPLICATIONS

West Coast shaft pump replacement motors

FEATURES

- Oversized, locked shaft end bearing
- 1.15 service factor

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
5	3600	230	184TCZ	P212M2	P212M2		78.5	25.4	101	21.02	
	1800	230	213TCZ	P312M2	P312M2		82.5	22.0	172	22.98	
7 1/2	1800	230	215TCZ	P313M2	P313M2		84	34.5	123	22.98	
10	3600	230	215TCZ	P321M2	P321M2		82.5	39.5	104	24.83	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

CENTRIFUGAL FAN

SINGLE-PHASE, DRIPPROOF, RIGID BASE

APPLICATIONS

Direct drive centrifugal fans installed in relatively clean and dry applications

FEATURES

- Capacitor start/capacitor run design for high starting torque and low amps
- Ball bearings, mechanically locked on shaft end
- 84" leads, rodent screens
- Heavy gauge steel frame and base
- Shaft 1" longer than NEMA®* standard for extra clearance
- 1.15 service factor (unless otherwise noted)
- UL®* recognized and CSA®* certified

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
10	1800	230	215TZ	Z126	215TBDW7362		82.5	44.0	158	21.1	13

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

AGGREGATE DUTY - BLUE CHIP SERIES® CRUSHER MOTORS

NEMA PREMIUM®* XRI®, TOTALLY ENCLOSED, THREE-PHASE, HIGH TORQUE

IP55 Inverter Duty

APPLICATIONS

Specifically designed for the aggregate industry crusher applications such as cone, jaw, and roller type impactors, pulverizers, etc.

FEATURES

- **Meets or exceeds NEMA Premium efficiencies**
- Blue Chip Series® quality, 100% cast iron construction for rigidity and reduced vibration
- 4140 high strength shaft material
- NEMA®* design C, extra high starting and breakdown torque design
- Roller bearing on drive end for belted loads
- IP55 rating, enclosure protection against dust and water jets
- Suitable for use on a VFD. 10:1 variable torque and 10:1 constant torque
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Suitable for across the line, wye-delta, part winding, or inverter start
- 80°C rise at rated load
- Class F insulation
- Axial surface seal (50 to 200HP) and Inpro® smart ring plus
- Rotating shaft seals, each end for the 250HP model
- External epoxy paint
- Brass drain and breather
- UL®* recognized and CSA®* certified

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	"F.L. AMPS"	"EST WT."	"“C” DIM."	"FOOT NOTES"
50	1800	230/460	326T	**Y818A**	326TTFC6633	√	4:1	94.5	118/59.0	683	33.86	YD
	1200	230/460	365T	**Y840A**	365TTFC6683	√	4:1	94.1	120/60.0	1064	38.39	YD
60	1800	230/460	364T	**Y819A**	364TTFC6633	√	4:1	95.0	138/69.0	421	36.61	YD
	1200	230/460	404T	**Y850A**	404TTFC6683	√	4:1	94.5	144/72.0	558	42.72	YD
75	1800	230/460	365T	**Y820A**	365TTFC6633	√	4:1	95.4	172/86.0	463	38.39	YD
	1200	230/460	405T	**Y852A**	405TTFC6683	√	4:1	94.5	178/89.0	1455	42.72	YD
100	1800	230/460	405T	**Y822B**	405TTFC6633	√	4:1	95.4	228/114	1462	42.72	YD
	1200	460	444T	**Y851A**	444TTFC6683	√	4:1	95.0	114	2106	50.79	YD
125	1800	460	444T	**Y824A**	444TTFC6633	√	4:1	95.4	140	2202	50.79	YD
	1200	460	445T	**Y853A**	445TTFC6683	√	4:1	95.0	142	2346	50.79	YD
150	1800	460	445T	**Y826B**	445TTFC6633	√	4:1	95.8	165	2200	50.79	YD
	1200	460	447T	**Y854A**	447TTFC6683	√	4:1	95.8	170	2569	55.91	YD
200	1800	460	447T	**Y828A**	447TTFC6633	√	4:1	96.2	225	2509	55.91	YD
	1200	460	449T	**Y855B**	449TTFC6683	√	4:1	95.8	228	2652	55.91	YD
250	1800	460	449T	**Y856A**	449TTFS36633	√	4:1	96.5	282	2924	52.06	YD

Blue shaded areas are cast iron frames.
Catalog numbers (Cat No.) highlighted in bold blue are premium efficient.
√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
*See back cover page for attribution.

AIR COMPRESSOR MOTORS

SINGLE-PHASE, DRIPPROOF, RIGID BASE

APPLICATIONS

Specifically designed for air compressor, pump and fan and blower duty applications which require high break down torque and rugged mechanical constructions.

FEATURES

- Capacitor start/capacitor run design for low amps and high efficiency, as noted
- High starting and breakdown torque
- Heavy gauge steel frame and base
- Continuous duty at nameplate ratings
- Thermal protection, as noted
- UL®* recognized and CSA®* certified

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	3600	208-230	213T	NONE		140680.00		88.5	37.5-34	115	18.14	
	1800	230	215T	NONE		140155.00	√	81.5	40.5	116	17.26	
10	3600	208-230	215T	NONE		140681.00	√	88.5	49-43	126	19.39	
	1800	230	215TZ	NONE		141430.00	√	86.5	49	159	21.09	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

COOLING TOWER, TWO-SPEED, ONE WINDING, VARIABLE TORQUE MOTORS

BLUE CHIP SERIES® SEVERE DUTY, XRI®
THREE-PHASE, TOTALLY ENCLOSED, RIGID BASE

APPLICATIONS

Cooling towers, fan and blowers, and other severe duty environments where long life and ultra-high efficiency are desired. Guaranteed efficiencies offer an extra return on your investment when using these premium efficiency motors on high cycle or long run applications. Replacement for two-speed Marley®* cooling tower motors.

FEATURES

- Blue Chip Series quality, 100% cast iron construction for rigidity and reduced vibration
- Internal and external epoxy paint
- Class F insulation
- 1.15 service factor
- Extended grease tubes, regreasable in service
- T-drains provided for effective drainage (Installed in both endshields)
- Shaft slinger
- Forsheda®* seals on both ends
- Actual test and vibration data supplied with each motor
- Ball bearings
- UL®* recognized and CSA®* certified
- Three year warranty
- Horizontal mounting only; consult engineering for vertical mounting

IP55

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3/.75	1800/900	460	184T	Y380A	184TTFCD7290		86.5	4.0	107	16.20	
5/1.25	1800/900	460	213T	Y381A	213TTFCD7238		89.5	6.2	173	18.53	
7.5/1.9	1800/900	460	215T	Y382A	215TTFCD7290		89.5	9.0	172	20.03	
10/2.5	1800/900	460	254T	Y383A	254TTFCD7210		90.2	12.3	259	24.15	
15/3.75	1800/900	460	256T	Y384A	256TTFCD7250	√	91.0	18.8	303	25.89	
20/5	1800/900	460	284T	Y385A	284TTFCD7240		91.0	24.8	433	26.64	
25/6.25	1800/900	460	286T	Y386A	286TTFCD7260	√	91.7	34.0	400	28.14	
30/7.5	1800/900	460	324T	Y387A	324TTFCD7290		92.4	38.0	620	29.85	
40/10	1800/900	460	326T	Y388A	326TTFCD9210	√	93.0	52.5	676	31.35	
50/12.5	1800/900	460	364T	Y389A	364TTFCD9234		93.0	59.5	890	33.40	
60/15	1800/900	460	365T	Y390A	365TTFCD9230		93.6	71.5	926	34.40	
75/18.75	1800/900	460	405T	Y391A	405TTFCD7297		94.1	83.0	1265	38.88	
100/25	1800/900	460	444T	Y392A	444TTFCD7262		94.1	110	1650	46.83	

Blue shaded areas are cast iron frames.
√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MULTI-SPEED: TWO-SPEED, ONE-WINDING, VARIABLE TORQUE MOTORS

THREE-PHASE, DRIPPROOF, RIGID BASE

APPLICATIONS

Commercial and industrial fans, blowers, pumps, and other machinery that have variable torque characteristics. Prolonged use at low speed can result in significant energy savings. Dripproof motors are intended for use in environments that are relatively clean and dry.

FEATURES

- Ball bearings
- 1.15 service factor
- UL®* recognized and CSA®* certified

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3/.75	1800/900	200-230	182T	Y484B	182TTDBD7412		85.5	8.5-7.5	72	12.25	
	1800/900	460	182T	Y485B	182TTDBD7203		85.5	3.8	73	12.25	
5/1.25	1800/900	200-230	184T	Y486B	184TTDBD7287	¶	86.5	14.0-13.0	79	13.25	
7.5/1.88	1800/900	460	213T	Y489A	213TTDBD7201	¶	86	9.2	130	17.30	
10/2.5	1800/900	200-230	215T	Y490A	215TTDBD17206		86.5	28.4-25.5	170	17.30	
	1800/900	460	215T	Y491A	215TTDBD7201		87.5	12.5	140	17.30	
15/3.75	1800/900	460	256T	Y492A	256TTDBD7207		91.0	19.8	239	23.88	

MULTI-SPEED: TWO-SPEED, TWO-WINDING, VARIABLE TORQUE MOTORS

THREE-PHASE, DRIPPROOF, RIGID BASE

ADDITIONAL FEATURES

- Economical two-winding design

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2/.5	1800/900	460	182T	Y467B	182TTDBD7411	√	83.0	2.5	65	12.25	
2/.88	1800/1200	200-230	182T	Y453B	182TTDBD7413	√	80.0	7.0-6.4	63	12.25	
2/.9	1800/1200	460	182T	Y409B	182TTDBD7211	¶	80.0	3.2	65	12.25	
3/.75	1800/900	460	184T	Y468B	184TTDBD7230		83.5	3.8	74	13.25	
5/1.25	1800/1200	460	215T	Y469A	215TTDBD7205		85.0	6.3	136	17.30	
5/2.22	1800/1200	200-230	215T	Y455A	215TTDBD7204		87.5	14.5-14.0	145	17.30	
15/6.67	1800/900	460	284T	Y459A	284TTDBD7221		89.5	18.5	365	25.60	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

XRI® KILN DUTY MOTORS

BLUE CHIP SERIES® SEVERE DUTY, TEAO, RIGID BASE, THREE-PHASE

IP55 Inverter Duty

APPLICATIONS

Fans found in kilns and other high ambient environments where long life and high efficiency are desired. These TEAO motors must be mounted within the airstream for proper cooling. Suitable for use on variable frequency drives.

FEATURES

- Blue Chip Series quality, 100% cast iron construction for rigidity and reduced vibration
- Internal and external epoxy paint
- CR200 corona resistant magnet wire
- Class H insulation system
- Normally closed thermostats (one per phase, Class H)
- Heat stabilized ball bearings and high temperature grease
- Suitable for inverter use, 20:1 variable torque with 1.0 S.F. IN 90°C ambient
- Suitable for 90°C ambient at 1.15 S.F. or 100°C ambient at 1.0 S.F.
- Extended grease tubes, regreasable in service
- 8 foot leads
- UL®* recognized and CSA®* certified

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1200	460	184T	S504	184TTTS18577	√	87.5	3.0	115	13.74	
3	1800	460	182T	S506	182TTTS18532		90.2	3.9	106	13.74	75
	1200	460	213T	S507A	213TTTCD18077	√	89.5	4.3	175	15.97	
	1200	575	213T	S557A	213TTTCD18078		89.5	3.5	175	15.97	
5	1200	460	215T	S510	215TTTS17077	√	87.5	6.9	196	17.19	
	1200	575	215T	S560A	215TTTCD18078		88.5	5.5	200	17.47	
7 1/2	1200	460	254T	S513	254TTTNA17077	√	90.2	9.8	318	20.83	
	900	575	256T	S564A	256TTTCD18601		86.5	8.4	310	22.27	
10	1200	460	256T	S516	256TTTNA18578	√	91.0	12.8	351	22.58	
	1200	575	256T	S566A	256TTTCD18577		91.0	10.2	425	22.27	
	900	460	284T	S517A	284TTTCD18601		88.5	13.8	475	23.34	
	900	575	284T	S567A	284TTTCD18101		88.5	11.0	457	23.34	
15	1800	460	254T	S518	254TTTNA18530	√	92.4	18.2	276	20.83	
	1200	460	284T	S519A	284TTTCD18578		91.7	19.0	425	23.34	
	900	460	286T	S530	286TTTNA18602		88.5	23.0	503	24.92	

Blue shaded areas are cast iron frames.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

50 HERTZ, SINGLE-PHASE MOTORS
RIGID BASE

IP54

FEATURES
- Ball bearings
- 1.15 service factor (except as noted)
- Heavy gauge steel frame and base
- Class F insulation
- IP54 ingress protection on TEFC only
- Brake provisions available to add brake kit, TEFC only
- Higher efficient capacitor start / capacitor run designs (except as noted)
- Thermal Overload Protection, as indicated
- UL®* recognized, CSA®* certified, CE®* mark

ODP

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1500	220	182T	NONE	---	131554.00		76.0	16.8	83	14.69	2,13
5	1500	220	184T	NONE	---	131555.00		80.0	23.2	98	15.69	13

TEFC

HP	RPM	VOLTS	FRAME	OVERLOAD	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1500	220	182T	NONE	---	131556.00		72.0	11.2	98	15.46	2,13,17
3	1500	220	184T	NONE	---	131557.00		79.0	15.9	101	16.96	2,13,17
	1500	220	184T	MANUAL	---	131601.00		75.5	15.9	101	16.96	2,13,17
5	3000	220	184T	NONE	---	131638.00		81.5	20.5	101	17.46	13,17
	1500	220	184T	NONE	---	131578.00		82.5	21.0	83	17.46	13,17

Specifications are subject to change without notice.
√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time
*See back cover page for attribution.

50 HERTZ, THREE-PHASE MOTORS
RIGID BASE

FEATURES
- Ball bearings
- 1.15 service factor (except as noted)
- Heavy gauge steel frame and base
- Class F insulation
- IP55 ingress protection on TEFC only
- Brake provisions available to add brake kit, TEFC only
- Thermal Overload Protection, as indicated
- UL®* recognized, CSA®* certified, CE®* mark

IP55

Inverter Duty

ODP, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1500	200/400	182T	H953A	182TTDBD8026	¶	81.5	8.55/4.3	63	12.25	F,YD
5	1500	200/400	184T	H954A	184TTDBD8026		82.5	14.3/7.1	87	13.25	F,YD
7 1/2	1500	200/400	213T	H955A	213TTDBD8026		87.5	21.9/10.9	112	17.30	F,YD
10	1500	200/400	215T	H956A	215TTDBD8026		88.8	28.9/14.5	155	17.30	F,YD
15	1500	200/400	254T	H957A	254TTDBD8026	√	88.5	42.0/20.9	192	22.31	F,YD
20	1500	200/400	256T	H958	256TTDBD8026		89.5	57.0/28.5	225	23.88	F YD

TEFC, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3000	200/400	182T	H1022	182TTFBD8001		82.5	8.4/4.8/4.2	61	15.10	F,YD
	1500	220/380/440	182T	H1023	182TTFBD8026	√	82.5	7.8/4.5/3.9	68	15.10	F,YD
5	3000	200/400	184T	H1025	184TTFBD8001	√	84.0	12.8/7.4/6.4	79	16.10	F,YD
	1500	220/380/440	184T	H1026	184TTFBD8026	√	87.5	13.0/7.5/6.5	85	16.10	F,YD

TEFC, C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3000	220/380/440	182TC	H1122	182TTFBD8003		82.5	8.4/4.8/4.2	62	15.85	F,YD
	1500	220/380/440	182TC	H1123	182TTFBD8029		82.5	7.75/4.5/3.9	66	15.87	F,YD
5	3000	220/380/440	184TC	H1125	184TTFBD8003		84.0	12.8/7.4/6.4	78	16.85	F,YD
	1500	220/380/440	184TC	H1126	184TTFBD8029		87.5	13.0/7.5/6.5	84	16.85	F,YD

Specifications are subject to change without notice.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ELEVATOR MOTORS
SUBMERSIBLE HYDRAULIC DUTY

APPLICATIONS
Hydraulic pump passenger, service, freight and low rise elevators, up to 6 floors at speeds up to 200 fpm.

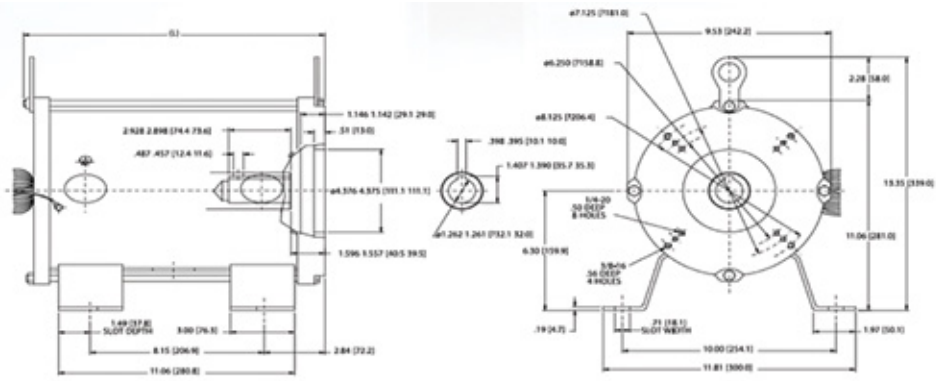
FEATURES
- Intermittent duty
- Suitable for Wye-Delta starters
- 1.0 service factor and 70°C ambient rated
- UL®* recognized component listing and CSA®* approved
- Three bolt circles, 12 mounting holes, and face mounting to accept both the IMO®* and Allweiler®* pumps
- Normally closed thermostats
- Class F insulation
- Two stainless steel nameplates, one shipped separate for remote mount
- 10 foot long leads, spliced 40 inches from motor to prevent wicking on hydraulic fluid

ODP, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	KVA CODE"	LOCKED ROTOR AMPS	WT.	FOOT NOTES
15	3600	200	160Z	---	LM29656		82.5	48.5	F	242	110	
	3600	230/460	160Z	---	LM29657		82.5	42.0/21.0	F	210/105	110	
	3600	575	160Z	---	LM29658		82.5	16.8	F	84	110	
20	3600	200	160Z	---	LM29659		85.5	58.5	G	329	112	
	3600	230/460	160Z	---	LM29660		85.5	51.0/25.5	G	286/143	112	
	3600	575	160Z	---	LM29661		85.5	20.4	G	114	112	
25	3600	200	160Z	---	LM29662		86.5	72.5	G	426	135	
	3600	230/460	160Z	---	LM29663		86.5	63/31.5	G	370/185	115	
	3600	575	160Z	---	LM29664		86.5	25.2	G	148	115	
30	3600	200	160Z	---	LM29665		86.5	87.5	G	495	119	
	3600	230/460	160Z	---	LM29666		86.5	76.0/38.0	G	430/215	129	
	3600	575	160Z	---	LM29667		86.5	30.5	G	172	119	
40	3600	200	160Z	---	LM29668		88.5	110	G	690	132	
	3600	230/460	160Z	---	LM29669		88.5	96.0/48.0	G	600/300	167	
	3600	575	160Z	---	LM29670		88.5	38.5	G	240	132	
50	3600	200	160Z	---	LM29671		89.5	133	G	865	143	
	3600	230/460	160Z	---	LM29672		89.5	116/58.0	G	752/376	188	
	3600	575	160Z	---	LM29673		89.5	46.5	G	292	171	

Used to adapt the Marathon® and Lincoln Motors™ Submersible Elevator motors to some IMO and Allweiler Pumps. Kit includes necessary through-bolts to mount this kit to these motors.

MODEL NO	STOCK	DESC SYM	WT
LM31777		A	12



√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ELEVATOR MOTORS DRY HYDRAULIC DUTY

THREE-PHASE, DRIPPROOF, RIGID BASE, 80 STARTS PER HOUR

APPLICATIONS

Hydraulic pump passenger, service, freight and low rise elevators, up to 6 floors at speeds up to 200 fpm.

FEATURES

- Dual Rated nameplates for 80 and 120 starts/hour
- Designed for belt driven pumps
- Wye Start / Delta Run
- Class F insulation
- 40°C Ambient
- F1 mounting
- Ball bearings with grease fittings and automatic relief
- UL®* recognized component listed and CSA®* approved
- Constructed for low noise and low vibration

80 STARTS PER HOUR

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	80 STARTS F.L. AMPS	LOCKED ROTOR AMPS	WT.
15	3600	230/460	213T	-	LM30092		85.5	35.5/17.8	162/81	149
	1800	200	215T	-	LM28867		84.0	45.0	170	128
	1800	230/460	215T	-	LM28868		84.0	39.0/19.6	148/74	124
20	3600	200	215T	-	LM30093		88.5	53.0	267	135
	1800	230/460	215T	-	LM34240		89.5	47.0/23.5	232/116	122
	1800	200	254T	-	LM28873	¶	88.5	59.0	267	203
	1800	230/460	254T	-	LM28874	√	88.5	51.5/25.7	232/116	205
25	3600	200	254T	-	LM30095		90.2	68.0	331	175
	3600	230/460	254T	-	LM30096		90.2	59.0/29.5	288/144	158
	1800	200	256T	-	LM28879		90.2	73.5	368	205
	1800	230/460	256T	-	LM28880		90.2	64.0/32.0	320/160	233
30	3600	200	256T	-	LM30097		90.2	80.0	418.6	235
	3600	230/460	256T	-	LM30098		90.2	69.0/34.5	364/182	235
	1800	200	284T	-	LM29850		90.2	84.0	391	300
	1800	230/460	284T	-	LM29851		90.2	73.0/36.5	340/170	316
40	3600	200	284T	-	LM30099	¶	88.5	112	460	320
	3600	230/460	284T	-	LM30100	√	88.5	97.0/48.5	400/200	279
	1800	200	286T	-	LM29852		91.7	112	495	450
	1800	230/460	286T	-	LM29853		91.7	97.0/48.5	430/215	367

Blue shaded areas are cast iron frames.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ELEVATOR MOTORS DRY HYDRAULIC DUTY

THREE-PHASE, DRIPPROOF, RIGID BASE, 120 STARTS PER HOUR

APPLICATIONS

Hydraulic pump passenger, service, freight and low rise elevators, up to 6 floors at speeds up to 200 fpm.

FEATURES

- Dual Rated nameplates for 80 and 120 starts/hour
- Designed for belt driven pumps
- Wye Start / Delta Run
- Class F insulation
- 40°C Ambient
- F1 mounting
- Ball bearings with grease fittings and automatic relief
- UL®* recognized component listed and CSA®* approved
- Constructed for low noise and low vibration

120 STARTS PER HOUR

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	120 STARTS F.L. AMPS	LOCKED ROTOR AMPS	WT.	FOOT NOTES
10	3600	230/460	213T	-	LM30092		88.5	23.4/11.7	162/81	149	
	1800	200	215T	-	LM28867		89.5	28.8	170	128	
	1800	230/460	215T	-	LM28868		89.5	25.0/12.5	148/74	124	
15	3600	200	215T	-	LM30093		90.2	39.0	267	135	
	3600	230/460	215T	-	LM34240		91.0	36.5/18.2	232/116	122	
	1800	200	254T	-	LM28873	¶	91.0	44.0	267	203	
	1800	230/460	254T	-	LM28874	√	91.0	38.5/19.2	232/116	205	
20	3600	200	254T	-	LM30095		91.0	53.0	331	175	
	3600	230/460	254T	-	LM30096		91.0	46.0/23.1	288/144	158	
	1800	200	256T	-	LM28879		91.0	60.0	368	205	
	1800	230/460	256T	-	LM28880		91.0	52.0/26.0	320/160	233	
25	3600	200	256T	-	LM30097		91.0	66.5	419	235	
	3600	230/460	256T	-	LM30098		91.0	58.0/29.0	364/182	235	
	1800	230/460	284T	-	LM29851		91.7	61.0/30.5	340/170	316	
30	3600	200	284T	-	LM30099	¶	91.0	83.0	460	320	
	3600	230/460	284T	-	LM30100	√	91.0	72.0/36.0	400/200	279	
	1800	200	286T	-	LM29852		92.4	83.0	495	450	
	1800	230/460	286T	-	LM29853		92.4	72.0/36.0	430/215	367	

Blue shaded areas are cast iron frames.
√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ROLLER TABLE MOTORS

IEC® TOTALLY ENCLOSED NON VENTED

APPLICATIONS

Roller table motors are a unique non-ventilated design with "cast-in" cooling fins that extend radially from the diameter of the motor frame rather than the conventional axial cooling fin profile. That feature allows for improved water run off in an application where large amounts of water stream randomly in the steel making process. With active steel mill installations globally and in the USA, Marathon Electric has long been a supplier to mills for various motor applications but none are more rigorous than the roller table applications like Transfer Tables and Run Out Tables.

IP56 MAX GUARD

FEATURES

- IP56 enclosure
- Radial Fin Cast Iron frame construction
- Rotating labyrinth shaft seals to prevent water ingress at the shaft extension
- Inverter only 2000:1 constant torque with 2X base speed 1.0SF
- Conduit boxes are integral to the non drive end bearing bracket for ease of access
- Terminal blocks inside the conduit box for ease of wiring connections
- Fully gasketed, including "o" rings at the bearing bracket to frame interface
- Winding temperature sensors available as an option
- Brakes require F3 Conduit Box (Not ODE Box) are available as an option
- Encoders require F3 Conduit Box (Not ODE Box) are available as an option 40°C Ambient
- **NEMA®* Frames Available upon request.**

RIGID BASE

HP-kW	RPM	HZ	VOLTS	IEC FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	F.L. AMPS	WT.	IEC "L" DIM (IN)	FOOT NOTES
5-4.1	1200	60	460	132S	S701	-		2000:1 CT	7.0	260	26.00	
	1200	60	690	132S	S901	-		2000:1 CT	5.0	260	26.00	
7.5-5.5	1200	60	460	160M	S703	-		2000:1 CT	10.0	401	29.00	
	1200	60	690	160M	S903	-		2000:1 CT	7.0	401	29.00	
10-7.5	1800	60	460	132S	S704	-		2000:1 CT	13.0	310	26.00	
	1800	60	690	132S	S904	-		2000:1 CT	8.7	310	26.00	
	1200	60	460	180L	S705	-		2000:1 CT	13.1	442	29.00	
	1200	60	690	180L	S905	-		2000:1 CT	9.0	442	29.00	
15-11	1800	60	460	160M	S706	-		2000:1 CT	20.2	401	29.00	
	1800	60	690	160M	S906	-		2000:1 CT	13.5	401	29.00	
	1200	60	460	200L	S707	-		2000:1 CT	21.5	565	32.00	
	1200	60	690	200L	S907	-		2000:1 CT	14.5	565	32.00	
20-15	1800	60	460	180L	S708	-		2000:1 CT	21.5	442	29.00	
	1800	60	690	180L	S908	-		2000:1 CT	14.5	442	29.00	
25-18.5	1800	60	460	200L	S710	-		2000:1 CT	31.0	550	32.00	
	1800	60	690	200L	S910	-		2000:1 CT	21.0	550	32.00	
30-22	1800	60	460	200L	S712	-		2000:1 CT	37.0	575	32.00	
	1800	60	690	200L	S912	-		2000:1 CT	25.0	575	32.00	

Blue shaded areas are cast iron frames.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

marathon®

ENDURANCE SERIES® Large AC Low and Medium Voltage Motors

AVAILABLE TO ORDER

OVER 700 CONFIGURATIONS OF MEDIUM VOLTAGE MOTORS

ENDURANCE SERIES® MOTORS

marathon®

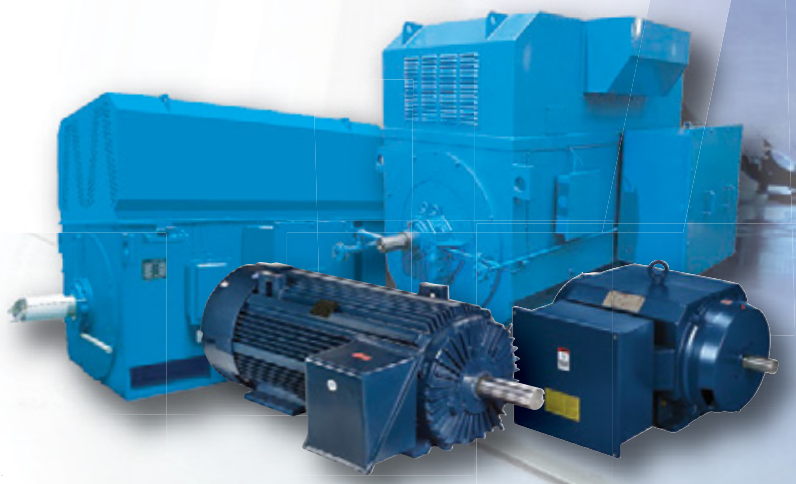
LARGE, ROBUST MOTORS FOR HEAVY DUTY AND EXTREME APPLICATIONS

Endurance Series motors are the right choice for applications demanding ruggedness and high reliability.

Features

- Oversized Conduit Box
- Braced End Turns
- Corrosion Protection
- Anti-Friction Bearings

Users recognize the value of Marathon® motors and their ability to support a multitude of applications with high efficiency and longer performance. Every Marathon Endurance Series™ Motor is backed by more than 100 years of manufacturing experience, plus state-of-the-art engineering and production, along with comprehensive service, starting in the earliest planning stages of your motor.



ENDURANCE SERIES® MOTORS
IEC®* TOTALLY ENCLOSED FAN COOLED

APPLICATIONS
General purpose use on compressors, pumps, conveyors, blowers and other machinery in dirty and dusty environments.

FEATURES
- Cast iron frame, brackets and conduit box, fabricated steel fan guard
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- Provisions to add stub shaft for an encoder
- Internal & external epoxy paint
- MAX GUARD® Class F, VPI Insulation system
- Inverter Duty 10:1 Variable
- Extended grease tubes, regreasable in service
- Ball bearing construction, insulated NDE bearing
- 120V space heaters
- 100Ω Ohm Platinum winding RTD's (2/phase)
- 100Ω Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IEC - TEFC - LOW VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST. SHIPPING WT. (LBS)	"C" DIM (IN)	FOOT NOTES
400	1800	460	355	**R9204**	355HTFC6027		96.2	437	4410	60.71	NP
	1200	460	355	**R9205**	355HTFC6077		95.8	465	4655	60.71	NP, NE
450	1800	460	355	**R9207**	355HTFC6028		96.2	492	4720	60.71	NP
	1200	460	355	**R9208**	355HTFC6078		95.8	523	4890	60.71	NP, NE
500	1800	460	355	**R9210**	355HTFC6029		96.2	546	4985	60.71	NP
	1200	460	355X	**R9211**	355HTFC6079		95.0	586	6505	74.80	NE
600	1800	460	355X	**R9212**	355HTFC6030		95.4	669	6295	74.80	NE
	1200	460	400	**R9213**	400HTFC6076		95.0	687	8670	79.72	NE
700	1800	460	400	**R9214**	400HTFC6026		95.4	771	7540	79.72	NE
	1200	460	400	**R9215**	400HTFC6077		95.0	802	8360	79.72	NE
800	1800	460	400	**R9216**	400HTFC6027		95.4	882	7630	79.72	NE
	1200	460	450	**R9217**	450HTFC6076		95.0	916	11115	94.49	NE
900	1800	460	400	**R9218**	400HTFC6028		95.4	992	7960	79.72	NE
	1200	460	450	**R9219**	450HTFC6077		95.0	1031	11574	94.49	NE
1000	1800	460	400	**R9220**	400HTFC6029		95.4	1102	8420	79.72	NE
	1200	460	450	**R9221**	450HTFC6078		95.0	1146	12080	94.49	NE

Specifications are subject to change without notice.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog number (Cat No.) highlighted bold blue have efficiency levels that meet PREMIUM NEMA MG1 Table 12-12 Blue shaded areas are cast iron frames

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS
IEC®* TOTALLY ENCLOSED FAN COOLED

APPLICATIONS
General purpose use on compressors, pumps, conveyors, blowers and other machinery in dirty and dusty environments.

FEATURES
- Cast iron frame and brackets, fabricated steel conduit box and fan guard
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- Form wound coil design, copper bar rotor design
- Internal & external epoxy paint
- Provisions to add stub shaft for an encoder
- MAX GUARD® Class F, VPI Insulation system
- Inverter Duty 10:1 Variable
- Extended grease tubes, regreasable in service
- Brass drain and breather
- UL®* Recognized
- Ball bearing construction, Insulated NDE bearing
- 120V space heaters
- 100 Ohm Platinum winding RTD's (2/phase)
- 100 Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IP55 | Inverter Duty | BCP BEARING CURRENT PROTECTION | MAX GUARD INSULATION SYSTEM

IEC - TEFC - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	FOOT NOTES
350	1800	2300/4000	355	**R9301**	355HVFC6026		95.0	78.0/44.9	4189	72.24	
	1200	2300/4000	355	**R9302**	355HVFC6077		95.0	81.8/47.0	5622	72.24	
400	1800	2300/4000	355	**R9304**	355HVFC6027		95.0	89.6/51.5	4630	72.24	
	1200	2300/4000	400	**R9305**	400HVFC6076		95.0	91.3/52.5	6614	79.13	
450	1800	2300/4000	355	**R9307**	355HVFC6028		95.0	100/57.5	4891	72.24	
	1200	2300/4000	400	**R9308**	400HVFC6077		95.0	103/59.0	6848	79.13	
500	1800	2300/4000	355	**R9310**	355HVFC6029		95.0	111/64.0	5978	72.24	
	1200	2300/4000	400	**R9311**	400HVFC6078		95.0	113/65.5	6945	79.13	
600	1800	2300/4000	400	**R9313**	400HVFC6026		95.4	132/76.0	6460	79.13	
	1200	2300/4000	450	**R9314**	450HVFC6076		95.0	136/78.0	7936	87.40	
700	1800	2300/4000	400	**R9316**	400HVFC6027		95.4	154/88.5	6370	79.13	
	1200	2300/4000	450	**R9317**	450HVFC6077		95.0	158	9022	87.40	
800	1800	2300/4000	450	**R9319**	450HVFC6026		95.4	176/101	8261	85.83	
	1200	2300/4000	450	**R9320**	450HVFC6078		95.0	180/104	9022	87.40	
900	1800	2300/4000	450	**R9322**	450HVFC6027		95.4	198/114	9348	85.83	
	1200	4000	500	**R9323**	500HVFC6076		95.0	117	12826	94.88	
1000	1800	2300/4000	450	**R9325**	450HVFC6028		95.4	220/127	8696	85.83	
	1200	4000	500	**R9326**	500HVFC6077		95.0	130	12826	94.88	

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog number (Cat No.) highlighted bold blue have efficiency levels that meet NEMA PREMIUM MG1 Table 12-12, Table 20-B or Table 20-C Blue shaded areas are cast iron frames

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

IEC®* WEATHER PROTECTED TYPE 1

APPLICATIONS

Industrial Refrigeration Compressors for HVAC, Oil and Gas, Food and Beverage, Chemical processing, Medical and other process industries.

FEATURES

- Fabricated steel frame and conduit box, with cast iron brackets
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- MAX GUARD®* Class F, VPI Insulation system
- Form wound coil design, copper bar rotor design
- Internal & external epoxy paint
- Inverter Duty 10:1 Variable
- Extended grease tubes, regreasable in service
- UL®* Recognized
- Ball bearing construction, Insulated NDE bearing
- 120V space heaters
- 100 Ohm Platinum winding RTD's (2/phase)
- 100 Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IP23 MAX GUARD 3 YEARS WARRANTY

IEC - WPI - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST. WT.	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9401	355HVLF6027		91.7	83.1/47.8	4667	72.05	99,110,NE
	1200	2300/4000	355	R9402	355HVLF6077		92.4	84.4/48.6	4799	72.05	NE
400	1800	2300/4000	355	R9404	355HVLF6028		91.7	92.8/53.4	4667	72.05	99,110,NE
	1200	2300/4000	355	R9405	355HVLF6078		92.4	95.4/54.8	5075	72.05	NE
450	1800	2300/4000	355	R9407	355HVLF6029		94.5	101/58.3	4667	72.05	99,NE
	1200	2300/4000	355	R9408	355HVLF6079		93.6	106/60.9	5075	72.05	NE
500	1800	2300/4000	355	R9410	355HVLF6030		93.0	113/65.0	4667	72.05	NE
	1200	2300/4000	400	R9411	400HVLF6076		94.5	117/67.0	6140	77.95	99,NE
600	1800	2300/4000	355	R9413	355HVLF6031		93.0	139/79.8	4943	72.05	NE
	1200	2300/4000	400	R9414	400HVLF6077		94.5	140/80.4	6448	77.95	99,NE
700	1800	2300/4000	400	R9416	400HVLF6027		94.6	159/91.6	6625	77.95	99,NE
	1200	2300/4000	400	R9417	400HVLF6078		94.5	163/93.8	6448	77.95	NE
800	1800	2300/4000	400	R9419	400HVLF6028		95.0	177/102	6625	77.95	NE
	1200	2300/4000	450	**R9420**	450HVLF6076		95.0	181/104	7870	83.66	99
900	1800	2300/4000	400	R9422	400HVLF6029		95.0	197/113	6867	77.95	NE
	1200	2300/4000	450	**R9423**	450HVLF6077		95.0	204/117	7870	83.66	
1000	1800	2300/4000	450	**R9425**	450HVLF6026		95.8	217/125	8201	82.68	99
	1200	2300/4000	450	**R9426**	450HVLF6078		95.4	221/127	9039	83.66	
1250	1800	2300/4000	450	**R9428**	450HVLF6027		95.8	271/156	8201	82.68	
	1200	2300/4000	450	**R9429**	450HVLF6079		95.4	279/160	9039	83.66	
1500	1800	2300/4000	450	**R9431**	450HVLF6028		95.8	326/187	8532	82.68	
	1200	4000	500	**R9432**	500HVLF6076		95.8	192	11757	89.17	99
1750	1800	4000	500	**R9434**	500HVLF6026		96.2	223	11515	89.17	
	1200	4000	500	**R9435**	500HVLF6077		95.4	224	11757	89.17	
2000	1800	4000	500	**R9437**	500HVLF6027		96.2	254	11515	89.17	
	1200	4000	560	**R9438**	560HVLF6076		95.4	259	15068	100.79	99
2250	1800	4000	500	**R9440**	500HVLF6028		96.2	280	12617	89.17	
	1200	4000	560	**R9441**	560HVLF6077		96.5	285	15642	100.79	
2500	1800	4000	560	**R9443**	560HVLF6026		96.5	307	16391	98.82	99
3000	1800	4000	560	R9446	560HVLF6027		96.5	364	16391	98.82	99,NE
3500	1800	4000	560	R9449	560HVLF6028		96.7	433	16391	98.82	NE

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog number (Cat No.) highlighted bold blue have efficiency levels that meet NEMA PREMIUM MG1 Table 12-12, Table 20-B or Table 20-C

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS
IEC®* WEATHER PROTECTED TYPE 2

APPLICATIONS
Industrial Refrigeration Compressors for HVAC, Oil and Gas, Food and Beverage, Chemical processing, Medical and other process industries.

FEATURES
- Fabricated steel frame and conduit box, with cast iron brackets
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- MAX GUARD® Class F, VPI Insulation system
- Form wound coil design, copper bar rotor design
- Internal & external epoxy paint
- Inverter Duty 10:1 Variable
- Extended grease tubes, regreasable in service
- UL®* Recognized
- Ball bearing construction, Insulated NDE bearing
- 120V space heaters
- 100 Ohm Platinum winding RTD's (2/phase)
- 100 Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IP24 MAX GUARD 3 YEARS WARRANTY

IEC - WPII - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST WT.	"C" DIM.	FOOT NOTES
350	1800	2300/4000	355	R9501	355HVMF6027		91.7	83.1/47.8	5072	74.21	99,110,NE
	1200	2300/4000	355	R9502	355HVMF6078		92.4	84.4/48.6	5182	74.21	NE
400	1800	2300/4000	355	R9504	355HVMF6028		91.7	92.8/53.4	5072	74.21	99,NE
	1200	2300/4000	355	R9505	355HVMF6079		92.4	95.4/54.8	5479	74.21	NE
450	1800	2300/4000	355	R9507	355HVMF6029		94.5	101/58.3	5072	74.21	99,NE
	1200	2300/4000	355	R9508	355HVMF6080		93.6	106/60.9	5479	74.21	NE
500	1800	2300/4000	355	R9510	355HVMF6030		93.0	113/65.0	5347	74.21	NE
	1200	2300/4000	400	R9511	400HVMF6076		94.5	117/67.0	6526	78.54	99,NE
600	1800	2300/4000	355	R9513	355HVMF6031		93.0	139/79.8	5347	74.21	NE
	1200	2300/4000	400	R9514	400HVMF6077		94.5	140/80.4	6834	78.54	99,NE
700	1800	2300/4000	400	R9516	400HVMF6026		94.6	159/91.6	7011	78.54	99,NE
	1200	2300/4000	400	R9517	400HVMF6078		94.5	163/93.8	6834	78.54	NE
800	1800	2300/4000	400	R9519	400HVMF6027		95.0	177/102	7011	78.54	NE
	1200	2300/4000	450	**R9520**	450HVMF6076		95.0	181/104	8467	84.84	99
900	1800	2300/4000	400	R9522	400HVMF6028		95.0	197/113	7253	78.54	NE
	1200	2300/4000	450	**R9523**	450HVMF6077		95.0	204/117	8467	84.84	
1000	1800	2300/4000	450	**R9525**	450HVMF6026		95.8	217/125	8710	83.27	
	1200	2300/4000	450	**R9526**	450HVMF6078		95.4	221/127	9636	84.84	
1250	1800	2300/4000	450	**R9528**	450HVMF6027		95.8	271/156	8710	83.27	
	1200	2300/4000	450	**R9529**	450HVMF6079		95.4	279/160	9636	84.84	
1500	1800	2300/4000	450	**R9531**	450HVMF6028		95.8	326/187	9129	83.27	
	1200	4000	500	**R9532**	500HVMF6076		95.8	192	12368	90.94	99
1750	1800	4000	500	**R9534**	500HVMF6026		96.2	223	12125	90.94	
	1200	4000	500	**R9535**	500HVMF6077		95.4	224	12368	90.94	
2000	1800	4000	500	**R9537**	500HVMF6027		96.2	254	12125	90.94	
	1200	4000	560	**R9538**	560HVMF6076		95.4	259	15741	103.74	99
2250	1800	4000	500	**R9540**	500HVMF6028		96.2	280	13228	90.94	
	1200	4000	560	**R9541**	560HVMF6077		96.5	285	16314	103.74	
2500	1800	4000	560	**R9543**	560HVMF6026		96.5	307	17064	101.77	99
	1200	4000	560	**R9544**	560HVMF6078		96.5	317	16314	103.74	
3000	1800	4000	560	R9546	560HVMF6027		96.5	364	17064	101.77	99,NE
3500	1800	4000	560	R9549	560HVMF6028		96.5	434	17064	101.77	NE

Specifications are subject to change without notice.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog number (Cat No.) highlighted bold blue have efficiency levels that meet NEMA PREMIUM MG1 Table 12-12, Table 20-B or Table 20-C

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

IEC®* TOTALLY ENCLOSED AIR-TO-AIR COOLED

APPLICATIONS

Industrial Refrigeration Compressors for HVAC, Oil and Gas, Food and Beverage, Chemical processing, Medical and other process industries.

FEATURES

- Fabricated steel frame and conduit box, with cast iron brackets
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- MAX GUARD® Class F, VPI Insulation system
- Form wound coil design, copper bar rotor design
- Internal & external epoxy paint
- Inverter Duty 10:1 Variable
- Extended grease tubes, regreasable in service
- UL®* Recognized
- Ball bearing construction, Insulated NDE bearing
- 120V space heaters
- 100 Ohm Platinum winding RTD's (2/phase)
- 100 Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IP55 MAX GUARD 3 YEARS WARRANTY

IEC - TEAAC - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	EST. WT.	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9601	355HVKF6027		93.0	81.0/46.6	5203	83.07	99,NE
	1200	2300/4000	355	R9602	355HVKF6077		92.4	83.5/48.0	5611	83.07	NE
400	1800	2300/4000	355	R9604	355HVKF6028		93.6	90.9/52.3	5203	83.07	99,NE
	1200	2300/4000	400	R9605	400HVKF6076		94.1	94.8/54.5	6845	87.99	99,NE
450	1800	2300/4000	355	R9607	355HVKF6029		93.0	103/59.2	5478	83.07	NE
	1200	2300/4000	400	R9608	400HVKF6077		94.1	105/60.6	6845	87.99	99,NE
500	1800	2300/4000	355	R9610	355HVKF6030		93.0	117/67.3	5478	83.07	NE
	1200	2300/4000	400	R9611	400HVKF6078		94.1	117/67.3	7154	87.99	99,NE
600	1800	2300/4000	400	R9613	400HVKF6026		94.1	136/78.0	7330	87.99	99,NE
	1200	2300/4000	400	R9614	400HVKF6079		94.1	140/80.8	7154	87.99	NE
700	1800	2300/4000	400	R9616	400HVKF6027		94.5	156/89.6	7330	87.99	NE
	1200	2300/4000	450	R9617	450HVKF6076		93.6	159/91.5	8918	95.67	NE
800	1800	2300/4000	400	R9619	400HVKF6028		94.5	176/101	7573	87.99	NE
	1200	2300/4000	450	R9620	450HVKF6077		94.1	183/105	8918	95.67	NE
900	1800	2300/4000	450	R9622	450HVKF6026		94.5	198/114	9215	94.09	NE
	1200	2300/4000	450	R9623	450HVKF6078		94.5	200/115	10086	95.67	NE
1000	1800	2300/4000	450	R9625	450HVKF6027		94.5	220/127	9215	94.09	NE
	1200	2300/4000	450	R9626	450HVKF6079		94.5	223/128	10086	95.67	NE
1250	1800	2300/4000	450	R9628	450HVKF6028		95.0	274/157	9546	94.09	NE
	1200	4000	500	**R9629**	500HVKF6076		95.0	161	13635	101.38	
1500	1800	4000	500	**R9631**	500HVKF6026		95.4	192	13360	101.38	
	1200	4000	500	**R9632**	500HVKF6077		95.0	196	13635	101.38	
1750	1800	4000	500	R9634	500HVKF6027		95.4	224	13360	101.38	NE
	1200	4000	560	R9635	560HVKF6076		95.0	231	17769	113.58	99,NE

Specifications are subject to change without notice.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

Catalog number (Cat No.) highlighted bold blue have efficiency levels that meet NEMA PREMIUM MG1 Table 12-12, Table 20-B or Table 20-C

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

BUILD UP OPTIONS

FEATURES	ODP	TEFC	WPII	TEAAC	TEWAC
Altitude/Ambient					
Altitude - Above 3300', up to 5000'	■	■	■	■	■
Ambient - Above 40°C, up to 60°C	■	■	■	■	■
Ambient - Below -25°C			CF		
Balance					
Precision Balance	■	■	■	■	■
Special Balance			CF		
Bearing					
Roller Bearing (DE)***	CF	■	CF	CF	CF
Insulated Bearing (NDE)**	■	■	■	■	■
Oil Site Gauge			CF		
Oil Sump Heater			CF		
Sleeve Bearing			CF		
Blowers					
Radial Blower			CF		
Brackets					
FF-Flange - DE (IEC Frames Only)	■	■	■	■	■
NEMA®* - C-Face - DE (NEMA Frames Only)	CF	■	CF	NA	NA
NEMA - D-Flange - DE (NEMA Frames Only)	■	■	■	NA	NA
Conduit Box					
Accessory Auxiliary Box	STD WITH ACCESSORIES	STD WITH ACCESSORIES	STD WITH ACCESSORIES	STD WITH ACCESSORIES	STD WITH ACCESSORIES
Cable Gland Installed			CF		
Drain/Breather Installed			CF		
Oversized Box			CF		
Coupling					
Customer Half Coupling Installed			CF		
Drain & Breathers					
Brass Drain & Breather	NA	■	NA	■	■
Stainless Steel Drain & Breather	NA	■	NA	■	■
Encoder/Tachometer					
Provisions (Tether Mount)			CF		
Installed			CF		
Frequency					
60Hz to 50Hz Rerate			CF		
Grease/Lubrication/Fittings					
High Temperature Grease	■	■	■	■	■
Low Temperature Grease	■	■	■	■	■
Oil Mist System			CF		
Grounding					
Shaft Grounding Brush**	■	■	■	■	■
Shaft Grounding Ring**	■	■	■	■	■
Hardware					
Stainless Steel			CF		
Leads					
Longer Leads ($ per ft)	■	■	■	■	■
Special Terminal Requirement			CF		
Low Noise					
Low Noise Abatement			CF		
Mounting/Assembly-Terminal Box Location					
IEC®*-Low Voltage	F3	F3	NA	NA	NA
IEC-Medium Voltage	F1 or F2	F1 or F2	F1 or F2	F1 or F2	F1 or F2
NEMA®*-Low Voltage & Medium Voltage	F1 or F2	F1 or F2 or F3	F1 or F2	F1 or F2	F1 or F2
Nameplate/Markings					
Additional Data on Nameplate	■	■	■	■	■
Replacement Nameplate	■	■	■	■	■
Rotation Arrow	■	■	■	■	■
Separate Auxiliary Nameplate	■	■	■	■	■

■ = Available CF = Consult Factory NA = Not Available
** - Not Available on Division 2 motors
*** - Not Available on 2 pole designs

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS
BUILD UP OPTIONS

FEATURES	ODP	TEFC	WPII	TEAAC	TEWAC
Packaging					
Crating			CF		
Export Packaging			CF		
Paint					
Stock Marathon® Motor Color	■	■	■	■	■
Special Color			CF		
Protection-Current and Voltage					
Current Transformer			CF		
Potential Transformer			CF		
Protection-Mechanical					
Accelerometer	■	■	■	■	■
Vibration Sensor Provision	■	■	■	■	■
Vibration Sensor Installed	■	■	■	■	■
Protection-Surge					
Lightning Arrestors			CF		
Surge Capacitors			CF		
Protection-Thermal					
Bearing Temperature Detectors (BTDs) 100Ω Platinum	■	■	■	■	■
Stator Temperature Detectors (RTDs) 100Ω Platinum	■	■	■	■	■
Thermistor Control Module	■	■	■	■	■
Thermistors-Winding	■	■	■	■	■
Thermostats (N/C)	■	■	■	■	■
Thermostats (N/C) - Hermetically Sealed	■	■	■	■	■
Service Factor					
Service Factor Rerate			CF		
Shaft Modification					
Shaft Extension (Length, Keyway, Tapered, etc)			CF		
Shaft Features (Internal Thread, Milled Flat, Material)			CF		
Shaft Seals					
Labyrinth Seals	NA	■	NA	NA	NA
Radial Lip Seals	■	■	■	■	■
V-Ring Seals	■	■	■	■	■
Space Heater					
Space Heater-Standard (120V or 240V or 460V)	■	■	■	■	■
Space Heater-Silicone Free (120V or 240V)	■	■	■	■	■
Testing					
Unwitnessed - Complete Initial Test	■	■	■	■	■
Unwitnessed - Polarization Index Test	■	■	■	■	■
Unwitnessed - Sound Test	■	■	■	■	■
Unwitnessed - Vibration Test	■	■	■	■	■
Witnessed - Complete Initial Test	■	■	■	■	■
Witnessed - Sound Test	■	■	■	■	■
Witnessed - Vibration Test	■	■	■	■	■
Torques					
NEMA®* Design A, C or D			CF		
Torque - Special			CF		
Voltage					
Low Voltage > 601V			CF		
Medium Voltage > 4160V, but < 6900V			CF		
Medium Voltage 6900V through 13.2KV			CF		
Weatherproofing / Special Service					
Division 2 Hazardous Motor			CF		
Tropical Anti-Fungus Treatment	■	■	■	■	■
WPII Enclosure Options					
Filter-Galvanized	NA	NA	■	NA	NA
Filter-Stainless	NA	NA	■	NA	NA
Pressure Differential Switch	NA	NA	■	NA	NA

■ = Available CF = Consult Factory NA = Not Available
** - Not Available on Division 2 motors
*** - Not Available on 2 pole designs

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES

Marathon CONTROLMAX AC drives With and W/O Brake Transistors vector drives with more versistle features and compact size.

- CM3 IP20 1/4 through 10 HP with voltages in 110-127V
- CM3 IP20 1/4 through 10 HP with voltages in 200-240V
- CM3 IP20 1/4 through 10 HP with voltages in 460-480V
- CM5 1/3 HP to 75 HP IP20 & IP31 with voltages in 200-240V
- CM5 1/3 HP to 175 HP IP20 & IP31 with voltages in 380-480V
- CM5 1 1/2 HP to 10 HP IP20 & IP31 with voltages in 500-600V

Marathon CONTROLMAX AC drives With and W/O Brake Transistors CM5 Series Drives are for use with an AC induction motor or PMAC motors adding more sophistication to your equipment.

- 1/3 to 175 HP IP20 and/or IP31.
- Wash Down Duty / IP66 - 1/3 HP to 25 HP with voltages in 200-240V
- IP66 - 1/2 HP to 50HP with voltages in 380-480V
- IP66 - 1 1/2 HP to 50HP with voltages in 500-600V

Marathon CONTROLMAX DC drives for use with SCR rated motors. Models range from sub-CONTROLMAX through 3 HP. In NEMA®* 1 = CONTROLMAX DC-4, NEMA 4/12 and NEMA 4X = CONTROLMAX DC-4X enclosures available.
Low voltage controls available through 120 amps @12/24V and 100 amps @ 36/48V.

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
174603.00	174603.00M	CM3	CM3 VECTOR 1PH, 0.25 OR 0.33HP 1.6A 110-127V IP20	YES	NO	NO	110-127	IP20	0.33	1.6	-	-
174604.00	174604.00M	CM3	CM3 VECTOR 1PH, 0.75HP 2.6A 110-127V IP20	YES	NO	NO	110-127	IP20	0.75	2.6	-	-
174605.00	174605.00M	CM3	CM3 VECTOR 1PH, 1HP 4.2A 110-127V IP20	YES	NO	NO	110-127	IP20	1	4.2	-	-
174606.00	174606.00M	CM3	CM3 VECTOR 1PH, 0.25/0.33HP 1.6A 200-240V IP20	YES	NO	NO	200-240	IP20	0.25/0.33	1.6	-	-
174607.00	174607.00M	CM3	CM3 VECTOR 1PH, 0.75HP 2.6A 200-240V IP20	YES	NO	NO	200-240	IP20	0.75	2.6	-	-
176319.00	174607.00M	CM3	CM3 VECTOR 1PH, 0.75HP 2.6A 200-240V IP20	YES	NO	NO	200-240	IP20	0.75	2.6	-	-
174608.00	174608.00M	CM3	CM3 VECTOR 1PH, 1HP 4.2A 200-240V IP20	YES	NO	NO	200-240	IP20	1	4.2	-	-
174609.00	174609.00M	CM3	CM3 VECTOR 3PH, 2HP 7.3A 200-240V IP20	NO	NO	YES	200-240	IP20	2	7.3	-	-
174610.00	174609.00M	CM3	CM3 VECTOR 3PH, 2HP 7.3A 200-240V IP20	NO	NO	YES	200-240	IP20	2	7.3	-	-
176110.00	174609.00M	CM3	CM3 VECTOR 3PH, 2HP 7.3A 200-240V IP20	NO	NO	YES	200-240	IP20	2	7.3	-	-
176138.00	174609.00M	CM3	CM3 VECTOR 3PH, 2HP 7.3A 200-240V IP20	NO	NO	YES	200-240	IP20	2	7.3	-	-
174272.10	174609.00M	CM3	CM3 VECTOR 3PH, 2HP 7.3A 200-240V IP20	NO	NO	YES	200-240	IP20	2	7.3	-	-
174611.00	174611.00M	CM3	CM3 VECTOR 3PH, 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	3	10	-	-
176111.00	174611.00M	CM3	CM3 VECTOR 3PH, 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	3	10	-	-
176317.00	174611.00M	CM3	CM3 VECTOR 3PH, 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	3	10	-	-
174620.00	174620.00M	CM3	CM3 VECTOR 3PH, 0.5HP 1.1A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	0.5	1.1	-	-
174621.00	174621.00M	CM3	CM3 VECTOR 3PH, 1HP 1.8A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	1	1.8	-	-
174622.00	174622.00M	CM3	CM3 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	1.5	2.6	-	-
174623.00	174623.00M	CM3	CM3 VECTOR 3PH, 2HP 3.5A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	2	3.5	-	-
174624.00	174624.00M	CM3	CM3 VECTOR 3PH, 3HP 5.6A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	3	5.6	-	-
174625.00	174625.00M	CM3	CM3 VECTOR 3PH, 5HP 8.3A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	5	8.3	-	-
174626.00	174626.00M	CM3	CM3 VECTOR 3PH, 7.5HP 11A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	7.5	11	-	-
174627.00	174627.00M	CM3	CM3 VECTOR 3PH, 10HP 14A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	10	14	-	-
174651.00	174651.00M	CM3	CM3 VECTOR 1PH, 2HP 6.0A 110-127V IP20	YES	NO	NO	110-127	IP20	2	6	-	-
-	184003.00M	CM3	CM3 VECTOR 3PH, 5HP 15.2A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	5	15.2	-	-
-	184038.00M	CM3	CM3 VECTOR 1PH, 2HP 7.3A 200-240V IP20	YES	NO	NO	200-240	IP20	2	7.3	-	-
-	184040.00M	CM3	CM3 VECTOR 3PH, 0.25/0.33HP 1.6A 200-240V IP20	NO	NO	YES	200-240	IP20	0.25/0.33	1.6	-	-
-	184041.00M	CM3	CM3 VECTOR 3PH, 0.75HP 2.6A 200-240V IP20	NO	NO	YES	200-240	IP20	0.75	2.6	-	-
-	184042.00M	CM3	CM3 VECTOR 3PH, 1HP 4.2A 200-240V IP20	NO	NO	YES	200-240	IP20	1	4.2	-	-
174540.00	174540.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	YES	NO	200-240	IP66	0.75	2.6	0.75	2.6
174542.00	174542.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 0.5HP 1A & HEAVY DUTY 0.5HP 1A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	0.5	1	0.5	1

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
174544.00	174544.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	15	24	15	24
174615.00	174615.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 5HP 16A & HEAVY DUTY 5HP 16A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	5	16	5	16
174616.00	174616.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 24A & HEAVY DUTY 7.5HP 24A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	7.5	24	7.5	24
174617.00	174617.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 10HP 28A & HEAVY DUTY 10HP 28A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	10	33	10	33
174618.00	174618.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 15HP 47A & HEAVY DUTY 15HP 47A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	15	47	15	47
174619.00	174619.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	20/25	70	20	56
174628.00	174628.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	15	24	15	24
174631.00	174631.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 1.5HP 1.7A & HEAVY DUTY 1.5HP 1.7A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	500-600	IP66	1.5	1.7	1.5	1.7
174632.00	174632.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	3	4.3	3	4.3
174633.00	174632.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	3	4.3	3	4.3
174634.00	174634.00M	CM5	CM5 VECTOR 3PH,NORMAL DUTY 7.5HP 7A & HEAVY DUTY 7.5HP 7A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	7.5	7	7.5	7
174635.00	174634.00M	CM5	CM5 VECTOR 3PH,NORMAL DUTY 7.5HP 7A & HEAVY DUTY 7.5HP 7A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	7.5	7	7.5	7
174636.00	174636.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 10HP 12A & HEAVY DUTY 10HP 12A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	10	12	10	12
174652.00	174652.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	0.75	2.6	0.75	2.6
174655.00	174652.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	0.75	2.6	0.75	2.6
174653.00	174653.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	1.5	4.3	1.5	4.3
174654.00	174653.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	1.5	4.3	1.5	4.3
174656.00	174653.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	1.5	4.3	1.5	4.3
174657.00	174658.00M	CM5	CM5, VECTOR, 1PH OR 3PH, 2HP, 7.3A, 200-240V IP66, WASHDOWN, WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	2	7.3	2	7.3

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
174658.00	174658.00M	CM5	CM5, VECTOR, 1PH OR 3PH, 2HP, 7.3A, 200-240V IP66, WASHDOWN, WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	2	7.3	2	7.3
174674.00	174657.00M	CM5	CM5 VECTOR 1PH OR 3PH, 2HP 7.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	2	7.3	2	7.3
174659.00	174659.00M	CM5	CM5 VECTOR 1PH OR 3PH, 3HP 10A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	3	10	3	10
174660.00	174660.00M	CM5	CM5 VECTOR 3PH, 5HP 16A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	5	16	5	16
174661.00	174661.00M	CM5	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	7.5	24	7.5	24
174734.00	174661.00M	CM5	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	7.5	24	7.5	24
174662.00	174662.00M	CM5	CM5 VECTOR 3PH, 10HP 33A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	10	33	10	33
174663.00	174663.00M	CM5	CM5 VECTOR 3PH, 1.5HP 1.7A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	1.5	1.7	1.5	1.7
174664.00	174664.00M	CM5	CM5 VECTOR 3PH, 3HP 4.3A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	3	4.3	3	4.3
174665.00	174664.00M	CM5	CM5 VECTOR 3PH, 3HP 4.3A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	3	4.3	3	4.3
174666.00	174667.00M	CM5	CM5, VECTOR, 3PH, 7.5HP, 7A, 500-600V IP66, WASHDOWN, WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	7.5	7	7.5	7
174667.00	174667.00M	CM5	CM5, VECTOR, 3PH, 7.5HP, 7A, 500-600V IP66, WASHDOWN, WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	7.5	7	7.5	7
174668.00	174668.00M	CM5	CM5 VECTOR 3PH, 10HP 12A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP66	10	12	10	12
174671.00	174671.00M	CM5	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	0.5	1	0.5	1
174672.00	174672.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	1.5	2.6	1.5	2.6
174673.00	174672.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	1.5	2.6	1.5	2.6
174675.00	174675.00M	CM5	CM5 VECTOR 3PH, 3HP 4.3A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	3	4.3	3	4.3
174676.00	174676.00M	CM5	CM5 VECTOR 3PH, 5HP 6.5A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	5	6.5	5	6.5
174677.00	174677.00M	CM5	CM5 VECTOR 3PH, 7.5HP 10A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	7.5	10	7.5	10
174699.00	174699.00M	CM5	CM5 VECTOR 3PH, 15HP 47A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	15	47	15	42
174700.00	174700.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & 20HP 56A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP66	25	70	20	56

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
174701.00	174701.00M	CM5	CM5 VECTOR 3PH, 15HP 24A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	15	24	15	24
174702.00	174702.00M	CM5	CM5 VECTOR 3PH, 25HP 31A 380-480V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	25	31	25	31
174703.00	174702.00M	CM5	CM5 VECTOR 3PH, 25HP 31A 380-480V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	25	31	25	31
174704.00	174704.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A & HEAVY DUTY 30HP 39A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	30	45	30	39
174710.00	174711.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50/60HP 77A & HEAVY DUTY 61A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	50/60	77	50	61
174711.00	174711.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50/60HP 77A & HEAVY DUTY 61A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	50/60	77	50	61
174992.00	174992.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 40HP 58.5A & HEAVY DUTY 40HP 49A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	40	58.5	40	49
176105.00	176105.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.33	1.6	0.33	1.6
176133.00	176105.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.33	1.6	0.33	1.6
176106.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176107.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176134.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176135.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
174268.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176114.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176116.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
176113.00	176106.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.75	2.6	0.75	2.6
176108.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
176109.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
176115.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
176137.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
174920.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
176105.00	176105.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.33	1.6	0.33	1.6
176112.00	176105.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	0.33	1.6	0.33	1.6
176117.00	176117.00M	CM5	CM5 VECTOR 1PH OR 3PH, 2HP 7.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	2	7.3	2	7.3
176139.00	176118.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 3HP 10A HEAVY DUTY 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR. IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1E	NO	YES	NO	200-240	IP20	3	10	3	10
176118.00	176118.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 3HP 10A HEAVY DUTY 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR. IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1E	NO	YES	NO	200-240	IP20	3	10	3	10
174918.00	176118.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 3HP 10A HEAVY DUTY 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR. IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1E	NO	YES	NO	200-240	"IP20 OR NEMA 1 W/KIT"	3	10	3	10
174934.00	176118.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 3HP 10A HEAVY DUTY 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR. IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1E	NO	YES	NO	200-240	IP20	3	10	3	10
176120.00	176120.00M	CM5	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	0.5	1	0.5	1
176140.00	176120.00M	CM5	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	0.5	1	0.5	1
176127.00	176120.00M	CM5	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	0.5	1	0.5	1
176121.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176123.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
176142.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176143.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176122.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176129.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176130.00	176121.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1.5	2.6	1.5	2.6
176124.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176125.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176144.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176145.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176128.00	176128.00M	CM5	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1	1.6	1	1.6
176131.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176132.00	176124.00M	CM5	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	3	6.1	3	6.1
176136.00	176108.00M	CM5	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	YES	NO	200-240	IP20	1.5	4.3	1.5	4.3
176128.00	176128.00M	CM5	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1	1.6	1	1.6
176141.00	176128.00M	CM5	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	NO	NO	YES	380-480	IP20	1	1.6	1	1.6
176146.00	176146.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 10A HEAVY DUTY 7.5HP 10A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	7.5	10	7.5	10
176147.00	176146.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 10A HEAVY DUTY 7.5HP 10A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	7.5	10	7.5	10
176148.00	176148.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 10HP 16A HEAVY DUTY 10HP 16A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	10	16	10	16
176149.00	174628.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	15	24	15	24

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
174629.00	176151.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	20/25	31	20/25	31
174630.00	176151.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	20/25	31	20/25	31
176150.00	176151.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	20/25	31	20/25	31
176151.00	176151.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	20/25	31	20/25	31
174991.00	176152.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A HEAVY DUTY 30HP 39A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	30	45	30	39
176152.00	176152.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A HEAVY DUTY 30HP 39A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	30	45	30	39
-	186000.00M	CM5	CM5 VECTOR 3PH, 1.5HP 1.7A 500-600V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP20	1.5	1.7	1.5	1.7
-	186002.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A HEAVY DUTY 50HP 145A 200-240V IP20 WITH BRAKING TRANSISTOR, IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1B	NO	NO	YES	200-240	"IP20 OR NEMA 1 W/KIT"	60	180	50	145
-	186003.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	0.33	1.6	0.33	1.6
-	186004.00M	CM5	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	YES	NO	200-240	IP66	0.33	1.6	0.33	1.6
-	186005.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	YES	NO	200-240	IP66	1.5	4.3	1.5	4.3
-	186085.00M	CM5	CM5 VECTOR 1PH OR 3PH, 2HP 7.0A 200-240V IP20	NO	YES	NO	200-240	IP20	2	7.0	2	7.0
-	186006.00M	CM5	CM5 VECTOR 1PH OR 3PH, 2HP 7.3A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	YES	NO	200-240	IP66	2	7.3	2	7.3
-	186007.00M	CM5	CM5 VECTOR 1PH OR 3PH, 3HP 10A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	YES	NO	200-240	IP66	3	10	3	10
-	186008.00M	CM5	CM5 VECTOR 3PH, 5HP 16A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	200-240	IP66	5	16	5	16
-	186009.00M	CM5	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	200-240	IP66	7.5	24	7.5	24
-	186012.00M	CM5	CM5 VECTOR 3PH, 10HP 33A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	200-240	IP66	10	33	10	33
-	186013.00M	CM5	CM5 VECTOR 3PH, 15HP 47A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	200-240	IP66	15	47	15	47
-	186014.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	200-240	IP66	25	70	20	56
-	186015.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A & HEAVY DUTY 30HP 39A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	30	45	30	39

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
-	186016.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50HP 59.2A & 40HP 49A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	50	59.2	40	49
-	186017.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50HP 59.2A & HEAVY DUTY 40HP 49A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	50	59.2	40	49
	186018.00M	CM5	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	1	1.6	1	1.6
-	186019.00M	CM5	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	1.5	2.6	1.5	2.6
-	186086.00M	CM5	CM5 VECTOR 3PH, 3HP 9.6A 200-240V IP20	NO	NO	YES	200-240	IP20	3	9.6	3	9.6
-	186020.00M	CM5	CM5 VECTOR 3PH, 3HP 4.3A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	3	4.3	3	4.3
-	186021.00M	CM5	CM5 VECTOR 3PH, 5HP 6.5A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	5	6.5	5	6.5
-	186022.00M	CM5	CM5 VECTOR 3PH, 7.5HP 10A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	7.5	10	7.5	10
174678.00	186023.00M	CM5	CM5 VECTOR 3PH, 10HP 16A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP66	10	16	10	16
174546.00	174546.00M	CM5	CM5 VECTOR 3PH, 10HP 16A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	10	16	10	16
-	186025.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 25HP 31A & HEAVY DUTY 25HP 31A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	380-480	IP66	25	31	25	31
-	186056.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 75HP 88A & HEAVY DUTY 60HP 73A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	75	88	60	73
-	186057.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 75HP 105A & HEAVY DUTY 75HP 88A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	75	105	75	88
-	186059.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 100/125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	100/125	142	100	115
-	186060.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	150	180	125	142
-	186061.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	175	211	150	180
174569.00	186063.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 25HP 77A & HEAVY DUTY 20HP 64A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	"IP20 OR NEMA 1 W/KIT"	20/25	77	20	64
-	186064.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 30HP 88A OR HEAVY DUTY 25HP 75A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	30	88	25	75
-	186065.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 40HP 105A OR HEAVY DUTY 30HP 88A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	40	105	30	88
-	186066.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A OR HEAVY DUTY 40HP 115A 200-240V IP20	NO	NO	YES	200-240	IP20	50	145	40	115

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES DRIVES CROSS REFERENCE

NORMAL DUTY (ND) / HEAVY DUTY (HD)

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	ITEM DESCRIPTION	1-PH IN ONLY	1-PH IN & 3-PH IN	3-PH IN ONLY	INPUT VOLTAGE	IP RATING	(ND) HP 1 POWER RATING	AMPS FOR ND HP 1	(HD) HP 2 POWER RATING	AMPS FOR HD HP 2
-	186067.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A OR HEAVY DUTY 60HP 180A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	75	211	60	180
-	186069.00M	CM5	CM5 VECTOR 1PH OR 3PH, 3HP 4.3A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	500-600	IP66	3	4.3	3	4.3
-	186070.00M	CM5	CM5 VECTOR 3PH, 7.5HP 7A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	500-600	IP66	7.5	7	7.5	7
-	186072.00M	CM5	CM5 VECTOR 3PH, 10HP 12A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	NO	NO	YES	500-600	IP66	10	12	10	12
-	186087.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A & HEAVY DUTY 60HP 180A 200-240V IP20	NO	NO	YES	200-240	IP20	75	211	60	180
-	186088.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A & HEAVY DUTY 40HP 115A 200-240V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	200-240	IP20	50	145	40	115
-	186091.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 5HP 6.5A & HEAVY DUTY 5HP 6.5A 380-480V IP20 WITH BRAKE TRANSISTOR	NO	NO	YES	380-480	IP20	5	6.5	5	6.5
-	186092.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20	NO	NO	YES	380-480	IP20	150	180	125	142
-	186093.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20	NO	NO	YES	380-480	IP20	175	211	150	180
-	186094.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20	NO	NO	YES	380-480	IP20	100/125	142	100	115
174652.00	174652.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	0.75	2.6	0.75	2.6
174653.00	174653.00M	CM5	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	NO	YES	NO	200-240	IP66	1.5	4.3	1.5	4.3
-	186090.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 380-480VAC, IP20 WITH BRAKE RESISTOR	NO	NO	YES	380-480	IP20	3	4.3	3	4.3
-	186107.00M	CM5	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A & HEAVY DUTY 50HP 145A 200-240V IP20	NO	NO	YES	200-240	IP20	60	180	50	145
174581.00	174581.00M	CM6	CM6 VECTOR 3PH, NORMAL DUTY 75HP 88A AND HEAVY DUTY 60HP 56A 380-480V IP55 WITH DISCONNECT SWITCH	NO	NO	YES	380-480	IP55	75	88	60	56
174594.00	174594.00M	CM6	CM6 VECTOR 3PH, NORMAL DUTY 50HP 53A AND HEAVY DUTY 40HP 44A 500-600V IP31	NO	NO	YES	500-600	IP31	50	53	40	44
174599.00	174599.00M	CM6	CM6 VECTOR 3PH NORMAL DUTY 40HP 44A AND HEAVY DUTY 30HP 36A 500-600V IP31 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP31	40	44	30	36
174637.00	174637.00M	CM6	CM6 VECTOR 3PH, NORMAL DUTY 15HP 17A AND HEAVY DUTY 15HP 17A 500-600V IP31 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP31	15	17	15	17
174638.00	174638.00M	CM6	CM6 VECTOR 3PH, NORMAL DUTY 20HP 22A AND HEAVY DUTY 20HP 19A 500-600V IP31 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP31	20	22	20	19
174639.00	174639.00M	CM6	CM6 VECTOR 3PH, NORMAL DUTY 25HP 27A AND HEAVY DUTY 20HP 22A 500-600V IP31 WITH BRAKE TRANSISTOR	NO	NO	YES	500-600	IP31	25	27	20	22

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MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES AC DRIVES ACCESSORIES/KITS CROSS REFERENCE

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	SLOT	ITEM DESCRIPTION	APPROX. WGT (LBS)
174150.00	174150.00M	CM3	1 (UPPER)	CM3-KHMIR, KIT INCLUDES KEYPAD & 3,3 FT CABLE	0.4
174356.00	174150.00M	CM3	-	CM3-KHMIR, KIT INCLUDES KEYPAD & 3,3 FT CABLE	0.4
I5MADR000000S	174150.00M	CM3	-	CM3-KHMIR, KIT INCLUDES KEYPAD & 3,3 FT CABLE	0.4
174370.00	174150.00M	CM3	-	CM3-KHMIR, KIT INCLUDES KEYPAD & 3,3 FT CABLE	0.4
174367.00	174367.00M	CM3	-	CM3-CETH, COMM. MODULE; 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 1-RS485, 1-ETHERNET IP 100BASE TX RJ-45 PORT, 24VDC	0.2
-	184016.00M	CM3	1 (UPPER)	CM3-CRS232, DRIVE KIT, RS-232 COMMUNICATION MODULE (MODBUS-RTU); 1 RS232	0.2
-	184017.00M	CM3	1 (UPPER)	CM3-CRS485, DRIVE KIT, RS-485 MODULE; 1 RS-485 INPUT (MODBUS RTU / BACNET MS/TP), 1 MINI USB FOR REMOTE KEYPAD	0.2
-	184018.00M	CM3	1 (UPPER)	CM3-CCAN, DRIVES KIT, CANOPEN/DEVICENET COMM. MODULE; 1 CAN/DEVICENET, EXTERNAL 24VDC POWER	0.2
-	184019.00M	CM3	1 (UPPER)	CM3-CPDP, DRIVES KIT, PROFIBUS DP COMMUNICATION MODULE; 1 PROFIBUS DP 9-PIN CONNECTOR	0.2
-	184020.00M	CM3	1 (UPPER)	CM3-CUSB, DRIVES KIT, USB COMMUNICATION MODULE W/ 2-METER CABLE; 1 MINI USB	0.2
-	184022.00M	CM3	1 (UPPER)	CM3-IOP, DRIVES KIT, POTENTIOMETER REFERENCE MODULE	0.2
-	184023.00M	CM3	2 (LOWER)	CM3-IODR, DRIVES KIT, I/O EXPANSION MODULE; 4 DI, 3 DOR	0.2
-	184024.00M	CM3	2 (LOWER)	CM3-IOAR, DRIVE KIT, I/O EXPANSION MODULE; 1 AI, 1 AO, 3 DOR, +10VDC	0.2
-	184025.00M	CM3	2 (LOWER)	CM3-IOADR, DRIVE KIT, I/O EXPANSION MODULE: 1 NTC, 3RO AND 1 INFRARED INPUT. SIMPLE REMOTE CONTROL WITH BATTERY	0.2
-	184026.00M	CM3	2 (LOWER)	CM3-IOADR-D, DRIVES KIT, I/O EXPANSION MODULE: 1 NTC, 3RO AND 1 INFRARED INPUT. COMPLETE REMOTE CONTROL WITH BATTERY AND DISPLAY	0.2
-	184027.00M	CM3	2 (LOWER)	CM3-IOAENC, DRIVES KIT, I/O AND ENCODER MODULE; 1 AI, 2 AO, +10VDC, 1 INCREMENTAL ENCODER INPUT +5VDC	0.2
-	184028.00M	CM3	2 (LOWER)	CM3-IODF, DRIVE KIT, I/O EXPANSION MODULE: 3 PULSE/FREQUENCY INPUT & 3 PULSE/	0.2
-	184054.00M	CM3	-	CM3-MMF-UDRIVES, FLASH MEMORY MODULE	0.2
174357	174357.00M	CM5	-	CM5-CUSB, USB CARD, DRIVE KIT, COMM. MODULE; 1 USB, 1 RS485, 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 10VDC, 24VDC	0.2

*See back cover page for attribution.

Continued on next page.

MARATHON® CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES AC DRIVES ACCESSORIES/KITS CROSS REFERENCE

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	SLOT	ITEM DESCRIPTION	APPROX. WGT (LBS)
174362	174362.00M	CM5	-	CM5-IOS, COMES STD WITH ALL CM5 DRIVES, I/O MODULE; 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 1 RS485, 10VDC, 24VDC	0.2
174363	174362.00M	CM5	-	CM5-IOS, COMES STD WITH ALL CM5 DRIVES, I/O MODULE; 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 1 RS485, 10VDC, 24VDC	0.2
174364	174364.00M	CM5	-	CM5-CCAN, DRIVE KIT, COMM. MODULE; 1 CAN/DEVICENET, 1 RS485, 2 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 10VDC, 24VDC	0.2
174365	174365.00M	CM5	-	CM5-CEMB-TCP, DRIVE KIT, COMM. MODULE; 1-MODBUS TCP 100BASE TX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC	0.2
174366	174366.00M	CM5	-	CM5-CPDP2, DRIVE KIT, COMM. MODULE; 2 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 1 PROFIBUS DP, 1 RS485, 24VDC, DB9 CONNECTOR	0.2
174368	174368.00M	CM5	-	CM5-CEPN-IO, COMM. MODULE; 1-PROFINET I/O 100BASE TX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC	0.2
174369	174369.00M	CM5	-	CM5-CETH-IP, DRIVE KIT, COMM. MODULE; 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 1-RS485, 1-ETHERNET IP 100BASE TX RJ-45 PORT, 24VDC	0.2
-	186026.00M	CM5	-	CM5-IOD, DRIVE KIT, I/O MODULE; 8 DI, 1 AI, 1 AO, 1 DOR, 4 DOT, 1 RS485, 10VDC, 24VDC	0.2
-	186027.00M	CM5	-	CM5-IOAD, DRIVE KIT, I/O MODULE; 6 DI, 3 AI, 2 AO, 1 DOR, 3 DOT, 1 RS485, 10VDC, 24VDC	0.2
-	186028.00M	CM5	-	CM5-IOR-B, DRIVE KIT, I/O MODULE; 5 DI, 1 AI, 1 AO, 4 DOR, 1 DOT, 1 RS485, 10VDC, 24VDC	0.2
-	186029.00M	CM5	-	CM5-ENC, DRIVE KIT, ENCODER MODULE; QUAD INPUT A & B, 1 RS485, 5 DI, 1 AI, 1 AO, 3 DOR, 1 DOT, 24VDC	0.2
-	186030.00M	CM5	-	CM5-CRS232, DRIVE KIT, COMM. MODULE; 1 RS232, 1 RS485, 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 24VDC	0.2
-	186031.00M	CM5	-	CM5-CRS485-B, DRIVE KIT, COMM. MODULE; 2 RS485, 4 DI, 2 AI, 1 AO, 2 DOR, 1 DOT, 10VDC, 24VDC	0.2
-	186032.00M	CM5	-	CM5-CPDP2, DRIVE KIT, COMM. MODULE; 1-PROFIBUS DP & DP-V1 100BASE TX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC (TERMINAL BLOCK CONNECTOR)	0.2
-	186033.00M	CM5	-	CM5-SFY2, DRIVE KIT, SAFETY FUNCTION MODULE; SAFE TORQUE OFF (STO) / STOP CATEGORY 0, SAFE STOP 1	1.8
-	186034.00M	CM5	-	CM5-MMF, DRIVE KIT, FLASH MEMORY MODULE FOR SAVING AND RELOADING PROGRAM AND PARAMETERS TO / FROM THE DRIVE.	0.2

*See back cover page for attribution.

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MARATHON CONTROLMAX™ AC & DC CONTROLS

CM3™ & CM5™ SERIES AC DRIVES ACCESSORIES/KITS CROSS REFERENCE

OLD CATALOG AC DRIVE	CONTROLMAX DRIVE	SERIES	SLOT	ITEM DESCRIPTION	APPROX. WGT (LBS)
-	186035.00M	CM5	-	CM5-RHMIF, DRIVE KIT, REMOTE ADVANCED TEXT KEYPAD ENCLOSURE DOOR MOUNTING FRAME KIT	0.5
-	186036.00M	CM5	-	CM5-CCHMIR01M, DRIVE KIT, 3.3 FT (1 METER) REMOTE KEYPAD CABLE	0.5
-	186037.00M	CM5	-	CM5-CCHMIR02M, DRIVE KIT, 6.6 FT (2 METER) REMOTE KEYPAD CABLE	0.7
-	186038.00M	CM5	-	CM5-CCHMIR03M, DRIVE KIT, 9.9 FT (3 METER) REMOTE KEYPAD CABLE	1.0
-	186039.00M	CM5	-	CM5-CCHMIR05M, DRIVE KIT, 16 FT (5 METER) REMOTE KEYPAD CABLE	1.2
-	186040.00M	CM5	-	CM5-CCHMIR075M, DRIVE KIT, 25 FT (7.5 METER) REMOTE KEYPAD CABLE	1.5
-	186041.00M	CM5	-	CM5-CCHMIR010M, DRIVE KIT, 33 FT (10 METER) REMOTE KEYPAD CABLE	2.0
-	186042.00M	CM5	-	CM5-KN1A, DRIVE KIT, NEMA 1 KIT – FRAME SIZE A	2.0
-	186043.00M	CM5	-	CM5-KN1B, DRIVE KIT, NEMA 1 KIT – FRAME SIZE B	3.0
-	186044.00M	CM5	-	CM5-KN1C, DRIVE KIT, NEMA 1 KIT – FRAME SIZE C	3.0
-	186045.00M	CM5	-	CM5-KN1D, DRIVE KIT, NEMA 1 KIT – FRAME SIZE D	3.0
-	186046.00M	CM5	-	CM5-KN1E, DRIVE KIT, NEMA 1 KIT – FRAME SIZE E	6.0
-	186047.00M	CM5	-	CM5-KN1F, DRIVE KIT, NEMA 1 KIT – FRAME SIZE F	12.0
-	186048.00M	CM5	-	CM5-KN1G, DRIVE KIT, NEMA 1 KIT – FRAME SIZE G	17.0
-	186049.00M	CM5	-	CM5-KPCSA, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME A	1.0
-	186050.00M	CM5	-	CM5-KPCSB, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME B	1.0
-	186051.00M	CM5	-	CM5-KPCSC, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME C	1.1
-	186052.00M	CM5	-	CM5-KPCSD, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME D	1.1
-	186053.00M	CM5	-	CM5-KPCSE, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME E	6.0
-	186054.00M	CM5	-	CM5-KPCSF, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME F	15.0
-	186055.00M	CM5	-	CM5-KPCSG, DRIVE KIT, CABLE SHIELD CLAMP KIT FOR FRAME G	18.0
-	186077.00M	CM5	-	CM5-HMIR, DRIVE KIT, REMOTE NON-TEXT KEYPAD FOR MOUNTING THROUGH ENCLOSURE DOOR (MOUNTING FRAME)	0.6
-	186079.00M	CM5	-	CM5 REMOTE ADVANCED TEXT KEYPAD FOR MOUNTING THROUGH ENCLOSURE DOOR (MOUNTING FRAME KIT IS REQUIRED)	0.4

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES

The CONTROLMAX CM3 series drive is a high-performance variable-speed (vfd) drive for three-phase induction motors. It is ideal for machines or equipment applications requiring precise control with easy setup and operation. The CM3 series features a compact size with contactor-style electrical connections (top in / bottom out). The vfd's performance can be scaled to match the application by selecting weg vector control (vvw) or scalar control(v/f). The CM3 series includes a built-in operator interface (hmi) and SoftPLC with free wps programming software for custom-tailored control schemes. A variety of plug-in option modules for additional I/O and communications protocols may be added to provide extended capabilities,making the CM3 series a flexible and cost-effective solution for your variable speed requirements.

CM3 STANDARD FEATURES

- **Listed under new UL61800-5-1.**
- **Power Range:**
  - **–Up to 2HP @ 3/230VAC with 1/110-127 Vac input**
  - **–Up to 3HP @ 3/230VAC with 1/200-240 Vac input**
  - **–Up to 5HP @ 3/230VAC with 3/200-240 Vac input**
  - **–Up to 10HP @ 3/460VAC with 3/380-480 Vac input**
- **Din rail or surface mounting with screws**
- **Control mode: Scalar (V/Hz) or WEG Voltage Vector (VVW)**
- **Switching frequency: 2.5 to 15kHz**
- **Overload capacity: 150% for 60 sec. every 10 min or 200% for 3 sec. every 10min.**
- **Degree of protection: IP20**
- **460VAC Models available with and without dynamic braking chopper.**
- **Conformal coated circuit board as per Class 3C2 in compliance with IEC 60721-3-3.**
- **Built-in SoftPLC (PLC functionality).**
- **Built-in 4 Digital inputs, 1 analog input, and one Form-C relay output.**
- **Two independent slots: one for communication and another to expand drive I/O capability.**
- **Wide variety of communication options.**
- **One year Warranty**

CM3 APPLICATIONS:

- Centrifugal pumps
- Fans / Blowers
- Blenders / Mixers
- Centrifuges
- Compressors
- Conveyors
- Roller Tables
- Granulators
- Commercial Dryers
- Rotary Filters
- Grizzly Feeders

NORMAL DUTY (ND) / HEAVY DUTY (HD)

IP RATING	(ND) HP[1]	IND AMPS[2]	DRIVE VOLTAGE	CONTROLMAX Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE	DIMENSIONS HxWxD (IN.)	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single-Phase 110-127 Vac														
IP20	1/4 or 1/3	1.6	110-127	174603.00M	CM3, Vector, 1PH, 0.25 or 0.33HP, 1.6A, 110-127 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	3/4	2.6	110-127	174604.00M	CM3, Vector, 1PH, 0.75HP, 2.6A, 110-127 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	1	4.2	110-127	174605.00M	CM3, Vector, 1PH, 1HP, 4.2A, 110-127 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	2	6	110-127	174651.00M	CM3, Vector, 1PH, 2HP 6.0A, 110-127 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
Input Power Supply: Single-Phase 200-240 Vac[4]														
IP20	1/4 or 1/3	1.6	200-240	174606.00M	CM3, Vector, 1PH, 0.25/0.33HP, 1.6A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	3/4	2.6	200-240	174607.00M	CM3, Vector, 1PH, 0.75HP, 2.6A, 200-240V IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	1	4.2	200-240	174608.00M	CM3, Vector, 1PH, 1HP, 4.2A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	2	7.3	200-240	184038.00M	CM3, Vector, 1PH, 2HP, 7.3A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	3	10	200-240	**174611.00M**	CM3, Vector, 3PH, 3HP, 10A, 200-240 V, IP20, With Brake Transistor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

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MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES

NORMAL DUTY (ND) / HEAVY DUTY (HD)

IP RATING	(ND) HP [1]	IND AMPS [2]	DRIVE VOLTAGE	CONTROLMAX Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE	DIMENSIONS HxWxD (IN.)	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Three-Phase 200-240 Vac[4]														
IP20	1/4 or 1/3	1.6	200-240	184040.00M	CM3, Vector, 3PH, 0.25/0.33HP, 1.6A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	3/4	2.6	200-240	184041.00M	CM3, Vector, 3PH, 0.75HP, 2.6A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	1	4.2	200-240	184042.00M	CM3, Vector, 3PH, 1HP, 4.2A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	2	7.3	200-240	174609.00M	CM3, Vector, 3PH, 2HP, 7.3A, 200-240 V, IP20	No	No	-	-	-	A	6.22 x 2.76 x 5.84	1.98	√
IP20	3	10	200-240	**174611.00M**	CM3, Vector, 3PH, 3HP, 10A, 200-240 V, IP20, With Brake Transistor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	5	15.2	200-240	184003.00M	CM3, Vector, 3PH, 5HP, 15.2A, 200-240 V, IP20, With Brake Transistor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
Input Power Supply: Three-Phase 380-480 Vac[5] with dynamic Braking Transistor														
IP20	1/2	1.1	380-480	174620.00M	CM3, Vector, 3PH, 0.5HP, 1.1A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	1	1.8	380-480	174621.00M	CM3, Vector, 3PH, 1HP, 1.8A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	1 1/2	2.6	380-480	174622.00M	CM3, Vector, 3PH, 1.5HP, 2.6A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	2	3.5	380-480	174623.00M	CM3, Vector, 3PH, 2HP, 3.5A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	3	5.6	380-480	174624.00M	CM3, Vector, 3PH, 3HP, 5.6A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	5	8.3	380-480	174625.00M	CM3, Vector, 3PH, 5HP, 8.3A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	C	8.43 x 3.5 x 6.45	3.30	√
IP20	7 1/2	11	380-480	174626.00M	CM3, Vector, 3PH, 7.5HP, 11A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	C	8.43 x 3.5 x 6.45	3.30	√
IP20	10	14	380-480	174627.00M	CM3, Vector, 3PH, 10HP, 14A, 380-480 V, IP20, With Brake Transitor	Yes	No	-	-	-	C	8.43 x 3.5 x 6.45	3.30	√

NOTES FOR CM3 DRIVES:

1) "HP" RATING BASED ON MARATHON'S 4-POLE GT MOTORS' "AVERAGE FLA VALUES." USE AS A GUIDE ONLY.
2) MOTOR FLA MAY VARY WITH SPEED AND MANUFACTURER. ALWAYS COMPARE MOTOR FLA TO DRIVE OUTPUT CURRENT.
3) "**174611.00M**" IS CAPABLE OF SINGLE-PHASE INPUT WITHOUT DERATING.
4) ALL THE 230VAC DRIVES ARE RATED FOR MAX. AMBIENT TEMPERATURE OF 50°C WITHOUT DERATING.
5) ALL THE 460VAC DRIVES ARE RATED FOR MAX. AMBIENT TEMPERATURE OF 40°C WITHOUT DERATING.
DIMENSIONS ARE PROVIDED FOR ESTIMATING PURPOSES ONLY.

Dynamic Braking Resistors - 100% Braking Torque at 20% Duty Cycle

(12 Seconds Max. Braking Time) - NEMA1 Enclosure Three-Phase 460-480 Vac

IP RATING	(ND) HP [1]	IND AMPS [2]	DRIVE VOLTAGE	CONTROLMAX Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE	DIMENSIONS HxWxD (IN.)	APPROX. WEIGHT (LBS.)	STOCK
IP20	1/2	1.1	400-480	174620.00M	CM3, Vector, 3PH, 0.5HP, 1.1A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-250-448	250	298	A	8.08 x 2.76 x 6.24	2.95	√
IP20	1	1.8	400-480	174621.00M	CM3, Vector, 3PH, 1HP, 1.8A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-250-448	250	448	A	8.08 x 2.76 x 6.24	2.95	√
IP20	1 1/2	2.6	400-480	174622.00M	CM3, Vector, 3PH, 1.5HP, 2.6A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-250-448	250	448	A	6.22 x 2.76 x 5.84	1.98	√
IP20	2	3.5	400-480	174623.00M	CM3, Vector, 3PH, 2HP, 3.5A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-250-448	250	448	A	8.08 x 2.76 x 6.24	2.95	√
IP20	3	5.6	400-480	174624.00M	CM3, Vector, 3PH, 3HP, 5.6A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-100-1119	100	1119	B	8.08 x 2.76 x 6.24	2.95	√
IP20	5	8.3	400-480	174625.00M	CM3, Vector, 3PH, 5HP, 8.3A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-50-2238	50	2238	C	8.43 x 3.5 x 6.45	3.3	√
IP20	7 1/2	11	400-480	174626.00M	CM3, Vector, 3PH, 7.5HP, 11A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-50-2238	50	2238	C	8.43 x 3.5 x 6.45	3.3	√
IP20	10	14	400-480	174627.00M	CM3, Vector, 3PH, 10HP, 14A, 380-480 V, IP20, With Brake Transitor	Yes	No	CFDB2-50-2238	50	2238	C	8.43 x 3.5 x 6.45	3.3	√

NOTES FOR CM3 DRIVES:

1) "HP" RATING BASED ON MARATHON'S 4-POLE GT MOTORS' "AVERAGE FLA VALUES." USE AS A GUIDE ONLY.
2) MOTOR FLA MAY VARY WITH SPEED AND MANUFACTURER. ALWAYS COMPARE MOTOR FLA TO DRIVE OUTPUT CURRENT.
3) "**174611.00M**" IS CAPABLE OF SINGLE-PHASE INPUT WITHOUT DERATING.
4) ALL THE 230VAC DRIVES ARE RATED FOR MAX. AMBIENT TEMPERATURE OF 50°C WITHOUT DERATING.
5) ALL THE 460VAC DRIVES ARE RATED FOR MAX. AMBIENT TEMPERATURE OF 40°C WITHOUT DERATING.
DIMENSIONS ARE PROVIDED FOR ESTIMATING PURPOSES ONLY.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES - ACCESSORIES/KITS

TYPE	CONTROLMAX™ CM3™ CATALOG #	SLOT	CONTROLMAX™ CM3™ AC DRIVE DESC.	APPROX. WT. (LBS.)	STOCK
COMMUNICATION MODULE[1]	184017.00M	1 (UPPER)	CM3, RS-485 MODULE; 1 RS-485 INPUT (MODBUS RTU / BACNET MS/TP), 1 MINI USB FOR REMOTE KEYPAD	0.2	√
	184016.00M	1 (UPPER)	CM3, RS-232 COMMUNICATION MODULE (MODBUS-RTU); 1 RS232	0.2	√
	184018.00M	1 (UPPER)	CM3, CANOPEN/DEVICENET COMM. MODULE; 1 CAN/DEVICENET, EXTERNAL 24VDC POWER	0.2	√
	184019.00M	1 (UPPER)	CM3, PROFIBUS DP COMMUNICATION MODULE; 1 PROFIBUS DP 9-PIN CONNECTOR	0.2	√
	184020.00M	1 (UPPER)	CM3, USB COMMUNICATION MODULE W/ 2-METER CABLE; 1 MINI USB	0.2	√
	174367.00M	1 (UPPER)	CM3, DUAL PORT MODBUS TCP OR ETHERNET/IP COMMUNICATION MODULE	0.2	√
REMOTE KEYPAD	174150.00M	1 (UPPER)	CM3, REMOTE KEYPAD; INCLUDES CM3-CRS485 AND 3-METER CABLE	0.4	√
I/O EXPANSION MODULES[2]	184022.00M	1 (UPPER)	CM3, POTENTIOMETER REFERENCE MODULE	0.2	√
	184024.00M	2 (LOWER)	CM3, I/O EXPANSION MODULE; 1 AI, 1 AO, 3 DOR, +10VDC	0.2	√
	184023.00M	2 (LOWER)	CM3, I/O EXPANSION MODULE; 4 DI, 3 DOR	0.2	√
	184027.00M	2 (LOWER)	CM3, I/O AND ENCODER MODULE; 1 AI, 2 AO, +10VDC, 1 INCREMENTAL ENCODER INPUT +5VDC	0.2	√
	184025.00M	2 (LOWER)	CM3, I/O EXPANSION MODULE: 1 NTC, 3RO AND 1 INFRARED INPUT. SIMPLE REMOTE CONTROL WITH BATTERY	0.2	√
	184026.00M	2 (LOWER)	CM3, I/O EXPANSION MODULE: 1 NTC, 3RO AND 1 INFRARED INPUT. COMPLETE REMOTE CONTROL WITH BATTERY AND DISPLAY	0.2	√
	184028.00M[3]	2 (LOWER)	CM3, I/O EXPANSION MODULE: 3 PULSE/FREQUENCY INPUT & 3 PULSE/ FREQUENCY OUTPUT (10 HZ TO 3000 HZ)	0.2	√
FLASH MEMORY MODULE	184054.00M	-	CM3, FLASH MEMORY MODULE	0.2	√

NOTES FRO CM3 DRIVE ACCESORIES:
1) UP TO QTY. (1) I/O EXPANSION MODULE PLUS QTY. (1) COMMUNICATION MODULE CAN BE ADDED TO THE CFW320 VFD.
2) OPTION I/OS ARE IN ADDITION TO THE STANDARD CFW320 I/O, WHICH INCLUDES 4 DI, 1 AI, 1 DOR.
3) THE I/OS FOR "144028.00" MODULE ARE ONLY ACCESSIBLE THROUGH SOFTPLC APPLICATION.

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES - OPTION CARDS

OPTION CARD I/O TABLE[6]

Marathon™ CONTROLMAX™ CM3™ Catalog #	Slots [5]	Inputs		Outputs				Potentiometer for speed reference	USB [4]	Infrared sensors and NTC [3]	Encoder input [2]	Network communication		
		ANALOG	DIGITAL	FREQUENCY	ANALOG	RELAY DIGITAL	FREQUENCY					RS485	RS232	OTHERS
184017.00M	Upper slot	-	-	-	-	-	-	-	-	-	-	1	-	-
184016.00M		-	-	-	-	-	-	-	-	-	-	-	1	-
184018.00M		-	-	-	-	-	-	-	-	-	-	-	-	CANopen or DeviceNet
184019.00M		-	-	-	-	-	-	-	-	-	-	-	-	Profibus-DP
184020.00M		-	-	-	-	-	-	-	1	-	-	-	-	-
184022.00M		-	-	-	-	-	-	1	-	-	-	-	-	-
174367.00M		-	-	-	-	-	-	-	-	-	-	-	-	Ethernet/IP or Modbus-TCP
184024.00M	Lower slot	1	-	-	1	3	-	-	-	-	-		-	-
184023.00M1		-	4	-	-	3	-	-	-	-	-	-	-	-
184027.00M		1	-	-	2	-	-	-	-	-	1	-	-	-
184025.00M		1	-	-	-	3	-	-	-	1	-	-	-	-
184026.00M		-	-	-	-	3	-	-	-	1	-	-	-	-
184028.00M[3]		-	-	3	-	-	3	-	-	-	-	-	-	-

Notes for CM3 option cards:
1) Configurable isolated digital inputs (npn or pnp).
2) Incremental encoder (A/A - B/B), power supply of +5 V @ 100 mA for the encoder, maximum frequency of 400 kHz.
3) Remote control and battery included.
4) USB cable included.
5) It allows 1 plug-in module in the upper slot (network communication) and 1 plug-in module in the lower slot (input/output expansion).
6) The standard version of the CM3 already has 4 (configurable) PNP or NPN digital inputs, 1 analog input 0-10 V dc / 4-20 mA and 1 relay output 0.5 A / 250 V ac.

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES - TECHNICAL DATA

Input AC Power Supply	Voltage	Single-phase	110-127 Vac (+10%, -15%)
		Single-phase or Three-phase	200-240 Vac (+10%, -15%)
		Three-phase	380-480 Vac (+10%, -15%)
	Frequency	50 / 60 Hz (Range: 48… 62Hz)	
	Phase Unbalance	≤ 3% between line voltages	
	Overvoltages / transients	Category III (EN 61010 / IEC61800-5-1 / UL61800-5-1)	
	Typical efficiency	≥ 97%	
	Audible noise level	< 60 dB	
Ambient	Operating ambient Temperature	"200V Line: from 32 °F to 122 °F (0 °C to 50 °C) 400V Line: from 32 °F to 104 °F (0 °C to 40 °C) For temperatures higher than specified above, it is necessary to apply 2% of current derating for each °C (1.1% for each °F), limited to an increase of 10 °C (18°F)."	
	Humidity	5 ... 95 % non-condensing	
	Altitude	"1,000 meter w/o Derating 1,000 m to 4,000 m - 1% current derating for each 100 m above 1,000 m"	
		From 2,000 m to 4,000 meter above sea level – maximum voltage derating (127 V / 240 V / 480 V, according to the model) of 1.1% for each 100 m above 2,000 m	
	Pollution degree	2 (according to EN 50178 and UL 508C), with non-conductive pollution. Condensation must not cause the conduction of the accumulated residues.	
	Conformal Coating	3C2 (IEC 60721-3-3:2002)	
	Vibration	Level 3M4	
Motor Control	Type of Control	V/F (Scalar)	
		V/F (Quadratic)	
		VVW: Voltage vector control	
	Modulation	PWM SVM (Space Vector Modulation)	
	Output Frequency	0 to 400 Hz, resolution 0.1 Hz	
Performance	Speed Control	"V/F Control: Speed regulation: 1% of the rated speed (with sleep compensation) Speed variation range: 1:20"	
		"Vector control (VVW): Speed regulation: 1% of the rated speed Speed variation range: 1:30"	
Inputs[1]	Analog	"1 isolated input: 0 to 10 V or 0 to 20 mA or 4 to 20 mA Linearity error ≤ 0.25% Impedance: 100 kΩ for voltage input, 500 Ω for current input Programmable functions Voltage on the inputs: 30 V dc"	
	Digital	"4 isolated inputs. Programmable functions: - Active high (PNP): maximum low level of 10 V dc minimum high level 20 V dc - Active low (NPN): maximum low level of 5 V dc minimum high level of 10 V dc Maximum input voltage of 30 V dc Input current: 11 mA Max input current: 20 mA"	
Outputs[1]	Relay	1 relays with NO/NC contact Maximum voltage: 250 V ac Maximum current: 0.5 A Programmable functions	
	Power Supply	10 V dc power supply maximum capacity: 50 mA	
Safety	Protection	"Overcurrent/phase-phase short circuit in the output Under/overvoltage at the power supply Motor overload Overtemperature in the power module (IGBTs) External fault/alarm Programming error"	
Keypad (HMI)	Built-in	"4 keys: run/stop, increment, decrement and setting LCD display Indication accuracy: - Current: 10% of the rated current - Speed resolution: 0.1 Hz"	
Communication	Communication networks or accessibility	Modbus-TCP, RS485 (Modbus RTU / BACnet), RS232, CANopen, DeviceNet, Ethernet, Profibus-DP or USB Port (with plug-in modules)	
Protection Rating	IP20	Frames A, B & C	

NOTES For CM3 Drives:
1) Available as a drive built-in I/Os.

*See back cover page for attribution.

Continued on next page.

MARATHON® CONTROLMAX™ AC DRIVES

CM3™ SERIES DRIVES - TECHNICAL DATA

SAFETY STANDARDS	UL61800-5-1 - ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS - PART 5-1: SAFETY REQUIREMENTS - ELECTRICAL, THERMAL AND ENERGY.	
	EN 61800-5-1 - SAFETY REQUIREMENTS ELECTRICAL, THERMAL AND ENERGY	
	EN 50178 - ELECTRONIC EQUIPMENT FOR USE IN POWER INSTALLATIONS	
	"EN 60204-1 - SAFETY OF MACHINERY. ELECTRICAL EQUIPMENT OF MACHINES. PART 1: GENERAL REQUIREMENTS NOTE: THE FINAL ASSEMBLER OF THE MACHINE IS RESPONSIBLE FOR INSTALLING A SAFETY STOP DEVICE AND A SUPPLY DISCONNECTING DEVICE"	
	EN 60146 (IEC 146) - SEMICONDUCTOR CONVERTERS	
	EN 61800-2 - ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS - PART 2: GENERAL REQUIREMENTS - RATING SPECIFICATIONS FOR LOW VOLTAGE ADJUSTABLE FREQUENCY AC POWER DRIVE SYSTEMS	
ELECTROMAGNETIC COMPATIBILITY STANDARDS (EMC)	EN 61800-3 - ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS - PART 3: EMC PRODUCT STANDARD INCLUDING SPECIFIC TEST METHODS MAXIMUM VOLTAGE: 30 VDC	
	CISPR 11 - INDUSTRIAL, SCIENTIFIC AND MEDICAL (ISM) RADIO-FREQUENCY EQUIPMENT - ELECTROMAGNETIC DISTURBANCE CHARACTERISTICS - LIMITS AND METHODS OF MEASUREMENT	
	EN 61000-4-2 - ELECTROMAGNETIC COMPATIBILITY (EMC) - PART 4: TESTING AND MEASUREMENT TECHNIQUES - SEC. 2: ELECTROSTATIC DISCHARGE IMMUNITY TEST	
	EN 61000-4-3 - ELECTROMAGNETIC COMPATIBILITY (EMC) - PART 4: TESTING AND MEASUREMENT TECHNIQUES - SEC. 3: RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST	
	EN 61000-4-4 - ELECTROMAGNETIC COMPATIBILITY (EMC) - PART 4: TESTING AND MEASUREMENT TECHNIQUES - SEC. 4: ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST	
	EN 61000-4-5 - ELECTROMAGNETIC COMPATIBILITY (EMC) - PART 4: TESTING AND MEASUREMENT TECHNIQUES - SEC. 5: SURGE IMMUNITY TEST	
	EN 61000-4-6 - ELECTROMAGNETIC COMPATIBILITY (EMC) - PART 4: TESTING AND MEASUREMENT TECHNIQUES - SEC. 6: IMMUNITY TO CONDUCTED DISTURBANCES, INDUCED BY RADIO-FREQUENCY FIELDS	
MECHANICAL STANDARDS	EN 60529 - DEGREES OF PROTECTION PROVIDED BY ENCLOSURES (IP CODE)	
	UL 50 - ENCLOSURES FOR ELECTRICAL EQUIPMENT	
	IEC 60721-3-3 - CLASSIFICATION OF ENVIRONMENTAL CONDITIONS - PART 3: CLASSIFICATION OF GROUPS OF ENVIRONMENTAL PARAMETERS AND THEIR SEVERITIES - SECTION 3: STATIONARY USE AT WEATHER PROTECTED LOCATIONS LEVEL	
ECODESIGN STANDARDS	IEC 61800-9-2 PARTS 1 & 2 - "ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS - ECODESIGN FOR POWER DRIVE SYSTEMS, MOTOR STARTERS, POWER ELECTRONICS AND THEIR DRIVEN APPLICATIONS"	
FUNCTIONAL SAFETY STANDARDS	EN 61800-5-2 - ADJUSTABLE SPEED ELECTRICAL POWER DRIVE SYSTEMS - PART 5-2: SAFETY REQUIREMENTS - FUNCTIONAL	
	EN ISO 13849-1 - SAFETY OF MACHINERY - SAFETY-RELATED PARTS OF CONTROL SYSTEMS - PART 1: GENERAL PRINCIPLES FOR DESIGN	
	EN 62061 - SAFETY OF MACHINERY - FUNCTIONAL SAFETY OF SAFETY-RELATED CONTROL SYSTEMS	
	IEC 61508 PARTS 1-7 - FUNCTIONAL SAFETY OF ELECTRICAL/ELECTRONIC/PROGRAMMABLE ELECTRONIC SAFETY-RELATED SYSTEMS	
	EN 60204-1 - SAFETY OF MACHINERY - ELECTRICAL EQUIPMENT OF MACHINES - PART 1: GENERAL REQUIREMENTS	
CERTIFICATIONS	CULUS	CERTIFICATE NUMBER : UL-US-2214688-0; REPORT REFERENCE: E184430-20220408
	CE	EUROPEAN COMMUNITY
	UKCA	UNITED KINGDOM
	EAC	RUSSIA
	C-TICK	AUSTRIALIA & NEW ZEALAND

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

The CONTROLMAX™ CM5™ series drive has advanced technology plug and play options, developed for fast commissioning, providing great flexibility and competitive advantage while offering excellent performance and reliability. Designed for exclusively industrial or professional use, perfect for OEM, system integrators, panel installers and End Users providing great benefit from the added value. With the CM5 drives offer more features. The power range of CM5-IP20 drive is extended to 75HP @ 230VAC and 175HP @ 460VAC. The CM5 drive also is also available in IP66/ NEMA4X Washdown enclosure which israted for indoor and outdoor installation in direct sunlight.

CM5 STANDARD FEATURES

- Same programming as other Marathon VFDs
- Built-in SoftPLC.
- Scalar, Vector Control (Sensorless and closed loop with
- encoder feedback) & VVW PM (suitable for fan, Pump and compressor).
- IP20 & NEMA1 (with NEMA1 kit) Enclosure.
- NEMA 4X (IP66) Washdown Enclosure with and without disconnect switch, suitable for indoor and outdoor use (in direct sunlight).
- 200-240V, 380-480V or 500-600 input voltage.
- Heavy Duty rated - 150% current overload capacity.
- 0 to 500 Hz output frequency.
- 2.5 to 15 kHz adjustable switching frequency (5 kHz standard)
- One programmable transistor output.
- One isolated programmable analog input (0-10V, 0/4-20mA).
- Optional Safe Torque off Module.
- WLP and WPS compatible.
- One year warranty.

CM5 APPLICATIONS:

- Pumps
- Commercial dryers
- Fans/ventilators
- Extruders
- Blowers
- General machinery
- Conveyors
- Agitators
- Rollout tables
- Any washdown
- Mixers/Blenders (for NEMA4X/IP66)

NORMAL DUTY (ND) / HEAVY DUTY (HD)
CM5™ - IP20 FINGER SAFE ENCLOSURE

IP RATING	NORMAL DUTY VT[1] (ND) HP[2]	ND AMPS[3]	HEAVY DUTY CT[1] (HD) HP	HD AMPS[3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)[4]	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE[4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP20	0.33	1.6	0.33	1.6	200-240	176105.00M	CM5 VECTOR 1PH OR 3PH, 0.33HP 1.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	0.75	2.6	0.75	2.6	200-240	176106.00M	CM5 VECTOR 1PH OR 3PH, 0.75HP 2.6A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	1.5	4.3	1.5	4.3	200-240	176108.00M	CM5 VECTOR 1PH OR 3PH, 1.5HP 4.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	B	7.9 x 4.0 x 6.3	2.65	√
IP20	2	7.3	2	7.3	200-240	176117.00M	CM5 VECTOR 1PH OR 3PH, 2HP 7.3A 200-240V IP20. FOR CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	-	-	-	B	7.9 x 4.0 x 6.3	2.65	√
IP20	3	10.0	3	10.0	200-240	176118.00M	CM5 VECTOR 1PH OR 3PH, NORMAL DUTY 3HP 10A HEAVY DUTY 3HP 10A 200-240V IP20 WITH BRAKE TRANSISTOR. IF IP31 IS REQUIRED USE NEMA 1 KIT CM5-KN1E	Yes	No	-	-	-	B	7.9 x 4.0 x 6.3	1.76	√
Input Power Supply: Three-Phase 200-240 Vac																
IP20	2	7.0	2	7.0	200-240	186085.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.0A 200-240V IP20	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	3	9.6	3	9.6	200-240	186086.00M	CM5 VECTOR 3PH, 3HP 9.6A 200-240V IP20	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	5	16	5	16	200-240	174615.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 16A & HEAVY DUTY 5HP 16A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	8.08 x 2.76 x 6.24	2.95	√
IP20	7.5	24	7.5	24	200-240	174616.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 24A & HEAVY DUTY 7.5HP 24A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP20	10	33	10	33	200-240	174617.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 28A & HEAVY DUTY 10HP 28A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	D	12.1 x 7.1 x 6.6	9.48	√
IP20	15	47	15	47	200-240	174618.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 47A & HEAVY DUTY 15HP 47A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	D	12.1 x 7.1 x 6.6	9.48	√

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

NORMAL DUTY (ND) / HEAVY DUTY (HD)
CM5™ - IP20 FINGER SAFE ENCLOSURE

IP RATING	NORMAL DUTY VT[1] (ND) HP[2]	ND AMPS[3]	HEAVY DUTY CT[1] (HD) HP	HD AMPS[3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)[4]	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE[4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
IP20	25*	70*	20	56	200-240	174619.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	E	5 x 26.5 x 13	22.05	√
IP20	25	77	20	64	200-240	186063.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 77A & HEAVY DUTY 20HP 64A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	F	21.6 x 11.8 x 10	57.3	√
IP20	30	88	25	75	200-240	186064.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 88A or HEAVY DUTY 25HP 75A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	F	21.6 x 11.8 x 10	57.3	√
IP20	40	105	30	88	200-240	186065.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 105A or HEAVY DUTY 30HP 88A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	F	21.6 x 11.8 x 10	57.3	√
IP20	50	145	40	115	200-240	186066.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A or HEAVY DUTY 40HP 115A 200-240V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	60	180	50	145	200-240	186107.00M	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A & HEAVY DUTY 50HP 145A 200-240V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	75	211	60	180	200-240	186087.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A & HEAVY DUTY 60HP 180A 200-240V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	50	145	40	115	200-240	186088.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A & HEAVY DUTY 40HP 115A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	60	180	50	145	200-240	186002.00M	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A HEAVY DUTY 50HP 145A 200-240V IP20 WITH Braking Transistor, if IP31 is required use NEMA 1 Kit CM5-KN1B	Yes	No	-	-	-	G	26.6 x 13.2 x 14.1	114.6	√
IP20	75	211	60	180	200-240	186067.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A or HEAVY DUTY 60HP 180A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
Input Power Supply: Three-Phase 380-480 Vac																
IP20	0.5	1.0	0.5	1.0	380-480	176120.00M	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP20. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	1	1.6	1	1.6	380-480	176128.00M	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP20. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	3	6.1	3	6.1	380-480	176124.00M	CM5 VECTOR 3PH, 3HP 6.1A 380-480V IP20. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	No	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	1.5	2.6	1.5	2.6	380-480	176121.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	-	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	3	4.3	3	4.3	380-480	186090.00M	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 380-480VAC, IP20 WITH BRAKE RESISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP20	5	6.5	5	6.5	380-480	186091.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 6.5A & HEAVY DUTY 5HP 6.5A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	7.9 x 4.0 x 6.3	2.6	√
IP20	7.5	10	7.5	10	380-480	176146.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 10A HEAVY DUTY 7.5HP 10A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	8.3 x 5.3 x 6.5	4.4	√
IP20	10	16	10	16	380-480	176148.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 16A HEAVY DUTY 10HP 16A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP20	15	24	15	24	380-480	174628.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	D	12.1 x 7.1 x 6.6	9.48	√
IP20	20/25	31	20/25	31	380-480	176151.00M	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	D	12.1 x 7.1 x 6.6	9.48	√
IP20	30*	45*	30	39	380-480	176152.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A HEAVY DUTY 30HP 39A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	E	10 x 28 x 16	22.1	√
IP20	40*	58.5*	40	49	380-480	174992.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 58.5A & HEAVY DUTY 40HP 49A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	E	10 x 28 x 16	22.05	√
IP20	50/60	77	50	61	380-480	174711.00M	CM5 VECTOR 3PH, NORMAL DUTY 50/60HP 77A & HEAVY DUTY 61A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	D	21.6 x 11.8 x 10	57.3	√
IP20	75	88	60	73	380-480	186056.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 88A & HEAVY DUTY 60HP 73A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	F	21.6 x 11.8 x 10	57.3	√
IP20	75	105	75	88	380-480	186057.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 105A & HEAVY DUTY 75HP 88A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	F	21.6 x 11.8 x 10	57.3	√
IP20	100/125	142	100	115	380-480	186094.00M	CM5 VECTOR 3PH, NORMAL DUTY 125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	150	180	125	142	380-480	186092.00M	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	175	211	150	180	380-480	186093.00M	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20	No	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	100/125	142	100	115	380-480	186059.00M	CM5 VECTOR 3PH, NORMAL DUTY 100/125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	150	180	125	142	380-480	186060.00M	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	175	211	150	180	380-480	186061.00M	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	G	26.6 x 13.2 x 12.4	114.6	√

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

NORMAL DUTY (ND) / HEAVY DUTY (HD)
CM5™ - IP20 FINGER SAFE ENCLOSURE

IP RATING	NORMAL DUTY VT[1] (ND) HP[2]	ND AMPS[3]	HEAVY DUTY CT[1] (HD) HP	HD AMPS[3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)*	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE[4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Three-Phase 500-600 Vac																
IP20	1.5	1.7	1.5	1.7	500-600	186000.00M	CM5 VECTOR 3PH, 1.5HP 1.7A 500-600V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP20	3	4.3	3	4.3	500-600	174632.00M	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 500-600V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP20	7.5	7.0	7.5	7.0	500-600	174634.00M	CM5 VECTOR 3PH,NORMAL DUTY 7.5HP 7A & HEAVY DUTY 7.5HP 7A 500-600V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP20	10	12.0	10	12.0	500-600	174636.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 12A & HEAVY DUTY 10HP 12A 500-600V IP20 WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√

NOTES For CM5 Drives:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec;HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2)) "HP" rating based on Marathon Electric motors "average FLA values". Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A to D are rated for 50°C.
* Frame Size-E is rated for 40°C if used as Normal Duty (ND/VT) & 50°C if used as heavy Duty (HD/CT).
Frame-F is rated for 40°C.
Frame-G is rated for 45°C.
CM5 Frame-F & G VFDs have built in Dual DC Bus Chokes.
Dimensions are provided for estimating purposes only.

CM5™ - NEMA 4X / IP66 WASHDOWN VFD W/O DISCONNECT SWITCH

IP RATING	Normal Duty (ND) HP[1]	ND AMPS[2]	HEAVY DUTY (HD) HP[1]	HD AMPS[3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE[4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP66	0.33	1.6	0.33	1.6	200-240	186003.00M	CM5 VECTOR 1PH or 3PH, 0.33HP 1.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	0.75	2.6	0.75	2.6	200-240	174652.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	1.5	4.3	1.5	4.3	200-240	174653.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	2	7.3	2	7.3	200-240	174657.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.3A 200-240V IP66, WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	3	10	3	10	200-240	174659.00M	CM5 VECTOR 1PH or 3PH, 3HP 10A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
Input Power Supply: Three-Phase 200-240 Vac																
IP66	5	16	5	16	200-240	174660.00M	CM5 VECTOR 3PH, 5HP 16A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	24	7.5	24	200-240	174661.00M	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	10	33	10	33	200-240	174662.00M	CM5 VECTOR 3PH, 10HP 33A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	15	47	15	47	200-240	174699.00M	CM5 VECTOR 3PH, 15HP 47A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	18.7x12.6x11.4	45	√
IP66	25	70	20	56	200-240	174700.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & 20HP 56A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	18.7x12.6x11.4	45	√
Input Power Supply: Three-Phase 380-480 Vac																
IP66	0.5	1	0.5	1	380-480	174671.00M	CM5 VECTOR 3PH, 0.5HP 1A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	1	1.6	1	1.6	380-480	174672.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 9.9	22	√
IP66	1.5	2.6	1.5	2.6	380-480	174673.00M		Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	3	4.3	3	4.3	380-480	174675.00M	CM5 VECTOR 3PH, 3HP 4.3A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	5	6.5	5	6.5	380-480	174676.00M	CM5 VECTOR 3PH, 5HP 6.5A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	10	7.5	10	380-480	174677.00M	CM5 VECTOR 3PH, 7.5HP 10A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	10	16	10	16	380-480	186023.00M	CM5 VECTOR 3PH, 10HP 16A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	22	√
IP66	15	24	15	24	380-480	174701.00M	CM5 VECTOR 3PH, 15HP 24A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	25	31	25	31	380-480	174702.00M	CM5 VECTOR 3PH, 25HP 31A 380-480V IP66, WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	30	45	30	39	380-480	174704.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A & HEAVY DUTY 30HP 39A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	18.7x12.6x11.4	45	√
IP66	50	59.2	40	49	380-480	186016.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 59.2A & 40HP 49A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	C	18.7 x 12.6 x 11.4	45	√
Input Power Supply: Three-Phase 500-600 Vac																

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

CM5™ - NEMA 4X / IP66 WASHDOWN VFD W/O DISCONNECT SWITCH

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
IP66	1.5	1.7	1.5	1.7	500-600	174663.00M	CM5 VECTOR 3PH, 1.5HP 1.7A 500-600V IP66 WASH-DOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	3	4.3	3	4.3	500-600	174664.00M	CM5 VECTOR 3PH, 3HP 4.3A 500-600V IP66 WASH-DOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	7.5	7	7.5	7	500-600	174666.00M		Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	10	12	10	12	500-600	174668.00M	CM5 VECTOR 3PH, 10HP 12A 500-600V IP66 WASH-DOWN WITH BRAKE TRANSISTOR	Yes	No	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√

NOTES:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec; HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2) "HP" rating based on Marathon Electric motors "average FLA values". Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A, B & C are rated for 40°C ambient temperature.
Dimensions are provided for estimating purposes only.

CM5™ - NEMA 4X / IP66 WASHDOWN VFD WITH DISCONNECT SWITCH

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP66	0.33	1.6	0.33	1.6	200-240	186004.00M	CM5 VECTOR 1PH or 3PH, 0.33HP 1.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	0.75	2.6	0.75	2.6	200-240	174540.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 9.9	22	√
IP66	1.5	4.3	1.5	4.3	200-240	186005.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	2	7.3	2	7.3	200-240	186006.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.3A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCON-NECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	3	10	3	10	200-240	186007.00M	CM5 VECTOR 1PH or 3PH, 3HP 10A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCON-NECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
Input Power Supply: Three-Phase 200-240 Vac																
IP66	5	16	5	16	200-240	186008.00M	CM5 VECTOR 3PH, 5HP 16A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	24	8	24	200-240	186009.00M	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	10	33	10	33	200-240	186012.00M	CM5 VECTOR 3PH, 10HP 33A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	13.4 x 8.5 x 8.9	26.5	√
IP66	15	47	15	47	200-240	186013.00M	CM5 VECTOR 3PH, 15HP 47A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	18.7 x 12.6 x 11.4	45	√
IP66	25	70	20	56	200-240	186014.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	18.7 x 12.6 x 11.4	45	√
Input Power Supply: Three-Phase 380-480 Vac																
IP66	0.5	1	0.5	1	380-480	174542.00M	CM5 VECTOR 3PH, NORMAL DUTY 0.5HP 1A & HEAVY DUTY 0.5HP 1A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 9.9	22	√
IP66	1	1.6	1	1.6	380-480	186018.00M	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	1.5	2.6	1.5	2.6	380-480	186019.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	3	4.3	3	4.3	380-480	186020.00M	CM5 VECTOR 3PH, 3HP 4.3A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	5	6.5	5	6.5	380-480	186021.00M	CM5 VECTOR 3PH, 5HP 6.5A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	10	7.5	10	380-480	186022.00M	CM5 VECTOR 3PH, 7.5HP 10A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	A	10.4 x 6.5 x 8.9	22	√
IP66	10	16	10	16	380-480	174546.00M	CM5 VECTOR 3PH, 10HP 16A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	13.4 x 8.5 x 8.9	22	√
IP66	15	24	15	24	380-480	174544.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	13.4 x 8.5 x 9.9	26.5	√
IP66	25	31	25	31	380-480	186025.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 31A & HEAVY DUTY 25HP 31A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	13.4 x 8.5 x 8.9	22	√

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

CM5™ - NEMA 4X / IP66 WASHDOWN VFD WITH DISCONNECT SWITCH

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
IP66	30	45	30	39	380-480	186015.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A & HEAVY DUTY 30HP 39A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	18.7 x 12.6 x 11.4	45	√
IP66	50	59.2	40	49	380-480	186017.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 59.2A & HEAVY DUTY 40HP 49A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	18.7 x 12.6 x 11.4	45	√
Input Power Supply: Three-Phase 500-600 Vac																
IP66	1.5	1.7	1.5	1.7	500-600	174631.00M	CM5 VECTOR 3PH, NORMAL DUTY 1.5HP 1.7A & HEAVY DUTY 1.5HP 1.7A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	B	8.3 x 5.3 x 6.5	4.4	√
IP66	3	4.3	3	4.3	500-600	186069.00M	CM5 VECTOR 1PH or 3PH, 3HP 4.3A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP66	7.5	7	7.5	7	500-600	186070.00M	CM5 VECTOR 3PH, 7.5HP 7A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√
IP66	10	12	10	12	500-600	186072.00M	CM5 VECTOR 3PH, 10HP 12A 500-600V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	-	-	-	C	8.3 x 5.3 x 6.5	4.4	√

NOTES:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec; HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2) "HP" rating based on Marathon Electric motors "average FLA values." Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A, B & C are rated for 40°C ambient temperature.
Dimensions are provided for estimating purposes only.

BRAKING RESISTORS FOR CM5™

CM5™ IP20 DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 20% DUTY CYCLE (12 SECONDS MAX. BRAKING TIME)

IF NEMA1 ENCLOSURE IS REQUIRED SEE KITS

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP 20	2	7.0	2	7.0	200-240	176117.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.3A 200-240V IP20. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	CFDB2-63-448	63	500	B	7.9 x 4.0 x 6.3	2.65	√
IP 20	3	9.6	3	9.6	200-240	176118.00M	CM5 Vector 1PH or 3PH, Normal Duty 3HP 10A Heavy Duty 3HP 10A 200-240V IP20 With Brake Transistor. If IP31 is required use NEMA 1 Kit CM5-KN1E	Yes	No	CFDB2-38-746	38	920	B	7.9 x 4.0 x 6.3	1.76	√
IP 20	5	16	5	16	200-240	174615.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 16A & HEAVY DUTY 5HP 16A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-26-1119	26	1119	B	8.08 x 2.76 x 6.24	2.95	√
IP 20	7.5	24	7.5	24	200-240	174616.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 24A & HEAVY DUTY 7.5HP 24A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-19-1492	19	1492	C	8.3 x 5.3 x 6.5	4.4	√
IP 20	10	33	10	33	200-240	174617.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 28A & HEAVY DUTY 10HP 28A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-10-2984	9.6	2984	D	12.1 x 7.1 x 6.6	9.48	√
IP 20	15	47	15	47	200-240	174618.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 47A & HEAVY DUTY 15HP 47A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-10-2984	9.6	2984	D	12.1 x 7.1 x 6.6	9.48	√
IP 20	25*	70*	20	56	200-240	174619.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-7-4476	6.3	4476	E	5 x 26.5 x 13	22.05	√
IP 20	25	77	20	64	200-240	186063.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 77A & HEAVY DUTY 20HP 64A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-8-3730	15	8952	F	21.6 x 11.8 x 10	57.3	√
IP 20	30	88	25	75	200-240	186064.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 88A or HEAVY DUTY 25HP 75A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-8-3730	7.5	4214	F	21.6 x 11.8 x 10	57.3	√
IP 20	40	105	30	88	200-240	186065.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 105A or HEAVY DUTY 30HP 88A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-5-5968	4.9	6590	F	21.6 x 11.8 x 10	57.3	√
IP 20	50	145	40	115	200-240	186088.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A & HEAVY DUTY 40HP 115A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-3-11190	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP 20	60	180	50	145	200-240	186002.00M	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A HEAVY DUTY 50HP 145A 200-240V IP20 WITH Braking Transistor, if IP31 is required use NEMA 1 Kit CM5-KN1B	Yes	No	CFDB2-3-11190	2.7	12150	G	26.6 x 13.2 x 14.1	114.6	√
IP 20	75	211	60	180	200-240	186067.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A or HEAVY DUTY 60HP 180A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-3-11190	2.7	12150	G	26.6 x 13.2 x 12.4	114.6	√
Input Power Supply: Three-Phase 380-480 Vac																
IP 20	2.0	2.6	1.5	2.6	380-480	176121.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	CFDB2-150-746	-	-	A	7.5 x 3.0 x 5.9	1.76	√

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

BRAKING RESISTORS FOR CM5™

CM5™ IP20 DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 20% DUTY CYCLE (12 SECONDS MAX. BRAKING TIME)
IF NEMA1 ENCLOSURE IS REQUIRED SEE KITS

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
IP 20	3	4.3	3	4.3	380-480	186090.00M	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 380-480VAC, IP20 WITH BRAKE RESISTOR	Yes	No	CFDB2-150-746	-	-	A	10.4 x 6.5 x 8.9	22	√
IP 20	5	6.5	5	6.5	380-480	186091.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 6.5A & HEAVY DUTY 5HP 6.5A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-150-746	150	843	B	7.9 x 4.0 x 6.3	2.6	√
IP 20	7.5	10	7.5	10	380-480	176146.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 10A HEAVY DUTY 7.5HP 10A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-75-1492	75	1815	B	8.3 x 5.3 x 6.5	4.4	√
IP 20	10	16	10	16	380-480	176148.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 16A HEAVY DUTY 10HP 16A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-50-2238	50	2560	C	8.3 x 5.3 x 6.5	4.4	√
IP 20	15	24	15	24	380-480	174628.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-25-4476	25	5120	D	12.1 x 7.1 x 6.6	9.48	√
IP 20	20	31	20/25	31	380-480	176151.00M	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-19-5968	19	6703	D	12.1 x 7.1 x 6.6	9.48	√
IP 20	25/30	45	30	39	380-480	176152.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A HEAVY DUTY 30HP 39A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-10-11190	10	12800	E	10 x 28 x 16	22.1	√
IP 20	40	58.5	40	49	380-480	174992.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 58.5A & HEAVY DUTY 40HP 49A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-10-11190	-	-	E	10 x 28 x 16	22.05	√
IP 20	50/60	77	50	61	380-480	174711.00M	CM5 VECTOR 3PH, NORMAL DUTY 50/60HP 77A & HEAVY DUTY 61A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-15-8952	15	10002	D	21.6 x 11.8 x 10	57.3	√
IP 20	60/75	88	60	73	380-480	186056.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 88A & HEAVY DUTY 60HP 73A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-15-8952	15	10002	F	21.6 x 11.8 x 10	57.3	√
IP 20	75	105	75	88	380-480	186057.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 105A & HEAVY DUTY 75HP 88A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-10-11190	10	12800	F	21.6 x 11.8 x 10	57.3	√
IP 20	100/125	142	100	115	380-480	186059.00M	CM5 VECTOR 3PH, NORMAL DUTY 100/125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-5-22380	5	25600	G	26.6 x 13.2 x 12.4	114.6	√
IP 20	150	180	125	142	380-480	186060.00M	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-5-22380	5	25600	G	26.6 x 13.2 x 12.4	114.6	√
IP 20	175	211	150	180	380-480	186061.00M	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB2-5-22380	5	25600	G	26.6 x 13.2 x 12.4	114.6	√

NOTES:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec; HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2) "HP" rating based on Marathon Electric motors "average FLA values". Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A, B & C are rated for 40°C ambient temperature.
Dimensions are provided for estimating purposes only.

BRAKING RESISTORS FOR CM5™

CM5™ IP20 DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 50% DUTY CYCLE (30 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP20	2	7.0	2	7.0	200-240	176117.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.3A 200-240V IP20. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	CFDB5-63-1119	63	500	B	7.9 x 4.0 x 6.3	2.65	√
IP20	3	9.6	3	9.6	200-240	176118.00M	CM5 Vector 1PH or 3PH, Normal Duty 3HP 10A Heavy Duty 3HP 10A 200-240V IP20 With Brake Transistor. If IP31 is required use NEMA 1 Kit CM5-KN1E	Yes	No	CFDB5-38-1865	38	920	B	7.9 x 4.0 x 6.3	1.76	√
IP20	5	16	5	16	200-240	174615.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 16A & HEAVY DUTY 5HP 16A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-26-2798	26	1119	B	8.08 x 2.76 x 6.24	2.95	√
IP20	7.5	24	7.5	24	200-240	174616.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 24A & HEAVY DUTY 7.5HP 24A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-19-3730	19	1492	C	8.3 x 5.3 x 6.5	4.4	√
IP20	10	33	10	33	200-240	174617.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 28A & HEAVY DUTY 10HP 28A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-10-7460	9.6	2984	D	12.1 x 7.1 x 6.6	9.48	√
IP20	15	47	15	47	200-240	174618.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 47A & HEAVY DUTY 15HP 47A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-10-7460	9.6	2984	D	12.1 x 7.1 x 6.6	9.48	√
IP20	25*	70*	20	56	200-240	174619.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-7-11190	6.3	4476	E	5 x 26.5 x 13	22.05	√

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BRAKING RESISTORS FOR CM5™
CM5™ IP20 DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 50% DUTY CYCLE (30 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE

IP RATING	Normal Duty (ND) HP[1]	ND AMPS[2]	HEAVY DUTY (HD) HP[1]	HD AMPS[3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE[4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
IP20	25	77	20	64	200-240	186063.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 77A & HEAVY DUTY 20HP 64A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	**CFDB5-8-9325**	15	8952	F	21.6 x 11.8 x 10	57.3	√
IP20	30	88	25	75	200-240	186064.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 88A or HEAVY DUTY 25HP 75A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	**CFDB5-8-9325**	7.5	4214	F	21.6 x 11.8 x 10	57.3	√
IP20	40	105	30	88	200-240	186065.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 105A or HEAVY DUTY 30HP 88A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-4-18650	4.9	6590	F	21.6 x 11.8 x 10	57.3	√
IP20	50	145	40	115	200-240	186088.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 145A & HEAVY DUTY 40HP 115A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-3-27975	-	-	G	26.6 x 13.2 x 12.4	114.6	√
IP20	60	180	50	145	200-240	186002.00M	CM5 VECTOR 3PH, NORMAL DUTY 60HP 180A HEAVY DUTY 50HP 145A 200-240V IP20 WITH Braking Transistor, if IP31 is required use NEMA 1 Kit CM5-KN1B	Yes	No	CFDB5-3-27975	2.7	12150	G	26.6 x 13.2 x 14.1	114.6	√
IP20	75	211	60	180	200-240	186067.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 211A or HEAVY DUTY 60HP 180A 200-240V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-3-27975	2.7	12150	G	26.6 x 13.2 x 12.4	114.6	√
Input Power Supply: Three-Phase 380-480 Vac																
IP20	2.0	2.6	1.5	2.6	380-480	176121.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP20 WITH BRAKE TRANSISTOR. For CAN OPEN & MODBUS (NEED ADD'L KIT - SEE KIT SECTION)	Yes	No	CFDB5-150-1865	-	-	A	7.5 x 3.0 x 5.9	1.76	√
IP20	3	4.3	3	4.3	380-480	186090.00M	CM5 VECTOR 3PH, NORMAL DUTY 3HP 4.3A & HEAVY DUTY 3HP 4.3A 380-480VAC, IP20 WITH BRAKE RESISTOR	Yes	No	CFDB5-150-1865	-	-	A	10.4 x 6.5 x 8.9	22	√
IP20	5	6.5	5	6.5	380-480	186091.00M	CM5 VECTOR 3PH, NORMAL DUTY 5HP 6.5A & HEAVY DUTY 5HP 6.5A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-150-1865	150	843	B	7.9 x 4.0 x 6.3	2.6	√
IP20	7.5	10	7.5	10	380-480	176146.00M	CM5 VECTOR 3PH, NORMAL DUTY 7.5HP 10A HEAVY DUTY 7.5HP 10A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-75-3730	75	1815	B	8.3 x 5.3 x 6.5	4.4	√
IP20	10	16	10	16	380-480	176148.00M	CM5 VECTOR 3PH, NORMAL DUTY 10HP 16A HEAVY DUTY 10HP 16A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-38-7460	50	2560	C	8.3 x 5.3 x 6.5	4.4	√
IP20	15	24	15	24	380-480	174628.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-30-9325	25	5120	D	12.1 x 7.1 x 6.6	9.48	√
IP20	20	31	20/25	31	380-480	176151.00M	CM5 VECTOR 3PH, NORMAL DUTY 20/25HP 31A HEAVY DUTY 20/25HP 31A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-25-11190	19	6703	D	12.1 x 7.1 x 6.6	9.48	√
IP20	25/30	45	30	39	380-480	176152.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A HEAVY DUTY 30HP 39A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-10-27975	10	12800	E	10 x 28 x 16	22.1	√
IP20	40	58.5	40	49	380-480	174992.00M	CM5 VECTOR 3PH, NORMAL DUTY 40HP 58.5A & HEAVY DUTY 40HP 49A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-10-27975	-	-	E	10 x 28 x 16	22.05	√
IP20	50/60	77	50	61	380-480	174711.00M	CM5 VECTOR 3PH, NORMAL DUTY 50/60HP 77A & HEAVY DUTY 61A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-15-22380	15	10002	D	21.6 x 11.8 x 10	57.3	√
IP20	60/75	88	60	73	380-480	186056.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 88A & HEAVY DUTY 60HP 73A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-15-22380	15	10002	F	21.6 x 11.8 x 10	57.3	√
IP20	75	105	75	88	380-480	186057.00M	CM5 VECTOR 3PH, NORMAL DUTY 75HP 105A & HEAVY DUTY 75HP 88A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-8-46625	10	12800	F	21.6 x 11.8 x 10	57.3	√
IP20	100/125	142	100	115	380-480	186059.00M	CM5 VECTOR 3PH, NORMAL DUTY 100/125HP 142A & HEAVY DUTY 100HP 115A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-5-74600	5	25600	G	26.6 x 13.2 x 12.4	114.6	√
IP20	150	180	125	142	380-480	186060.00M	CM5 VECTOR 3PH, NORMAL DUTY 150HP 180A & HEAVY DUTY 125HP 142A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-5-74600	5	25600	G	26.6 x 13.2 x 12.4	114.6	√
IP20	175	211	150	180	380-480	186061.00M	CM5 VECTOR 3PH, NORMAL DUTY 175HP 211A & HEAVY DUTY 150HP 180A 380-480V IP20 WITH BRAKE TRANSISTOR	Yes	No	CFDB5-5-74600	5	25600	G	26.6 x 13.2 x 12.4	114.6	√

NOTES:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec; HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2) "HP" rating based on Marathon Electric motors "average FLA values". Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A, B & C are rated for 40°C ambient temperature.
Dimensions are provided for estimating purposes only.

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES

BRAKING RESISTORS FOR CM5™

DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 20% DUTY CYCLE (12 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE

IP RATING	Normal Duty (ND) HP [1]	ND AMPS [2]	HEAVY DUTY (HD) HP [1]	HD AMPS [3]	DRIVE VOLTAGE	CONTROLMAX CM5 Catalog #	ITEM DESCRIPTION	BRAKE TRANSISTOR (DB)	DISCONECT SWITCH (DS)	BRAKE RESISTOR CATALOG #	RATED OHMS	RATED WATTS	DRIVE FRAME SIZE [4]	DIMENSIONS (IN.) HXWXD	APPROX. WEIGHT (LBS.)	STOCK
Input Power Supply: Single or Three-Phase 200-240 Vac																
IP66	0.33	1.6	0.33	1.6	200-240	186004.00M	CM5 VECTOR 1PH or 3PH, 0.33HP 1.6A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-190-149	190	167	A	10.4 x 6.5 x 8.9	22	√
IP66	0.75	2.6	0.75	2.6	200-240	174540.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 0.75HP 2.6A & HEAVY DUTY 0.75HP 2.6A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-190-149	190	149	A	10.4 x 6.5 x 9.9	22	√
IP66	1.5	4.3	1.5	4.3	200-240	186005.00M	CM5 VECTOR 1PH or 3PH, NORMAL DUTY 1.5HP 4.3A & HEAVY DUTY 1.5HP 4.3A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-190-149	190	167	A	10.4 x 6.5 x 8.9	22	√
IP66	2	7.3	2	7.3	200-240	186006.00M	CM5 VECTOR 1PH or 3PH, 2HP 7.3A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCON-NECT SWITCH	Yes	Yes	CFDB2-63-448	63	500	A	10.4 x 6.5 x 8.9	22	√
IP66	3	10	3	10	200-240	186007.00M	CM5 VECTOR 1PH or 3PH, 3HP 10A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCON-NECT SWITCH	Yes	Yes	CFDB2-38-746	38	920	A	10.4 x 6.5 x 8.9	22	√
IP66	5	16	5	16	200-240	186008.00M	CM5 VECTOR 3PH, 5HP 16A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-26-1119	26	1170	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	24	7.5	24	200-240	186009.00M	CM5 VECTOR 3PH, 7.5HP 24A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-19-1492	19	1676	B	13.4 x 8.5 x 8.9	26.5	√
IP66	10	33	10	33	200-240	186012.00M	CM5 VECTOR 3PH, 10HP 33A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-10-2984	9.6	3387	B	13.4 x 8.5 x 8.9	26.5	√
IP66	15	47	15	47	200-240	186013.00M	CM5 VECTOR 3PH, 15HP 47A 200-240V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-10-2984	9.6	3387	C	18.7 x 12.6 x 11.4	45	√
IP66	25	70	20	56	200-240	186014.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 70A & HEAVY DUTY 20HP 56A 200-240V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-7-4476	6.3	4476	C	18.7 x 12.6 x 11.4	45	√
Input Power Supply: Three-Phase 380-480 Vac																
IP66	0.5	1	0.5	1	380-480	174542.00M	CM5 VECTOR 3PH, NORMAL DUTY 0.5HP 1A & HEAVY DUTY 0.5HP 1A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-150-746	150	746	A	10.4 x 6.5 x 9.9	22	√
IP66	1	1.6	1	1.6	380-480	186018.00M	CM5 VECTOR 3PH, 1HP 1.6A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-150-746	150	843	A	10.4 x 6.5 x 8.9	22	√
IP66	2	2.6	2	2.6	380-480	186019.00M	CM5 VECTOR 3PH, 1.5HP 2.6A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-150-746	150	843	A	10.4 x 6.5 x 8.9	22	√
IP66	3	4.3	3	4.3	380-480	186020.00M	CM5 VECTOR 3PH, 3HP 4.3A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-150-746	150	843	A	10.4 x 6.5 x 8.9	22	√
IP66	5	6.5	5	6.5	380-480	186021.00M	CM5 VECTOR 3PH, 5HP 6.5A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-150-746	150	843	A	10.4 x 6.5 x 8.9	22	√
IP66	7.5	10	7.5	10	380-480	186022.00M	CM5 VECTOR 3PH, 7.5HP 10A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-75-1492	75	1815	A	10.4 x 6.5 x 8.9	22	√
IP66	10	16	10	16	380-480	174546.00M	CM5 VECTOR 3PH, 10HP 16A 380-480V IP66 WASH-DOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-50-2238	50	2560	B	13.4 x 8.5 x 8.9	22	√
IP66	15	24	15	24	380-480	174544.00M	CM5 VECTOR 3PH, NORMAL DUTY 15HP 24A & HEAVY DUTY 15HP 24A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-25-4476	25	4476	B	13.4 x 8.5 x 9.9	26.5	√
IP66	25	31	25	31	380-480	186025.00M	CM5 VECTOR 3PH, NORMAL DUTY 25HP 31A & HEAVY DUTY 25HP 31A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-19-5968	19	6703	B	13.4 x 8.5 x 8.9	22	√
IP66	30	45	30	39	380-480	186015.00M	CM5 VECTOR 3PH, NORMAL DUTY 30HP 45A & HEAVY DUTY 30HP 39A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-10-11190	10	12800	C	18.7 x 12.6 x 11.4	45	√
IP66	50	59.2	50	49	380-480	186017.00M	CM5 VECTOR 3PH, NORMAL DUTY 50HP 59.2A & HEAVY DUTY 40HP 49A 380-480V IP66 WASHDOWN WITH BRAKE TRANSISTOR & DISCONNECT SWITCH	Yes	Yes	CFDB2-10-11190	10	12800	C	18.7 x 12.6 x 11.4	45	√

NOTES:
1) ND (Normal Duty) / VT (Variable Torque): 110% Overload / 60 Sec; HD (Heavy Duty) / CT (Constant Torque): 150% Overload / 60 Sec;
2) "HP" rating based on Marathon Electric motors "average FLA values." Use as a guide only.
3) Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
4) Frame Size A, B & C are rated for 40°C ambient temperature.
Dimensions are provided for estimating purposes only.

*See back cover page for attribution.

Continued on next page.

MARATHON CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES - ACCESSORIES/KITS

TYPE	CONTROLMAX CM5 CATALOG #	NOTES	ITEM DESCRIPTION	APPRX. SHPG. WT. (LBS.)	STOCK
I/O	174362.00M	1	CM5, I/O MODULE; 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 1 RS485, 10VDC, 24VDC	0.2	√
I/O	186026.00M		CM5, I/O MODULE; 8 DI, 1 AI, 1 AO, 1 DOR, 4 DOT, 1 RS485, 10VDC, 24VDC	0.2	√
I/O	186027.00M		CM5, I/O MODULE; 6 DI, 3 AI, 2 AO, 1 DOR, 3 DOT, 1 RS485, 10VDC, 24VDC	0.2	√
I/O	186028.00M		CM5, I/O MODULE; 5 DI, 1 AI, 1 AO, 4 DOR, 1 DOT, 1 RS485, 10VDC, 24VDC	0.2	√
ENCODER INPUT	186029.00M		CM5, ENCODER MODULE; QUAD INPUT A & B, 1 RS485, 5 DI, 1 AI, 1 AO, 3 DOR, 1 DOT, 24VDC	0.2	√
USB CARD	174357.00M		CM5, COMM. MODULE; 1 USB, 1 RS485, 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 10VDC, 24VDC	0.2	√
RS232 CARD	186030.00M		CM5, COMM. MODULE; 1 RS232, 1 RS485, 4 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 24VDC	0.2	√
RS485 CARD	186031.00M		CM5, COMM. MODULE; 2 RS485, 4 DI, 2 AI, 1 AO, 2 DOR, 1 DOT, 10VDC, 24VDC	0.2	√
CANOPEN CARD	174364.00M		CM5, COMM. MODULE; 1 CAN/DEVICENET, 1 RS485, 2 DI, 1 AI, 1 AO, 1 DOR, 1 DOT,10VDC, 24VDC	0.2	√
PROFIBUS DP CARD	174366.00M		CM5, COMM. MODULE; 2 DI, 1 AI, 1 AO, 1 DOR, 1 DOT, 1 PROFIBUS DP, 1 RS485, 24VDC (DB9 CONNECTOR)	0.2	√
PROFIBUS DP & DP-V1 MODULE	186032.00M		CM5, COMM. MODULE; 1-PROFIBUS DP & DP-V1 100BASETX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC (TERMINAL BLOCK CONNECTOR)	0.2	√
MODBUS TCP COMM. MODULE	174365.00M		CM5, COMM. MODULE; 1-MODBUS TCP 100BASETX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC	0.2	√
PROFINET I/O COMM. MODULE	174368.00M		CM5, COMM. MODULE; 1-PROFINET I/O 100BASETX RJ-45 PORT, 1-RS485, 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 24VDC	0.2	√
ETHERNET IP COMM. MODULE	174369.00M		CM5, COMM. MODULE; 2-DI, 1-AI, 1-AO, 1-DOR, 1-DOT, 1-RS485, 1-ETHERNET IP 100BASETX RJ-45 PORT, 24VDC	0.2	√
STO MODULE	186033.00M	2	CM5, SAFETY FUNCTION MODULE; SAFE TORQUE OFF (STO) / STOP CATEGORY 0, SAFE STOP 1 TIME CONTROLLED (SS1-T) / STOP CATEGORY 1; SAFETY CATEGORY: SIL 3, PL E	1.8	√
FLASH MEMORY MODULE	186034.00M		CM5, FLASH MEMORY MODULE FOR SAVING AND RELOADING PROGRAM AND PARAMETERS TO / FROM THE DRIVE.	0.2	√
REMOTE KEYPAD - NON TEXT	186077.00M	3	CM5, REMOTE NON-TEXT KEYPAD FOR MOUNTING THROUGH ENCLOSURE DOOR (MOUNTING FRAME KIT IS NOT REQUIRED).	0.6	√
REMOTE KEYPAD - ADVANCED TEXT	186079.00M	4	CM5, REMOTE ADVANCED TEXT KEYPAD FOR MOUNTING THROUGH ENCLOSURE DOOR (MOUNTING FRAME KIT IS REQUIRED).	0.4	√
REMOTE KEYPAD - ADVANCED TEXT FRAME KIT	186035.00M		CM5, REMOTE ADVANCED TEXT KEYPAD ENCLOSURE DOOR MOUNTING FRAME KIT	0.5	√
HMI CABLE 1M	186036.00M		CM5, 3.3 FT (1 METER) REMOTE KEYPAD CABLE	0.5	√
HMI CABLE 2M	186037.00M		CM5, 6.6 FT (2 METER) REMOTE KEYPAD CABLE	0.7	√
HMI CABLE 3M	186038.00M		CM5, 9.9 FT (3 METER) REMOTE KEYPAD CABLE	1.0	√
HMI CABLE 5M	186039.00M		CM5, 16 FT (5 METER) REMOTE KEYPAD CABLE	1.2	√
HMI CABLE 7.5M	186040.00M		CM5, 25 FT (7.5 METER) REMOTE KEYPAD CABLE	1.5	√
HMI CABLE 10M	186041.00M		CM5, 33 FT (10 METER) REMOTE KEYPAD CABLE	2.0	√

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES - ACCESSORIES/KITS

TYPE	CONTROLMAX CM5 CATALOG #	NOTES	ITEM DESCRIPTION	APPRX. SHPG. WT. (LBS.)	STOCK
NEMA1 CONDUIT KIT	186042.00M		CM5, NEMA 1 KIT – FRAME SIZE A	2.0	√
NEMA1 CONDUIT KIT	186043.00M		CM5, NEMA 1 KIT – FRAME SIZE B	3.0	√
NEMA1 CONDUIT KIT	186044.00M		CM5, NEMA 1 KIT – FRAME SIZE C	3.0	√
NEMA1 CONDUIT KIT	186045.00M		CM5, NEMA 1 KIT – FRAME SIZE D	3.0	√
NEMA1 CONDUIT KIT	186046.00M		CM5, NEMA 1 KIT – FRAME SIZE E	6.0	√
NEMA1 CONDUIT KIT	186047.00M		CM5, NEMA 1 KIT – FRAME SIZE F	12.0	√
NEMA1 CONDUIT KIT	186048.00M		CM5, NEMA 1 KIT – FRAME SIZE G	17.0	√
CABLE SHIELD CLAMP KIT	186049.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME A	1.0	√
CABLE SHIELD CLAMP KIT	186050.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME B	1.0	√
CABLE SHIELD CLAMP KIT	186051.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME C	1.1	√
CABLE SHIELD CLAMP KIT	186052.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME D	1.1	√
CABLE SHIELD CLAMP KIT	186053.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME E	6.0	√
CABLE SHIELD CLAMP KIT	186054.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME F	15.0	√
CABLE SHIELD CLAMP KIT	186055.00M		CM5, CABLE SHIELD CLAMP KIT FOR FRAME G	18.0	√
CABLE SHIELD CLAMP KIT			CABLE SHIELD CLAMP KIT FOR FRAME G	18.0	$180

NOTES:
1) The "CM5-IOS" module is included as standard with CM5-IP20 & IP66 Drives.
2) For CM5-IP20, Frame-A to E VFDs, the NEMA1 Kit top cover to protect the VFD from falling dust can not be used if the "CM5-SFY2 or STO Module" is installed on the drive.
3) The "CM5-HMIR" Remote Keypad (Non-Text) requires Qty. (1) CM5-CCHIR0xM cable. ("x" represents the cable length in meters)
4) The "HMI-01" remote Keypad (Advanced Text) requires Qty. (1) CM5-RHMIF & Qty. (1) CM5-CCHIR0xM cable. ("x" represents the cable length in meters).
This keypad only works with 230VAC & 460VAC, CM5-G2 (Generation-2) drives.

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES -OPTION CARDS

CM5 Option Module	CM5™ Catalog # Option Module	Notes	DI [1]	AI	AO	DOR	DOT	Infrared	Encoder	USB	RS232	RS485	CANopen / DeviceNet	Profibus-DP / DP V1	Modbus TCP	ProfiNet I/O	EtherNet I/P
CM5-IOS	174362.00M	1	4	1	1	1	1					1					
CM5-IOD	186026.00M		8	1	1	1	4					1					
CM5-IOAD	186027.00M		6	3	2	1	3					1					
CM5-IOR / CM5-IOR-B	186028.00M		5	1	1	4	1	1				1					
CM5-ENC	186029.00M		5	1	1	3	1		1			1					
CM5-CUSB	174357.00M		4	1	1	1	1			1		1					
CM5-CRS232	186030.00M		4	1	1	1	1				1	1					
CM5-CRS485-B	186031.00M		4	2	1	2	1					2					
CM5-CCAN	174364.00M		2	1	1	1	1					1	1				
CM5-CPDP	174366.00M		2	1	1	1	1					1		1			
CM5-CPDP2	186032.00M		2	1	1	1	1					1		1			
CM5-CEMB-TCP	174365.00M		2	1	1	1	1					1			1		
CM5-CEPN-IO	174368.00M		2	1	1	1	1					1				1	
CM5-CETH-IP	174369.00M		2	1	1	1	1					1					1

NOTES:

1) The CM5™ SERIES DRIVES VFD comes standard with “CM5-IOS” Module."
To use any of the above listed optional modules, the CM5-IOS module needs to be removed from the drive.
In that case, the number of I/Os will depend on the I/O or communication module being used.
CM5 needs plug in modules in order for the drive to work RS485 is standard

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES - TECHNICAL DATA

Power rating	Power supply	Tolerance: -15 to +10%
		Frequency: 50/60 Hz (48 Hz to 62 Hz)
		Phase imbalance: ≤3% of the rated phase-phase input voltage
		Transient voltages and over voltages according to Category III (EN 61010/UL 508C)
		Maximum of 10 (line) connections per hour (1 every 6 minutes)
		Typical efficiency: ≥97%
Control	Method	"V/F (scalar) VVW: voltage vector control Vector without encoder (sensorless) and closed loop vector with encoder PM VVW: voltage vector control for permanent magnet motors"
	Output frequency	0 to 500 Hz, resolution of 0.015 Hz
Performance	V/F Control	"Speed regulation: 1% of the rated speed (with slip compensation) Speed variation range: 1:20"
	Vector control (VVW)	"Speed regulation: 1% of the rated speed Speed variation range: 1:30"
	Sensorless	"Speed regulation: 0.5% of the rated speed Speed variation range: 1:100"
	Vector control with Encoder	"Speed regulation: 0.1% of the rated speed Speed variation range: 1:100"
	PM VVW Control	"Regulation: 0.1 % of the rated speed Speed variation range: 1:20"
Environment conditions	Temperature around the CM5	"14°F to 122°F (-10 °C to 50 °C) - IP20 (sizes A to E) 14°F to 104°F (-10 °C to 40 °C) - IP20 (sizes A to E) when installed side by side 14°F to 104°F (-10 °C to 40 °C) - NEMA 1 (sizes A to E) 14°F to 104°F (-10 °C to 40 °C) - IP20, NEMA 1 (size F) 14°F to 113°F (-10 °C to 45 °C) - IP20, NEMA 1 (size G) 14°F to 104°F (-10 °C to 40 °C) - IP66 (sizes A & B) For CM5-IP20-Frame A to E & CM5-IP66-Frame A & B, when operating temperatures are above the specification, it is necessary to apply 2% of current derating for each Celsius degree (°C), limited to an increase of 10 °C. For CM5-IP20-Frame F & G, when operating temperatures are above the specification, it is necessary to apply 1% of current derating for each Celsius degree (°C) up to 50 °C, and 2% up to 60 °C (maximum)."
	Aggressive environments	Protection Class 3C2 - Standard coating on the internal circuits, according to IEC 60721-3-3 (standard model)
		Protection Class 3C3 - Extra coating - optional, according to IEC 60721-3-3 (optional)
	Air relative humidity	5% to 95% non-condensing
	Altitude	"Up to 1,000 m (maximum altitude under normal conditions) 1,000 to 4,000 m: current derating of 1% for each 100 m above 1,000 m of altitude"
	Pollution degree	"2 (EN 50178 and UL 508C), with non-conductive pollution Condensation must not cause conduction of the accumulated residues"

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES - TECHNICAL DATA

Inputs1)	Analog	"1 isolated input. Levels: (0 to 10) V or (0 to 20) mA or (4 to 20) mA Linearity error ≤0.25% Impedance: 100 kΩ for voltage input, 500 Ω for current input Programmable functions, including PTC input Maximum voltage accepted in the inputs: 30 V dc"
	Digital	"4 isolated inputs Programmable functions: Active high (PNP): maximum low level of 15 V dc; minimum high level of 20 V dc Active low (NPN): maximum low level of 5 V dc; minimum high level of 9 V dc Maximum input voltage of 30 V dc Input current: 4.5 mA Maximum input current: 5.5 mA"
Outputs1)	Analog	"1 isolated output. Levels (0 to 10) V or (0 to 20) mA or (4 to 20) mA Linearity error ≤0.25% Programmable functions RL ≥10 kΩ (0 to 10 V) or RL ≤500 Ω (0 to 20 mA / 4 to 20 mA)"
	Relay	"1 relay with NO/NC contact Maximum voltage: 240 V ac Maximum current of 0.5 A Programmable functions"
	Transistor	"1 isolated open sink digital output (using as reference the 24 V dc power supply) Maximum current of 150 mA (maximum capacity of the 24 V dc power supply)2) Programmable functions"
	Power supply	"24 V dc power supply. Maximum capacity: 150 mA2) Power supply of 10 V dc. Maximum capacity: 2 mA"
Communication	Selectable plug-in	"Standard Communication: One RS485 (Modbus RTU / BACnet) Port. Optional: CANopen, DeviceNet, Profibus-DP, EtherNet/IP, Modbus-TCP, PROFINET IO, USB, RS485 (two Ports) and RS232 port"
Safety	Protection	"Phase-phase overcurrent/short circuit in the output Phase-ground overcurrent/short circuit in the output Undervoltage/overvoltage in the power Overtemperature of the heatsink Motor overload Overload on the power module (IGBTs) External fault / alarm Programming error"
Operating interface (keypad)	"Standard (built in the CM5)	"9 keys: Run/Stop, Increment, Decrement, Direction of rotation, Jog, Local/Remote, Back/Esc and Enter/Menu LCD Display It allows accessing/changing all the parameters Accuracy of the indications: Current: 5% of the rated current Speed resolution: 0.1 Hz"
Protection degree	IP20	Sizes A, B, C, D, E, F and G
	NEMA1	Sizes A, B, C, D, E, F and G with NEMA1 kit
	IP66/NEMA4X (Indoor/ Outdoor)	Sizes A and B

NOTES:
1) The number and/or types of analog/digital inputs/outputs may vary according to the plug-in module (accessory) used.
In the table above, the standard plug-in module (CM5-IOS) was taken into account.
For further information, refer to the CM5 user manual.
2) The maximum capacity of 150 mA considers the load of the 24 V power supply plus the transistor output,
that is, the sum of the consumption of both must not exceed 150 mA.

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MARATHON® CONTROLMAX™ AC DRIVES

CM5™ SERIES DRIVES - STANDARDS

Safety standards	UL 508C - Power conversion equipment
	UL 840 - Insulation coordination including clearances and creepage distances for electrical equipment
	EN 61800-5-1 - Safety requirements electrical, thermal and energy
	EN 50178 - Electronic equipment for use in power installations
	EN 60204-1 - Safety of machinery. Electrical equipment of machines. Part 1: general requirements Note: In order to have a machine in accordance with this standard, the manufacturer of the machine is responsible for installing an emergency stop device and a device for disconnection from the power line
	EN 60146 (IEC 146) - Semiconductor converters
	EN 61800-2 - Adjustable speed electrical power drive systems - Part 2: general requirements - Rating specifications for low voltage adjustable frequency AC power drive systems
Electromagnetic compatibility standards	EN 61800-3 - Adjustable speed electrical power drive systems - Part 3: EMC product standard including specific test methods
	EN 55011 - Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment
	CISPR 11 - Industrial, scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement
	EN 61000-4-2 - Electromagnetic compatibility (EMC) - Part 4: testing and measurement techniques - Section 2: electrostatic discharge immunity test
	EN 61000-4-3 - Electromagnetic compatibility - Part 4: testing and measurement techniques - Section 3: ratiated, radio-frequency, electromagnetic field immunity test
	EN 61000-4-4 - Electromagnetic compatibility - Part 4: testing and measurement techniques - Section 4: electrical fast transient/burst immunity test
	EN 61000-4-5 - Electromagnetic compatibility - Part 4: testing and measurement techniques - Section 5: surge immunity test
	EN 61000-4-6 - Electromagnetic compatibility - Part 4: testing and measurement techniques - Section 6: immunity to conducted disturbances, induced by radio-frequency fields
Mechanical construction standards	EN 60529 - Degrees of protection provided by enclosures (IP code)
	UL 50 - Enclosures for electrical equipment
	IEC60721-3-3 - Classification of environmental conditions - part 3: classification of groups of environmental parameters and their severities - Section 3: stationary use at weather protected locations level 3M4.

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MARATHON CONTROLMAX™ AC DRIVES

BRAKE RESISTORS FOR CM3 & CM5™ SERIES DRIVES

BRAKING RESISTOR SIZING

This technical note describes how sizing a braking resistor for dynamic braking operation. Remember that this is a general guide and the braking resistor manufacturer should be contacted in order to guarantee the correct resistor selection (thermal characteristics).

OVERVIEW

In many applications, being able to stop safely and precisely is as important as being able to start and accelerate quickly. Whenever a motor is abruptly stopped or forced to slow down faster than it would normally stop, the motor acts like a generator by converting mechanical power from the shaft into electrical power. A means must exist to deal with this extra energy returning from the motor.

When a variable frequency drive is used to stop a motor, usually the Dynamic Braking provides the means for dissipating the motor regenerative energy into an external resistor. Dynamic Braking operates anytime the VFD experiences regenerative currents, that is, any motor with a high inertia or a motor that is required to decelerate rapidly. A VFD with Dynamic Braking option needs only the external braking resistor connected to it and the function enabled.

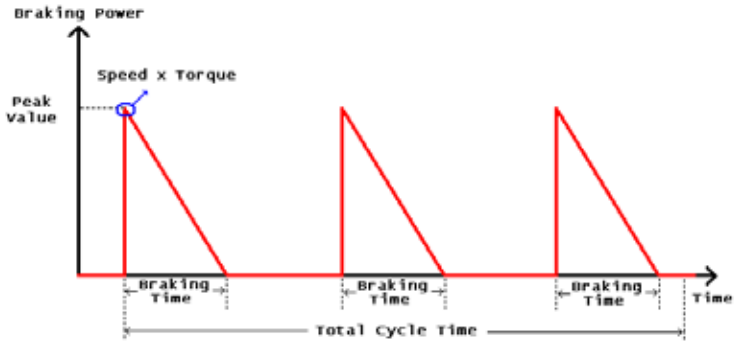
PULSED RESISTOR BRAKING

During deceleration, the motor changes to generator operation and supplies energy back to the inverter. As brake energy cannot be fed back to the supply via the normal diode bridge, it may cause voltage in the DC link to become excessively high when added to existing supply voltage. This excessive voltage may cause a drive overvoltage trip. In order to prevent the DC bus voltage rising excessively, a possibility is to lead the braking energy to a resistor connected to the DC bus. The braking resistor is added and removed from the circuit by an IGBT. When the DC link reaches a predefined limit the IGBT is switched on by the control logic. The resistor is placed across the DC link.

Excess energy is dissipated by the resistor, reducing bus voltage. When DC link voltage is reduced to a safe level the IGBT is switched off, removing the resistor from the DC link.

SIZING THE BRAKING RESISTOR

The recommended way of selecting a braking resistor is to supply the braking resistor manufacturer with the following data: resistor value (this value is informed in the Marathon Electric VFD user's guide, in ohms), braking time (time to decelerate the load), and the application braking duty cycle (similar to the one shown below).



ESTIMATING THE BRAKING RESISTOR

Input Data

- $n \rightarrow$ Motor speed variation (initial braking speed – final braking speed) [rpm]
- $J_t \rightarrow$ Total inertia (motor + load) [kgm^2]
- $t_B \rightarrow$ Braking time [s]
- $T_t \rightarrow$ Total cycle time [s]

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Speed Variation ($\Delta\omega\ [rps]$)

$$\Delta\omega = \frac{2 \cdot \pi \cdot n}{60} \quad ; \quad where\ \pi \cong 3.14159$$

Braking Torque ($C\ [N.m]$)

$$C = \frac{J_t \cdot \Delta\omega}{t_B}$$

Average Braking Power ($P_{Ba}\ [W]$)

$$P_{Ba} = \frac{C \cdot \Delta\omega}{2}$$

Effective Braking Resistor Power ($P_{Bef}\ [W]$)

Consider the most severe period of time with its respective braking time (in case of having more than one braking in the total period of time, consider the total sum of brakings):

$$P_{Bef} = \sqrt{\frac{P_{Ba}{}^2 \cdot (t_{B1} + t_{B2} + t_{B3} + \ldots)}{T_t}}$$

Instantaneous Braking Resistor Power ($P_{Bi}\ [W]$)

In case of having long times between two consecutive brakings, the resistor shall be sized according to its instantaneous power, since the braking time (t_B) is shorter than twenty (20) seconds:

$$P_{Bi} = 0{,}5 . P_{Ba}$$

EXAMPLE

$$Input\ Data \begin{cases} n_i = 1500\ rpm\ (braking\ \ initial\ speed) \\ n_f = 0\ rpm\ (braking\ \ final\ speed) \\ t_B = 10\ s\ (twice\ /\ \min) \\ J_t = 20\ kgm^2 \end{cases}$$

$$\Rightarrow\ n = 1500 - 0\ = 1500\ rpm$$

$$\Rightarrow\ \Delta\omega = \frac{2 \cdot \pi \cdot n}{60} = \frac{2 \cdot \pi \cdot 1500}{60} = 157.1$$

$$\Rightarrow\ C = \frac{J_t \cdot \Delta\omega}{t_B} = \frac{20 \cdot 157.1}{10} = 314.2\ Nm$$

$$\Rightarrow\ P_{Ba} = \frac{C \cdot \Delta\omega}{2} = 24680\ W$$

As we have two decelerations per minute, and considering the most severe 10 minutes:

$$\Rightarrow\ P_{Bef} = \sqrt{\frac{P_{Ba}{}^2 \cdot t_B + \ldots}{T_t}} = \sqrt{\frac{(24680)^2 \cdot 2 \cdot 10 \cdot 10}{600}} = 14250\ W$$

Thus, the braking resistor power should be of at least 15kW.

*See back cover page for attribution.

MARATHON® CONTROLMAX™ AC DRIVES

BRAKE RESISTORS FOR CM3 & CM5™ SERIES DRIVES

MARATHON™ CONTROLMAX™ AC DRIVES (20% DUTY) CAT#	MARATHON™ CONTROLMAX™ AC DRIVES - BRAKING RESISTOR CATALOG NUMBER (DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 20% DUTY CYCLE (12 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE	RATED OHMS	RATED WATTS	DIMENSIONS	MARATHON™ CONTROLMAX™ AC DRIVES (50% DUTY) CAT#	MARATHON™ CONTROLMAX™ AC DRIVES - BRAKING RESISTOR CATALOG NUMBER (DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 50% DUTY CYCLE (30 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE	RATED OHMS	RATED WATTS	DIMENSIONS
185000.00M	CFDB2-63-448	63	500	5 X 12 X 7	NA	NA	NA	NA	NA
185000.00M	CFDB2-63-448	63	500	5 X 12 X 7	NA	NA	NA	NA	NA
185001.00M	CFDB2-250-448	250	512	5 X 12 X 7	NA	NA	NA	NA	NA
185001.00M	CFDB2-250-448	250	512	5 X 12 X 7	NA	NA	NA	NA	NA
185001.00M	CFDB2-250-448	250	512	5 X 12 X 7	NA	NA	NA	NA	NA
185001.00M	CFDB2-250-448	250	512	5 X 12 X 7	NA	NA	NA	NA	NA
185002.00M	CFDB2-100-1119	100	1280	5 X 12 X 13	NA	NA	NA	NA	NA
185002.00M	CFDB2-100-1119	100	1280	5 X 12 X 13	NA	NA	NA	NA	NA
185002.00M	CFDB2-100-1119	100	1280	5 X 12 X 13	NA	NA	NA	NA	NA
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	NA	NA	NA	NA	NA
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	NA	NA	NA	NA	NA
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	NA	NA	NA	NA	NA
185000.00M	CFDB2-63-448	63	500	5 X 12 X 7	185021.00M	CFDB5-63-1119	63	500	5 X 12 X 7
185004.00M	CFDB2-38-746	38	920	5 X 12 X 10	185022.00M	CFDB5-38-1865	38	920	5 X 12 X 10
185005.00M	CFDB2-26-1119	26	1170	5 X 12 X 13	185023.00M	CFDB5-26-2798	26	1170	5 X 12 X 13
185006.00M	CFDB2-19-1492	19	1676	5 X 12 X 16	185024.00M	CFDB5-19-3730	19	1676	5 X 12 X 16
185007.00M	CFDB2-13-2238	12.6	2580	5 X 19 X 10	185025.00M	CFDB5-13-5595	12.6	2580	5 X 19 X 10
185008.00M	CFDB2-10-2984	9.6	3387	5 X 19 X 10	185026.00M	CFDB5-10-7460	9.6	3387	5 X 19 X 10
185008.00M	CFDB2-10-2984	9.6	3387	5 X 19 X 10	185026.00M	CFDB5-10-7460	9.6	3387	5 X 19 X 10
185009.00M	CFDB2-7-4476	6.3	5001	5 X 26.5 X 13	185027.00M	CFDB5-7-11190	6.3	5001	5 X 26.5 X 13
185010.00M	CFDB2-8-3730	7.5	4214	5 X 19 X 13	185028.00M	CFDB5-8-9325	7.5	4214	5 X 19 X 13
185010.00M	CFDB2-8-3730	7.5	4214	5 X 19 X 13	185028.00M	CFDB5-8-9325	7.5	4214	5 X 19 X 13
185011.00M	CFDB2-5-5968	4.9	6590	5 X 26.5 X 16	185029.00M	CFDB5-4-18650	4.9	6590	5 X 26.5 X 16
185012.00M	CFDB2-3-11190	2.7	12150	10 X 28 X 13	185030.00M	CFDB5-3-27975	2.7	12150	10 X 28 X 13
185012.00M	CFDB2-3-11190	2.7	12150	10 X 28 X 13	185030.00M	CFDB5-3-27975	2.7	12150	10 X 28 X 13
185012.00M	CFDB2-3-11190	2.7	12150	10 X 28 X 13	185030.00M	CFDB5-3-27975	2.7	12150	10 X 28 X 13
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	185031.00M	CFDB5-150-1865	150	843	5 X 12 X 10
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	185031.00M	CFDB5-150-1865	150	843	5 X 12 X 10
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	185031.00M	CFDB5-150-1865	150	843	5 X 12 X 10
185014.00M	CFDB2-75-1492	75	1815	5 X 12 X 16	185032.00M	CFDB5-75-3730	75	1815	5 X 12 X 16
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	185033.00M	CFDB5-38-7460	50	2560	5 X 19 X 13
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	185033.00M	CFDB5-38-7460	50	2560	5 X 19 X 13
185015.00M	CFDB2-25-4476	25	5120	5 X 26.5 X 13	185034.00M	CFDB5-30-9325	25	5120	5 X 26.5 X 13
185016.00M	CFDB2-19-5968	19	6703	5 X 26.5 X 16	185035.00M	CFDB5-25-11190	19	6703	5 X 26.5 X 16
185017.00M	CFDB2-10-11190	10	12800	10 X 28 X 16	185036.00M	CFDB5-10-27975	10	12800	10 X 28 X 16
185017.00M	CFDB2-10-11190	10	12800	10 X 28 X 16	185036.00M	CFDB5-10-27975	10	12800	10 X 28 X 16

*See back cover page for attribution.

Continued on next page.

MARATHON® CONTROLMAX™ AC DRIVES

BRAKE RESISTORS FOR CM3 & CM5™ SERIES DRIVES

MARATHON™ CONTROLMAX™ AC DRIVES (20% DUTY) CAT#	MARATHON™ CONTROLMAX™ AC DRIVES - BRAKING RESISTOR CATALOG NUMBER (DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 20% DUTY CYCLE (12 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE	RATED OHMS	RATED WATTS	DIMENSIONS	MARATHON™ CONTROLMAX™ AC DRIVES (50% DUTY) CAT#	MARATHON™ CONTROLMAX™ AC DRIVES - BRAKING RESISTOR CATALOG NUMBER (DYNAMIC BRAKING RESISTORS - 100% BRAKING TORQUE AT 50% DUTY CYCLE (30 SECONDS MAX. BRAKING TIME) - NEMA1 ENCLOSURE	RATED OHMS	RATED WATTS	DIMENSIONS
1850018.00M	CFDB2-15-8952	15	10002	10 X 28 X 13	185037.00M	CFDB5-15-22380	15	10002	10 X 28 X 13
1850018.00M	CFDB2-15-8952	15	10002	10 X 28 X 13	185037.00M	CFDB5-15-22380	15	10002	10 X 28 X 13
185017.00M	CFDB2-10-11190	10	12800	10 X 28 X 16	185038.00M	CFDB5-8-46625	10	12800	10 X 28 X 16
185019.00M	CFDB2-5-22380	5	25600	24 X 30 X 18	185039.00M	CFDB5-5-74600	5	25600	24 X 30 X 18
185019.00M	CFDB2-5-22380	5	25600	24 X 30 X 18	185039.00M	CFDB5-5-74600	5	25600	24 X 30 X 18
185019.00M	CFDB2-5-22380	5	25600	24 X 30 X 18	185039.00M	CFDB5-5-74600	5	25600	24 X 30 X 18
185020.00M	CFDB2-190-149	190	167	5 X 12 X 5	NA	NA	NA	NA	NA
185020.00M	CFDB2-190-149	190	167	5 X 12 X 5	NA	NA	NA	NA	NA
185020.00M	CFDB2-190-149	190	167	5 X 12 X 5	NA	NA	NA	NA	NA
185000.00M	CFDB2-63-448	63	500	5 X 12 X 7	NA	NA	NA	NA	NA
185004.00M	CFDB2-38-746	38	920	5 X 12 X 10	NA	NA	NA	NA	NA
185005.00M	CFDB2-26-1119	26	1170	5 X 12 X 13	NA	NA	NA	NA	NA
185006.00M	CFDB2-19-1492	19	1676	5 X 12 X 16	NA	NA	NA	NA	NA
185007.00M	CFDB2-13-2238	12.6	2580	5 X 19 X 10	NA	NA	NA	NA	NA
185008.00M	CFDB2-10-2984	9.6	3387	5 X 19 X 10	NA	NA	NA	NA	NA
185008.00M	CFDB2-10-2984	9.6	3387	5 X 19 X 10	NA	NA	NA	NA	NA
185009.00M	CFDB2-7-4476	6.3	5000	5 X 26.5 X 13	NA	NA	NA	NA	NA
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	NA	NA	NA	NA	NA
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	NA	NA	NA	NA	NA
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	NA	NA	NA	NA	NA
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	NA	NA	NA	NA	NA
185013.00M	CFDB2-150-746	150	843	5 X 12 X 10	NA	NA	NA	NA	NA
185014.00M	CFDB2-75-1492	75	1815	5 X 12 X 16	NA	NA	NA	NA	NA
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	NA	NA	NA	NA	NA
185003.00M	CFDB2-50-2238	50	2560	5 X 19 X 13	NA	NA	NA	NA	NA
185015.00M	CFDB2-25-4476	25	5120	5 X 26.5 X 13	NA	NA	NA	NA	NA
185016.00M	CFDB2-19-5968	19	6703	5 X 26.5 X 16	NA	NA	NA	NA	NA
185017.00M	CFDB2-10-11190	10	12800	10 X 28 X 16	NA	NA	NA	NA	NA
185017.00M	CFDB2-10-11190	10	12800	10 X 28 X 16	NA	NA	NA	NA	NA

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES
SCR THYRISTOR & PWM CONTROLS

PWM AND SCR CONTROLS GENERAL SPECIFICATIONS

- General purpose for permanent magnet or shunt wound DC motors
- NEMA®* 4X and 4/12 suitable for washdown applications
- Dual voltage capable on most designs – see HP range
- AC Line Voltage: 115 / 230 VAC, ±10%, 50/60 Hz, 1Ø
- DC 90 volt or 180 volt output
- Adjustable minimum and maximum speed
- Speed pot included on chassis controls
- Adjustable IR compensation
- Heat sinks required as noted
- PWM controls provide quieter operation, lower motor temperature and greater motor overload capacity

REGENERATIVE CONTROLS GENERAL SPECIFICATIONS

- Four quadrant controls for precise motion control
- NEMA 4X or chassis style
- Motoring and braking torque regulation ¼ HP through 2 HP

ENCLOSED SCR

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT	FOOT NOTES
				115V	230V		
NEMA 1 General Purpose							
— Non-Reversing	174307.00	√	10	1/8 to 1	1/4 to 2	5	¤
— Reversing with dynamic braking	174308.00	√	10	1/8 to 1	1/4 to 2	5	¤
— Heat Sink	174316.00	√	—	—	—	1	
NEMA 4X Washdown — Dust-Tight							
— Non-Reversing, Plastic Enclosure	174102.00	√	10	1/8 to 1	1/4 to 2	6	
— Non-Reversing, Plastic Enclosure with Signal Follower	174103.00	√	10	1/8 to 1	1/4 to 2	7	
— Reversing, Plastic Enclosure	174107.00	√	10	1/8 to 1	1/4 to 2	7	**
NEMA 4							
— Non-Reversing 3HP	174709.00	√	15	—	3	8	

¤ Chassis heat sink (174314.00) is required when the amp draw of the motor exceeds 5 amps.
** Drive does not have dynamic braking. Motor shaft must be at zero speed before reversing.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES
SCR THYRISTOR & PWM CONTROLS

OPEN CHASSIS SCR - HAS FIELD SUPPLY FOR SHUNT WOUND MOTORS.

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT	FOOT NOTES
				115V	230V		
Chassis with Speed Pot Non-Reversing	174311.00	√	10	1/8 to 1	1/4 to 2	1	¤
Chassis Heat Sink	174314.00	√	—	—	—	1	

REGENERATIVE SCR - FOUR QUADRANT - FULL WAVE - REVERSIBLE AND HAS REGENERATIVE BRAKING.

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT	FOOT NOTES
				115V	230V		
NEMA®* 4X Washdown	175720.00	√	10	1/4 to 1	1/2 to 2	8	¤
Open Chassis with Speed Pot	175721.00	√	10	1/4 to 1	1/2 to 2	2	¤
Chassis Heat Sink	175722.00	√	—	—	—	2	

PWM - ENCLOSED

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT	FOOT NOTES
				115V	230V		
NEMA 1 General Purpose							
— SCR Non-Reversing	M1740005.00	√	3	1/40 to 1/8	1/40 to 1/4	5	
— SCR Reversing With Dynamic Braking	M1740006.00	√	3	1/40 to 1/8	1/40 to 1/4	5	
— PWM Non-Reversing	M1740008.00	√	3	1/40 to 1/8	1/40 to 1/4	2	

PWM & SCR - OPEN CHASSIS

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT	FOOT NOTES
				115V	230V		
Open Chassis SCR Type							
— Chassis with Speed Pot, Non-Reversing	M1740007.00	√	1.5	1/40 to 1/8	1/40 to 1/4	1	
Open Chassis PWM Type							
— Chassis with Speed Pot, Non-Reversing	M1740009.00	√	2	1/40 to 1/8	—	1	

¤ Chassis heat sink (174314.00) is required when the amp draw of the motor exceeds 5 amps.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES

SCR - 4 QUADRANT - CHASSIS - REGENERATIVE CONTROLS

FEATURES

- Industry standard footprint - Allows for replacing competitive drives
- Microprocessor-based design - Allows for customer programming
- Fully regenerative - 4-Quadrant allows for quick braking
- Multiple operation modes - speed, torque, cycling and positioning
- 3-Wire / Stopping modes - Inhibit (braking) and Enable (coasting) can be used for frequent starting and stopping

SPECIFICATIONS

- AC Line Voltage: 115 / 230 VAC, ±10%, 50/60 Hz, 1Ø
- Field Voltage with 115 VAC Line (230 VAC Line): 50/100 (100/200) VDC
- Maximum Field Amperage: 0.74 Amps
- Acceleration Time Range: 0.1 - 15 seconds
- Deceleration Time Range: 0.1 - 15 seconds
- Regenerative braking and reversing
- Analog Signal Range: 0 ± 10 VDC, 4 - 20 mA
- Input Impedance (COM to SIG1, SIG2): >100K Ω
- Form Factor: 1.37 at base speed
- Tachogenerator Feedback Range: 0 to 7 - 50 VDC / 1000 RPM
- Load Regulation:
  - Armature Feedback: 1.0% of base speed or better
  - Tach Feedback: 0.1% of base speed or better
- Armature Feedback: 50:1
- Tach Feedback: 60:1
- Ambient Temperature Range: 10°C - 50°C

OPEN CHASSIS

MODEL / ITEM NO.	STOCK	MAX CURRENT (ADC)	INPUT VOLTAGE (VAC)	OUTPUT VOLTAGE (VDC)	HP RANGE	FIELD/SHUNT SUPPLY (VDC)	WT	BRAKING	REVERSING	ISOLATION	FOOT NOTES
174062.00	√	1.5	115	0-90	1/50 - 1/8	YES	5	YES	YES	YES	
			230	0-90	1/50 - 1/8						
				0-180	1/25 - 1/4						
174064.00	√	11	115	0-90	1/8 - 1	YES	5	YES	YES	YES	¤
			230	0-90	1/8 - 1						
				0-180	1/4 - 2						
174314.00	√	Chassis Heat Sink				—	1	—	—	—	

¤ Chassis heat sink (174314.00) is required when the amp draw of the motor exceeds 5 amps.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES

LOW VOLTAGE REGENERATIVE 4 QUADRANT CONTROLS

FEATURES

- Industry standard footprint - Allows for replacing competitive drives
- Microprocessor-based design - Allows for customer programming
- Fully regenerative - 4-Quadrant allows for quick braking
- Torque mode - Can be used for speed control or torque control
- Stopping modes - Inhibit (braking) can be used for N.O. or N.C. operation
- Can be used for frequent starting and stopping
- Bidirectional (Wigwag) mode - Can be set so that the potentiometer determines both speed and direction

SPECIFICATIONS

- AC Line Voltage: 115 / 230 VAC, ±10%, 50/60 Hz, 1Ø
- Acceleration Time Range: 0.5 - 20 seconds
- Deceleration Time Range: 0.5 - 20 seconds
- Regenerative braking and reversing
- Analog Signal Range: 0 ± 10 VDC
- Input Impedance (COM to SIG1): >100K Ω
- Form Factor: 1.37 at base speed
- Load Regulation: 1.0% of base speed or better
- Speed Range 50:1
- Ambient Temperature Range: 10°C - 50°C

OPEN CHASSIS

MODEL / ITEM NO.	STOCK	MAX CURRENT (ADC)	INPUT VOLTAGE (VAC)	OUTPUT VOLTAGE (VDC)	HP RANGE	FIELD/SHUNT SUPPLY (VDC)	WT	BRAKING	REVERSING	ISOLATION	FOOT NOTES
174065.00	√	1.5	115	0-90	1/50 - 1/8	NO	5	YES	YES	NO	
			230	0-90	1/50 - 1/8						
				0-180	1/25 - 1/4						
174066.00	√	11	115	0-90	1/8 - 1	NO	5	YES	YES	NO	¤
			230	0-90	1/8 - 1						
				0-180	1/4 - 2						
174314.00	√	Chassis Heat Sink				—	1	—	—	—	

¤ Chassis heat sink (174314.00) is required when the amp draw of the motor exceeds 5 amps.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES

LOW VOLTAGE OPEN CHASSIS DC IN & DC OUTPUT CONTROLS

15 SERIES GENERAL SPECIFICATIONS

- 0-90 / 0-180 volts DC
- Adjustable min. and max. speed
- Adjustable IR compensation
- Fixed acceleration - 5 seconds
- 5K ohm speed potentiometer included
- 25:1 speed range and 1% speed regulation

NEMA 4/12
Non-Reversing

174695.00

174694.00

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT
				115V	230V	
NEMA®* 4X DC CONTROL. Non-Reversing	174696.00	√	3	1/3	2/3	1
15 Series DC DRIVE Vertical Chassis Control	174695.00	√	2	1/6	1/6	1
15 Series DC DRIVE Horizontal Chassis Control	174694.00	√	2	1/6	1/6	1

LOW VOLTAGE ADJUSTABLE SPEED CONTROLLERS

GENERAL SPECIFICATIONS

- Chassis type design
- DC input / DC output
- Speed potentiometer shipped loose
- High efficient designs increase battery life

FEATURES

- 40:1 speed range
- Holds speed control as battery discharges
- Adjustable min. and max. speeds
- IR compensation
- 200% current limit overload protection
- Inhibit pins provide optional start-stop
- Power on LED indicator

SCR CONTROLS - ENCLOSED

INPUT VOLTAGE (VDC)	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	DIMENSIONS (INCHES)			WT
				LENGTH	WIDTH	HEIGHT	
12/24	175290.00	√	16	6.90	4.44	2.19	2
12/24	175291.00	√	60	7.78	6.90	3.25	4
36/48	175292.00	√	60	7.78	6.90	3.25	4

Specialty cover pages for products

√: Available ¶: Stocked components, Ready to build Blank: Build Up rating, subject to lead time

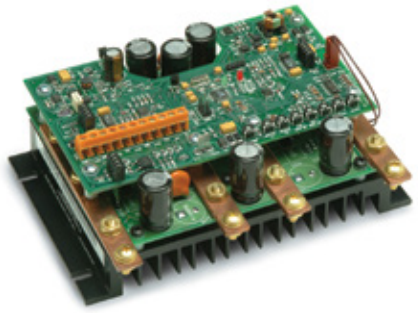
MARATHON® CONTROLMAX™ DC DRIVES

DC ADJUSTABLE SPEED DRIVES

LOW VOLTAGE OPEN CHASSIS DC IN & DC OUTPUT CONTROLS

GENERAL SPECIFICATIONS

- Chassis type design
- DC input / DC output
- Speed potentiometer shipped loose
- High efficiency designs increase battery life



FEATURES

- Accepts switch closure for reversing and braking
- Built-in temperature sensor
- On board trim pots for calibration, speed and forward and reverse settings
- Sleep mode feature
- Built-in short circuit protection
- 1.01 Form factor

FOUR QUADRANT CONTROL - OPEN CHASSIS

INPUT VOLTAGE (VDC)	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	DIMENSIONS (INCHES)			WT
				LENGTH	WIDTH	HEIGHT	
12/24	174298.00	√	120	6.90	5.00	2.50	3
36/48	174299.00	√	100	6.90	5.00	2.50	3

DUAL MODE - DUAL SPEED CONTROLLERS

FEATURES

- SCR control is designed to run two DC motors at the same time in either independent mode or slave/master mode
- AC Line Voltage: 115 / 230 VAC, ±10%, 50/60 Hz, 1Ø with jumper
- Selectable 90/180 VDC output
- Jumper selectable speed and torque mode
- Two trim pots each for the minimum speed, maximum speed, IR compensation, current limit and acceleration/deceleration
- Comes standard with two potentiometers

FOUR QUADRANT CONTROL - OPEN CHASSIS

HP	STOCK	INPUT VOLTAGE	OUTPUT AMPS	OUTPUT VOLTAGE	MODEL / ITEM NO.	WT	FOOT NOTES
1 HP @ 90 VDC	√	115	10	0-90	174422.00	3	¤
2 HP @ 180 VDC	√	230	10	0-180			
Chassis Heat Sink	√				174314.00	1	

¤ Chassis heat sink (174314.00) is required when the amp draw of the motor exceeds 5 amps.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

MARATHON® CONTROLMAX™ DC TO AC

AC ADJUSTABLE SPEED DRIVES
LOW VOLTAGE AC DRIVE CONTROLS

GENERAL SPECIFICATIONS

The drives, volts/hertz-type AC drives, are as simple to set-up and calibrate as an SCR-type DC drive. Compact chassis design maintains industry standard mounting hole locations.

FEATURES FOR CHASSIS AND ENCLOSED UNITS

- Compact size – (4.30" x 3.70")
- Output voltage on dual voltage models is jumper selectable and has voltage doubler
- Acceleration and deceleration trim pots
- Torque, maximum speed and torque limit trim pots
- Torque 'foldback' feature – Allows up to 200% torque for short periods
- 16kHz switching frequency, with option to change between 4 and 16kHz
- Adjustable torque boost for startup – Up to 200%
- Color-coded on-board LEDs for power, fault and torque limit
- Easy start/stop and direction control with enable and direction terminal connections
- Accepts speed reference from 0-5VDC isolated signal
- Speed potentiometer shipped loose
- Plug-in Process Control Module (PCM) kit available to accept 0-5 VDC, 0-10 VDC or 4-20mA input

SPECIAL FEATURES OF THE NEMA® 4X DRIVE:

- NEMA®* 4X enclosure
- Jumper selectable DC injection braking or coast to stop
- Brake time and current are adjustable
- Built-in isolation card to accept a speed reference signal
- Min speed adjustment
- Auto or manual restart after power loss

PARAMETER	SPECIFICATIONS FOR ALL CONTROLMAX MODELS	FOOT NOTES
Max load	150% for 5 minutes	
Output frequency	0-120Hz	
Output type	6 step PWM	
Switching frequency	4-16kHz range with 16kHz as factory default	*
Speed regulation and range	±3% of base speed; up to 50:1	
On-board adjustable trim pots	Max speed, accel, decel, boost & torque limit	
Adjustable maximum frequency range	32-120Hz	
Adjustable accel and decel time range	1-12 seconds	
Torque boost range	0-200%	
LED indicators	Power (green), Fault (red), Torque Limit (yellow)	‡
Instantaneous over-current trip time	3 µsec	
Analog reference input and impedance	0-5VDC isolated, ~100Kohm	
Plug-in PCM isolator card input	0-5 VDC, 0-10VDC, 4-20mA	
Ambient temperature range	0-40°C	
Weight (Chassis Models)	1.2 lbs.	
Vibration (>50Hz)	0.5G max (20-50Hz); 0.1G max	
Approvals	UL®*, cUL®*	

* Plug-in capacitor kit (175325.00) for field adjustments to less than 16khz
‡ Faults are Over-Voltage, Under-Voltage and Instantaneous Over Current Trip Specifications are subject to change without notice.

*See back cover page for attribution.

MARATHON CONTROLMAX™ DC TO AC

AC ADJUSTABLE SPEED DRIVES
LOW VOLTAGE AC DRIVE CONTROLS

SINGLE-PHASE INPUT / SINGLE OR THREE-PHASE OUTPUT

HP	INPUT VOLTAGE 1Ø	OUTPUT AMPS	OUTPUT VOLTAGE 1 OR 3Ø	MODEL / ITEM NO.	STOCK	WT
1/4	115	2.4	115	175320.00	√	3
1/2	230	2.4	230	175321.00	√	3
1/2	115/230	2.4	230	175310.00	√	3
1/2	115	4.0	115	175322.00	√	4
1	230	4.0	230	175323.00	√	4
1	115/230	4.0	230	175311.00	√	4

CONTROLMAX AC DRIVES - ACCESSORIES

HP	MODEL / ITEM NO.	STOCK	WT	FOOT NOTES
Process Control Module (PCM) Kit *	175324.00	√	2	*
Carrier Frequency Capacitor Kit	175325.00	√	1	

* PCM Kit is for use with chassis drives only.

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

SPECIALS ARE OUR SPECIALTY

CUSTOM MOTORS

Marathon® is a leading designer and manufacturer of application-specific AC and DC motors on integral horsepower sizes. We offer a database of over 5,000 custom designs, experienced application and design engineering teams, to ensure the best, most cost-effective custom motor solution.

CUSTOM MULTI-SPEED & LOW-SPEED MOTORS

Marathon® utilizes specially designed and standard components to make almost any imaginable NEMA® frame. We pride ourselves on fast turnaround times on highly customized motors.

marathon®

MARATHON ELECTRIC CANADA-HANOVER FACILITY

Whether you need a modified stock motor or custom motor built to your specifications, WE CAN HELP!

LEVEL OF SERVICE

Speed of Response

Friendly and knowledgeable on-site staff available to offer quick assistance and provide quotes.

Speed of Delivery

Standard lead time is approximately 2 weeks; we also offer 3-5 day expedited option. One of the fastest in the custom built market.

Quality

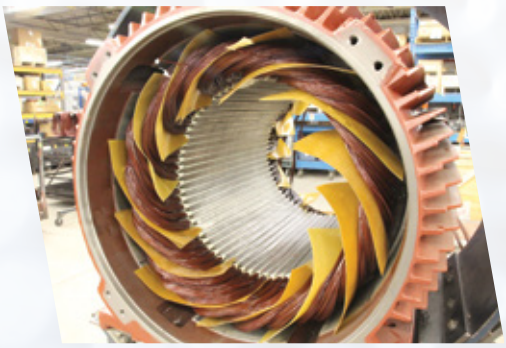
High quality materials used and extensive on-site testing conducted (Winding Resistance, Hipot & Surge), to build long lasting motors.

Technical Support

On-site staff available to handle unique requirements and find the right custom solution for your application.

Canada Built Option

One of a kind facility offering "Made in Canada" option for motors.



MARATHON PLATFORMS OFFERED

- Globetrotter® Motors
- Blue Chip Series® Motors
- IEEE841 Motors
- Marathon Pump Motors
- TerraMAX® IEC®* Motors
- Powerwash™ Motors
- Black Max® Motors
- Blue Max® Motors
- Severe Duty Motors
- Fire Pump Motors
- XRI® Motors
- And much more...

*The following trademarks are not owned or under the control of WEG S.A. or any of its affiliates: IEC is a trademark of International Electrotechnical Commission.

CUSTOM SOLUTIONS
WHEN YOU NEED THEM...

Steel Mill Roller

Custom Brakemotor

Stainless Steel Brakemotor

Internal Threaded Shaft Severe Duty

Public Transit Special Frame

Pulp Dryer

1000V Mine Transportation Motor

Double Shaft with D Flange & 10′ Leads

Custom Flange Mounting

NEMA®* to IEC®*

Custom Fabrication

Winding/Bearing RTD's w/ Aux. Thermostat Box

CAPABILITIES

Custom Winding

- Hand wound motors
- Industrial models 180T to 215T NEMA frame rolled steel
- Industrial Models Up to 449T NEMA frame cast iron
- Industrial Models Up to 350 HP, 3 phase AC (TEFC/ODP)
- Single and multi-speed designs
- Constant torque and variable torque designs
- Low speed offering in 8, 10 & 12 pole
- Custom voltage designs

Stock Modification

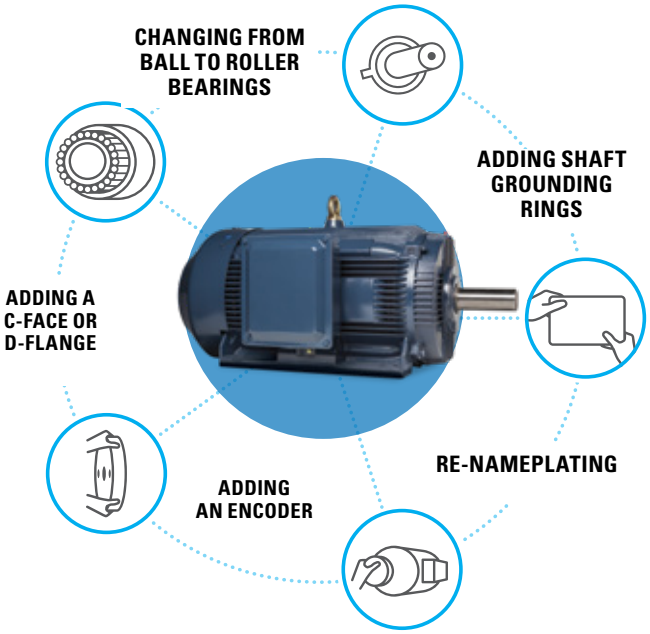
- Industrial models 180T to 449T NEMA frame sizes
- IEC motor modifications
- Severe duty modifications
- Shaft modifications
- Bearing upgrades
- Flanges
- Brakes
- Encoders
- Space heaters
- Thermostats and PTC thermistors
- And much more...

Contact us for more information on our offerings. See back page for our contact details.

*The following trademarks are not owned or under the control of WEG S.A. or any of its Affiliates: IEC is a trademark of International Electrotechnical Commission; NEMA is a trademark or tradename of National Electrical Manufacturers Association.

MODIFICATIONS AT THE WAREHOUSE ENSURE CUSTOM SOLUTIONS FASTER.

There is no one size motor that fits all applications. That's why we've expanded our modifications offering on most models. Some modifications can be made and shipped same day while others take a day or two, but the line-ready motor solution you need will be ready to work.



HOW TO ORDER

First determine whether you need a kit to perform the modification, if you do not need a kit, then refer to the price supplement which includes all supplies needed to perform that modification. If a kit is needed, refer to the price supplement to see what the cost of labor is to install the kit The kit list price and the motor list price are not included. You must add the net price of the motor and kit to the net price of the modification(s) to calculate the total price of the modified motor.

For example, to add a C-Face kit and thermostats to catalog motor E473A, you would calculate the total price as follows:

	LIST PRICE (USD)	MULT. SYMBOL
B176240.00 (A420)	current list price	MOD
Modification MOD2J, add C-Face to 182T-184T frame motor	current list price	MOD
Modification MOD14E, add thermostats to 182T-184T frame motor	current list price	MOD
TOTAL	TOTAL	

Note: Ask your sales representative for a price supplement.

Take the sum of the kit and modification list prices times your Mod Center multiplier of MOD to find the total net price for the modification Add your net price of E473A to the net adder for the kit and modifications to get the total modification price.

MOD CENTRAL

Marathon® offers the capability to modify stock motors in a matter of days to meet our customer's special needs. MOD CENTRAL is centrally located in Marathon Electric distribution center in Plainfield, Indiana. This state-of-the-art facility stocks a vast array of motors and accessories along with a staff of skilled technicians who provide the highest quality of service. If you need motor modifications on 20 motors or less and want to avoid special engineering and manufacturing schedules, call your local sales representative and take advantage of our MOD CENTRAL Motor Modification Program.

LEAD-TIME

All lead-times indicated are subject to availability of the stock motors and parts at the time of order placement. If a stock motor is shipped from a remote warehouse to Indianapolis for modification, the cost of the inbound freight will be added to the price of the modified motor and the delivery of the modified motor will be extended by the inbound transit time. (Lead-times in working days are calculated from normal business hours excluding holidays and weekends and do not include the day the purchase order is received.) Large quantities may require additional lead-time.

MOD CENTRAL HOURS

The Modification Center is open from 7:00 a.m. to 5:00 p.m. CST Monday through Friday.

FREIGHT TERMS

Standard terms and conditions apply.

EXCEPTIONS

Some modifications do not apply to explosion proof motors.

DISCOUNT MULTIPLIER

Discount symbol MOD applies to all list prices, except where noted.

CANCELLATION POLICY

If a Mod Central order is cancelled after the motor is modified but before it ships, a cancellation charge of double the modification charge will be invoiced to the customer. Any Mod Central order cancelled before modifications are completed is subject to a cancellation charge of 25% of the total modification charges for that item.

ONCE SHIPPED, MODIFIED MOTORS MAY NOT BE RETURNED FOR CREDIT OR RESTOCKING

MOD CENTRAL - MOTOR MODIFICATIONS

MODIFICATION DESCRIPTION	REQUIRES KIT	MODIFICATION	PRODUCT	FRAME	LEAD-TIME**
Altitude/Ambient					
AC motor altitude or ambient re-rating		MOD7	All Non-EXP	182T-449T	2
AC motor altitude or ambient re-rating		MOD7	Explosion Proof	182T-449T	2
Assembly (see Mounting)					
Bearings					
Convert ball to roller (drive end)	Yes	MOD18	DP	284T-449T	3
Convert ball to roller (drive end)	Yes	MOD18	TEFC	213T-449T	3
Convert roller to ball (drive end)	Yes	MOD18	DP	404T-449T	3
Convert roller to ball (drive end)	Yes	MOD18	TEFC	324T-449T	2
Inpro Seal (drive end)		MOD34	TEFC	254T-449T	Call
Sealed bearing		MOD18	All Non-EXP	182T-449T	Call
Insulated bearing(s)		MOD18	Non Div 1 or 2	182T-449T	Call
Blowers					
Axial blower	Yes	MOD19	TEFC	213T-449T	3
Brackets					
C-Face non-explosion proof	Yes	MOD2	All Non-EXP	182T-449T	2
C-Face explosion proof	Yes	MOD2	Explosion Proof	254T-449T	Call
C-Face IEEE 841	Yes	MOD2	All Non-EXP	182T-449T	2
D-Flange	Yes	MOD17	All Non-EXP	182T-449T	2
D-Flange IEEE 841	Yes	MOD17	All Non-EXP	324T-449T	2
B14 FT flange (IEC C-face)	Yes	MOD55	IEC	112-160	2
B5 FF flange (IEC D-flange)	Yes	MOD55	IEC	112-315	2
Brake Motors					
Brake motors-Three-phase	Yes	MOD3	TEFC	182TC-145TC	3
Brake motors-inverter duty	Yes	MOD3	TENV	182TC-326TC	3
Electrical modifications-brake coil		MOD3	Brake Motors	182TC-256TC	10
Vertical brake mounting (shaft up or shaft down)	Yes	MOD3	All brakes	213T-256T	3
Conduit Box					
Rotate conduit box lead opening		MOD56	All Non-EXP	182T-449T	2
Convert to cast iron	Yes	MOD56	All Non-EXP	182T-326T	2
Conduit box gasket upgrade		MOD56	All Non-EXP	182T-449T	
Auxiliary box (condulet)	Yes	MOD56	All Non-EXP	182T-449T	Call
Drains					
Condensation drain holes		MOD21	All	182T-449T	2
Brass drain & breather		MOD21	All Non-EXP	182T-449T	2
Stainless steel drain & breather		MOD21	All Non-EXP	182T-449T	2
Drip Covers					
Canopy cover	Yes	MOD4	ODP,TEFC	182T-449T	2
Encoders					
Avtron®* AV56 - Black Max® motor / Blue Max® motor	Yes	MOD22	TENV,TEBC	182T-449T	2
Avtron HS25A & HS35A	Yes	MOD22	TENV, TEBC	182T-449T	2
Avtron M56/M85 - Black Max motor / Blue Max brake motors	Yes	MOD24	TENV	182T-256T	2
Northstar®* SL56 - Black Max motor / Blue Max motor	Yes	MOD22	TENV,TEBC	182T-449T	2
Northstar SL56/SL85 - Blue Max brake motors	Yes	MOD24	TENV	182T-256T	2
Dynapar®* HS20, HS35R, & HSD38 - Black Max motor / Blue Max motor	Yes	MOD22	TENV,TEFC,TEBC	182T-449T	2
BEI®* HS35 - Black Max motor / Blue Max motor	Yes	MOD31	TENV,TEFC,TEBC	182T-449T	2
Stub shaft (XRI®-SD & XRI-841,TEFC motors only)	Yes	MOD42	TEFC	182T-449T	2
Fan & Fan Guard					
Oversized fan (see Inverter Duty modification)		MOD43	TEFC	213T-449T	2
Fan removal		MOD44	All Non-Exp	182T-449T	2
Poly fan guard	Yes	MOD44	All Non-Exp	182T-449T	2
Fan cover		MOD44	All Non-Exp	182T-449T	2
Vane axial		MOD43	All Non-Exp	182T-449T	4
Frequency					
Frequency re-rate 60 Hz to 50 Hz		MOD7	All	182-449T	1
Grease/Fittings					
Grease relief fittings		MOD15	All Non-Exp	182T-449T	2
Zerk fittings (cast iron motors)		MOD15	All Non-Exp	182T-449T	2
Low temperature grease		MOD15	All	182-449T	2
High temperature grease		MOD15	All	182-449T	2

**Lead-time days does not include the day order is received.

*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

MODIFICATION DESCRIPTION	REQUIRES KIT	MODIFICATION	PRODUCT	FRAME	LEAD-TIME**
Grounding					
Conduit box grounding lug		MOD20	All	182T-215T	2
On-frame grounding (cast iron motors)		MOD20	All	182T-449T	2
Shaft grounding ring	Yes	MOD20	Call	182T-449T	2
Inverter Duty Motors					
Variable torque with thermostats (R140)		MOD25	All	182T-449T	2
Constant torque with thermostats (R142)		MOD26	All	182T-449T	2
Constant torque (R164, Oversized Fan)		MOD43	All	182T-449T	2
Leads					
Reconnect leads		MOD9	All Non-Exp	182T-449T	1
Reconnect leads Explosion proof		MOD40	Explosion Proof	182T-449T	1
Terminal lugs		MOD0	All	182T-326T	2
Terminal block		MOD57	All Non-Exp	182T-449T	2
Remark leads		MOD33	All	182T-449T	2
Longer leads - up to 24"		MOD33	All Non-Exp	182T-449T	2
Mounting/Assembly (Example: F1 to F2)					
Convert to floor, top, ceiling, or wall		MOD1	All Non-Exp	182T-449T	2
Convert to floor, top, ceiling, or wall		MOD39	Explosion Proof	182T-449T	2
Adjustable bases	Yes	MOD39	All	182T-449T	2
Transition bases	Yes	MOD39	All	182T-449T	2
Add Stamped Steel Base		MOD32	All Non-Exp	182T-215T	2
Nameplates/Markings					
Additional data on nameplate		MOD7	All	182T-449T	1
CE®* Marking		MOD7	All	182T-326T	2
Private Label		MOD7	All	182T-449T	1
Rotation arrow		MOD7	Single-phase	182T-326T	1
Separate nameplate for customer data		MOD7	All	182T-449T	2
Stainless steel nameplate		MOD7	All	182T-449T	1
Packaging					
Heat treated pallet		MOD29	All	182T-449T	3
Heat treated pallet (IEC)		MOD29	All	112-315	3
Paint					
Repaint to a Marathon® motor stock color		MOD8	All	182T-449T	2-3
Screens					
Rodent screens		MOD0	ODP	364T-449T	Call
Service Factor					
AC motor service factor re-rating		MOD7	All Non-EXP	182T-449T	1
Severe Duty Construction					
Cast iron fan cover and conduit box		MOD16	All Non-EXP	182T-449T	2
Shaft Grounding Ring (see Grounding)					
Shaft Modifications					
Drill & tap hole		MOD42	All	182T-449T	3
TS shaft		MOD42	All	284T-449T	3
Mill flat on shaft		MOD0	All	182T-184T	3
Steps on shaft		MOD0	All	182T-449T	Call
Remove non-reverse ratchet (VHS)		MOD75	All	213TP-449TP	2
Space Heaters					
Non explosion proof		MOD12	All Non-EXP	182T-449T	2
Explosion proof		MOD41	Explosion Proof	182T-449T	1
IEC®* frames		MOD12	IEC	112-250	2
Terminal Blocks					
Terminal block		MOD0	All Non-EXP	180-449T	Call
Thermal Protection					
Thermostats-windings		MOD14	All	182T-449T	2
Thermostats-windings (IEC)		MOD14	All	112-315	2
Thermistors-windings		MOD14	All	182T-449T	2
Thermistors-windings (IEC)		MOD14	All	112-315	2
Thermistors (including control module)		MOD14	All Non-EXP	182T-449T	2
Thermistors (including control module) (IEC)		MOD14	All	112-315	2
Thermocouples - winding or bearing		MOD0	All Non-EXP	182T-449T	2
RTD's - winding		MOD14	All	182T-449T	3
Tests					
PPa-P-Level 1		MOD90A	All	182T-449T	2
Weatherproofing/Special Service					
Tropical anti-fungus treatment		MOD5	All	182T-449T	2
Division 2 motors (CSA certified)		MOD49	Blue Chip®/XRI®	182T-449T	Call

**Lead-time days does not include the day order is received.

MOD CENTRAL - MOTOR MODIFICATIONS

ALTITUDE / AMBIENT - MOD7
The rating of standard motors assumes operation at sea level. Listed motors are suitable for operation at altitudes up to 3,300 feet in a maximum ambient temperature of 40°C. The ambient temperature is the temperature of the cooling medium surrounding the motor. All standard motors are suitable for operation over the range of -15°C to 40°C ambient per NEMA®* MG-1.

AC MOTOR ALTITUDE OR AMBIENT RE-RATING
Re-Rating of a non-explosion proof motor can be done by evaluating the performance data and possibly changing the service factor. Contact your local sales representative for motor capabilities prior to motor selection and modification.

BEARINGS - MOD18
Most standard motors use anti-friction deep groove Conrad type ball bearing, sized for the loads to be expected in industrial applications. Roller bearings are used on the drive end to handle heavy or overhung (radial) shaft loads.

BALL TO ROLLER BEARING
Roller bearings have the capability to handle higher radial loads than ball bearings, but must have minimum radial loads to operate correctly. They are not suitable for direct-coupled loads. (Marathon recommends that belting data is reviewed by Engineering prior to any motor to roller bearing.) This option includes replacing only the standard drive end bearing with a roller bearing and locking the opposite bearing axially. Available only on TEFC Blue Chip Series® and Blue Chip Series XRI® motors. Lead-time is 3 days.

ROLLER TO BALL BEARING
Larger horsepower motors are stocked standard with a roller bearing on the drive end. For direct-coupled applications, a ball bearing must be installed on the drive end. Lead-time is 2 days.

SEALED BEARING
This modification provides the option of replacing the standard bearings in the AC motors with sealed bearings and replacing the grease fitting with plugs. May not be suitable for belted applications. 250-449 frame, 3600RPM, no sealed bearing option. 250-445, 1800RPM and below, non contact sealed only. 48-215, All RPM's are available for sealed bearings. Consult your sales representative for full application details. Call for lead-time.

INSULATED BEARING
Insulated bearings are used to reduce the transmission of shaft currents. In accordance with NEMA MG1-31.4.4.3, both bearings must be insulated to protect inverter driven motors from inverter-sourced shaft voltages. The connected load must also be insulated from the motor shaft to prevent damage to it's bearings. Per UL, insulated bearings may not be installed in Division 1 or Division 2 hazardous locations. Division 2 will be removed from XRI-Severe Duty and IEEE 841 motors when this modification is performed. Call for lead-time.

BLOWERS - MOD19
Low rotational speeds, common in many vector drive applications, cause additional heat within the motor. As a result, these motors are designed as TENV or TEBC. The Marathon® brand is available with two types of blower units, depending upon the application requirements. The axial blower is available on XRI® and XRI-Severe Duty motors.

AXIAL BLOWER
Most TEBC requirements are satisfied with a Marathon® axial blower. The blower motor and fan are in the same (horizontal) plane as the motor drive shaft. Lead-time is 3 days.

C-FACE BRACKETS - MOD2
The addition of a C-Face kit to a standard foot mount (rigid base) motor, results in a non-NEMA "BA" dimension in 182-256 Frames due to NEMA's establishment of two distinct "BA" dimensions for each of the affected frame sizes: one for the rigid base motors and another for C-Face/Rigid base motors. No motor manufacturer can meet both prescribed dimensions on reworked motors. The following table identifies the "BA" dimensions (defined as the distance from the center of the front hole to the shaft shoulder) for 182T-256T and TC frames:

NEMA FRAME	FOOT MOUNT*	C-FACE
182T-184T	2.75"	3.50"
213T-215T	3.50"	4.25"
254T-256T	4.25"	4.75"

D-FLANGE BRACKETS - MOD17

Add a D-Flange Kit to rigid base, cast iron motor. Available on Blue Chip Series motor 254T-365T and Dripproof 284T-286T ("TTDP" and "TTDC" designs. Addition of D-Flange Kit results in non-NEMA "BA" dimension of 254T-256T. Lead-time is 2 days.

IEC BRACKETS - MOD55

B14 FT FLANGE (IEC C-Face)
IEC mounting arrangement with the motor flange at the drive end similar to a NEMA C-Face motor. Modification includes motor disassembly and installation of a FT Flange to a Globetrotter® motor. Lead-time is 2 days.

B5 FF FLANGE (IEC D-Flange)
IEC®* mounting arrangement with the motor flange at the drive end similar to a D-Flange. Modification includes motor disassembly and installation of a FF Flange to Globetrotter® motor. Lead-time is 2 days.

BRAKE MOTORS - MOD3
Spring-set, electrically released mechanical disc brakes are available for stopping and/or holding the load. The Marathon® motor brakes are suitable for any angle mounting. Price of modification includes brake kit and installation.

** For normal (140%) torque rating, do not apply on motors larger than 2HP. Reduced braking torque and/or longer stopping times can result from applying an undersized brake on higher HP motors.

BRAKE ADDITION - TEFC
This modification includes the addition of a 3, 6 or 10 Lb-Ft brake to single or Three-phase, TEFC motors. Operating voltages are 115/208-230, motors. Operating voltages are 115/208-230, 208-230/460, and 575 volts. Lead-time is 3 days.

BRAKE ADDITION - INVERTER DUTY
This modification includes the addition of a 6 or 10 Lb-Ft brake to Black Max® or Blue Max® Vector Duty motors. Operating voltages are 115/208-230, 208-230/460 or 575 volts. Lead-time is 3 days.

BRAKE COIL VOLTAGE (Stearns® brakes only)
Brake coil changes allow for operation of brakes at various voltages on 50 or 60 Hertz AC power supplies. Available coil voltages at 50 HZ are 110, 220, 415 and 110/220 volts. Coil voltages at 60 Hz are 115, 200, 575, and 200/400 volts. Coil voltages at 60/50 HZ are 230/190, 460/380 and 208-230/460-190/380 volts. External brake coil lead connections will be brought out from the brake. Specify brake lead location, brake coil voltage and supply frequency at time of order. Lead-time is 10 days.

*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

MOD NUMBER	BRAKE RATING	BRAKE SERIES
182T-213T	3 Ft/Lb	56,000
	6 Ft/Lb	
	10 Ft/Lb	
	15 Ft/Lb	
254T-256T	25 Ft/Lb	87,000
	35 Ft/Lb	
	50 Ft/Lb	
	75 Ft/Lb	
	105 Ft/Lb	

VERTICAL MODIFICATION KIT (Stearns 87,000 brake series)
Includes required hardware to accommodate vertical above (shaft down) or vertical below (shaft up) mounting.

CONDUIT BOX - MOD56
Standard conduit box construction is based on the individual product description, e.g. severe duty motors always have a cast iron conduit box, while some standard duty motors come with stamped steel and others cast iron. Conduit boxes meet or exceed NEC 430.12 requirements for volume. Termination of protective or monitoring devices can be provided in a separate auxiliary conduit box or condulet. Auxiliary conduit boxes are not available on explosion proof motors.

ROTATE CONDUIT BOX LEAD OPENING
Standard motors have lead opening facing down toward motor base Modifications include rotating the conduit box so the lead opening is facing the desired direction. Specify lead opening location facing conduit box. Available on non-explosion proof motors. Lead-time is 2 days.

CONVERT TO CAST IRON
Replacement of steel conduit box with a cast iron conduit box. This modification is available on non-explosion proof cast iron motors as Marathon's explosion proof integral stock motors come standard with a cast iron conduit box. Lead-time is 2 days.

AUXILIARY BOX (Condulet)
A condulet can be added to the main motor conduit box for routing of accessory leads. Available on ODP and TEFC (non- explosion proof motors. Call for lead-time.

CONNECTIONS - MOD0
Motor connections consist of special cords, plugs, and switches added to a Single-phase motor.

DRAINS - MOD21
Standard duty motors include a weep hole as standard, while severe duty and explosion proof motors include a brass drain/ breather as standard. These are located in the drive end bracket at the lowest point.

CONDENSATION DRAIN HOLES
Additional drilled holes will be made in both end brackets of TEFC motors. Not available on explosion proof motors. Lead-time is 2 days.

BRASS DRAIN & BREATHER
Combination self-draining and breather plugs are available on TEFC motors. Not available on explosion proof motors. Lead-time is 2 days.

STAINLESS STEEL DRAIN & BREATHER
Combination self-draining and breather plugs are available on TEFC motors. Not available on explosion proof motors. Lead- time is 2 days.

DRIP COVERS - MOD4 (Mult. Symbol S4)
Drip covers can be furnished on standard motors for extra protection from dripping liquids and falling objects when the motor is mounted in the vertical shaft down position. These covers are recommended on all open dripproof and totally enclosed motors for vertical shaft down operation. These covers have no vertical lifting provisions provided.

CANOPY COVER - MOD4 (OPD and TEFC Motors)
Modification includes installation of a sheet metal drip cover to the motor for vertical shaft down mounting. Available on rolled steel Dripproof motors through 256T frame and select TEFC motors. Lead-time is 2 days.

ENCODERS - MOD22, AND MOD24
These electrical devices sense rotor speed and direction providing feedback to a control device. An encoder is a feedback device that translates mechanical motion into electrical signal. A cable is connected from the encoder to the variable frequency drive to provide this feedback. Various mechanical provisions on the motor are required to attach the encoder. These may C-Face on the non-drive end of the motor and special shaft extension. Various resolutions are available. All encoders offered have quadrature signal with line driver output.

Encoders can be mounted on Black Max® and Blue Max® 2000 Vector Duty motors, TENV 182 through 286T Frame, TEBC construction in 284T through 449T Frame.

STUB SHAFT - MOD42
Add Stub Shaft to Fan Cooled XRI®-SD, XRI-841 motors (182-449 Frames) to accommodate addition of encoder on opposite drive end of motor. Lead-time is 2 days.

FAN - MOD43, AND MOD44
The Marathon® XRI® Severe Duty and IEEE841 motors have non-sparking fans made with, high-temperature, reinforced corrosion resistant plastic that is impervious to chemical attach and has been specially designed for motor applications. All motors utilize bi-directional cooling fans.

OVERSIZED FAN (Inverter Duty) - See MOD43 Inverter Duty

FAN REMOVAL - MOD44
TEFC to TEAO. Convert a motor from totally enclosed, fan cooled construction to totally enclosed, air-over by removing fan cover, fan, and cutting off the fan end shaft. The modified motor must be mounted in the air stream of the driven fan for cooling purposes. The customer is responsible for providing adequate airflow over the motor. Lead-time is 2 days.

VANE AXIAL FAN - MOD43
The modification can be done on rigid or C-Face mount, TEFC, TENV, EPFC, EPNV, or DP enclosures. Motors will be modified for Vane Axial fan applications. All motors will get an additional nameplate and 42" extended leads. TEFC models will have the fan and fan guard removed and enclosure changed to TEAO. A minimum airstream velocity of 3000' per minute is required. Lead-time is 4 days.

FREQUENCY - MOD7
Most motors commonly operate on 60 hertz (HZ) within North America. However, 50 hertz systems are common in other countries.

FREQUENCY RE-RATE 60 HZ TO 50 HZ
Marathon® standard motors rated at 60 HZ may be operated at 50 HZ at reduced voltage and horsepower or service factor. A label containing specific re-rating information will be attached to the motor. Frame size is subject to change. Lead-time is 1 day.

GREASE/FITTINGS - MOD15
Standard grease is Exxon® Polyrex® EM with a bearing operating temperature range of -30° to +150°C for ball and roller bearings. Devices for installing grease into the motors, such as zerk fittings, are available.

GREASE RELIEF FITTINGS - MOD15
Install standard grease relief fitting on motor. Grease relief fittings serve

MOD CENTRAL - MOTOR MODIFICATIONS

as an outlet to equalize pressure in the motor. Not available on explosion proof motors. Lead-time is 2 days.

ZERK FITTINGS (Cast Iron Motors) - **MOD15**
Replace standard grease plugs on motors with zerk XRI® Severe Duty and IEEE841 motors come with zerk fittings as standard equipment. Not available on explosion proof motors. Lead-time is 2 days.

LOW TEMPERATURE GREASE WITH SEALED BEARING(S)- MOD15
Bearing grease may be changed to allow for a lower operation range. The motor bearings and end bells are purged and repacked with beacon 325 grease or equivalent with a temperature range of -60°C to +120°C. Call for lead-time.

HIGH TEMPERATURE GREASE WITH SEALED BEARING(S)- MOD15
Bearing grease may be changed to allow for a higher operating range. The motor bearings and end bells are purged and repacked with Dow Corning® DC44M grease or equivalent with a temperature range of -40° to +204°C. Call for lead-time.

GROUNDING - MOD20
All motors 48 to 449T Frame have grounding provisions per NEMA® and NEC Standards. Explosion proof motors are permitted to have a frame ground, but electrical ground in conduit box must also be connected.

CONDUIT BOX GROUNDING LUG
Add clamp-type grounding lug in the conduit box. Lead-time is 2 days.

ON-FRAME GROUNDING (Cast Iron Motors)
Addition of drilled and tapped hole on conduit box side of frame with installation of ground lug. Available on non-explosion proof cast iron ratings only. Lead time is 2 days.

BEARING CURRENT PROTECTION - BCP
BCP is a shaft current mitigation system utilizing shaft ground rings for MODS. They are recommended (NEMA®* MG1 31.4.4.3) as an effective means of bearing protection for motors operated from inverter power. One ring is adequate to bleed down inverter-sourced shaft voltages, thereby protecting both bearings for motors as large as 5011 frame.
BCP may not be installed on motors used in Division 1 or Division 2 hazardous locations or motors with a modified shaft. Does not fit all motor types. Lead-time is 2 days.

INVERTER DUTY - MOD25, MOD26, AND MOD43
"Inverter Duty" describes a class of motors that are capable of operation from a variable frequency drive. Many general purpose motors are suitable for most variable torque and some limited constant torque applications.

These motors do not have provisions for mounting encoders, but are suitable for use with volts/hertz or open loop vector controls. As required under USA Federal law, these motors comply with EPAct efficiencies when operating from utility power. Lead-time is 2 days.

INV. DUTY (LEADTIME 2 DAYS)

MOD #	APPL.	MTR. TYPE	MOD
25	Variable Torque	Any	Add Thermostats, re-nameplate
26	10:1 CT	EPAct TEFC NEMA	Oversized fan, Add Thermostats, re-nameplate
	20:1 CT	NEMA Premium®* TEFC	
43	10:1 CT	EPAct TEFC NEMA	Oversized fan, re-nameplate
	20:1 CT	NEMA Premium®* TEFC	

Operation of motor on VFD exempts motor from EPAct mandated efficiency levels.

LEADS - MOD9, MOD24, AND MOD33
All motors are provided with standard leads of ample length for easy connection in the conduit box to the power leads. Lead size and material are dependent upon the class of insulation system in the motor and the current capacity required.

RECONNECTION - MOD9
Reconnect dual voltage 9-lead or 12-lead motors to a 3-lead single voltage. Connection is made inside the motor frame. Specify desired voltage when ordering. On Single-phase motors, specify rotation. Lead-time is 1 day.
*Part Winding Start and Star-delta connections are excluded.

REMARK LEADS - MOD33
Using cloth markers, remark leads with numbers or letters. Please specify markings. Lead-time is 2 days.

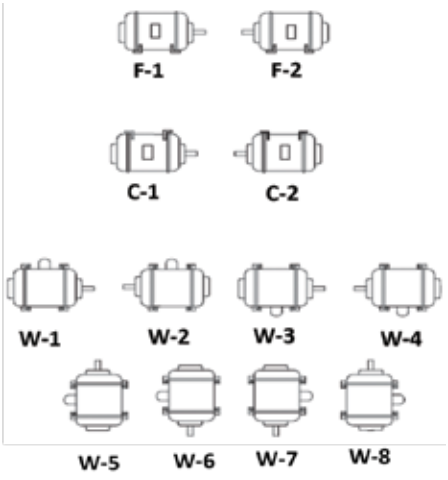
LONGER LEADS - MOD24
Extend leads up to two feet longer than standard by splicing. Splice will be visible in conduit box. Not available on explosion proof motors. Lead-time is 2 days.

MOUNTING/ASSEMBLY - MOD1, AND MOD39

Motors listed are horizontal, foot mounted. Many stock motors can be furnished in assembly positions as illustrated. Modification may include repositioning of vents, baffles, drains, and conduit box. Also end brackets are assembled and grease fittings are properly installed for operation with the motor in the position shown. No attempt is made to locate fittings on any particular side of the motor. Horizontal ball bearing motor assemblies W5, W6, W7, and W8 are not suitable for external thrusts in excess of rotor weight and half-coupling. Cast Iron ODP and TEFC, 360 and larger, are not suitable for vertical operation. Consult Engineering for TEFC Build Up. Lead-time is 2 days.

CONVERT TO FLOOR, CEILING, OR WALL MOUNT - MOD1
Convert standard F1 mount to F2, W1, W2, W3, W4, W5, W6, W7, W8, C1, or C2 mount. The mounting symbol is required when ordering to indicate the proper mounting. Lead-time is 2 days.

Example: Motor will be modified F1 to wall mounting W3



*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

ADJUSTABLE MOTOR BASES - MOD39
Adjustable bases are a convenient means for adjusting belt tension or may be used as mounting plates. Adjustable motor bases are bolted to fixed base of motor prior to shipping. NEMA®*215T and smaller bases feature one adjusting screw. Bases on NEMA 254T and larger feature two adjusting screws. Bases are not suitable for vertical mounting. Lead-time is 2 days.

NAMEPLATES/MARKINGS - MOD7
Nameplate material is mylar or stainless steel depending on motor design and enclosure.

ADDITIONAL DATA ON NAMEPLATE
Motors can be re-nameplated for alternate ratings. Changes in horsepower, altitude, ambient, voltage, frequency, etc. Lead-time is 1 day.

CE®* MARK
CE®* compliant mark can be provided for all non-explosion proof NEMA frame motors. Many stock motors already contain the CE mark. Lead-time is 2 days.

ROTATION ARROW - MOD7
All motors utilize bi-directional cooling fans. Specify rotation facing shaft extension on order entry form. Available on Single-phase only. Lead-time is 1 day.

STAINLESS STEEL NAMEPLATE
Replace existing Mylar®* nameplate with 304 stainless steel nameplate. Lead-time is 1 day.

SEPARATE NAMEPLATE FOR CUSTOMER DATA
A separate customer nameplate can be furnished. Information contained must be submitted at time of order. These additional nameplates cannot be supplied with CSA®* or UL®* Listings unless installed to motor in a Marathon Electric facility. Lead-time is 2 days.

PACKAGING - MOD29 HEAT TREATED PALLETS
ISPM-15 requires the use of heat-treated wooden packaging materials when shipping into all foreign countries (a temporary exemption exists for Canada). Modification includes replacement of wooden pallet with heat-treated palled. Does not include export crating for ocean freight (contact factory for export packaging cost).

PAINT - MOD8
The standard paint finish is a two-coat paint system. The first coat is a rust-inhibitive primer applied to protect the castings during storage and manufacturing. The second coat is a powder coat on 48-140 frame, enamel on non-sever duty motors, or a 2-part epoxy on severe duty 180-5000 frame motors. Special paints and color options are available if compatible and reviewed by application engineering. Paint chips and material safety data sheets are required.

REPAINT TO A MARATHON® STOCK MOTOR COLOR
Repaint motor to another Marathon stock motor paint color. Colors include: Marathon Blue Chip Series® blue, PowerWash™ white, farm duty black, Fire Pump red, light gray, or dark gray. Specify color on order. Lead-time on enamel paint is 2 days. Epoxy paint requires a 3 day lead-time.

SCREENS - MOD0
Corrosion resistant screens can be furnished over the air intake intake and discharge openings of cast iron dripproof motors. Dripproof motors equipped with these screens conform to the dripproof guarded definition appearing in NEMA®* MG-1, Part 1. Call for lead-time.

SERVICE FACTOR - MOD7
A multiplier that may be applied to the rated horsepower of a motor, which indicates a permissible horsepower loading at rated voltage and frequency. Lead-time is 1 day.

AC MOTOR SERVICE FACTOR RE-RATING
When a 1.15 Service Factor or higher is required, please refer to the list adder. Frame size is subject to change. Not available on explosion proof motors. Lead-time is 1 day.

SEVERE DUTY CONSTRUCTION - MOD16
This modification starts with a Marathon® Blue Chip Series® motor totally enclosed cast iron frame motor and reworks it to all cast iron construction. With additional enhancements, the motor is prepared for a severe or harsh industrial environment. (USA domestic built product only) Remove polypropylene fan cover and sheet metal conduit box from the motor and replace with cast iron fan cover, threaded and gasketed conduit box, apply epoxy finish to motor exterior, and add brass drain and breather. Lead-time is 2 days.

SHAFT MODIFICATION - MOD0, AND MOD42
Motors are furnished with a single straight shaft with sled runner keyway and a rectangular key. For motors in frames 143T through 449T, a long shaft for V-Belt drive is supplied. 2-Pole motors in frames 324 through 449 and certain other 4-Poleratings are furnished with short shafts for direct connections. Modifications are for existing shafts only. Not applicable if a new shaft is required.

DRILL & TAP HOLE - MOD42
Drilled radially or in the end of the shaft. Drilled and tapped in the end of the shaft. Lead-time is 3 days.

TS SHAFT - MOD42
Convert "T" frame shaft to a "TS" Frame shaft. Modify motor by reducing the shaft, adding new keyway, and shortening the shaft length to the NEMA "TS" dimension. Lead-time is 3 days.

MILL FLAT ON SHAFT - MOD0
Mill a flat on the drive end shaft extension. Provide detail of flat with the order. Lead-time is 3 days.

STEPS ON SHAFT - MOD0
One to three reductions in shaft diameter. Customer to specify number of reductions at time of order. Call for lead-time.

SPACE HEATERS - MOD12 AND MOD41
Space heaters are used to prevent the build-up of condensation on the windings of the motor when the motor is not operating Space heaters are typically installed on the end-turns of the coils.

SPACE HEATERS - ODP & TEFC - MOD12
Space heaters can be furnished on dripproof and totally enclosed motors. Heater leads are normally brought out to the motor conduit box. Heater voltage is available in three voltages for 60 Hz operation of 115, 230, or 460 volt, Single-phase. Space heaters are sized per NEMA®* standards. Lead-time is 2 days.

SPACE HEATERS - IEC FRAMES - MOD12
Space heaters can be furnished on IEC®* motors. Heater leads are normally brought out to the main terminal box. Heater voltage is available in two voltages for 50 Hz operation. Lead-time is 2 days.

SPACE HEATERS - EXPLOSION PROOF - MOD41
Space heaters can be furnished on explosion proof motors. Heater leads are normally brought out to the motor conduit box. Heater voltage is available in three voltages for 60 Hz operation of 115, 230, or 460 volt, single-phase. Space heaters are sized per NEMA standards. Lead-time is 2 days.

TERMINAL BLOCKS - MOD57
Conduit box mounted terminal blocks provide for a convenient termination of power leads. The terminal blocks are sized for the proper amperage and voltage of the motor. The Globetrotter® IEC motor has IEC terminal blocks as standard.

*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

TERMINAL BLOCK
Install terminal blocks in conduit box of NEMA motor with lead connection. Customer to advise on lead connection. Call for lead-time. Contact factory to verify capability.

THERMAL PROTECTION - MOD14, MOD37
Thermal protection are built in protective devices that prevent motor overheating. They work either by interrupting the power supply when the motor overheats or by incorporating a pilot device that opens the holding circuit of a magnetic starter or energizes an alarm bell or warning light.

THERMOSTATS - WINDINGS - MOD14
Thermostats are mounted on the stator winding and are temperature-sensing only, with normally closed snap action contacts. These devices are installed on the end-turns of the motor winding. Their purpose is to activate a warning device or shut down the motor upon excessing winding temperatures. The standard arrangement is the addition of 2 or 3 thermostats to the winding end-turns, connected in series with the leads brought out to the main motor conduit box. Class I Groups C & D/ Class I Groups F & G Explosion Proof motors have hermetically sealed thermostats as standard. Lead-time is 2 days.

THERMISTORS - WINDING
Thermistors are small, non-linear resistance devices placed on the stator windings. As the critical temperature is reached, the resistance of the thermistor changes radically, causing operation of a control relay. The standard arrangement is Q-3 positive temperature coefficient (PTC) type on winding end-turns with leads brought out to the main motor conduit box. On IEC motors the leads are brought into a condulet adjacent to the main conduit box and includes a terminal block. As standard, 3 Texas Instruments thermistors are furnished, one per phase. Lead-time is 2 days.

RTDS - WINDINGS
RTDs are precision wire-wound resistors with calibrated temperature-resistance characteristics. The standard arrangement is the addition of a 100 ohm platinum RTD attached to the windings with the leads brought out to the main motor conduit box. These devices are used in conjuction with customer supplied instruments. Lead-time is 3 days.

WEATHERPROOFING/SPECIAL SERVICE MOD5, MOD49, MOD58

Weatherproofing or special service provides additional protection to windings and mechanical parts as well as special greases or modifications per industry specifications such as NEMA, IEEE, or automotive. Call for lead-time.

TROPICAL ANTI-FUNGUS TREATMENT - MOD5
Windings and mechanical parts coated with polyurethane for superior protection to resist tropical environments. Notavailable on brake motors. Lead-time is 2 days.

BRAND F EM-1 MOTORS - MOD48
Modify Blue Chip Series® XRI® Severe Duty motor to meet FordMotor's EM-1 T-Frame automotive specification. Modification requires adding ABMA®* bearing numbers and plugging second set of mounting holes on applicable frames. Lead-time is 2 days.

HAZARDOUS DUTY® SERVICE DIVISION 2 HAZARDOUS MOTORS - MOD49
The Division 2 hazardous modification incorporates a new fan, fan guard, and nameplate on most TEFC motors. The nameplate will say "CSA Certified, Group I, Division 2 Groups A, B, C, and D, Temperature Code. XRI-SD and IEEE841 motors have the Division 2 statement on the nameplate as standard. (See chart below) Call for lead-time.

NEMA	SERVICE FACTOR	POWER	FREQUENCY	TEMP
182-449T	1.0	SineWave	50-60Hz	T3
182-449T	1.0	PWM	3-120Hz	T2D
182-449T	1.5	SineWave	60Hz	T2B

*See back cover page for attribution.

THE RIGHT PART FOR THE RIGHT MOTOR

We know how important it is to have the original parts for your OEM replacement.

ACCESSORY KITS

Complete kits with hardware necessary for converting Marathon® stock rigid base motors to "C-Face" mounting with rigid base.

Excludes Blue Chip Series® XRI® Dripproof stock motors, see below

C-FACE KITS - DRIPPROOF

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES	STOCK
A160	182T-184T	KIT 180TCD-WD	TTDB (2,4 and 6 pole)	11	75	√
A666	182T-184T	KIT 175691	TTDW	4	75	√
A161	213T-215T	KIT 210TCD-WD	TTDB or TTDBD (2, 4 and 6 pole)	14	75	
A602	213T-215T	KIT 175066	U268, U269, U763, U764, U765, and U766	18	75	
A606	213T-215T	KIT 210TCDW	TTDW, TTDWD, TBDW, or TCDW	13	75	
A162	254T-256T	KIT 250TCD2-WD	TTDB (2 pole only)	37	75	
A162A	254T-256T	B176066.00	TTDBD (2 pole only)	39	75	√
A163	254T-256T	KIT 250TCD-WD	TTDB (4 and 6 pole only)	38	75	√
A163A	254T-256T	B176067.00	TTDBD (4 and 6 pole only)	38	75	
A610	284T-286T/TS	KIT 280TCDP	TTDP or TSTDP	30	75	
A164	284TS-286TS	KIT 280TCD2-WD	TSTDCA (2 pole only)	69	75	
A164A	284TS-286TS	B176068.00	TSTDBD (2 pole only)	76	75	√
A626	284T-286T	KIT 175058	U256, U257, U771, U772, U773, and U774	32	75	
A165	284T-286T	KIT 280TCD-WD	TTDCA (4 and 6 pole only)	69	75	√
A165A	284T-286T	B176069.00	TTDBD (4 and 6 pole only)	75	75	
A213	324-326T/TS	KIT 320TCDR	TTDR (2,4 and 6 pole)	53		
A166	324TS-326TS	KIT 320TCD2-WD	TSTDCA (2 pole only)	97		√
A166A	324TS-326TS	B176070.00	TSTDBD (2 pole only)	91		
A613	324-326T/TS	KIT 320TCDP	TTDC/P or TSTDC/P	43		√
A167	324T-326T	KIT 320TCD-WD	TTDCA (4 and 6 pole only)	98		
A167A	324T-326T	B176071.00	TTDBD (4 and 6 pole only)	86		√
A627	324T-326T	KIT 175059	U775, U776, U777, U778, U798 and U799	41		
A168	364TS-365TS	KIT 360TCD2-WD	TSTDCB (2 pole only)	145		
A168A	364TS-365TS	B176072.00	TSTDBD (2 pole only)	102		
A219	364TS-365TS	KIT 360TSCDS	TSTDC/S	62		√
A628	364T-365T	KIT 175060	U779, U782, U783, U784, U927, and U928	25		
A169A	364T-365T	B176073.00	TTDBD (4 and 6 pole only)	105		
A225	404TS-405TS	KIT 400TSCDS	U250 and U251	89		√
A414A	404TS-405TS	B176074.00	TSTDCD (2 pole only)	103		
A225	404TS-405TS	KIT 400TSCDS	TSTDS	89		√
A415A	404T-405T	B176075.00	TTDCD (4 and 6 pole only)	140		
A231	444TS-445TS	KIT 440TSCDS	TSTDS	119		
A416	444TS-445TS	KIT 444/5TCD2-WD	TSTDC (2 pole only)	173		
A416A	444TS-449TS	B176076.00	TSTDCD (2 pole only)	179		
A417	444T-445T	KIT 444/5TCD-WD	TTDC (4 and 6 pole only)	144		
A417A	444T-449T	B176077.00	TTDCD (4 and 6 pole only)	192		√
A419	447T-449T	KIT 447/9TCD-WD	TTDC (6 pole only)	134		

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

Complete kits with hardware necessary for converting Marathon® stock rigid base motors to "C-Face" mounting with rigid base. Includes Globetrotter®, XRI® (AS NOTED), and severe duty motors.

Excludes Blue Chip Series® XRI® IEEE-841 stock motors, available on the next page.

C-FACE KITS - TOTALLY ENCLOSED

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES	STOCK
A170	182T-184T	KIT 180TCF-WD	TTFBA (Globetrotter motor)	11	75	
A420	182T-184T	B176240.00	TTFCD (Globetrotter motor)	33	75	√
A641	182T-184T	KIT 180TCN8.5	TTFN (8-1/2" AK)	40	75	
A644	182T-184T	KIT 180CF8.5-1	TTTL/S, TCFL/R, TTFC/L/R/S or THTS (Standard 8-1/2" AK dim.)	11	75	
A645	182T-184T	KIT 180CF4.5-1	TTFC (Not XRI)/L/R/S (Non-Std. 4-1/2" AK dim.)	14	75	
A666	182T-184T	KIT 175691	TCFW, TBFW, TTFW	4	75	√
A171	213T-215T	KIT 210TCF-WD	TTFBA of TTFBD (Globetrotter motor)	13	75	√
A421A	213T-215T	B176229.00	TTFCD (Globetrotter motor)	20	75	√
A206	213T-215T	KIT 210TCFS	TTFC (Not XRI)/S, THFS, TTTS and THTS (except 213/5TTFC4075)	17	75	
A609	213T-215T	KIT 210TCFW	TBFW, TTFW	17	75	
A646	213T-215T	KIT 210TCN	TTFN or TTFND	10	75	√
A652	213T-215T	KIT 175068	Use on models 213TTFC4076 and 215TTFC4076	17	75	
A667	213T-215T	KIT 175844	XRI-NEMA Premium models containing TTFW1	4	75	√
A172	254T-256T	KIT 250TCF2-WD	TTFCA (2 pole only) (Globetrotter motor)	30	75	
A173	254T-256T	KIT 250TCF-WD	TTFCA (4 and 6 pole only) (Globetrotter motor)	33	75	
A173A	254T-256T	B176026.00	TTFCD (Globetrotter motor)	49	75	√
A1209	254T-256T	KIT 250TCFL-R	TTFL1 and THTL1 (current frame design) (254TTFL14076)	21	75	
A284	254T-256T	KIT 250TCFNA	TTFNA, and THTNA	35	75	
A175A	284T-286T/TS	B176028.00	TTFCD (Globetrotter motor)	55		√
A615	284T-286T/TS	KIT 280TCFN	TTFN or TSTFN	52		√
A617	284T-286T/TS	KIT 280TCFPA	TTFPA, THFPA, and TSTFPA	45		
A618	284T-286T/TS	KIT 280TCFNA	TTFNA, THFNA, or TSTFNA	55		
A174	284TS-286TS	KIT 280TCF2-WD	TSTFCA (2 pole only)(Globetrotter motor)	45		
A175	284T-286T	KIT 280TCF-WD	TTFC (4 and 6 pole)(Globetrotter motor)	41		
A654	284T-286T	KIT 175061	Use on model numbers 284TTFC4076 and 286TTFC4076	31		
A177A	324T-326T/TS	B176030.00	TTFCD (Globetrotter motor)	68		√
A214	324T-326T/TS	KIT 320TCFS	TTFS, THFS, or TSTFS	73		
A614	324T-326T/TS	KIT 320TCFP	TTFC (Not XRI)/P, THFP, TSTFP or TSTFC	50		
A619	324T-326T/TS	KIT 320TCFPA	TTFPA, THFPA, AND TSTFPA	57		
A176	324TS-326TS	KIT 320TCF2-WD	TSTFCA (2 pole only)(Globetrotter motor)	57		
A177	324T-326T	KIT 320TCF-WD	TTFCA (4 and 6 pole only) (Globetrotter motor)	55		
A179A	364T-365T/TS	B176032.00	TTFCD (Globetrotter motor)	100		√
A178	364TS-365TS	KIT 360TCF2-WD	TSTFCA (2 pole only)(Globetrotter motor)	93		
A396	364TS-365TS	KIT 360TSCFSR	TSTFS or TSHFS	99		
A179	364T-365T	KIT 360TCF-WD	TTFCA (4 and 6 pole only)(Globetrotter motor)	72		
A217	364T-365T	KIT 360TCFS	TTFC (Not XRI)	105		
A395	364T-365T	KIT 360TCFSR	TTFS or THFS	114		

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

C-FACE KITS - TOTALLY ENCLOSED

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES	STOCK
A424	404TS-405TS	KIT 400TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	106		
A424A	404TS-405TS	B176034.00	TSTFCD (2 pole only) (Globetrotter motor)	100		√
A223	404T-405T	KIT 400TCFS	TTFS or THFS	125		
A425	404T-405T	KIT 400TCF-WD	TTFC (4 and 6 pole only) (Globetrotter motor)	200		
A425A	404T-405T	B176035.00	TTFCD (4 and 6 pole only) (Globetrotter motor)	120		√
A426	444TS-445TS	KIT 444/5TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	103		
A621	444TS-445TS	KIT 440TSCFN	TSTFN or TSHFN	200		
A427	444T-445T	KIT 444/5TCF-WD	TTFC (4 and 6 pole only) (Globetrotter motor)	158		
A620	444T-445T	KIT 440TCFN	TTFN or THFN	205		
A426A	444TS-449TS	B176036.00	TSTFCD (2 pole only) (Globetrotter motor)	150		√
A428	447/9TS	KIT 447/9TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	122		
A427A	444T-449T	B176037.00	TTFCD (4 and 6 pole only) (Globetrotter motor)	137		√
A623	447/449T	KIT 449TCFS	TTFS or THFS with ball bearings	200		√

Complete kits with hardware and Inpro/Seal®* necessary for converting Marathon® stock IEEE-841 rigid base motors to "C-Face" mounting with rigid base.

C-FACE KITS - BLUE CHIP SERIES® XRI® IEEE-841 MOTORS

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES	STOCK
A182	182-184T	KIT 180TCFS-841	THTS or THFS	13	75	√
A182A	182-184T	KIT 180TCFN-841	THTN OR THFN	38	75	
A182B	182-184T	KIT 180TCFCD-841	THFCD	15	75	
A183	213-215T	KIT 210TCFS-841	THTS or THFS	16	75	√
A183A	213-215T	KIT 210TCFN-841	THTN OR THFN	20	75	
A183B	213-215T	KIT 210TCFCD-841	THFCD	20	75	
A184	254-256T	KIT 250TCFNA-841	THFNA	35	75	
A184A	254-256T	KIT 250TCFCD-841	THFCD	30	75	
A186A	284-286T/TS	KIT 280TCFCD-841	THFCD	41		
A187	324-326T/TS	KIT 320TCFS-841	THFS	89		
A187A	324-326T/TS	KIT 320TCFCD-841	THFCD	55		
A188	364-365T	KIT 360TCFSR-841	THFS	90		
A188A	364-365T/TS	KIT 360TCFCD-841	THFCD	70		
A190	404-405T	KIT 400TCFS-841	THFS	129		
A190A	404-405T	KIT 400TCFCD-841	THFCD	96		
A191	404-405TS	KIT 400TSCFS-841	TSHFS	118		
A191A	404-405TS	KIT 400TSCFCD-841	THFCD	93		√
A192	444-445T	KIT 440TCFS-841	THFS	175		
A193	444-445TS	KIT 440TSCFS-841	TSHFS	108		
A194	444-445T	KIT 440TCFN-841	THFN	201		
A194A	444-445T	KIT 440TCFCD-841	THFCD	128		
A195	444-445TS	KIT 440TSCFN-841	TSHFN	199		
A195A	444-445TS	KIT 440TSCFCD-841	THFCD	118		√

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

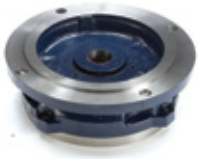
D-FLANGE KITS

Complete kits with hardware necessary for converting Marathon® stock rigid base motors to D-Flange mounting with rigid base.

ODP

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	STOCK
A670	324/326T	B176201.00	TTDBD	86	√
A671	324/326TS	B176202.00	TTDBD	91	√
A672	364/365T	B176203.00	TTDBD	105	√
A673	364/365TS	B176204.00	TTDBD	102	√

TEFC



CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES	STOCK
A541	182-184T	KIT 180TDFCD	GLOBETROTTER® (TTFCD)	22	97	
A542	213-215T	KIT 210TDFCD	GLOBETROTTER (TTFCD)	22	97	
A648	254/256T	KIT 250TDFNA	TTFNA	49	97	
A543	254-256T	KIT 250TDFCD	GLOBETROTTER (TTFCD)	52	97	√
A675	254/256T	B176205.00	XRI-SD (TTFCD)	86	97	√
A656	284/286T	KIT 280TDFNA	TTFNA	60	97	
A651	284/286T/TS	KIT 651R	TTFP, TTFC (EPAct), TSTFP or TSTFC (EPAct)	38	97	
A544	284-286T/TS	KIT 280TDFCD	GLOBETROTTER (TTFCD)	58	97	√
A676	284/286T/TS	B176206.00	XRI®-SD (TTFCD)	91	97	√
A658	324/326T/TS	KIT 320TDFS	TTFS, TSTFS	50	97	√
A677	324/326T/TS	B176194.00	TTFCD	91	97	√
A475	324/326T/TS	KIT 320TDFCD-841	XRI-841 (FCD)	80	97	√
A678	364/365T/TS	B176207.00	TTFCD	105		√
A476	364/365T/TS	KIT 360TDFCD-841	XRI-841 (FCD)	85		√
A679	404-405TS	KIT 400TSDFCD	TTFCD	106		√
A477	404-405TS	KIT 400TSDFCD-841	XRI-841 (FCD)	125		√
A546	404-405T	KIT 400TDFCD	TTFCD	108		
A478	404-405T	KIT 400TDFCD-841	XRI-841 (FCD)	130		√
A547	444-449TS	KIT 440TSDFCD	TTFCD	117		√
A479	444-449TS	KIT 440TSDFCD-841	XRI-841 (FCD)	145		√
A548	444-449T	KIT 440TDFCD	TTFCD	121		√
A480	444-449T	KIT 440TDFCD-841	XRI-841 (FCD)	150		√

C-FACE TO D-FLANGE KITS - TEFC

Complete kits with hardware necessary for converting Marathon stock C-Face rigid base motors to D-Flange mounting with rigid base.

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	STOCK
A630	182TC-184TC	KIT 180TDFR	TTFR	17	
A632	324TC-326TC	KIT 320TDFP	TTFP	60	√

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

IEC®* MOUNTING KITS

Complete kits with hardware necessary for converting Marathon® IEC stock motors to B5 or B14 mountings.

FLANGE MOUNTING KITS FOR CAST IRON FRAME, TERRAMAX® IEC NEMA PREMIUM®* (IE3) MOTORS ONLY

FRAME	POLE	FLANGE	CAT. NO.	KIT / ITEM NO.	BOLT CIRCLE "MM"	WT.	STOCK
100	ALL	FF/B5	A554B	KIT B175810	215	11	√
	ALL	FT/B14	A581B	KIT B175817	130	9	√
112	ALL	FF/B5	A555C	KIT B175827	215	20	√
	ALL	FT/B14	A582C	KIT B175832	130	12	√
132	ALL	FF/B5	A550A	KIT B175828	265	52	√
	ALL	FT/B14	A589A	KIT B175833	165	19	√
160	ALL	FF/B5	A551A	KIT B175829	300	37	√
	ALL	FT/B14	A590A	KIT B175834	215	37	√
180	ALL	FF/B5	A552A	KIT B175830	300	46	√
200	ALL	FF/B5	A553A	KIT B175831	350	58	√
225	ALL	FF/B5	A580A	KIT B175995	400	64	√
250	ALL	FF/B5	A594A	KIT B175619	400	101	√
280	2	FF/B5	A595	KIT B175839	500	109	√
	4 & 6	FF/B5	A596A	KIT B175835	500	109	√
315	2	FF/B5	A597	KIT B175837	600	129	
	4 & 6	FF/B5	A598A	KIT B175836	600	129	√

FLANGE MOUNTING KITS FOR CAST IRON FRAME, GLOBETROTTER® IEC NEMA PREMIUM (IE3) MOTORS ONLY

FRAME	POLE	FLANGE	CAT. NO.	KIT / ITEM NO.	BOLT CIRCLE "MM"	WT.	STOCK
100	ALL	FF/B5	A554A	KIT 175810	215	16	√
	ALL	FT/B14	A581A	KIT 175817	130	10	√
112		FT/B14	A582B	KIT 175832	130	13	√
	6	FF/B5	A554A	KIT 175810	215	33	√
		FT/B14	A581A	KIT 175817	130	13	√
132	2	FF/B5	A550	KIT 175828	265	20	√
		FT/B14	A589	KIT 175833	165	16	
	4 & 6	FF/B5	A556A	KIT 175812	265	20	
		FT/B14	A583A	KIT 175819	165	16	
160	2	FF/B5	A551	KIT 175829	300	33	
		FT/B14	A590	KIT 175834	215	30	
	4 & 6	FF/B5	A557	KIT 175990	300	33	
		FT/B14	A584	KIT 175991	215	30	√
180	2	FF/B5	A552	KIT 175830	300	41	√
	4 & 6		A558	KIT 175890	300	41	
200	2	FF/B5	A553	KIT 175831	350	61	
	4 & 6		A559	KIT 175994	350	61	
225	ALL	FF/B5	A580	KIT 175995	400	59	
	ALL	FF/B5	A580	KIT 175995	400	76	
250	ALL	FF/B5	A594	KIT 175619	400	165	

IEC BRAKE MOTOR FLANGES

FRAME	FLANGE	CAT. NO.	KIT / ITEM NO.	WT.	STOCK
100L	B5 "FF" (D-Flange)	-	176179.00		√
	B14 "FT" (C-Face)	-	176183.00		√
112M	B5 "FF" (D-Flange)	-	176180.00		√
	B14 "FT" (C-Face)	-	176184.00		√

These flange kits can only be used with the IEC brakemotors

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

MOTOR HP	BRAKEMOTOR SHAFT RPM		
	LB-FT @ 3600	LB-FT @ 1800	LB-FT @ 1200
1	3	6	6
1 1/2	6	10	10
2	6	10	15
3	10	15	25
5	15	25	35
7 1/2	25	35	50
10	25	50	70
15	35	75	105
20	50	105	-

STEARNS 56,000 SERIES BRAKE KITS - INVERTER DUTY TENV BLACK MAX® AND BLUE MAX® MOTORS

For normal (140%) torque rating, do not apply on motors larger than 2 HP. Reduced braking torque and/or longer stopping times can result from applying an undersized brake on higher HP motors.

These brake kits fit on both the Black Max and Blue Max TENV motors. These can also be used together with the Double C-Face SL56 encoder to make a closed loop inverter brake motor.

TORQUE RATING (Lb/Ft)	115/208-230 VOLT			208-230/460 VOLT			575 VOLT			WT. ALL
	CAT. NO.	KIT NO.	STOCK	CAT. NO.	KIT NO.	STOCK	CAT. NO.	KIT NO.	STOCK	
6	A317M	KIT BM6BRK115R1	√	A312M	KIT BM6BRKR1	√	A315M	KIT BM6BRK575R1	√	7
10	A318M	KIT BM10BRK115R1	√	A313M	KIT BM10BRKR1	√	A316M	KIT BM10BRK575R1	√	7

VERTICAL MODIFICATION KIT (STEARNS 87,000 SERIES)

Includes required hardware to accommodate vertical above (shaft down) or vertical below (shaft up) mounting.

TORQUE RATING (Lb/Ft)	MOUNTING		CAT. NO.	STOCK	KIT NO.	WT. ALL
	SHAFT UP	SHAFT DOWN				
25,35	Not required	Required	A157M	√	KIT VRT87BRKR1	3
50,75,105	Required	Required				

DOUBLE C-FACE COUPLER BRAKES

Includes a 5/8" sleeve

TORQUE RATING (Lb/Ft)	ENCLOSURE NEMA 2, IP-23 208-230/460V			ENCLOSURE NEMA 4, IP-54 208-230/460V			ENCLOSURE NEMA 4X, IP-55 208-230/460V			WT. ALL
	CAT. NO.	KIT. NO.	STOCK	CAT. NO.	KIT. NO.	STOCK	CAT. NO.	KIT. NO.	STOCK	
3	A903M	KIT 903A	√	A906M	KIT 906A		A909M	KIT 909A	√	12
6	A904M	KIT 904A	√	A907M	KIT 907A	√	A910M	KIT 910A	√	12
10	A905M	KIT 905A	√	A908M	KIT 908A	√	A911M	KIT 911A	√	12
15	A912A	KIT BK15-22-230	√	A912B	KIT BK15-54-230		A912C	KIT BK15-55-230		16
25	A913A	KIT BK25-22-230	√	A913B	KIT BK25-54-230		A913C	KIT BK25-55-230		58
35	A914A	KIT BK35-22-230		A914B	KIT BK35-54-230		A914C	KIT BK35-55-230		60
50	A915A	KIT BK50-22-230	√	A915B	KIT BK50-54-230		A915C	KIT BK50-55-230		62

BISSC RATED BRAKES

To be used on "Powerwash" products

TORQUE RATING (Lb/Ft)	ENCLOSURE NEMA 2, IP-23 208-230/460V			ENCLOSURE NEMA 4, IP-54 208-230/460V			ENCLOSURE NEMA 4X, IP-55 208-230/460V			WT. ALL
	CAT. NO.	KIT. NO.	STOCK	CAT. NO.	KIT. NO.	STOCK	CAT. NO.	KIT. NO.	STOCK	
15	-	-	-	-	-	-	A916	KIT BRK15-55-WD230		
25	-	-	-	-	-	-	A917	KIT BRK25-55-WD230		
35	-	-	-	-	-	-	A918	KIT BRK35-55-WD230		
50	-	-	-	-	-	-	A919	KIT BRK50-55-WD230		

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

FAN GUARD KITS

Fits standard Globetrotter motors.

Mounts with four screws into the end bracket.

Kit includes: fan guard, mounting screws, washers, and instructions.

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	WT.
A972	B176237.00	√	182/184T	TTFCD	3
A973	B176238.00	√	213/215T	TTFCD	3
A974	B176239.00	√	254/256T	TTFCD	3
A976	B176243.00	√	182/184T	TTFCD	20
A977	B176273.00	√	213/215T	TTFCD	25
A978	B176274.00	√	254/256T	TTFCD	38
A979	B176275.00	√	284/286T/TS	TTFCD	40
A980	B176196.00		324/326T/TS	TTFCD	55
A981	B176197.00		364/365T/TS	TTFCD	105
A982	B176198.00		404/405T/TS	TTFCD	175
A983	B176199.00	√	444/445T/TS	TTFCD	225
A984	B176200.00	√	447/449T/TS	TTFCD	250

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

DRIP COVER KITS

Mounts with two screws into the end bracket. Kit includes: drip cover, mounting screws, washers, and instructions. Contact Marathon Electric to determine compatibility with motor. For vertical shaft down applications.

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	WT.
A201	KIT 201	√	182/184T	ODP	3
A662	KIT 175614		182/184T	ODP (TTDW)	2
A081	B176277.00	√	182/184T	ODP (TTDBD)	12
A198	KIT 198		213/215T	ODP (TTDW)	5
A082	B176222.00	√	213/215T	ODP (TTDBD)	12
-	175305.00		213/215T	Marathon ® ROLLED STEEL 2 POLE motors only	5
A311	KIT 311	√	254/256T	ODP (TTDX) Rigid Base	8
A083	B176223.00	√	254/256T	ODP (TTDBD)	60
A084	B176224.00	√	284/286T/TS	ODP (TTDBD)	39
A085	B176225.00	√	324/326T/TS	ODP (TTDBD)	38
A086	B176226.00	√	364/365T/TS	ODP (TTDBD)	55
A087	B176227.00	√	404/405T/TS	ODP (TTDBD)	76
A088	B176228.00	√	444/449T/TS	ODP (TTDBD)	75
A197	KIT 197	√	182/184T	TEFC (4-IN-1)	3
A091	B176241.00		182/184T	TEFC (TTFBD & TTFCD)	60
A199	KIT 199	√	213/215T	TEFC (4-IN-1)	5
A092	B176214.00	√	213/215T	TEFC (TTFBD & TTFCD)	4
A093	B176215.00	√	254/256T	TEFC (TTFCD)	39
A095	B176217.00	√	324/326T/TS	TEFC (TTFCD)	55
A096	B176218.00	√	364/365T/TS	TEFC (TTFCD)	76
A097	B176219.00	√	404/405T/TS	TEFC (TTFCD)	75
A098	B176220.00	√	444/445T/TS	TEFC (TTFCD)	115
A099	B176221.00	√	447/449T/TS	TEFC (TTFCD)	91

Note: Kit 234, the mounting holes have a 4.80 bolt circle.

LINT-COVER / DRIP-COVER KIT

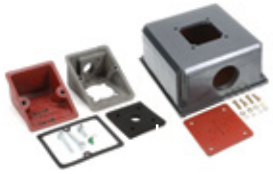
Fits standard Globetrotter® and Blue Chip Series® motors. Threaded conduit box and gaskets.

TEFC MOTORS - MARATHON ® MOTORS ONLY

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WHERE USED (MODELS CONTAINING)	WT.
-	175695.00	√	182-215T	ALSO ON S213T SKUS's WITH CAT #'s 131454 AND HIGHER OR WITH A G PREFIX	4
-	176044.60	√	213/215T	Wattsaver® and "G15" Series Motors	4
-	176046.60	√	284/286T/TS	Wattsaver® and "G15" Series Motors	16

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS



CONDUIT BOX KITS

Fits standard Globetrotter® and Blue Chip Series® motors. Threaded conduit box and gaskets.

CAST IRON

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	WT.
A720	KIT 180/210CB		182-215T	TTFS, TTFN or TTFND	
A933	B176242.00	√	182/184T	TTFCD	
A934	B176276.00	√	213/215T	TTFCD	
A935	B176209.00	√	254/256T	TTFCD	
A936	B176210.00	√	284/286T/TS	TTFCD	
A730	KIT 320CB		324/326T/TS	TTFS, TTFN, TTFP, or TTFPA	
A937	B176211.00	√	324/326T/TS	TTFCD	
A119	KIT 364-445CB		364/445T/TS	TTFS, TTFN	
A938	B176212.00	√	364/365T/TS	TTFCD	
A939	B176213.00	√	404/449T/TS	TTFCD	

Includes conduit box, plug, cover, gaskets and mounting hardware. Two 1/2-NPT tapped lead holes, one hole is plugged models.

CAST ALUMINUM

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	WT.
-	175847.00		213/215T	Motors with the letter "M" after the date code	11

Q-CAR™ REPLACEMENT KITS

Fits Powerwash EXT Motors. Used to change out the Rotor and Shaft assemblies with FRESH Bearings. The Q-Car rotor cartridge kit makes replacing worn bearings ultra simple. Allows for quick access to the motor interior.

CAT. NO.	KIT / ITEM NO.	STOCK	FITS MODEL NO. / (CAT NO)	WT.
176332.00M	176332.00	√	132646.00 / (132646.00M)	36
176333.00M	176333.00	√	132647.00 / (132647.00M)	28
176334.00M	176334.00	√	132648.00 / (132648.00M)	37
176335.00M	176335.00	√	132649.00 / (132649.00M)	30
176336.00M	176336.00	√	140409.00 / (140409.00M)	28
176337.00M	176337.00	√	141410.00 / (141410.00M)	55
176338.00M	176338.00	√	141411.00 / (141411.00M)	50
176339.00M	176339.00	√	141412.00 / (141412.00M)	60

TERMINAL BLOCK KITS

Terminal blocks provide for a convenient termination for power leads, and are sized for the proper amperage and voltage of the motor. These kits fit NEMA®* TEFC, TENV, and ODP motors equipped with cast iron conduit boxes. Available on 182 to 449 frames.

FRAME	CAT. NO.	KIT / ITEM NO.	STOCK	WHERE USED	WT.	FIGURE
180-210	A1000	KIT 180-210 TERM BLK		DOMESTIC MODELS	2	1
180-210	-	175668.60	√	SERIES 15 / 17 MODELS	2	2
180-210	A1193	KIT B175668	√	TEFC FCD MODELS	2	2
250-320	A1001	KIT 250-320 TERM BLK		DOMESTIC MODELS	3	1
250-280	-	175667.60		SERIES 15 / 17 MODELS	3	2
250-280	A1194	KIT B175667	√	TEFC FCD MODELS	3	2
320-360	A1195	KIT B175666	√	TEFC FCD MODELS	4	2
360	A1002	KIT 360 TERM BLK		DOMESTIC MODELS	5	1
404/405	A1196	KIT B175665	√	TEFC FCD MODELS	5	2
404-445	A1003	KIT 400-445 TERM BLK		DOMESTIC MODELS	7	1
400/440	-	175665.60		SERIES 15 / 17 MODELS	5	2
447/449	A1004	KIT 447/9 TERM BLK		DOMESTIC MODELS	10	1
444/449	A1197	KIT B175629	√	TEFC FCD MODELS	5	2

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

SEVERE DUTY - UPGRADE TO CAST IRON FAN COVER / CONDUIT BOX

Fits standard Blue Chip Series® motors to achieve all cast iron construction.
Components include fan guard and threaded conduit box.

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WHERE USED	WT.
A721	KIT 210R		213T-215T	THFS, THTS, TTFC (Not XRI), TTFS, TTTS	19
A724	KIT 250RFNA	√	254T-256T	TTFNA, TTFCA (Not XRI), THTNA, or THFNA	34

ROLLER BEARING CONVERSION KITS

For conversion of ball bearing on drive end to roller bearing (for belted applications).
CONFIRM KIT SELECTION WITH CUSTOMER SERVICE/ENGINEERING

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	BEARING SIZE	WHERE USED (MODELS CONTAINING)	WT.
A1052	KIT 280BRDCD-NU311	√	284-6T	ODP	311	TTDBD	12
A1053	KIT 320BRDCD-NU312	√	324-6T	ODP	312	TTDBD	18
A1054	KIT 360BRDCD-NU314	√	364-5T	ODP	314	TTDBD	21
A1055	KIT 400BRDCD-NU316		404-5T	ODP	316	TTDCD	26
A1056	KIT 440BRDCD-NU319		444-9T	ODP	319	TTDCD	29
A1060	KIT 210BRFGT-NU308	√	213-5T	TEFC	308	TTFCD - GT CAT NUMBERS ONLY	40
A1061	KIT 250BRFGT-NU309	√	254-6T	TEFC	309	TTFCD - GT CAT NUMBERS ONLY	55
A1062	KIT 280BRFGT-NU311	√	284-6T	TEFC	311	TTFCD - GT CAT NUMBERS ONLY	70
A1070	KIT 210BRFCD-NU308		213-5T	TEFC	308	TTFCD - SD & 841 CAT NUMBERS ONLY	10
A1071	KIT 250BRFCD-NU309		254-6T	TEFC	309	TTFCD - SD & 841 CAT NUMBERS ONLY	12
A1072	KIT 280BRFCD-NU311		284-6T	TEFC	311	TTFCD - SD & 841 CAT NUMBERS ONLY	16
A1073	KIT 320BRFCD-NU312		324-6T	TEFC	312	TTFCD - ALL CAT NUMBERS ONLY	17
A1074	KIT 360BRFCD-NU313		364-5T	TEFC	313	TTFCD - ALL CAT NUMBERS ONLY	19
A755	KIT 360BRFSR-314		364T-365T	TEFC & TEBC	314	TTFS, THFS	14
A756	KIT 400BRFS-316		404T-405T	TEFC & TEBC	316	TTFS, THFS	19
A759	KIT 440BRFN		444T-445T	TEFC & TEBC	318	TTFN, THFN	26
A758	KIT 449BRFS		447T-449T	TEFC & TEBC	319	TTFS, THFS	25

BALL BEARING CONVERSION KITS

For conversion of roller bearing on drive end to ball bearing (for direct-coupled applications).
CONFIRM KIT SELECTION WITH CUSTOMER SERVICE/ENGINEERING

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	ENCLOSURE	WHERE USED (MODELS CONTAINING)	WT.
A1085	KIT 400RBDCD-NU316	√	404-5T	ODP	TTDCD	30
A1086	KIT 440RBDCD-NU319	√	444-9T	ODP	TTDCD	35
A1093	KIT 320RBFCD-NU312	√	324-6T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	20
A1094	KIT 360RBFCD-NU313	√	364-5T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	25
A1095	KIT 400RBFCD-NU316	√	404-5T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	30
A1096	KIT 440RBFCD-NU319	√	444-9T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	35
A760	KIT 440BBFN	√	444T-445T	TEFC	TTFN, THFN	160
A795	KIT L449BBFS-322		L447T-L449T	TEFC	TTFS	190

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

AXIAL BLOWER KITS

For installation on Marathon Blue Chip Series® XRI® Totally Enclosed and Severe Duty motors (excluding Explosion Proof).

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WT.	BLOWER VOLTS AND PHASE	WHERE USED (MODELS CONTAINING)
A695	KIT 32TEBC		324T/TS-326T/TS	200	230/460V, 3Ø	TTFS
A697	KIT 40TEBC		404T/TS-405T/TS	242	230/460V, 3Ø	TTFS
A698	KIT 44TEBC-313		444TS-449TS	401	230/460V, 3Ø	A 6313 bearing on opposite shaft end
A699	KIT 44TEBC-316		444T-449T	401	230/460V, 3Ø	A 6316 bearing on opposite shaft end (excludes roller bearing)
A796	KIT L449TEBC		L447T-L449T	272	230/460V, 3Ø	With L447/449 Frames
	KIT 449TEBCAXNOFRK		449	100	230/460,3Ø	TEBC Axial No Fracket
	KIT 449TEBCRADNOFRK		449	200		TEBC Radial No Fracket
	KIT 5000TEBCRADNOFRK		5000	200		Radial No Fracket
A1680	4900030-KIT 511678		-			BLOWER KIT, 1HP 1800RPM 230/460V CAST IRON (FOR FAN 511678)
A1681	4900670-KIT 92070		-			BLOWER KIT, 2HP 1800RPM 230/460V ROLLED STEEL (FOR FAN 92070)
A1679	4900670-KIT 92078		-			BLOWER KIT, 2HP 1800RPM 230/460V ROLLED STEEL (FOR FAN 92078-500)
A049	KIT RBA4900640		449TC	256		TEBC 400-5000 FRAME
	KIT 5000TEBCAXNOFRK		5000	150		5000 TEBC AXIAL BLOWER KIT WITH NO FRACKET

These kits are used for converting motors to totally enclosed blower cooled motors. Cooling per MG1.6 (IC46). The kits are designed for inverter and vector drive applications where continuous cooling is required regardless of motor shaft speed. The kit is mounted on the back of the motor after removing the fan guard and fan. Modifying the shaft is not required.

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WT.	BLOWER VOLTS AND PHASE	WHERE USED (MODELS CONTAINING)
-	175895.00	√	182T-184T	4	115V, 1Ø	Rolled steel, TEFC motors with the letter "M" after the date code
-	175674.00		182T-184T	10	115V, 1Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers
-	175676.00		254T-256T	17	115V, 1Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers
-	175677.00	√	284T/TS-286T/TS	24	115V, 1Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers
-	175678.00		324T/TS-326T/TS	28	115V, 1Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers
-	175879.00		364T/TS-365T/TS	35	230/460V, 3Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers

SHAFT GROUNDING ACCESSORIES

Shaft grounding: Shaft grounding is recommended (NEMA®* MG1 31.4.4.3) as an effective means of bearing protection for motors operated from inverter power. One grounding device is adequate to bleed down inverter-sourced shaft voltages, thereby protecting both bearings for motors as large as 6085 frame.

FILAMENT BRUSH

Add to existing ODP or TEFC models

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WT.	COMMENTS
A103	KIT 103		182-449T/TS	1	Drive end mount
A116	KIT 116		182-449T/TS	1	Non-drive end mount
A109	KIT 109	√	182-449T/TS	1	Replacement brush

SILVER GRAPHITE BRUSH

Add to existing TEFC models

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WT.	COMMENTS
A123	KIT BCP-HC22	√	182-449T/TS	5	Requires stub shaft kit - TEFC only

STUB SHAFT KITS

Fits TEFC motors to allow the addition of 1" bore hollow shaft encoders or BCP grounding, to the motor opposite drive end.

CAT. NO.	KIT / ITEM NO.	STOCK	FRAME	WT.	WHERE USED (MODELS CONTAINING)
A121	KIT STUBSHFT 140-280		143T-286T/TS	3	GLOBETROTTER FBD & FCD
A122	KIT STUBSHFT 320-500		324T/TS-449T/TS	3	GLOBETROTTER FBD & FCD
A798	KIT STBSHFT 1X.37IN	√	182T-449T/TS	3	TEFC SEVERE DUTY AND IEEE-841, FOR BCP ADDITION
A807	KIT STUBSHAFT 1IN		182T-449T/TS	3	FAN COOLED SEVERE DUTY AND IEEE-841

WARNING:
Encoders to be used in Division 1 or Division 2 Hazardous (Classified) Locations shall have agency certifications equivalent to the motor and be nameplated for the Class(es), Group(s), and Temperature Code required for the application. Motor modifications using a stub shaft may result in removal of Div 2 classification

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

BCP KIT:

Kit includes grounding ring, adhesive mounting hardware and instructions (for domestic produced products only).

BCP UNIVERSAL KIT:

Kit includes grounding ring, all mounting hardware needed to mount to any standard drive end bracket and instructions.

BCP UNIVERSAL SPLIT RING KIT

Kit is designed to allow BCP mounting without uncoupling the motor. Kit includes grounding ring, all mounting hardware needed to mount to any standard drive end bracket and instructions. Shaft ground rings fit these NEMA®* frame shaft extensions listed below, they are designed to mount on the shaft end. For larger frames, please contact Marathon® Motors.

NEMA®* RINGS

BCP KIT				BCP UNIVERSAL KIT				BCP UNIVERSAL SPLIT RING KIT			
FRAME	CAT. NO.	STOCK	WT.	KIT / ITEM NO.	CAT. NO.	STOCK	WT.	KIT / ITEM NO.	CAT. NO.	STOCK	WT.
182-184T	A500-20		1	KIT SGR-1.125-UK	A499-3	√	5	KIT SGR-1.125-1A4-UK	A495-3	√	5
180JM/JP	A500-23		1	—	—	—	—	—	—	—	—
213-215T	A500-26		1	KIT SGR-1.375-UK	A499-4	√	5	KIT SGR-1.375-1A4-UK	A495-4	√	5
254-256T	A500-32		1	KIT SGR-1.625-UK	A499-5	√	5	KIT SGR-1.625-1A4-UK	A495-5	√	5
250JM/JP			—	—	—	—	—	—	—	—	—
284-286T	A500-38		1	KIT SGR-1.875-UK	A499-6	√	5	KIT SGR-1.875-1A4-UK	A495-6	√	5
284-286TS	A500-32		1	KIT SGR-1.625-UK	A499-5	√	5	KIT SGR-1.625-1A4-UK	A495-5	√	5
324-326T	A500-44		1	KIT SGR-2.125-UK	A499-7	√	7	KIT SGR-2.125-1A4-UK	A495-7	√	7
324-326TS	A500-38		1	KIT SGR-1.875-UK	A499-6	√	5	KIT SGR-1.875-1A4-UK	A495-6	√	5
320JM/JP	A500-50		1	—	—	—	—	—	—	—	—
364-365T	A500-50		1	KIT SGR-2.375-UK	A499-8	√	7	KIT SGR-2.375-1A4-UK	A495-8	√	7
364-365TS	A500-38		1	KIT SGR-1.875-UK	A499-6	√	5	KIT SGR-1.875-1A4-UK	A495-6	√	5
360JP	A500-53		1	—	—	—	—	—	—	—	—
404-405T	A500-62		1	KIT SGR-2.875-UK	A499-9	√	7	KIT SGR-2.875-1A4-UK	A495-9	√	7
404-405TS	A500-44		1	KIT SGR-2.125-UK	A499-7	√	7	KIT SGR-2.125-1A4-UK	A495-7	√	7
444-445T	A500-74		1	KIT SGR-3.375-UK	A499-10	√	7	KIT SGR-3.375-1A4-UK	A495-10	√	7
444-445TS	A500-50		1	KIT SGR-2.375-UK	A499-8	√	7	KIT SGR-2.375-1A4-UK	A495-8	√	7
447/449T	A500-74		1	KIT SGR-3.375-UK	A499-10	√	7	KIT SGR-3.375-1A4-UK	A495-10	√	7
447/449TS	A500-50		1	KIT SGR-2.375-UK	A499-8	√	7	KIT SGR-2.375-1A4-UK	A495-8	√	7
5000LS	A500-62		1	—	—	—	—	KIT SGR-4.875-1A4-UK	A495-14	√	7

IEC®* RINGS

BCP UNIVERSAL RING KIT				
FRAME	KIT / ITEM NO.	CAT. NO.	STOCK	WT.
100L, 112M	KIT BCP-28-UK	A498-1	√	5
132S, 132M	KIT BCP-38-UK	A498-2	√	5
160M, 160L	KIT BCP-42-UK	A498-3	√	5
180M, 180L	KIT BCP-48-UK	A498-4	√	5
200L	KIT BCP-55-UK	A498-5	√	7
225S, 225M	KIT BCP-60-UK	A498-6	√	7
250M	KIT BCP-65-UK	A498-7	√	7
70 mm Shaft Dia.	KIT BCP-70-UK	A498-8	√	7
280S, 280M	KIT BCP-75-UK	A498-9	√	7
315S, 315M, 315L	KIT BCP-80-UK	A498-10	√	7
85 mm Shaft Dia.	KIT BCP-85-UK	A498-11	√	10
90 mm Shaft Dia.	KIT BCP-90-UK	A498-12	√	10
335L/M, 355L/M	KIT BCP-95-UK	A498-13	√	10
100 mm Shaft Dia.	KIT BCP-100-UK	A498-14	√	10
110 mm Shaft Dia.	KIT BCP-110-UK	A498-15	√	10
120 mm Shaft Dia.	KIT BCP-120-UK	A498-16	√	10

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

ACCESSORY KITS

ENCODER KITS AND ACCESSORIES FOR BLACK MAX®, BLUE MAX®, GLOBETROTTER®, XRI®-SD AND XRI-841 MOTORS

Installation of encoder kits on Globetrotter, XRI Severe Duty or XRI IEEE-841 TEFC motors requires installation of a stub shaft kit.

FRAME	BRAND / MODEL	PPR	CAT. NO.	KIT / ITEM NO.	WT.	NOTES	CONNECTOR	STOCK
182-286	Avtron®* HS25A	1024	A746	KIT HS25A1024-NV	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
		2048	A747	KIT HS25A2048-NV				
	Avtron HS35X	1024	A1018	KIT HS35X1024	4	Avtron HS35X 1024PPR FC/NV	10 pin MS/mate	√
		2048	A1020	KIT HS35X2048		Avtron HS35X 2048PPR FC/NV		
	Avtron HS35A	1024	A736	KIT HS35A1024-NV	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
			A779A	KIT HS35A/B1024-NV		Shaft Mount, 5-26 VDC, with 10 pin connector/mate (REPLACES BEI A779)		
		2048	A739	KIT HS35A2048-NV	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
			A780A	KIT HS35A/B2048-NV		Shaft Mount, 5-26 VDC, with 10 pin connector/mate (REPLACES BEI A780)		
	Avtron HS35M	1024	A742	KIT HS35M1024	4	Shaft Mount, 5-24 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
	Avtron HS45	1024	A753	KIT HS451024-NV	10	Shaft Mount, 5-24 VDC, with EPIC connector/mate	10 pin EPIC/mate	
	Avtron AV56	512	A713	KIT AV56512-NV	5	Modular Mount, 5-24 VDC, with EPIC connector/mate, Double C-Face	10 pin EPIC/mate	√
		1024	A793	KIT AV561024-NV		Modular Mount, 5-24 VDC, with EPIC connector/mate, Double C-Face	10 pin EPIC/mate	
	Dynapar®* HS20	1024	A687	KIT HS201024-NV	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
	Dynapar HS35R	1024	A772	KIT HS351024-NV	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
		2048	A776	KIT HS352048-NV			10 pin MS/mate	√
	NorthStar®* HSD35	1024	A711	KIT HSD351024-NV	4	Shaft Mount, 5-26 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
	NorthStar ST56	512	A785	KIT LKSR512	5	Modular Mount, 5-15 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
		1024	A763	KIT LKSR02		Modular Mount, 5-15 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
		1024	A786	KIT LKSR-CFACE		Modular Mount, 5-15 VDC, with EPIC connector/mate, Double C-Face	10 pin EPIC/mate	√
182-449	Avtron HS35X	1024	A1018	KIT HS35X1024	4	Avtron HS35X 1024PPR FC/NV	10 pin MS/mate	√
		2048	A1020	KIT HS35X2048		Avtron HS35X 2048PPR FC/NV		
	Avtron HS35A	1024	A737	KIT HS35A1024-FC	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
			A783A	KIT HS35A/B1024-FC		Shaft Mount, 5-26 VDC, with 10 pin connector/mate (REPLACE BEI A783)		
		2048	A740	KIT HS35A2048-FC		Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
			A784A	KIT HS35A/B2048-FC		Shaft Mount, 5-26 VDC, with 10 pin connector/mate (REPLACE BEI A784)		
	Avtron HS35M	1024	A742	KIT HS35M1024	4	Shaft Mount, 5-24 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
		2048	A744	KIT HS35M2048		Shaft Mount, 5-24 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
	Avtron HS45	1024	A754	KIT HS451024-FC	10	Shaft Mount, 5-24 VDC, with EPIC connector/mate	10 pin EPIC/mate	
	Dynapar HS35R	1024	A774	KIT HS351024-FC	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	10 pin MS/mate	√
		2048	A777	KIT HS352048-FC			10 pin MS/mate	
	NorthStar HSD35	1024	A712	KIT HSD351024-FC	4	Shaft Mount,5-26 VDC, with EPIC connector/mate	10 pin EPIC/mate	√
284-449	Avtron HS35X	1024	A1019	KIT HS35X1024-BC	4	Avtron HS35X 1024PPR BC	10 pin MS/mate	
		2048	A1021	KIT HS35X2048-BC		Avtron HS35X 2048PPR BC		√
	Avtron HS35A	1024	A738	KIT HS35A1024-BC	3	Shaft Mount, 5-26 VDC	10 pin MS/mate	
	Avtron AV56	1024	A794	KIT AV561024-BC	4	Shaft Mount, 5-24 VDC	10 pin EPIC/mate	√
	Dynapar HS35R	1024	A775	KIT HS351024-BC	3	Shaft Mount, 5-26 VDC	10 pin MS/mate	
		2048	A778	KIT HS352048-BC		Shaft Mount, 5-26 VDC	10 pin MS/mate	√
	NorthStar ST56	1024	A764	KIT LKSR03	5	Modular Mount, 5-15 VDC	10 pin EPIC/mate	
	ALL		A801	KIT ENCBOX	2	Encoder Conduit Box (required for all TEBC encoders)	N/A	√
182-256	Avtron AV56	1024	A749A	KIT AV561024BRK-182	4	Fits Blue Max Brakemotors (Y988)	10 pin EPIC/mate	√
	Avtron AV85		A750A	KIT AV851024BRK-184	8	Fits Blue Max Brakemotors (Y989)	10 pin EPIC/mate	√
			A751A	KIT AV851024BRK-210		Fits Blue Max Brakemotors (Y990, Y991)	10 pin EPIC/mate	√
			A752A	KIT AV851024BRK-250		Fits Blue Max Brakemotors (Y992, Y993)	10 pin EPIC/mate	√
	NorthStar ST56		A786	KIT LKSR-CFACE	5	Fits Blue Max Brakemotors (Y986, Y987)	10 pin EPIC/mate	√
			A789A	KIT ST561024-182NV		Fits Blue Max Brakemotors (Y988)	10 pin EPIC/mate	√
	NorthStar ST85		A790A	KIT ST851024-184NV	8	Fits Blue Max Brakemotors (Y989)	10 pin EPIC/mate	√
			A791A	KIT ST851024-210NV		Fits Blue Max Brakemotors (Y990, Y991)	10 pin EPIC/mate	
			A792A	KIT ST851024-250NV		Fits Blue Max Brakemotors (Y992, Y993)	10 pin EPIC/mate	√
N/A	N/A	N/A	A688-10	KIT A688-10	3	10' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	√
			A688-20	KIT A688-20	3	20' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	
			A688-25	KIT A688-25	4	25' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	
			A688-30	KIT A688-30	4	30' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	√
			A688-50	KIT A688-50	5	50' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	√
			A688-60	KIT A688-60	5	60' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	√
			A688-100	KIT A688-100	10	100' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	10 pin MS mate	√
			A690-15	KIT A690-15	3	15 feet bulk cable, no connectors	N/A	√

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

ACCESSORY KITS

TRANSITION BASES

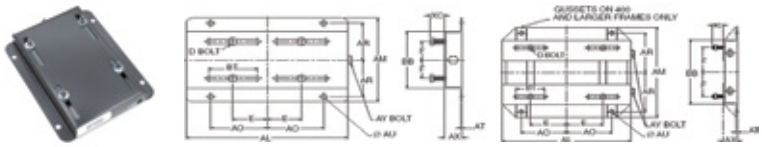
Convert "T" frame ratings to "U" frame based dimensions and shaft heights. Shaft dimensions may vary from actual "U" frame specifications.

Dimensions = Inches

CAT. NO.	KIT NO.	STOCK	CONVERTS		A	B	HGT	C	D	E	F	G	H	J	K	L	M	N (THREAD)	WT.
			FROM	TO															
1814T	KIT 180U	√	143/5T	182/4	2 1/4	7 1/2	1	4	5	4 1/2	5 1/2	1/2	3 3/4	1	7/16	1/2	1	5/16-8	2
2118T	KIT 210U	√	182/4T	213/5	1 3/4	9 1/2	3/4	4 1/2	5 1/2	5 1/2	7	1	4 1/4	1	7/16	7/16	1/2	3/8-16	3
25U21T	KIT 250U	√	213/5T	254/6U	2 7/16	12 3/4	1	5 1/2	7	8 1/4	10	1 1/8	5	1	9/16	5/8	3/4	3/8-16	5
28U25T	KIT 280U	√	254/6T	284/6U	2 3/4	14 1/4	3/4	8 1/4	10	9 1/2	11	1 3/8	5 1/2	1 1/4	9/16	15/16	1/2	1/2-13	8
32U28T	KIT 320U	√	284/6T	324/6U	3 1/4	15 3/4	1	9 1/2	11	10 1/2	12	1 1/2	6 1/4	1 1/2	11/16	15/16	3/4	1/2-13	10
36U32T	KIT 360U	√	324/6T	364/5U	3 11/16	16 1/2	1	10 1/2	12	11 1/4	12 1/4	1 3/4	7	1 3/4	11/16	1 3/16	3/4	5/8-11	13
40U36T	KIT 400U	√	364/5T	404/5U	4 1/4	18 5/8	1	11 1/4	12 1/4	12 1/4	13 3/4	2	8	2	13/16	1 1/4	1	5/8-11	22
44U40T	KIT 440U	√	404/5T	444/5U	4 1/4	21 5/8	1	12 1/4	13 3/4	14 1/2	16 1/2	2 1/4	9	2	13/16	1 1/4	1	3/4-10	24

ADJUSTABLE MOTOR BASES (SLIDE BASES)

Used to adjust tension during motor installation. Made with heavy duty steel construction with single screw adjustment for 143T-215T Frame and double screw adjustment for 254T Frame and larger.



SERIES	FRAME	CAT. NO.	KIT NO.	STOCK	AL	AM	AX	BB	E	F	AO	AR	AU	BT	AT	XC	D BOLT	AY BOLT	WT.
F	182	182A	KIT 182SB	√	12 3/4	9 1/2	1 1/2	6 1/2	3 3/4	2 1/4	4 1/2	4 1/4	1 /2	3	0.134	1 1/2	3/8x1 3/4	1/2x6	9
G	182	182B2	41018202		12 3/4	9 1/2	1 1/2	6 1/2	3 3/4	2 1/4	4 1/2	4 1/4	1 /2	3	0.134	1 1/2	3/8x1 3/4	1/2x6	9
F	184	184A	KIT 184SB	√	12 3/4	10 1/2	1 1/2	7 1/2	3 3/4	2 3/4	4 1/2	4 3/4	1/2	3	0.134	1 1/2	3/8s 1 3/4	1/2x6	9
G	184	184B2	41018402		12 3/4	10 1/2	1 1/2	7 1/2	3 3/4	2 3/4	4 1/2	4 3/4	1/2	3	0.134	1 1/2	3/8s 1 3/4	1/2x6	9
F	213	213A	KIT 213SB	√	15	11	1 3/4	7 1/2	4 1/4	2 3/4	5 1/4	4 3/4	1/2	3 1/2	0.164	1 1/2	3/8x1 3/4	1/2x6	13
G	213	213B2	41021302		15	11	1 3/4	7 1/2	4 1/4	2 3/4	5 1/4	4 3/4	1/2	3 1/2	0.164	1 1/2	3/8x1 3/4	1/2x6	13
F	215	215A	KIT 215SB	√	15	12 1/2	1 3/4	9	4 1/4	3 1/2	5 1/4	5 1/2	1/2	3 1/2	0.164	1 1/2	3/8x1 3/4	1/2x6	15
G	215	215B2	41021502		15	12 1/2	1 3/4	9	4 1/4	3 1/2	5 1/4	5 1/2	1/2	3 1/2	0.164	1 1/2	3/8x1 3/4	1/2x6	15
G	254	254B2	KIT 254SB	√	17 3/4	15 1/8	2	10 3/4	5	4 1/8	6 1/4	6 5/8	5/8	4	3/16	1 7/16	1 /2x1 3/4	5/8x6	17
G	256	256B2	KIT 256SB	√	17 3/4	16 7/8	2	12 1/2	5	5	6 1/4	7 1/2	5/8	4	3/16	1 7/16	1 /2x1 3/4	5/8x6	18
G	284	284B2	KIT 284SB	√	19 3/4	16 7/8	2	12 1/2	5 1/2	4 3/4	7	7 1/2	5/8	4 1/2	3/16	2 1/2	1/2x2	5/8x6	21
G	286	286B2	KIT 286SB	√	19 3/4	18 3/8	2	14	5 1/2	5 1/2	7	8 1/4	5/8	4 1/2	3/16	2 1/2	1/2x2	5/8x6	22
G	324	324B2	KIT 324SB	√	22 3/4	19 1/4	2 1/2	14	6 1/4	5 1/4	8	8 1/2	3/4	5 1/4	3/16	2 3/16	5/8x2 1/2	3/4x9	31
G	326	326B2	KIT 326SB	√	22 3/4	20 3/4	2 1/2	15 1/2	6 1/4	6	8	9 1/4	3/4	5 1/4	3/16	2 3/16	5/8x2 1/2	3/4x9	32
G	364	364B2	KIT 364SB	√	25 1/2	20 1/2	2 1/2	15 1/2	7	5 5/8	9	9 1/8	3/4	6	1/4	2 1/16	5/8x2 1/2	3/4x9	44
G	365	365B2	KIT 365SB	√	25 1/2	21 1/2	2 1/2	16 1/2	7	6 1/8	9	9 5/8	3/4	6	1/4	2 1/16	5/8x2 1/2	3/4 x9	45
H	404	404B2	KIT 404SB	√	28 3/4	22 3/8	3	16 1/2	8	6 1/8	10	9 7/8	7/8	7	1/4	2 1/2	3/4x3	3/4x11	60
H	405	405B2	KIT 405SB	√	28 3/4	23 7/8	3	18	8	6 7/8	10	10 5/8	7/8	7	1/4	2 1/2	3/4x3	3/4x11	61
H	444	444B2	KIT 444SB	√	31 1/4	24 5/8	3	19 1/4	9	7 1/4	11	11	7/8	7 1/2	1/4	2 1/2	3/4x3	3/4x11	67
H	445	445B2	KIT 445SB	√	31 1/4	26 5/8	3	21 1/4	9	8 1/4	11	12	7/8	7 1/2	1/4	2 1/2	3/4x3	3/4x11	69
H	447	447B2	KIT 447SB	√	31 1/4	30 1/8	3	24 3/4	9	10	11	13 3/4	7/8	7 1/2	5/16	3	3/4x3 1/2	3/4x11	92
H	449	449B2	KIT 449SB	√	31 1/4	35 1/8	3	29 3/4	9	12 1/2	11	16 1/4	7/8	7 1/2	5/16	3	3/4x3 1/2	3/4x11	95

√: Available ¶- Stocked components, Ready to build Blank: Build Up rating, subject to lead time

*See back cover page for attribution.

FOOTNOTES

1	Capacitor start/capacitor run design for reduced amperage
2	Capacitor start induction run design
4	Sleeve bearing
6	Bolt-on removable base for footless mounting option
12	With rigid base
13	F1 Mounting only, cannot reassemble to F2
14	Will accept flange kit, see accessory section
15	Fixed CW rotation, viewing opposite shaft (or lead end) of motor
16	Fixed CCW rotation, viewing opposite shaft (or lead end) of motor
17	1.0 service factor
18	1.15 service factor
19	1.25 service factor
24	Motor will NOT accept a brake kit
25	Motor will NOT accept C-face kit
27	Drip cover included
29	End bracket weep holes with removable plugs, remove bottom plug after installation
40	Space heaters and 100 ohm platinum stator RTDs included
45	60° C ambient
46	65° C ambient
47	Connected for CCW rotation (U.S. standard) facing opposite shaft end. Reversible by reconnection of leads
48	Connected for CW rotation (Canadian standard) facing opposite shaft end. Reversible by reconnection of leads
50	Designed for 50 Hz operation
54	30 minute duty cycle, not rated for continuous duty
57	Open construction
58	Capacitor supplied with motor
59	TEAO construction
60	Foot locating set screws on frame, 90° apart
68	Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower
69	50°C Ambient
70	Not nameplated 50 hz
72	Usable on 200/208 volts at 1.0 service factor
75	C-Face addition may result in non-NEMA "BA" dim. For new "BA" dim consult chart found in modification section
76	C-Face addition results in non-NEMA "AH" dim (+1.2" than NEMA).
77	Frame is drilled with 3 sets of footholes, 5010, 5011, and 5012 as standard. 5009 frame drilling available as build-up
78	Frame is drilled with two sets of footholes, 5012 and 5013 standard
79	Ball bearings on both ends suitable for direct connection. For belted applications, refer to customer service
82	Welded rigid base
85	Not tach adaptable
89	Threaded NPT opening in conduit box
90	Not UL Recognized
91	Suitable for use on VFD at 208 volt
95	Will not accept drip cover kit
97	D-Flange addition results in non-NEMA® "BA" dim (+1/2" than NEMA) & non-NEMA shaft ext (-1/2" than NEMA).
98	Not UL Listed for fire pump applications
99	Suitable for 2:1 CT operation
126	1.0 service factor at 50 HZ
132	184T base, 4.5" shaft height

143	303 stainless steel shaft
144	Open dripproof
2:1	Suitable for 2:1 CT operation; consult MOD section for fan change pricing to upgrade to 10:1 CT
A	NEMA® design A
B	NEMA design B
C	NEMA design C
d	Will become build-up item when current stock is gone
F	Class F Insulation
H	Class H insulation
I	Reduced HP @ 120 HZ
N	Totally enclosed, non-ventilated
P	BCP (Bearing Current Protection)
S	Steel frame construction
V	Suitable for 10:1 CT 60 minute duty, otherwise 2:1 CT
X	XRI® motor, ultra high efficiency design
AH	Conforms to GM 7EH and satisfies Ford® EM-1 and GM 7EQ
AL	Aluminum frame construction
AQ	Conforms to GM 7EQ and satisfies Fiat Chrysler® NPEM-100, and Ford EM-1
BI	Class B insulation
BP	Separate power supply required for blower motor
CD	Suitable for Group C
CF	Consult factory for accessory kit and/or modification selection
CFT	CFace Rigid Footed
CFL	CFace Footless
CT	Suitable for 20:1 CT on vector drive, continuous duty or 2000:1
F2	F2 conduit box location
FT	Rigid Base (Footed)
NE	Exempt from NEMA Premium® efficiency requirement
NP	Does not meet NEMA Premium efficiency
NS	Single shielded ball bearings
PW	Part winding start capability
RB	Roller bearing on shaft end for belted load only
SH	Space heaters
SL	Sound level exceeds standard
TS	Normally closed thermostats installed
VB	Vibration not met
YD	12 Leads for WYE-DELTA, part winding on low voltage, or across- the-line starting

*See back cover page for attribution.

WARNINGS AND CAUTIONS - ELECTRICAL

SAFETY

Safety is emphasized throughout this catalog. These are safety alert symbols and signal words. They alert the user to potential personal injury hazards. Obey all safety messages to avoid possible injury, death, or damage to equipment and other property.

⚠ WARNING WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. Failure to follow the instructions and precautions listed below could result in personal injury or damage to equipment.

⚠ CAUTION CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. Failure to follow the instructions and precautions listed below could result in personal injury or damage to equipment.

IMPORTANT INFORMATION. PLEASE READ CAREFULLY.

This catalog is not intended to provide operational instructions. Appropriate instructions provided with the motor and precautions attached to the motor should be read carefully prior to installation, operation and/or maintenance of the equipment. Injury to personnel or motor failure may be caused by improper installation, maintenance or operation.

The following **WARNING** and **CAUTION** information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your Marathon® product:

WARNING!

- Disconnect power and lock out driven equipment before working on a motor.
- Keep hands and clothing away from moving parts.
- The lifting support on the motor is not to be used to lift the entire machine. Only the motor attached directly to the support may be safely lifted by the support.
- Install and ground per local and national codes.
- Discharge all capacitors before servicing a Single-phase motor.
- Misapplication of a motor in hazardous environments can cause fire or an explosion and result in serious injury. Only the end user, local authority having jurisdiction, and/or insurance underwriter are qualified to identify the appropriate class(es), group(s), division(s), and temperature code(s) that applies(y) in a hazardous environment. Our personnel cannot evaluate or recommend what motors may be suitable for use in hazardous environments. If a motor is name plated for hazardous locations, do not operate the motor without all of the grease and drain plugs installed.
- Never attempt to measure the temperature rise of a motor by touch. Temperature rise must be measured by thermometer, resistance, embedded detector or thermocouple.
- Motors with automatic reset thermal protectors will automatically restart when the protector temperature drops sufficiently. Do not use motors with automatic reset thermal protectors in applications where automatic restart will be hazardous to personnel or equipment.
- Motors with manual reset thermal protectors may start unexpectedly after the protector trips when the surrounding air is at +20˚ Fahrenheit or lower. If the manual reset protector trips, disconnect motor from its power supply. After the protector cools (five minutes or more), it can be reset and power may be applied to the motor.
- Connect all protective device leads, marked P1, P2, etc., per instructions supplied with the motor.
- Operation of a motor at other than its nameplate rating may result in fire, damage to equipment or serious injury to personnel.
- For safety, buyer or user should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The user is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.

WARNINGS AND CAUTIONS - ELECTRICAL

CAUTION!

- Consult qualified personnel with questions and all electrical repairs must be performed by trained and qualified personnel only.
- For motors nameplated as "belted duty only", do not operate the motor without belts properly installed.
- Motors and/or driven equipment should not be operated faster than their rated speed.
- For inverter applications, follow the inverter manufacturer's installation guidelines.

Make sure the motor is properly secured and aligned before operation.

In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

THE MANUFACTURER MAKES NO WARRANTY OR REPRESENTATIONS, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS SOLD HEREUNDER. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS PURCHASED HEREUNDER WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. IN NO EVENT WILL THE MANUFACTURER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under section 2-719 of the uniform commercial code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document, including the warnings and cautions above, in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product. This information should be read together with all other printed information supplied by Marathon® Motors.

For more information contact: See back cover for the contact details.

WARNINGS AND CAUTIONS - MECHANICAL

⚠ WARNING WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. Failure to follow the instructions and precautions listed below could result in personal injury or damage to equipment.

⚠ CAUTION CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. Failure to follow the instructions and precautions listed below could result in personal injury or damage to equipment.

IMPORTANT INFORMATION. PLEASE READ CAREFULLY.

The following and information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your product:

Read ALL instructions prior to operating reducer. Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

WARNING!

- Written authorization from Marathon is required to operate or use reducers in man lift or people moving devices.
- Check to make certain application does not exceed the allowable load capacities published in the current catalog.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which buyer shall apply the product. The application by buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- For safety, buyer or user should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
- Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
- Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.
- Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
- Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
- Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and no other associated attachments or motors.
- Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
- Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and/or shaft breakage from bending fatigue, if not sized properly.

CAUTION!

- Test run unit to verify operation. If the unit tested is a prototype, that unit must be of current production.
- If the speed reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminants such as water and the reduction in cooling ability due to exterior contaminants.
- Mounting bolts should be routinely checked to ensure that the unit is firmly anchored for proper operation.

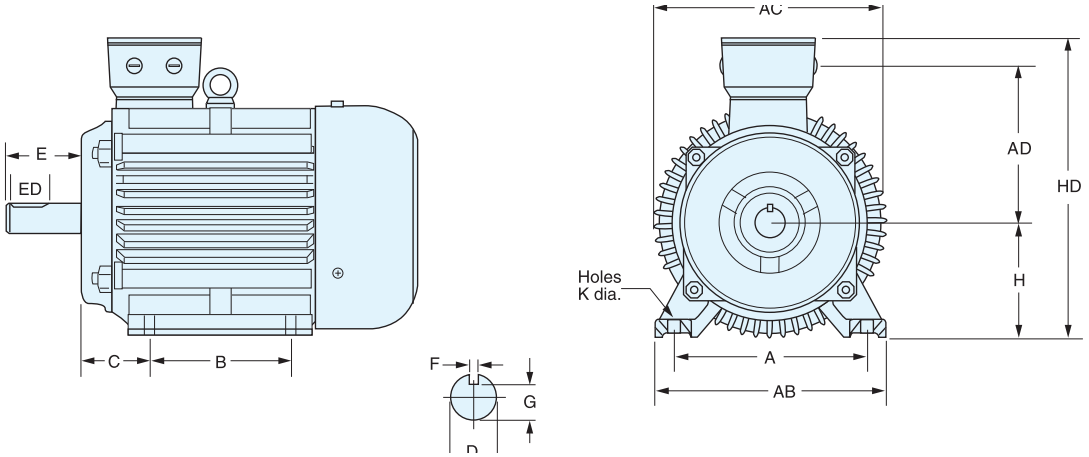
In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

THE MANUFACTURER MAKES NO WARRANTY OR REPRESENTATIONS, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS SOLD HEREUNDER. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS PURCHASED HEREUNDER WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. IN NO EVENT WILL THE MANUFACTURER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under section 2-719 of the uniform commercial code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document, including the warnings and cautions above, in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product. This information should be read together with all other printed information supplied by Marathon.

DIMENSIONAL DRAWINGS

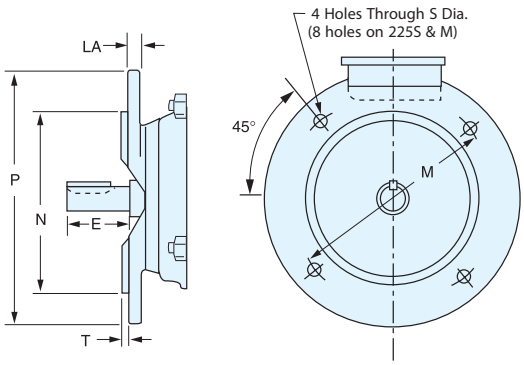
AC METRIC (IEC®*) MOTORS B3 FOOT-MOUNTED



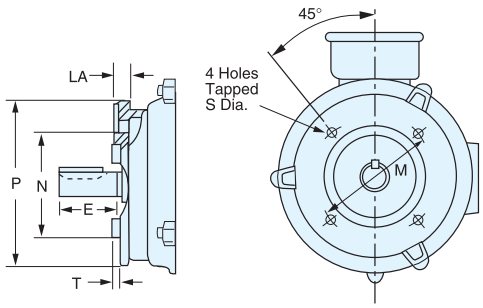
METRIC (IEC) FRAME DIMENSIONS (MILLIMETERS)

	MOUNTING						SHAFT						GENERAL			B5 (FF) FLANGE						B14 (FT) FACE					
FRAME	A	B	C	H	AB	K	D	E	F	G	ED	DH	AC	AD	HD	M	N	P	S	T	LA	M	N	P	S	T	LA
DF100L	160	140	63	100	205	12	28	60	8	24.0	40	M10 x 22	205	130	270	215	180	250	15	4.0	11	130	110	160	M8	3.5	14
DF112M	190	140	70	112	230	12	28	60	8	24.0	40	M10 x 22	240	150	300	215	180	250	15	4.0	12	130	110	160	M8	3.5	11
DF132S	216	140	89	132	270	12	38	80	10	33.0	56	M12 x 28	275	180	345	265	230	300	15	4.0	12	165	130	200	M10	3.5	14
DF132M	216	178	89	132	270	12	38	80	10	33.0	56	M12 x 28	275	180	345	265	230	300	15	4.0	12	165	130	200	M10	3.5	14
DF160M	254	210	108	160	320	15	42	110	12	37.0	80	M16 x 36	330	210	420	300	250	350	19	5.0	13	215	180	250	M12	4.0	13
DF160L	254	254	108	160	320	15	42	110	12	37.0	80	M16 x 36	330	210	420	300	250	350	19	5.0	13	215	180	250	M12	4.0	13
DF180M	279	241	121	180	355	15	48	110	14	42.5	80	M16 x 36	360	236	455	300	250	350	19	5.0	15	–	–	–	–	–	–
DF180L	279	279	121	180	355	15	48	110	14	42.5	80	M16 x 36	360	236	455	300	250	350	19	5.0	15	–	–	–	–	–	–
DF200L	318	305	133	200	395	19	55	110	16	49.0	100	M20 x 42	420	260	505	350	300	400	19	5.0	18	–	–	–	–	–	–
DF225S	356	286	149	225	435	19	55♦/60	110♦/140	16♦/18	49♦/53	100♦/125	M20 x 42	450	275	580	400	350	450	19	5.0	18	–	–	–	–	–	–
DF225M	356	311	149	225	435	19	55♦/60	110♦/140	16♦/18	49♦/53	100♦/125	M20 x 42	450	275	580	400	350	450	19	5.0	18	–	–	–	–	–	–
DF250M	406	349	168	250		24	60♦/65	140♦/140	18♦/18	53♦/58	125♦/125	M20 x 42	508	300	625	–	–	–	–	–	–	–	–	–	–	–	–

♦ 2 Pole Dimensions
For overall length dimensions for our IEC motors, please refer to our IEC motor section of this catalog.
Frames DF100L through DF132M, conduit box is located in the center of the frame.



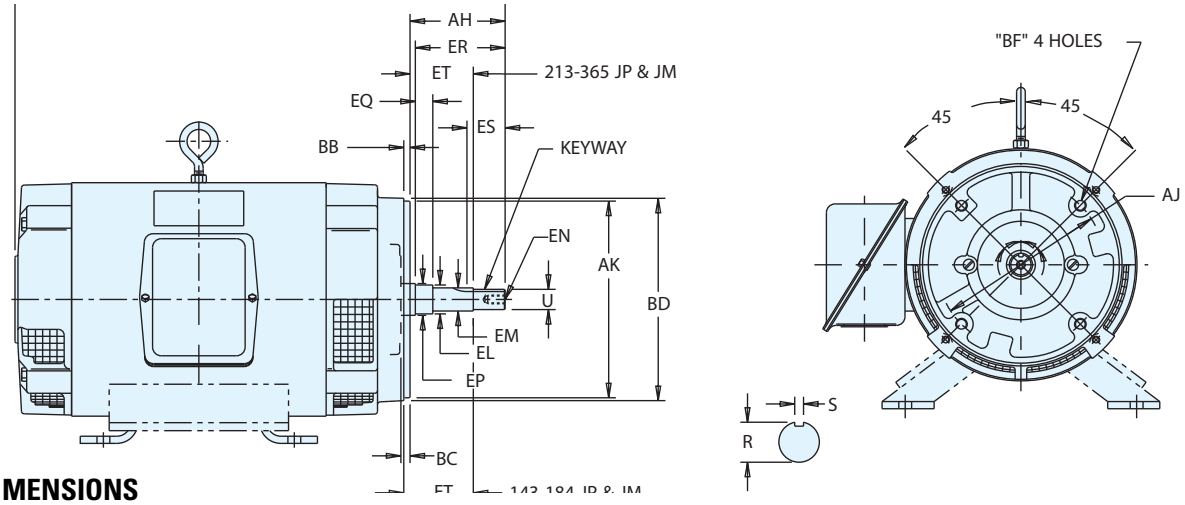
B5 FLANGE



B14 FLANGE

DIMENSIONAL DRAWINGS

DEFINITE PURPOSE - CLOSE COUPLED PUMP MOTORS



TYPE JM DIMENSIONS

FRAME	U	AH	AJ	AK	BB	BD Max.	BF No.	BF Tap Size	BF Bolt Pen. Allow.	EL	EM	Tap Size	EN Tap Drill Depth Max.	EN Bolt Pen. Allow.	EP Min.	EQ	ER Min.	Keyseat R	ES Min.	S	ET
182	0.8745	4.13	5.89	4.500	0.16	6.62	4	3/8-16	0.56	1.250	1.0000	3/8-16	1.12	0.75	1.250	0.640	4.25	0.771	1.65	0.190	2.890
184JM	0.8740	4.09	5.86	4.497	0.125					1.248	0.9995					0.610		0.756		0.188	2.860
213	0.8750	4.25	7.265	8.500	0.312	9.00	4	1/2-13	0.75	1.250	1.0000	3/8-16	1.12	0.75	1.750	0.640	4.25	0.771	1.65	0.190	2.890
215JM	0.8745		7.235	8.497	0.250					1.248	0.9995					0.610		0.756		0.188	2.860
254	1.2495	5.25	7.250	8.500	0.312	10.00	4	1/2-13	0.75	1.750	1.3750	1/2-13	1.50	1.00	1.750	0.640	5.25	1.112	2.53	0.252	3.015
256JM	1.2490			8.497	0.250					1.748	1.3745					0.610		1.097		0.250	2.985
284	1.2495	5.281	11.00	12.500	0.312	14.00	4	5/8-11	0.94	1.750	1.3750	1/2-13	1.50	1.00	2.125	0.645	5.25	1.112	2.53	0.252	3.020
286JM	1.2490	5.219		12.495	0.250					1.748	1.3745					0.605		1.097		0.250	2.980
324	1.2495	5.281	11.00	12.500	0.312	14.00	4	5/8-11	0.94	1.750	1.3750	1/2-13	1.50	1.00	2.125	0.645	5.25	1.112	2.53	0.252	3.020
326JM	1.2490	5.219		12.495	0.250					1.478	1.3745					0.605		1.097		0.250	2.980

TYPE JP DIMENSIONS

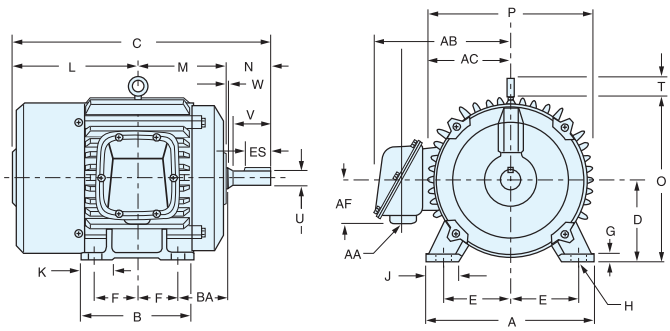
FRAME	U	AH	AJ	AK	BB	BD Max.	BF No.	BF Tap Size	BF Bolt Pen. Allow.	EL	EM	Tap Size	EN Tap Drill Depth Max.	EN Bolt Pen. Allow.	EP Min.	EQ	ER Min.	Keyseat R	ES Min.	S	ET
182	0.8745	7.21	5.890	4.500	0.156	6.62	4	3/8-16	0.56	1.250	1.0000	3/8-16	1.12	0.75	1.250	1.578	7.312	0.771	1.65	0.190	5.952
184JP	0.8740	7.15	5.860	4.497	0.100					1.248	0.9995					1.548		0.756		0.188	5.922
213	1.2495	8.12	7.250	8.500	0.312	9.00	4	1/2-13	0.75	1.750	1.3750	1/2-13	1.50	1.00	1.750	2.390	8.125	1.112	2.53	0.252	5.890
215JP	1.2490			8.497	0.250					1.748	1.3745					2.360		1.097		0.250	5.860
254	1.2495	8.156	7.250	8.500	0.312	10.00	4	1/2-13	0.75	1.750	1.3750	1/2-13	1.50	1.00	1.750	2.390	8.125	1.112	2.53	0.252	5.890
256JP	1.2490	8.094		8.497	0.250					1.748	1.3745					2.360		1.097		0.250	5.855
284	1.2495	8.156	11.00	12.500	0.312	14.00	4	5/8-11	0.94	1.750	1.3750	1/2-13	1.50	1.00	2.125	2.390	8.125	1.112	2.53	0.252	5.895
286JP	1.2490	8.094		12.495	0.250					1.748	1.3745					2.360		1.097		0.250	5.860
324JP	1.2495	8.12	11.00	12.500	0.312	14.00	4	5/8-11	0.94	1.750	1.3750	1/2-13	1.50	1.00	2.125	2.395	8.125	1.112	2.53	0.252	5.895
326JP	1.2490			12.495	0.250					1.748	1.3745					2.355		1.097		0.250	5.855
364JP	1.6245	8.12	11.00	12.500	0.312	14.00	4	5/8-11	0.94	2.125	1.7500	1/2-13	1.50	1.00	2.500	2.395	8.125	1.416	2.53	0.377	5.895
365JP	1.6240			12.495	0.250					2.13	1.7495					2.355		1.401		0.375	5.855

All dimensions are measured in inches. For "C" dimensions, refer to the appropriate catalog page. Certified drawings are available upon request, contact Marathon Electric for details.

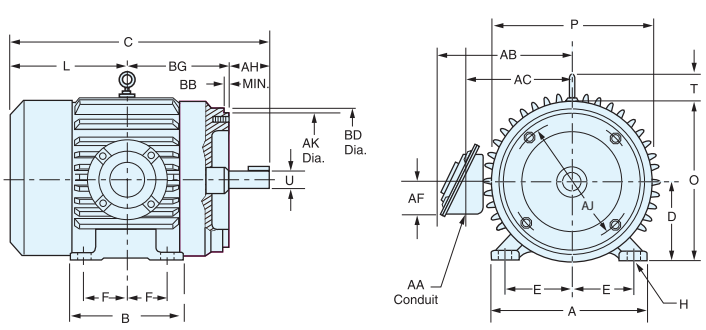
DIMENSIONAL DRAWINGS

NEMA®* EXPLOSION PROOF - 158 SERIES

RIGID MOUNT 158 SERIES



C FACE 158 SERIES



NEMA EXPLOSION-PROOF, 158 SERIES, RIGID MOUNT DIMENSIONS (INCHES)

FRAME	A	B	D	E	F	G	H	J	K	L	M	N	O	P	T	U	V	N-W	ES	AA	AB	AC	AF	BA	KEY
182T	9	6	4 1/2	3 ¾	2 1/4	7/16	7/16	1 3/4	1 ⅞	6 13/16	4 15/16	2 13/16	9 ⅛	9 1/4	–	1.125	2 ½	2 ¾	1 ⅞	¾	7 13/16	6 9/16	3 ⅛	2 ¾	
184T		7			2 ¾					7 5/16	5 7/16	2 15/16													
213T	10 1/2	7	5 ¼	4 1/4	2 ¾	7/16	7/16	2	1 ⅞	8 ⅛	6 3/16	3 7/16	10 ½	10 ½	2 5/16	1.375	3 ⅛	3 ¼	2 7/16	1	9 ¼	7 ⅝	3 ½	3 ½	5/16
215T		8 1/2			3 ½					8 ⅞	6 15/16														
254T	12 1/2	10 1/4	6 ¼	5	4 ⅛	⅝	9/16	2 1/2	2 ⅝	10 ⅜	8 5/16	4 1/16	12 ½	12 1/2	2 5/16	1.625	3 ¾	3 ⅞	2 15/16	1 ¼	10 ¼	8 ⅞	3 ⅞	4 ¼	
256T		12			5					11 ¼	9 3/16														
284T	13 3/4	11 ½	7	5 1/2	4 ¾	⅝	9/16	2 1/2	2 ¾	11 13/16	9 7/16	41 1/16	14	14	2 7/16	1.875	4 ⅜	4 ½	3 ¼	1 ½	12 ⅛	10	4 7/16	4 ¾	½
284TS												3 5/16				1.625	3	3 ⅛	1 15/16						⅜
286T		13			5 ½					12 9/16	10 3/16	4 11/16				1.875	4 ⅜	4 ½	3 ¼						½
286TS												3 5/16				1.625	3	3 ⅛	1 15/16						⅜
324T	15 1/2	13 ¼	8	6 ¼	5 ¼	⅝	11/16	2 ¾	3 ⅛	13 3/16	10 7/16	5 5/16	16	16	2 ⅝	2.125	5	5 ⅛	4	2	14 ⅜	11 ¾	5 ⅜	5 ¼	
324TS												3 13/16				1.875	3 ½	3 ⅝	2						
326T		14 ¾			6					13 15/16	11 3/16	5 5/16				2.125	5	5 ⅛	3						
326TS												3 13/16				1.875	3 ½	3 ⅝	2 1/16						
364T	17	15	9	7	5 ⅝	⅞	11/16	2 ¾	3 ⅞	16 1/16	11 ⅜	6	18 ½	19	12 ⅞	2.375	5 ⅝	5 ¾	4 ½	3	16 1/16	13 5/16	6 ⅞	5 ⅞	⅝
364TS												3 ⅞				1.875	3 ½	3 ⅝	2 1/16						½
365T					6 ⅛					15 9/16	11 ⅞	6				2.375	5 ⅝	5 ¾	4 ½						⅝
365TS								3 ¾				3 ⅞				1.875	3 ½	3 ⅝	2 1/16						½
405T	19	16	10	8	6 ⅞	1 ⅛	13/16	3 1/4	3 1/4	17 9/16	13 ⅛	7 ⅝	21 5/16	22 5/16	2 15/16	2.875	7	7 ⅛	5 11/16	4	16 ⅜	13 ¼	7 ½	6 ⅝	¾
405T												4 ⅝				2.125	4	4 ⅛	2 ⅞						½

NEMA EXPLOSION-PROOF, 158 SERIES, C FACE DIMENSIONS (INCHES)

FRAME	A	B	D	E	F	H	L	D	P	T	U	V	AH	AJ		BB	AK	BD	BG	AA	AB	AC	AF	KEYWAY
														DIA.	BARR.									
182T	9	6	4 1/2	3 ¾	2 1/4	7/16	6 ⅝	9 1/4	9 ⅛	–	1.125	2 ½	2 ⅝	7 1/4	4	9/32	8.500	8 ¾	5 ⅞	¾	9 ⅜	7 ⅛	2 ½	¼
184T		7			2 ¾		7 ⅛												6 ⅜					

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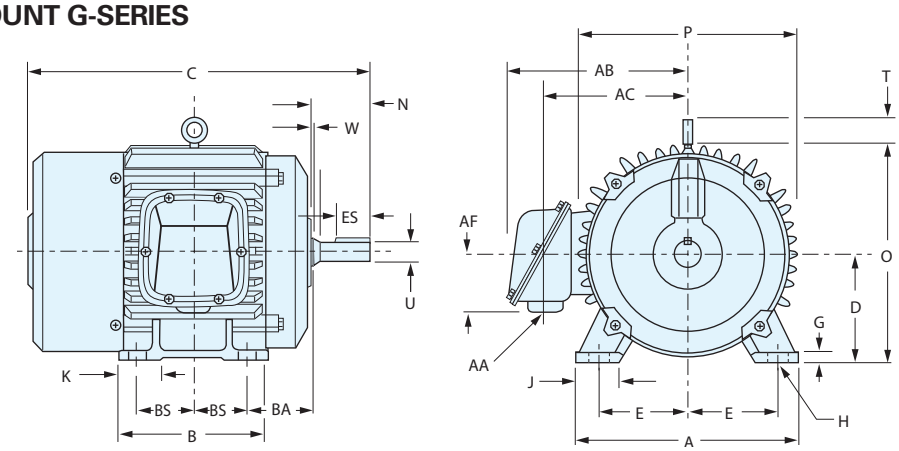
The overall length or "C" dimension for each catalog item is included in this catalog.
Certified drawings of all ratings are available for construction purposes.

DIMENSIONAL DRAWINGS

NEMA®* EXPLOSION PROOF

RIGID MOUNT G-SERIES



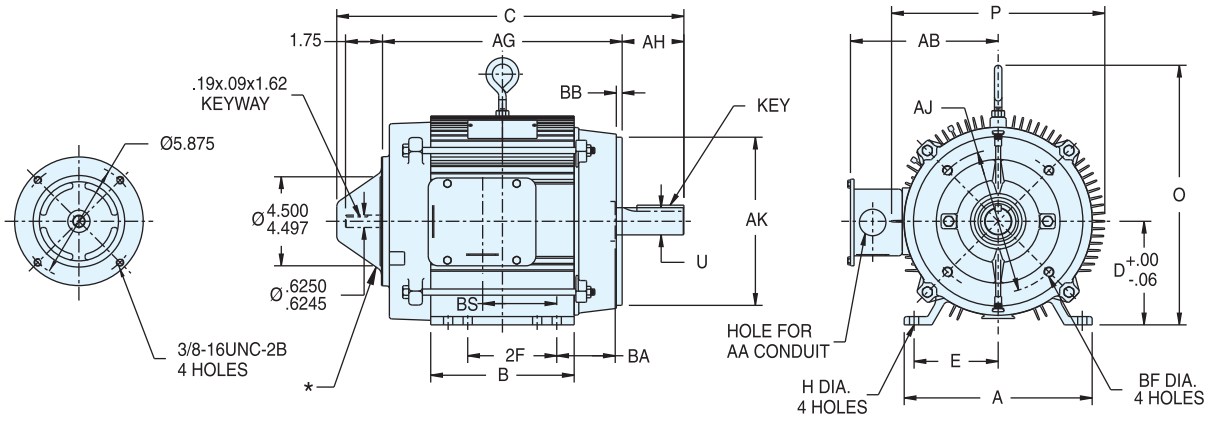
NEMA EXPLOSION-PROOF, RIGID MOUNT DIMENSIONS (INCHES)

FRAME	A	B	D	E	2F ♦	G	H	J	K	N	O	P	T	U	N-W	ES	AA	AB	AC	AF	BA	BS	KEY	C Dim
182T	8.88	7.75	—	3.75	6.75	0.45	0.41-0.46	1.56	—	2.78	9.36	9.76	2.62	1.125	2.75	1.75	0.75	9.73	7.13	—	2.75	3.37	0.25	17.12
184T																								
213T	10.38	8.50	5.19	4.25	7.00	0.60	0.44	1.87	—	3.41	10.60	11.50	2.62	1.375	3.38	2.38	0.75	10.94	8.32	2.55	3.50	3.50	0.31	20.18
215T			5.25																					
254T	12.12	10.25	6.19	5.00	8.25	0.55	0.53-0.58	2.08	—	4.19	14.07	14.12	—	1.625	4.00	2.88	1.25	13.67	10.65	3.12	4.25	4.12	0.38	23.52
256T			6.25		10.00																	5.00		25.27
284T	13.00	11.50	6.94	5.50	9.50	0.88	0.53-0.58	2.50	2.50	4.81	14.74	15.50	3.25	1.875	4.62	3.25	1.50	15.33	11.44	5.38	4.75	4.75	0.50	26.30
284TS										3.44				1.625		1.88							0.38	24.94
286T		13.00	7.00		11.00					4.81				1.875		3.25						5.50	0.50	27.80
286TS										3.44				1.625		1.88							0.38	26.44
324T	15.75	13.00	7.94	6.25	10.50	0.86	0.66-0.71	3.50	—	5.50	17.10	16.00	3.25	2.125	5.25	3.88	2.00	16.50	12.64	5.38	5.25	5.25	0.50	28.87
324TS										4.00				1.875	3.75	2.00								27.37
326T		14.50	8.00		12.00					5.50				2.125	5.25	3.88						6.00	0.50	30.37
326TS										4.00				1.875	3.75	2.00								28.87
364T	17.75	13.25	8.94	7.00	11.25	1.12	0.66-0.71	4.00	3.25	6.12	19.00	20.00	3.62	2.375	5.88	4.24	2.50	19.75	14.50	5.38	5.88	5.62	0.62	31.50
364TS										4.00				1.875	3.75									29.38
365T		14.25	9.00		12.25					6.12				2.375	5.88							6.12		32.50
365TS										4.00				1.875	3.75									30.38
405T	19.25	16.25	—	8.00	13.75	1.12	0.81-0.86	4.25	3.75	7.50	20.87	21.75	3.62	2.875	7.25	5.62	2.50	21.50	16.38	5.38	6.62	6.88	0.75	37.12
405TS										4.50				2.125	4.25	2.75							0.50	34.12
444T	21.50	18.00	10.94	9.00	14.50	1.25	0.81-0.86	3.75	4.50	8.75	23.12	24.25	3.62	3.375	8.50	6.88	3.00	27.24	20.06	6.18	7.50	8.25	0.88	43.19
444TS										5.00				2.375	4.75	3.00							0.62	39.44
445T		19.75	11.00		16.50	1.22			5.12	8.75	24.11	26.31	2.44	3.375	8.50	6.88						1.78	0.88	51.69
445TS										5.00				2.375	4.75	3.00							0.62	47.97
449T		28.25			25.00	1.25			9.88	8.75	24.19	26.31	0.77	3.375	8.50	6.88		26.09	18.88				0.88	51.69
449TS										5.00				2.375	4.75	3.00							0.62	47.97

♦ 182-4T and 213-5T frames have eight-hole bases. 449T and TS frames have six-hole bases. Others have four-hole bases.

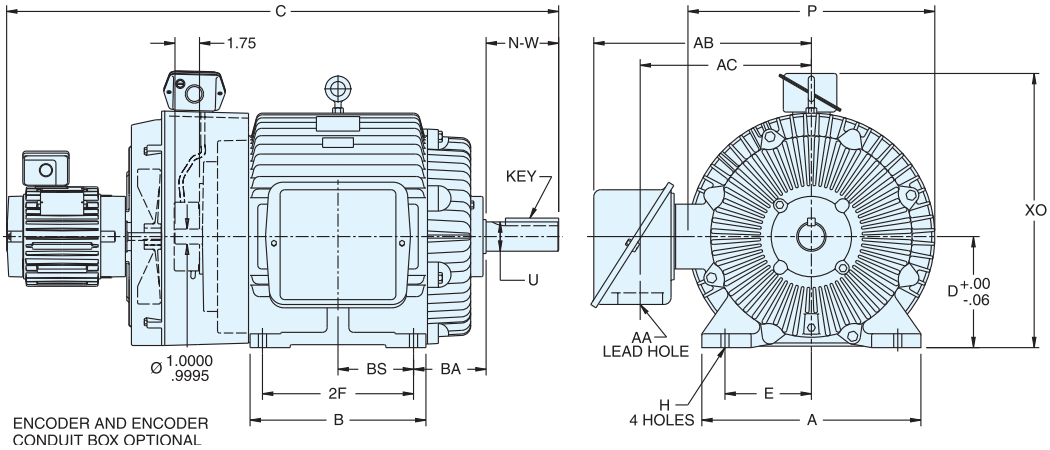
DIMENSIONAL DRAWINGS

BLACKMAX® INVERTER DUTY MOTORS



TENV, C-FACE, RIGID BASE DIMENSIONS (INCHES)

FRAME	D	E	2F	H	O MAX.	P MAX	U	AA	AB MAX	AG MAX	AH	AJ	AK	BA	BB	BF	BS	KEY
182TC	4.50	3.75	4.50	.41	9.36	9.76	1.125	1.09	8.08	11.75	2.62	7.250	8.50	3.50	.27	1/2-13	2.25	.25 x .25 x 1.75
184TC	4.50	3.75	5.50	.41	9.36	9.76	1.125	1.09	8.08	12.75	2.62	7.250	8.50	3.50	.27	1/2-13	2.75	.25 x .25 x 1.75
213TC	5.25	4.25	5.50	.44	10.97	11.50	1.375	1.09	9.31	15.12	3.12	7.250	8.50	4.25	.27	1/2-13	3.50	.31 x .31 x 2.38
215TC	5.25	4.25	7.00	.44	10.97	11.50	1.375	1.09	9.31	17.31	3.12	7.250	8.50	4.25	.27	1/2-13	6.18	.31 x .31 x 2.38
254TC	6.25	5.00	8.25	.53	14.09	14.27	1.625	1.25	9.83	19.06	3.75	7.250	8.50	4.75	.27	1/2-13	6.31	.38 x .38 x 2.88
256TC	6.25	5.00	10.00	.56	14.09	14.27	1.625	1.25	11.08	18.82	3.75	7.250	8.50	4.75	.27	1/2-13	5.00	.38 x .38 x 2.88
284TC	7.00	5.50	9.50	0.56	14.16	14.32	1.875	1.50	12.31	20.57	4.38	9.000	10.50	4.75	0.27	1/2-13	5.50	.50 x .50 x 3.25



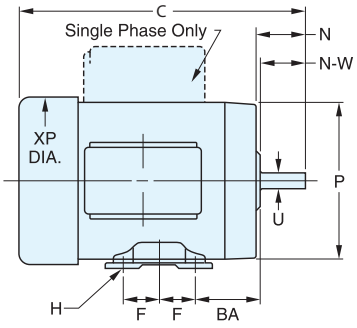
TEBC, TOTALLY ENCLOSED BLOWER COOLED, RIGID BASE DIMENSIONS (INCHES)

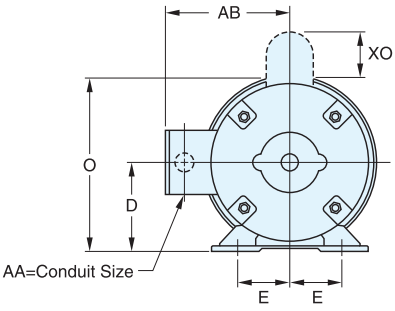
FRAME	D	E	2F	H	O MAX.	P MAX	U	AA	AB MAX	AC MAX	BA	BS	FU	N-W	KEY
324T	8.00	6.25	10.50	0.66	16.00	15.88	2.12	2.00	13.69	10.69	5.25	5.25	1.00	5.25	.50 x .50 x 3.88
326T	8.00	6.25	12.00	0.66	16.00	15.88	2.12	2.00	13.69	10.69	5.25	6.00	1.00	5.25	.50 x .50 x 3.88
364T	9.00	7.00	11.25	0.66	19.00	20.00	2.38	3.62	17.85	14.56	5.88	5.62	1.00	5.88	.62 x .62 x 4.25
365T	9.00	7.00	12.25	0.66	19.00	20.00	2.38	3.62	17.85	14.56	5.88	6.12	1.00	5.88	.62 x .62 x 4.25
404T	10.00	8.00	12.25	0.81	20.88	21.75	2.88	3.62	18.75	14.75	6.62	6.12	1.00	7.25	.75 x .75 x 5.62
405T	10.00	8.00	13.75	0.81	20.88	21.75	2.88	3.62	19.75	16.25	6.62	6.88	1.00	7.25	.75 x .75 x 5.62
444T	11.00	9.00	14.50	0.81	24.19	25.31	3.38	3.62	20.94	17.38	7.50	7.25	1.00	8.50	.88 x .88 x 6.88
445T	11.00	9.00	16.50	0.81	24.19	26.31	3.38	3.62	20.94	17.38	7.50	8.25	1.00	8.50	.88 x .88 x 6.88
449T	11.00	9.00	25.00	0.81	24.22	26.31	3.38	4.62	25.90	19.31	7.50	1.78	1.00	8.50	.88 x .88 x 6.88

DIMENSIONAL DRAWINGS

NEMA®* STEEL FRAME MOTORS

RIGID MOUNT





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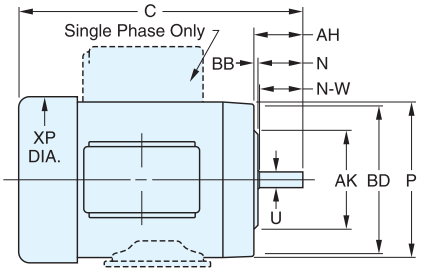
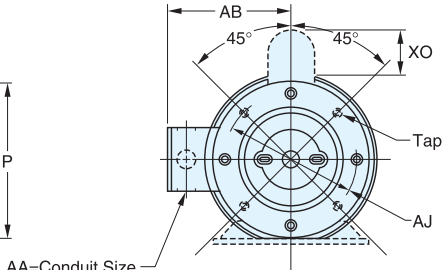
C - FACE





NEMA SHAFT AND KEYWAY DIMENSIONS♦ (INCHES)

NEMA SHAFT (U)	KEYWAY DIMENSIONS		NEMA SHAFT (U)	KEYWAY DIMENSIONS	
	(R)	(S)		(R)	(S)
1 - 1/8	63/64	1/4	2 - 7/8	2 - 29/64	3/4
1 - 3/8	1- 13/64	5/16	3 - 3/8	2 - 7/8	7/8
1 - 5/8	1-13/32	3/8	3 -7/8	3-5/16	1

♦ S is keyway width.
U minus R is keyway depth.

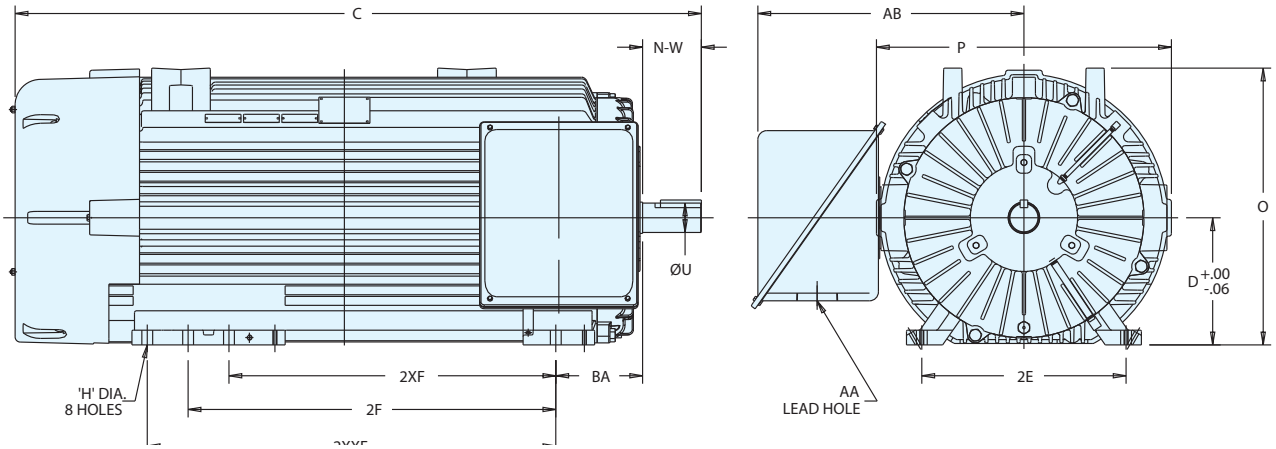
NEMA STEEL FRAME DIMENSIONS (INCHES)

Frame	D	E	F	H	N	O	P	U	N-W	AA	AB	AH	AJ	AK	BA	BB	BD	XO	XP	TAP **	KEY
182T	4 1/2	3 3/4	2 1/4	1 3/32	2 7/8	8 3/4	8 15/32	1 1/8	2 3/4	3/4	6 7/16	2 5/8	7 1/4	8 1/2	▪2 3/4	1/4	8 7/8	2 1/4	9 7/32	1/2 - 13	1/4
184T			2 3/4																		
213T	5 1/4	4 1/4	2 3/4	13/32	—	10 5/8	9 21/32	1 3/8	3 3/8	3/4	7 19/32	3 1/8	7 1/4	8 1/2	▪3 1/2	1/4	8 5/8	2 1/4	10 13/16	1/2 - 13	5/16
215T			3 1/2																		

▪ 143-5TC NEMA C face BA dimension is 2¾". 182-4TC NEMA C face BA dimension is 3½". 213-5TC NEMA C face BA dimension is 4¼".
**326TC and smaller have 4 mounting holes in NEMA C face, 364TC and larger have 8 mounting holes.
Blue shading denotes dimensions established by NEMA standard MG1, others are unique to Marathon, and will vary with each manufacturer.

DIMENSIONAL DRAWINGS

5000 FRAME MOTORS



FRAME	H	BA	2XF	2F	2XXF	N-W	U	AB (MAX.)	P (MAX.)	O (MAX.)	D	2E	AA
5010LS	1.062 1.077	8.50	32.00	—	—	5.75	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5011LS	1.062 1.077	8.50	—	36.00	—	5.75	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5012LS	1.062 1.077	8.50	—	—	40.00	5.75	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5013LS	1.062 1.077	8.50	45.00	—	—	5.75	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5010LX	1.062 1.077	8.50	32.00	—	—	12.00	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5011LX	1.062 1.077	8.50	—	36.00	—	12.00	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5012LX	1.062 1.077	8.50	—	—	40.00	12.00	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5013LX	1.062 1.077	8.50	45.00	—	—	12.00	2.875 2.874	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5010L	1.062 1.077	8.50	32.00	—	—	9.50	4.000 3.999	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5011L	1.062 1.077	8.50	—	36.00	—	9.50	4.000 3.999	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5012L	1.062 1.077	8.50	—	—	40.00	9.50	4.000 3.999	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5013L	1.062 1.077	8.50	45.00	—	—	9.50	4.000 3.999	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5010S	1.062 1.077	8.50	32.00	—	—	5.75	2.625 2.624	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5011S	1.062 1.077	8.50	—	36.00	—	5.75	2.625 2.624	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5012S	1.062 1.077	8.50	—	—	40.00	5.75	2.625 2.624	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT
5013S	1.062 1.077	8.50	45.00	—	—	5.75	2.625 2.624	26.05	28.88	27.08	12.470 12.410	20.00	4.00 NPT

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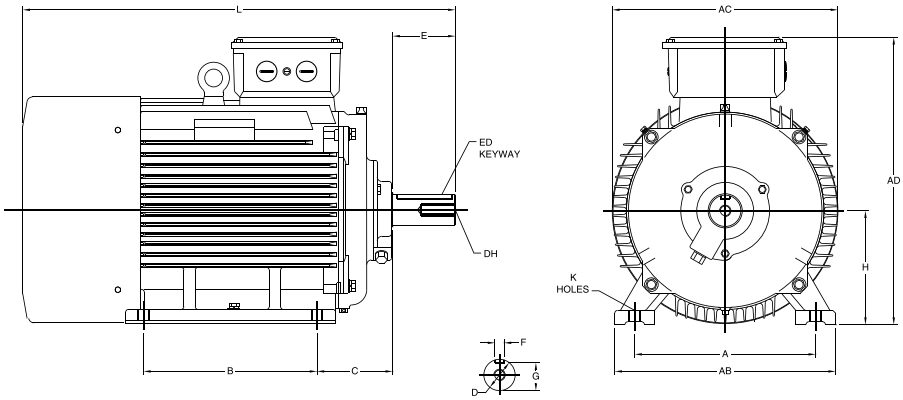
*See back cover page for attribution.

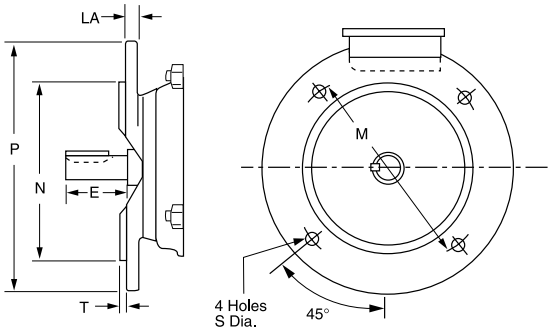


IEC FRAME DIMENSIONS (MILLIMETERS)

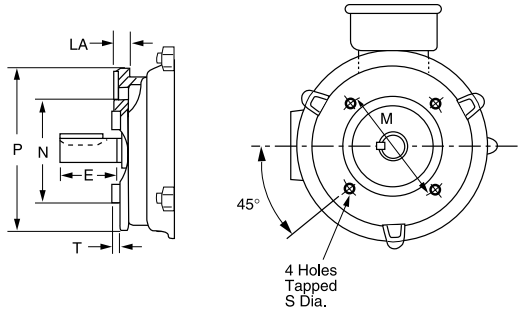
FRAME	MOUNTING						SHAFT						GENERAL			B5 (FF) FLANGE						B14 (FT) FACE					
	A	B	C	H	AB	K	D	E	F	G	ED	DH	AC	AD	HD	M	N	P	S	T	LA	M	N	P	S	T	LA
100L	160	140	63	100	205	12	28	60	8	24.0	40	M10 x 22	215	178	278	215	180	250	15	4.0	11	130	110	160	M8	3.5	14
112M	190	140	70	112	245	12	28	60	8	24.0	40	M10 x 22	220	190	302	215	180	250	15	4.0	12	130	110	160	M8	3.5	11
132S	216	140	89	132	280	12	38	80	10	33.0	56	M12 x 28	275	210	342	265	230	300	15	4.0	12	165	130	200	M10	3.5	14
132M	216	178	89	132	280	12	38	80	10	33.0	56	M12 x 28	275	210	342	265	230	300	15	4.0	12	165	130	200	M10	3.5	14
160M	254	210	108	160	325	15	42	110	12	37.0	80	M16 x 36	325	254	414	300	250	350	19	5.0	13	215	180	250	M12	4.0	13
160L	254	254	108	160	325	15	42	110	12	37.0	80	M16 x 36	325	254	414	300	250	350	19	5.0	13	215	180	250	M12	4.0	13
180M	279	241	121	180	335	15	48	110	14	42.5	80	M16 x 36	360	310	490	300	250	350	19	5.0	15	NOT DEFINED BY IEC 72					
180L	279	279	121	180	335	15	48	110	14	42.5	80	M16 x 36	360	310	490	300	250	350	19	5.0	15						
200L	318	305	133	200	395	19	55	110	16	49.0	100	M20 x 42	400	340	540	350	300	400	19	5.0	19.5						
225S 2P	356	286	149	225	435	19	55♦	110♦	16♦	49♦	100♦	M20 x 42	445	414	639	400	350	450	19	5.0	21.0						
225S 4,6P	356	286	149	225	435	19	60	140	18	53	125	M20 x 42	445	414	639	400	350	450	19	5.0	21.0						
225M 2P	356	311	149	225	435	19	55♦	110♦	16♦	49♦	100♦	M20 x 42	445	414	639	400	350	450	19	5.0	21.0						
225M 4,6P	356	311	149	225	435	19	60	140	18	53	125	M20 x 42	445	414	639	400	350	450	19	5.0	21.0						
250M 2P	406	349	168	250	490	24	60♦	140	18	53♦	125	M20 x 42	500	440	690	400	350	450	19	5.0	21.0						
250M 4,6P	406	349	168	250	490	24	65	140	18	58	125	M20 x 42	500	440	690	400	350	450	19	5.0	21.0						

♦ 2 Pole Dimensions

1mm = .03937", 1" = 25.4mm



FF Flange B5 Mount

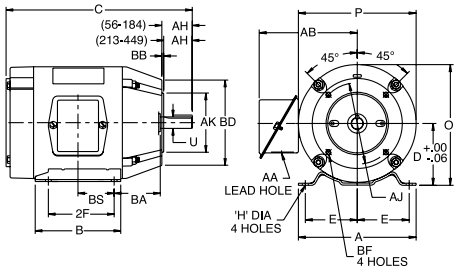


FT Face B14 Mount

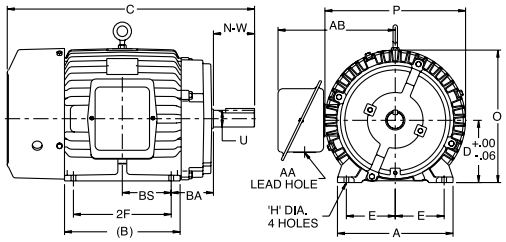
*See back cover page for attribution.

NEMA®* QUICK REFERENCE DIMENSIONAL CHART

Typical Rigid Base Motor



Contact your Marathon sales rep. for "AB", "O", & "P" Dim.



Refer to your Marathon catalog for "C" Dim.

NEMA C-Face	BA Dim.
182-4TC	3-1/2
213-5TC	4-1/4
254-6TC	4-3/4

FRAME	D	E	2F	H	U	N-W	AA	AH	AJ	AK	BA	BB (MIN)	BD (MAX)	BF
182	4.50	3.75	4.50	.41	.8750	2.25	3/4	2.12	5.875	4.500	2.75	.13	6.50	3/8-16
184	4.50	3.75	5.50	.41	.8750	2.25	3/4	2.12	5.875	4.500	2.75	.13	6.50	3/8-16
182T	4.50	3.75	4.50	.41	1.125	2.75	3/4	2.62	7.250	8.500	2.75	.25	9.00	1/2-13
184T	4.50	3.75	5.50	.41	1.125	2.75	3/4	2.62	7.250	8.500	2.75	.25	9.00	1/2-13
213	5.25	4.25	5.50	.41	1.125	3.00	1	2.75	7.250	8.500	3.50	.25	9.00	1/2-13
215	5.25	4.25	7.00	.41	1.125	3.00	1	2.75	7.250	8.500	3.50	.25	9.00	1/2-13
213T	5.25	4.25	5.50	.41	1.375	3.38	1	3.12	7.250	8.500	3.50	.25	9.00	1/2-13
215T	5.25	4.25	7.00	.41	1.375	3.38	1	3.12	7.250	8.500	3.50	.25	9.00	1/2-13
254U	6.25	5.00	8.25	.53	1.375	3.75	1-1/4	3.50	7.250	8.500	4.25	.25	10.00	1/2-13
256U	6.25	5.00	10.00	.53	1.375	3.75	1-1/4	3.50	7.250	8.500	4.25	.25	10.00	1/2-13
254T	6.25	5.00	8.25	.53	1.625	4.00	1-1/4	3.75	7.250	8.500	4.25	.25	10.00	1/2-13
256T	6.25	5.00	10.00	.53	1.625	4.00	1-1/4	3.75	7.250	8.500	4.25	.25	10.00	1/2-13
284U	7.00	5.50	9.50	.53	1.625	4.88	1-1/2	4.62	9.000	10.500	4.75	.25	11.25	1/2-13
286U	7.00	5.50	11.00	.53	1.625	4.88	1-1/2	4.62	9.000	10.500	4.75	.25	11.25	1/2-13
284T	7.00	5.50	9.50	.53	1.875	4.62	1-1/2	4.38	9.000	10.500	4.75	.25	11.25	1/2-13
286T	7.00	5.50	11.00	.53	1.875	4.62	1-1/2	4.38	9.000	10.500	4.75	.25	11.25	1/2-13
284TS	7.00	5.50	9.50	.53	1.625	3.25	1-1/2	3.00	9.000	10.500	4.75	.25	11.25	1/2-13
286TS	7.00	5.50	11.00	.53	1.625	3.25	1-1/2	3.00	9.000	10.500	4.75	.25	11.25	1/2-13
324U	8.00	6.25	10.50	.66	1.875	5.62	2	5.38	11.000	12.500	5.25	.25	14.00	5/8-11
326U	8.00	6.25	12.00	.66	1.875	5.62	2	5.38	11.000	12.500	5.25	.25	14.00	5/8-11
324T	8.00	6.25	10.50	.66	2.125	5.25	2	5.00	11.000	12.500	5.25	.25	14.00	5/8-11
326T	8.00	6.25	12.00	.66	2.125	5.25	2	5.00	11.000	12.500	5.25	.25	14.00	5/8-11
324TS	8.00	6.25	10.50	.66	1.875	3.75	2	3.50	11.000	12.500	5.25	.25	14.00	5/8-11
326TS	8.00	6.25	12.00	.66	1.875	3.75	2	3.50	11.000	12.500	5.25	.25	14.00	5/8-11
364U	9.00	7.00	11.25	.66	2.125	6.38	2-1/2	6.12	11.000	12.500	5.88	.25	14.00	5/8-11
365U	9.00	7.00	12.25	.66	2.125	6.38	2-1/2	6.12	11.000	12.500	5.88	.25	14.00	5/8-11
364T	9.00	7.00	11.25	.66	2.375	5.88	2-1/2	5.62	11.000	12.500	5.88	.25	14.00	5/8-11
365T	9.00	7.00	12.25	.66	2.375	5.88	2-1/2	5.62	11.000	12.500	5.88	.25	14.00	5/8-11
364TS	9.00	7.00	11.25	.66	1.875	3.75	2-1/2	3.50	11.000	12.500	5.88	.25	14.00	5/8-11
365TS	9.00	7.00	12.25	.66	1.875	3.75	2-1/2	3.50	11.000	12.500	5.88	.25	14.00	5/8-11
404U	10.00	8.00	12.25	.81	2.375	7.12	3	6.88	11.000	12.500	6.62	.25	15.50	5/8-11
405U	10.00	8.00	13.75	.81	2.375	7.12	3	6.88	11.000	12.500	6.62	.25	15.50	5/8-11
404T	10.00	8.00	12.25	.81	2.875	7.25	3	7.00	11.000	12.500	6.62	.25	15.50	5/8-11
405T	10.00	8.00	13.75	.81	2.875	7.25	3	7.00	11.000	12.500	6.62	.25	15.50	5/8-11
404TS	10.00	8.00	12.25	.81	2.125	4.25	3	4.00	11.000	12.500	6.62	.25	15.50	5/8-11
405TS	10.00	8.00	13.75	.81	2.125	4.25	3	4.00	11.000	12.500	6.62	.25	15.50	5/8-11
444U	11.00	9.00	14.50	.81	2.875	8.62	3	8.38	14.000	16.000	7.50	.25	18.00	5/8-11
445U	11.00	9.00	16.50	.81	2.875	8.62	3	8.38	14.000	16.000	7.50	.25	18.00	5/8-11
444T	11.00	9.00	14.50	.81	3.375	8.50	3	8.25	14.000	16.000	7.50	.25	18.00	5/8-11
445T	11.00	9.00	16.50	.81	3.375	8.50	3	8.25	14.000	16.000	7.50	.25	18.00	5/8-11
444TS	11.00	9.00	14.50	.81	2.375	4.75	3	4.50	14.000	16.000	7.50	.25	18.00	5/8-11
445TS	11.00	9.00	16.50	.81	2.375	4.75	3	4.50	14.000	16.000	7.50	.25	18.00	5/8-11
447T	11.00	9.00	20.00	.81	3.375	8.50	3	8.25	14.000	16.000	7.50	.25	18.00	5/8-11
449T	11.00	9.00	25.00	.81	3.375	8.50	3	8.25	14.000	16.000	7.50	.25	18.00	5/8-11
447TS	11.00	9.00	20.00	.81	2.375	4.75	4 NPT	4.50	14.000	16.000	7.50	.25	18.00	5/8-11
449TS	11.00	9.00	25.00	.81	2.375	4.75	4 NPT	4.50	14.000	16.000	7.50	.25	18.00	5/8-11

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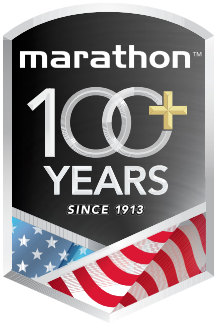

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