



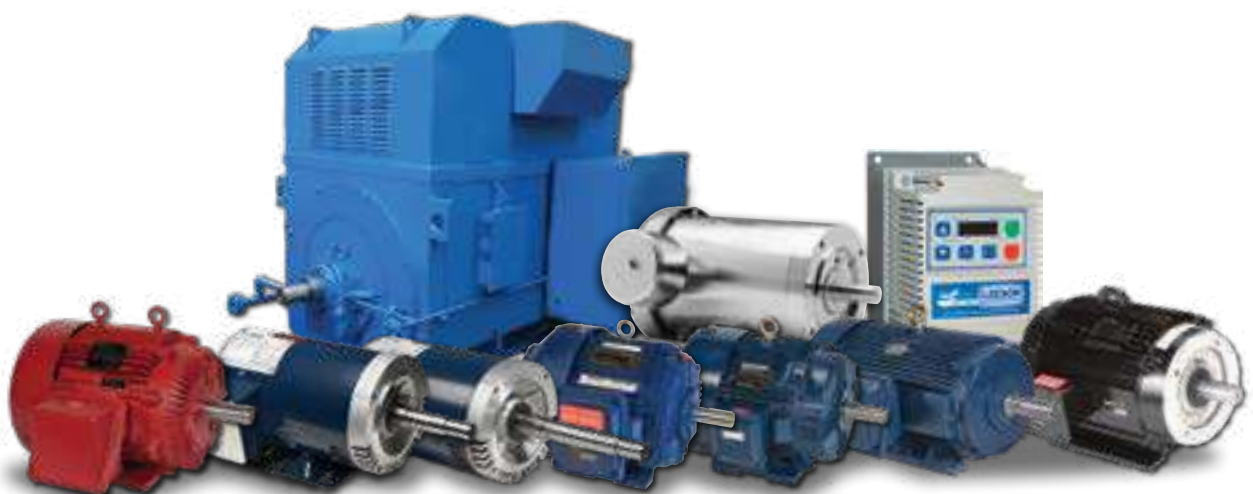
marathon[®]
Motors

PRODUCT CATALOG

**MOTORS TO GET
THE JOB DONE™**

INDUSTRIAL MOTORS AND DRIVES CATALOG

LATIN AMERICA, NORTH AMERICA



MOTORS TO GET THE JOB DONE.™



30%
MORE
SOLUTIONS

THOUSANDS
OF STOCK
OPTIONS

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.



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Our comprehensive product offering is viewable online or on mobile devices. On our website, you can compare products and find Marathon® and LEESON® 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.



360° PRODUCT VIEWS



**MOTOR
DRAWINGS**



**COMPETITOR
CROSS REFERENCES**



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SITE**





MODIFICATIONS AT THE WAREHOUSE ENSURE CUSTOM SOLUTIONS FASTER.

ENSURE CUSTOM SOLUTIONS FASTER.

We know no motor is perfect for every application. That's why we've expanded our modification offerings on a variety of models. Some modifications can be modified and shipped the same day, while others take a day or two, but 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.

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

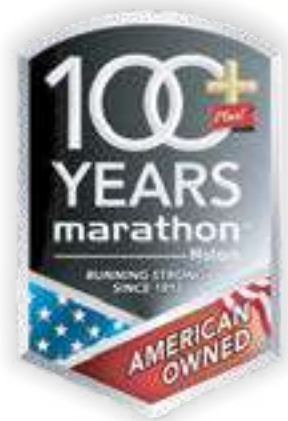
**MORE CHOICES FROM
TWO LEADING BRANDS.**





FROM THE BEGINNING,
WE ARE LEADING
INNOVATION
WITH PURPOSE.

BUILDING OUR BRANDS
OVER 100 YEARS OF
DEDICATION AND
TEAM WORK



<p>1913 Marathon[®] Company Founded</p>	<p>1960 1/20 HP through 3500 HP motors introduced 95% of the motors installed</p>	<p>1976 First Energy Efficient Polyphase Integral HP motors</p>	<p>1981 First two-speed motor, solid state switch with UL approval</p>	<p>1986 Marathon[®] XRI[®] product line introduced—leading the industry with NEMA Premium[®]</p>	<p>1996 BlackMAX[®] Vector Duty motors introduced Marathon Gexin joint venture established</p>
<p>1997 MAX GUARD[®] insulation system introduced Marathon Electric is acquired</p>	<p>2000 Blue Chip Series[®] Severe Duty Explosion Proof motor named Plant Engineering magazine product finalist</p>	<p>2002 First true world class motor, IEC Globetrotter[®], introduced</p>	<p>2010 SyMAX[™] permanent magnet AC motor introduced</p>	<p>2012 Simplified "Marathon" becomes a flagship Regal brand</p>	
<p>2013 Regal celebrates 100 years of the Marathon[®] brand</p>	<p>2019 Build a state of the art Manufacturing plant on Monterrey, Mexico. 250,000 Sq.Ft.</p>	<p>2020 Medium Voltage and ANEMA Endurance Series Motors</p>			



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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 1/3 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" 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

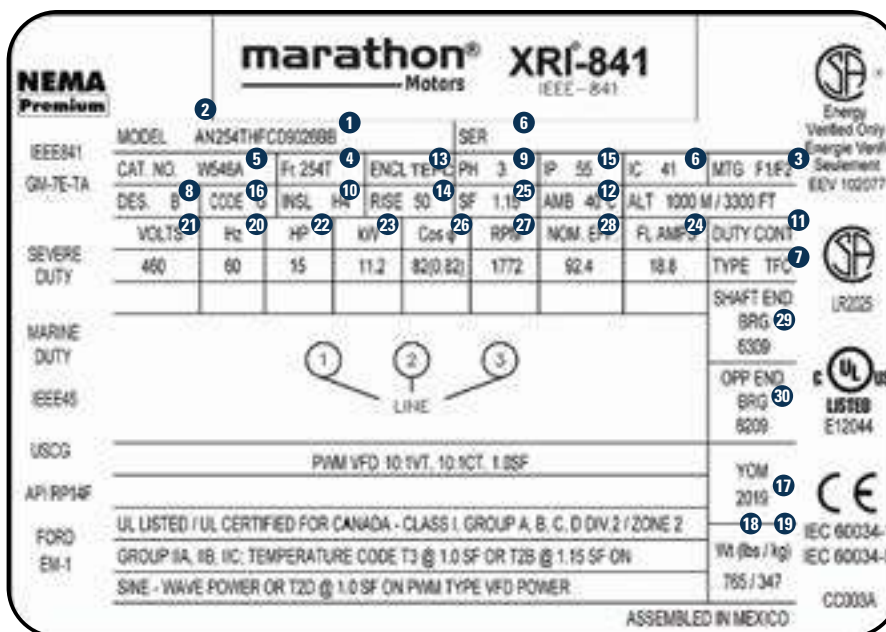
Information can be accessed instantly, any time of the day on our website. Marathon motor customers can also contact their sales representative for information.

THE FOLLOWING INFORMATION CAN BE FOUND ON OUR WEBSITE

- Stock Availability
- Order Status
- Shipping Information
- Invoice information
- Product features and performance data

HOW TO READ THE NAMEPLATE

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



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

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 (For Integral): 2QA215TBDR A 7076 AL L

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	7	8	9	10	11	12

This is a breakdown of the model in the catalog:

215T	B	D	R	A	7076
4	5	7	8	9	10

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 motor 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. RPM OR SPEED AT 60 HZ	
(Fractional Only)	
34	2-Pole, 3600 rpm
17	4-Pole, 1800 rpm
11	6-Pole, 1200 rpm
8	8-Pole, 900 rpm

7. 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

8. 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
Fractional	
B	Rolled Steel - Sourced
D	Stainless Steel - Sourced
U	Framelss - Sources

9. STYLE LETTER	
(A, B, C, etc . indicate redesign)	

10. SEQUENCE NUMBER	
---------------------	--

11. MINOR MODIFICATION LETTER(S)	
Fractional - 1 letter; Integral - 2 letters	

12. 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 Regal sales representative or local Marathon Motor distributor. **All prices and data are subject to change without notice.**

CANCELLATIONS AND RETURNS

STOCK PRODUCT

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 15% 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/ LEESON 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 non-stock catalog models and all build-up model is subject to minimum order quantities or setup charges listed below.

180-250 Frames = 5 piece minimum or \$500 set up/model
250-320 Frames = 5 piece minimum or \$500 set-up/model

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 Fractional and Integral 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 Manufacture**
Standard warranty for any product not shown below	12	18
Medium voltage	12	18
EPAAct 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	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 Condition 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
	Commercial (end of line) test results (not available for West Plains motors)***	\$100
	Certificate of conformance	\$200
	Thermal damage curve (48-326T frame)	\$1000 + cost of additional motor
	Thermal damage curve (364T-6805 frame)	\$3000 + cost of additional motor

***Does not imply re-testing

APPLICATION INFORMATION

AGENCY LISTINGS UL®* AND CSA®*

Marathon® Fire Pump motors, Hazardous locations motors (Division 1 “Explosionproof”, 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 “Explosionproof”, some Division 2 motors), as well as for non-hazardous (Ordinary) locations.

AC MOTORS

Non-Explosion Proof	UL File No. Note 1	CSA File No. Note 2
NEMA®* 143-449 FRAME	E49747 (Recognized motors, Listed motors)	LR2025
NEMA 500 and 5000 Frame	—	LR2025
IEC®* 80-315 Frame	E49747 (Recognized motors, Listed motors)	—
Thermally Protected motors	E6312	LR2025
Insulation Systems	E37900	LR2025
Explosion Proof N. America Division 1/ Zone 1	UL File No. Note 1	CSA File No. Note 2
NEMA 48 Frame	E12044	LR21839
NEMA 56-326 Frame	E12044	LR47504
NEMA 364-449	E12044	LR21839
Fire Pump Motors	UL File No. Note 1	CSA File No. Note 2
NEMA 143-510 Frame ODP	EX5190	LR2025
NEMA 182-5011 Frame TEFC	EX5190	LR2025
IEC 80-355 Frame TEFC	EX5190	LR2025
Class I N. America Division 2/ Zone 2	UL File No. Note 1	CSA File No. Note 2
NEMA 48-449, 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	—
European ATEX Zone 2/ Zone 22	Certificate No.	
NEMA 143-449 Frame, IEC 112-280 Frame Totally Enclosed, 3 Phase AC Induction	ITS 06 ATEX 45370	
European ATEX Zone 2 / Zone 21/ Zone 22	Certificate No.	
IEC 80-355 Frame, TEFC, Sourced	DEMKO 17 ATEX 1836X	
IECEX Zone 2 / Zone 21/ Zone 22	Certificate No.	
IEC 80-355 Frame, TEFC, Sourced	IECEX UL 170014X (Zone 1, 2, 21, 22)	
PMDC Motors		
Non-Explosion Proof	UL File No. Note 1	CSA File No. Note 2
NEMA Subfractional to145 Frame	E49747	LR2025

Notes:

- 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.
- 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.)

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.

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 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.

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.

Standard horizontal motors can be mounted in a vertical shaft down orientation (except brakemotors). Contact a factory representative for shaft up mounting arrangements.

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 EAct, 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 (EAct) 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 EAct-compliant motors to meet NEMA Premium efficiencies, and most EAct-exempt motors to meet EAct 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 EAct 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, or three phase. 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.

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.

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 (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 nA IIC T3).

*See back cover page for attribution.

APPLICATION INFORMATION

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.

CR²⁰⁰

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 CR²⁰⁰ 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 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 (CR²⁰⁰) 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.

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.

*See back cover page for attribution.

NEMA SERVICE FACTOR RATINGS

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.

Single Phase - NEMA service factor @ RPM listed

HP	3600	1800	1200	900
1/12	1.4	1.4	1.4	1.4
1/8	1.4	1.4	1.4	1.4
1/6	1.35	1.35	1.35	1.35
1/4	1.35	1.35	1.35	1.35
1/3	1.35	1.35	1.35	1.35
1/2	1.25	1.25	1.25	1.15
3/4	1.25	1.25	1.15	1.15
1	1.25	1.15	1.15	1.15
1.5 & up	1.15	1.15	1.15	1.15

OVERLOAD PROTECTION

There are four choices in protection: manual (inherent type), automatic (inherent type), thermostats, and none. 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.

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

IEC®* DEGREES OF PROTECTION VS. MARATHON® STANDARD MOTOR CONSTRUCTION

The enclosure terminology for an IEC motor is a combination of the IP (Ingress Protection) and IC (Inherent Cooling) codes. Each number in the IP code stands for a different degree of protection.

IP12	Dripproof
IP22	Dripproof with screens, or die cast aluminum bracket
IP43	Totally enclosed
IP54	Totally enclosed severe duty
IP55	Totally enclosed severe duty with v-ring shaft seals, and/or "Smart Ring" rotating shaft seal and neoprene gaskets
IP56	Totally enclosed severe duty with rotating shaft seals (eg. Inpro/Seal®* VBX®* bearing isolator) and neoprene gaskets

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 (#)		

Group is not applicable to that Division or Zone, or is not defined.

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-waver 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)

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.

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).

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.

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.

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

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 1.0 SF, within temperature constraints).

*See back cover page for attribution.

APPLICATION INFORMATION

TERMINOLOGIES

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-foot” 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 = pulley 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 und-user).	

*See back cover page for attribution.

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. Unless stated otherwise, motor nameplates do NOT include listed speed range.

Enclosure	Efficiency	Variable Torque									
		NEMA Motors		143-215		254-286		324-365		404-449	
		All Frames	All Poles	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole
ODP	Standard (EPAAct exempt)	10:1	2:1	2:1	Contact Engineering						
	EPAAct 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 (EPAAct exempt)	10:1	2:1	2:1	Contact Engineering						
	EPAAct 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	EPAAct 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 (EPAAct exempt)	10:1	10:1 (2)	10:1 (2)	N/A	N/A	N/A	N/A	N/A	N/A	
	EPAAct 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 (EPAAct exempt)	10:1	1000:1	1000:1	N/A	N/A	N/A	N/A	N/A	N/A	
	EPAAct 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	80-90	100-225	250-315						
All enclosures	All efficiency levels	10:1	20:1	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.

APPLICATION NOTES

Bearing currents

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, 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.
-	Unlimited	Unlimited	650 ft.
-	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™ XT, SXT, and SXT-Plus Wash Down Duty® 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
-	XRI SD, XRI IEEE 841. 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 EPAAct 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 C.T.

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 CR²⁰⁰. 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 EPAAct legislation. Model numbers contain the letter "H" in the "Electrical Type" field.

VARIABLE TORQUE LOADS

Applications include fans, blowers and centrifugal pumps. 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.

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.

*See back cover page for attribution.

VARIABLE SPEED OPERATION

CONSTANT TORQUE LOADS (CONT'D.)

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.

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.

Maximum Safe Mechanical Speed Limits (ODP, TENV, DPFV ORTEBC ENCLOSURES) 60 Hz base frequency

Frame Size	2-Pole	4, 6 or 8-Pole
182	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

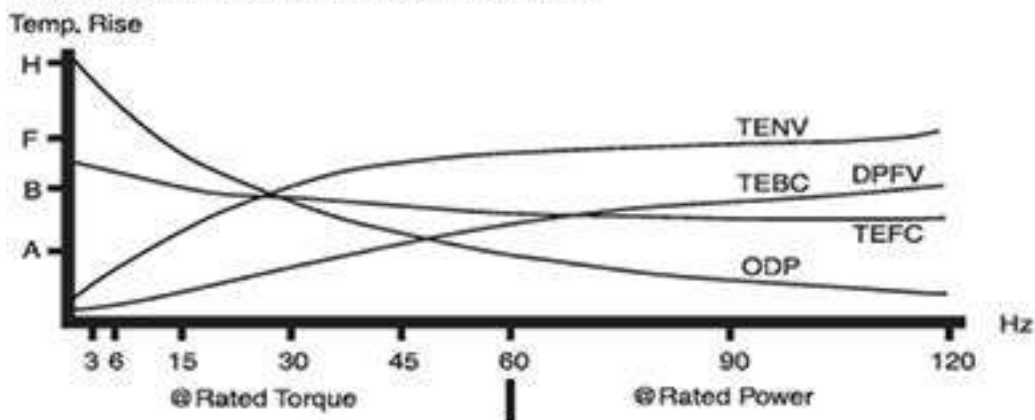
VARIABLE SPEED OPERATION

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

Typical Temperature Rise Of Various Enclosures



*See back cover page for attribution.

GENERAL PURPOSE MOTORS SINGLE PHASE TEFC MOTORS

STANDARD AND PREMIUM EFFICIENCY

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	56	13.19	2, 13, 18
	1800	115/208-230	182T	MANUAL	-	131536.00		24.5/13-12.4	63	13.19	2, 13, 19
	1800	115/208-230	182T	AUTO	-	131535.00		24.5/13-12.4	63	13.19	2, 13, 20
3	3600	115/208-230	182T	NONE	-	131636.00		28/15.2-14	74	14.18	1, 13, 18
	1800	115/208-230	184T	NONE	-	131534.00	√	33.8/18-16.9	69	14.19	2, 13, 19
	1800	115/208-230	184T	NONE	I113A	184TCDW7026	C/A	34.0/17.4-16.9	78	14.21	2, 13, 18
	1800	115/230	184T	MANUAL	-	131561.00		33.8/16.9	76	14.19	2, 13, 19
	1800	115/230	184T	AUTO	-	131530.00		33.8/16.9	69	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	84	14.69	1, 13, 18
	1800	208-230	184T	NONE	-	131537.00	√	23.0-21.0	83	14.69	1, 13, 18
	1800	208-230	184T	NONE	I114A	184TBDW7026	C/A	23.0-21.0	82	14.71	1, 13, 18
	1800	208	184T	NONE	-	131560.00	√	23.2	82	14.69	1, 13, 18
	1800	208-230	184T	MANUAL	-	131622.00	√	23.0-21.0	82	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	√	32.5-29.5	112	18.04	2, 13, 19
	1800	230	215T	NONE	I115A	215TBDBD7026	C/A	33.5	133	18.15	1, 13, 18
10	1800	230	215T	NONE	-	140155.00	√	40.5	116	17.26	2, 13, 18
	3600	208-230	215T	NONE	-	140681.00	√	41.5-37.0	135	18.05	2, 13, 19
	3600	208-230	215T	NONE	I106A	215TBDBD7001	C/A	42.5-39.5	119	19.39	1, 13, 18
	1800	230	215T	NONE	-	141430.00	√	39.0	159	14.79	2, 13, 19

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	73	14.20	2, 13, 18
5	3600	208-230	184TC	NONE	-	131777.00		23.0-22.2	70	14.70	1, 13, 18
	1800	208-230	184TC	NONE	-	131539.00		23.0-21.0	81	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 Blank: Build Up rating, subject to lead time C/A- Call your sales representative for availability
 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

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



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	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/208-230	182T	NONE	I212	182TBF5326	√	20.0/10.8-10.0	52	15.65	F, 1, 18
	1800	115/208-230	182T	NONE	-	131509.00	√	24.8/13-12.4	65	14.46	1, 13, 17
3	3600	115/208-230	182T	NONE	I206	182TBF5301	√	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	78	14.96	2, 13, 18
	1800	115/208-230	184T	NONE	-	131533.00	√	33.6/18-16.8	83	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
	3600	208-230	184T	NONE	I223A	184TBFW7701	√	22.0-19.8	98	16.49	1, 13, 14, 17
5	3600	230	184T	NONE	-	131549.00	√	19.8	93	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	95	17.46	2, 13, 17
	1800	208-230	184T	MANUAL	-	131856.00	√	23.0-21.0	95	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	120	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	138	19.84	2, 13, 17
	1800	230	215T	NONE	-	140581.00	√	40.0	202	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	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230	184TC	MANUAL	-	131857.00	√	12.8	104	17.61	2, 13, 18
	1800	115/208-230	184TC	MANUAL	-	131631.00	√	33.6/18-16.8	84	16.47	1, 13, 17
5	3600	230	184TC	MANUAL	-	131632.00	√	19.8	103	16.97	2, 13, 18
	1800	230	184TC	MANUAL	-	131633.00	√	23.0	86	16.97	2, 13, 17
7 1/2	3600	208-230	213TC	NONE	-	140694.00	√	36.0-32.0	120	19.07	2, 13, 17, 24
	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	138	20.57	2, 13, 17, 24
	1800	230	215TC	NONE	-	140678.00	√	40.0	152	20.71	2, 13, 18, 24

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
 Catalog numbers (Cat No.) highlighted in bold blue have efficiency levels that meet the USA efficiency legislations.

*See back cover page for attribution.



PROTECT YOUR MOTORS FROM BEARING DAMAGE

The bearing protection used in Regal-Rexnord motors like the Globetrotter® General Purpose Motors

Electrical Bearing Damage Can Take Down Your Motor

Electric motors run by variable frequency drives, or VFDs, are at risk of shaft voltage that can lead to premature bearing failure. The unique design of the AEGIS Ring frees you from the frustration and expense of unnecessary downtime caused by electrical bearing damage.

Protect Motor Bearings with AEGIS® Shaft Grounding Rings

By channeling VFD-induced discharges safely to ground, AEGIS® Shaft Grounding Rings prevent electrical bearing damage. Proven in millions of installations worldwide, AEGIS® Rings provide unmatched protection of motors against electrical bearing damage, motor failure, and unplanned downtime.



www.est-aegis.com

marathon[®]
Motors

GLOBETROTTER[®] MOTOR



For Reliable Performance in
Heavy-Duty Industrial Applications,
**NOTHING BEATS
THE GLOBETROTTER MOTOR.**

GLOBETROTTER[®] MOTORS

THREE PHASE, DP, TEFC

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 (exceptions highlighted in blue)
- 404T-449T models cast iron frame
- Dynamically balanced rotors
- Torques exceed NEMA^{®*} performance standards
- UL^{®*} Recognized component listing and CSA^{®*} Certified



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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1	900	230/460	182T		GT00101	182TTDBD6101	C/A	77.2	3.5/1.7	75	13.72		A160A
1 1/2	1200	208-230/460	182T		GT0005A	182TTDBD6076	√	86.5	4.8-4.6/2.3	69	12.25		A160A
	900	230/460	184T		GT00103	184TTDBD6101		77.0	5.6/2.8	86	13.25		A160A
2	1200	208-230/460	184T		GT0008A	184TTDBD6076	√	87.5	7.0-6.4/3.2	79	13.25		A160A
	1200	208-230/460	184T		GT0008A-P	184TTDBD6078	C/A	87.5	6.4-6.4/3.2	79	13.25	P	A160A
	900	230/460	213T		GT00105	213TTDBD6101	√	86.5	6.8/3.4	133	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	8.6-8.0/4.0	64	12.25		A160A
	1800	208-230/460	182T		GT0010A-P	182TTDBD6070	√	89.5	8.6-8.0/4.0	69	12.25	P	A160A
	1800	208-230/460	182T	TSTAT	GT6024	182TTDBD6428	C/A	89.5	8.6-8.0/4.0	69	12.25	TS	A160A
	1800	575	182T		GT00110	182TTDBD6030	√	89.5	3.2	64	12.25		A160A
	1200	230/460	213T		GT0011A	213TTDBD6076	√	88.5	8.4/4.2	126	17.52		A161A
	900	230/460	215T		GT00107	215TTDBD6101	C/A	87.5	9.6/4.8	140	17.52		A161A
5	3600	200	182T		GT0812	182TTDBD6000	C/A	86.5	15.2	85	13.72		A160A
	3600	208-230/460	182T		GT0012A	182TTDBD6001	√	86.5	14.0-13.2/6.6	85	12.25		A160A
	3600	230/460	182T		GT0012A-P	182TTDBD6002		86.5	13.2/6.6	85	12.25	P	A160A
	3600	575	182T		GT00112	182TTDBD6005		86.5	5.3	85	12.25		A160A
	1800	208-230/460	184T		GT0013A	184TTDBD6026	√	89.5	14.0-13.2/6.6	77	13.25		A160A
	1800	230/460	184T		GT0013A-P	184TTDBD6070	√	89.5	13.2/6.6	84	13.25	P	A160A
	1800	208-230/460	184T	TSTAT	GT6030	184TTDBD6428	C/A	89.5	7.0-13.2/6.6	84	13.25	TS	A160A
	1800	230/460	184T		GT2313	184TTDBD6034	C/A	89.5	12.6/6.3	135	13.25		A160A
	1800	200	184T		GT0813	184TTDBD6039	√	89.5	15.2	86	13.25		A160A
	1800	575	184T		GT00113	184TTDBD6030	√	89.5	5.3	84	13.25		A160A
	1200	230/460	215T		GT0014A	215TTDBD6076	√	89.5	13.8/6.9	128	17.52		A161A
	1200	230/460	215T		GT0014A-P	215TTDBD6077	C/A	89.5	13.8/6.9	138	17.52	P	A161A
	900	230/460	254T		GT00109	254TTDBD6101	C/A	88.5	14.2/7.1	275	22.64		A163A
	3600	200	184T		GT0815	184TTDBD6000	C/A	88.5	21.2	64	13.25		A160A
7 1/2	3600	208-230/460	184T		GT0015A	184TTDBD6001	√	88.5	19.6-18.4/9.2	64	13.25		A160A
	3600	208-230/460	184T		GT0015A-P	184TTDBD6002		88.5	19.6-18.4/9.2	64	13.25	P	A160A
	3600	208-230/460	184T	TSTAT	GT6033	184TTDBD6006	C/A	88.5	19.6-18.4/9.2	121	17.52	TS	A160A
	3600	575	184T		GT00115	184TTDBD6005		88.5	7.4	64	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	21.2-19.8/9.9	122	17.52		A161A
	1800	230/460	213T		GT0016A-P	213TTDBD6070	√	91.0	19.8/9.9	121	17.52	P	A161A
	1800	230/460	213T		GT2316	213TTDBD6034		91.0	19.8/9.9	249	17.52		A161A
	1800	575	213T		GT00116	213TTDBD6030	√	91.0	7.9	123	17.52		A161A
	1200	230/460	254T		GT00057	254TTDBD6076	√	90.2	20.2/10.1	250	22.64		A163A
10	900	230/460	256T		GT00111	256TTDBD6101	C/A	89.5	20.8/10.4	289	24.22		A163A
	3600	200	215T		GT0818	213TTDBD6000	C/A	89.5	27.8	125	17.52		A161
	3600	230/460	213T		GT0018A	213TTDBD6001	√	89.5	24.2/12.1	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	27.7-25.4/12.7	143	17.52		A161
	1800	208-230/460	215T		GT0019A-P	215TTDBD6070	√	91.7	27.8-25.4/12.7	136	17.52	P	A161
	1800	575	215T		GT00119	215TTDBD6030	√	91.7	10.2	143	17.52		A161
	1200	208-230/460	256T		GT00058	256TTDBD6076	√	91.7	27.8-25.6/12.8	254	24.22		A163A
	900	230/460	284T		GT00113	284TTDBD6101		90.2	30.0/15.0	350	25.71	YD	A165A

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 Blue shaded areas are cast iron frames.

*See back cover page for attribution.

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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
15	3600	200	215T		GT0821	215TTDBD6000	C/A	90.2	41.5	128	17.52		A161
	3600	208-230/460	215T		GT0021A	215TTDBD6001	√	90.2	39.5-36.0/18.0	128	17.52		A161
	3600	575	215T		GT0121	215TTDBD6005	C/A	90.2	14.4	128	17.52		A161
	1800	200	254T		GT0859	254TTDBD6039		93.0	43.5	271	22.64		A163A
	1800	208-230/460	254T		GT0059	254TTDBD6026	√	93.0	40.5-37.5/18.8	271	22.64		A163A
	1800	208-230/460	254T		GT0059-P	254TTDBD6070	√	93.0	40.5-37.5/18.8	271	22.64	P	A163A
	1800	575	254T		GT0159	254TTDBD6030		93.0	15.1	271	22.64		A163A
	1200	230/460	284T		GT0060	284TTDBD6076	√	91.7	41.0/20.6	318	25.71	YD	A165A
20	900	230/460	286T		GT00115	286TTDBD6101	C/A	90.2	42.0/21.0	371	27.09	YD	A165A
	3600	200	254T		GT0861	254TTDBD6000	C/A	91.0	55.0	315	22.64		A162A
	3600	208-230/460	254T		GT0061	254TTDBD6001	√	91.0	51.4-48.0/24.0	315	22.64		A162A
	3600	575	254T		GT0161	254TTDBD6005	C/A	91.0	19.2	315	22.64		A162A
	1800	200	256T		GT0862	256TTDBD6039	√	93.0	56.0	254	24.22		A163A
	1800	208-230/460	256T		GT0062	256TTDBD6026	√	93.0	53.0-48.5/24.3	254	24.22		A163A
	1800	230/460	256T		GT0062-P	256TTDBD6070		93.0	48.5/24.3	289	24.22	P	A163A
	1800	575	256T		GT0162	256TTDBD6030		93.0	19.5	289	24.22		A163A
25	1200	230/460	286T		GT0063	286TTDBD6076		92.4	52.5/26.3	362	27.09	YD	A165A
	3600	208-230/460	256T		GT0064	256TTDBD6001	√	91.7	63.6-59.5/29.7	291	24.22		A162A
	1800	208-230/460	284T		GT0065	284TTDBD6026	√	93.6	66.0-62.5/31.0	329	25.71	YD	A165A
	1800	230/460	284T		GT0065-P	284TTDBD6070	√	93.6	62.5/31.0	324	25.71	P, YD	A165A
	1800	230/460	284TS		GT0066	284TSTDBD6026		93.6	62.5/31.0	324	24.34	YD	A165A
	1800	575	284T		GT0165	284TTDBD6030		93.6	25.0	324	25.71		A165A
30	1200	230/460	324T		GT0068	324TTDBD6076	√	93.0	65.0/32.5	430	28.55	YD	A167A
	3600	208-230/460	284TS		GT0069	284TSTDBD6001	√	91.7	71.5/35.5	350	24.34	YD	A164A
	1800	208-230/460	286T		GT0067	286TTDBD6026	√	94.1	78.0-73.0/36.5	362	27.09	YD	A165A
	1800	230/460	286T		GT0067-P	286TTDBD6070	√	94.1	73.0/36.5	362	27.09	P, YD	A165A
	1800	230/460	286TS		GT0070	286TSTDBD6026	√	94.1	73.0/36.5	366	25.72	YD	A165A
	1800	575	286T		GT0167	286TTDBD6030	√	94.1	29.2	366	27.09		A165A
40	1200	208-230/460	326T		GT0071	326TTDBD6076	√	93.6	82.0-75.0/37.5	530	29.73	YD	A167A
	3600	208-230/460	286TS		GT0072	286TSTDBD6001	√	92.4	101-93.0/46.5	375	25.72	YD	A164A
	1800	208-230/460	324T		GT0073	324TTDBD6026	√	94.1	103-95.5/47.5	501	28.55	YD	A167A
	1800	208-230/460	324TS		GT0074	324TSTDBD6026	√	94.1	103-95.5/47.5	517	27.05	YD	A167A
	1800	575	324T		GT0173	324TTDBD6030		94.1	38.0	517	28.55		A167A
50	1200	208-230/460	364T		GT0075	364TTDBD6086	√	94.1	105-97.0/48.5	673	31.69	YD	A169A
	3600	208-230/460	324TS		GT0076	324TSTDBD6001	√	93.0	127-115/57.5	459	27.05	YD	A166A
	1800	208-230/460	326T		GT0077	326TTDBD6026	√	94.5	127-118/59.0	556	29.73	YD	A167A
	1800	230/460	326T		GT0077-P	326TTDBD6070	√	94.5	118/59.0	551	29.73	P, YD	A167A
	1800	208-230/460	326TS		GT0078	326TSTDBD6026	√	94.5	127-118.0/59.0	512	28.23	YD	A167A
	1800	575	326T		GT0177	326TTDBD6030		94.5	47.0	512	29.73		A167A
60	1200	208-230/460	365T		GT0079	365TTDBD6086	√	94.1	131-120/60.0	756	33.27	YD	A169A
	3600	208-230/460	326TS		GT0080	326TSTDBD6001	√	93.6	151-136/68.0	523	28.23	YD	A166A
	1800	208-230/460	364T		GT0081	364TTDBD6060	√	95.0	154-140/70.0	677	31.69	YD	A169A
	1800	208-230/460	364TS		GT0082	364TSTDBD6060	√	95.0	154-140/70.0	738	29.57	YD	A169A
	1800	575	364T		GT0181	364TTDBD6030		95.0	56.0	738	31.69		A169A
75	1200	208-230/460	404T		GT0041A	404TTDCD6086	√	94.5	155-141/70.5	1147	37.20	YD	A415A
	3600	208-230/460	364TS		GT0083	364TSTDBD6001		93.6	192-172/86.0	706	29.57	YD	A168A
	1800	230/460	365T		GT0084	365TTDBD6060	√	95.0	172/86.0	781	33.27	YD	A169A
	1800	230/460	365TS		GT0085	365TSTDBD6060	√	95.0	172/86.0	776	31.14	YD	A169A
	1800	230/460	365TS		GT0085-P	365TSTDBD6061	C/A	95.0	172/86.0	835	31.14	P, YD	A169A
	1800	575	365T		GT0184	365TTDBD6030		95.0	68.5	847	33.27		A169A
100	1200	208-230/460	405T		GT0044A	405TTDCD6081	√	94.5	194-174/87.0	1268	38.78	YD	A415A
	3600	208-230/460	365TS		GT0086	365TSTDBD6001	√	93.6	252-228/114	728	31.14	YD	A168A
	1800	208-230/460	404T		GT0046A	404TTDCD6060	√	95.4	250-228/114	1219	37.20	YD	A415A
	1800	208-230/460	404TS		GT0093A	404TSTDCD6060	√	95.4	250-228/114	1219	33.86	YD	A415A
	1800	575	404T		GT0146	404TTDCD6030		95.4	91.0	1219	37.20		A415A
1200	230/460	444T		GT0047A	444TTDCD6077		95.0	232/116	1500	44.57	YD	A417A	

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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
125	3600	460	404TS		GT0048A	404TSTD6001	√	94.1	139	1065	33.86	PW	A414A
	1800	460	405T		GT0049A	405TTD6060	√	95.4	142	1303	38.78	PW	A415A
	1800	460	405T		GT0049A-P	405TTD6061	C/A	95.4	142	1303	38.78	P, PW	A415A
	1800	460	405TS		GT0088	405TSTD6060		95.4	142	1305	35.44	PW	A415A
	1800	575	405T		GT0149	405TTD6030	C/A	95.4	113	1305	38.78	PW	A415A
	1200	460	445T		GT0050A	445TTD6076	√	95.0	145	2017	44.57	PW	A417A
150	3600	460	405TS		GT0051A	405TSTD6007	√	94.1	165	1149	35.44	PW	A414A
	1800	460	444T		GT0052A	444TTD6060	√	95.8	168	1786	44.57	PW	A417A
	1800	460	444T		GT0052A-P	444TTD6061	C/A	95.8	168	1786	44.57	P, PW	A417A
	1800	460	444TS		GT0089	444TSTD6060	√	95.8	168	1786	40.83	PW	A417A
	1800	575	444T		GT0152	444TTD6030	C/A	95.8	134	1786	44.57		A417A
	1200	460	447T		GT0053A	447TTD6077	√	95.4	173	2021	49.69	PW	A417A
200	3600	460	444TS		GT0054A	444TSTD6003	√	95.0	215	1947	40.83	PW	A416A
	1800	460	445T		GT0055A	445TTD6060	√	95.8	223	2017	44.57	PW	A417A
	1800	460	445T		GT0055A-P	445TTD6061	C/A	95.8	223	2017	44.57	P, PW	A417A
	1800	460	445TS		GT0090	445TSTD6060	√	95.8	223	2017	40.83	PW	A417A
	1800	575	445T		GT0155	445TTD6030	C/A	95.8	178	2017	44.57	PW	A417A
	1200	460	449T		GT00016	449TTD6077	C/A	95.4	230	2227	49.69	RB, PW	N/A
	1200	460	449T		GT0056A	449TTD6076	√	95.4	230	2227	49.69	PW	A417A
250	3600	460	445TS		GT00017	445TSTD6001	C/A	95.0	270	1787	40.83	YD	A416A
	1800	460	447T		GT00018	447TTD6026	C/A	95.8	281	2021	49.69	YD	A417A
	1800	460	447T		GT00020	447TTD6033	C/A	95.8	281	2450	49.69	RB, YD	N/A
	1200	460	447T		GT00021	447TTD6086	√	95.8	290	2450	49.69	YD	A417A
	1200	460	447T		GT00022	447TTD6076	C/A	95.8	290	2450	49.69	RB, YD	N/A
300	3600	460	447TS		GT00023	447TSTD6002	√	95.4	321	2200	45.95	YD	A416A
	1800	460	447T		GT00024	447TTD6060	C/A	95.8	338	2508	49.69	YD	A417A
	1800	460	447TS		GT00025	447TSTD6060	C/A	95.8	338	2508	45.95	YD	A417A
	1200	460	449T		GT00027	449TTD6086	C/A	95.8	352	2227	49.69	YD	A417A
350	3600	460	447TS		GT00029	447TSTD6003		95.4	373	2341	45.95	YD	A416A
	1800	460	447TS		GT00032	447TSTD6040	√	95.8	395	2510	45.95	YD	A417A
400	3600	460	449TS		GT00036	449TSTD6001	√	95.8	427	2384	45.95	YD	A416A
	1800	460	449T		GT00037	449TTD6060	C/A	95.8	452	2574	49.69	YD	A417A
	1800	460	449TS		GT00039	449TSTD6060	C/A	95.8	452	2574	45.95	YD	A417A
450	3600	460	449TS		GT00041	449TSTD6002	C/A	96.5	483	2384	45.95	YD	A416A

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	208-230/460	182TC	GT0210	182TTDBD6028	√	89.5	8.6-8.0/4.0	80	13.00	
	1800	208-230/460	182TC	GT0210-P	182TTDBD6069	C/A	89.5	8.6-8.0/4.0	80	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	C/A	89.5	13.2/6.6	92	14.30	
7 1/2	3600	208-230/460	184TC	GT0215	184TTDBD6003	√	88.5	19.6-18.4/9.2	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	135	19.04	
	1800	208-230/460	215TC	GT0219	215TTDBD6028	√	91.7	27.8-25.4/12.7	149	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	208-230/460	254TC	GT0259	254TTDBD6028		93.0	40.5-37.5/18.8	284	23.14	
	1800	208-230/460	254TC	GT0259-P	254TTDBD6069	√	93.0	40.5-37.5/18.8	284	23.14	
20	3600	208-230/460	254TC	GT0261	254TTDBD6003	C/A	91.0	51.4-48.0/24.0	315	23.14	
	1800	208-230/460	256TC	GT0262-P	256TTDBD6069	C/A	93.0	53-48.5/24.3	254	24.72	
	1800	230/460	256TC	GT0262	256TTDBD6028		93.0	48.5/24.3	254	24.72	
25	3600	208-230/460	256TC	GT0264	256TTDBD6003	√	91.7	63.6-59.5/29.7	275	24.72	
	1800	208-230/460	284TC	GT0265-P	284TTDBD6069		93.6	66-62.5/31.0	329	25.71	YD
	1800	230/460	284TC	GT0265	284TTDBD6028		93.6	62.5/31.0	329	25.71	YD
	1800	230/460	284TSC	GT0266	284TSTDBD6028	√	93.6	62.5/31.0	329	24.34	YD
30	3600	230/460	284TSC	GT0269	284TSTDBD6003	C/A	91.7	71.5/35.5	350	24.34	YD
	1800	208-230/460	286TC	GT0267-P	286TTDBD6069	C/A	94.1	78.0-73.0/36.5	365	27.09	YD
	1800	230/460	286TC	GT0267	286TTDBD6028		94.1	73.0/36.5	365	27.09	YD
	1800	230/460	286TSC	GT0270	286TSTDBD6028	C/A	94.1	73.0/36.5	365	25.72	YD
40	3600	208-230/460	286TSC	GT0272	286TSTDBD6003	C/A	92.4	101-93.0/46.5	425	25.72	YD
	1800	208-230/460	324TC	GT0273	324TTDBD6028	√	94.1	103-95.5/47.5	455	28.55	YD
	1800	575	324TC	GT2173	324TTDBD6035	C/A	94.1	38.0	455	28.55	
50	3600	208-230/460	324TSC	GT0276	324TSTDBD6003	C/A	93.0	127-115/57.5	459	27.05	YD
	1800	230/460	326TC	GT0277	326TTDBD6028	√	94.5	118/59.0	556	29.73	YD
	1800	230/460	326TSC	GT0278	326TSTDBD6028	C/A	94.5	118/59.0	556	28.23	YD
	1800	575	326TC	GT2177	326TTDBD6035	C/A	94.5	47.0	556	29.73	
60	3600	208-230/460	326TSC	GT0280	326TSTDBD6003	C/A	93.6	151-136/68.0	523	28.23	YD
	1800	208-230/460	364TC	GT0281	364TTDBD6028	√	95.0	154-140/70.0	792	31.69	YD
	1800	230/460	364TSC	GT0282	364TSTDBD6028	C/A	95.0	140/70.0	792	31.69	YD
75	3600	208-230/460	364TSC	GT0283	364TSTDBD6003	C/A	93.6	192-172/86.0	706	31.69	YD
	1800	230/460	365TC	GT0284	365TTDBD6028	C/A	95.0	172/86.0	781	33.27	YD
	1800	230/460	365TSC	GT0285	365TSTDBD6028	√	95.0	172/86.0	781	33.27	YD
100	3600	208-230/460	365TSC	GT0286	365TSTDBD6003	C/A	93.6	252-228/114	725	33.27	YD
	1800	208-230/460	404TC	GT0246	404TTDCD6028	C/A	95.4	250-228/114	1219	37.20	YD
	1800	230/460	404TSC	GT0293	404TSTDCD6028		95.4	228/114	1219	33.86	YD
125	3600	460	404TSC	GT0248	404TSTDCD6003	√	94.1	139	1065	33.86	PW
	1800	460	405TSC	GT0288	405TSTDCD6028		95.4	142	1303	35.44	PW
150	3600	460	405TSC	GT0251	405TSTDCD6003	C/A	94.1	165	1149	35.44	PW
	1800	460	444TSC	GT0289	444TSTDCD6028		95.8	168	1786	40.63	PW
200	1800	460	445TSC	GT0290	445TSTDCD6028		95.8	223	1850	40.63	PW

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 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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	208-230/460	182TC	GT0305	182TTDBD6081	C/A	86.5	4.8-4.6/2.3	69	13.00	
2	1200	208-230/460	184TC	GT0308	184TTDBD6081	C/A	87.5	6.4-6.4/3.2	79	14.00	
3	1800	208-230/460	182TC	GT0310	182TTDBD6029		89.5	8.6-8.0/4.0	81	13.0	
	1200	230/460	213TC	GT0311	213TTDBD6081	C/A	88.5	8.4/4.2	120	19.04	
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	
	1200	230/460	215TC	GT0314	215TTDBD6081	C/A	89.5	13.8/6.9	138	19.04	
7 1/2	3600	208-230/460	184TC	GT0315	184TTDBD6004	√	88.5	19.6-18.4/9.2	78	14.00	
	1800	230/460	213TC	GT0316	213TTDBD6029	C/A	91.0	19.8/9.9	133	19.04	
	1200	230/460	254TC	GT0317	254TTDBD6081	C/A	90.2	20.2/10.1	230	22.96	
10	3600	230/460	213TC	GT0318	213TTDBD6004	√	89.5	24.2/12.1	125	19.04	
	1800	230/460	215TC	GT0319	215TTDBD6034	C/A	91.7	25.4/12.7	144	19.95	
	1200	208-230/460	256TC	GT0320	256TTDBD6081	C/A	91.7	27.8-25.6/12.8	285	24.54	
15	3600	230/460	215TC	GT0321	215TTDBD6004	C/A	90.2	36.0/18.0	127	19.04	
	1800	230/460	254TC	GT0359	254TTDBD6029	√	90.9	39.5-36.0/18.0	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	√	91.0	48.0/24.0	256	22.64	
	1800	230/460	256TC	GT0362	256TTDBD6029		91.0	48.0/24.0	256	22.64	
25	3600	230/460	256TC	GT0364	256TTDBD6004	√	93.6	66.0-62.5/31.0	329	25.71	
	1800	230/460	284TC	GT0365	284TTDBD6029	√	93.6	66.0-62.5/31.0	329	25.71	YD
30	3600	230/460	284TSC	GT0369	284TSTDBD6004	√	91.7	71.5/35.5	376	24.34	YD

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GLOBETROTTER® TOTALLY ENCLOSED MOTORS

THREE PHASE, CAST IRON, GENERAL PURPOSE

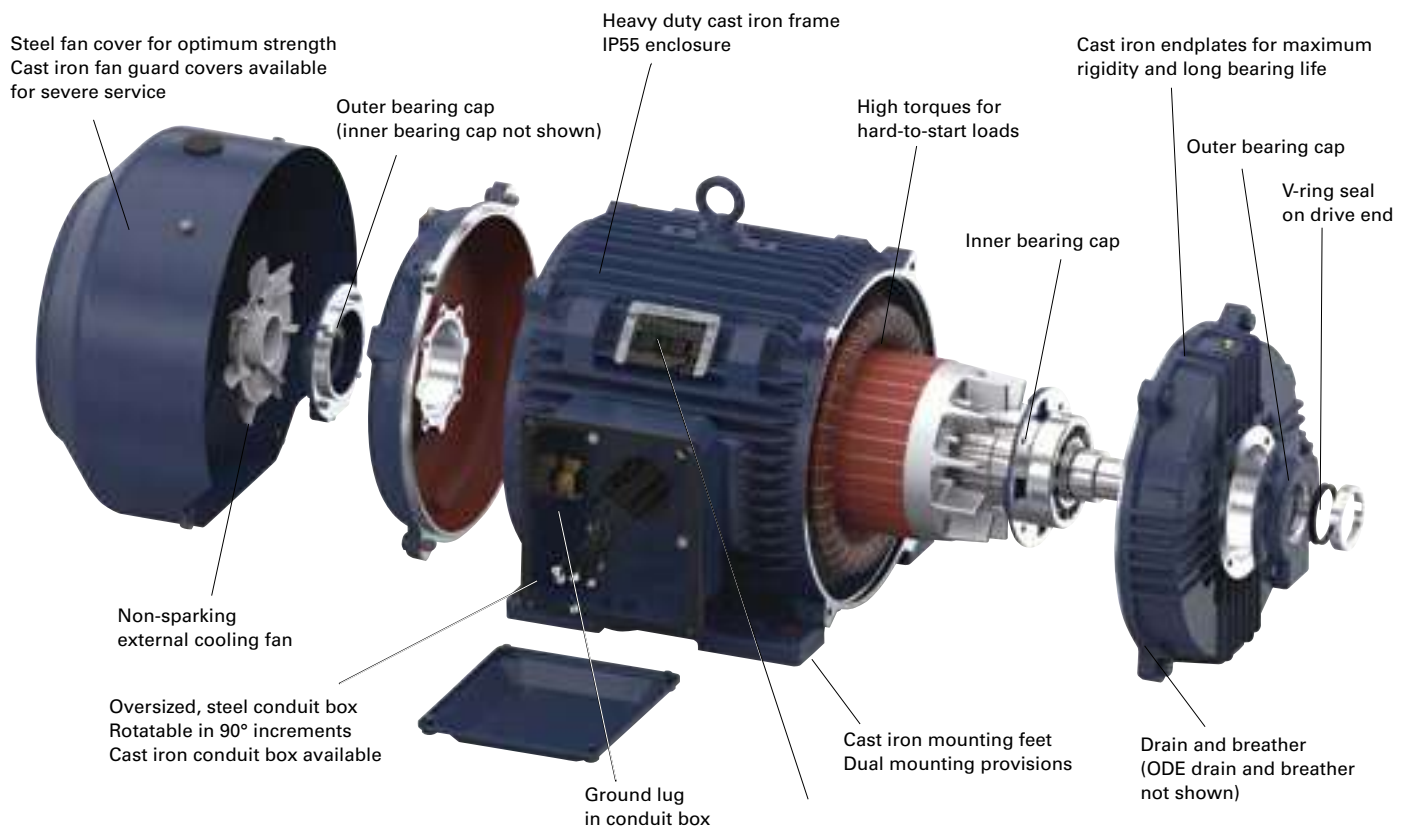
For reliable performance in heavy-duty industrial applications, nothing beats the Marathon® Globetrotter. With their cast iron construction and 1.15 service factor, they are ideal to get the Job done.

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 frame 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



RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1	900	230/460	182T	N	GT15101	182TTFBD6101	C/A	75.5	4.0/2.0	65	15.10	75	A401
	900	230/460	182T	Y	GT10101	182TTFCD6101	C/A	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	C/A	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
2	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	C/A	84.0	6.4/3.2	133	18.53	75	A421
	900	230/460	213T	N	GT15105	213TTFBD6101	C/A	84.0	6.4/3.2	125	18.35	75	A171
3	3600	200	182T	N	GT1859	182TTFBD6000	C/A	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	208-230/460	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	C/A	89.5	13.2/6.6	103	16.10	P, 75	A401
	1800	230/460	184T	N	GT7916	184TTFBD6075	C/A	89.5	13.0/6.5	92	16.10	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	C/A	89.5	13.6/6.8	168	20.03	P, 75	A421

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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.	FL. 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	C/A	86.5	14.2/7.1	250	24.15	75	A173A	
7 1/2	3600	200	213T	N	GT1865	213TTFBD6000	C/A	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	C/A	91.7	21.9	150	18.35	75	A171	
	1800	208-230/460	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	C/A	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	C/A	91.7	28.8	183	20.03	75	A421	
1800		200	215T	N	GT1869	215TTFBD6039	C/A	91.7	28.8	162	19.85	75	A171	
1800		208-230/460	215T	Y	GT1019A	215TTFCD6026	√	91.7	27.3-25.0/12.5	165	20.30	75	A421	
1800		208-230/460	215T	Y	GT1019A-P	215TTFCD6070	√	91.7	27.3-25.0/12.5	192	20.03	P, 75	A421	
1800		208-230/460	215T	N	GT1519	215TTFBD6027	√	91.7	27.3-25.0/12.5	162	19.85	75	A171	
1800		208-230/460	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	C/A	91.0	25.8/12.9	325	25.89	P, 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	208-230/460	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	C/A	91.7	40.0/20.0	504	26.65	P, 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	
	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	
	20	1800	200/400	256T	Y	GT1825	256TTFCD6039		93.0	55.5/27.8	335	25.89	75	A173A
		1800	208-230/460	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		208-230/460	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	C/A	91.7	52.0/26.0	385	28.14	P, 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	
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	208-230/460	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	C/A	93.0	64.0/32.0	690	29.69	P, YD	A177A	
1200	575	324T	Y	GT1129A	324TTFCD6080		93.0	25.6	516	29.69		A177A		

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Continued on next page.

GLOBETROTTER® GENERAL PURPOSE MOTORS

THREE PHASE, TOTALLY ENCLOSED

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
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	208-230/460	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	C/A	95.0	136/68.0	805	33.32	P, 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	C/A	95.5	170/85.0	983	34.30	P, 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
	1200	230/460	405T	Y	GT1044A-P	405TTFCD6087	C/A	94.5	178/89.0	1304	38.77	P, YD	A425A
	1200	575	405T	Y	GT1144A	405TTFCD6080	√	94.5	71.0	1200	38.77		A425A
100	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
	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	C/A	95.0	229/115	1865	46.71	P, YD	A427A
	1200	575	444T	Y	GT1147A	444TTFCD6080	√	95.0	91.5	1850	46.71		A427A
125	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
	1800	460	444T	Y	GT1049A-P	444TTFCD6037	C/A	95.4	140	1588	46.71	P, 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

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 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

RIGID BASE

HP	RPM	VOLTS	FRAME	IP55	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
150	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
	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	C/A	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
200	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	C/A	96.5	219	2300	55.21	P, PW	A427A
	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	C/A	95.8	230	2494	55.21	P, PW	A427A
	1200	575	449T	Y	GT1156A	449TTFCD6080	√	95.8	184	2370	55.21		A427A
250	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
	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
300	3600	460	449TS	Y	GT1072	449TSTFCD6006	C/A	95.8	320	2495	51.46	PW	A426A
	1800	460	449T	Y	GT1073	449TTFCD6027		96.2	332	2680	55.21	PW	A427A
	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	C/A	95.8	342	2995	59.15	RB	A427A
350	3600	460	449TS	Y	GT1077	449TSTFCD6003	C/A	95.8	373	2739	51.46	PW	A426A
	1800	460	449T	Y	GT1078	449TTFCD6036		96.2	390	2770	55.21	PW	A427A
	1800	460	449T	Y	GT1079	449TTFCD16333	C/A	96.2	390	3125	55.21	RB, PW	A427A
400	3600	460	449TS	Y	GT1083	449TSTFCD6004	C/A	95.8	327	2960	55.40	PW	A426A
	1800	460	449T	Y	GT1084	449TTFCD16375	√	96.2	440	3258	59.15	PW	A427A
	1800	460	449T	Y	GT1085	449TTFCD16334	C/A	96.2	440	3125	59.15	RB, PW	A427A

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	56C	N	GT1382	182TFBD16079	C/A	87.5	4.8/2.4	82	14.62	
	1200	230/460	182TC	N	GT1305A	182TFBD6079	√	87.5	4.6/2.3	91	15.85	
2	1200	230/460	184TC	N	GT1308A	184TFBD6079		88.5	6.2/3.1	94	16.85	
3	3600	230/460	182TC	N	GT1309A	182TFBD6004	√	86.5	8.0/4.0	83	15.85	
	1800	230/460	56C	N	GT13195	182TFBD16029		89.5	8.0/4.0	87	14.62	
	1800	230/460	182TC	N	GT1310A	182TFBD6029	√	89.5	8.0/4.0	87	15.85	
	1800	575	182TC	N	GT1910	182TFBD6044		89.5	3.6	87	15.85	
	1200	230/460	213TC	N	GT1311A	213TFBD6079		89.5	8.6/4.3	136	19.10	
5	3600	230/460	184TC	N	GT1312A	184TFBD6004	√	88.5	12.4/6.2	95	16.85	
	1800	230/460	184TC	N	GT1313A	184TFBD6029	√	89.5	13.2/6.6	110	16.85	
	1200	230/460	215TC	N	GT1314A	215TFBD6079	√	89.5	13.6/6.8	145	20.70	
7 1/2	3600	230/460	184TC	N	GT13192	184TFBD6005	√	89.5	17.6/8.8	120	16.85	
	3600	230/460	213TC	N	GT1315A	213TFBD6004	√	89.5	18.4/9.2	119	19.10	
	1800	230/460	213TC	N	GT1316A	213TFBD6029	√	91.7	19.0/9.5	153	19.10	
10	3600	230/460	215TC	N	GT1318A	215TFBD6004	√	90.2	23.6/11.8	155	20.70	
	1800	208-230/460	215TC	N	GT1319A	215TFBD6029	√	91.7	27.3-25.0/12.5	165	20.70	
15	3600	230/460	215TC	N	GT1317A	215TFBD6005		91.7	35.0/17.4	150	20.70	
	1800	230/460	254TC	Y	GT1322	254TFCD6042		92.4	37.5/18.8	318	24.65	
20	1800	230/460	256TC	Y	GT1325	256TFCD6042		93.0	48.5/24.2	330	26.39	
25	1200	230/460	324TC	Y	GT1329	324TFCD6079	√	93.0	64.0/32.0	690	29.69	YD
40	1800	230/460	324TC	Y	GT1334	324TFCD6039	C/A	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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	N	GT1205A	182TFBD6078	√	87.5	4.6/2.3	91	15.85	
2	1200	230/460	184TC	N	GT1208A	184TFBD6078	√	88.5	6.2/3.1	104	16.85	
3	3600	230/460	182TC	N	GT1209A	182TFBD6003	√	86.5	8.0/4.0	83	15.85	
	3600	575	182TC	N	GT1409A	182TFBD6007		86.5	3.2	83	15.85	
	1800	230/460	182TC	N	GT1210A	182TFBD6028	√	89.5	8.0/4.0	105	15.85	
	1800	230/460	182TC	N	GT1210A-P	182TFBD6030	C/A	89.5	8.0/4.0	105	15.85	
	1800	575	182TC	N	GT1410A	182TFBD6032		89.5	3.2	108	15.85	
	1200	230/460	213TC	N	GT1211A	213TFBD6078	√	89.5	8.6/4.3	164	19.10	
	3600	230/460	184TC	N	GT1212A	184TFBD6003	√	88.5	12.4/6.2	97	16.85	
5	3600	575	184TC	N	GT1412A	184TFBD6007		88.5	5.0	97	16.85	
	1800	230/460	184TC	N	GT1213A	184TFBD6028	√	89.5	13.2/6.6	105	16.85	
	1800	230/460	184TC	N	GT1213A-P	184TFBD6030		89.5	13.2/6.6	105	16.85	
	1800	575	184TC	N	GT1413A	184TFBD6032	√	89.5	5.2	105	16.85	
	1200	230/460	215TC	N	GT1214A	215TFBD6078	√	89.5	13.6/6.8	185	20.70	
7 1/2	3600	230/460	213TC	N	GT1215A	213TFBD6003	√	89.5	18.4/9.2	136	19.10	
	3600	575	213TC	N	GT1415A	213TFBD6007		89.5	7.4	138	19.10	
	1800	230/460	213TC	N	GT1216A	213TFBD6028	√	91.7	19/9.5	158	19.10	
	1800	230/460	213TC	N	GT1216A-P	213TFBD6030	√	91.7	19/9.5	158	19.10	
	1800	575	213TC	N	GT1416A	213TFBD6032		91.7	7.6	157	19.10	
10	1200	230/460	254TC	Y	GT1217A	254TFCD6078		91.0	19.8/9.9	315	24.65	
	3600	230/460	215TC	N	GT1218A	215TFBD6003	√	90.2	23.6/11.8	155	20.70	
	3600	230/460	215TC	N	GT1218A-P	215TFBD6010		90.2	23.6/11.8	155	20.70	
	3600	575	215TC	N	GT1418A	215TFBD6007		90.2	10.0	172	20.70	
	1800	208-230/460	215TC	N	GT1219A	215TFBD6028	√	91.7	27.3-25.0/12.5	175	20.70	
	1800	208-230/460	215TC	N	GT1219A-P	215TFBD6030	C/A	91.7	27.3-25.0/12.5	175	20.70	
	1800	575	215TC	N	GT1419A	215TFBD6032		91.7	10.0	186	20.70	
	1200	230/460	256TC	Y	GT1220A	256TFCD6078	√	91.0	25.8/12.9	345	26.39	
	3600	230/460	215TC	N	GT1217A	215TFBD6001	√	91.7	35.0/17.4	158	20.70	
	3600	230/460	254TC	Y	GT1221A	254TFCD6003	√	91.0	35.5/17.8	336	24.65	
15	3600	575	254TC	Y	GT1421A	254TFCD6007		91.0	14.0	336	24.65	
	1800	230/460	254TC	Y	GT1222A	254TFCD6028	√	92.4	37.5/18.8	311	24.65	
	1800	575	254TC	Y	GT1422A	254TFCD6032		92.4	15.0	325	24.65	
	1200	230/460	284TC	Y	GT1223	284TFCD6078		91.7	40.0/20.0	450	26.65	YD

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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
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	C/A	93.0	48.5/24.2	330	26.39	
	1200	230/460	286TC	Y	GT1226	286TTFCD6078	C/A	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
	1800	230/460	284TC	Y	GT1228A-P	284TTFCD6031	C/A	93.6	60.0/30.0	470	26.64	YD
	1200	230/460	324TC	Y	GT1229	324TTFCD6078	C/A	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
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	C/A	93.6	71.0/35.5	504	28.14	YD
1200		230/460	326TC	Y	GT1232	326TTFCD6078	C/A	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	C/A	94.1	95.0/47.5	624	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	C/A	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	C/A	94.5	117/58.5	611	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	C/A	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	C/A	95.0	138/69.0	1000	31.19	YD
	1200	230/460	404TC	Y	GT1241	404TTFCD6078	C/A	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	C/A	95.4	171/85.5	915	34.30	YD
	1800	230/460	365TSC	Y	GT1262	365TSTFCD6038	C/A	95.4	172/86.0	908	32.17	YD
	1200	230/460	405TC	Y	GT1244	405TTFCD6078	C/A	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	C/A	95.4	226/113	1191	35.77	YD
	1200	230/460	444TC	Y	GT1247	444TTFCD6078	C/A	95.0	229/115	1764	46.71	YD

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
1 1/2	1200	230/460	182TC	N	GT12305	182TTFBD6077	C/A	87.5	4.8/2.4	91	15.75	
2	1200	230/460	184TC	N	GT12308	184TTFBD6077		88.5	6.0/3.0	104	15.75	
3	3600	230/460	182TC	N	GT12309	182TTFBD6015	C/A	86.5	7.6/3.8	83	15.75	
	1800	230/460	182TC	N	GT12310	182TTFBD6035	C/A	89.5	7.8/3.9	105	15.75	
	1200	230/460	213TC	N	GT12311	213TTFBD6075		89.5	8.6/4.3	164	19.12	
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	
	1200	230/460	215TC	N	GT12314	215TTFBD6075		89.5	13.6/6.8	185	20.62	
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	
	1200	230/460	254TC	N	GT12317	254TTFBD6077		91.0	19.8/9.9	160	24.65	
10	3600	230/460	215TC	N	GT12318	215TTFBD6015	C/A	90.2	23.6/11.8	155	20.62	
	1800	208-230/460	215TC	N	GT12319	215TTFBD6035	C/A	91.7	27.3-25.0/12.5	150	20.62	
	1200	230/460	256TC	N	GT12378	256TTFBD6077		91.0	25.8/12.9	165	26.39	
15	3600	230/460	215TC	N	GT12374	215TTFBD16015		90.2	23.6/11.8	155	20.62	
	3600	230/460	254TC	N	GT12371	254TTFBD6015		91.0	35.5/17.8	160	26.39	
	1800	230/460	254TC	N	GT12369	254TTFBD6035		92.4	37.5/18.8	160	24.65	
20	3600	230/460	256TC	N	GT12366	256TTFBD6015		91.0	47.5/23.7	165	26.39	
	1800	230/460	256TC	N	GT12364	256TTFBD6035		93.0	48.5/24.2	165	26.39	

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 Blue shaded areas are cast iron frames.

XRI®-SEVERE DUTY MOTORS

TEFC COOLING TOWER: SINGLE-SPEED RIGID BASE, 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



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. 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	C/A	2:1	95.0	136/68.0	1078	33.40
75	1800	230/460	365T	U878B	365TTFCD16827	C/A	2:1	95.5	170/85.0	1169	34.40
100	1800	230/460	405T	U879B	405TTFCD16834	C/A	2:1	95.4	226/113	1458	38.88
125	1800	460	444T	U880B	444TTFCD16549	C/A	2:1	95.4	140	1990	46.83
150	1800	460	445T	U881B	445TTFCD16866	C/A	2:1	95.8	169	2343	46.83
200	1800	460	445T	U882B	445TTFCD16852	C/A	2:1	96.5	219	2556	51.20
250	1800	460	449T	U884B	449TTFCD36649		2:1	96.2	272	2409	55.33

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*See back cover page for attribution.

XRI®-SEVERE DUTY MOTORS

TEAO COOLING TOWER: SINGLE-SPEED,
RIGID BASE, 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



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.
3	1800	230/460	182T	U1867A	182TTTCD16571	C/A	10:1	89.5	8.0/4.0	200
	1200	230/460	213T	U1852	213TTTCD6580	C/A	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	C/A	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	C/A	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	C/A	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	C/A	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	C/A	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	C/A	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	C/A	10:1	93.0	77.0/38.5	758
40	1800	230/460	324T	U1875A	324TTTCD16535	C/A	2:1	94.1	95.0/47.5	775
	1200	230/460	364T	U1860	364TTTCD6580	C/A	2:1	94.1	104/52.0	849
50	1800	230/460	326T	U1876A	326TTTCD16533	C/A	2:1	94.5	117/58.5	850
	1200	230/460	365T	U1861	365TTTCD6580	C/A	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	C/A	2:1	94.5	150/75.0	1131
75	1800	230/460	365T	U1878A	365TTTCD16536	C/A	2:1	95.5	170/85.0	930
	1200	230/460	405T	U1863	405TTTCD6580	C/A	2:1	95.0	177/88.5	1175
100	1800	230/460	405T	U1879A	405TTTCD16537	C/A	2:1	95.4	226/113	1162
	1200	230/460	444T	U1864	444TTTCD6580	C/A	2:1	95.0	230/115	1764
125	1800	460	444T	U1880A	444TTTCD16535		2:1	95.4	140	1650
	1200	460	445T	U1865	445TTTCD6580	C/A	2:1	95.0	143	1852
150	1800	460	445T	U1881A	445TTTCD16536	C/A	2:1	95.8	169	1670
	1200	460	445T	U1866	445TTTCD16580	C/A	2:1	95.8	171	1895
200	1800	460	445T	U1882A	445TTTCD16537		2:1	96.5	219	2042
	1200	460	447/449T	U1883	449TTTCD6580	C/A	2:1	95.8	230	2494
250	1800	460	447/449T	U1884A	449TTTCD16539	C/A	2:1	96.2	272	2409
	1200	460	447/449T	U1885	449TTTCD16580	C/A	2:1	95.8	284	2745

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XRI[®]-SD AND XRI-841 MOTORS

DESIGNED FOR EXTREME APPLICATIONS

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



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



Specifications	Features	Globetrotter TEFC Motors	XRI-Severe Duty Motor	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	•		
	Polypropylene (182T-326T)	•		
	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 manufacture	•	•	
	60 mo. From date of first use, 66 mo. From date of manufacture			•
	Optional extended warranties are available	•	•	•

1 = Except as Noted

*See back cover page for attribution.

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
- Bearing Current Protection (BCP), as noted
- 100% cast iron construction for rigidity and reduced vibration
- Provisions to add stub shaft for an encoder (182T-449T, TEFC only)
- Internal and external epoxy paint
- MAX GUARD® motor Class H insulation system
- Constant torque speed range is listed in CT speed range column
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Bearing caps (182T and larger)
- Precision balanced to .08"/sec
- Extended grease tubes, regreasable in service
- Corrosion resistant bronze sintered drain and breather
- Meets IEEE45 USCG Marine Duty
- Meets Ford® EM1 automotive duty specification
- 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
- Actual test and vibration data supplied with each motor
- Ball bearings (except as noted)
- UL® Recognized (through 5011) and CSA® certified and CE® mark
- Three year warranty
- V-Ring Seal (DE & ODE)
- All models are IP55 except



Models through 40 HP are capable of modification as follows (contact factory to confirm):

- 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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1 1/2	1200	230/460	182T	E465A	182TTTCD6578	C/A	10:1	87.5	4.6/2.3	106	12.82	75, N	A420
	1200	460	182T	E380B	182TTFC6578		10:1	87.5	2.3	118	15.20	75	A420
	1200	460	182T	E632A	182TTTCD6576		10:1	87.5	2.3	109	12.82	75, N	A420
2	1200	230/460	184T	E468	184TTTS6582	C/A	20:1	88.5	6.0/3.0	124	13.74	75, N P,	A420
	1200	460	184T	E388B	184TTFC6576	C/A	10:1	88.5	3.0	129	16.20	75	A420
	1200	460	184T	E633A	184TTTCD6576	√	10:1	88.5	3.0	102	13.82	75, N	A420
3	3600	230/460	182T	E390A	182TTFC6501		10:1	86.5	8.0/4.0	97	15.20	75	A420
	3600	460	182T	E601	182TTTS6501		1000:1	89.5	3.8	103	12.74	75, N, F, IP54	A644
	3600	575	182T	E392A	182TTFC6505		2:1	86.5	3.2	100	15.20	75	A420
	3600	575	182T	E853A	182TTTCD6505	√	2:1	89.5	2.8	105	13.82	75, N	A420
	1800	230/460	182T	E470A	182TTTCD6538	√	10:1	89.5	7.8/3.9	112	13.82	75, N	A420
	1800	460	182T	E616A	182TTTCD6526	√	10:1	89.5	3.9	112	13.82	75, N	A420
	1800	575	182T	E6269	182TTTS6530	C/A	20:1	90.2	3.2	103	12.74	75, NF, IP54	A644
	1800	575	182T	E669A	182TTTCD6530		10:1	89.5	3.1	120	13.82	75, N	A420
	1200	230/460	213T	E471B	213TTFC6594		20:1	89.5	8.6/4.3	179	18.53	75	A421
5	1200	460	213T	E634B	213TTFC6576	√	20:1	89.5	4.3	179	18.53	75	A421
	3600	230/460	184T	E472A	184TTFC6810	√	20:1	88.5	12.0/6.0	103	16.20	75	A420
	3600	460	184T	E602A	184TTFC6501	√	10:1	88.5	6.0	106	16.20	75	A420
	3600	575	184T	E655A	184TTFC6505		2:1	88.5	4.8	111	16.20	75	A420
	1800	230/460	184T	E473A	184TTFC6844	√	20:1	89.5	13.0/6.5	126	16.20	75	A420
	1800	460	184T	E617A	184TTFC6526	√	20:1	89.5	6.5	118	16.20	75	A420
	1800	575	184T	E670A	184TTFC6530		10:1	89.5	5.2	118	16.20	75	A420
	1200	230/460	215T	E474B	215TTFC6881	√	20:1	89.5	13.6/6.8	209	20.03	75	A421
	1200	460	215T	E635B	215TTFC6576	√	20:1	89.5	6.8	203	20.03	75	A421
	1200	575	215T	E683B	215TTFC6580		10:1	89.5	5.5	194	20.03	75	A421

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
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*See back cover page for attribution.

Continued on next page.

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.	FL. 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	75, N	A421
	3600	460	213T	E396B	213TTFC6501		20:1	89.5	9.2	156	18.53	75	A421
	3600	460	213T	E603B	213TTTCD6501	√	2:1	91.0	8.7	176	15.97	75, N	A421
	3600	575	213T	E656B	213TTTCD6505		2:1	91.0	7.0	190	15.97	75, N	A421
	1800	230/460	213T	E476B	213TTFC6531	√	20:1	91.7	19.0/9.5	197	18.53	75	A421
	1800	460	213T	E618B	213TTFC6526	√	20:1	91.7	9.5	205	18.53	75	A421
	1800	575	213T	E671B	213TTFC6530		10:1	91.7	7.6	201	18.53	75	A421
	1200	230/460	254T	E477A	254TTFC6590		10:1	91.0	19.8/9.9	299	24.15	75	A173A
	1200	460	254T	E636A	254TTFC6576		10:1	91.0	9.9	299	24.15	75	A173A
	1200	575	254T	E684A	254TTFC6578		10:1	91.0	7.9	297	24.15	75	A173A
10	3600	230/460	215T	E478B	215TTFC6807	√	20:1	90.2	23.6/11.8	210	20.03	75	A421
	3600	460	215T	E604B	215TTFC6501	√	20:1	90.2	11.8	227	20.03	75	A421
	3600	575	215T	E657B	215TTFC6505	C/A	2:1	90.2	9.5	195	20.03	75	A421
	1800	230/460	215T	E479B	215TTFC6527	√	20:1	91.7	25.0/12.5	228	20.03	75	A421
	1800	230/460	215T	E479B-P	215TTFC616847		10:1	91.7	25.0/12.5	212	20.03	75, P	A421
	1800	460	215T	E619B	215TTFC6526	√	20:1	91.7	12.5	212	20.03	75	A421
	1800	575	215T	E672B	215TTFC6530		10:1	91.7	10.0	216	20.03	75	A421
	1200	230/460	256T	E480A	256TTFC6596	√	10:1	91.0	25.8/12.9	319	25.89	75	A173A
	1200	460	256T	E637A	256TTFC6576	√	10:1	91.0	12.9	344	25.89	75	A173A
	1200	575	256T	E685A	256TTFC6578	C/A	10:1	91.0	10.3	317	25.89	75	A173A
15	3600	230/460	254T	E481A	254TTFC6515	√	20:1	91.0	35.5/17.8	335	24.15	75	A173A
	3600	460	254T	E605A	254TTFC6501	√	20:1	91.0	17.8	333	24.15	75	A173A
	3600	575	254T	E658A	254TTFC6503		2:1	91.0	14.3	335	24.15	75	A173A
	1800	230/460	254T	E482A	254TTFC6529	√	10:1	92.4	37.5/18.8	345	24.15	75	A173A
	1800	460	254T	E620A	254TTFC6526	√	20:1	92.4	18.8	347	24.15	75	A173A
	1800	460	254T	E620A-P	254TTFC616838		10:1	92.4	18.8	347	24.15	75, P	A173A
	1800	575	254T	E673A	254TTFC6528	√	10:1	92.4	15.1	327	24.15	75	A173A
	1200	230/460	284T	E483A	284TTFC6876	√	10:1	91.7	40.0/20.0	479	26.64		A175A
	1200	460	284T	E638A	284TTFC6576		10:1	91.7	20.0	479	26.64		A175A
	1200	575	284T	E694A	284TTFC6580	C/A	10:1	91.7	16.0	479	26.64		A175A
20	3600	230/460	256T	E484A	256TTFC6523	√	2:1	91.0	47.5/23.7	345	25.89	75	A173A
	3600	460	256T	E606A	256TTFC6501	√	2:1	91.0	23.7	375	25.89	75	A173A
	3600	575	256T	E659A	256TTFC6503	C/A	2:1	91.0	19.0	375	25.89	75	A173A
	1800	230/460	256T	E485A	256TTFNA6529		10:1	93.0	48.0/24.1	355	25.89	75	A173A
	1800	460	256T	E621A	256TTFC6526	√	20:1	93.0	24.2	425	25.89	75	A173A
	1800	460	256T	E621A-P	256TTFC616855	√	10:1	93.0	24.2	425	25.89	75, P	A173A
	1800	575	256T	E674A	256TTFC6528		10:1	93.0	19.4	425	25.89	75	A173A
	1200	230/460	286T	E486A	286TTFC6876	√	10:1	91.7	52.0/26.0	479	28.14		A175A
	1200	460	286T	E639A	286TTFC6576	√	10:1	91.7	26.0	490	28.14		A175A
	1200	575	286T	E695A	286TTFC6580	C/A	10:1	91.7	20.8	450	28.14		A175A
25	3600	230/460	284TS	E487A	284TSTFC6807		2:1	91.7	60.0/30.0	450	25.27		A175A
	3600	460	284TS	E607A	284TSTFC6501	√	2:1	91.7	30.0	440	25.27		A175A
	3600	575	284TS	E660A	284TSTFC6502	C/A	2:1	91.7	24.0	481	25.27		A175A
	1800	230/460	284T	E1228	284TTFC6635	√	10:1	93.6	60.0/30.0	494	26.64	RB	A175A
	1800	230/460	284T	E488A	284TTFC6837	√	10:1	93.6	60.0/30.0	494	26.64		A175A
	1800	460	284T	E622A	284TTFC6526	√	10:1	93.6	30.0	486	26.64		A175A
	1800	460	284T	E622A-P	284TTFC616851		20:1	93.6	30.0	486	26.64	P	A175A
	1800	575	284T	E675A	284TTFC6527		20:1	93.6	24.0	432	26.64		A175A
	1200	460	324T	E1229	324TTFC6685	√	2:1	93.0	32.0	620	29.85	RB	A177A
	1200	460	324T	E640A	324TTFC6576	√	20:1	93.0	32.0	620	29.85		A177A
30	1200	575	324T	E696A	324TTFC6577	C/A	20:1	93.0	25.6	675	29.85		A177A
	3600	230/460	286TS	E490A	286TSTFC6804		2:1	91.7	71.0/35.5	450	26.77		A175A
	3600	460	286TS	E608A	286TSTFC6501		2:1	91.7	35.5	450	26.77		A175A
	1800	230/460	286T	E1231	286TTFC6635		10:1	93.6	71.0/35.5	529	28.14	RB	A175A
	1800	230/460	286T	E491	286TTFNA6570	C/A	20:1	94.1	73.0/36.5	538	27.84	F, IP54	A618
	1800	230/460	286T	E491A	286TTFC6570	√	10:1	93.6	71.0/35.5	529	28.14		A175A
	1800	460	286T	E623A	286TTFC6526	√	10:1	93.6	35.5	527	28.14		A175A
	1800	460	286T	E623A-P	286TTFC616847	C/A	10:1	93.6	35.5	530	28.14	P	A175A
	1800	575	286T	E676A	286TTFC6527	√	10:1	93.6	28.4	525	28.14		A175A
	1200	460	326T	E1232	326TTFC6685	√	2:1	93.0	38.0	658	31.35	RB	A177A
1200	460	326T	E641	326TTFS6576		20:1	93.0	38.5	725	30.37	F, IP54	A214	
1200	575	326T	E400A	326TTFC6580	√	2:1	93.0	30.5	658	31.35		A177A	

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
40	3600	460	324TS	E609A	324TSTFCD6501	√	2:1	92.4	46.0	600	28.35		A177A
	3600	575	324TS	E662A	324TSTFCD6505	C/A	2:1	92.4	37.0	452	28.35		A177A
	1800	460	324T	E1234	324TTFCD6635		2:1	94.1	47.5	657	29.85	RB	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	575	324T	E677A	324TTFCD6527		20:1	94.1	38.0	670	29.85		A177A
	1200	460	364T	E1235	364TTFCD6685	√	2:1	94.1	48.0	882	33.40	RB	A179A
	1200	460	364T	E642B	364TTFCD16584	√	2:1	94.1	48.0	882	33.40		A179A
50	1200	575	364T	E401B	364TTFCD16585	√	2:1	94.1	38.5	882	33.40		A179A
	3600	460	326TS	E610A	326TSTFCD6501	√	2:1	94.1	56.5	695	29.85		A177A
	3600	575	326TS	E663A	326TSTFCD6502	C/A	2:1	94.1	45.0	725	29.85		A177A
	1800	460	326T	E1237	326TTFCD6635		2:1	94.5	58.5	730	31.35	RB	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	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	E1238	365TTFCD6685	√	2:1	94.1	60.5	987	34.40	RB	A179A
	1200	460	365T	E643B	365TTFCD16591	√	10:1	94.1	60.5	987	34.40		A179A
1200	575	365T	E402B	365TTFCD16592	C/A	2:1	94.1	48.5	987	34.40		A179A	
60	3600	460	364TS	E611A	364TSTFCD6501		2:1	93.6	67.5	830	33.27		A179A
	3600	575	364TS	E664A	364TSTFCD6505	√	2:1	93.6	54.0	900	33.27		A179A
	1800	460	364T	E1240	364TTFCD6635		2:1	95.0	68.0	900	33.40	RB	A179A
	1800	460	364T	E1240-P	364TTFCD6535	C/A	2:1	95.0	68.0	805	33.40	RB, H, P	A179A
	1800	460	364T	E626A	364TTFCD6536	√	10:1	95.0	68.0	932	33.40		A179A
	1800	460	364T	E626A-P	364TTFCD16833	C/A	10:1	95.0	68.0	900	33.40	P	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	E1241	404TTFCD6685	C/A	2:1	94.5	71.5	1200	38.88	RB	A425A
	1200	460	404T	E644A	404TTFCD6586	√	20:1	94.5	71.5	1200	38.88		A425A
1200	575	404T	E403A	404TTFCD6592	C/A	2:1	94.5	57.0	1200	38.88		A425A	
75	3600	460	365TS	E612A	365TSTFCD6501		2:1	94.5	84.0	939	34.27		A179A
	3600	575	365TS	E665A	365TSTFCD6502	C/A	2:1	94.5	67.0	939	34.27		A179A
	1800	460	365T	E1243	365TTFCD6635	√	2:1	95.5	85.0	1064	34.40	RB	A179A
	1800	460	365T	E627A	365TTFCD6536	√	10:1	95.5	85.0	979	34.40		A179A
	1800	460	365T	E627A-P	365TTFCD16862	C/A	2:1	95.5	85.0	1064	34.40	P	A179A
	1800	460	365TS	E455A	365TSTFCD6526	√	2:1	95.5	85.0	1028	34.27		A179A
	1800	575	365T	E680A	365TTFCD6537	C/A	10:1	95.5	68.0	1028	34.40		A179A
	1200	460	405T	E1244	405TTFCD6685	√	2:1	94.5	89.0	1306	38.88	RB	A425A
	1200	460	405T	E645A	405TTFCD6586		2:1	94.5	89.0	1306	38.88		A425A
	1200	575	405T	E404A	405TTFCD6587	C/A	20:1	94.5	71.0	1295	38.88		A425A
100	3600	460	405TS	E613A	405TSTFCD6501		2:1	94.5	111	1185	35.88		A424A
	3600	575	405TS	E493A	405TSTFCD6502	C/A	2:1	94.5	89.0	1146	35.88		A424A
	1800	460	405T	E1246	405TTFCD6635	C/A	2:1	95.4	113	1295	38.77	RB	A425A
	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	405TS	E456A	405TSTFCD6526		2:1	95.4	113	1295	35.88		A424A
	1800	575	405T	E681A	405TTFCD6538		2:1	95.4	90.5	1295	38.88		A425A
	1200	460	444T	E1247	444TTFCD6685	C/A	2:1	95.0	115	1864	46.71	RB	A427A
	1200	460	444T	E327A	444TTFCD16577	C/A	20:1	95.0	115	1957	46.71		A427A
	1200	460	444T	E646B	444TTFCD16581	√	2:1	95.0	115	1864	46.83		A427A
1200	575	444T	E405B	444TTFCD16582	C/A	2:1	95.0	91.5	1859	46.83		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	E1249	444TTFCD6635	√	2:1	95.4	140	1700	46.83	RB	A427A
	1800	460	444T	E629A	444TTFCD6536	√	2:1	95.4	140	1707	46.83		A427A
	1800	460	444T	E629A-P	444TTFCD16574	C/A	2:1	95.4	140	1707	46.83	P	A427A
	1800	575	444T	E697A	444TTFCD6540		2:1	95.4	112	1707	46.83		A427A
	1800	460	444TS	E457A	444TSTFCD6526		2:1	95.4	140	1707	43.08		A427A
	1200	460	445T	E1250	445TTFCD6685		2:1	95.0	143	1950	46.83	RB	A427A
	1200	460	445T	E647A	445TTFCD6586		2:1	95.0	143	1961	46.83		A427A
	1200	575	445T	E406A	445TTFCD6590	C/A	2:1	95.0	114	1961	46.83		A427A

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
150	3600	460	445TS	E615A	445STFC6501	√	2:1	95.0	161	1909	43.08		A426A
	3600	575	445TS	E495A	445STFC6502	C/A	2:1	95.0	128	1909	43.08		A426A
	1800	460	445T	E1252	445TTFCD6635		2:1	95.8	169	1867	46.83	RB	A427A
	1800	460	445T	E630A	445TTFCD6536	√	2:1	95.8	169	1900	46.83		A427A
	1800	460	445TS	E458A	445STFC6526		2:1	95.8	169	1900	43.08		A427A
	1800	575	445T	E682A	445TTFCD6537	C/A	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	460	447T	E1253	447TTFCD6685	C/A	10:1	95.8	170	2483	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	445STFC6505	√	2:1	95.4	217	2278	47.45		A426A
	3600	575	445TS	E496A	445STFC6506	C/A	2:1	95.4	174	2303	47.45		A426A
	1800	460	445T	E631A	445TTFCD6538	√	2:1	96.5	219	2276	51.20	RB	A427A
	1800	460	445TS	E459A	445STFC6528		2:1	96.5	219	2257	47.45		A426A
	1800	460	447T	E1255	447TTFCD6635	C/A	2:1	96.5	219	2310	51.20	RB	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	447T	E1355	447TTFCD6638	C/A	2:1	96.5	175	2437	51.20	RB	A427A
	1800	575	449T	E856A	449TTFCD6564	√	2:1	96.5	175	2437	55.33	RB	A427A
	1200	460	449T	E1256	449TTFCD6685	C/A	2:1	95.0	230	2750	55.33	RB	A427A
	1200	460	449T	E687A	449TTFCD6588	√	2:1	95.8	230	2570	55.33	RB	A427A
	1200	460	449T	E773A	449TTFCD6578	√	2:1	95.8	230	2568	55.33		A427A
	1200	575	449T	E1356	449TTFCD6680	C/A	2:1	95.8	184	2570	55.33	RB	A427A
	1200	575	449T	E408A	449TTFCD6582	C/A	2:1	95.8	184	2570	55.33	RB	A427A
250	3600	460	449TS	E699A	449STFC6503	√	2:1	95.8	266	2458	51.58		A426A
	1800	460	449T	E690A	449TTFCD6538	√	2:1	96.2	272	2770	55.33	RB	A427A
	1800	460	449T	E771A	449TTFCD6528	√	2:1	96.2	272	2638	55.33		A427A
	1200	460	449T	E688A	449TTFCD6587	C/A	2:1	95.8	285	3414	55.33		A427A
	1200	460	449T	E774A	449TTFCD6577		2:1	95.8	285	2213	55.33		A427A
300	3600	460	449TS	E698A	449STFC6502	√	2:1	95.8	320	2549	51.58		A426A
	1800	460	449T	E691A	449TTFCD6537	√	2:1	96.2	332	2473	55.33	RB	A427A
	1800	460	449T	E772A	449TTFCD6527		2:1	96.2	332	2840	55.33		A427A
	1800	575	449T	E345A	449TTFCD16534	√	2:1	96.2	266	3221	55.33		A427A
350	1200	460	449T	E360	449TTFCD6576	√	2:1	95.8	342	3415	59.27	d	A427A
	3600	460	449TS	E769A	449STFC6501	√	2:1	95.8	373	2621	51.58		A426A
400	1800	460	449T	E692A	449TTFCD6536		2:1	96.2	390	2860	55.33	RB	A427A
	3600	460	449TS	E369A	449STFC6500	C/A	2:1	95.8	327	2631	55.51		A426A
	1800	460	449T	E776A	449TTFCD16553	√	N/A	96.2	440	3154	59.27		A427A

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*See back cover page for attribution.

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.	FL. 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	C/A	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	C/A	10:1	89.5	8.6/4.3	220	19.28	
5	1800	230/460	184TC	E033	184TTFCD6540	√	10:1	89.5	13.0/6.5	105	16.95	
	1200	230/460	215TC	E034	215TTFCD6588	C/A	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	C/A	10:1	91.0	19.8/9.9	362	24.65	
10	1800	230/460	215TC	E039	215TTFCD6540		10:1	91.7	25.0/12.5	227	20.78	
	1200	230/460	256TC	E040	256TTFCD6588	C/A	10:1	91.0	25.8/12.9	375	26.39	
15	1800	230/460	254TC	E042	254TTFCD6540		10:1	92.4	37.5/18.8	367	24.65	
	1200	230/460	284TC	E043	284TTFCD6588	C/A	10:1	91.7	40.0/20.0	479	26.64	
20	1800	230/460	256TC	E045	256TTFCD6540		10:1	93.0	48.5/24.2	377	26.39	
	1200	230/460	286TC	E046	286TTFCD6588	C/A	10:1	91.7	52.0/26.0	491	28.14	
25	1800	230/460	284TC	E048	284TTFCD6540		10:1	93.6	60.0/30.0	481	26.64	
	1200	460	324TC	E049	324TTFCD6588	C/A	2:1	93.0	32.0	730	29.85	
30	1800	230/460	286TC	E051	286TTFCD6540		10:1	93.6	71.0/35.5	501	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	C/A	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	C/A	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	C/A	2:1	94.5	89.0	1320	38.88	
100	1800	460	405TC	E066	405TTFCD6540	√	2:1	95.4	113	1280	38.88	
	1200	460	444TC	E067	444TTFCD6588	C/A	2:1	95.0	115	2020	46.83	

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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.

NEW XRI-841 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
- Bearing current protection (BCP), as noted
- 100% cast iron construction for rigidity and reduced vibration
- Provisions to add stub shaft for an encoder (182T-449T, TEFC only)
- Inpro/Seal®* VBX®* bearing isolators on drive end shaft extension
- TENV and on both ends of TEFC
- Internal and external epoxy paint
- MAX GUARD® motor Class H insulation system
- Constant torque speed range is listed in CT speed range column
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Bearing caps (182T and larger)
- Precision balanced to .08"/sec
- Extended grease tubes, regreasable in service



Models through 40 HP are capable of modification as follows (contact factory to confirm):

- 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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
1	900	460	182T	W504A	182THFCD19101		10:1	75.5	2.0	81	15.20	75	A182A
	1200	460	182T	W509A	182THTCDD9076	C/A	10:1	87.5	2.3	111	12.82	75, N	A182A
1 1/2	1200	460	182T	W509A-P	182THTCDD9077	C/A	10:1	87.5	2.3	111	12.82	75, P, N	A182A
	900	460	184T	W510A	184THFCD9101	C/A	10:1	78.5	2.5	97	16.20	75	A182B
2	1200	460	184T	W515A	184THTCDD9076		10:1	88.5	3.0	124	13.82	75, N	A182A
	1200	460	184T	W515A-P	184THTCDD9077	C/A	10:1	88.5	3.0	125	13.82	75, N, P	A182A
	900	460	213T	W516A	213THFCD9101	C/A	10:1	84.0	3.2	150	18.53	75	A183B
3	3600	460	182T	W517A	182THTCDD9001	C/A	2:1	89.5	3.5	100	13.82	75, N	A182A
	3600	460	182T	W517A-P	182THTCDD9002	C/A	2:1	89.5	3.5	105	13.82	75, N, P	A182A
	1800	460	182T	W519A	182THTCDD9026	√	10:1	89.5	3.9	109	13.82	75, N	A182A
	1800	460	182T	W519A-P	182THTCDD9037		10:1	89.5	3.9	144	13.82	75, N, P	A182A
	1800	575	182T	W520A	182THTCDD19033	√	10:1	89.5	3.1	110	13.82	75, N	A182A
	1200	460	213T	W521B	213THFCD9076		10:1	89.5	4.3	184	18.53	75	A183A
	1200	460	213T	W521B-P	213THFCD9077	C/A	10:1	89.5	4.3	206	18.53	75, P	A183A
	900	460	215T	W522B	215THFCD9101	C/A	10:1	85.5	4.6	167	20.03	75	A183A
5	3600	460	184T	W523A	184THFCD9001	√	2:1	88.5	6.0	101	16.20	75	A182A
	3600	460	184T	W523A-P	184THFCD9002	C/A	2:1	88.5	6.0	126	16.20	75, P	A182A
	3600	575	184T	W524A	184THFCD19006	C/A	2:1	88.5	4.8	102	16.20	75	A182A
	1800	460	184T	W525A	184THFCD9026	√	10:1	89.5	6.5	109	16.20	75	A182A
	1800	460	184T	W525A-P	184THFCD9037		10:1	89.5	6.5	116	16.20	75, P	A182A
	1800	575	184T	W526A	184THFCD9030		10:1	89.5	5.2	118	16.20	75	A182A
	1200	460	215T	W527B	215THFCD9076		10:1	89.5	6.8	178	20.03	75	A183A
	1200	460	215T	W527B-P	215THFCD9077	C/A	10:1	89.5	6.8	178	20.03	75, P	A183A
	1200	575	215T	W528B	215THFCD19077	C/A	10:1	89.5	5.5	215	20.03	75	A183A
	900	460	254T	W529A	254THFCD9101	C/A	10:1	86.5	7.1	370	24.15	75	A184A
7 1/2	3600	460	213T	W530B	213THTCDD9001	√	2:1	91.7	8.6	204	17.47	75, N	A183A
	3600	460	213T	W530B-P	213THTCDD9002	C/A	2:1	91.7	8.6	191	17.47	75, N, P	A183A
	3600	575	213T	W531A	213THTCDD19005		2:1	91.7	6.9	191	17.47	75, N	A183A

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 Continued on next page.

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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
7 1/2	1800	460	213T	W532B	213THFCD9026	C/A	10:1	91.7	9.5	215	18.53	75	A183A
	1800	460	213T	W532B-P	213THFCD9037	C/A	10:1	91.7	9.5	213	18.53	75, P	A183A
	1800	575	213T	W533B	213THFCD9030	C/A	10:1	91.7	7.6	207	18.53	75	A183A
	1200	460	254T	W534A	254THFCD9076		10:1	91.0	9.9	299	24.15	75	A184A
	1200	460	254T	W534A-P	254THFCD9077	C/A	10:1	91.0	9.9	260	24.15	75, P	A184A
	900	460	256T	W536A	256THFCD9101	C/A	10:1	86.5	10.5	340	25.89	75	A184A
10	3600	460	215T	W537B	215THFCD9001	√	2:1	90.2	11.8	176	20.03	75	A183A
	3600	460	215T	W537B-P	215THFCD9002	C/A	2:1	90.2	11.8	176	20.03	75, P	A183A
	3600	575	215T	W538B	215THFCD19006	C/A	2:1	90.2	10.8	200	20.03	75	A183A
	1800	460	215T	W539B	215THFCD9026	C/A	10:1	91.7	12.5	216	20.03	75	A183A
	1800	460	215T	W539B-P	215THFCD9037	√	10:1	91.7	12.5	174	20.03	75, P	A183A
	1800	575	215T	W540B	215THFCD19033	C/A	10:1	91.7	10.0	216	20.03	75	A183A
	1200	460	256T	W541A	256THFCD9076	C/A	10:1	91.0	12.9	319	25.89	75	A184A
	1200	460	256T	W541A-P	256THFCD9077	√	10:1	91.0	12.9	383	25.89	75, P	A184A
	1200	575	256T	W542A	256THFCD19081	√	10:1	91.0	10.3	317	25.89	75	A184A
	900	460	284T	W543A	284THFCD19102	√	10:1	89.5	13.8	524	26.64		A186A
	3600	460	254T	W544A	254THFCD9001	√	2:1	91.0	17.8	296	24.15	75	A184A
	15	3600	460	254T	W544A-P	254THFCD9002	C/A	2:1	91.0	17.8	310	24.15	75, P
3600		575	254T	W545A	254THFCD9005	C/A	2:1	91.0	14.3	296	24.15	75	A184A
1800		460	254T	W546A	254THFCD9026	√	10:1	92.4	18.8	293	24.15	75	A184A
1800		460	254T	W546A-P	254THFCD19065	C/A	10:1	92.4	18.8	310	24.15	75, P	A184A
1800		575	254T	W547A	254THFCD9030	C/A	10:1	92.4	15.1	310	24.15	75	A184A
1200		460	284T	W548A	284THFCD9076	√	10:1	91.7	20.0	427	26.64	75	A186A
1200		460	284T	W548A-P	284THFCD9077		10:1	91.7	20.0	438	26.64	75, P	A186A
1200		575	284T	W549A	284THFCD19084	C/A	10:1	91.7	16.0	427	26.64		A186A
900		460	286T	W550A	286THFCD19101		2:1	89.5	20.0	479	28.14		A186A
3600		460	256T	W551A	256THFCD9001	√	2:1	91.0	23.7	338	25.89	75	A184A
3600		460	256T	W551A-P	256THFCD9002	C/A	2:1	91.0	23.7	338	25.89	75, P	A184A
20		3600	575	256T	W552A	256THFCD9005	C/A	2:1	91.0	19.0	338	25.89	75
	1800	460	256T	W553A	256THFCD9026	C/A	10:1	93.0	24.2	322	25.89	75	A184A
	1800	460	256T	W553A-P	256THFCD19056	√	10:1	93.0	24.2	344	25.89	75, P	A184A
	1800	575	256T	W554A	256THFCD19033	C/A	10:1	93.0	19.4	320	25.89	75	A184A
	1200	460	286T	W555A	286THFCD9076	√	10:1	91.7	26.0	489	28.14		A186A
	1200	460	286T	W555A-P	286THFCD9077	C/A	10:1	91.7	26.0	489	28.14	P	A186A
	1200	575	286T	W556A	286THFCD19077		10:1	91.7	20.8	432	28.14		A186A
	900	460	324T	W557A	324THFCD9101	C/A	2:1	90.2	27.0	605	29.85		A187A
	3600	460	284TS	W558A	284TSHFCD9001	√	2:1	91.7	30.0	370	25.27		A186A
	3600	460	284TS	W558A-P	284TSHFCD9002	C/A	2:1	91.7	30.0	445	25.27	P	A186A
25	3600	575	284TS	W559A	284TSHFCD9005	C/A	2:1	91.7	24.0	386	25.27		A186A
	1800	460	284T	W560A	284THFCD9026	C/A	10:1	93.6	30.0	494	26.64		A186A
	1800	460	284T	W560A-P	284THFCD19048	√	10:1	93.6	30.0	493	26.64	P	A186A
	1800	575	284T	W561A	284THFCD19033		10:1	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	C/A	2:1	90.2	33.5	680	31.35		A187A
	3600	460	286TS	W565A	286TSHFCD9001	√	2:1	91.7	35.5	397	26.77		A186A
	3600	460	286TS	W565A-P	286TSHFCD9002	C/A	2:1	91.7	35.5	467	26.77	P	A186A
30	3600	575	286TS	W566A	286TSHFCD9005	C/A	2:1	91.7	28.5	467	26.77		A186A
	1800	460	286T	W567A	286THFCD9026	√	10:1	93.6	35.5	469	28.14		A186A
	1800	460	286T	W567A-P	286THFCD19066	√	10:1	93.6	35.5	531	28.14	P	A186A
	1800	460	286T	W567-P	286THFNA19066		10:1	94.1	36.5	490	28.13		A186
	1800	575	286T	W568A	286THFCD19033	√	10:1	93.6	28.4	467	28.14		A186A
	1200	460	326T	W569A	326THFCD9076	√	2:1	93.0	38.0	693	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	C/A	2:1	93.0	30.5	645	31.35		A187A
	900	460	364T	W570A	364THFCD9101	C/A	2:1	91.7	39.0	730	33.40		A188A
	3600	460	324TS	W571A	324TSHFCD9001		2:1	92.4	46.0	595	28.35		A187A
40	3600	460	324TS	W571A-P	324TSHFCD9002	C/A	2:1	92.4	46.0	595	28.35	P	A187A
	3600	575	324TS	W572A	324TSHFCD9005	C/A	2:1	92.4	37.0	595	28.35		A187A
	1800	460	324T	W573A	324THFCD9026	√	2:1	94.1	47.5	687	29.85		A187A
	1800	460	324T	W573A-P	324THFCD19058	√	2:1	94.1	47.5	657	29.85	P	A187A
	1800	575	324T	W574A	324THFCD19033	C/A	2:1	94.1	38.0	657	29.85		A187A
	1200	460	364T	W575B	364THFCD19087	√	2:1	94.1	48.0	887	33.40		A188A

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 Continued on next page.

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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
40	1200	460	364T	W575B-P	364THFCD9077	√	2:1	94.1	48.0	918	33.40	P	A188A
	1200	575	364T	W639A	364THFCD19077	√	2:1	94.1	38.5	797	33.40		A188A
	900	460	365T	W576A	365THFCD19101	C/A	2:1	91.7	51.5	750	34.40		A188A
50	3600	460	326TS	W577A	326TSHFCD9001		2:1	94.1	56.5	702	29.85		A187A
	3600	460	326TS	W577A-P	326TSHFCD9002	C/A	2:1	94.1	56.5	702	29.85	P	A187A
	3600	575	326TS	W578A	326TSHFCD9005		2:1	94.1	45.0	690	29.85		A187A
	1800	460	326T	W580A	326THFCD9026	√	2:1	94.5	58.5	675	31.35		A187A
	1800	460	326T	W580A-P	326THFCD19071	√	2:1	94.5	58.5	730	31.35	P	A187A
	1800	460	326TS	W579A	326TSHFCD9036	√	2:1	94.5	58.5	728	29.85		A187A
	1800	575	326T	W581A	326THFCD19033	C/A	2:1	94.5	47.0	730	31.35		A187A
	1200	460	365T	W582B	365THFCD19086	√	2:1	94.1	60.5	1001	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	983	34.40		A188A
	900	460	404T	W583A	404THFCD9101		2:1	92.4	62.0	1264	38.88		A188A
60	3600	460	364TS	W584	364TSHFCD9001	C/A	2:1	94.5	67.0	960	29.60		A189
	3600	460	364TS	W584A	364TSHFCD9001	√	20:1	93.6	67.5	833	33.27		A188A
	3600	460	364TS	W584A-P	364TSHFCD9002	C/A	2:1	93.6	67.5	833	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	C/A	2:1	95.0	68.0	875	33.27		A188A
	1800	575	364T	W588A	364THFCD19033	C/A	2:1	95.0	54.5	944	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	C/A	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	C/A	2:1	94.5	84.0	1047	34.27		A188A
	3600	575	365TS	W592A	365TSHFCD19002		2:1	94.5	67.0	1047	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	C/A	2:1	95.5	68.0	1063	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	C/A	2:1	94.5	72.0	1297.0	37.14		A190
	900	460	444T	W597A	444THFCD9101	C/A	2:1	93.6	92.0	1734	46.83		A194A
100	3600	460	405TS	W598A	405TSHFCD9001		2:1	94.5	111	1125	35.88		A191A
	3600	460	405TS	W598A-P	405TSHFCD9002	C/A	2:1	94.5	111	1212	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	1932	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		A194
	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
125	1800	460	444T	W606A	444THFCD9036	√	2:1	95.4	140	1676	46.83		A192
	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	C/A	2:1	95.0	143	2043	46.83	P	A194A
	900	460	445T	W609A	445THFCD9102	C/A	2:1	94.1	162	2432	51.20		A194A
	3600	460	445TS	W610A	445TSHFCD9001		2:1	95.0	161	1870	43.08		A195A
150	3600	460	445TS	W610A-P	445TSHFCD9002	C/A	2:1	95.0	161	1950	43.08	P	A195A
	1800	460	445T	W612	445THFN9036	C/A	10:1	95.8	172	2144	43.35		A194
	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	445TS	W611A	445TSHFCD9026	√	2:1	95.8	169	1835	43.08		A194A
	1800	575	445T	W613A	445THFCD9037	C/A	2:1	95.8	135	1900	46.83		A194
	1800	575	445T	W641A	445THFCD19033		2:1	95.8	135	2300	46.83	RB	A194A
	1200	460	445T	W614A	445THFCD9087	C/A	2:1	95.8	171	2404	51.20	RB	A194A
	1200	460	445T	W614A-P	445THFCD9078	C/A	2:1	95.8	171	2475	51.20	P	A194A
	900	460	449T	W615A	449THFCD9101	C/A	2:1	94.1	192	3009	55.33		A194A

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 Blue shaded areas are cast iron frames.

Specifications are subject to change without notice.
 Continued on next page.

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES	C-FACE KITS
200	3600	460	445TS	W616A	445TSHFCD9005	√	2:1	95.4	217	2303	47.45	SL	A195A
	3600	460	445TS	W616A-P	445TSHFCD9003	C/A	2:1	95.4	217	2276	47.45	P	A195A
	1800	460	445T	W618A	445THFCD9038	√	2:1	96.5	219	2276	51.20	RB	A194A
	1800	460	445T	W618A-P	445THFCD19070	C/A	2:1	96.5	219	2276	51.20	RB, P	A194A
	1800	460	445TS	W617A	445TSHFCD9028	C/A	2:1	96.5	219	2231	47.45		A194A
	1800	460	449T	W619A	449THFCD9030		2:1	96.5	219	2309	55.33		A194A
	1800	460	449T	W619A-P	449THFCD9037	C/A	2:1	96.5	219	2399	55.33	P	A194A
	1800	575	445T	W642A	445THFCD19034		2:1	96.5	175	2355	51.20		A194A
	1200	460	449T	W621A	449THFCD19092	√	2:1	95.8	230	2568	55.33		A194A
	1200	460	449T	W621A-P	449THFCD9077	C/A	2:1	95.8	230	2930	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	C/A	2:1	95.8	230	2930	55.33	P	A194A
250	3600	460	449TS	W624A	449TSHFCD9003	C/A	2:1	95.8	266	2471	55.51		A195A
	3600	460	449TS	W624A-P	449TSHFCD9004	C/A	2:1	95.8	266	2635	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	C/A	2:1	95.8	285	2710	55.33	RB	A194A
300	3600	460	449TS	W631A	449TSHFCD9002	C/A	2:1	95.8	320	2888	55.51		A195A
	3600	460	449TS	W631A-P	449TSHFCD9018	C/A	2:1	95.8	320	3216	55.51	P	A195A
	1800	460	449T	W632A	449THFCD9027	√	2:1	96.2	332	2780	55.33		A194A
	1800	460	449T	W632A-P	449THFCD9070	C/A	2:1	96.2	332	3039	55.33		A194A
350	1200	460	449T	W657	449THFCD9078	√	2:1	95.8	342	3200	59.27		A194A
	3600	460	449TS	W634A	449TSHFCD9001	C/A	2:1	95.8	373	2635	55.51		A195A
	3600	460	449TS	W634A-P	449TSHFCD9021	C/A	2:1	95.8	373	2888	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	C/A	2:1	96.2	390	3082	55.33	P	A194A
400	3600	460	449TS	W659	449TSHFCD9000	C/A	2:1	95.8	327	3230	55.51		A195A
	3600	460	449TS	W659A-P	449TSHFCD9023	C/A	2:1	95.8	327	3210	55.51	P	A195A
	1800	460	449T	W660	449THFCD9026	C/A	2:1	96.2	440	3325	59.27		A194A
1800	460	449T	W660A-P	449THFCD9061	C/A	2:1	96.2	442	3340	59.27	P	A194A	

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

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	460	182TCV	W017-P	182THTCD9010	C/A	2:1	89.5	3.5	105	14.56	P
	1800	460	182TCV	W019-P	182THFCD9040	C/A	10:1	89.5	4.0	112	16.95	P
5	1800	460	184TCV	W025-P	184THFCD9040	C/A	10:1	89.5	6.5	120	16.95	P
7 1/2	3600	460	213TCV	W030-P	213THTCD9010	C/A	2:1	91.7	8.6	204	18.22	P
	1800	460	213TCV	W032-P	213THFCD9040	√	10:1	91.7	9.5	200	19.28	P
10	3600	460	215TCV	W037-P	215THFCD9010	C/A	2:1	90.2	11.8	200	20.78	P
10	1800	460	215TCV	W039-P	215THFCD9040	C/A	10:1	91.7	12.5	210	20.78	P
15	3600	460	254TCV	W044-P	254THFCD9010	C/A	2:1	91.0	17.8	1297	24.65	P
15	1800	460	254TCV	W046-P	254THFCD9040		10:1	92.4	18.8	361	24.65	P
20	1800	460	256TCV	W053-P	256THFCD9040	C/A	10:1	93.0	24.2	455	26.39	P
25	1800	460	284TCV	W060-P	284THFCD9040		10:1	93.6	30.0	575	28.14	P
30	1800	460	286TCV	W067-P	286THFCD9040	√	10:1	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	2210	44.83	P
150	1800	460	445TCV	W112-P	445THFCD9040		2:1	95.8	169	2215	46.83	P
200	1800	460	445TSCV	W117-P	445TSHFCD9042		2:1	96.5	219	2225	43.08	P
200	1800	460	445TCV	W118-P	445THFCD9042	C/A	2:1	96.5	219	2230	46.83	P

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 Blue shaded areas are cast iron frames.
 *See back cover page for attribution.

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HAZARDOUS DUTY[®] DIVISION 1 EXPLOSION PROOF MOTORS

HIGH PERFORMANCE & HIGH EFFICIENCY

Features

- Single and 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.



HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G

XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE PHASE

FEATURES

- Meets temperature code T3C
- Meets NEMA Premium efficiencies
- 10:1 variable torque, see CT Speed Range column for constant torque
- MAX GUARD® Class F insulation
- 100% cast iron construction for rigidity and reduced vibration
- External surface treated with epoxy paint
- 1.15 service factor on sinewave, (except as noted) or 1.0 service factor on IGBT power
- 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
- Three year warranty



C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	C372	182TTGCD6505	C/A	10:1	86.5	8.0/4.0	115	16.62	13, 68
	1800	230/460	182TC	C364B	182TTGCD6569	√	10:1	89.5	8.0/4.0	145	16.62	13,17, 68
	1800	575	182TC	C368B	182TTGCD6536	√	10:1	89.5	3.2	151	16.62	17
5	3600	230/460	184TC	C373	184TTGCD6505	C/A	10:1	88.5	12.0/6.0	135	18.62	13, 68
	1800	230/460	184TC	C365B	184TTGCD6575	√	10:1	89.5	12.0/6.0	168	16.62	13,17, 68
	1800	575	184TC	C369B	184TTGCD6537		10:1	89.5	5.2	181	18.62	17
7 1/2	3600	230/460	213TC	C374	213TTGCD6505		10:1	89.5	18.4/9.2	146	20.45	13,17, 68
	1800	230/460	213TC	C366C	213TTGCD6528	√	10:1	91.7	19.0/9.5	249	20.45	13, 68
	1800	575	213TC	C370C	213TTGCD6536	C/A	10:1	91.7	7.6	250	20.45	13
10	3600	230/460	215TC	C377	215TTGCD6505	C/A	10:1	90.2	23.6/11.8	190	23.45	13,17, 68
	1800	230/460	215TC	C367C	215TTGCD6528	√	10:1	91.7	25.0/12.5	230	23.45	13,17, 68
	1800	575	215TC	C371B	215TTGCD16534	C/A	10:1	91.7	10.0	280	23.45	17
15	3600	230/460	254TC	C378	254TTGCD6505	C/A	10:1	91.0	35.5/17.8	435	23.93	13,17, 68
	1800	230/460	254TC	C379	254TTGCD6528	C/A	10:1	92.4	37.5/18.8	435	23.93	13,17, 68
20	3600	230/460	256TC	C500	256TTGCD6505	C/A	10:1	91.0	47.5/23.7	435	25.68	13,17, 68
	1800	230/460	256TC	C501	256TTGCD6528		10:1	93.0	48.5/24.2	455	25.68	13,17, 68
25	3600	230/460	284TSC	C502	284TSTGCD6505	C/A	10:1	91.7	58.5/29.2	460	26.33	13,17, 68
	1800	230/460	284TC	C503	284TTGCD6528	C/A	10:1	93.6	60.0/30.0	575	26.33	13,17, 68
30	1800	230/460	286TC	C504	286TTGCD6528	C/A	10:1	93.6	71.0/35.5	600	27.84	13,17, 68
40	1800	230/460	324TC	C505	324TTGCD6528	C/A	10:1	94.1	95.0/47.5	563	30.38	13,17, 68
50	1800	230/460	326TC	C342A	326TTGCD6528	C/A	2:1	94.5	120/60.0	585	30.38	13,17, 68

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	C303C	182TTGCD16003	√	10:1	86.5	8.0/4.0	165	18.62	13,17, 68
	1800	230/460	182TC	C323B	182TTGCD4068	√	10:1	89.5	8.0/4.0	151	18.62	13,17, 68
5	3600	230/460	184TC	C304C	184TTGCD16004	√	10:1	88.5	12.0/6.0	155	18.62	13,17, 68
	1800	230/460	184TC	C324C	184TTGCD16027	√	10:1	89.5	13.0/6.5	165	18.62	13,17, 68
7 1/2	3600	230/460	213TC	C305C	213TTGCD16001	√	10:1	89.5	18.4/9.2	245	23.45	13,17, 68
	1800	230/460	213TC	C325D	213TTGCD16027		10:1	91.7	19.0/9.5	245	23.45	13, 68
10	3600	230/460	215TC	C306C	215TTGCD16006	C/A	10:1	90.2	23.6/11.8	260	23.45	13,17, 68
	1800	230/460	215TC	C326C	215TTGCD16029		10:1	91.7	25.0/12.5	280	23.45	13,17, 68
15	3600	230/460	254TC	C307C	254TTGCD16524	C/A	10:1	91.0	35.5/17.8	376	25.77	13,17, 68
	1800	230/460	254TC	C327C	254TTGCD16034	√	10:1	92.4	37.5/18.8	424	25.77	13,17, 68
20	3600	230/460	256TC	C308C	256TTGCD16004	C/A	10:1	91.0	47.5/23.7	436	25.77	13,17, 68
	1800	230/460	256TC	C328C	256TTGCD16034		10:1	93.0	48.5/24.2	424	25.77	13,17, 68

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HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G

XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE PHASE

FEATURES

- Meets temperature code T3C (except as noted)
- Meets NEMA Premium efficiencies
- 10:1 variable torque, see CT Speed Range column for constant torque
- MAX GUARD® Class F insulation
- 100% cast iron construction for rigidity and reduced vibration
- Internal and external surfaces treated with epoxy paint
- 1.15 service factor on sinewave, (except as noted) or 1.0 service factor on IGBT power
- Precision balanced to .08"/sec.
- Extended grease tubes
- Normally closed thermostats (must be connected to control circuit)
- Nameplated 60/50 Hz, 190/380 volts, at next lower HP, as noted
- Ball bearings (except as noted)
- UL®* Listed file no. E12044
- CSA®* certified file no. LR47504
- Three year warranty



SEE MOD CENTRAL FOR:

- C-Face kit modifications
- Ball bearings (except as noted)



RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182T	U040B	182TTGCD6576	√	10:1	87.5	4.6/2.3	158	15.87	13,17, 68
2	1200	230/460	184T	U041B	184TTGCD6576		10:1	88.5	6.0/3.0	250	17.87	13, 68
3	3600	230/460	182T	U060B	182TTGCD6501	√	10:1	86.5	8.0/4.0	126	15.87	13,17, 68
	1800	230/460	182T	U044B	182TTGCD6526	√	10:1	89.5	8.0/4.0	147	15.87	13,17, 68
	1800	230/460	182T	U004B-P	182TTGCD6541		10:1	89.5	8.0/4.0	148	15.87	13,17, 68, P
	1800	575	182T	U023B	182TTGCD6530		10:1	89.5	3.2	141	15.87	13,17
	1200	230/460	213T	U042B	213TTGCD6576	√	10:1	89.5	8.6/4.3	240	22.63	13,17, 68
5	3600	230/460	184T	U061B	184TTGCD6501	√	10:1	88.5	12.0/6.0	140	17.87	13,17, 68
	1800	230/460	184T	U005B	184TTGCD6526	√	10:1	89.5	13.0/6.5	158	17.87	13,17, 68
	1800	230/460	184T	U005B-P	184TTGCD6544		10:1	89.5	13.0/6.5	156	17.87	13,17, 68, P
	1800	575	184T	U024B	184TTGCD6530		10:1	89.5	5.2	173	17.87	13,17
7 1/2	1200	230/460	215T	U043C	215TTGCD6576	C/A	10:1	89.5	13.6/6.8	225	22.63	13,17, 68
	3600	230/460	213T	U062C	213TTGCD6501	√	10:1	89.5	18.4/9.2	216	19.63	13,17, 68
	1800	230/460	213T	U006C	213TTGCD6526	√	10:1	91.7	19.0/9.5	228	19.63	13, 68
	1800	230/460	213T	U006C-P	213TTGCD16548		10:1	91.7	19.0/9.5	258	19.63	13, 68, P
	1800	230/460	213T	U991C	213TTGCD6540	√	10:1	91.7	19.0/9.5	230	19.63	13, 68
	1800	575	213T	U025C	213TTGCD16537		10:1	91.7	7.6	241	19.63	13
10	1200	230/460	254T	E500A	254TTGCD6576		10:1	91.0	19.8/9.9	345	23.52	13, 68
	3600	230/460	215T	U063C	215TTGCD6501	√	10:1	90.2	23.6/11.8	240	19.63	13,17, 68
	1800	230/460	215T	U007C	215TTGCD6526	√	10:1	91.7	25.0/12.5	258	22.63	13,17, 68
	1800	230/460	215T	U007C-P	215TTGCD16539	C/A	10:1	91.7	25.0/12.5	210	22.63	13,17, 68, P
	1800	230/460	215T	U992C	215TTGCD6539		10:1	91.7	25.0/12.5	245	22.63	13, 68
	1800	575	215T	U026C	215TTGCD16532	√	10:1	91.7	10.0	258	22.63	13,17
15	1200	230/460	256T	E501A	256TTGCD6576		10:1	91.0	25.8/12.9	369	25.27	13, 68
	3600	230/460	254T	E502A	254TTGCD6507	√	10:1	91.0	35.5/17.8	359	23.52	13,17, 68
	1800	230/460	254T	E503A	254TTGCD6531	√	10:1	92.4	37.5/18.8	385	23.52	13,17, 68
	1800	230/460	254T	E503A-P	254TTGCD16549		10:1	92.4	37.5/18.8	385	23.52	13,17, 68, P
	1800	575	254T	U027B	254TTGCD16541		10:1	92.4	15.1	359	23.52	13,17
	1200	230/460	284T	E504A	284TTGCD6576	√	10:1	91.7	40.0/20.0	513	26.34	13,17, 68
20	3600	230/460	256T	E505A	256TTGCD6501	√	10:1	91.0	47.5/23.7	369	25.27	13,17, 68
	1800	230/460	256T	U006A	256TTGCD6526	√	10:1	93.0	48.5/24.2	369	25.27	13,17, 68
	1800	230/460	256T	E506A-P	256TTGCD16552	√	10:1	93.0	48.5/24.2	369	25.27	13,17, 68, P
	1800	575	256T	U028B	256TTGCD16540		10:1	93.0	19.4	369	25.27	13,17
	1200	230/460	286T	E507A	286TTGCD16577	C/A	10:1	91.7	51.0/25.5	593	27.69	13

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
 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.
 Continued on next page.

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HAZARDOUS DUTY® DIVISION 1 EXPLOSION PROOF MOTORS

CLASS I AND II, GROUPS C & D, F & G

XRI®-SEVERE DUTY, NEMA PREMIUM®* EFFICIENCY, THREE PHASE

RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
25	3600	230/460	284TS	E546A	284TSTGCD6503	√	2:1	91.7	60.0/30.0	460	24.97	13,68
	1800	230/460	284T	E547A	284TTGCD6533	√	10:1	93.6	60.0/30.0	561	26.34	13,17, 68
	1800	230/460	284T	E547A-P	284TTGCD16550	√	10:1	93.6	60.0/30.0	561	26.34	13,17, 68, P
	1800	230/460	284TS	U076B	284TSTGCD16531	C/A	10:1	93.6	60.0/30.0	559	24.97	13,17, 68
	1800	575	284T	U029B	284TTGCD16539	C/A	10:1	93.6	24.0	642	26.34	13,17
	1200	230/460	324T	U048A	324TTGS16577		10:1	93.0	65.0/32.5	737	28.87	13,68,T3B
30	3600	230/460	286TS	E563A	286TSTGCD6501		2:1	91.7	68.5/34.0	487	26.47	13,17, 68
	1800	230/460	286T	E564A	286TTGCD6526		10:1	93.6	71.0/35.5	656	27.84	13,17, 68
	1800	230/460	286T	E564A-P	286TTGCD16546		10:1	93.6	71.0/35.5	656	27.84	13,17, 68, P
	1800	230/460	286TS	U077B	286TSTGCD16531		10:1	93.6	71.0/35.5	631	26.47	13,17, 68
	1800	575	286T	U030B	286TTGCD16533	C/A	10:1	93.6	28.4	658	27.84	13,17
	1200	230/460	326T	E565	326TTGS6578		10:1	93.0	77.0/38.5	900	30.37	13,17, 68,T3B
40	3600	230/460	324TS	E566	324TSTGS6501	√	10:1	93.6	94.0/47.0	734	28.87	13,17, 68,T3B
	1800	230/460	324T	E567	324TTGS6529	√	10:1	94.1	95.0/47.5	759	30.37	13,17, 68,T3B
	1800	230/460	324T	E567-P	324TTGS16541		10:1	94.1	95.0/47.5	775	30.37	13,17, 68, P,T3B
	1800	230/460	324TS	U078A	324TSTGS16531		10:1	94.1	95.0/47.5	770	28.87	13,17, 68,T3B
	1800	575	324T	U031A	324TTGS16535		10:1	94.1	38.0	768	30.37	13,17,T3B
	1200	230/460	364T	E568A	364TTGS16577		10:1	94.1	100/50.0	1042	31.50	13,17, 68,T3B
50	3600	230/460	326TS	E569	326TSTGS6501	√	10:1	94.5	118/59.0	831	30.37	13,17, 68,T3B
	1800	230/460	326T	E570	326TTGS6532	√	2:1	94.5	123/61.5	791	30.37	13,17, 68,T3B
	1800	230/460	326T	E570-P	326TTGS16546		2:1	94.5	123/61.5	810	30.37	13,17, 68, P,T3B
	1800	230/460	326TS	U079A	326TSTGS16532		2:1	94.5	120/60.0	797	28.87	13,17, 68,T3B
	1800	575	326T	U032A	326TTGS16539		2:1	94.5	49.0	800	30.37	13,17,T3B
	1200	230/460	365T	E571	365TTGS16577		2:1	94.5	123/61.5	1099	32.50	13,17,T3B
60	3600	230/460	364TS	E572	364TSTGS6506		2:1	94.5	134/67.0	1033	29.38	13,17,T3B
	1800	230/460	364T	E573A	364TTGS16536	√	10:1	95.0	138/69.0	1076	31.50	13,17, 68,T3B
	1800	230/460	364TS	U080A	364TSTGS16531		2:1	95.0	138/69.0	1145	29.38	13,17, 68,T3B
	1800	575	364T	U033A	364TTGS16537		2:1	95.0	56.0	1110	31.50	13,17,T3B
	1200	230/460	404T	E574	404TTGS6588	√	10:1	94.5	144/72.0	1295	35.62	13,17,T3B
	3600	230/460	365TS	E575	365TSTGS16503		10:1	94.1	169/84.5	1097	30.38	13,68,T3B
75	1800	230/460	365T	E576A	365TTGS16540	√	2:1	95.4	174/87.0	1150	32.50	13,17, 68,T3B
	1800	230/460	365TS	U081A	365TSTGS16532	C/A	2:1	95.4	174/87.0	1180	30.38	13,68,T3B
	1800	575	365T	U034A	365TTGS16542		2:1	95.4	69.5	1184	32.50	13,17,T3B
	1200	230/460	405T	E577	405TTGS6589		2:1	94.5	180/90.0	1388	37.12	13,T3B
	3600	230/460	405TS	E578	405TSTGS6503		10:1	94.5	216/108	1349	34.12	13,T3B
	1800	230/460	405T	E594	405TTGS6548	√	2:1	95.4	226/113	1479	37.12	13,68,T3B
100	1800	230/460	405TS	U082A	405TSTGS16531		2:1	95.4	226/113	1410	34.12	13,68,T3B
	1800	575	405T	U035A	405TTGS16539		2:1	95.4	90.5	1408	37.12	13,T3B
	1200	230/460	444T	E580A	444TTGN16580		2:1	95.0	248/124	2020	41.35	13,68,T3B
	3600	460	444TS	U073A	444TSTGN16502		10:1	95.4	139	2088	36.70	13,68,T3B
	1800	460	444T	E582A	444TTGN16532		10:1	95.8	143	2122	41.35	13,68,T3B
	1800	460	444TS	U083A	444TSTGN16531		10:1	95.8	143	2064	37.60	13,68,T3B
125	1800	575	444T	U036A	444TTGN16533		10:1	95.8	114	2113	41.35	13,T3B
	1200	460	445T	E583	445TTGN6597		2:1	95.0	155	2200	43.25	13, RB,T3B
	3600	460	445TS	E584	445TSTGN16505	C/A	10:1	95.8	168	2264	39.60	13,T3B
	1800	460	445T	E585	445TTGN6542		10:1	95.8	172	2173	43.35	13,68,T3B
	1800	460	445TS	U084A	445TSTGN16531		10:1	95.8	172	2200	39.60	13,68,T3B
	1800	575	445T	U037A	445TTGN16544	C/A	2:1	95.8	138	2152	43.35	13,T3B
150	1200	460	445T	U090A	445TTGN16588		10:1	95.8	181	2526	43.35	13,68, RB,T3B
	3600	460	445TS	U075A	445TSTGN16506	C/A	2:1	95.4	224	2360	39.59	13,68,T3B
	1800	460	445T	E588	445TTGN6538		2:1	96.2	224	2500	43.19	13,68,T3B
	1800	575	445T	U038A	445TTGN16543		2:1	96.2	179	2485	43.35	13,T3B
	1200	460	449T	U091A	449TTGS16585		10:1	95.8	240	3066	51.85	13,68, RB,T3B
	3600	460	449TS	E595A	449TSTGS16506	C/A	10:1	95.8	270	2750	48.19	13,17, 68,T3B
200	1800	460	449T	E591	449TTGS16537		10:1	96.5	285	3012	51.85	13, RB,T3B
	1800	460	449T	E596	449TTGS16554		2:1	96.5	339	3240	51.85	13,17, 68, RB,T3B
250	1800	460	449T	H504A	449TTGS16557	√	2:1	96.2	395	3300	51.85	13,17, RB,T3B

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 *See back cover page for attribution.

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INVERTER DUTY MOTORS

LONG, DEPENDABLE MOTOR LIFE

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[®] models include a 1024 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 CR²⁰⁰ corona resistant magnet wire
- Removable rigid base, as noted
- Continuous duty at 40°C ambient
- Top mounted conduit boxes as found on PMDC motors
- Eliminates brush and commutator maintenance
- UL[®]* recognized and CSA[®]* certified
- Three year warranty



IP43

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. 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
5	1800	230/460	184TC	Y1372	184THFW7726	√	87.5	13.0/6.5	92	13.97	TEFC	2.0	6
7 1/2	1800	230/460	213TC	Y994A	213THFBD7726	C/A	90.6	19.0/9.5	180	20.97	TEFC	2.0	
	1800	575	213TC	Y995A	213THFBD7736	C/A	90.6	7.6	175	20.97	TEFC	2.0	
10	1800	230/460	215TC	Y996A	215THFBD7726	C/A	91.0	26.6/13.3	190	20.97	TEFC	2.0	
	1800	575	215TC	Y997A	215THFBD7736	C/A	91.0	10.7	200	20.97	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 CR²⁰⁰ corona resistant magnet wire
- Constant torque operation from 0 to base speed on vector drive
- Continuous duty at 40°C ambient
- Optimized for operation on IGBT inverter
- UL recognized, CSA certified, and CE[®]* mark
- Three year warranty



IP43

C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. 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
5	1800	230/460	184TC	Y287A	184THTY17038	√	89.5	13.4/6.7	93	17.69	TENV	2.0	6, AL

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*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 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.	FL. AMPS	WT.	"C" DIM.	ENCLASURE	BASE SPEED	FOOT NOTES
2	1200	230/460	184TC	Y540A	184THTHD7776	C/A	85.5	6.6/3.3	88	16.82	TENV	2.0	AL
	1800	230/460	182TC	Y541B	182THTHD7726	C/A	89.5	8.0/4.0	95	15.82	TENV	2.0	AL
3	1800	575	182TC	Y558B	182THTHD7736	C/A	89.5	3.2	95	15.82	TENV	2.0	AL
	1200	230/460	213TC	Y542A	213THTHD7776	C/A	88.5	9.6/4.8	105	18.95	TENV	2.0	AL
5	1800	230/460	184TC	Y543B	184THTHD7726	C/A	89.5	13.0/6.5	110	16.82	TENV	2.0	AL
	1800	575	184TC	Y559B	184THTHD7736	C/A	89.5	5.2	110	16.82	TENV	2.0	AL
	1200	230/460	215TC	Y544A	215THTHD7776	C/A	88.0	15.0/7.5	146	18.95	TENV	2.0	AL
7 1/2	1800	230/460	213TC	Y545A	213THTHD7726	C/A	90.6	20.0/10.0	144	18.95	TENV	2.0	AL
	1800	575	213TC	Y560A	213THTHD7736	C/A	90.6	8.0	144	18.95	TENV	2.0	AL
	1200	230/460	254TC	Y546A	254THTHD5776	C/A	89.5	20.8/10.4	223	23.58	TENV	2.0	AL
	1800	230/460	215TC	Y547A	215THTHD7726	C/A	91.7	25.0/12.5	219	20.45	TENV	2.0	AL
10	1800	575	215TC	Y561A	215THTHD7736	C/A	91.7	10.0	218	20.45	TENV	2.0	AL
	1200	230/460	256TC	Y548A	256THTHD5776	C/A	89.5	26.8/13.4	229	25.31	TENV	2.0	AL
15	1800	230/460	254TC	Y549A	254THTHD5726	C/A	92.9	35.0/17.5	260	23.58	TENV	2.0	AL
	1800	575	254TC	Y562A	254THTHD5736	C/A	92.9	14.0	260	23.58	TENV	2.0	AL
20	1800	230/460	256TC	Y552A	256THTCD7026	√	93.6	49.0/24.5	340	25.31	TENV	2.0	
	1800	575	256TC	Y563A	256THTCD7036		93.6	19.6	340	25.31	TENV	2.0	
25	1800	230/460	284TC	Y553A	284THTCD7026		93.6	59.0/29.5	445	27.00	TENV	2.0	
	1800	575	284TC	Y567A	284THTCD7036		93.6	23.6	430	27.00	TENV	2.0	
30	1800	230/460	286TC	Y393A	286THTCD7026		93.8	74.0/37.0	475	28.50	TENV	2.0	
	1800	575	286TC	Y394A	286THTCD7036	C/A	93.8	29.6	475	28.50	TENV	2.0	

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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 F 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.	ENCLSURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y527A	182THTCD8028	√	89.5	8.0/4.0	127	33.43	TENV	2.0	
5	1800	230/460	184TC	Y564A	184THTCD8028	√	89.5	13.0/6.5	133	33.43	TENV	2.0	
7 1/2	1800	230/460	213TC	Y565A	213THTCD8038	√	90.6	20.0/10.0	310	33.43	TENV	2.0	
	1800	230/460	213TC	Y595A	213THFCD8028		90.6	19.0/9.5	180	33.43	TEFC	2.0	
10	1800	230/460	215TC	Y566A	215THTCD8038	√	91.7	25.0/12.5	325	33.43	TENV	2.0	
	1800	230/460	215TC	Y596A	215THFCD8029	√	90.6	24.0/12.0	190	33.43	TEFC	1.5	
15	1800	230/460	254TC	Y509A	254THTCD8058		92.9	35.0/17.5	280	33.43	TENV	2.0	
	1800	230/460	254TC	Y597A	254THFCD8038		91.5	35.0/17.5	300	33.43	TEFC	1.5	
	1200	230/460	284TC	Y395A	284THFCD8086	C/A	91.0	39.0/19.5	375	33.77	TEBC-AXIAL	1.5	BP
20	1800	230/460	256TC	Y510A	256THTCD8038	√	93.6	49.0/24.5	340	33.43	TENV	2.0	
	1800	230/460	256TC	Y598A	256THFCD8038		92.0	46.0/23.0	335	33.43	TEFC	1.5	
	1200	230/460	286TC	Y582A	286THFCD8086		91.4	51.0/25.5	435	33.43	TEBC-AXIAL	1.5	BP
25	1800	230/460	284T	Y569A	284THFCD8028	√	92.7	57.0/28.5	390	33.43	TEFC	1.5	
	1800	230/460	284TC	Y511A	284THFCD8038	√	92.7	57.0/28.5	417	33.43	TEBC-AXIAL	1.5	BP
	1200	230/460	324TC	Y583A	324THFCD8086	√	92.4	61.0/30.5	575	33.43	TEBC-AXIAL	1.5	BP
30	1800	230/460	286T	Y570A	286THFCD8028	√	93.6	70.5/35.5	450	33.43	TEFC	2.0	
	1800	230/460	286TC	Y512A	286THFCD8038	√	93.6	70.5/35.5	451	33.43	TEBC-AXIAL	1.5	BP
	1200	230/460	326TC	Y584A	326THFCD8086		92.4	72.0/36.0	630	33.43	TEBC-AXIAL	1.5	BP
40	1800	230/460	324T	Y571A	324THFCD8028		92.4	89.0/44.5	610	32.04	TEFC	1.5	
	1800	230/460	324TC	Y513A	324THFCD8038	√	92.4	89.0/44.5	610	36.45	TEBC-AXIAL	1.5	BP
	1200	230/460	364TC	Y585A	364THFCD8391		93.3	91.0/45.5	900	39.71	TEBC-AXIAL	1.5	BP
50	1800	230/460	326T	Y572A	326THFCD8028	√	93.0	111/55.5	616	33.54	TEFC	1.5	
	1800	230/460	326TC	Y514A	326THFCD8038	√	93.0	111/55.5	625	37.95	TEBC-AXIAL	1.5	BP
	1200	230/460	365TC	Y586A	365THFCD8380		93.3	114/57.0	920	40.71	TEBC-AXIAL	1.5	BP
60	1800	230/460	364T	Y573A	364THFCD8036	√	95.0	135/67.5	850	35.61	TEFC	2.0	
	1800	230/460	364TC	Y515A	364THFCD8046	√	95.0	135/67.5	875	39.71	TEBC-AXIAL	1.5	BP
	1200	230/460	404TC	Y587A	404THFCD8092		94.1	143/71.5	1190	46.13	TEBC-AXIAL	1.5	BP
75	1800	230/460	365T	Y574A	365THFCD8036	√	95.5	170/85.0	980	36.59	TEFC	2.0	
	1800	230/460	365TC	Y516A	365THFCD8046	√	95.5	170/85.0	970	40.71	TEBC-AXIAL	2.0	BP
	1200	230/460	405TC	Y588A	405THFCD8378	√	94.1	174/87.0	1280	46.13	TEBC-AXIAL	1.5	BP
100	1800	230/460	405T	Y575A	405THFCD8036	√	95.4	224/112	1275	41.06	TEFC	1.5	
	1800	230/460	405TC	Y517A	405THFCD8046	√	95.4	224/112	1265	46.13	TEBC-AXIAL	1.5	BP
	1200	230/460	444TC	Y589A	444THFCD8384	√	95.0	228/114	1730	53.80	TEBC-AXIAL	1.5	BP
125	1800	460	444T	Y518A	444THFCD8046	√	95.0	135	1595	53.80	TEBC-AXIAL	1.5	BP
	1800	460	444T	Y576A	444THFCD8036	√	95.0	135	1650	49.01	TEFC	1.5	
150	1800	460	445T	Y519A	445THFCD8046	√	95.4	161	1820	53.80	TEBC-AXIAL	1.5	BP
	1800	460	445T	Y577A	445THFCD8036	√	95.4	161	1887	49.01	TEFC	1.5	
200	1800	460	445T	Y520A	445THFCD8050		95.4	214	2120	58.17	TEBC-AXIAL	1.5	BP
	1800	460	445T	Y578A	445THFCD8040	√	95.4	214	2204	53.38	TEFC	1.5	
250	1800	460	449T	Y531A	449THFCD8046	√	95.8	265	2523	62.30	TEBC-AXIAL	1.5	BP
	1800	460	449T	Y579A	449THFCD8036		95.8	265	2593	57.52	TEFC	1.5	
300	1800	460	449T	Y532A	449THFCD8047	√	95.8	318	2766	62.30	TEBC-AXIAL	1.5	BP
	1800	460	449T	Y580A	449THFCD8037	√	95.8	318	2800	57.52	TEFC	1.5	
350	1800	460	449T	Y533A	449THFCD8048	√	95.8	370	2898	66.30	TEBC-AXIAL	1.5	BP

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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 40°C 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
INSULATION SYSTEM



C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	ENCLSOURE	BASE SPEED	FOOT NOTES
3	1800	230/460	182TC	Y980A	182THECD8048	C/A	89.5	8.0/4.0	117	24.82	EPNV	2.0	
5	1800	230/460	213TC	Y981A	213THECD8053	C/A	89.5	13.0/6.5	240	26.17	EPNV	1.5	
7 1/2	1800	230/460	254TC	Y982A	254THECD8058	C/A	91.7	19.0/9.5	344	30.20	EPNV	2.0	
10	1800	230/460	254TC	Y983A	254THECD8059	C/A	91.7	25.0/12.5	376	30.20	EPNV	2.0	
15	1800	230/460	256TC	Y984A	256THECD8059	C/A	92.9	35.0/17.5	435	31.95	EPNV	2.0	
20	1800	230/460	284TC	Y985A	284THECD8032	C/A	93.0	47.0/23.5	555	33.16	EPNV	1.5	

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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)



C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	ENCLASURE	BASE SPEED	TORQUE RATING (LB/FT)
3	1800	230/460	182TC	Y988A	182THTCD8048		89.5	8.0/4.0	195	18.85	TENV	2.0	15
5	1800	230/460	184TC	Y989A	184THTCD8056	√	89.5	13.0/6.5	120	23.15	TENV	2.0	25
7 1/2	1800	230/460	213TC	Y990A	213THTCD8071		90.6	20.0/10.0	185	24.42	TENV	2.0	35
10	1800	230/460	215TC	Y991B	215THTCD8071	√	91.7	25.0/12.5	211	26.92	TENV	2.0	50
	1800	230/460	254TC	Y992A	254THTCD8071	√	92.9	35.0/17.5	290	30.55	TENV	2.0	75
20	1800	230/460	256TC	Y993A	256THTCD8071	C/A	93.4	49.0/24.5	355	32.28	TENV	2.0	105

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

VERTICAL MODIFICATION KIT (STEARNS® 87,000 SERIES)

TORQUE RATING (LB/FT)	CAT. NO.	KIT NUMBER	STOCK	MOUNTING - SHAFT		WT.
				UP	DOWN	
25, 35	A157	KIT VRT87BRK	√	Not required	Required	3
50, 75, 105						

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THE PERFECT PAIR



**Symax[®] Permanent Magnet AC Motor
and LEESON[®] Platinum e[™] VSD Series**

SYMAX[®] 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 SyMAX 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



SYMAX® PERMANENT MAGNET 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
- We have our LEESON® Platinum e™ Plus PMAC Drive Available for PMAC Motors
- IP54 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
- 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®*
- Three year warranty



C-FACE FOOTED (RIGID BASE)

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

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

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PERFORMANCE MATCH SOLUTIONS™
 WE HAVE THE DRIVE YOU NEED.

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DC PERMANENT MAGNET MOTORS

SCR RATED, TOTALLY ENCLOSED C-FACE FOOTED (REMOVABLE)

FEATURES

- Class H insulation
- Oversized brushes for extra long life
- Permanently lubricated sealed ball bearings
- Linear speed/torque characteristics over entire speed range
- High starting torque, high peak current capability
- Usable on PWM type DC adjustable speed drives at higher HP rating
- Easy brush access with unique brush holder design
- UL®* recognized and CSA®* certified



HP	RPM	DC ARM VOLTS	FRAME	ENCL.	CAT. NO.	MODEL / ITEM NO.	STOCK	C.T. SPEED RANGE	F.L. AMPS DC	CONTROL VOLTS AC INPUT	WT.	"C" DIM.
2	1750	180	182/145TC	TEFC	Z617	182TEFR5326	C/A	20:1	9.5	230.0	83	19.34
3	1750	180	182/145TC	TEFC	-	108502.00	√	20:1	14.0	230.0	88	21.75

METRIC (IEC®*) FRAME - SCR RATED - IP54 B34 FLANGE FOOTED

FEATURES

- Cast aluminum conduit box
- Removable base
- B5 flange kit is available
- Terminal board provided for connections
- All metric fasteners
- Easy brush access for field service
- Oversize brushes for extended life
- High strength rolled steel frame
- Die cast aluminum endshields with steel bearing inserts
- Permanently lubricated sealed ball bearings
- Reversible rotation
- Simple 2 lead connection
- Convenient wiring access

KW/ HP	RPM	DC ARM VOLTS	FRAME	ENCL.	CAT. NO.	MODEL / ITEM NO.	STOCK	CONTROL VOLTS AC INPUT	F.L. AMPS @ 180 VDC	CONTROL VOLTS AC INPUT	WT.	"C" DIM.
2.2/3	1800	180	112M	TEFC	-	118014.00	√	230	14	90	21.79	S

√: Available C/A: Call your sales representative for availability
 *See back cover page for attribution.

DC PERMANENT MAGNET MOTORS

EXPLOSION PROOF - SCR RATED TOTALLY ENCLOSED, C-FACE FOOTED

FEATURES

- Rugged mechanical construction
- Class I and II, Groups C, D, F & G
- Class H insulation
- Meets all safety requirements
- Leads exit thru 3/4"-14 NPT pipe nipple at top of frame opposite shaft end
- C-Face Footed with removable base
- Optional conduit box available - use 175026.00
- Pilot duty thermostats - (connect to SCR control)
- Thermostats rated for continuous duty with full wave SCR (thyristor) controls
- Double shielded, pre-lubricated ball bearings
- Easy brush access for field service
- UL®* recognized and CSA®* certified



HP	RPM	DC ARM VOLTS	FRAME	ENCL.	CAT. NO.	MODEL / ITEM NO.	STOCK	FL. AMPS DC	CONTROL VOLTS AC INPUT	WT.	"C" DIM.	FOOT NOTES
1/3	1800	90	S56C	EPFC	-	118015.00	√	115	115	27	13.41	S
1/2	1800	90	S56C	EPFC	-	118016.00	√	115	115	30	14.41	S
	1800	180	S56C	EPFC	-	118017.00	√	230	230	32	14.41	S
3/4	1800	90	S56C	EPFC	-	118018.00	√	115	115	40	16.41	S
	1800	180	S56C	EPFC	-	118019.00	√	230	230	36	16.41	S

LOW VOLTAGE DC EXPLOSION PROOF MOTORS

FEATURES

- Division 1 and 2, Class I & II Groups C, D, F, and G) and Class III
- C-Face footed with removable base
- Class H insulation
- Optional conduit box available - use kit 175026.00



HP	RPM	DC ARM VOLTS	FRAME	ENCL.	CAT. NO.	MODEL / ITEM NO.	STOCK	FL. AMPS DC	CONTROL VOLTS AC INPUT	WT.	"C" DIM.	FOOT NOTES
1/3	1800	12	56C	TENV	-	118054.00	√	12	12	19	10.38	S
	1800	24	56C	TENV	-	118055.00	√	24	12	24	10.38	S
3/4	1800	24	56C	TENV	-	118056.00	√	24	27	33	13.38	S

√: Available

*See back cover page for attribution.

TERRAMAX® IEC MOTORS

IEC®* GLOBAL STANDARD MOTORS
DELIVERING A WORLD OF OPPORTUNITY

Features

- IP55 Enclosure Protection
- Dual Frame Mounting Holes
- F1 To F2 Mounting Capability
- 1 to 100 hp
- 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



TERRAMAX® IEC®* (METRIC) FRAME MOTORS

TOTALLY ENCLOSED

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 FL. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
1-1.75	3600/3000	230/460	200/400	80M	R312B	TCAP751AE211GAA009	√	2:1	77.0	3/1.5	41	281		A571A
	3600/3000	575	480	80M	R412B	TCAP751AP211GAA009	√	2:1	77.0	1.2	41	281		A571A
	1800/1500	230/460	200/400	80M	R313B	TCAP752AE211GAA009	√	2:1	83.5	3/1.5	44	281		A571A
	1800/1500	575	480	80M	R413B	TCAP752AP211GAA009	√	2:1	83.5	1.2	44	281		A571A
	1200/1000	230/460	200/400	90S	R314B	TCAP753AE211GAA009	√	2:1	82.5	3.4/1.7	49	307		A572A
1 1/2-1.1	1200/1000	575	480	90S	R414	TCAP753AP211GAA009	√	2:1	82.5	1.3	49	307		A572A
	3600/3000	230/460	200/400	80M	R315A	TCA1P11AE211GAA009	√	2:1	84.0	4.0/2.0	40	281		A571A
	3600/3000	575	480	80M	R415A	TCA1P11AP211GAA009	√	2:1	84.0	1.6	40	281		A571A
	1800/1500	230/460	200/400	90S	R316B	TCA1P12AE211GAA009	√	2:1	84.1	4.3/2.1	50	281		A572A
	1800/1500	575	480	90S	R416B	TCA1P12AP211GAA009	√	2:1	84.1	1.7	50	281		A572A
2-1.5	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
	3600/3000	230/460	200/400	90S	R318B	TCA1P51AE211GAA009	√	2:1	85.5	5.4/2.7	47	281		A572A
	3600/3000	575	480	90S	R418B	TCA1P51AP211GAA009	√	2:1	85.5	2.1	47	281		A572A
	1800/1500	230/460	200/400	90L	R319B	TCA1P52AE211GAA009	√	2:1	86.5	5.45/2.7	54	332		A572A
3-2.2	1800/1500	575	480	90L	R419B	TCA1P52AP211GAA009	√	2:1	86.5	2.2	54	332		A572A
	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
	3600/3000	230/460	200/400	90L	R321B	TCA2P21AE211GAA009	√	2:1	86.5	7.2/3.6	56	332		A572A
	3600/3000	575	480	90L	R421B	TCA2P21AP211GAA009	√	2:1	86.5	2.9	56	332		A572A
4-3	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
	3600/3000	230/460	200/400	100L	R351B	TCA0031AE211GAA009	√	2:1	88.5	9.7/4.8	91	398		A554B
5 1/2-4.1	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	

√: Available 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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Continued on next page.

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 FL. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
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	C/A	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	C/A	2:1	91.0	8.2	220	503		A550A
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	C/A	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	C/A	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	

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
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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 FL. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
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
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 FL. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES
1-7.5	3600	230/460	200/400	80M	R212	TCAP751AE221GAA009	√	2:1	77.0	3.0/1.5	42	281	
	1800	230/460	200/400	80M	R213	TCAP752AE221GAA009	√	2:1	83.5	3.0/1.5	50	281	
	1200	230/460	200/400	90S	R214	TCAP753AE221GAA009	√	2:1	82.5	3.4/1.7	60	307	
1 1/2-1.1	3600	230/460	200/400	80M	R215	TCA1P11AE221GAA009	√	2:1	84.0	4.0/2.0	44	281	
	1800	230/460	200/400	90S	R216	TCA1P12AE221GAA009	√	2:1	84.1	4.3/2.1	55	281	
	1200	230/460	200/400	100L	R217	TCA1P13AE221GAA009	√	2:1	87.5	4.4/2.2	85	398	
2-1.5	3600	230/460	200/400	90S	R218	TCA1P51AE221GAA009	√	2:1	85.5	5.4/2.7	55	307	
	1800	230/460	200/400	90L	R219	TCA1P52AE221GAA009	√	2:1	86.5	5.45/2.7	61	332	
	1200	230/460	200/400	100L	R220	TCA1P53AE221GAA009	√	2:1	88.5	6.0/3.0	99	398	
3-2.2	3600	230/460	200/400	90L	R221	TCA2P21AE221GAA009	√	2:1	86.5	7.2/3.6	85	332	
	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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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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 FL. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1-7.5	3600	230/460	200/400	80M	R612	TCAP751AE271GAA009	√	2:1	77.0	3.0/1.5	41	281	
	1800	230/460	200/400	80M	R613	TCAP752AE271GAA009	√	2:1	83.5	3.0/1.5	49	281	
	1200	230/460	200/400	90S	R614	TCAP753AE271GAA009	√	2:1	82.5	3.4/1.7	59	332	
1 1/2-1.1	3600	230/460	200/400	80M	R615	TCA1P11AE271GAA009	√	2:1	84.0	4.0/2.0	44	281	
	1800	230/460	200/400	90S	R616	TCA1P12AE271GAA009	√	2:1	84.1	4.3/2.1	55	307	
	1200	230/460	200/400	100L	R617	TCA1P13AE271GAA009	√	2:1	87.5	4.4/2.2	39	398	
2-1.5	3600	230/460	200/400	90S	R618	TCA1P51AE271GAA009	√	2:1	85.5	5.4/2.7	57	307	
	1800	230/460	200/400	90L	R619	TCA1P52AE271GAA009	√	2:1	86.5	5.45/2.7	61	332	
	1200	230/460	200/400	100L	R620	TCA1P53AE271GAA009	√	2:1	88.5	6.0/3.0	43	398	
3-2.2	3600	230/460	200/400	90L	R621	TCA2P21AE271GAA009	√	2:1	86.5	7.2/3.6	85	307	
	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

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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 FL. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1-1.75	3600	230/460	200/400	80M	R812	TCAP751AE231GAA009	√	2:1	77.0	3.0/1.5	42	281	
	1800	230/460	200/400	80M	R813	TCAP752AE231GAA009	√	2:1	83.5	3.0/1.5	51	281	
	1200	230/460	200/400	90S	R814	TCAP753AE231GAA009	√	2:1	82.5	3.4/1.7	44	307	
1 1/2-1.1	3600	230/460	200/400	80M	R815	TCA1P11AE231GAA009	√	2:1	84.0	3.4/1.7	44	281	
	1800	230/460	200/400	90S	R816	TCA1P12AE231GAA009	√	2:1	84.1	4.3/2.1	55	307	
	1200	230/460	200/400	100L	R817	TCA1P13AE231GAA009	√	2:1	84.1	4.3/2.1	90	398	
2-1.5	3600	230/460	200/400	90S	R818	TCA1P51AE231GAA009	√	2:1	85.5	4.4/2.2	57	307	
	1800	230/460	200/400	90L	R819	TCA1P52AE231GAA009	√	2:1	86.5	5.4/2.7	78	322	
	1200	230/460	200/400	100L	R820	TCA1P53AE231GAA009	√	2:1	86.5	5.45/2.7	99	398	
3-2.2	3600	230/460	200/400	90L	R821	TCA2P21AE231GAA009	√	2:1	86.5	6.0/3.0	70	322	
	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

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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 FL. AMPS	WT..	IEC "L" DIM (mm)	FOOT NOTES
1-7.5	3600	230/460	200/400	80M	R912	TCAP751AE251GAA009	√	2:1	77.0	3.0/1.5	42	281	
	1800	230/460	200/400	80M	R913	TCAP752AE251GAA009	√	2:1	83.5	3.0/1.5	51	281	
	1200	230/460	200/400	90S	R914	TCAP753AE251GAA009	√	2:1	82.5	3.4/1.7	44	307	
1 1/2-1.1	3600	230/460	200/400	80M	R915	TCA1P11AE251GAA009	√	2:1	84.0	3.4/1.7	44	281	
	1800	230/460	200/400	90S	R916	TCA1P12AE251GAA009	√	2:1	84.1	4.3/2.1	55	307	
	1200	230/460	200/400	100L	R917	TCA1P13AE251GAA009	√	2:1	84.1	4.3/2.1	90	398	
2-1.5	3600	230/460	200/400	90S	R918	TCA1P51AE251GAA009	√	2:1	85.5	4.4/2.2	57	307	
	1800	230/460	200/400	90L	R919	TCA1P52AE251GAA009	√	2:1	86.5	5.4/2.7	78	322	
	1200	230/460	200/400	100L	R920	TCA1P53AE251GAA009	√	2:1	86.5	5.4/2.7	99	398	
3-2.2	3600	230/460	200/400	90L	R921	TCA2P21AE251GAA009	√	2:1	86.5	6.0/3.0	70	322	
	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

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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



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 FL. AMPS	WT.	IEC "L" DIM (mm)	FOOT NOTES	B5/FF FLANGE
1-.75	1800	230/460	6	80M	-	194222.00	C/A	2:1	83.5	3.0/1.5	52	281		A571A
	1800	230/460	6	80M	R1013	080T17FC6627	√	2:1	83.5	3/1.5	52	281		A571A
1 1/2-1.1	1800	230/460	12	90S	-	194223.00	C/A	2:1	86.5	4.3/2.1	81	307		A571A
	1800	230/460	12	90S	R1016	090T17FC6626	√	2:1	86.5	4.3/2.1	81	307		A571A
2-1.5	1800	230/460	12	90L	-	194224.00	C/A	2:1	86.5	5.4/2.7	81	332		A572A
	1800	230/460	12	90L	R1019	090T17FC6628	√	2:1	86.5	5.4/2.7	81	332		A572A
3-2.2	1800	230/460	24	100L	-	194225.00	C/A	2:1	89.5	7.2/3.6	110	398		A571A
	1800	230/460	24	100L	R1022	100LTFC6626	√	2:1	89.5	7.2/3.6	110	398		A571A
4-3	1800	230/460	44	100L	-	194226.00	C/A	2:1	89.5	10.4/5.2	130	398		A572A
	1800	230/460	44	100L	R1052	112MTFC6630	√	2:1	89.5	10.4/5.2	130	398		A572A
5 1/2-4.1	1800	230/460	74	112M	-	194227.00	C/A	2:1	89.5	13.8/6.9	136	399		A554B
	1800	230/460	74	112M	R1025	112MTFC6636	√	2:1	89.5	13.8/6.9	58	399		A554B

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 *See back cover page for attribution.

Continued on next page.

HVAC - FAN MOTORS

SINGLE AND THREE PHASE

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

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 $(120 \cdot 60) / 1800 = 4$ 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
- Drip-proof 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	17.30	106	
7.5/1.9	1800/900	460	254T	Y470	254TTDX7201		85.5	10.5	135	20.57	135	
7.5/3.3	1800/1200	200-230	254T	Y456	254TTDX7278	√	87.5	20.8-18.4	175	22.32	175	
	1800/1200	460	254T	Y418	254TTDX7208	√	84.0	10.0	154	20.57	154	
10/2.5	1800/900	460	256T	Y471	256TTDX7253		86.5	12.9	145	22.32	145	
10/4.4	1800/1200	200-230	256T	Y457	256TTDX7263		88.5	28-26	214	22.32	214	
	1800/1200	460	256T	Y458	256TTDX7264	√	87.5	12.0	214	22.32	214	
15/3.8	1800/900	460	284T	Y472	284TTDP7205		88.5	18.0	300	23.49	300	

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HVAC - FAN MOTORS

MULTI-SPEED / 2-SPEED

1-WINDING, VARIABLE 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
3 / 0.75	1800/900	208 - 230	184T	-	131468.00		81.5	8.0- 3.6	81	1.0	14.46	
5 / 1.2	1800/900	208 - 230	184T	-	131469.00		84.0	13.0 - 5.0	97	1.0	15.96	
7.5 / 1.88	1800/900	208 - 230	215T	-	140443.00		85.5	19.4 - 6.6	157	1.0	17.71	
10 / 2.5	1800/900	208 - 230	215T	-	140444.00		87.5	25.4 - 8.4	169	1.0	18.71	

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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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
- CR²⁰⁰ 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	C/A	89.5	8.0/4.0	70	18.03	15	99
10	1800	208-230/460	215T	K572	215TTDBD6341	C/A	91.7	27.8-25.4/12.7	140	26.33	50	

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	K580	182TTDBD6040	√	89.5	8.0/4.0	70	19.08	15	99
5	1800	230/460	184TC	K582	184TTDBD6040	√	89.5	12.6/6.3	85	20.08	25	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	208-230/460	182TC	C434	182TTDBD6034	C/A	89.5	8.6-8.0/4.0	70	21.10	15	99
7 1/2	1800	208-230/460	213TC	C438	213TTDBD16038	C/A	91.0	21.2-19.8/9.9	135	26.57	35	99

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*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
- CR²⁰⁰ 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
2	1200	230/460	184T	K444	184TTFBD6378	C/A	88.5	6.2/3.1	106	21.35	15	99
3	1800	230/460	182T	K445	182TTFBD6341	C/A	89.5	8.3/4.15	93	20.35	15	99
	1200	230/460	213T	K446	213TTTBD6378	C/A	89.5	8.6/4.3	200	24.29	25	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	C/A	91.7	20.4-19.0/9.5	223	23.85	45	99
10	1800	208-230/460	215T	K449	215TTFBD6341	C/A	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	C/A	91.7	19.0/9.5	223	24.62	45	99
10	1800	208-230/460	215TC	K482	215TTFBD6040	C/A	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
3	1800	230/460	182TC	C405A	182TTTHD16038	C/A	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	C406A	184TTTHD16038	√	89.5	12.4/6.2	145	19.85	25	AL,N,17,99
7 1/2	1800	230/460	213TC	C412	213TTFBD16038	C/A	91.7	19.0/9.5	216	24.62	45	99
	1800	230/460	213TC	C407B	213TTTHD16038	C/A	91.7	19.0/9.5	246	24.42	35	AL,N,17,99
10	1800	208-230/460	215TC	C413	215TTFBD16050	C/A	91.7	27.6-25.0/12.5	228	26.12	45	99
	1800	230/460	215TC	C408B	215TTTHD16038	C/A	91.7	25.0/12.5	257	26.92	50	AL,N,17,99

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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 RIGID BASE & RIGID BASE WITH C-FACE

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 FOOTED (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

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*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	184T	-	132543.00	C/A	82.5	20.5	98	17.46	
	1800	230	215T	-	141433.00		82.5	22.6	125	18.71	
	1800	230	215TZ	-	141432.00		82.5	22.6	153	18.71	
	1800	230	215T	-	141434.00	√	85.5	30.5	152	21.09	
7 1/2	1800	230	215TZ	-	141427.00	√	85.5	30.5	159	21.09	
	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	

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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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
5-7	3600	230	182TZ	TSTAT	-	131847.00	√	81.0	26.8-35.27	94	16.44	
7 1/2-10	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	
15	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.	FL. 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.	FL. 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	

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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	182TTDDBD6014		86.5	12.6/6.3	100	13.00	
7-10	3600	230/460	184TZ	B131850	184TTDDBD6014	√	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	

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	

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

CROP DRYER CENTRIFUGAL FAN

SINGLE PHASE, DRIPPROOF, 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
- 84" leads, rodent screens
- Shaft 1" longer than NEMA®* standard for extra clearance



RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	FL. 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	208-230	184TZ	Z124	184TBDR7369	C/A	23.0-21.0	1.00	104	16.72	13
	1800	230	184TZ	-	132639.00		23.0	1.00	104	18.46	
7 1/2	1800	208-230	215TZ	Z125	215TBDR7361	C/A	35.2	1.00	135	19.19	
	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	Z126	215TBDW7362		44.0	1.00	158	18.70	
	1800	230	215TZ	-	141393.00	√	40.0	1.00	158	22.97	
15	1800	230	256TZ	Z127	256TBDX7028	C/A	59.5	1.00	187	24.06	17

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GRAIN DRYER / CENTRIFUGAL FAN MOTORS



SINGLE AND THREE PHASE, RIGID BASE

FEATURES

- NEMA Premium®* and EPC 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
- N/C T-stats



SINGLE PHASE, (TEFC), RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	1800	230	215TZ	-	141348.00	C/A	86.4	30.0	157	20.21	
	1800	230	215TZ	-	141437.00	C/A	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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
10	1800	230/460	215TZ	-	171861.60	√	91.7	25.6/12.8	220	17.90	
	1800	230/460	215TZ	Y313	215TTDBD6327		91.7	25.4/12.7	136	18.31	
	1800	460	215TZ	Y314	215TTDCD6327	C/A	91.7	12.7	148	18.52	
15	1800	230/460	254TZ	-	171862.60	√	93.0	37.0/18.5	279	21.88	
	1800	230/460	254TZ	Y315	254TTDBD6327	C/A	93.0	37.5/18.8	320	23.31	
	1800	230/460	254TZ	Y316	254TTDCD6327	C/A	93.0	37.5/18.8	332	23.64	
20	1800	230/460	256TZ	-	171863.60	√	93.0	51.0/25.5	324	23.62	
	1800	230/460	256TZ	Y317	256TTDBD6327		93.0	48.5/24.3	325	24.88	
	1800	230/460	256TZ	Y318	256TTDCD6327	C/A	93.0	48.5/24.3	337	25.22	
25	1800	230/460	284TZ	-	171864.60	√	93.6	59.5/29.7	404	24.92	
	1800	230/460	284TZ	Y319	284TTDBD6327	C/A	93.6	62.5/31.0	310	26.60	
	1800	230/460	284TZ	Y320	284TTDCD6327	C/A	93.6	62.5/31.0	322	26.71	
30	1800	230/460	286TZ	-	171865.60	√	94.1	71.0/35.5	417	26.57	
	1800	230/460	286TZ	Y321	286TTDBD6327		94.1	73.0/36.5	416	27.98	
	1800	230/460	286TZ	Y322	286TTDCD6327	C/A	94.1	73.0/36.5	494	28.09	

THREE PHASE, TEFC, RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TZ	Y007	182TTFC6327	C/A	89.5	8.0/4.0	100	16.20	
5	1800	230/460	184TZ	Y009	184TTFC6327	C/A	89.5	13.0/6.5	107	17.20	
7 1/2	1800	230/460	213TZ	Y011	213TTFC6327	C/A	91.7	19.0/9.5	120	19.53	
10	1800	230/460	215TZ	Y013	215TTFC6327	C/A	91.7	25.0/12.5	320	21.03	
15	1800	230/460	254TZ	Y015	254TTFC6327	C/A	92.4	37.5/18.8	325	25.15	
20	1800	230/460	256TZ	Y017	256TTFC6327	C/A	93.0	48.5/24.2	310	26.89	
25	1800	230/460	284TZ	Y019	284TTFC6327	C/A	93.6	60.0/30.0	412	27.64	
30	1800	230/460	286TZ	Y021	286TTFC6327	C/A	93.6	71.0/35.5	495	29.14	

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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

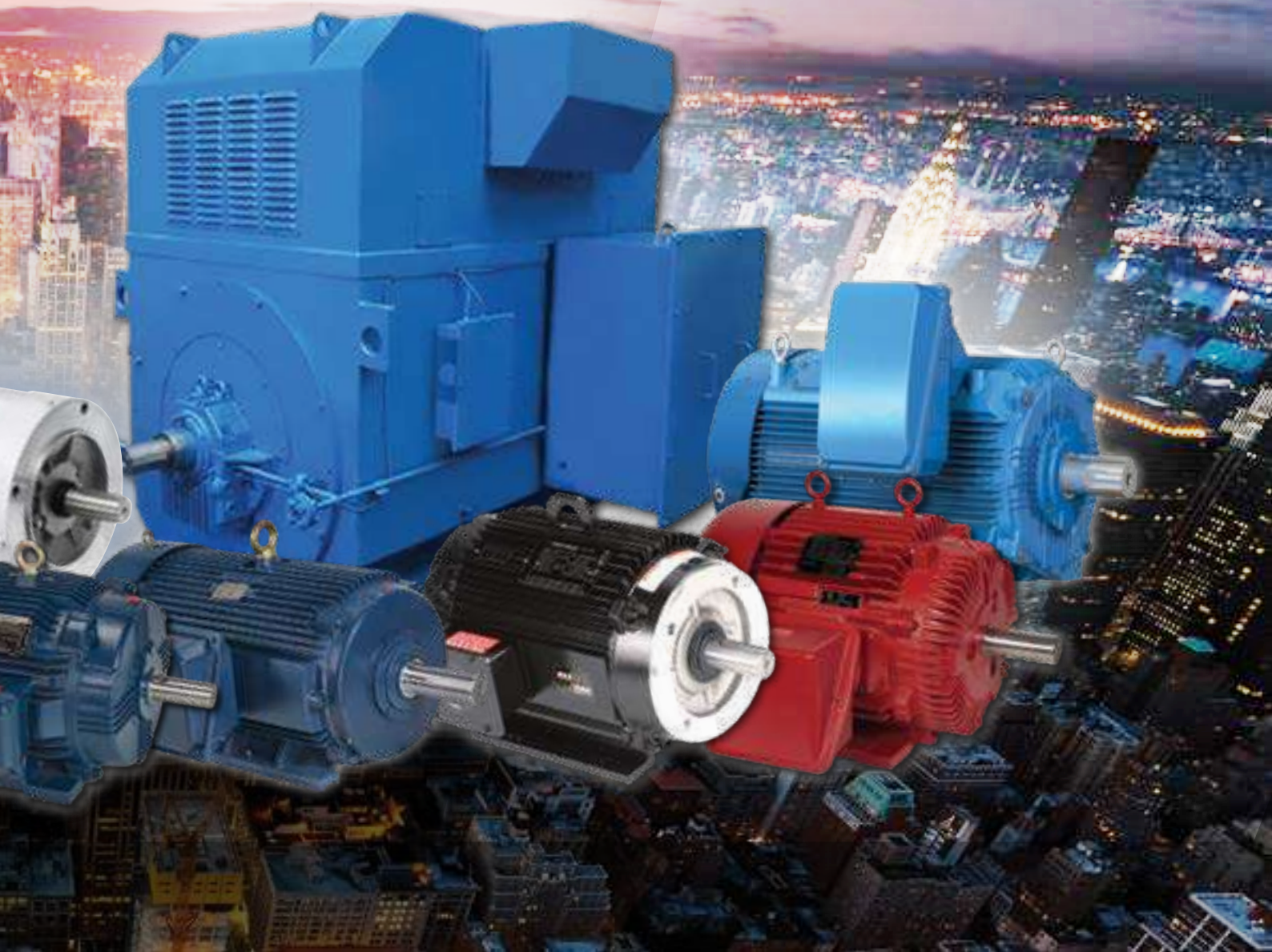
HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
7 1/2	1800	230	215TVZ	-	140830.00	√	84.0	34.5	125	18.04	
	1800	230	215TVZ	-	140816.00	√	82.5	44.0	150	20.65	

√: Available

marathon[®]
Motors



MOTORS TO GET THE JOB DONE™



WASHGUARD® MOTORS

NOTHING SHEDS WATER LIKE A DUCK

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
- Extrem Duck® - Encapsulated and premium efficient models
- Washdown brakemotors and pump motors available
- LEESON's Inverter Rated Insulation System (IRIS)
- UL®* recognized and CSA®* certified



*See back cover page for attribution.

WASHGUARD® MOTORS

BROAD PRODUCT RANGE



WHITE DUCK

Enhanced performance in wet, humid areas

FEATURES

- Our original moisture-shedding “duck” 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



SST DUCK

Stainless Steel exterior tough for 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



PREMIUM STAINLESS DUCK

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



EXTREME DUCK® ULTRA

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 WASHDOWN™



LEESON® WASHGUARD® MOTORS FEATURES AT A GLANCE



FEATURE	WHITE DUCK	SST DUCK	STAINLESS DUCK	EXTREME DUCK® ULTRA
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			■①	■
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	■		■	
Brakemotor designs	■		■	
DC motors available	■		■	
Metric designs available			■	■
Local inventory support	■	■	■	■

① 56/143/145T Frame Ratings

EXTREME DUCK ULTRA HANDLES THE HARSHTEST 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.

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



WASHGUARD WHITE EPOXY MODEL SHOWN

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

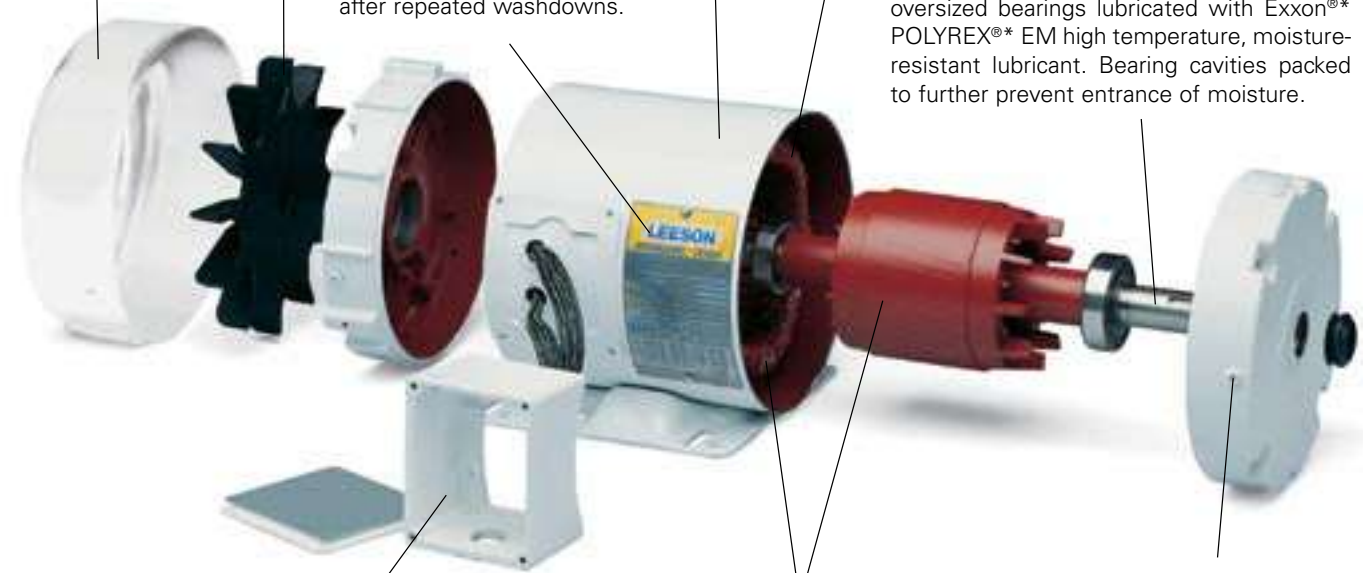
USDA-approved, white epoxy finish for superior protection and resistance to caustic cleaning solutions.

Encapsulated starting switch (single-phase Washguard 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.

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.

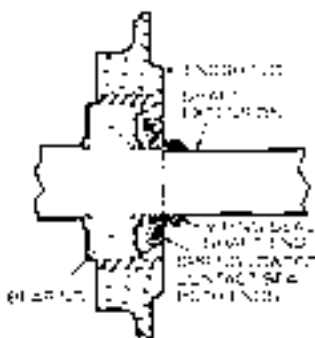
Moisture-resistant shaft system includes 303 stainless-steel shaft and lubricated, spring-loaded contact seals in each endshield. Patented V-ring Forsheda®* seal on shaft end to deflect water (see inset). Double-sealed, oversized bearings lubricated with Exxon®* POLYREX®* EM high temperature, moisture-resistant 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, alkalis, and oils. High temperature, moisture resistant IRIS® 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.

WASHGUARD® MOTORS

SINGLE PHASE, WHITE DUCK™ 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	-	131571.00		71	25.2/12.6-2.6	63	13.46	

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

*See back cover page for attribution.

WASHGUARD® MOTORS

THREE PHASE, WHITE DUCK™ EPOXY PAINTED



FEATURES

- Ingress Protection Code is IP55
- 10:1 variable torque, constant torque speed range as listed below
- IRIS® 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



TEFC - RIGID BASE

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182T	-	132388.00	C/A	10:1	86.5	7.6/3.8	69	13.96	
3	1800	230/460	182T	-	132196.00	√	10:1	89.5	7.8/3.9	78	14.46	
5	3600	230/460	184T	-	132202.00	√	10:1	88.5	12.0/6.0	89	14.46	
	1800	230/460	184T	-	132197.00	√	10:1	89.5	12.6/6.3	90	13.96	
7 1/2	3600	230/460	184T	-	132306.00		10:1	89.5	17.6/8.8	87	15.96	
	3600	230/460	213T	-	132204.00		10:1	89.5	17.6/8.8	87	16.59	
	1800	230/460	213T	-	140819.00	√	10:1	91.7	21.6/10.8	161	18.71	
10	1800	230/460	215T	-	140820.00	√	10:1	91.7	26.8/13.4	181	19.71	

TEFC C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	-	132439.00	√	10:1	86.5	8.4-7.8/3.9	78	14.47	
5	3600	230/460	184TC	-	132441.00	√	10:1	88.5	12.0/6.0	58	14.97	
	1800	230/460	184TC	-	132440.00	√	10:1	89.5	12.6/6.3	67	15.47	
7 1/2	3600	230/460	213TC	-	141267.00		10:1	89.5	18.6/9.3	147	18.77	
	1800	230/460	213TC	-	141266.00	√	10:1	91.7	19.6/9.8	135	18.77	
10	3600	230/460	215TC	-	141269.00		10:1	90.2	23.6/11.8	170	20.27	
	1800	230/460	215TC	-	141268.00	√	10:1	91.7	26.4/13.2	180	20.27	
15	3600	230/460	215TC	-	141357.00	√	10:1	91.0	35.0/17.6	156	20.27	

TEFC C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE*	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182TC	-	132563.00		10:1	87.5	6.0/3.0	89	15.96	
3	3600	230/460	182TC	-	132199.00	√	10:1	86.5	8.2-7.6/3.8	80	14.97	
	1800	230/460	182TC	-	132198.00	√	10:1	89.5	7.8/3.9	79	14.47	
5	3600	230/460	184TC	-	132200.00	√	10:1	88.5	12.0/6.0	90	14.97	
	3600	575	184TC	-	132267.00		10:1	88.5	4.8	100		
	1800	230/460	184TC	-	132201.00	√	10:1	89.5	12.6/6.3	91	15.47	
7 1/2	1800	575	182TC	-	132265.00		10:1	89.5	5.0	76		
	3600	208-230/460	213TC	-	141120.00	√	10:1	90.2	17.8/8.9	140	15.97	
	3600	230/460	184TC	-	132205.00	√	10:1	89.5	17.6/8.8	101	20.57	
10	1800	208-230/460	213TC	-	140822.00	√	10:1	91.7	22.4-21.6/10.8	157	18.71	
	3600	230/460	215TC	-	140823.00	√	10:1	91.7	23.6/11.8	164	21.82	
	1800	230/460	215TC	-	140821.00	√	10:1	91.7	26.8/13.4	179	19.71	

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
Model numbers highlighted in bold blue are premium efficient.

* Requires nameplate modification.

*See back cover page for attribution.

WASHGUARD® MOTORS

THREE PHASE, WHITE DUCK™ EPOXY PAINTED



APPLICATION

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



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	208-230/460	182JM	-	132442.00	√	10:1	89.5	8.4-7.8/3.9	90	16.13	
5	3600	208-230/460	184JM	-	132443.00	√	10:1	88.5	13.2-12/6	82	16.63	
	1800	208-230/460	184JM	-	132444.00	√	10:1	89.5	13.8-12.6/6.3	90	16.63	
7.5	3600	208-230/460	184JM	-	132446.00	√	10:1	90.1	19.2-17.6/8.8	76	17.63	
	1800	230/460	213JM	-	141270.00	√	10:1	91.7	19.6/9.8	101	21.40	
10	3600	230/460	215JM	-	141271.00	√	10:1	90.2	23.6/11.8	140	21.40	
	1800	230/460	215JM	-	141272.00	√	10:1	91.7	26.4/13.2	155	22.90	
15	3600	230/460	215JM	-	141358.00	√	10:1	91.0	35.0/17.6	165	21.71	

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*See back cover page for attribution.

WASHGUARD® MOTORS

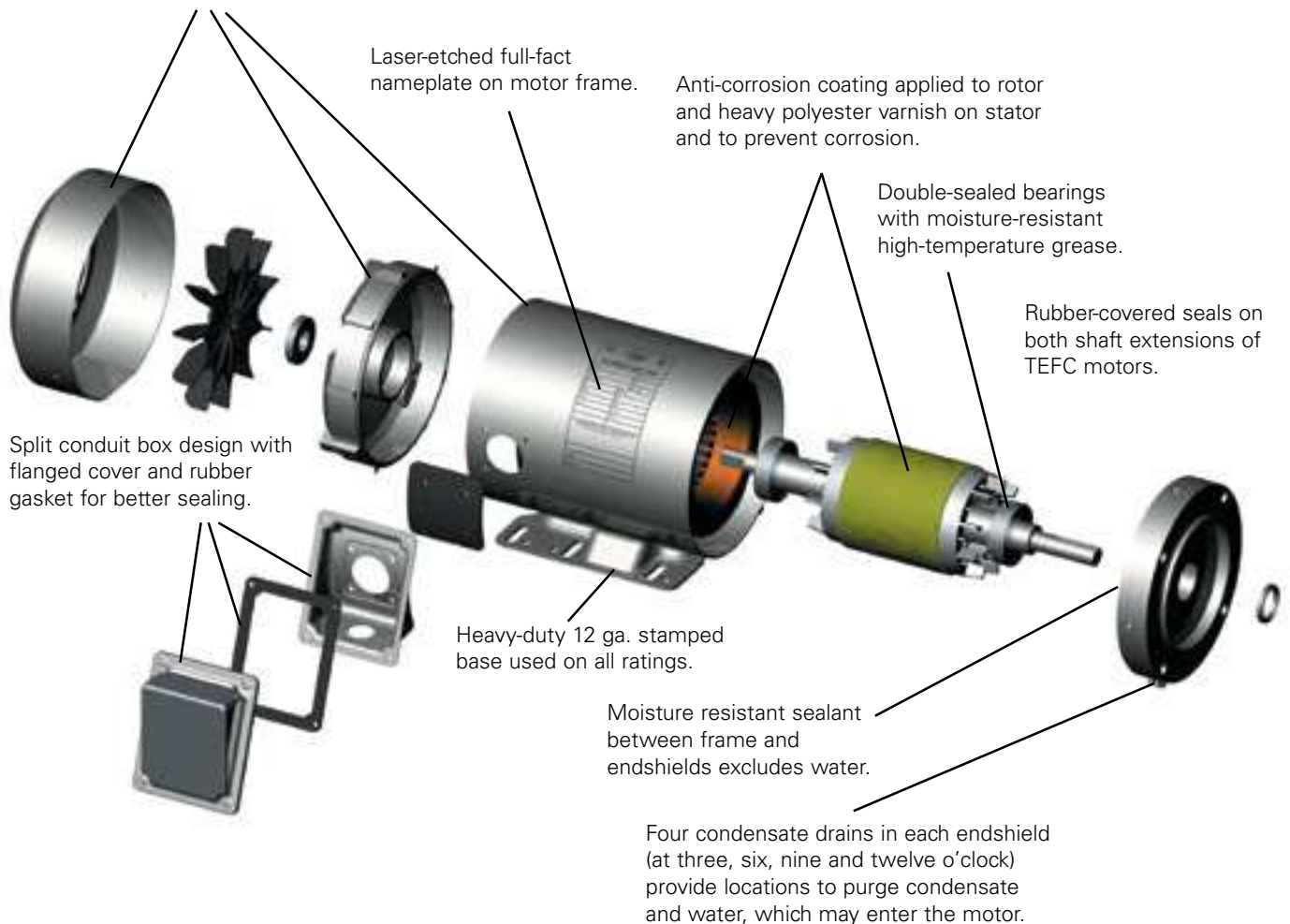
SST - ALL STAINLESS MOTORS



This member of the LEESON® family of tough duck motors is designed for long life in demanding washdown applications. FHP Washguard SST All-Stainless motors are Stainless Steel Tough!

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

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



WASHGUARD® MOTORS

THREE PHASE, SST DUCK™ - ALL STAINLESS



FEATURES

- Inverter speed range as listed below
- IRIS® 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



TEFC C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	---	194000.00	√	10:1 VT	86.5	6.9/3.5	80	16.97	
	1800	230/460	182TC	---	194001.00	√	10:1 VT	89.5	7.2/3.6	117	16.97	
5	3600	230/460	184TC	---	194002.00	√	10:1 VT	88.5	11.0/5.5	120	16.97	
	1800	230/460	184TC	---	194003.00	√	10:1 VT	89.5	12.4/6.2	143	16.97	
7 1/2	3600	230/460	213TC	---	194004.00	√	10:1 VT	89.5	17.4/8.7	156	21.57	
	1800	230/460	213TC	---	194005.00	√	10:1 VT	91.7	19.4/9.7	185	21.57	
10	3600	230/460	215TC	---	194006.00	√	10:1 VT	90.2	22.8/11.4	176	21.57	
	1800	230/460	215TC	---	194007.00	√	10:1 VT	91.7	25.2/12.6	207	21.57	
15	3600	208-230/460	254TC	---	194008.00	√	4:1 CT	91.0	38-34.5/17.2	303	23.65	
	1800	208-230/460	254TC	---	194009.00	√	4:1 CT	92.4	38-35.5/17.8	307	23.65	
20	3600	208-230/460	256TC	---	194010.00	√	4:1 CT	91.0	50.5-45/22.5	375	25.00	
	1800	208-230/460	256TC	---	194011.00	√	4:1 CT	93.0	52.0-47.0/23.6	358	25.00	
25	3600	208-230/460	284TC	---	194012.00	√	2:1 CT	91.7	63.0-56.5/28.3	414	26.97	
	1800	208-230/460	284TC	---	194013.00	√	2:1 CT	93.6	65.0-57.5/28.8	425	26.97	
30	3600	208-230/460	286TC	---	194014.00	√	2:1 CT	91.7	76.0-68.0/34.0	425	27.95	
	1800	208-230/460	286TC	---	194015.00	√	2:1 CT	93.6	76.0-68.0/34.0	475	27.95	

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
 Model numbers highlighted in bold blue are premium efficient.

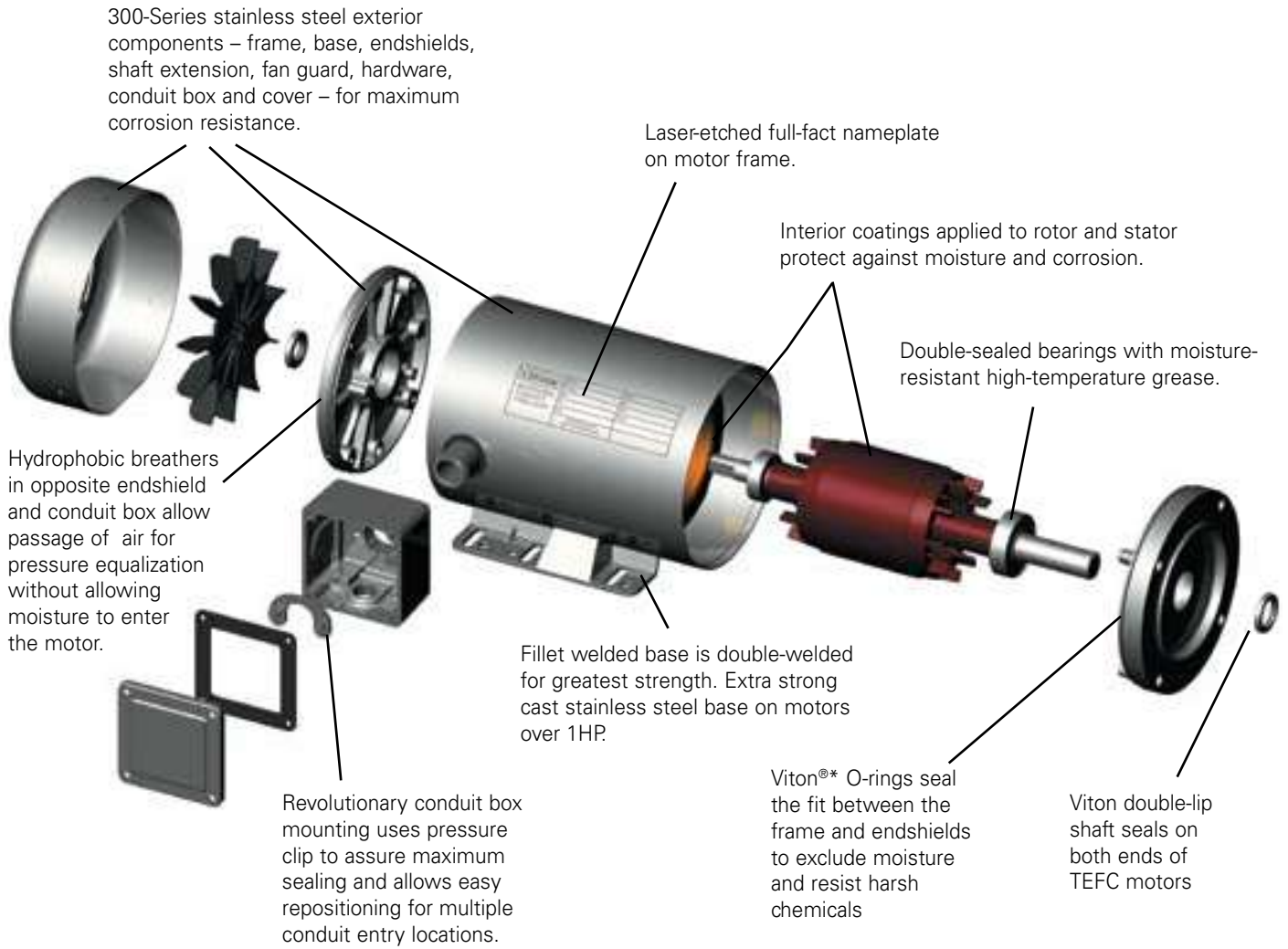
* Requires nameplate modification.

*See back cover page for attribution.

WASHGUARD[®] MOTORS PREMIUM STAINLESSDUCK



PREMIUM - ALL STAINLESS
THREE-PHASE



*See back cover page for attribution.

WASHGUARD® MOTORS

PREMIUM - ALL STAINLESS

THREE PHASE



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 equalize pressure without allowing moisture to enter
- Exterior fastener use minimized reducing the number of entry points for moisture. There are no 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:

- Washguard 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
- LEESON® motors exclusive IRIS® 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.

WASHGUARD® MOTORS

THREE PHASE - PREMIUM DUCK™



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, endshields, 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



C-FACE FOOTED (RIGID BASE)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230/460	182TC	-	132203.00	√	10:1	86.5	7.6/3.8	85	14.27	
	1800	230/460	182TC	-	132206.00	√	10:1	89.5	7.8/3.9	90	14.77	
5	3600	208-230/460	184TC	-	132207.00	√	10:1	88.5	12.0/6.0	103	15.27	
	1800	230/460	184TC	-	132208.00	√	10:1	89.5	12.6/6.3	101	15.77	
7 1/2	3600	208-230/460	184TC	-	140825.00	√	10:1	90.2	17.8/8.9	168	18.69	
	1800	230/460	184TC	-	140826.00	√	10:1	91.7	21.6/10.8	173	18.69	
10	3600	208-230/460	184TC	-	140827.00	√	10:1	91.7	23.6/11.8	182	18.69	
	1800	230/460	184TC	-	140828.00	√	10:1	91.7	26.8/13.4	203	18.69	

C-FACE FOOTLESS

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	CT SPEED RANGE	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	1800	230/460	182TC	-	132447.00	√	10:1	89.5	7.8/3.9	91	14.77	
5	3600	208-230/460	184TC	-	132449.00		10:1	88.5	13.2-12/6	75	15.77	
	1800	230/460	184TC	-	132448.00	√	10:1	89.5	12.6/6.3	80	15.77	

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
 Model numbers highlighted in bold blue are premium efficient.

* Requires nameplate modification.

*See back cover page for attribution.

WASHGUARD® MOTORS EXTREME DUCK® ULTRA WASHGUARD ALL-STAINLESS MOTORS

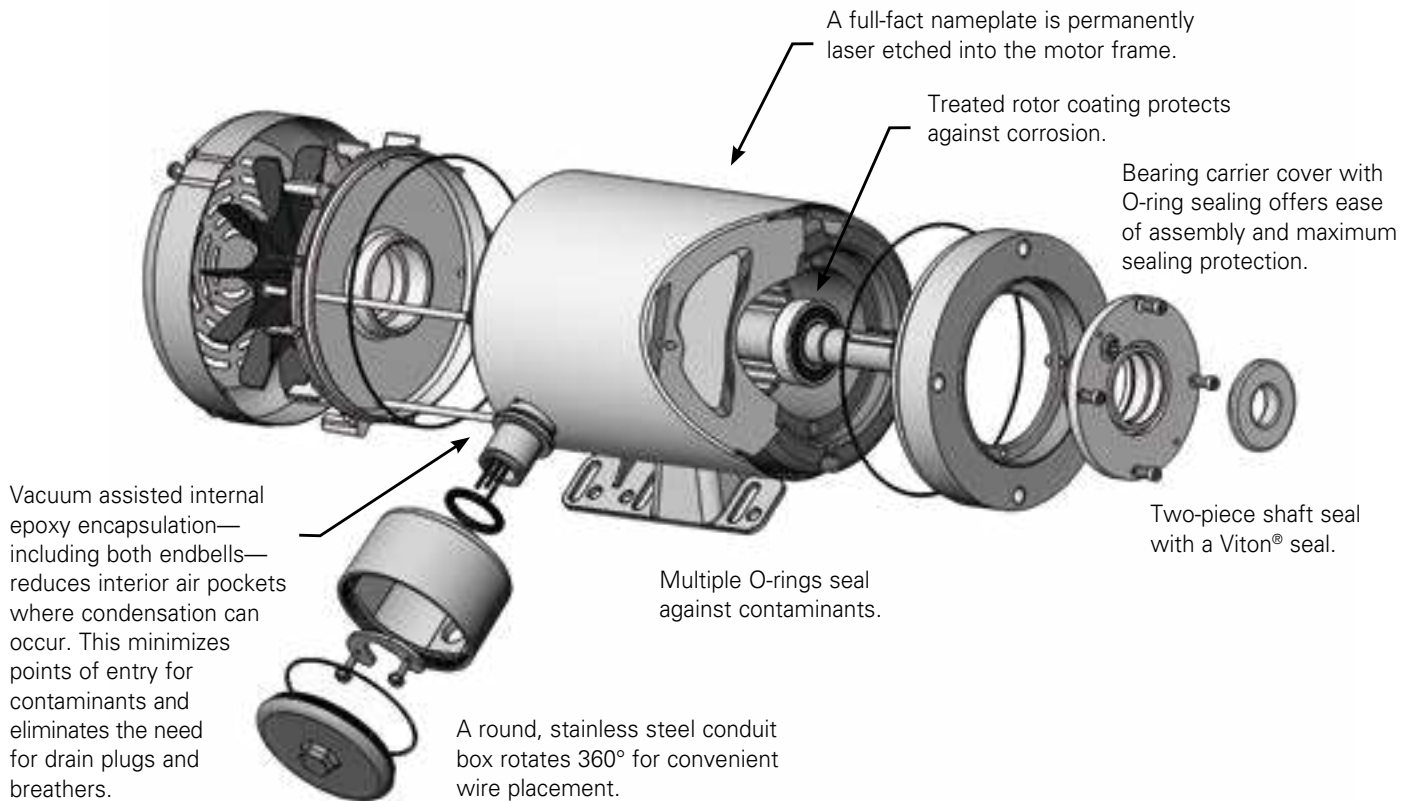


THREE PHASE, NEMA®* PREMIUM
TEFC MOTOR DESIGN SHOWN

Extreme DUCK® ULTRA

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.



*See back cover page for attribution.

WASHGUARD® MOTORS

EXTREME DUCK® ULTRA WASHGUARD

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 surfaces 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-face 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.

WASHGUARD® MOTORS

THREE PHASE - 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



C-FACE FOOTED (RIGID BASE)

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

Q-CAR™ ACCESSORY KITS - EXTREME DUCK ULTRA 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 C/A: Call your sales representative for availability
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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
2	1800	115/230	182JM	Z405A	182TCDW7074	√	72.0	23.0/11.5	69	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	33.0/16.5	77	17.59	13
5	3600	230	184JM	Z408A	184TBDW17007	√	80.0	22.0	93	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

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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	230	184JM	Z433	132457.00		82.5	14.0	82	18.59	18
5	3600	230	184JM	Z433	184TBFW7315	√	82.5	19.2	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		85.5	41.5	236	22.09	18

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*See back cover page for attribution.

CLOSE-COUPLED PUMP, JP MOTORS

SINGLE PHASE, DRIPPROOF

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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3	3600	115/230	182JP	Z425	182TCDR8005	C/A	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

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CLOSE-COUPLED PUMP, JM MOTORS

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

FEATURES

- Meets or exceeds all USA mandated efficiencies
- Suitable for use on a VFD. 10:1 variable torque and 2:1 constant torque
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- NEMA®* JM pump shaft dimensions
- JMV frame (includes drip cover as noted) for vertical mount without base
- JM frame has rigid base, drip cover not included
- 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.



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	208-230/460	182JM	GT0405A	182TTDBD6082		86.5	4.8-4.6/2.3	77	14.64	A
	1200	575	182JM	GT0505A	182TTDBD6092	C/A	86.5	1.9	77	14.64	A
2	1200	230/460	184JM	GT0408A	184TTDBD6082		87.5	6.4-6.4/3.2	91	15.64	
	1200	575	184JM	GT0508A	184TTDBD6092	C/A	87.5	2.4	91	15.64	
3	1800	208-230/460	182JM	GT0410A	182TTDBD6032	√	89.5	8.6-8.0/4.0	92	14.64	A
	1800	208-230/460	182JMV	GT4110	182TTDBD6044	C/A	89.5	8.6-8.0/4.0	92	16.64	A
	1800	230/460	182JM	GT0410A-P	182TTDBD6072	C/A	89.5	8.6-8.0/4.0	82	14.97	A
	1800	230/460	182JMV	E148B	182TTDW16067	√	89.5	8.0/4.0	75	14.95	13,27
	1800	575	182JM	GT0510A	182TTDBD6033	C/A	89.5	3.2	92	14.64	A
	1200	230/460	213JM	GT0411A	213TTDBD6082		88.5	8.4/4.2	132	19.15	
	1200	575	213JM	GT0511A	213TTDBD6092	C/A	88.5	3.35	132	19.15	
5	3600	208-230/460	182JMV	M316B	182TTDW17008	√	86.5	13.6-12.4/6.2	95	14.95	13,27
	3600	230/460	182JM	GT0412A	182TTDBD6007	√	86.5	13.2/6.6	77	14.64	A
	3600	230/460	182JMV	E153B	182TTDW16021		86.5	12.4/6.2	46	14.95	13,27
	3600	575	182JM	GT0512A	182TTDBD6008	C/A	86.5	5.3	68	14.64	A
	1800	230/460	184JM	GT0413A	184TTDBD6032	√	89.5	13.2/6.6	70	15.64	A
	1800	230/460	184JM	GT0413A-P	184TTDBD6072	C/A	89.5	13.2/6.6	92	15.97	A
	1800	230/460	184JMV	GT4113	184TTDBD6044	C/A	89.5	13.2/6.6	175	17.64	A
	1800	575	184JM	GT0513A	184TTDBD6033	C/A	89.5	5.3	175	15.64	A
	1200	230/460	215JM	GT0414A	215TTDBD6082		89.5	13.8/6.9	112	19.15	
7 1/2	1200	575	215JM	GT0514A	215TTDBD6092		89.5	5.5	210	19.15	
	3600	208-230/460	184JM	GT0415A	184TTDBD6007	√	88.5	19.6-18.4/9.2	66	15.64	A
	3600	230/460	184JM	GT0415A-P	184TTDBD6009	C/A	88.5	19.6-18.4/9.2	100	15.97	A
	3600	230/460	184JMV	E163B	184TTDW16310	√	88.5	17.8/8.9	90	17.12	13,27
	3600	575	184JM	GT0515A	184TTDBD6008	C/A	88.5	7.4	72	15.64	A
	1800	200	213JMV	E167A	213TTDWD16347		91.0	23.0	122	20.44	27
	1800	230/460	213JM	GT0416A	213TTDBD6032	√	91.0	19.8/9.9	136	19.15	
	1800	230/460	213JM	GT0416A-P	213TTDBD6072	C/A	91.0	19.8/9.9	135	19.15	
	1800	230/460	213JMV	E168A	213TTDWD16333	√	91.0	20.0/10.0	122	20.44	27
	1800	230/460	213JMV	GT4116	213TTDBD6044	C/A	91.0	19.8/9.9	128	20.87	
	1800	575	213JM	GT0516A	213TTDBD6033		91.0	7.9	128	19.15	
	1200	230/460	254JM	GT0457	254TTDBD6082		90.2	20.2/10.1	221	24.41	
	1200	575	254JM	GT0557	254TTDBD6092	C/A	90.2	8.1	322	24.41	
	10	3600	230/460	213JM	GT0418A	213TTDBD6007	√	89.5	24.2/12.1	180	19.15
3600		575	213JM	GT0518A	213TTDBD6008		89.5	9.7	100	19.15	
1800		208-230/460	215JM	GT0419A	215TTDBD6032	√	91.7	27.8-25.4/12.7	185	19.15	
1800		230/460	215JM	GT0419A-P	215TTDBD6072	C/A	91.7	25.4/12.7	140	19.15	
1800		230/460	215JMV	E178A	215TTDWD16349		91.7	26.2/13.1	134	20.44	27,BI
1800		575	215JM	GT0519A	215TTDBD6033	C/A	91.7	10.2	186	19.15	
1200		230/460	256JM	GT0458	256TTDBD6082		91.7	27.8-25.6/12.8	267	25.99	
1200		575	256JM	GT0558	256TTDBD6092	C/A	91.7	10.3	285	25.99	

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CLOSE-COUPLED PUMP, JM MOTORS

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

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
15	3600	230/460	215JM	GT0421A	215TTDDBD6007	√	90.2	36.0/18.0	135	19.15	
	3600	230/460	215JMV	E183A	215TTDWD4023	√	91.0	36.5/18.2	124	20.44	
	3600	230/460	215JMV	GT4121	215TTDDBD6014	C/A	90.2	36.0/18.0	124	20.87	
	3600	575	215JM	GT0521A	215TTDDBD6008		90.2	14.4	186	19.15	
	3600	575	215JMV	GT4221	215TTDDBD6016	C/A	90.2	14.4	125	20.87	
	1800	208-230/460	254JM	GT0459	254TTDDBD6032	√	93.0	40.5-37.5/18.8	287	24.41	
	1800	230/460	254JM	GT0459-P	254TTDDBD6072	C/A	93.0	40.5-37.5/18.8	340	24.67	
	1800	230/460	254JMV	E188A	254TTDR16027		93.0	38.0/18.9	284	25.45	BI
	1800	230/460	254JMV	GT4159	254TTDDBD6044	C/A	93.0	37.5/18.8	243	26.30	
	1800	575	254JM	GT0559	254TTDDBD6033	C/A	93.0	15.1	243	24.41	
	1200	230/460	284JM	GT0460	284TTDDBD6082		91.7	41.0/20.6	411	26.58	
1200	575	284JM	GT0560	284TTDDBD6092	C/A	91.7	16.5	353	26.58		
20	3600	208-230/460	254JM	GT0461	254TTDDBD6007	√	91.0	51.5-48.0/24.0	275	24.41	
	3600	575	254JM	GT0561	254TTDDBD6008		91.0	19.2	284	24.41	
	1800	230/460	256JM	GT0462	256TTDDBD6032		93.0	48.5/24.3	311	25.99	
	1800	230/460	256JM	GT0462-P	256TTDDBD6072	C/A	93.0	48.5/24.3	370	26.24	
	1800	575	256JM	GT0562	256TTDDBD6033		93.0	19.5	290	25.99	
	1200	230/460	286JM	GT0463	286TTDDBD6082		92.4	52.5/26.3	178	27.09	
	1200	575	286JM	GT0563	286TTDDBD6092	C/A	92.4	21.1	390	27.09	
25	3600	208-230/460	256JM	GT0464	256TTDDBD6007	√	91.7	64.0-59.5/29.7	291	25.99	
	3600	575	256JM	GT0564	256TTDDBD6008	C/A	91.7	23.8	302	25.99	
	1800	230/460	284JM	GT0465	284TTDDBD6032		93.6	62.5/31	359	26.58	
	1800	230/460	284JM	GT0465-P	284TTDDBD6072	C/A	93.6	62.5/31	300	26.78	
	1800	575	284JM	GT0565	284TTDDBD6033	C/A	93.6	25.0	423	26.58	
	1200	230/460	324JM	GT0468	324TTDDBD6082		93.0	65.0/32.5	474	28.94	
	1200	575	324JM	GT0568	324TTDDBD6092	C/A	93.0	26.0	523	28.94	
30	3600	230/460	284JM	GT0469	284TTDDBD6007	√	91.7	71.5/35.5	357	26.58	
	3600	575	284JM	GT0569	284TTDDBD6008	C/A	91.7	28.6	357	26.58	
	1800	230/460	286JM	GT0467	286TTDDBD6032	√	94.1	73.0/36.5	397	27.09	
	1800	230/460	286JM	GT0467-P	286TTDDBD6072	C/A	94.1	73.0/36.5	425	28.16	
	1800	575	286JM	GT0567	286TTDDBD6033	C/A	94.1	29.2	545	27.09	
	1200	230/460	326JM	GT0471	326TTDDBD6082		93.6	82.0-75.0/37.5	625	30.12	
	1200	575	326JM	GT0571	326TTDDBD6092	C/A	93.6	30.0	734	30.12	
40	3600	208-230/460	286JM	GT0472	286TTDDBD6007	√	92.4	102-93.0/46.5	397	27.09	
	3600	575	286JM	GT0572	286TTDDBD6008		92.4	37.0	462	27.09	
	1800	208-230/460	324JM	GT0473	324TTDDBD6032	√	94.1	103-95.5/47.5	490	28.94	
	1800	575	324JM	GT0573	324TTDDBD6033	C/A	94.1	38.0	552	28.94	
50	3600	208-230/460	324JM	GT0476	324TTDDBD6007		93.0	127-115/57.5	535	28.94	
	3600	575	324JM	GT0576	324TTDDBD6008		93.0	46.0	657	28.94	
	1800	230/460	326JM	GT0477	326TTDDBD6032		94.5	118/59.0	542	30.12	
	1800	575	326JM	GT0577	326TTDDBD6033	C/A	94.5	47.0	604	30.12	

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CLOSE-COUPLED PUMP, JM MOTORS

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

FEATURES

- Meets or exceeds all USA mandated efficiencies
- IP55 rating, enclosure protection against dust and water jets, as noted
- Hazardous Duty® motors division 2 UL certification nameplate, as noted
- Division 2 / zone 2 class 1 (gases), groups A, B, C, D
- NEMA®* JM pump shaft dimensions
- JMV frame (includes drip cover as noted) for vertical mount without base
- JM frame has rigid base, drip cover not included
- Suitable for use on a VFD. 10:1 variable torque and 2:1 constant torque
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Class F Insulation
- Ball bearings, mechanically locked on shaft end
- Standard assembly F1, reversible to F2 assembly
- UL®* recognized, CSA®* certified and CE marked.



HP	RPM	VOLTS	FRAME	IP55	DIV II	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JM	N	Y	GT3105A	182TTFBD6082		87.5	4.6/2.3	104	17.37	A
	1200	575	182JM	N	Y	GT3205A	182TTFBD6092	C/A	87.5	1.8	104	17.37	A
2	1200	230/460	184JM	N	Y	GT3108A	184TTFBD6082		88.5	6.2/3.1	112	18.37	A
	1200	575	184JM	N	Y	GT3208A	184TTFBD6092	C/A	88.5	2.5	112	18.37	A
3	3600	230/460	182JM	N	Y	GT3109A	182TTFBD6006	√	86.5	8.0/4.0	126	17.37	A
	3600	575	182JM	N	Y	GT3209A	182TTFBD6008	C/A	86.5	3.2	126	17.37	A
	1800	230/460	182JM	N	N	GT3110A-P	182TTFBD6072	C/A	89.5	8.3/4.15	90	17.37	A
	1800	230/460	182JM	N	Y	GT3110A	182TTFBD6031	√	89.5	8.3/4.15	75	17.37	A
	1800	575	182JM	N	Y	GT3210A	182TTFBD6033	C/A	89.5	3.2	142	17.37	A
	1200	230/460	213JM	N	Y	GT3111A	213TTFBD6082		89.5	8.6/4.3	133	20.27	
	1200	575	213JM	N	Y	GT3211A	213TTFBD6092	C/A	89.5	3.5	140	20.27	
	3600	230/460	184JM	N	Y	GT3112A	184TTFBD6006	√	88.5	12.4/6.2	90	18.37	A
5	3600	575	184JM	N	Y	GT3212A	184TTFBD6008	C/A	88.5	5.0	90	18.37	A
	1800	230/460	184JM	N	N	GT3113A-P	184TTFBD6072	C/A	89.5	13.2/6.6	107	18.37	A
	1800	230/460	184JM	N	Y	GT3113A	184TTFBD6031	√	89.5	13.2/6.6	114	18.37	A
	1800	575	184JM	N	Y	GT3213A	184TTFBD6033	C/A	89.5	5.2	114	18.37	A
	1200	230/460	215JM	N	Y	GT3114A	215TTFBD6082		89.5	13.6/6.8	167	21.85	
	1200	575	215JM	N	Y	GT3214A	215TTFBD6092	C/A	89.5	5.5	155	21.85	
7 1/2	3600	230/460	213JM	N	Y	GT3115A	213TTFBD6006	√	90.3	18.4/9.2	140	20.27	
	3600	575	213JM	N	Y	GT3215A	213TTFBD6008		90.3	7.4	133	20.27	
	1800	230/460	213JM	N	N	GT3116A-P	213TTFBD6072	C/A	91.7	19/9.5	156	20.27	
	1800	230/460	213JM	N	Y	GT3116A	213TTFBD6031	√	91.7	19/9.5	163	20.27	
	1800	575	213JM	N	Y	GT3216A	213TTFBD6033		91.7	7.6	162	20.27	
	1200	230/460	254JM	Y	Y	GT3117A	254TTFCD6082		91.0	19.8/9.9	254	26.15	
	1200	575	254JM	Y	Y	GT3217A	254TTFCD6092	C/A	91.0	7.9	254	26.15	
10	3600	230/460	215JM	N	N	GT3118A-P	215TTFBD6009	√	90.2	23.6/11.8	160	21.85	
	3600	230/460	215JM	N	Y	GT3118A	215TTFBD6006	√	90.2	23.6/11.8	170	21.85	
	3600	575	215JM	N	Y	GT3218A	215TTFBD6008		90.2	9.5	163	21.85	
	1800	230/460	215JM	N	N	GT3119A-P	215TTFBD6072	C/A	91.7	27.3-25.0/12.5	180	21.85	
	1800	208-230/460	215JM	N	Y	GT3119A	215TTFBD6031	√	91.7	27.6-25.0/12.5	185	21.85	
	1800	575	215JM	N	Y	GT3219A	215TTFBD6033	C/A	91.7	10.0	171	21.85	
	1200	230/460	256JM	Y	Y	GT3120A	256TTFCD6082		91.0	25.8/12.9	325	27.89	
	1200	575	256JM	Y	Y	GT3220A	256TTFCD6092	C/A	91.0	10.3	316	27.89	
15	3600	230/460	215JM	N	Y	GT31111	215TTFBD6020	√	91.7	35.0/17.4	190	21.85	A
	3600	230/460	254JM	N	N	U344A	254TFFL16008		91.0	36.0/18.0	302	25.52	AL
	3600	230/460	254JM	Y	Y	GT3121A	254TTFCD6006	√	91.0	35.5/17.8	251	26.15	
	3600	575	254JM	Y	Y	GT3221A	254TTFCD6008	C/A	91.0	14.3	295	26.15	
	1800	230/460	254JM	Y	N	GT3122A-P	254TTFCD6072	C/A	92.4	37.5/18.8	300	26.15	
	1800	230/460	254JM	N	N	U348A	254TFFL16045		92.4	37.5/18.8	251	25.52	AL
	1800	230/460	254JM	Y	Y	GT3122A	254TTFCD6031	√	92.4	37.5/18.8	309	26.15	
	1800	575	254JM	Y	Y	GT3222A	254TTFCD6033		92.4	15.1	309	26.15	
	1200	230/460	284JM	Y	Y	GT3123A	284TTFCD6082		91.7	40.0/20.0	351	27.52	
	1200	575	284JM	Y	Y	GT3223A	284TTFCD6092	C/A	91.7	16.0	413	27.52	

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*See back cover page for attribution.

Blue shaded areas are cast iron frames.

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CLOSE-COUPLED PUMP, JM MOTORS

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

HP	RPM	VOLTS	FRAME	IP55	DIV II	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
20	3600	230/460	256JM	N	N	U351A	256TTFL16004		92.4	47/23.4	272	27.27	AL
	3600	230/460	256JM	Y	Y	GT3124A	256TTFCD6006		91.0	47.5/23.7	122	27.89	
	3600	575	256JM	Y	Y	GT3224A	256TTFCD6008		91.0	19.0	312	27.89	
	1800	230/460	256JM	Y	N	GT3125A-P	256TTFCD6072	C/A	93.0	48.5/24.2	360	27.89	
	1800	230/460	256JM	N	N	U354A	256TTFL16042		93.0	48.0/24.1	230	27.27	AL
	1800	230/460	256JM	Y	Y	GT3125A	256TTFCD6031	√	93.0	48.5/24.2	291	27.89	
	1800	575	256JM	Y	Y	GT3225A	256TTFCD6033	C/A	93.0	19.4	360	27.89	
	1200	230/460	286JM	Y	Y	GT3126A	286TTFCD6082		91.7	52.0/26.0	458	29.02	
	1200	575	286JM	Y	Y	GT3226A	286TTFCD6092	C/A	91.7	20.8	457	29.02	
25	3600	230/460	284JM	Y	Y	GT3127A	284TTFCD6006	√	91.7	60.0/30.0	403	27.52	
	3600	575	284JM	Y	Y	GT3227A	284TTFCD6008	C/A	91.7	24.0	405	27.52	
	1800	230/460	284JM	Y	N	GT3128A-P	284TTFCD6072	C/A	93.6	60.0/30.0	462	27.52	
	1800	230/460	284JM	Y	Y	GT3128A	284TTFCD6032	√	93.6	60.0/30.0	342	27.52	
	1800	575	284JM	Y	Y	GT3228A	284TTFCD6033	C/A	93.6	24.0	404	27.52	
	1200	575	324JM	Y	Y	GT3229A	324TTFCD6092	C/A	93.0	25.6	520	32.93	
30	3600	230/460	286JM	Y	Y	GT3130A	286TTFCD6006	√	91.7	71.0/35.5	364	29.02	
	3600	575	286JM	Y	Y	GT3230A	286TTFCD6008		91.7	28.5	540	29.02	
	1800	230/460	286JM	Y	N	GT3131A-P	286TTFCD6072	C/A	93.6	71.0/35.5	500	29.02	
	1800	230/460	286JM	Y	Y	GT3131A	286TTFCD6032		93.6	71.0/35.5	437	29.02	
	1800	575	286JM	Y	Y	GT3231A	286TTFCD6033	C/A	93.6	28.4	500	29.02	
	1200	230/460	326JM	Y	Y	GT3132A	326TTFCD6082		93.0	76.0/38.0	683	34.11	
	1200	575	326JM	Y	Y	GT3232A	326TTFCD6092	C/A	93.0	30.5	647	34.11	
40	3600	230/460	324JM	Y	Y	GT3133A	324TTFCD6007	√	92.4	92.0/46.0	525	32.93	
	3600	575	324JM	Y	Y	GT3233A	324TTFCD6008		92.4	37.0	643	32.93	
	1800	230/460	324JM	Y	Y	GT3134A	324TTFCD6031		94.1	95.0/47.5	259	32.93	
	1800	575	324JM	Y	Y	GT3234A	324TTFCD6033	C/A	94.1	38.0	571	32.93	
50	3600	230/460	326JM	Y	Y	GT3136A	326TTFCD6007	√	94.1	113/56.5	595	34.11	
	3600	575	326JM	Y	Y	GT3236A	326TTFCD6008		94.1	45.0	732	34.11	
	1800	230/460	326JM	Y	Y	GT3137A	326TTFCD6031		94.5	117/58.5	698	34.11	
	1800	575	326JM	Y	Y	GT3237A	326TTFCD6033		94.5	47.0	698	34.11	

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CLOSE-COUPLED PUMP, JP MOTORS

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

FEATURES

- Meets or exceeds all USA mandated efficiencies
- Suitable for use on a VFD. 10:1 variable torque and 2:1 constant torque
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power
- NEMA®* JP pump shaft dimensions
- JPV frame (includes drip cover as noted) for vertical mount without base
- JP frame has rigid base, drip cover not included
- 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 and CSA®* certified



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JP	GT2405A	182TTDBD6085	C/A	86.5	4.8-4.6/2.3	44	17.70	A
	1200	575	182JP	GT2505A	182TTDBD6095	C/A	86.5	1.85	44	17.70	A
2	1200	230/460	184JP	GT2408A	184TTDBD6085	C/A	87.5	6.4-6.0/3.0	76	18.70	
	1200	575	184JP	GT2508A	184TTDBD6095	C/A	87.5	2.4	76	18.70	
3	1800	208-230/460	182JP	GT2410A	182TTDBD6037	√	89.5	8.6-8.0/4.0	80	17.70	A
	1800	575	182JP	GT2510A	182TTDBD6038	C/A	89.5	3.2	81	17.70	A
	1200	230/460	213JP	GT2411A	213TTDBD6085		88.5	8.4/4.2	139	23.11	
	1200	575	213JP	GT2511A	213TTDBD6095	C/A	88.5	3.35	135	23.11	
5	3600	230/460	182JP	GT2412A	182TTDBD6012		86.5	13.2/6.6	83	17.70	A
	3600	575	182JP	GT2512A	182TTDBD6013	C/A	86.5	5.3	83	17.70	A
	3600	575	182JPV	GT4512	182TTDBD6019	C/A	86.5	5.3	58	19.58	A
	1800	230/460	184JP	GT2413A	184TTDBD6037		89.5	13.2/6.6	86	18.70	A
	1800	575	184JP	GT2513A	184TTDBD6038	C/A	89.5	5.3	120	18.70	A
	1200	230/460	215JP	GT2414A	215TTDBD6085		89.5	13.8/6.9	158	23.11	
7 1/2	1200	575	215JP	GT2514A	215TTDBD6095	C/A	89.5	5.5	120	23.11	
	3600	208-230/460	184JP	GT2415A	184TTDBD6012		88.5	19.6-18.4/9.2	88	18.70	A
	3600	575	184JP	GT2515A	184TTDBD6013	C/A	88.5	7.4	80	18.70	A
	1800	230/460	213JP	GT2416	213TTDBD6037	C/A	91.7	19.0/9.5	140	23.11	
	1800	230/460	213JP	GT2416A	213TTDBD6037		91.0	19.8/9.9	153	23.11	
	1800	575	213JP	GT2516	213TTDBD6038	C/A	91.7	7.6	140	23.11	
	1800	575	213JP	GT2516A	213TTDBD6038	C/A	91.0	7.9	230	23.11	
	1200	230/460	254JP	GT2457	254TTDBD6085	C/A	90.2	20.2/10.1	289	27.32	
10	1200	575	254JP	GT2557	254TTDBD6095	C/A	90.2	8.1	289	27.32	
	3600	230/460	213JP	GT2418A	213TTDBD6012		89.5	24.2/12.1	158	23.11	
	3600	575	213JP	GT2518A	213TTDBD6013	C/A	89.5	9.7	156	23.11	
	1800	208-230/460	215JP	GT2419A	215TTDBD6037		91.7	27.8-25.4/12.7	153	23.11	
	1800	575	215JP	GT2519A	215TTDBD6038	C/A	91.7	10.2	105	23.11	
	1200	208-230/460	256JP	GT2458	256TTDBD6085		91.7	27.8-25.6/12.8	122	28.90	
	1200	575	256JP	GT2558	256TTDBD6095	C/A	91.7	10.3	269	28.90	
15	3600	230/460	215JP	GT2421A	215TTDBD6012		90.2	36.0/18.0	165	23.11	
	3600	575	215JP	GT2521A	215TTDBD6013	C/A	90.2	14.4	153	23.11	
	1800	208-230/460	254JPV	GT4459	254TTDBD6046	C/A	93.0	40.5-37.5/18.8	290	29.21	
	1800	230/460	254JP	GT2459	254TTDBD6037	√	93.0	40.5-37.5/18.8	263	27.32	
	1800	230/460	254JPV	U210A	254TTDR16028		93.0	38.0/18.9	290	27.92	27
	1800	575	254JP	GT2559	254TTDBD6038		93.0	15.1	309	27.32	
	1200	230/460	284JP	GT2460	284TTDBD6085	C/A	91.7	41.0/20.6	420	29.53	
	1200	575	284JP	GT2560	284TTDBD6095	C/A	91.7	16.5	465	29.53	

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CLOSE-COUPLED PUMP, JP MOTORS

THREE PHASE, DRIPPROOF, C-FACE FOOTLESS (VERTICAL) AND 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
20	3600	208-230/460	254JP	GT2461	254TTDBD6012		91.0	51.5-48.0/24.0	232	27.32	
	3600	575	254JP	GT2561	254TTDBD6013	C/A	91.0	19.2	105	27.32	
	1800	230/460	256JP	GT2462	256TTDBD6037	√	93.0	48.5/24.3	269	28.90	
	1800	575	256JP	GT2562	256TTDBD6038		93.0	19.5	304	28.90	
	1200	230/460	286JP	GT2463	286TTDBD6085		92.4	52.5/26.3	392	30.91	
	1200	575	286JP	GT2563	286TTDBD6095	C/A	92.4	21.1	463	30.91	
25	3600	208-230/460	256JP	GT2464	256TTDBD6012	√	91.7	64-59.5/29.7	249	28.90	
	3600	575	256JP	GT2564	256TTDBD6013		91.7	23.8	313	28.90	
	1800	230/460	284JP	GT2465	284TTDBD6037	√	93.6	62.5/31.0	426	29.53	
	1800	575	284JP	GT2565	284TTDBD6038	C/A	93.6	25.0	449	29.53	
	1200	230/460	324JP	GT2468	324TTDBD6085		93.0	65.0/32.5	474	31.82	
	1200	575	324JP	GT2568	324TTDBD6095	C/A	93.0	26.0	535	31.82	
30	3600	230/460	284JP	GT2469	284TTDBD6012		91.7	71.5/35.5	426	29.53	
	3600	575	284JP	GT2569	284TTDBD6013	C/A	91.7	28.6	403	29.53	
	1800	230/460	286JP	GT2467	286TTDBD6037		94.1	73.0/36.5	485	30.91	
	1800	575	286JP	GT2567	286TTDBD6038	C/A	94.1	29.2	463	30.91	
	1200	230/460	326JP	GT2471	326TTDBD6085	C/A	93.6	82-75.0/37.5	564	33.00	
	1200	575	326JP	GT2571	326TTDBD6095	C/A	93.6	30.0	560	33.00	
40	3600	230/460	286JP	GT2472	286TTDBD6012		92.4	102-93.0/46.5	340	30.91	
	3600	575	286JP	GT2572	286TTDBD6013	C/A	92.4	37.0	455	30.91	
	1800	208-230/460	324JP	GT2473	324TTDBD6037	√	94.1	103-95.5/47.5	539	31.82	
	1800	575	324JP	GT2573	324TTDBD6038		94.1	38.0	552	31.82	
50	3600	208-230/460	324JP	GT2476	324TTDBD6012		93.0	127-115/57.5	567	31.82	
	3600	575	324JP	GT2576	324TTDBD6013	C/A	93.0	46.0	567	31.82	
	1800	230/460	326JP	GT2477	326TTDBD6037	√	94.5	118/59.0	650	33.00	
	1800	575	326JP	GT2577	326TTDBD6038	C/A	94.5	47.0	650	33.00	

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CLOSE-COUPLED PUMP, JP MOTORS

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



FEATURES

- Meets or exceeds all USA mandated efficiencies
- IP55 rating, enclosure protection against dust and water jets, as noted
- Hazardous Duty® motor Division 2 UL®* certification nameplate, as noted
- Division 2 / zone 2 class 1 (gases), groups A, B, C, D
- NEMA®* JP pump shaft dimensions
- JPV frame (includes drip cover as noted) for vertical mount without base
- JP frame has rigid base, drip cover not included
- Suitable for use on a VFD. 10:1 variable torque and 2:1 constant torque
- 1.15 service factor on sinewave, 1.0 service factor on IGBT power (except as noted)
- Dual rated motors are nameplated 60/50 hertz, 190/380 volts at next lower HP
- Class F Insulation
- Ball bearings, mechanically locked on shaft end
- Standard assembly F1, reversible to F2 assembly (except as noted)
- UL®* recognized, CSA®* certified and CE®* marked.



HP	RPM	VOLTS	FRAME	IP55	DIV II	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
1 1/2	1200	230/460	182JP	N	Y	GT3405A	182TTFBD6085	C/A	87.5	4.6/2.3	104	20.44	A
	1200	575	182JP	N	Y	GT3505A	182TTFBD6095	C/A	87.5	1.8	104	20.44	A
2	1200	230/460	184JP	N	Y	GT3408A	184TTFBD6085	C/A	88.5	6.2/3.1	112	21.44	A
	1200	575	184JP	N	Y	GT3508A	184TTFBD6095	C/A	88.5	2.5	112	21.44	A
3	3600	230/460	182JP	N	Y	GT3409A	182TTFBD6012		86.5	8.0/4.0	126	20.44	A
	3600	575	182JP	N	Y	GT3509A	182TTFBD6013	C/A	86.5	3.2	126	20.44	A
	1800	230/460	182JP	N	Y	GT3410A	182TTFBD6037		89.5	8.3/4.15	142	20.44	A
	1800	575	182JP	N	Y	GT3510A	182TTFBD6038	C/A	89.5	3.2	142	20.44	A
	1200	230/460	213JP	N	Y	GT3411A	213TTFBD6085		89.5	8.6/4.3	149	24.13	
	1200	575	213JP	N	Y	GT3511A	213TTFBD6095	C/A	89.5	3.45	149	24.13	
5	3600	230/460	184JP	N	Y	GT3412A	184TTFBD6012	√	88.5	12.4/6.2	100	21.44	A
	3600	575	184JP	N	Y	GT3512A	184TTFBD6013	C/A	88.5	5.0	100	21.44	A
	1800	230/460	184JP	N	Y	GT3413A	184TTFBD6037		89.5	13.2/6.6	97	21.44	A
	1800	575	184JP	N	Y	GT3513A	184TTFBD6038	C/A	89.5	5.2	96	21.44	A
	1200	230/460	215JP	N	Y	GT3414A	215TTFBD6085	√	89.5	13.6/6.8	163	25.63	
	1200	575	215JP	N	Y	GT3514A	215TTFBD6095	C/A	89.5	5.5	168	25.63	
7 1/2	3600	230/460	213JP	N	Y	GT3415A	213TTFBD6012		90.3	18.4/9.2	180	24.13	
	3600	575	213JP	N	Y	GT3515A	213TTFBD6013		90.3	7.4	165	24.13	
	1800	230/460	213JP	N	Y	GT3416A	213TTFBD6037	√	91.7	19.0/9.5	167	24.13	
	1800	575	213JP	N	Y	GT3516A	213TTFBD6038		91.7	7.6	167	24.13	
	1200	230/460	254JP	Y	Y	GT3417A	254TTFCFCD6085		91.0	19.8/9.9	256	29.03	
	1200	575	254JP	Y	Y	GT3517A	254TTFCFCD6095	C/A	91.0	7.9	256	29.03	
10	3600	230/460	215JP	N	Y	GT3418A	215TTFBD6012		90.2	23.6/11.8	167	25.63	
	3600	575	215JP	N	Y	GT3518A	215TTFBD6013	C/A	90.2	9.5	165	25.63	
	1800	208-230/460	215JP	N	Y	GT3419A	215TTFBD6037		91.7	27.6-25/12.5	167	25.63	
	1800	575	215JP	N	Y	GT3519A	215TTFBD6038	C/A	91.7	10.0	180	25.63	
	1200	230/460	256JP	Y	Y	GT3420A	256TTFCFCD6085	√	91.0	25.8/12.9	276	30.76	
	1200	575	256JP	Y	Y	GT3520A	256TTFCFCD6095		91.0	10.3	323	30.76	
15	3600	230/460	254JP	Y	Y	GT3421A	254TTFCFCD6012		91.0	35.5/17.8	320	29.03	
	3600	575	254JP	Y	Y	GT3521A	254TTFCFCD6013	C/A	91.0	14.3	319	29.03	
	1800	230/460	254JP	Y	Y	GT3422A	254TTFCFCD6037	√	92.4	37.5/18.8	365	29.03	
	1800	575	254JP	Y	Y	GT3522A	254TTFCFCD6038	C/A	92.4	15.1	365	29.03	
	1200	230/460	284JP	Y	Y	GT3423A	284TTFCFCD6085		91.7	40.0/20.0	351	30.40	
	1200	575	284JP	Y	Y	GT3523A	284TTFCFCD6095	C/A	91.7	16.0	415	30.40	

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√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

*See back cover page for attribution.

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CLOSE-COUPLED PUMP, JP MOTORS

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

HP	RPM	VOLTS	FRAME	IP55	DIV II	CAT. NO.	MODEL / ITEM NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
20	3600	230/460	256JP	Y	Y	GT3424A	256TTFCD6012	√	91.0	47.5/23.7	276	30.76	
	3600	575	256JP	Y	Y	GT3524A	256TTFCD6013	C/A	91.0	19.0	386	30.76	
	1800	230/460	256JP	Y	Y	GT3425A	256TTFCD6037	√	93.0	48.5/24.2	295	30.76	
	1800	575	256JP	Y	Y	GT3525A	256TTFCD6038	C/A	93.0	19.4	363	30.76	
	1200	230/460	286JP	Y	Y	GT3426A	286TTFCD6085		91.7	52.0/26.0	458	31.90	
	1200	575	286JP	Y	Y	GT3526A	286TTFCD6095	C/A	91.7	20.8	463	31.90	
25	3600	230/460	284JP	Y	Y	GT3427A	284TTFCD6012	√	91.7	60.0/30.0	342	30.40	
	3600	575	284JP	Y	Y	GT3527A	284TTFCD6013	C/A	91.7	24.0	342	30.40	
	1800	230/460	284JP	Y	Y	GT3428A	284TTFCD6037	√	93.6	60.0/30.0	406	30.40	
	1800	575	284JP	Y	Y	GT3528A	284TTFCD6038	C/A	93.6	24.0	551	30.40	
	1200	575	324JP	Y	Y	GT3529A	324TTFCD6095	C/A	93.0	25.6	525	32.82	
30	3600	230/460	286JP	Y	Y	GT3430A	286TTFCD6012		91.7	71.0/35.5	368	31.90	
	3600	575	286JP	Y	Y	GT3530A	286TTFCD6013	C/A	91.7	28.5	432	31.90	
	1800	230/460	286JP	Y	Y	GT3431A	286TTFCD6037	√	93.6	71.0/35.5	443	31.90	
	1800	575	286JP	Y	Y	GT3531A	286TTFCD6038	C/A	93.6	28.4	542	31.90	
	1200	575	326JP	Y	Y	GT3532A	326TTFCD6095	C/A	93.0	30.5	651	34.31	
40	3600	230/460	324JP	Y	Y	GT3433A	324TTFCD6012		92.4	92.0/46.0	520	32.82	
	3600	575	324JP	Y	Y	GT3533A	324TTFCD6013	C/A	92.4	37.0	527	32.82	
	1800	230/460	324JP	Y	Y	GT3434A	324TTFCD6037		94.1	95.0/47.5	647	32.82	
	1800	575	324JP	Y	Y	GT3534A	324TTFCD6038	√	94.1	38.0	571	32.82	
50	3600	230/460	326JP	Y	Y	GT3436A	326TTFCD6012		94.1	113/56.5	732	34.31	
	3600	575	326JP	Y	Y	GT3536A	326TTFCD6013	C/A	94.1	45.0	732	34.31	
	1800	230/460	326JP	Y	Y	GT3437A	326TTFCD6037		94.5	117/58.5	698	34.31	
	1800	575	326JP	Y	Y	GT3537A	326TTFCD6038	C/A	94.5	47.0	698	34.31	

Blue shaded areas are cast iron frames.

Specifications are subject to change without notice.

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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.

Fire Pump motors are not recommended for use with variable frequency drives.

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
- 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
- Single voltage motors have 12 leads and are suitable for wye-delta, across the line, or part winding start
- 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 see accessories section for kits
- 230/460 and 460 Volt models rated for 50 HZ at next lower HP, 1.15 SF, as noted

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
25	3600	190/380-400	256T	U501A	256TTDBD4020	C/A	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	C/A	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	C/A	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	C/A	91.0	28.8	374	24.34	
	1800	190/380-400	286T	U1054	286TTDBD14042		92.4	87.0/43.0-41.0	164	27.09	
	1800	230/460	286T	U554	286TTDBD4041		92.4	72.0/36.0	362	27.09	68
1800	575	286T	U1104	286TTDBD4035	C/A	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	C/A	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	C/A	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	C/A	92.4	45.5	252	27.05	
	1800	190/380-400	326T	U515A	326TTDCD4344		93.0	145/72.0-68.5	591	29.73	
	1800	230/460	326T	U514A	326TTDCD4345		93.0	120/60.0	266	29.73	68
1800	575	326T	U1110	326TTDCD4035	C/A	93.0	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	C/A	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	200/400	364T	U538	364TTDS14329	C/A	93.6	166/83.0	686	28.62	
	1800	230/460	364T	U520	364TTDS4328	C/A	93.6	144/72.0	716	28.62	68
	1800	230/460	364TS	U561	364TSTDBD4332	C/A	93.6	137/68.5	836	29.44	
	1800	230/460	364TS	-	364TSTDCD4333		93.6	138/69.0	836	29.57	68
1800	575	364TS	U1159	364TSTDBD4035	C/A	93.6	55.0	846	29.44		
1800	575	364TS	U1113	364TSTDCD4035	C/A	93.6	55.0	846	29.57		
75	3600	190/380	364TS	U1562	364TSTDBD4024	C/A	93.0	206/103	700	29.57	
	3600	230/460	364TS	U522A	364TSTDCD4025		93.0	170/85.0	734	29.57	68
	3600	230/460	364TS	U522B	364TSTDCD4026		93.0	170/85.0	800	29.57	68
	3600	230/460	364TS	U562	364TSTDBD4025	C/A	93.0	170/85.0	800	29.44	68
	3600	575	364TS	U1160	364TSTDBD4008	C/A	93.0	68.0	625	29.44	
	3600	575	364TS	U1115	364TSTDCD4008	C/A	93.0	68.0	807	29.57	
	3600	200/400	365TS	U1062	364TSTDBD4009	C/A	94.1	671	625	29.44	
	3600	200/400	365TS	U1063	365TSTDBD4036	C/A	94.1	195/97.5	759	31.14	
	1800	190/380	365TS	-	365TSTDCD4348		94.1	206/103	979	31.14	
	1800	190/380	365TS	U1563	365TSTDBD4347	C/A	94.1	205/103	759	31.14	
	1800	230/460	365TS	-	365TSTDCD4333	C/A	94.1	170/85.0	759	31.14	68
	1800	230/460	365TS	U524A	365TSTDCD4332	C/A	94.1	170/85.0	416	31.14	68
1800	230/460	365TS	U563	365TSTDBD4332	C/A	94.1	170/85.0	741	31.14	68	
1800	575	365TS	U1116	365TSTDCD4035	C/A	94.1	68.0	416	31.14		

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*See back cover page for attribution.

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FIRE PUMP MOTORS

THREE PHASE, ODP, RIGID BASE, EPACT EFFICIENCY

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	"C" DIM.	FOOT NOTES
75	1800	575	365TS	U1161	365TSTDBD4035	C/A	94.1	68.0	416	31.14	
	1500	415	365TS	U1463	365TSTDBD4029	C/A	92.1	94.5	741	31.01	
100	3600	190/380-400	365TS	U1526A	365TSTDCD4303		93.0	276/138-132	927	31.1	
	3600	230/460	365TS	U526A	365TSTDCD4025		93.0	228/114	384	31.14	68
	3600	230/460	365TS	U564	365TSTDBD4025	√	93.0	228/114	NULL	31.14	68
	3600	575	365TS	U1118	365TSTDCD4008	C/A	93.0	91.0	919	31.14	
	3600	575	365TS	U1162	365TSTDBD4008	C/A	93.0	91.0	741	31.01	
	3600	190/380	365TS	U1564	365TSTDBD4303	C/A	93.0	276/138	NULL	31.14	
	3600	200/400	365TS	U1064	365TSTDBD4304	C/A	93.0	262/131	1070	31.01	
	1800	190/380	405TS	U1528B	404TSTDCD4335	C/A	94.1	274/137	NULL	31.44	
	1800	200/400	404TS	U1028	404TSTDCD4040	C/A	94.1	260/130	1258	31.44	
	1800	230/460	404TS	U528B	404TSTDCD4334	√	94.1	226/113	1075	33.86	68
	1800	575	404TS	U1119A	404TSTDCD4031	C/A	94.1	90.5	1075	31.44	
	1500	415	404TS	U1428	404TSTDCD4029	C/A	92.7	127	1143	31.44	
125	3600	380	404TS	U1530B	404TSTDCD14009	C/A	93.6	168	1143	31.44	
	3600	380-400	404TS	U1530A	404TSTDCD14008	C/A	93.6	167-159	1100	33.86	
	3600	460	404TS	U530B	404TSTDCD4018		93.6	139	1070	33.86	68
	3600	575	404TS	U1121	404TSTDCD4008	C/A	93.6	111	1165	33.86	
	3600	575	404TS	U1121A	404TSTDCD4002	C/A	93.6	111	1080	31.44	
	3600	400	404TS	U1030	404TSTDCD4003	C/A	93.6	160	1165	31.44	
	3000	415	404TS	U1430	404TSTDCD4005	C/A	93.0	155	1080	31.44	
	1800	200/400	405TS	U533	405TSTDS4333		94.5	331/166	1070	31.00	
	1800	230/460	405TS	U532	405TSTDS4332		94.5	288/144	1125	31.00	68
	1800	380	405TS	U1532B	405TSTDCD4335	C/A	94.5	170	1417	31.44	
	1800	460	405TS	U532A	405TSTDCD4332		94.5	142	1385	35.44	68
	1800	460	405TS	U532B	405TSTDCD4334		94.5	141	1428	35.44	68
1800	575	405TS	U1122	405TSTDCD4035	C/A	94.5	114	1475	35.44		
1800	575	405TS	U1122A	405TSTDCD4031	C/A	94.5	112	1450	31.44		
1800	400	405TS	U1032	405TSTDCD4030	C/A	94.5	162	1428	31.44		
1500	415	405TS	U1432	405TSTDCD4029	C/A	93.0	157	1238	31.44		
150	3600	380	405TS	U1534B	405TSTDCD14019	C/A	93.6	200	1200	31.44	
	3600	400	405TS	U1034	405TSTDCD4003	C/A	93.6	190	1080	31.44	
	3600	460	405TS	U534B	405TSTDCD14306	√	93.6	165	1241	31.44	68
	3600	575	405TS	U1124A	405TSTDCD4002	C/A	93.6	132	1080	31.44	
	3600	575	405TS	U1124	405TSTDCD4008	C/A	93.6	134	1244	35.44	
	3000	415	405TS	U1434	405TSTDCD4005	C/A	93.3	184	1080	31.44	
	1800	380	444TS	U1535B	444TSTDCD14038	C/A	95.0	204	1438	36.47	
	1800	400	444TS	U1035	444TSTDCD4030	C/A	95.0	194	1771	36.47	
	1800	460	444TS	U535B	444TSTDCD4333		95.0	169	1771	36.47	68
	1800	575	444TS	U1125A	444TSTDCD4031	C/A	95.0	135	1432	36.47	
	1800	575	444TS	U1125	444TSTDCD4035	C/A	95.0	136	1840	40.83	
	1500	415	444TS	U1435	444TSTDCD4029	C/A	94.1	188	1432	36.47	
200	3600	380	444TS	U1536B	444TSTDCD14014	C/A	94.5	264	1432	36.47	
	3600	400	444TS	U1036	444TSTDCD4003	C/A	94.5	251	1728	36.47	
	3600	460	444TS	U536B	444TSTDCD4011	√	94.5	218	1728	36.47	68
	3600	575	444TS	U1127A	444TSTDCD4002	C/A	94.5	174	1425	36.47	
	3000	415	444TS	U1436	444TSTDCD4005	C/A	94.2	242	1425	36.47	
	1800	380	445TS	U1537B	445TSTDCD14046	C/A	95.0	270	1428	36.47	
	1800	400	445TS	U1037	445TSTDCD4032	C/A	95.0	257	1428	36.47	
	1800	460	445TS	U537C	445TSTDCD4334	C/A	95.0	223	2122	36.47	68
	1800	575	445TS	U1128A	445TSTDCD4030	C/A	95.0	178	2122	36.47	
	1500	415	445TS	U1437	445TSTDCD4028	C/A	94.5	249	1430	36.47	
	3600	380	445TS	U1539B	445TSTDCD14024	C/A	94.5	329	1425	36.47	
	250	3600	400	445TS	U1039	445TSTDCD4003	C/A	94.5	312	1425	36.47
3600		460	445TS	U539A	445TSTDCD4007	C/A	94.5	272	1425	40.83	68
3600		460	445TS	U539C	445TSTDCD4001	C/A	94.5	272	1425	36.47	68
3600		575	445TS	U1130A	445TSTDCD4002		94.5	217	1440	36.47	
3000		415	445TS	U1439	445TSTDCD4005	C/A	94.1	303	1440	36.47	
1800		380	445TS	U1540B	445TSTDCD14065	C/A	95.4	338	1430	36.47	
1800		400	445TS	U1040	445TSTDCD4033	C/A	95.4	321	2262	36.47	
1800		460	445TS	U540B	445TSTDCD14027		95.4	279	2262	36.47	68
1800		575	445TS	U1131A	445TSTDCD4031	C/A	95.4	223	1430	36.47	
1800		575	447TS	U1131	445TSTDCD4036	C/A	95.5	222	1500	45.95	
1500		415	445TS	U1440	445TSTDCD4029	C/A	94.5	311	2046	36.47	
300		3600	460	447TS	U541	447TSTDCD4002		95.0	322&327	2046	45.76
	1800	460	447TS	U542	447TSTDCD4026		95.4	328&333	2046	45.76	68
350	3600	460	447TS	U543	447TSTDCD4003		95.5	377&393	2046	45.76	68
	1800	460	447TS	U544	447TSTDCD4027	C/A	95.5	385&401	2046	45.76	68
400	3600	460	447TS	U545	447TSTDCD4005	C/A	95.6	429&457	2354	45.76	68
	1800	460	447TS	U546	447TSTDCD4028	C/A	95.4	442&470	2544	45.76	68
450	3600	460	449TS	H818	449TSTDN7001	C/A	95.8	502&535	2544	44.58	68
	1800	460	449TS	H815A	449TSTDN14033		95.8	505&480	2564	44.58	17, 68
500	3600	460	449TS	H819A	449TSTDN14005		95.8	546&525	2620	44.58	68
	1800	460	449TS	H816	449TSTDN7027		95.8	560&540	2695	44.58	17, 68

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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
- Ball bearings
- 1.15 service factor
- Red paint on exterior
- NEMA®* design B, code G or less
- 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
- Single voltage motors have 12 leads and are suitable for wye-delta, across the line, or part winding start
- Will accept C-Face kits, see accessories section
- 230/460 and 460 Volt models rated for 50 HZ at next lower HP, 1.15 SF, as noted see accessories section for kits
- 230/460 and 460 Volt models rated for 50 HZ at next lower HP, 1.15 SF
- For special designs, contact district sales office near you



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
15	3600	230/460	254T	Y1608	254TTFPA14014		90.2	35.0/17.5	262	23.47	
	1800	230/460	254T	Y1609	254TTFNA14336		91.0	39.0/19.5	297	23.65	68
20	3600	230/460	256T	Y1610	256TTFNA14022	C/A	90.2	46.5/23.2	682	25.4	68
	1800	230/460	256T	Y1611	256TTFNA14071	C/A	91.0	50.0/25.0	331	25.27	68
25	3600	230/460	284TS	Y1612	284TSTFPA14007	C/A	91.0	59.0/29.5	378	24.93	68
	1800	230/460	284T	Y1613	284TTFPA14055		92.4	61.0/30.5	369	26.39	68
30	3600	230/460	286TS	Y1614	286TSTFPA14006	C/A	91.0	70.0/35.0	413	26.43	68
	1800	230/460	286TS	Y1615	286TTFNA14050	C/A	92.4	72.0/36.0	484	27.71	68
40	3600	230/460	324TS	Y1616	324TSTFPA14010	C/A	91.7	92.0/46.0	531	27.47	68
	1800	230/460	324T	Y1618	324TTFPA14071		93.0	100/50.0	583	28.97	68
50	3600	230/460	326TS	Y1619	326TSTFPA14013	C/A	92.4	112/56.0	522	28.97	68
	1800	230/460	326T	Y1621	326TTFS14046	C/A	93.0	122/61.0	681	30.38	68
60	3600	230/460	364TS	Y1622	364TSTFS14009	C/A	93.0	138/69.0	815	29.38	
	1800	230/460	364T	Y1624	364TTFS14064		93.6	142/71.0	882	31.52	68
75	3600	230/460	365TS	Y1625	365TSTFS14009	C/A	93.0	172/86.0	911	30.38	68
	1800	230/460	365T	Y1627	365TTFS14071	C/A	94.1	176/88.0	990	32.52	68
100	3600	230/460	405TS	Y1628	405TSTFS14007	C/A	94.1	224/112	1103	34.13	68
	1800	230/460	405TS	Y1630	405TTFS14328	C/A	94.5	224/112	1234	37.13	68
125	3600	460	444TS	Y1631	444TSTFN14004	C/A	94.5	140	1818	37.5	68
	1800	460	444T	Y1633	444TTFN14048	C/A	94.5	145	1798	43.35	68
150	3600	460	445TS	Y1634	445TSTFN14013	C/A	94.5	165	1981	39.60	68
	1800	460	445T	Y1636	445TTFN14337	C/A	95.0	170	2025	43.35	68
	1800	460	445TS	Y1635	445TSTFN14067	C/A	95.0	170	1860	39.60	68
200	3600	460	445TS	Y1637	445TSTFN14014	C/A	95.0	220	2108	39.60	68
	1800	460	445T	Y1639	445TTFN14338	C/A	95.0	224	1878	43.35	68
250	1800	460	445TS	Y1638	445TSTFN14066	C/A	95.0	224	2164	39.60	68
	3600	460	449TS	Y1640	449TSTFS14012		95.4	270	2700	48.11	68
	1800	460	449T	Y1642	449TTFS14055	C/A	95.0	290	2550	51.86	68
300	1800	460	449TS	Y1641	449TSTFS14040	C/A	95.4	285	2732	48.11	
	3600	460	449TS	Y1643	449TSTFS14013		95.4	328	2902	47.88	68
	1800	460	449TS	Y1644	449TSTFS14045	C/A	95.4	335	2720	48.11	68
350	1800	460	449T	Y1645	449TTFS14057		95.4	335	3041	51.86	68
	3600	460	449TS	Y1646	449TSTFS14010	C/A	95.4	382	3088	47.88	
	1800	460	449TS	Y1647	449TSTFS14044	C/A	95.4	400	2720	48.11	68
	1800	460	449T	Y1648	449TTFS14056	C/A	95.4	400	3202	51.86	68

Blue shaded areas are cast iron frames.

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

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

*See back cover page for attribution.

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VERTICAL SOLID SHAFT P-BASE MOTORS

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)

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	DOWN THRUST	BASE DIA.	"C" DIM.	FOOT NOTES
3	1200	230/460	213HP	M802B	213TTDWD16089	C/A	88.5	9.0/4.5	129	560	9.88	20.30	98
5	1800	230/460	184HP	M804B	184TTDR16009		89.5	12.6/6.3	120	490	9.88	17.18	98
	1200	230/460	215HP	M805B	215TTDWD16091	C/A	89.5	13.8/6.9	129	650	9.88	21.55	98
7 1/2	1800	230/460	213HP	M807B	213TTDWD16342	C/A	91.0	20.0/10.0	123	560	9.88	20.30	98
	1200	230/460	254HP	M808B	254TTDX16086	C/A	90.2	21.4/10.7	210	720	9.88	24.30	98
10	3600	230/460	213HP	M809B	213TTDWD16007	C/A	89.5	25.0/12.5	114	450	9.88	21.01	98
	1800	230/460	215HP	M810B	215TTDWD16350	C/A	91.7	26.2/13.1	123	560	9.88	20.30	98
	1200	230/460	256HP	M711	256TTDN16082		91.7	26.0/13.0	238	3000	9.88	24.30	
15	3600	230/460	215HP	M813B	215TTDWD14018	C/A	90.2	36.5/18.2	129	520	9.88	21.55	98
	1800	230/460	254HP	M814B	254TTDX16054		93.0	38.5/19.2	227	640	9.88	24.30	98
	1200	230/460	284HP	M715	284TTDN16087	C/A	91.7	41.0/20.4	570	1950	12.55	27.06	
20	1800	230/460	256HP	M718A	256TTDN16067	C/A	93.0	48.0/24.0	284	1950	11.89	27.87	
	1800	230/460	256HP	M818B	256TTDR16029		93.0	49.0/24.5	241	640	9.88	24.30	98
	1200	230/460	286HP	M719	286TTDN16093	C/A	92.4	52.0/26.0	562	3000	12.55	29.56	
	900	230/460	324HP	M720	324TTDN16101	C/A	90.2	60.0/30.0	465	4125	16.38	30.56	
25	3600	230/460	256HP	M721A	256TTDN16018	C/A	91.7	58.0/29.0	357	1950	9.88	27.84	
	1800	230/460	284HP	M722	284TTDN16063	C/A	93.6	62.0/31.0	289	2625	12.55	27.06	
	1200	230/460	324HP	M723	324TTDN16077	C/A	93.0	65.0/32.5	601	3750	16.38	31.93	
	1200	230/460	324HP	M823B	324TTDR16091		93.0	65.0/32.5	588	1000	16.38	30.06	98
	900	230/460	326HP	M724	326TTDN16101	C/A	90.2	73.0/36.5	531	4125	16.38	31.93	
	900	230/460	326HP	M824B	326TTDR16102	C/A	90.2	73.0/36.5	498	1100	16.38	30.56	98
30	3600	230/460	284HP	M825B	284TTDN16007	C/A	91.7	68.0/34.0	292	2063	12.55	27.06	
	1800	230/460	286HP	M726	286TTDN16330		94.1	74.0/37.0	520	2625	12.55	29.56	
	1200	230/460	326HP	M727	324TTDN16078	C/A	93.6	76.0/38.0	788	3750	16.38	33.44	
	900	230/460	364HP	M728	364TTDS16105		91.0	82.0/41.0	700	4125	16.50	29.00	
40	3600	230/460	286HP	M729	286TTDN16011		92.4	90.0/45.0	602	2063	12.55	28.56	
	1800	230/460	324HP	M830B	324TTDR16056	C/A	94.1	97.0/48.5	632	800	16.38	30.06	98
	1200	230/460	364HP	M731	364TTDS16088		94.1	101/50.5	784	3750	16.50	28.06	
	900	230/460	365HP	M732	365TTDS16101	C/A	91.0	105/52.5	784	4125	16.50	29.00	

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*See back cover page for attribution.

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VERTICAL SOLID SHAFT P-BASE MOTORS

THREE PHASE, DRIPPROOF

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	F.L. AMPS	WT.	DOWN THRUST	BASE DIA.	"C" DIM.	FOOT NOTES
50	3600	230/460	324HP	M833B	324TTDR16007	C/A	93.6	112/56.0	574	600	16.38	29.56	98
	1800	230/460	326HP	M734	326TTDN16035	C/A	95.0	124/62.0	615	3000	16.38	30.56	
	1200	230/460	365HP	M735	365TTDS16086		94.5	125/62.5	784	3750	16.50	29.00	
	900	460	404HP	M736	404TTDS16102	C/A	92.4	65.0	1244	5250	16.50	31.75	
60	3600	230/460	326HP	M837B	326TTDR16005	C/A	93.6	135/67.5	498	600	16.38	30.56	98
	1800	230/460	364HP	M738	364TTDS16052	C/A	95.0	139/69.5	1026	3000	16.50	34.19	
	1200	230/460	404HP	M739	404TTDS16093	C/A	95.0	146/73.0	1049	4500	16.50	31.75	
	900	230/460	405HP	M740	405TTDS16102	C/A	93.0	160/80.0	1077	5250	16.50	31.75	
75	3600	230/460	364HP	M741	364TTDS16009		94.5	170/85.0	733	2250	16.50	29.00	
	1800	230/460	365HP	M742	365TTDS16072	C/A	95.0	174/87.0	810	3000	16.50	29.00	
	1200	230/460	405HP	M743	405TTDS16089	C/A	95.0	180/90.0	1097	4500	16.50	31.75	
	900	460	444HP	M744	444TTDN16101	C/A	93.6	107	1548	6000	16.38	36.02	
100	3600	230/460	365HP	M745	365TTDS16016		94.1	230/115	784	2250	16.50	29.00	
	1800	230/460	404HP	M746	404TTDS16332	C/A	95.4	226/113	1162	3375	16.50	35.64	
	1200	460	444HP	M747	444TTDN16078	C/A	94.0	246/123	1548	5250	16.38	36.02	
	900	460	445HP	M748	445TTDN16101	C/A	94.1	135	1548	6000	16.38	36.02	
125	3600	460	404HP	M749	404TTDS16010	C/A	95.0	138	1009	2250	16.50	31.75	
	1800	460	405HP	M750	405TTDS16070		95.4	141	1142	3375	16.50	31.75	
	1200	460	445HP	M751	445TTDN16080	C/A	95.0	152	1548	5250	16.38	36.02	
	900	460	505P	M752	505UTDS16102	C/A	94.5	170	1976	6000	20.00	38.75	98
150	3600	460	405HP	M753	405TTDS16010	C/A	95.0	165	1082	2250	16.50	31.75	
	1800	460	444HP	M754	444TTDN16027	C/A	95.8	172	1548	3375	16.38	36.02	
	1200	460	445HP	M755	445TTDN16079	C/A	95.4	178	1548	5250	16.38	36.02	
	900	460	505P	M756	505UTDS16103	C/A	94.5	191	2148	6000	20.00	38.75	98
200	3600	460	444HP	M757	444TTDN16003	C/A	95.0	220	1548	2250	16.38	36.02	
	1800	460	445HP	M758	445TTDN16031	C/A	95.8	226	1548	3375	16.38	36.02	
	1200	460	505P	M759	505UTDS16076	C/A	95.4	240	2145	5250	20.00	38.75	98
	900	460	505P	M760	505UTDS16101		94.1	265	1960	6000	20.00	38.75	98
250	3600	460	445HP	M761	445TTDN16002	C/A	95.4	275	1446	2250	16.38	36.02	
	1800	460	445HP	M762	445TTDN16032	C/A	95.8	282	1548	3750	16.38	36.02	
	1200	460	505P	M763	508UTDS16078	C/A	95.8	300	2318	5250	20.00	38.75	98

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VERTICAL SOLID SHAFT P-BASE MOTORS

THREE PHASE, TOTALLY ENCLOSED

APPLICATIONS

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

HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	DOWN THRUST	BASE DIA.	"C" DIM.
3	3600	230/460	182HP	M875B	182TFR16017	C/A	86.5	7.4/3.7	89	260	9.88	18.05
	1200	230/460	213HP	M877B	213TFR16085	C/A	89.5	8.8/4.4	172	560	9.88	22.66
5	1800	230/460	184HP	M879B	184TFR16054	C/A	90.2	12.4/6.2	160	490	9.88	20.05
	1200	230/460	215HP	M880B	215TFR16084	C/A	89.5	14.0/7.0	139	650	9.88	23.91
7 1/2	3600	230/460	213HP	M881B	213TFR16016	√	89.5	18.6/9.3	157	380	9.88	22.66
	1200	230/460	254HP	M883B	254TFR16088		91.0	19.8/9.9	422	720	9.88	28.26
10	3600	230/460	215HP	M884B	215TFR16017	C/A	90.2	23.6/11.8	172	450	9.88	22.66
	1800	230/460	215HP	M885B	215TFR16057	C/A	91.7	26.0/13.0	158	560	9.88	23.91
	1200	230/460	256HP	M886B	256TFR16099	C/A	91.0	26.2/13.1	425	720	9.88	28.26
15	1800	230/460	284HP	M890B	284TFR16033	C/A	92.4	36.0/18.0	400	800	9.88	28.88
	3600	230/460	256HP	M892B	256TFR16106	C/A	91.0	48.0/24.0	413	520	9.88	28.26
20	1800	230/460	256HP	M893B	256TFR16031		93.0	48.0/24.1	536	640	9.88	28.26
	1200	230/460	286HP	M894B	286TFR16096	C/A	92.1	53.5/26.7	438	800	9.88	30.84
	3600	230/460	284HP	M896B	284TFR16015	C/A	93.6	56.0/28.1	542	550	9.88	30.84
25	1800	230/460	284HP	M897B	284TFR16131	C/A	93.6	62.0/31.0	466	700	9.88	28.88
	1200	230/460	324HP	M898B	324TFR16087		93.0	65.0/32.5	778	1000	16.38	35.62
	900	230/460	326HP	M899B	326TFR16106	C/A	90.2	73.0/36.5	778	1100	16.38	35.62
30	3600	230/460	286HP	M900B	286TFR16021		93.0	67.0/33.5	535	550	9.88	27.38
	1800	230/460	286HP	M901B	286TFR16341	C/A	94.1	73.0/36.5	570	700	9.88	27.38
	1200	230/460	326HP	M902B	326TFR16377	C/A	93.0	77.0/38.5	788	1000	16.38	35.62
40	3600	230/460	324HP	M904B	324TFR16011	C/A	93.0	94.0/47.0	738	600	16.38	35.62
	1800	230/460	324HP	M905B	324TFR16041	C/A	94.1	95.0/47.5	820	800	16.38	35.62
	1200	230/460	364HP	M906B	364TFR16087		94.1	100/50.0	934	1000	16.38	37.61
50	900	230/460	365HP	M907B	365TFR16105	C/A	91.7	106/53.0	1112	1100	16.38	37.61
	1800	230/460	326HP	M909B	326TFR16037		94.5	120/60.0	825	800	16.38	34.59
	1200	230/460	365HP	M910B	365TFR16088		94.5	123/61.5	998	1000	16.38	37.61
60	3600	230/460	364HP	M912B	364TFR16008	C/A	94.5	134/67.0	1064	600	16.38	37.61
	1800	230/460	364HP	M913B	364TFR16059	C/A	95.0	140/70.0	1116	800	16.38	37.61
	1200	230/460	404HP	M914B	404TFR16086	C/A	94.5	144/72.0	1232	1400	16.38	40.58
75	3600	230/460	365HP	M916B	365TFR16013	C/A	94.5	168/84.0	1059	600	16.38	37.61
	1800	230/460	365HP	M917B	365TFR16132	C/A	95.4	172/86.0	1130	800	16.38	37.61
	1200	230/460	405HP	M918B	405TFR16082		94.5	180/90.0	1460	1400	16.38	40.58
100	900	460	444HP	M919B	444TFR16103	C/A	93.6	102	1889	1600	16.38	43.50
	3600	230/460	405HP	M920B	405TFR16004	C/A	94.1	224/112	1362	600	16.38	40.58
	1800	230/460	405HP	M921B	405TFR16129	C/A	95.4	226/113	1430	900	16.38	40.58
125	1200	460	444HP	M922B	444TFR16081	C/A	95.0	248/124	1865	1400	16.38	43.50
	3600	460	444HP	M924B	444TFR16001	C/A	95.0	142	1846	600	16.38	43.50
	1800	460	444HP	M925B	444TFR16045	C/A	95.4	146	2122	1000	16.38	43.50
150	1200	460	445HP	M926B	445TFR16091	C/A	95.0	155	2248	1400	16.38	43.50
	3600	460	445HP	M928B	445TFR16001	C/A	95.8	168	2162	600	16.38	43.50
	1800	460	445HP	M929B	445TFR16361	C/A	95.8	170	2292	1000	16.38	43.50
200	900	460	449HP	M931B	449TFR16106	C/A	95.4	205	3290	1600	16.38	54.48
	1800	460	445HP	M933B	445TFR16359	C/A	96.2	226	2490	1000	16.38	43.50

Blue shaded areas are cast iron frames.

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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

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, RIGID BASE, HIGH TORQUE

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



IP55



HP	RPM	VOLTS	FRAME	CAT. NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
50	1800	230/460	326T	Y818A	326TTFC6633	√	94.5	118/59.0	755	33.86	YD
	1200	230/460	365T	Y840A	365TTFC6683	√	94.1	120/60.0	1064	38.39	YD
60	1800	230/460	364T	Y819A	364TTFC6633	√	95.0	138/69.0	1014	36.61	YD
	1200	230/460	404T	Y850A	404TTFC6683	√	94.5	144/72.0	1348	42.72	YD
75	1800	230/460	365T	Y820A	365TTFC6633	√	95.4	172/86.0	1098	38.39	YD
	1200	230/460	405T	Y852A	405TTFC6683	√	94.5	178/89.0	1455	42.72	YD
100	1800	230/460	405T	Y822B	405TTFC6633	√	95.4	228/114	1462	42.72	YD
	1200	460	444T	Y851A	444TTFC6683	√	95.0	114	2106	50.79	YD
125	1800	460	444T	Y824A	444TTFC6633	√	95.4	140	2202	50.79	YD
	1200	460	445T	Y853A	445TTFC6683	√	95.0	142	2346	50.79	YD
150	1800	460	445T	Y826B	445TTFC6633	√	95.8	165	2200	50.79	YD
	1200	460	447T	Y854A	447TTFC6683	√	95.8	170	2569	55.91	YD
200	1800	460	447T	Y828A	447TTFC6633	√	96.2	225	2509	55.91	YD
	1200	460	449T	Y855B	449TTFC6683	√	95.8	228	2652	55.91	YD
250	1800	460	449T	Y856A	449TTFS36633		96.5	282	2924	51.84	YD

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AIR COMPRESSOR MOTORS

SINGLE PHASE, DRIPPROOF, RIGID BASE

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	I105B	213TBDBD7001	C/A	87.5	33.5-30.5	114	18.14	
	1800	230	215T	NONE	I115A	215TBDBD7026	C/A	84.0	33.5	133	18.14	
10	3600	208-230	215T	NONE	I106A	215TBDBD7001	C/A	82.5	42.5-39.5	119	19.39	
	1800	230	215TZ	NONE	I116A	215TBDBD7028	C/A	86.5	39.0	140	19.39	

C/A: Call your sales representative for availability
 *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
3/7.5	1800/900	460	184T	Y380A	184TTFCD7290	C/A	86.5	4.0	107	16.20	
5/1.25	1800/900	460	213T	Y381A	213TTFCD7238	C/A	89.5	6.2	173	18.53	
7.5/1.9	1800/900	460	215T	Y382A	215TTFCD7290	C/A	89.5	9.0	172	20.03	
10/2.5	1800/900	460	254T	Y383A	254TTFCD7210	C/A	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	C/A	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	C/A	92.4	38.0	620	29.85	
40/10	1800/900	460	326T	Y388A	326TTFCD9210	C/A	93.0	52.5	676	31.35	
50/12.5	1800/900	460	364T	Y389A	364TTFCD9234	C/A	93.0	59.5	890	33.40	
60/15	1800/900	460	365T	Y390A	365TTFCD9230	C/A	93.6	71.5	926	34.40	
75/18.75	1800/900	460	405T	Y391A	405TTFCD7297	C/A	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.

Specifications are subject to change without notice.

√: Available C/A: Call your sales representative for availability

*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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
3/7.5	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	14-13	79	13.25	
	1800/900	460	184T	Y487B	184TTDBD7209	√	86.5	6.5	79	13.25	
7.5/1.88	1800/1200	200-230	213T	Y488A	213TTDBD7202	√	87.5	21-20	138	17.30	
	1800/900	460	213T	Y489A	213TTDBD7201	√	88.5	9.5	130	17.30	
10/2.5	1800/900	200-230	215T	Y490A	215TTDBD17206	√	87.5	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	
20/5	1800/900	460	284T	Y493A	284TTDBD7202	C/A	90.2	27	350	25.60	

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.	FL. AMPS	WT.	"C" DIM.	FOOT NOTES
2/5	1800/900	460	182T	Y467B	182TTDBD7411	√	83.0	2.5	65	12.25	
2/8.8	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	
3/7.5	1800/900	460	184T	Y468B	184TTDBD7230		83.5	3.8	74	13.25	
3/1.3	1800/1200	200-230	184T	Y454B	184TTDBD7286	C/A	82.0	9.0-8.5	76	13.25	
	1800/1200	460	184T	Y412B	184TTDBD7215	C/A	82.0	4.5	77	13.25	
5/1.25	1800/1200	460	215T	Y469A	215TTDBD7205		87.5	6.5	136	17.30	
5/2.22	1800/1200	200-230	215T	Y455A	215TTDBD7204		87.5	14.5-14.0	145	17.30	
	1800/1200	460	215T	Y415A	215TTDBD7203	C/A	87.5	6.2	140	17.30	
7.5/1.88	1800/1200	460	254T	Y470A	254TTDBD7201	C/A	88.5	9.5	229	22.31	
7.5/3.3	1800/900	200-230	254T	Y456A	254TTDBD7278	C/A	88.5	20.8-19.2	229	22.31	
	1800/1200	460	254T	Y418A	254TTDBD7208	C/A	88.5	9.1	229	22.31	
10/2.5	1800/900	460	256T	Y471A	256TTDBD7253	C/A	89.5	12.2	242	23.88	
10/4.4	1800/900	200-230	256T	Y457A	256TTDBD7263	C/A	89.5	32.0-28.0	240	23.88	
	1800/1200	460	256T	Y458A	256TTDBD7264	C/A	89.5	12.1	245	23.88	
15/3.75	1800/1200	460	284T	Y472A	284TTDBD7205	C/A	89.5	18.5	360	25.60	
15/6.67	1800/900	460	284T	Y459A	284TTDBD7221		89.5	18.5	365	25.60	
20/5	1800/900	460	286T	Y473A	286TTDBD7251	C/A	90.2	24.0	313	26.98	
20/8.89	1800/900	460	286T	Y460A	286TTDBD7217	C/A	90.2	24.0	301	26.98	

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*See back cover page for attribution.

XRI® KILN DUTY MOTORS

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



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	d
	1200	460	184T	S504A	184TTCD18577	C/A	87.5	3.0	102	13.82	
	1200	575	184T	S554A	184TTCD18578	C/A	87.5	2.4	102	13.82	
3	1800	460	182T	S506A	182TTCD18532	C/A	89.5	3.9	99	12.82	
	1200	460	213T	S507A	213TTCD18077		89.5	4.3	175	15.97	
	1200	575	213T	S557A	213TTCD18078		89.5	3.5	175	15.97	
5	1200	460	215T	S510	215TTTS17077	√	87.5	6.9	196	17.19	d
	1200	460	215T	S510A	215TTCD18077	√	88.5	6.8	185	17.47	
	1200	575	215T	S560A	215TTCD18078		88.5	5.5	200	17.47	
7 1/2	1200	460	254T	S513	254TTNA17077	√	90.2	9.8	318	20.83	d
	1200	460	254T	S513A	254TTCD18077	√	90.2	9.9	660	20.53	
	900	575	256T	S564A	256TTCD18601		86.5	8.4	310	22.27	
10	1200	460	256T	S516	256TTNA18578	√	91.0	12.8	351	22.58	d
	1200	460	256T	S516A	256TTCD18578	√	91.0	12.7	425	22.27	
	1200	575	256T	S566A	256TTCD18577		91.0	10.2	425	22.27	
	900	460	284T	S517A	284TTCD18601		88.5	13.8	475	23.34	
	900	575	284T	S567A	284TTCD18101	√	88.5	11.0	457	23.34	
15	1800	460	254T	S518	254TTNA18530	√	92.4	18.2	276	20.83	d
	1800	460	254T	S518A	254TTCD18530	√	92.4	18.8	276	20.53	
	1200	460	284T	S519A	284TTCD18578		91.7	19.0	425	23.34	
	1200	575	284T	S569A	284TTCD18577		91.7	15.2	428	23.34	
	900	460	286T	S520A	286TTCD18602	C/A	88.5	20.0	475	24.84	
20	1200	460	286T	S522A	286TTCD18577	C/A	91.7	26.0	520	24.84	
	900	460	324T	S523A	324TTCD18601	C/A	90.2	27.0	536	26.37	
25	1200	460	324T	S525A	324TTCD18577	C/A	93.0	31.5	675	26.37	
30	1200	460	326T	S528A	326TTCD18577	C/A	93.0	37.5	775	27.87	

Blue shaded areas are cast iron frames.

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*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	16.8	83	14.69	2,13
5	1500	220	184T	NONE	---	131555.00	d	80	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

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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



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

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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
	1800	230/460	284T	-	LM33046	C/A	92.4	73.0/36.5	360/180	320
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
50	3600	230/460	286T	-	LM30102	C/A	92.4	118/59.0	580/290	462

Blue shaded areas are cast iron frames.

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*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 FL. 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	
20	1800	230/460	254T	-	LM28874	√	91.0	38.5/19.2	232/116	205	
	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	
25	1800	230/460	256T	-	LM28880		91.0	52.0/26.0	320/160	233	
	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	1800	230/460	284T	-	LM33046	C/A	93.6	62.0/31.0	360/180	320	
	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	
40	1800	230/460	286T	-	LM29853		92.4	72.0/36.0	430/215	367	
	3600	230/460	286T	-	LM30102	C/A	91.7	94.0/47.0	580/290	462	

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marathon[®]
Motors

**ENDURANCE SERIES[®] Large AC
Low and Medium Voltage Motors**



**AVAILABLE TO ORDER
OVER 700 CONFIGURATIONS
OF MEDIUM VOLTAGE MOTORS**

ENDURANCE SERIES[®] MOTORS

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

NEMA®* OPEN DRIP PROOF MOTORS

GENERAL PURPOSE, NEMA PREMIUM®* EFFICIENCY

APPLICATIONS

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

FEATURES

- Meets or exceeds NEMA Premium efficiencies as mandated
- Cast Iron frame and brackets, fabricated steel conduit box
- Internal epoxy paint
- Max Guard® Class F, VPI Insulation system
- 1.15 Service Factor on sinewave, 1.0 Service Factor on IGBT power
- Inverter Duty 10:1 Variable
- Suitable for Across-the-Line, Wye-Delta and Part-Winding Starting
- UL®* Recognized and CSA®* Certified
- Ball bearing construction
- 120V space heaters - F2 conduit box side
- 100Ω Ohm Platinum shielded winding RTD's (2/phase)
- Provisions for bearing RTD's - F1 and F2 conduit box side
- Three year warranty



IP23



LOW VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
500	3600	460	5008S	Y9009	5008STDSDL16001	C/A	96.2	551	3980	MCA8247	46.60	
600	3600	460	5008S	Y9012	5008STDSDL16002	√	96.2	636	3420	MCA8247	46.60	NE
700	3600	460	5010S	Y9015	5010STDSDL16001	√	96.2	744	3540	MCA8247	53.60	NE
800	3600	460	5808S	Y9018	5808STDSDL16001	C/A	95.4	845	5140	MCA8256	53.55	NE
900	3600	460	5808S	Y9021	5808STDSDL16003	√	95.8	950	5250	MCA8256	53.55	NE
1000	3600	460	5808S	Y9024	5808STDSDL16004	C/A	96.2	1075	5360	MCA8256	53.55	FWC,CBR,16
1250	3600	460	5810S	Y9027	5810STDSDL16001	√	96.2	1337	6270	MCA8256	61.55	FWC,CBR,16

MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
350	3600	2300/4000	5008S	Y9100	5008SVDSL16003	√	94.5	76.0/44.0	3310	MCA8250	46.60	16
400	3600	2300/4000	5008S	Y9103	5008SVDSL16004	√	95.0	87.0/50.0	3390	MCA8250	46.60	16
450	3600	2300/4000	5008S	Y9106	5008SVDSL16005	C/A	95.0	98.0/56.0	3570	MCA8250	46.60	16
500	3600	2300/4000	5008S	Y9109	5008SVDSL16006	√	95.0	108/62.0	3630	MCA8250	46.60	16
600	3600	2300/4000	5010S	Y9112	5010SVDSL16001	C/A	95.4	128/74.0	3780	MCA8250	53.60	FW,CB,16
700	3600	2300/4000	5010S	Y9115	5010SVDSL16002	√	95.4	152/87.0	3830	MCA8250	53.60	FW,CB,16
800	3600	2300/4000	5808S	Y9118	5808SVDSL16002	C/A	95.4	175/100	5460	MCA8259	53.55	FW,CB,16
900	3600	2300/4000	5808S	Y9121	5808SVDSL16003	√	95.8	193/111	5510	MCA8259	53.55	FW,CB,16
1000	3600	2300/4000	5810S	Y9124	5810SVDSL16001	C/A	96.2	216/124	6420	MCA8259	61.55	FW,CB,16
1250	3600	2300/4000	5810S	Y9127	5810SVDSL16002	√	96.2	267/154	6480	MCA8259	61.55	FW,CB,16
1500	3600	2300/4000	5810S	Y9130	5810SVDSL16003	C/A	96.5	316/182	6810	MCA8259	61.55	FW,CB,16
1750	3600	2300/4000	5810S	Y9133	5810SVDSL16004	C/A	96.5	369/210	6980	MCA8259	61.55	FW,CB,16

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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 FAN COOLED GENERAL PURPOSE IEC



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.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
400	1800	460	355	R9204	355HTFC6027	C/A	96.2	437	4410	0235501829	60.71	NP
	1200	460	355	R9205	355HTFC6077	C/A	95.8	465	4655	0235501829	60.71	NP, NE
450	1800	460	355	R9007	355HTFC6028	C/A	96.2	492	4720	0235501829	60.71	NP
	1200	460	355	R9208	355HTFC6078	C/A	95.8	524	4890	0235501829	60.71	NP, NE
500	1800	460	355	R9210	355HTFC6029	C/A	96.2	547	4985	0235501829	60.71	NP
	1200	460	355X	R9211	355HTFC6079	C/A	95.0	587	6505	0235501810	74.80	NE
600	1800	460	355X	R9212	355HTFC6030	C/A	95.4	669	6295	0235501810	74.80	NE
	1200	460	400	R9213	400HTFC6076	C/A	95.0	688	8670	0240000741	79.72	NE
700	1800	460	400	R9214	400HTFC6026	C/A	95.4	772	7540	0240000741	79.72	NE
	1200	460	400	R9215	400HTFC6077	C/A	95.0	802	8360	0240000741	79.72	NE
800	1800	460	400	R9216	400HTFC6027	C/A	95.4	882	7630	0240000741	79.72	NE
	1200	460	450	R9217	450HTFC6076	C/A	95.0	917	11115	0245001030	94.49	NE
900	1800	460	400	R9218	400HTFC6028	C/A	95.4	992	7960	0240000741	79.72	NE
	1200	460	450	R9219	450HTFC6077	C/A	95.0	1031	11574	0245001030	94.49	NE
1000	1800	460	400	R9220	400HTFC6029	C/A	95.4	1103	8420	0240000741	79.72	NE
	1200	460	450	R9221	450HTFC6078	C/A	95.0	1146	12080	0245001030	94.49	NE

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

IEC®* TOTALLY ENCLOSED FAN COOLED GENERAL PURPOSE IEC



APPLICATIONS

General purpose use on compressors, pumps, conveyors, pulp and paper mills, mineral processing, waste management facilities, lumber and wood processing mills, automotive manufacturing plants, 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
- 100Ω Ohm Platinum winding RTD's (2/phase)
- 100Ω Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty



IEC - TEFC - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9301	355HVFC6026	C/A	95.0	78/44.9	4189	0235502685	72.24	
	1200	2300/4000	355	R9302	355HVFC6077	C/A	95.0	81.8/47.0	5622	0235502685	72.24	
400	1800	2300/4000	355	R9304	355HVFC6027	C/A	95.0	89.6/51.5	4630	0235502685	72.24	
	1200	2300/4000	400	R9305	400HVFC6076	C/A	95.0	91.3/52.5	6614	0240001696	79.13	
450	1800	2300/4000	355	R9307	355HVFC6028	C/A	95.0	100/57.5	4740	0235502685	72.24	
	1200	2300/4000	400	R9308	400HVFC6077	C/A	95.0	102.6/59.0	6790	0240001696	79.13	
500	1800	2300/4000	355	R9310	355HVFC6029	C/A	95.0	111.3/64.0	4806	0235502685	72.24	
	1200	2300/4000	400	R9311	400HVFC6078	C/A	95.0	113.9/65.5	6945	0240001696	79.13	
600	1800	2300/4000	400	R9313	400HVFC6026	C/A	95.4	132.2/76.0	6460	0240001696	79.13	
	1200	2300/4000	450	R9314	450HVFC6076	C/A	95.0	135.7/78.0	7936	0245001222	87.40	
700	1800	2300/4000	400	R9316	400HVFC6027	C/A	95.4	153.9/88.5	6835	0240001696	79.13	
	1200	2300/4000	450	R9317	450HVFC6077	C/A	95.0	158.3/91.0	8488	0245001222	87.40	
800	1800	2300/4000	450	R9319	450HVFC6026	C/A	95.4	175.7/101	7826	0245001221	85.83	
	1200	2300/4000	450	R9320	450HVFC6078	C/A	95.0	180/103.5	9150	0245001222	87.40	
900	1800	2300/4000	450	R9322	450HVFC6027	C/A	95.4	197.4/113.5	8047	0245001221	85.83	
	1200	4000	500	R9323	500HVFC6076	C/A	95.0	117	11464	0250000728	94.88	
1000	1800	2300/4000	450	R9325	450HVFC6028	C/A	95.4	220/126.5	8377	0245001221	85.83	
	1200	4000	500	R9326	500HVFC6077	C/A	95.0	130	11905	0250000728	94.88	

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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 1
GENERAL PURPOSE IEC



IP23

MAX GUARD



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
- 100Ω Ohm Platinum winding RTD's (2/phase)
- 100Ω Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IEC - WPI - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9401	355HVLF6027	C/A	91.7	80.0/46.0	4667	0235502461	72.05	99,110,NE
	1200	2300/4000	355	R9402	355HVLF6077	C/A	92.4	83.0/48.0	4799	0235502461	72.05	NE
400	1800	2300/4000	355	R9404	355HVLF6028	C/A	91.7	90.0/52.0	4667	0235502461	72.05	99,110,NE
	1200	2300/4000	355	R9405	355HVLF6078	C/A	92.4	94.0/54.0	5075	0235502461	72.05	NE
450	1800	2300/4000	355	R9407	355HVLF6029	C/A	94.5	101/58.0	4667	0235502461	72.05	99,NE
	1200	2300/4000	355	R9408	355HVLF6079	C/A	93.6	104/60.0	5075	0235502461	72.05	NE
500	1800	2300/4000	355	R9410	355HVLF6030	C/A	93.0	111/64.0	4667	0235502461	72.05	NE
	1200	2300/4000	400	R9411	400HVLF6076	C/A	94.5	117/67.0	6140	0240001510	77.95	99,NE
600	1800	2300/4000	355	R9413	355HVLF6031	C/A	93.0	136/78.0	4943	0235502461	72.05	NE
	1200	2300/4000	400	R9414	400HVLF6077	C/A	94.5	139/80.0	6448	0240001510	77.95	99,NE
700	1800	2300/4000	400	R9416	400HVLF6027	C/A	94.6	160/92.0	6625	0240001510	77.95	99,NE
	1200	2300/4000	400	R9417	400HVLF6078	C/A	94.5	162/93.0	6448	0240001510	77.95	NE
800	1800	2300/4000	400	R9419	400HVLF6028	C/A	95.0	176/101.0	6625	0240001510	77.95	NE
	1200	2300/4000	450	R9420	450HVLF6076	C/A	95.0	181/104.0	7870	0245001121	83.66	99
900	1800	2300/4000	400	R9422	400HVLF6029	C/A	95.0	197/113.0	6867	0240001510	77.95	NE
	1200	2300/4000	450	R9423	450HVLF6077	C/A	95.0	203/117.0	7870	0245001121	83.66	
1000	1800	2300/4000	450	R9425	450HVLF6026	C/A	95.8	216/124.0	8201	0245001121	82.68	99
	1200	2300/4000	450	R9426	450HVLF6078	C/A	95.4	219/126.0	9039	0245001121	83.66	
1250	1800	2300/4000	450	R9428	450HVLF6027	C/A	95.8	271/156.0	8201	0245001121	82.68	
	1200	2300/4000	450	R9429	450HVLF6079	C/A	95.4	278/160.0	9039	0245001121	83.66	
1500	1800	2300/4000	450	R9431	450HVLF6028	C/A	95.8	325/187.0	8532	0245001121	82.68	
	1200	4000	500	R9432	500HVLF6076	C/A	95.8	191	11757	0250000684	89.17	99
1750	1800	4000	500	R9434	500HVLF6026	C/A	96.2	222	11515	0250000681	89.17	
	1200	4000	500	R9435	500HVLF6077	C/A	95.4	224	11757	0250000684	89.17	
2000	1800	4000	500	R9437	500HVLF6027	C/A	96.2	253	11515	0250000681	89.17	
	1200	4000	560	R9438	560HVLF6076	C/A	95.4	250	15068	0256000375	100.79	99
2250	1800	4000	500	R9440	500HVLF6028	C/A	96.2	279	12617	0250000681	89.17	
	1200	4000	560	R9441	560HVLF6077	C/A	96.5	285	15642	0256000375	100.79	
2500	1800	4000	560	R9443	560HVLF6026	C/A	96.5	306	16391	0256000372	98.82	99
3000	1800	4000	560	R9446	560HVLF6027	C/A	96.5	363	16391	0256000372	98.82	99,NE
3500	1800	4000	560	R9449	560HVLF6028	C/A	96.7	433	16391	0256000372	98.82	NE

Footnotes:

- 1 - Suitable for 2:1 CT operation
4 - 1.2 Service Factor
8 - Not defined by NEMA Premium standards

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
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
GENERAL PURPOSE IEC



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
- 100Ω Ohm Platinum winding RTD's (2/phase)
- 100Ω Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty

IP24

**MAX
GUARD**



IEC - WPII - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9501	355HVMF6027	C/A	91.7	80.0/46.0	5072	0235502462	74.21	99,110,NE
	1200	2300/4000	355	R9502	355HVMF6078	C/A	92.4	83.0/48.0	5182	0235502462	74.21	NE
400	1800	2300/4000	355	R9504	355HVMF6028	C/A	91.7	90.0/52.0	5072	0235502462	74.21	99,NE
	1200	2300/4000	355	R9505	355HVMF6079	C/A	92.4	94.0/54.0	5479	0235502462	74.21	NE
450	1800	2300/4000	355	R9507	355HVMF6029	C/A	94.5	101/58.0	5072	0235502462	74.21	99,NE
	1200	2300/4000	355	R9508	355HVMF6080	C/A	93.6	104/60.0	5479	0235502462	74.21	NE
500	1800	2300/4000	355	R9510	355HVMF6030	C/A	93.0	111/64.0	5347	0235502462	74.21	NE
	1200	2300/4000	400	R9511	400HVMF6076	C/A	94.5	117/67.0	6526	0240001511	78.54	99,NE
600	1800	2300/4000	355	R9513	355HVMF6031	C/A	93.0	136/78.0	5347	0235502462	74.21	NE
	1200	2300/4000	400	R9514	400HVMF6077	C/A	94.5	139/80.0	6834	0240001511	78.54	99,NE
700	1800	2300/4000	400	R9516	400HVMF6026	C/A	94.6	160/92.0	7011	0240001511	78.54	99,NE
	1200	2300/4000	400	R9517	400HVMF6078	C/A	94.5	162/93.0	6834	0240001511	78.54	NE
800	1800	2300/4000	400	R9519	400HVMF6027	C/A	95.0	176/101	7011	0240001511	78.54	NE
	1200	2300/4000	450	R9520	450HVMF6076	C/A	95.0	181/104	8467	0245001125	84.84	99
900	1800	2300/4000	400	R9522	400HVMF6028	C/A	95.0	197/113	7253	0240001511	78.54	NE
	1200	2300/4000	450	R9523	450HVMF6077	C/A	95.0	203/117	8467	0245001125	84.84	
1000	1800	2300/4000	450	R9525	450HVMF6026	C/A	95.8	216/124	8710	0245001122	83.27	
	1200	2300/4000	450	R9526	450HVMF6078	C/A	95.4	219/126	9636	0245001125	84.84	
1250	1800	2300/4000	450	R9528	450HVMF6027	C/A	95.8	271/156	8710	0245001122	83.27	
	1200	2300/4000	450	R9529	450HVMF6079	C/A	95.4	278/160	9636	0245001125	84.84	
1500	1800	2300/4000	450	R9531	450HVMF6028	C/A	95.8	325/187	9129	0245001122	83.27	
	1200	4000	500	R9532	500HVMF6076	C/A	95.8	184	12368	0250000685	90.94	99
1750	1800	4000	500	R9534	500HVMF6026	C/A	96.2	222	12125	0250000682	90.94	
	1200	4000	500	R9535	500HVMF6077	C/A	95.4	224	12368	0250000685	90.94	
2000	1800	4000	500	R9537	500HVMF6027	C/A	96.2	253	12125	0250000682	90.94	
	1200	4000	560	R9538	560HVMF6076	C/A	95.4	253	15741	0256000376	103.74	99
2250	1800	4000	500	R9540	500HVMF6028	C/A	96.2	279	13228	0250000682	90.94	
	1200	4000	560	R9541	560HVMF6077	C/A	96.5	285	16314	0256000376	103.74	
2500	1800	4000	560	R9543	560HVMF6026	C/A	96.5	306	17064	0256000373	101.77	99
	1200	4000	560	R9544	560HVMF6078	C/A	96.5	285	16314	0256000376	103.74	
3000	1800	4000	560	R9546	560HVMF6027	C/A	96.5	363	17064	0256000373	101.77	99,NE
3500	1800	4000	560	R9549	560HVMF6028	C/A	96.5	433	17064	0256000373	101.77	NE

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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
GENERAL PURPOSE IEC

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
- 100Ω Ohm Platinum winding RTD's (2/phase)
- 100Ω Ohm Platinum bearing RTD's (1/bearing)
- Three year warranty



IEC - TEAAC - MEDIUM VOLTAGE

HP	RPM	VOLTS	FRAME	CATALOG NO.	MODEL NO.	STOCK	NOM. EFF.	FL. AMPS	EST. SHIPPING WT. (LBS)	OUTLINE DRAWING	"C" DIM (IN)	FOOT NOTES
350	1800	2300/4000	355	R9601	355HVKF6027	C/A	93.0	80.0/46.0	5203	0235502463	83.07	99,NE
	1200	2300/4000	355	R9602	355HVKF6077	C/A	92.4	83.0/48.0	5611	0235502463	83.07	NE
400	1800	2300/4000	355	R9604	355HVKF6028	C/A	93.6	90.0/52.0	5203	0235502463	83.07	99,NE
	1200	2300/4000	400	R9605	400HVKF6076	C/A	94.1	94.0/54.0	6845	0240001512	87.99	99,NE
450	1800	2300/4000	355	R9607	355HVKF6029	C/A	93.0	103/59.0	5478	0235502463	83.07	NE
	1200	2300/4000	400	R9608	400HVKF6077	C/A	94.1	104/60.0	6845	0240001512	87.99	99,NE
500	1800	2300/4000	355	R9610	355HVKF6030	C/A	93.0	117/67.0	5478	0235502463	83.07	NE
	1200	2300/4000	400	R9611	400HVKF6078	C/A	94.1	117/67.0	7154	0240001512	87.99	99,NE
600	1800	2300/4000	400	R9613	400HVKF6026	C/A	94.1	136/78.0	7330	0240001512	87.99	99,NE
	1200	2300/4000	400	R9614	400HVKF6079	C/A	94.1	141/81.0	7154	0240001512	87.99	NE
700	1800	2300/4000	400	R9616	400HVKF6027	C/A	94.5	155/89.0	7330	0240001512	87.99	NE
	1200	2300/4000	450	R9617	450HVKF6076	C/A	93.6	158/91.0	8918	0245001126	95.67	NE
800	1800	2300/4000	400	R9619	400HVKF6028	C/A	94.5	176/101	7573	0240001512	87.99	NE
	1200	2300/4000	450	R9620	450HVKF6077	C/A	94.1	183/105	8918	0245001126	95.67	NE
900	1800	2300/4000	450	R9622	450HVKF6026	C/A	94.5	197/113	9215	0245001123	94.09	NE
	1200	2300/4000	450	R9623	450HVKF6078	C/A	94.5	200/115	10086	0245001126	95.67	NE
1000	1800	2300/4000	450	R9625	450HVKF6027	C/A	94.5	219/126	9215	0245001123	94.09	NE
	1200	2300/4000	450	R9626	450HVKF6079	C/A	94.5	221/127	10086	0245001126	95.67	NE
1250	1800	2300/4000	450	R9628	450HVKF6028	C/A	95.0	273/157	9546	0245001123	94.09	NE
	1200	4000	500	R9629	500HVKF6076	C/A	95.0	161	13635	0250000686	101.38	
1500	1800	4000	500	R9631	500HVKF6026	C/A	95.4	192	13360	0250000683	101.38	
	1200	4000	500	R9632	500HVKF6077	C/A	95.0	193	13635	0250000686	101.38	
1750	1800	4000	500	R9634	500HVKF6027	C/A	95.4	224	13360	0250000683	101.38	NE
	1200	4000	560	R9635	560HVKF6076	C/A	95.0	221	17769	0256000377	113.58	99,NE

IN STOCK MODIFICATION OPTIONS

Altitude Rerate	Nameplate-Extra Main
Ambient Rerate	Nameplate-Rotation
Assembly-F1 to F2 Mounting Conversion	Packaging-Crate/Export
Leads-Spliced at Endturn	Rotation-Cast Rotor (CCW -> CW)
Nameplate-Auxiliary Tag	Service Factor

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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

OPEN DRIP PROOF

LOW VOLTAGE

BUILT TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame & brackets (NEMA®*)
- MAX GUARD® Class F insulation system
- IP23 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty



IP23

**MAX
GUARD**



ODP - LOW VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC ®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
350	3600	-		-	
	1800	505		-	
	1200	508		-	
400	3600	-		-	
	1800	508		-	
	1200	508		-	
450	3600	-		-	
	1800	508		-	
	1200	-		-	
500	3600	5008S		-	
	1800	508		-	
	1200	-		355	
600	3600	5008S		-	
	1800	510		355	
	1200	-		355	
700	3600	5010S		-	
	1800	5808		355	
	1200	-		355	
800	3600	5808S		-	
	1800	5808		355	
	1200	-		-	
900	3600	5808S		-	
	1800	5810		355	
	1200	-		-	
1000	3600	5810S	FW,CB	-	
	1800	5810		-	
	1200	-		-	
1250	3600	5810S	FW,CB	-	
	1800	-		-	
	1200	-		-	
1500	3600	-		-	
	1800	-		-	
	1200	-		-	
1750	3600	-		-	
	1800	-		-	
	1200	-		-	
2000	3600	-		-	
	1800	-		-	
	1200	-		-	

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

Specifications are subject to change without notice.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

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.

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

OPEN DRIP PROOF
MEDIUM VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame & brackets (NEMA®*)
- Fabricated frame & cast iron brackets (IEC®*)
- MAX GUARD® Class F insulation system
- IP23 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty

IP23

**MAX
GUARD**



ODP - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
350	3600	5008S	FW	Consult Factory	
	1800	-		355	CB,FW
	1200	-		355	CB,FW
400	3600	5008S	FW		
	1800	-		355	CB,FW
	1200	-		400	CB,FW
450	3600	5008S	FW		
	1800	-		400	CB,FW
	1200	-		400	CB,FW
500	3600	5008S	FW		
	1800	-		400	CB,FW
	1200	-		400	CB,FW
600	3600	5010S	CB,FW		
	1800	-		400	CB,FW
	1200	-		450	CB,FW
700	3600	5808S	CB,FW		
	1800	-		400	CB,FW
	1200	-		450	CB,FW
800	3600	5808S	CB,FW		
	1800	-		450	CB,FW
	1200	-		450	CB,FW
900	3600	5808S	CB,FW		
	1800	-		450	CB,FW
	1200	-		450	CB,FW
1000	3600	5810S	CB,FW		
	1800	-		450	CB,FW
	1200	-		500	CB,FW
1250	3600	5810S	CB,FW		
	1800	-		450	CB,FW
	1200	-		500	CB,FW
1500	3600	5810S	CB,FW		
	1800	-		500	CB,FW
	1200	-		560	CB,FW
1750	3600	5810S	CB,FW		
	1800	-		500	CB,FW
	1200	-		560	CB,FW
2000	3600	-		Consult Factory	
	1800	-		560	CB,FW
	1200	-		630	4, CB,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

WEATHER PROTECTED TYPE 1
LOW VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame & brackets (NEMA®*)
- MAX GUARD® Class F insulation system
- 120V or 240V space heaters
- Stator/Rotor Epoxy
- IP23 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty

IP23

**MAX
GUARD**



ODP - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS	
		FRAME	FOOTNOTES
350	3600	-	
	1800	505	
	1200	508	
400	3600	-	
	1800	508	
	1200	508	
450	3600	-	
	1800	508	
	1200	-	
500	3600	5008S	
	1800	508	
	1200	-	
600	3600	5008S	
	1800	510	
	1200	-	
700	3600	5010S	
	1800	5808	
	1200	-	
800	3600	5808S	
	1800	5808	
	1200	-	
900	3600	5808S	
	1800	5810	
	1200	-	
1000	3600	5810S	CB,FW
	1800	5810	
	1200	-	
1250	3600	5810S	CB,FW
	1800	-	
	1200	-	
1500	3600	-	
	1800	-	
	1200	-	
1750	3600	-	
	1800	-	
	1200	-	
2000	3600	-	
	1800	-	
	1200	-	

Consult factory for 449 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

WEATHER PROTECTED TYPE 1
MEDIUM VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Fabricated frame & cast iron brackets (IEC®*)
- Cast iron frame & brackets (NEMA®*)
- MAX GUARD® Class F insulation system
- 120V or 240V space heaters
- Stator/Rotor Epoxy
- IP23 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty

IP23

**MAX
GUARD**



WPI - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC ®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
350	3600	5008S	FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
400	3600	5008S	FW		
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
450	3600	5008S	FW		
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
500	3600	5008S	FW		
	1800	-		355	40,CB,FW
	1200	-		400	40,CB,FW
600	3600	5010S	CB,FW		
	1800	-		355	40,CB,FW
	1200	-		400	40,CB,FW
700	3600	5808S	CB,FW		
	1800	-		400	40,CB,FW
	1200	-		400	40,CB,FW
800	3600	5808S	CB,FW		
	1800	-		400	40,CB,FW
	1200	-		450	40,CB,FW
900	3600	5808S	CB,FW		
	1800	-		400	40,CB,FW
	1200	-		450	40,CB,FW
1000	3600	5810S	CB,FW		
	1800	-		450	40,CB,FW
	1200	-		450	40,CB,FW
1250	3600	5810S	CB,FW		
	1800	-		450	40,CB,FW
	1200	-		450	40,CB,FW
1500	3600	5810S	CB,FW		
	1800	-		450	40,CB,FW
	1200	-		500	40,CB,FW
1750	3600	5810S	CB,FW		
	1800	-		500	40,CB,FW
	1200	-		500	40,CB,FW
2000	3600	-		Consult Factory	
	1800	-		500	40,CB,FW
	1200	-		560	40,CB,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

WEATHER PROTECTED TYPE 2
LOW VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame & brackets (NEMA®*)
- MAX GUARD® Class F insulation system
- 120V or 240V space heaters
- Stator/Rotor Epoxy
- IP24 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty

IP24

**MAX
GUARD**



WP11 - LOW VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS	
		FRAME	FOOTNOTES
350	3600	-	
	1800	-	
	1200	-	
400	3600	-	
	1800	-	
	1200	-	
450	3600	-	
	1800	-	
	1200	-	
500	3600	5008S	
	1800	-	
	1200	-	
600	3600	5010S	
	1800	-	
	1200	-	
700	3600	5808S	
	1800	-	
	1200	-	
800	3600	5808S	
	1800	-	
	1200	-	
900	3600	5808S	
	1800	-	
	1200	-	
1000	3600	5810S	CB,FW
	1800	-	
	1200	-	
1250	3600	5810S	CB,FW
	1800	-	
	1200	-	
1500	3600	-	
	1800	-	
	1200	-	
1750	3600	-	
	1800	-	
	1200	-	
2000	3600	-	
	1800	-	
	1200	-	

Consult factory for 449 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

WEATHER PROTECTED TYPE 2 MEDIUM VOLTAGE

BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame & brackets (NEMA®*)
- Fabricated frame & cast iron brackets (IEC®*)
- MAX GUARD® Class F insulation system
- 120V or 240V space heaters
- IP24 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Stator/Rotor Epoxy
- Three year warranty



WP11 - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
350	3600	5008S	FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
400	3600	5008S	FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
450	3600	5008S	FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		355	40,CB,FW
500	3600	5008S	FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		400	40,CB,FW
600	3600	5010S	CB,FW	Consult Factory	
	1800	-		355	40,CB,FW
	1200	-		400	40,CB,FW
700	3600	5808S	CB,FW	Consult Factory	
	1800	-		400	40,CB,FW
	1200	-		400	40,CB,FW
800	3600	5808S	CB,FW	Consult Factory	
	1800	-		400	40,CB,FW
	1200	-		450	40,CB,FW
900	3600	5808S	CB,FW	Consult Factory	
	1800	-		400	40,CB,FW
	1200	-		450	40,CB,FW
1000	3600	5810S	CB,FW	Consult Factory	
	1800	-		450	40,CB,FW
	1200	-		450	40,CB,FW
1250	3600	5810S	CB,FW	Consult Factory	
	1800	-		450	40,CB,FW
	1200	-		450	40,CB,FW
1500	3600	5810S	CB,FW	Consult Factory	
	1800	-		450	40,CB,FW
	1200	-		500	40,CB,FW
1750	3600	5810S	CB,FW	Consult Factory	
	1800	-		500	40,CB,FW
	1200	-		500	40,CB,FW
2000	3600	-		Consult Factory	
	1800	-		500	40,CB,FW
	1200	-		560	40,CB,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

TOTALLY ENCLOSED FAN COOLED
LOW VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame and brackets
- MAX GUARD® Class F insulation system
- NEMA®* Design B
- IP54 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty



TEFC - LOW VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC ®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
400	3600	5011		355	
	1800	5011		355	40,CB,FW
	1200	5011		355	40,CB,FW
	900	5013		400	
450	3600	5011		355	40,CB,FW
	1800	5011		355	40,CB,FW
	1200	5013		400	
	900	-		400	40,CB,FW
500	3600	5011		355	40,CB,FW
	1800	5011		355	
	1200	5013		400	40,CB,FW
	900	-		400	40,CB,FW
600	3600	-		400	
	1800	5011		400	40,CB,FW
	1200	-		400	40,CB,FW
	900	-		400	
700	3600	-		400	40,CB,FW
	1800	5013		400	40,CB,FW
	1200	-		400	
	900	-		450	40,CB,FW
800	3600	-		400	40,CB,FW
	1800	-		400	
	1200	-		450	40,CB,FW
	900	-		500	40,CB,FW
900	3600	-		400	
	1800	-		400	40,CB,FW
	1200	-		450	40,CB,FW
	900	-		500	
1000	3600	-		400	40,CB,FW
	1800	-		400	40,CB,FW
	1200	-		450	
	900	-		560	40,CB,FW
1250	3600	-		450	40,CB,FW
	1800	-		450	
	1200	-		500	40,CB,FW
	900	-		560	40,CB,FW
1500	3600	-		500	
	1800	-		500	40,CB,FW
	1200	-		500	40,CB,FW
1750	1800	-		500	40,CB,FW
	1200	-		560	40,CB,FW
2000	1800	-		560	40,CB,FW
	1200	-		560	40,CB,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

TOTALLY ENCLOSED FAN COOLED
MEDIUM VOLTAGE

BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame and brackets
- MAX GUARD® Class F insulation system
- NEMA®* Design B
- IP54 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty



TEFC - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC ®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
150	900	5011	FW	355	CW,FW
	3600	-		355	CW,FW
200	1800	5011	FW	355	CW,FW
	1200	5011	FW	355	CW,FW
	900	5011	FW	355	CW,FW
	3600	5009	FW	355	CW,FW
250	1800	5011	FW	355	CW,FW
	1200	5011	FW	355	CW,FW
	900	5011	FW	400	CW,FW
	3600	5011	FW	355	CW,FW
300	1800	5011	FW	355	CW,FW
	1200	5011	FW	400	CW,FW
	900	5013	FW	400	CW,FW
	3600	5011	FW	355	CW,FW
350	1800	5011	FW	355	CW,FW
	1200	5011	FW	400	CW,FW
	900	5013	FW	450	CW,FW
	3600	5011	CW,FW	400	CW,FW
400	1800	5011	CW,FW	400	CW,FW
	1200	5011	CW,FW	400	CW,FW
	900	5013	CW,FW	450	CW,FW
	3600	5011	CW,FW	400	CW,FW
450	1800	5011	CW,FW	400	CW,FW
	1200	5013	CW,FW	450	CW,FW
	900	-		450	CW,FW
	3600	-		400	CW,FW
500	1800	5013	CW,FW	400	CW,FW
	1200	5013	CW,FW	450	CW,FW
	900	-		450	CW,FW
	3600	-		400	CW,FW
600	1800	5011	CW,FW	450	CW,FW
	1200	-		450	CW,FW
	900	-		450	CW,FW
	3600	-		450	CW,FW
700	1800	5013	CW,FW	450	CW,FW
	1200	-		450	CW,FW
	900	-		500	CW,FW
	3600	-		450	CW,FW
800	1800	5013	CW,FW	450	CW,FW
	1200	-		500	CW,FW
	900	-		500	CW,FW
	3600	-		450	CW,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

TOTALLY ENCLOSED FAN COOLED
MEDIUM VOLTAGE



BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Cast iron frame and brackets
- MAX GUARD® Class F insulation system
- NEMA®* Design B
- IP54 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty



TEFC - MEDIUM VOLTAGE

HP	RPM	NEMA®* FRAME DESIGNS		IEC ®* FRAME DESIGNS	
		FRAME	FOOTNOTES	FRAME	FOOTNOTES
900	3600	-		450	CB,FW
	1800	-		450	CB,FW
	1200	-		500	CB,FW
	900	-		500	CB,FW
1000	3600	-		500	CB,FW
	1800	-		500	CB,FW
	1200	-		500	CB,FW
	900	-		560	CB,FW
1250	3600	-		500	CB,FW
	1800	-		500	CB,FW
	1200	-		560	CB,FW
	900	-		560	CB,FW
1500	1800	-		500	CB,FW
	1200	-		560	CB,FW
1750	1800	-		560	CB,FW
	1200	-		560	CB,FW
2000	1800	-		560	CB,FW
	1200	-		560	CB,FW

Consult factory for 449 frame & smaller

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*See back cover page for attribution.

ENDURANCE SERIES® MOTORS

TOTALLY ENCLOSED AIR TO AIR COOLED
MEDIUM VOLTAGE

BUILD TO ORDER FEATURES

- Rigid, Horizontal Mounting
- Fabricated frame & cast iron brackets (IEC®*)
- MAX GUARD® Class F insulation system
- IP55 minimum
- 60 Hertz
- 40°C Ambient
- 3300 FSL max
- Three year warranty



WP11 - LOW VOLTAGE

HP	RPM	IEC®* FRAME DESIGNS	
		FRAME	FOOTNOTES
350	3600	Consult Factory	
	1800	355	40,CB,FW
	1200	355	40,CB,FW
400	3600	Consult Factory	
	1800	355	40,CB,FW
	1200	355	40,CB,FW
450	3600	Consult Factory	
	1800	355	40,CB,FW
	1200	400	40,CB,FW
500	3600	Consult Factory	
	1800	355	40,CB,FW
	1200	400	40,CB,FW
600	3600	Consult Factory	
	1800	400	40,CB,FW
	1200	400	40,CB,FW
700	3600	Consult Factory	
	1800	400	40,CB,FW
	1200	450	40,CB,FW
800	3600	Consult Factory	
	1800	400	40,CB,FW
	1200	450	40,CB,FW
900	3600	Consult Factory	
	1800	450	40,CB,FW
	1200	450	40,CB,FW
1000	3600	Consult Factory	
	1800	450	40,CB,FW
	1200	450	40,CB,FW
1250	3600	Consult Factory	
	1800	450	40,CB,FW
	1200	500	40,CB,FW
1500	3600	Consult Factory	
	1800	500	40,CB,FW
	1200	500	40,CB,FW
1750	3600	Consult Factory	
	1800	500	40,CB,FW
	1200	560	40,CB,FW
2000	3600	Consult Factory	
	1800	500	40,CB,FW
	1200	560	40,CB,FW

Consult factory for 315 frame & smaller

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability
*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

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

AC/DC CONTROLS

QUICK REFERENCE



DC Adjustable
Speed Drives

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



SM2/SM4 Series Flux
Vector Sub-Micro
AC Inverters

Speedmaster sensorless vector drives with “big drive” features and ultra-compact size. SM2 - 1/2 through 25 HP. IP31 enclosure — NEMA 1 Type. SM4 - 1/2 through 10 HP IP65 NEMA 4.



Platinum e™ Series
AC Inverters

Platinum e™ Series Drives are for use with an AC induction motor or a PMAC motor. IP20 enclosure protection. 1/3 HP through 30 HP.



AC/DC CONTROLS

DC ADJUSTABLE SPEED DRIVES

SCR THYRISTOR 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	α
— Reversing with dynamic braking	174308.00	√	10	1/8 to 1	1/4 to 2	5	α
— 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	

α 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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

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, $\pm 10\%$, 50/60 Hz, 1 \emptyset
- 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): $>100K \Omega$
- 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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

DC ADJUSTABLE SPEED DRIVES

LOW VOLTAGE 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, $\pm 10\%$, 50/60 Hz, 1 \emptyset
- Acceleration Time Range: 0.5 - 20 seconds
- Deceleration Time Range: 0.5 - 20 seconds
- Regenerative braking and reversing
- Analog Signal Range: 0 \pm 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 0-180	1/50 - 1/8 1/25 - 1/4						
174066.00	√	11	115	0-90	1/8 - 1	NO	5	YES	YES	NO	□
			230	0-90 0-180	1/8 - 1 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 Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

DC ADJUSTABLE SPEED DRIVES

SCR 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



Figure 1



Figure 2

DESCRIPTION	MODEL / ITEM NO.	STOCK	OUTPUT AMPS	HP RANGE		WT
				115V	230V	
NEMA®* 4/12 Non-Reversing	174696.00	√	3	1/3	2/3	1
Chassis - Figure 1	174695.00	√	2	1/6	1/6	1
Chassis - Figure 2	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

AC/DC CONTROLS

DC ADJUSTABLE SPEED DRIVES

LOW VOLTAGE CONTROLS



GENERAL SPECIFICATIONS

- Chassis type design
- DC input / DC output
- Speed potentiometer shipped loose
- High efficient 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.



CONTROL ACCESSORIES

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT
Inhibit Plug	900282.01	√	1
Speed Pot (10k/5w pot, washers & nut)	006708.01	√	1

FOOT SWITCH/POTENTIOMETER

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT
Foot Operated 10k Speed Pot	174650.00	√	3

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

LEESON® Speedmaster inverters are feature rich controls offering great process control and operating efficiency for your AC Motors. With our broad family of controls, we have the solution for your application needs at a competitive price.



BASIC FEATURES	SM2 VECTOR	SM4 VECTOR	PLATINUM e™ VSD	PLATINUM e™ VSD - PLUS
Enclosure Type	IP31	IP65	IP21	IP21
Enclosure Material	Plastic	Plastic	Plastic	Plastic
Number Pre-set Speeds	8	8	16	16
Washdown Duty	No	Yes	No	No
FWD & REV	Yes	Yes	Yes	Yes
Password Protected	Yes	Yes	Yes	Yes
Dynamic Brake Kits	No	No	No	Yes
Relays	Yes	Yes	Yes	Yes
EPM Programmable	Yes	Yes	Yes	Yes
Open Loop Vector	Yes	Yes	Yes	Yes
Closed Loop Vector	No	No	No	Yes
PMAC Motor Control	No	No	Yes	Yes
PID Software	Yes	Yes	Yes	No
Remote Keypads	Yes	Yes	Yes	Yes
Slip Compensation	Yes	Yes	Yes	Yes
Speed Reference Signals	Yes	Yes	Yes	Yes
Display - Words or Codes	4 - digit	4 - digit	Words & Codes	Words & Codes
Adjustable Carrier Frequency	4 - 10 kHz	4 - 10 kHz	2 - 16 kHz	2 - 16 kHz
DC Braking	Yes	Yes	Yes	Yes
Fault History	Yes	Yes	Yes	Yes
Max. HP @ 460 Volts	60	30	3	30
Max. HP @ 230 Volts	20	20	3	3
1 Phase Input / 3 Phase Output	Yes	Yes	Yes	Yes
Output Frequency	500 Hz	500 Hz	599 Hz	599 Hz

AC/DC CONTROLS

FHP™ SERIES AC CONTROLS

AC ADJUSTABLE SPEED DRIVES



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

FHP SERIES 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.



NEMA®* 4X (IP65)

- NEMA 4X enclosure
- Min speed adjustment
- Jumper selectable features:
 - DC injection braking or coast to stop
 - Brake time and current are adjustable
 - Auto or manual restart after power loss
- Built-in isolation card to accept a speed reference signal



SINGLE PHASE INPUT / THREE PHASE OUTPUT

HP	INPUT VOLTAGE 1Ø	OUTPUT AMPS	OUTPUT VOLTAGE 1 OR 3Ø	MODEL / ITEM NO.	STOCK	WT
1/6 - 1	115/230	4.0	230	175326.00	√	7

AC/DC CONTROLS

FHP™ SERIES AC CONTROLS

AC ADJUSTABLE SPEED DRIVES

GENERAL SPECIFICATIONS

The FHP Series 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 FHP 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.

AC/DC CONTROLS

SM2 SERIES FLUX VECTOR SERIES AC INVERTERS

NEMA®* 1 IP31 ENCLOSURE PROTECTION



GENERAL SPECIFICATIONS

- Designed to be used with vector duty AC motors
- Open loop flux vector designs
- Typical applications would include: food processing, machinery, material handling and HVAC systems
- Enclosure: NEMA1, IP31, -10 to 55°C, 2.5% derate per °C above 40°C

STANDARD FEATURES

Easy Set-up and Operation: Program the vector control in one of four convenient ways:

- From the front of the drive
- The optional remote keypad
- A PC using TechLink software, software is available on the Regal Rexnord website
- The innovative EPM programmer

MODES OF OPERATION

- Open-loop flux vector (speed or torque)
- V/Hz (constant or variable)
- Enhanced V/Hz with auto-tuning

EASY TO USE KEYPAD & DISPLAY

6-BUTTON INTERFACE

- Start
- Stop
- Forward/reverse
- Scroll up
- Scroll down
- Enter/mode

VIVID ILLUMINATION

- 4 digit LED display
- Easy to read from a distance
- Movable decimal point

ACCELERATION/DECELERATION

PROFILES:

- Two independent accel ramps
- Two independent decel ramps
- Linear or S-type
- Auxiliary ramp-to-stop

OUTPUT FREQUENCY

- 500 Hz Std., 1000 Hz optional

SELECTABLE LOGIC ASSERTION

- Positive logic input (PNP current sourcing)
- Negative logic input (NPN current sinking)

MULTIPLE BRAKING FUNCTIONS

- Loss of follower management
- Speed commands: keypad, jog, floating point control
- Voltage: scalable 0-10 VDC
- Current: scalable 4-20 mA, potentiometer
- 8 Preset speeds
- Process control: PID modes: direct or reverse acting
- PID sleep mode
- Voltage monitoring
- Current monitoring
- Real time monitoring: 8 register fault history, software version drive network ID, DC bus
- Voltage (V), motor voltage (V), output current (%) motor current (A), motor torque (%), power (kW) energy consumption (kWh), heatsink
- Temperature (°C), 0-10 VDC input (user defined), 4-20 mA input (user defined) continuity, keypad status, PID feedback (user defined), analog output (% load, % torque, kW), network speed (baud rate), terminal
- Elapsed run time (hours), elapsed power on time (hours)
- Standards: UL** (USA), cUL** (Canada), CE** (Europe), GOST** (Russia/Ukraine) C-Tick** (Australia/New Zealand)

AC/DC CONTROLS

SM2 SERIES FLUX VECTOR SERIES AC INVERTERS

NEMA®* 1 IP31 ENCLOSURE PROTECTION



SINGLE PHASE INPUT / 230 VOLT THREE PHASE OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
115/230	1/3	1.7	115/230	174603.00	√	3	7.5 x 3.9 x 4.35	
	1/2	2.4	115/230	174604.00	√	3	7.5 x 3.9 x 4.35	
	1	4.2	115/230	174605.00	√	3	7.5 x 3.9 x 4.35	
	1 1/2	6.0	115/230	174651.00	√	5	7.5 x 3.9 x 5.45	

SINGLE OR THREE PHASE INPUT / 230 VOLT THREE PHASE OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
208-240	1/3	1.7	208/240	174606.00	√	3	7.5 x 3.9 x 4.35	€
	1/2	2.4	208/240	174607.00	√	3	7.5 x 3.9 x 4.35	
	1	4.2	208/240	174608.00	√	3	7.5 x 3.9 x 4.35	
	1 1/2	6.0	208/240	174609.00	√	4	7.5 x 3.9 x 5.45	
	2	7.0	208/240	174610.00	√	4	7.5 x 3.9 x 5.45	
	3	9.6	208/240	174611.00	√	4	7.5 x 3.9 x 5.45	

THREE PHASE INPUT / OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
200-240	1 1/2	6.0	200/240	174609.00	√	4	7.5 x 3.9 x 5.45	
	2	7.0	200/240	174610.00	√	4	7.5 x 3.9 x 5.45	
	3	9.6	200/240	174611.00	√	4	7.5 x 3.9 x 5.45	
	5	16.5	200/240	174615.00	√	4	7.5 x 3.9 x 5.8	
	7 1/2	23.0	200/240	174616.00	√	7	9.83 x 5.12 x 6.3	
	10	29.0	200/240	174617.00	√	7	9.83 x 5.12 x 6.3	
	15	42.0	200/240	174618.00	√	20	12.33 x 6.88 x 8.08	
	20	54.0	200/240	174619.00	√	20	12.33 x 6.88 x 8.08	
400-480	1/2	1.1	400/480	174620.00	√	3	7.5 x 3.9 x 4.35	
	1	2.1	400/480	174621.00	√	3	7.5 x 3.9 x 4.35	
	1 1/2	3.0	400/480	174622.00	√	4	7.5 x 3.9 x 5.45	
	2	3.5	400/480	174623.00	√	4	7.5 x 3.9 x 5.45	
	3	4.8	400/480	174624.00	√	4	7.5 x 3.9 x 5.45	
	5	8.2	400/480	174625.00	√	4	7.5 x 3.9 x 5.8	
	7 1/2	11.0	400/480	174626.00	√	7	9.83 x 5.12 x 6.3	
	10	14.0	400/480	174627.00	√	7	9.83 x 5.12 x 6.3	
	15	21.0	400/480	174628.00	√	20	12.33 x 6.88 x 8.08	
	20	27.0	400/480	174629.00	√	20	12.33 x 6.88 x 8.08	
	25	35.0	400/480	174630.00	√	20	12.33 x 6.88 x 8.08	
	30	45.0	400/480	174991.00	√	14	12.5x6.92x8.09	
480-590	1	1.7	480/590	174631.00	√	3	7.5 x 3.9 x 4.35	
	2	2.7	480/590	174632.00	√	4	7.5 x 3.9 x 5.45	
	3	3.9	480/590	174633.00	√	4	7.5 x 3.9 x 5.45	
	5	6.1	480/590	174634.00	√	4	7.5 x 3.9 x 5.8	
	7 1/2	9.0	480/590	174635.00	√	7	9.83 x 5.12 x 6.3	
	10	11.0	480/590	174636.00	√	7	9.83 x 5.12 x 6.3	
	15	17.0	480/590	174637.00	√	20	12.33 x 6.88 x 8.08	
	20	22.0	480/590	174638.00	√	20	12.33 x 6.88 x 8.08	
	25	27.0	480/590	174639.00	√	20	12.33 x 6.88 x 8.08	

€ Model 174606.00 is single-phase input only

√: Available Blank: Build Up rating, subject to lead time C/A: Call your sales representative for availability

AC/DC CONTROLS

SM4 SERIES FLUX VECTOR SERIES AC INVERTERS

NEMA®* 4 IP65 ENCLOSURE PROTECTION



GENERAL SPECIFICATIONS

- Indoor use only inverter that is designed to be used with vector duty motors
- Typical applications would include: packaging machinery, food processing, conveying systems, machinery and HVAC systems
- Enclosure: NEMA 4, IP65, -10 to 55°C, derate per °C above 40°C

STANDARD FEATURES

Easy Set-up and Operation: Program the vector control in one of four convenient ways:

- From the front of the drive
- The optional remote keypad
- A PC using TechLink software, software is available on our website
- The innovative EPM programmer

MODES OF OPERATION

- Open-loop flux vector (speed or torque)
- V/Hz (constant or variable)
- Enhanced V/Hz with auto-tuning

EASY TO USE KEYPAD & DISPLAY 6-BUTTON INTERFACE

- Start
- Stop
- Forward/reverse
- Scroll up
- Scroll down
- Enter/mode

VIVID ILLUMINATION

- 4 digit LED display
- Easy to read from a distance
- Movable decimal point

ACCELERATION/DECELERATION PROFILES:

- Two independent accel ramps
- Two independent decel ramps
- Linear or S-type
- Auxiliary ramp-to-stop

OUTPUT FREQUENCY

- 500 Hz Std., 1000 Hz optional

SELECTABLE LOGIC ASSERTION

- Positive logic input (PNP current sourcing)
- Negative logic input (NPN current sinking)

MULTIPLE BRAKING FUNCTIONS

- Loss of follower management
- Speed commands: keypad, jog, floating point control
- Voltage: scalable 0-10 VDC
- Current: scalable 4-20 mA, potentiometer
- 8 Preset speeds
- Process control: PID modes: direct or reverse acting
- PID sleep mode
- Voltage monitoring
- Current monitoring
- Real time monitoring: 8 register fault history, software version drive network ID, DC bus
- Voltage (V), motor voltage (V), output current (%) motor current (A), motor torque (%), power (kW) energy consumption (kWh), heatsink
- Temperature (°C), 0-10 VDC input (user defined), 4-20 mA input (user defined) continuity, keypad status, PID feedback (user defined), analog output (% load, % torque, kW), network speed (baud rate), terminal
- Elapsed run time (hours), elapsed power on time (hours)
- Standards: UL** (USA), cUL** (Canada), CE** (Europe), GOST** (Russia/Ukraine) C-Tick** (Australia/New Zealand)

AC/DC CONTROLS

SM4 SERIES FLUX VECTOR SERIES AC INVERTERS

NEMA® 4 IP65 ENCLOSURE PROTECTION



SINGLE PHASE INPUT / 230 VOLT THREE PHASE OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
115/230	1/2	2,4	115/230	174652.00	√	4	8.0 x 6.28 x 4.47	
	1/2	2,4	115/230	174540.00	√	4	8.0 x 6.28 x 4.47	DC
	1	4,2	115/230	174653.00	√	4	8.0 x 6.28 x 4.47	
	1,5	6,0	115/230	174654.00	√	4	8.0 x 6.28 x 4.47	

SINGLE OR THREE PHASE INPUT / 230 VOLT THREE PHASE OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
208-240	1/2	2,4	208-240	174655.00	√	4	8.0 x 6.28 x 4.47	
	1	4,2	208-240	174656.00	√	4	8.0 x 6.28 x 4.47	
	1 1/2	6,0	208-240	174657.00	√	6	8.0 x 6.28 x 6.31	
	2	7,0	208-240	174658.00	√	6	8.0 x 6.28 x 6.31	
	3	9,6	208-240	174659.00	√	7	8.0 x 7.12 x 6.77	

THREE PHASE INPUT / OUTPUT

VOLTAGE	HP	OUTPUT AMPS	INPUT VOLTAGE	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)	FOOT NOTES
208-240	5	16,5	208-240	174660.00	√	12	10.0 x 8.96 x 8.0	
	7 1/2	23,0	208-240	174661.00	√	11	10.0 x 8.04 x 8.0	FN
	10	29,0	208-240	174662.00	√	11	10.0 x 8.04 x 8.0	FN
	15	42,0	208-240	174699.00	√	25	14.5 x 9.42 x 9.45	FN
	20	54,0	208-240	174700.00	√	26	14.5 x 9.42 x 9.45	FN
400-480	1/2	1,5	400-480	174671.00	√	4	8.0 x 6.28 x 4.47	
	1/2	1,5	400-480	174542.00	√	4	8.0 x 6.28 x 4.47	FN,DC
	1	2,1	400-480	174672.00	√	4	8.0 x 6.28 x 4.47	
	1 1/2	3,0	400-480	174673.00	√	6	8.0 x 6.28 x 6.31	
	2	3,5	400-480	174674.00	√	6	8.0 x 6.28 x 6.31	
	3	4,8	400-480	174675.00	√	6	8.0 x 6.28 x 6.31	
	5	8,2	400-480	174676.00	√	12	10.0 x 8.96 x 8.0	
	7 1/2	11,0	400-480	174677.00	√	12	10.0 x 8.96 x 8.0	
	10	14,0	400-480	174678.00	√	11	10.0 x 8.04 x 8.0	FN
	10	14,0	400-480	174546.00	√	11	10.0 x 8.04 x 8.0	FN,DC
	15	21,0	400-480	174701.00	√	25	14.5 x 9.42 x 9.45	FN
	15	21,0	400-480	174544.00	√	25	14.5 x 9.42 x 9.45	FN,DC
	20	27,0	400-480	174702.00	√	26	14.5 x 9.42 x 9.45	FN
	25	34,0	400-480	174703.00	√	26	14.5 x 9.42 x 9.45	FN
30	40,0	400-480	174704.00	√	31	18.5 x 9.42 x 9.45	FN	
480-590	1	1,7	480-590	174663.00	√	4	8.0 x 6.28 x 4.47	
	2	2,7	480-590	174664.00	√	6	8.0 x 6.28 x 6.31	
	3	3,9	480-590	174665.00	√	6	8.0 x 6.28 x 6.31	
	5	6,1	480-590	174666.00	√	12	10.0 x 8.96 x 8.0	
	7 1/2	9,0	480-590	174667.00	√	12	10.0 x 8.96 x 8.0	
	10	11,0	480-590	174668.00	√	11	10.0 x 8.04 x 8.0	FN

AC/DC CONTROLS

PLATINUM e™ VSD SERIES

IP20 ENCLOSURE PROTECTION



GENERAL SPECIFICATIONS:

- New state of the art inverter designs
- Space saving design: 2.36 in. (60 mm) wide, 5.12 in. (130 mm) deep, also zero-clearance mounting
- RoHS2-Compliance
- Fulfills IE2 according to new EN 50598-2
- Out of the box commissioning
- Easy commissioning with memory module
- Improved usability for easy commissioning
- Parameterization with USB module without external power supply
- Innovative interface options enable set-up times faster than ever before
- The wide-ranging modular system enables various product configurations depending on machine requirements
- Spring loaded control terminals (fixed)
- More functionalities for advanced application
- Fieldbus - CANopen/Modbus (optional)
- VFC Eco mode for more energy savings
- The Platinum e VSD is recommended in applications for pumps and fans, conveyors, formers, winders and machine tools

FEATURES: THREE SET-UP METHODS

- **Keypad** - If you only need to set up a few parameters, such as acceleration time, this can be done quickly from the keypad
- **Smart Keypad for use with an Android App** - Enables adjustment to a simple application such as a conveyor
- **Easy Starter** - For use if the function is needing a potentiometer or control, for positioning applications



Keypad



WLAN module



USB module

AC/DC CONTROLS

PLATINUM e™ VSD SERIES

IP20 ENCLOSURE PROTECTION

FOR USE WITH THREE PHASE INDUCTION OR PMAC MOTORS

FIELDBUS	VOLT	HP	OUTPUT AMPS	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)
N/A	230/240 1 OR 3Ø	1/3	1.7	176105.00	√	2	6.1 x 2.36 x 5.12
		1/2	2.4	176106.00	√	2	6.1 x 2.36 x 5.12
		3/4	3.2	176107.00	√	2	7.09 x 2.36 x 5.12
		1	4.2	176108.00	√	2	7.09 x 2.36 x 5.12
		1 1/2	6.0	176109.00	√	3	9.84 x 2.36 x 5.12
		2	7.0	176110.00	√	3	9.84 x 2.36 x 5.12
		3	9.6	176111.00	√	3	9.84 x 2.36 x 5.12
CANopen/ Modbus	230/240 1 OR 3Ø	1/3	1.7	176112.00	√	2	6.1 x 2.36 x 5.12
		1/2	2.4	176113.00	√	2	6.1 x 2.36 x 5.12
		3/4	3.2	176114.00	√	2	7.09 x 2.36 x 5.12
		1	4.2	176115.00	√	2	7.09 x 2.36 x 5.12
		1 1/2	6.0	176116.00	√	3	9.84 x 2.36 x 5.12
		2	7.0	176117.00	√	3	9.84 x 2.36 x 5.12
		3	9.6	176118.00	√	3	9.84 x 2.36 x 5.12
N/A	400/480 3Ø	1/2	1.3	176120.00	√	2	6.1 x 2.36 x 5.12
		3/4	1.8	176121.00	√	2	7.09 x 2.36 x 5.12
		1	2.4	176122.00	√	2	7.09 x 2.36 x 5.12
		1 1/2	3.2	176123.00	√	3	9.84 x 2.36 x 5.12
		2	3.9	176124.00	√	3	9.84 x 2.36 x 5.12
		3	5.6	176125.00	√	3	9.84 x 2.36 x 5.12
		CANopen/ Modbus	400/480 3Ø	1/2	1.3	176127.00	√
3/4	1.8			176128.00	√	2	7.09 x 2.36 x 5.12
1	2.4			176129.00	√	2	7.09 x 2.36 x 5.12
1 1/2	3.2			176130.00	√	3	9.84 x 2.36 x 5.12
2	3.9			176131.00	√	3	9.84 x 2.36 x 5.12
3	5.6			176132.00	√	3	9.84 x 2.36 x 5.12



ACCESSORIES

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT
Keypad Interface	174356.00	√	1
USB Interface	174357.00	√	1
WiFi Direct Interface Module	174358.00	√	1
Blank Interface Cover (4-pack)	174359.00	√	1



Keypad



WLAN module



USB module

AC/DC CONTROLS

PLATINUM e™ VSD - PLUS SERIES

IP20 ENCLOSURE PROTECTION

GENERAL SPECIFICATIONS:

- State of the art inverter designs
- Space saving design: 2.36 in. (60 mm) wide, 5.12 in. (130 mm) deep, also zero-clearance mounting
- RoHS2-Compliance
- Fulfills IE2 according to new EN 50598-2
- Out of the box commissioning
- Easy commissioning with memory module
- Improved usability for easy commissioning
- Parameterization with USB module without external power supply
- The wide-ranging modular system enables various product configurations depending on machine requirements
- The Platinum e VSD - PLUS is recommended in applications for pumps and fans, conveyors, formers, winders and machine tools
- Pluggable control terminal
- More functionalities for advanced application
- Fieldbus - EtherCAT, EtherNet/IP, Profinet, CANopen, Modbus, Profibus, (options)
- VFC Eco mode for more energy savings
- Innovative interface options enable set-up times faster than ever before

FEATURES:

- **Keypad** - If you only need to set up a few parameters, such as acceleration time, this can be done quickly from the keypad
- **Smart Keypad for use with an Android App** - Enables adjustment to a simple application such as a conveyor
- **Easy Starter** - For use if the function is needing a potentiometer or control, for positioning applications



Keypad



WLAN module



USB module

AC/DC CONTROLS

PLATINUM e™ VSD - PLUS SERIES

IP20 ENCLOSURE PROTECTION

FOR USE WITH THREE PHASE INDUCTION OR PMAC MOTORS

VOLTAGE	HP	OUTPUT AMPS	MODEL / ITEM NO.	STOCK	WT	DIMENSIONS H x W x D (in.)
230/240 1 OR 3Ø	1/3	1.7	176133.00	√	2	6.1 x 2.36 x 5.12
	1/2	2.4	176134.00	√	2	6.1 x 2.36 x 5.12
	3/4	3.2	176135.00	√	2	7.09 x 2.36 x 5.12
	1	4.2	176136.00	√	2	7.09 x 2.36 x 5.12
	1 1/2	6.0	176137.00	√	3	9.84 x 2.36 x 5.12
	2	7.0	176138.00	√	3	9.84 x 2.36 x 5.12
	3	9.6	176139.00	√	3	9.84 x 2.36 x 5.12
400/480 3Ø	1/2	1.3	176140.00	√	2	6.1 x 2.36 x 5.12
	3/4	1.8	176141.00	√	2	7.09 x 2.36 x 5.12
	1	2.4	176142.00	√	2	7.09 x 2.36 x 5.12
	1 1/2	3.2	176143.00	√	3	9.84 x 2.36 x 5.12
	2	3.9	176144.00	√	3	9.84 x 2.36 x 5.12
	3	5.6	176145.00	√	3	9.84 x 2.36 x 5.12
	5	9.5	176146.00	√	5	9.84 x 3.54 x 5.12
	7 1/2	13.0	176147.00	√	5	9.84 x 3.54 x 5.12
	10	16.5	176148.00	√	8	10.83 x 4.72 x 5.12
	15	23.5	176149.00	√	8	10.83 x 4.72 x 5.12
	20	32.0	176150.00	√	23	13.78 x 8.07 x 9.06
	25	40.0	176151.00	√	23	13.78 x 8.07 x 9.06
	30	47.0	176152.00	√	23	13.78 x 8.07 x 9.06



CONTROL UNITS

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT
Standard I/O	174362.00	√	1
Application I/O	174363.00	√	1
CANopen - Standard I/O	174364.00	√	1
Modbus-RTU - Standard I/O	174365.00	√	1
Profibus-DP - Standard I/O	174366.00	√	1
EtherCat - Standard I/O	174367.00	√	1
Profinet - Standard I/O	174368.00	√	1
EtherNet/IP - Standard I/O	174369.00	√	1

ACCESSORIES

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT
Keypad Interface	174356.00	√	1
USB Interface	174357.00	√	1
WiFi Direct Interface Module	174358.00	√	1
Blank Interface Cover (4-pack)	174359.00	√	1
Remote Keypad Kit	174370.00	√	1



Keypad



WLAN module



USB module

AC/DC CONTROLS

ACCESSORIES AND KITS

ELECTRONIC PROGRAMING UNIT

Electronic Programming Unit allows off-line set-up and replication of the drive's plug-in electronic programming module (shown at right). Excellent for multi-drive applications. Keypad input and alphanumeric display simplify programming. RS-232 serial port allows downloading of configuration files from personal computer.



MODEL / ITEM NO.	STOCK	WT.
KIT A145	√	2

EPM BULK PACK

Plug-in electronic programming modules (EPM). Allow off-line set-up and replication of program using Electronic Programming Unit. Set of 12.



DESCRIPTION	MODEL / ITEM NO.	STOCK	WT.
Fits SM2 & SM4	174196.00	√	1
Fits Platinum Series	174197.00	√	1

SPEED POT

DESCRIPTION	MODEL / ITEM NO.	STOCK	WT.
Speed Pot (10k/5w pot, washers & nut)	6708.01	√	1



SM4 SPEED POTENTIOMETER

Potentiometer kit takes the place of the up/ down buttons on the drive's keypad gives operators hands-on speed control over the inverter's speed range.

DRIVE WIDTHS (W) OF:	MODEL / ITEM NO.	STOCK	WT.
6.28 or 7.12	174693.00	√	2
8.04 or 8.96	174697.00	√	2



REMOTE KEYPAD

Kit includes eight-foot connecting cable and gasket. Mounted in proper enclosure, the keypad kit will provide up to NEMA®* 4 protection.

DRIVE WIDTHS (W) OF:	MODEL / ITEM NO.	STOCK	WT.
SM2 Vector	174150.00	√	2



AC/DC CONTROLS

ACCESSORIES AND KITS

DYNAMIC BRAKING MODULES WITH BUILT-IN DYNAMIC BRAKING RESISTORS(1)

Dynamic braking components are available for the SM2 Vector Series drives as a separate dynamic braking module. 10 HP and lower modules have control electronics and the dynamic braking resistor in one convenient package. Larger units require a separate resistor. The modules can be panel or DIN rail mounted.

DYNAMIC BRAKING MODULES WITH RESISTORS

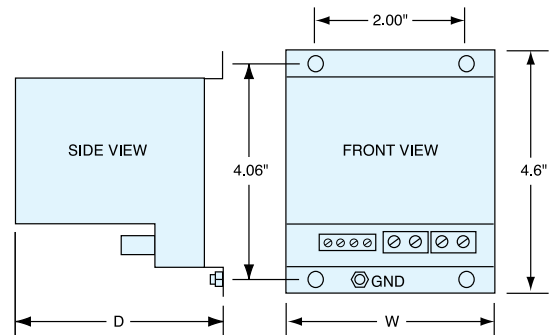
HP	VOLTAGE	MODEL NO.	STOCK	WT.
1/3-1/2	208 - 230V	174157.00		2
	400 - 480V	174158.00		2
1 - 1 1/2	208 - 230V	174151.00		3
	400 - 480V	174152.00		3
	480 - 590V	174153.00		3
2 - 3	208 - 230V	174154.00		4
	400 - 480V	174155.00		4
	480 - 590V	174156.00		4
5	208 - 230v	174159.00		5
	400 - 480V	174160.00		5
	480 - 590V	174161.00		5
7 1/2	208 - 230V	174162.00		6
	400 - 480V	174163.00		6
	480 - 590V	174164.00		6
10	208 - 230V	174165.00		8
	400 - 480V	174166.00		8
	480 - 590V	174167.00		8

DYNAMIC BRAKING MODULES WITH RESISTORS

HP	VOLTAGE	MODEL NO.	STOCK	WT.
15-20	208-230V	174417.00		10
15-30	400-480V	174418.00		10
15-25	480-590V	174419.00		10

DYNAMIC BRAKING MODULES WITH RESISTORS

HP	VOLTAGE	MODEL NO.	STOCK	WT.
15-20	208-230V	174144.00		1
	400-480V	174144.00		1
	480-590V	174149.00		1
25-30	400-480V	174145.00		1
	480-590V	174140.00		1
40	400-480V	174146.00		1
	480-590V	174141.00		1
50-60	400-480V	174147.00		1
	480-590V	174142.00		1





REGAL REXNORD HANOVER CANADA 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.



REGAL PLATFORMS OFFERED

- Globetrotter® Motors
- Blue Chip Series® Motors
- IEEE841 Motors
- Marathon Pump Motors
- TerraMAX® IEC®* Motors
- Washguard® Motors
- Black Max® Motors
- Blue Max® Motors
- Severe Duty Motors
- Fire Pump Motors
- XRI® Motors
- And much more...

*See back cover page for attribution.

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
- 56 to 215T NEMA frame rolled steel
- 143T to 449T NEMA frame cast iron
- 0.25 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

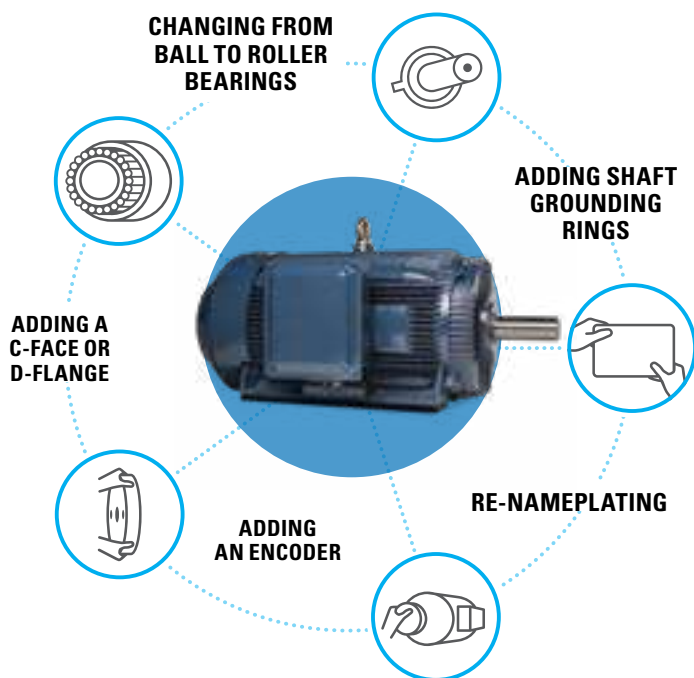
- 56 to 449T NEMA frame sizes
- IEC motor modifications
- Severe duty modifications
- Shaft modifications
- Bearing upgrades
- Flanges
- Brakes
- Encoders
- Space heaters
- Thermostats and PTC thermistors
- And much more...

Contact us for more information on our offerings. See backpage for our contact details.

*See back cover page for attribution.

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	S4
Modification MOD2J, add C-Face to 182T-184T frame motor	current list price	S4
Modification MOD14E, add thermostats to 182T-184T frame motor	current list price	S4
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 S4 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 Regal Rexnord's distribution center in Indianapolis, 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 S4 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

The warranty terms and conditions of sale is available through our websites, please see backcover page for the full link. Please contact the nearest Marathon regional office or applicable Seller product catalog or seller for more information regarding duration of warranty period.

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
P-Base (VHS)	Yes	MOD38	ALL	213TP-449TP	2
B14 FT flange (IEC C-face)	Yes	MOD55	IEC	80-160	2
B5 FF flange (IEC D-flange)	Yes	MOD55	IEC	80-315	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
Connections					
SO cord, plug, and switch-single phase		MOD35	TEFC	182T-215T	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.

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
Atex Zone 2 Hazardous		MOD60	TEFC	444T-449T	1
Packaging					
Heat treated pallet		MOD29	All	182T-449T	3
Heat treated pallet (IEC)		MOD29	All	80-315	3
Paint					
Repaint to a Marathon® motor stock color		MOD8	All	48-449T	2-3
Screens					
Rodent screens		MOD0	ODP	364T-449T	Call
Service Factor					
AC motor service factor re-rating		MOD7	All Non-EXP	48-449T	1
Severe Duty Construction					
Cast iron fan cover and conduit box		MOD16	All Non-EXP	143T-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	80-250	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	90-315	2
Thermistors-windings		MOD14	All	182T-449T	2
Thermistors-windings (IEC)		MOD14	All	90-315	2
Thermistors (including control module)		MOD14	All Non-EXP	182T-449T	2
Thermistors (including control module) (IEC)		MOD14	All	90-315	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	143T-449T	2
Weatherproofing/Special Service					
Tropical anti-fungus treatment		MOD5	All	48-449T	2
Division 2 motors (CSA certified)		MOD49	Blue Chip®/XRI®	143T-449T	Call

**Lead-time days does not include the day order is received.

MOD CENTRAL - MOTOR MODIFICATIONS

ALTITUDE / AMBIENT - MOD7 (MULT. SYMBOL S4)

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 (MULT. SYMBOL S4)

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 (MULT. SYMBOL S4)

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 (Mult. Symbol S4)

The addition of a C-Face kit to a standard foot mount (rigid base) motor, results in a non-NEMA "BA" dimension in 143-256 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 143T-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 (Mult. Symbol S4)

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 (Mult. Symbol S4)

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 (Mult. Symbol S4)

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.

MOTOR HP	BRAKEMOTOR SHAFT R.P.M.		
	Lb-Ft	Lb-Ft	Lb-Ft
	@ 3600	@ 1800	@ 1200
1 1/2	6	10	10
2	6	10	-

** 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.

*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

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.

MOD NUMBER	BRAKE RATING	BRAKE SERIES
MOD3X	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.

TORQUE RATING (Lb/Ft)	MOUNTING	
	SHAFT UP	SHAFT DOWN
25, 35	Not Required	Required
50, 75, 100	Required	Required

CONDUIT BOX - MOD56 (Mult. Symbol S4)

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 conduit. 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 (Mult. Symbol S4)

Motor connections consist of special cords, plugs, and switches added to a single phase motor.

DRAINS - MOD21 (Mult. Symbol S4)

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 (Mult. Symbol E3)

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 56 through 286T Frame, TEBC construction in 284T through 449T Frame.

STUB SHAFT - MOD42 (Mult. Symbol S4)

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 (Mult. Symbol S4)

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 attack 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.

MOD CENTRAL - MOTOR MODIFICATIONS

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 (Mult. Symbol S4)

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 (Mult. Symbol S4)

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 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 (Mult. Symbol S4)

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 (Mult. Symbol S4)

"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 EPAAct 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	EPAAct TEFC NEMA	Oversized fan, Add Thermostats, re-nameplate
	20:1 CT	NEMA Premium®* TEFC	
43	10:1 CT	EPAAct TEFC NEMA	Oversized fan, re-nameplate
	20:1 CT	NEMA Premium®* TEFC	

Operation of motor on VFD exempts motor from EPAAct mandated efficiency levels.

LEADS - MOD9, MOD24, AND MOD33, (Mult. Symbol S4)

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 (Mult. Symbol S4)

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.

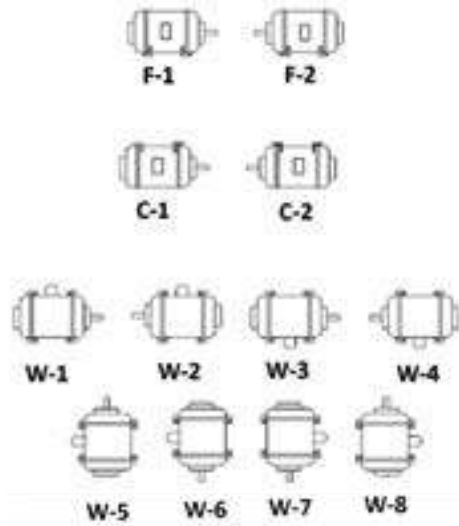
*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

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



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 (Mult. Symbol S4)

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 (Continued)

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 Regal Rexnord facility. Lead-time is 2 days.

PACKAGING - MOD29 (MULT. SYMBOL S4)

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 pallet. Does not include export crating for ocean freight (contact factory for export packaging cost).

PAINT - MOD8 (MULT. SYMBOL S4)

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-severe 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 (MULT. SYMBOL S4)

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 (MULT. SYMBOL S4)

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 (Mult. Symbol S4)

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 fancover, 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 (Mult. Symbol S4)

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-Pole ratings 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.

*See back cover page for attribution.

MOD CENTRAL - MOTOR MODIFICATIONS

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 (Mult. Symbol S4)

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 (Mult. Symbol S4)

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.

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 (Mult. Symbol S4)

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 exceeding 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 conjunction with customer supplied instruments. Lead-time is 3 days.

WEATHERPROOFING/SPECIAL SERVICE MOD5, MOD49, MOD58

(Mult. Symbol S4)

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. Not available on brake motors. Lead-time is 2 days.

BRAND F EM-1 MOTORS - MOD48

Modify Blue Chip Series® XRI® Severe Duty motor to meet Ford Motor'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.

A man and a woman are working on a blue motor. The man is using a tool to work on the motor's internal components. The woman is assisting him. In the foreground, several motor parts are laid out on a blue surface, including a large grey housing, a smaller grey housing, a red housing, and two circular components, one silver and one red.

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
A160	182T-184T	KIT 180TCD-WD	TTDB (2,4 and 6 pole)	14	75
A666	182T-184T	KIT175691	TTDW	14	75
-	182T-184T	WD180TCDR	TO models	14	75
A161	213T-215T	KIT 210TCD-WD	TTDB or TTDBD (2, 4 and 6 pole)	22	75
A602	213T-215T	KIT 175066	U268, U269, U763, U764, U765, and U766	18	75
A606	213T-215T	KIT 210TCDW	TTDW, TTDDW, TBDW, or TCDW	13	75
-	213T-215T	WD210TCDR	TO models	22	75
A162	254T-256T	KIT 250TCD2-WD	TTDB (2 pole only)	32	75
A162A	254T-256T	B176066.00	TTDBD (2 pole only)	32	75
A163	254T-256T	KIT 250TCD-WD	TTDB (4 and 6 pole only)	32	75
A163A	254T-256T	B176067.00	TTDBD (4 and 6 pole only)	32	75
A612	254T-256T	KIT 250TCDX	TTDX	13	75
A622	254T-256T	KIT 175067	U254, U255, U767, U768, U769, and U770	27	75
A210A	284T-286T/TS	KIT 280TCDR	TTDR (2,4 and 6 pole)	36	75
A287	284T-286T/TS	KIT 280TCDA	TTDC/N	38	75
A610	284T-286T/TS	KIT 280TCDP	TTDP or TSTD	30	75
A1287	284T-286T/TS	KIT 280TCDA	TTDCA	45	75
A164	284TS-286TS	KIT 280TCD2-WD	TSTDCA (2 pole only)	38	75
A164A	284TS-286TS	B176068.00	TSTDDB (2 pole only)	38	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)	38	75
A165A	284T-286T	B176069.00	TTDBD (4 and 6 pole only)	38	75
A213	324-326T/TS	KIT 320TCDR	TTDR (2,4 and 6 pole)	53	
A166	324TS-326TS	KIT 320TCD2-WD	TSTDCA (2 pole only)	45	
A166A	324TS-326TS	B176070.00	TSTDDB (2 pole only)	45	
A613	324-326T/TS	KIT 320TCDP	TTDC/P or TSTD/P	43	
A167	324T-326T	KIT 320TCD-WD	TTDCA (4 and 6 pole only)	45	
A167A	324T-326T	B176071.00	TTDBD (4 and 6 pole only)	45	
A627	324T-326T	KIT 175059	U775, U776, U777, U778, U798 and U799	39	
A168	364TS-365TS	KIT 360TCD2-WD	TSTDCA (2 pole only)	85	
A168A	364TS-365TS	B176072.00	TSTDDB (2 pole only)	85	
A219	364TS-365TS	KIT 360TSCDS	TSTD/S	62	
A628	364T-365T	KIT 175060	U779, U782, U783, U784, U927, and U928	56	
A629	364T-365T	KIT 175601	U1779, U1782, U1783, U1784, U1927, and U1928	56	
A216	364T-365T	KIT 360TCDS	TTDC/S & E921	71	
A169	364T-365T	KIT360TCD-WD	TTDCB (4 and 6 pole only)	85	
A169A	364T-365T	B176073.00	TTDBD (4 and 6 pole only)	85	
A225	404TS-405TS	KIT 400TSCDS	U250 and U251	89	
A414	404TS-405TS	KIT400TCD2-WD	TSTD (2 pole only)	95	
A414A	404TS-405TS	B176074.00	TSTDDB (2 pole only)	95	
A225	404TS-405TS	KIT400TSCDS	TSTD	89	
A222	404T-405T	KIT 400TCDS	TTDS & E922, E923, U270, and U271	82	
A415	404T-405T	KIT 400TCD-WD	TTDC (4 and 6 pole only)	95	
A415A	404T-405T	B176075.00	TTDCB (4 and 6 pole only)	95	
A231	444TS-445TS	KIT 440TSCDS	TSTD	119	
A416	444TS-445TS	KIT 444/5TCD2-WD	TSTD (2 pole only)	140	
A416A	444TS-449TS	B176076.00	TSTDDB (2 pole only)	140	
A293	447TS-449TS	KIT 440TSCDN	TSTDN	144	
A228	444T-445T	KIT 440TCDS	TTDS & U272, U273, E924, E925 and E926	116	
A417	444T-445T	KIT 444/5TCD-WD	TTDC (4 and 6 pole only)	140	
A417A	444T-449T	B176077.00	TTDCB (4 and 6 pole only)	143	
A419	447T-449T	KIT 447/9TCD-WD	TTDC (6 pole only)	140	

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
-	140T	WD140TCF	TE or SD models	5	75
A170	182F-184T	KIT 180TCF-WD	TTFBA (Globetrotter motor)	14	75
A420	182F-184T	B176240.00	TTFCD (Globetrotter motor)	14	75
A640	182F-184T	KIT 180TCN4.5	TTFN (Non-Std. 4-1/2" AK dim.)	14	75
A641	182F-184T	KIT 180TCN8.5	TTFN (8-1/2" AK)	14	75
A643	182F-184T	KIT 175296	Use on model numbers 182/4TTFR4026 (8-1/2"AK)	14	75
A644	182F-184T	KIT 180CF8.5-1	TTTL/S, TCFL/R, TTFC/L/R/S or THTS (Standard 8-1/2" AK dim.)	14	75
A645	182F-184T	KIT 180CF4.5-1	TTFC (Not XRI)/L/R/S (Non-Std. 4-1/2" AK dim.)	14	75
A666	182F-184T	KIT 175691	TCFW, TBFW, TTFW	14	75
-	182F-184T	WD180TCFS	TE or SD models	14	75
A171	213F-215T	KIT 210TCF-WD	TTFBA of TTFBD (Globetrotter motor)	22	75
A421	213F-215T	B176229.00	TTFCD (Globetrotter motor)	22	75
A204	213F-215T	KIT 210TCFL	TTFL/R or TBFL	17	75
A206	213F-215T	KIT 210TCFS	TTFC (Not XRI)/S, THFS, TTTS and THTS (except 213/5TTFC4075)	17	75
A609	213F-215T	KIT 210TCFW	TBFW, TTFW	17	75
A646	213F-215T	KIT 210TCN	TTFN or TTFND	17	75
A652	213F-215T	KIT 175068	Use on models 213TTFC4076 and 215TTFC4076	17	75
A667	213F-215T	KIT 175844	XRI-NEMA Premium models containing TTFW1	17	75
-	213F-215T	WD210TCFS	TE or SD models	22	75
A172	254T-256T	KIT 250TCF2-WD	TTFCA (2 pole only) (Globetrotter motor)	32	75
A173	254T-256T	KIT 250TCF-WD	TTFCA (4 and 6 pole only) (Globetrotter motor)	32	75
A173A	254T-256T	B176026.00	TTFCD (Globetrotter motor)	32	75
A209	254T-256T	KIT 250TCFL	TTFL, and THTL (254TTFL4076)	21	75
A1209	254T-256T	KIT250TCFLR	TTFL1 and THTL1 (current frame design) (254TTFL14076)	21	75
A284	254T-256T	KIT 250TCFNA	TTFNA, and THTNA	35	75
A239	254T-256T	KIT 250TCFPA	TTFPA, THTPA, and TSTFPA	35	75
A601	254T-256T	KIT 250TCFP	TTFC (Not XRI, or 254/6TTFC4076)	35	75
A653	254T-256T	KIT 175191	Use on model numbers 254TTFC4076 and 256TTFC4076	21	75
A175A	284T-286T/TS	B176028.00	TTFCD (Globetrotter motor)	38	
A611	284T-286T/TS	KIT 280TCFP	TTFC (Not XRI)/P, THFP, TSTFP or TSTFC (except 284/6TTFC4076)	31	
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)	38	
A175	284T-286T	KIT 280TCF-WD	TTFC (4 and 6 pole)(Globetrotter motor)	38	
A654	284T-286T	KIT 175061	Use on model numbers 284TTFC4076 and 286TTFC4076	31	
A177A	324T-326T/TS	B176030.00	TTFCD (Globetrotter motor)	45	
A214	324T-326T/TS	KIT 320TCFS	TTFS, THFS, or TSTFS	90	
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)	45	
A177	324T-326T	KIT 320TCF-WD	TTFCA (4 and 6 pole only) (Globetrotter motor)	45	
A179A	364T-365T/TS	B176032.00	TTFCD (Globetrotter motor)	85	
A178	364TS-365TS	KIT 360TCF2-WD	TSTFCA (2 pole only)(Globetrotter motor)	85	
	364TS-365TS	WD360TCCF2	TE models (2 pole only)	85	
A396	364TS-365TS	KIT 360TSCFSR	TSTFS or TSHFS	105	
A179	364T-365T	KIT 360TCF-WD	TTFCA (4 and 6 pole only)(Globetrotter motor)	85	
A217	364T-365T	KIT 360TCFS	TTFC (Not XRI)	105	
A395	364T-365T	KIT 360TCFSR	TTFS or THFS	105	

ACCESSORY KITS



C-FACE KITS - TOTALLY ENCLOSED

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES
A226	404TS-405TS	KIT 400TSCFS	TSTFS or TSHFS	125	
A424	404TS-405TS	KIT 400TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	175	
A424A	404TS-405TS	B176034.00	TSTFCD (2 pole only) (Globetrotter motor)	175	
A223	404T-405T	KIT 400TCFS	TTFS or THFS	125	
A425	404T-405T	KIT 400TCF-WD	TTFC (4 and 6 pole only) (Globetrotter motor)	175	
A425A	404T-405T	B176035.00	TTFCD (4 and 6 pole only) (Globetrotter motor)	175	
A232	444TS-445TS	KIT 440TSCFS	TSTFS or TSHFS	105	
A426	444TS-445TS	KIT 444/5TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	225	
A621	444TS-445TS	KIT 440TSCFN	TSTFN or TSHFN	200	
A229	444T-445T	KIT 440TCFS	TTFS or THFS	175	
A427	444T-445T	KIT 444/5TCF-WD	TTFC (4 and 6 pole only) (Globetrotter motor)	225	
A620	444T-445T	KIT 440TCFN	TTFN or THFN	205	
A426A	444TS-449TS	B176036.00	TSTFCD (2 pole only) (Globetrotter motor)	250	
A428	447/9TS	KIT 447/9TCF2-WD	TSTFC (2 pole only) (Globetrotter motor)	250	
A624	447/9TS	KIT 449TSCFS-1	TSTFS (6313 bearing), 2-Pole	200	
A625	447/9TS	KIT 449TSCFS-2	TSTFS (6318 bearing) 4-, 6-, and 8-Pole	200	
A427A	444T-449T	B176037.00	TTFCD (4 and 6 pole only) (Globetrotter motor)	250	
A429	447/9T	KIT 447/9TCF-WD	TTFC (4 and 6 pole only) (Globetrotter motor)	250	
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
A182	182-184T	KIT 180TCFS-841	THTS or THFS	13	75
A182A	182-184T	KIT 180TCFN-841	THTN OR THFN	13	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	16	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
A185	284-286T/TS	KIT 280TCFN-841	THFN	52	
A186	284-286T/TS	KIT 280TCFNA-841	THFNA	52	
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	95	
A188A	364-365T/TS	KIT 360TCFCD-841	THFCD	70	
A189	364-365TS	KIT 360TSCFSR-841	TSHFS	95	
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	

All kits listed on this page are stock
 *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.
A650	284/286T/TS	KIT 650R	TTDP, TTDC (EPAAct), TSTDP or TSTDC (EPAAct)	38
A670	324/326T	B176201.00	TTDBD	98
A671	324/326TS	B176202.00	TTDBD	98
A672	364/365T	B176203.00	TTDBD	121
A673	364/365TS	B176204.00	TTDBD	121

TEFC

CAT. NO.	FRAME	KIT / ITEM NO.	WHERE USED (MODELS CONTAINING)	WT.	FOOT NOTES
A541	182-184T	KIT 180TDFCD	GLOBETROTTER® (TTFCD)	22	97
A542	213-215T	KIT 210TDFCD	GLOBETROTTER (TTFCD)	22	97
A647	254/256T	KIT 250TDFPA	TTFPA	21	97
A648	254/256T	KIT 250TDFNA	TTFNA	15	97
A649	254/256T	KIT 649R	TTFP or TTFC (EPAAct)	39	97
A543	254-256T	KIT 250TDFCD	GLOBETROTTER (TTFCD)	52	97
A675	254/256T	B176205.00	XRI-SD (TTFCD)	39	97
A656	284/286T	KIT 280TDFNA	TTFNA	60	97
A651	284/286T/TS	KIT 651R	TTFP, TTFC (EPAAct), TSTFP or TSTFC (EPAAct)	38	97
A544	284-286T/TS	KIT 280TDFCD	GLOBETROTTER (TTFCD)	58	97
A676	284/286T/TS	B176206.00	XRI®-SD (TTFCD)	60	97
A657	324/326T	KIT 320TDFPA	TTFPA or TSTFPA	83	97
A658	324/326T/TS	KIT 320TDFS	TTFS, TSTFS	118	97
A677	324/326T/TS	B176194.00	TTFCD	98	97
A475	324/326T/TS	KIT 320TDFCD-841	XRI-841 (FCD)	58	97
A637	364/365T	KIT 360TDFC	TTFC (EPAAct)	121	
A678	364/365T/TS	B176207.00	TTFCD	121	
A476	364/365T/TS	KIT 360TDFCD-841	XRI-841 (FCD)	85	
A679	404-405TS	KIT 400TSDFC	TTFCD	106	
A477	404-405TS	KIT 400TSDFC-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 440TSDFC	TTFCD	117	
A479	444-449TS	KIT 440TSDFC-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.
A630	182TC-184TC	KIT 180TDFR	TFR	17
A631	284TC-286TC	KIT 280TDFP	TTFP	15
A632	324TC-326TC	KIT 320TDFP	TTFP	71
A634	405TC	KIT 400TDFS	TTFS	149

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.
80	ALL	FF/B5	A571A	KIT B175854	165	15
	ALL	FT/B14	A563A	KIT B175855	100	12
90	ALL	FF/B5	A572A	KIT B175856	165	18
	ALL	FT/B14	A564A	KIT B175857	115	15
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.
100	ALL	FF/B5	A554A	KIT 175810	215	16
	ALL	FT/B14	A581A	KIT 175817	130	10
112	2 & 4	FF/B5	A555B	KIT 175827	215	33
		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

To find the LEESON version of these kits, remove the word "KIT"



IEC BRAKE MOTOR FLANGES

FRAME	FLANGE	CAT. NO.	KIT / ITEM NO.	WT.
80M	B5 "FF" (D-Flange)	-	176177.00	
	B14 "FT" (C-Face)	-	176181.00	
90S&L	B5 "FF" (D-Flange)	-	176178.00	
	B14 "FT" (C-Face)	-	176182.00	
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



B14 METRIC FLANGES TO REDUCE DIAMETER FOR ALUMINUM FRAME MOTORS ONLY

FRAME	NEW FRAME DIAMETER	CAT. NO.	KIT / ITEM NO.	WT.
63	56	A585	KIT 175900	5
71	63	A586	KIT 175901	5
80	71	A587	KIT 175902	8
90	80	A588	KIT 175903	8

ACCESSORY KITS

STEARNS® 56,000 SERIES BRAKE KITS

These kits include a brake mounted to an external cast aluminum fan guard. Designed for easy field installation on Marathon® 4-In-1® motors, 56, 143, and 145 frames only.



MOTOR HP	BRAKEMOTOR SHAFT RPM		
	LB-FT @ 3600	LB-FT @ 1800	LB-FT @ 1200
1/4	-	-	3
1/3	-	3	3
1/2	3	3	3
3/4	3	6	6
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	-

TORQUE RATING (Lb/Ft)	115/208-230 VOLT		208-230/460 VOLT		575 VOLT		WT. ALL
	CAT. NO.	KIT NO.	CAT. NO.	KIT NO.	CAT. NO.	KIT NO.	
3	A306	KIT 3BRK1	A301	KIT 3BRK3	A297	KIT 3BRK3A	10
6	A307	KIT 6BRK1	A302	KIT 6BRK3	A298	KIT 6BRK3A	11
10	----	----	A303	KIT 10BRK	A299	KIT 10BRKA	10
15	----	----	----	175696.00	----	175698.00	12
25	----	----	----	175697.00	----	175699.00	12

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.	CAT. NO.	KIT NO.	CAT. NO.	KIT NO.	
6	A317	KIT BM6BRK115	A312	KIT BM6BRK	A315	KIT BM6BRK575	7
10	A318	KIT BM10BRK115	A313	KIT BM10BRK	A316	KIT BM10BRK575	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.	KIT NO.	WT. ALL
	SHAFT UP	SHAFT DOWN			
25,35	Not required	Required	A157	KIT VRT87BRK	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.	CAT. NO.	KIT NO.	CAT. NO.	KIT NO.	
3	A903	KIT 903	A906	KIT 906	A909	KIT 909	12
6	A904	KIT 904	A907	KIT 907	A910	KIT 910	12
10	A905	KIT 905	A908	KIT 908	A911	KIT 911	12
15	----	175581.00	----	----	----	----	16
15	----	175583.00	----	----	----	----	58
25	----	175585.00	----	----	----	----	58
35	----	175587.00	----	----	----	----	60
50	----	175589.00	----	----	----	----	62



All kits listed on this page are stock

ACCESSORY KITS

SHAFT ADAPTER SLEEVE

Used to increase the diameter of a shaft to a larger size. Available sizes include converting from a 1/2" dia. shaft with flat to a 5/8" dia. with key and from a 5/8" dia. with key to a 3/4" dia. with key. Kit includes adapter sleeve and key.

CAT. NO.	KIT / ITEM NO.	TO CHANGE SHAFT	WT.
A105	KIT 105	1/2" to 5/8"	3
A106	KIT 106	5/8" to 3/4"	3

SHAFT LOCK DEVICE

Used as a pry point for prying the blade off. Instructions included.

CAT. NO.	KIT / ITEM NO.	WT.
A257	KIT 257	2



BRASS PUNCH

Used for placing between your hammer and the motor shaft or bearing. 3/4" diameter x 6" length.

CAT. NO.	KIT / ITEM NO.	WT.
A261	KIT 261	6



BLOWER WHEEL REMOVER

Used to pull off corroded, rusted, stubborn blower wheels from 5/8" diameter shafts and smaller. Comes with complete instructions.

CAT. NO.	KIT / ITEM NO.	WT.
A256	KIT 256	2



FAN GUARD KITS

Fits standard Globetrotter motors.

Mounts with four screws into the end bracket. Kit includes: fan guard, mounting screws, washers, and instructions. **Plastic and cast iron guards.**



CAT. NO.	KIT / ITEM NO.	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

TAPERED FORK

Used for prying off pulleys, fan blades, etc., from any shaft 5/8" diameter or smaller. Long 16" handle gives good leverage. Instructions included.

CAT. NO.	KIT / ITEM NO.	WT.
A258	KIT 258	4



TOGGLE SWITCH

Starts switches for single-phase open dripproof motors only in ratings one horsepower and smaller. Switch is mounted on the motor terminal box cover.

CAT. NO.	KIT / ITEM NO.	WT.	NO. OF POLES	FRAME SIZE
AG228	112A515AKG4	2	Single (SPST)	30
AG229	112A515ASG2	2	Single (SPST)	40



OVAL RUN CAPACITORS

CAT. NO.	KIT / ITEM NO.	WT.	SIZE
A448	KIT 440-15	2	15mfd/440v



ACCESSORY KITS



DRIP COVER KITS

Mounts with two screws into the end bracket. Kit includes: drip cover, mounting screws, washers, and instructions. Contact Regal Rexnord to determine compatibility with motor. For vertical shaft down applications.

CAT. NO.	KIT / ITEM NO.	FRAME	ENCLOSURE	WT.
A201	KIT 201	182/184T	ODP	3
A662	KIT 175614	182/184T	ODP (TTDW)	15
-	WD180DCOD	182/184T	ODP (TO)	3
A081	B176277.00	182/184T	ODP (TTDBD)	3
A202	KIT 202	213/215T	ODP (TTDR)	5
A198	KIT 198	213/215T	ODP (TTDW)	5
A082	B176222.00	213/215T	ODP (TTDBD)	5
-	WD210DCOD	213/215T	ODP (TO)	5
-	175305.00	213/215T	LEESON® ROLLED STEEL 2 POLE motors only	5
A311	KIT 311	254/256T	ODP (TTDX) Rigid Base	5
A083	B176223.00	254/256T	ODP (TTDBD)	5
A084	B176224.00	284/286T/TS	ODP (TTDBD)	8
A085	B176225.00	324/326T/TS	ODP (TTDBD)	8
A086	B176226.00	364/365T/TS	ODP (TTDBD)	15
A087	B176227.00	404/405T/TS	ODP (TTDBD)	18
A088	B176228.00	444/449T/TS	ODP (TTDBD)	18
A197	KIT 197	182/184T	TEFC (4-IN-1)	3
A091	B176241.00	182/184T	TEFC (TTFBD & TTFCD)	3
-	WD180DCF	182/184T	TEFC (TE, SD) & (TTFBA, TTFC)	3
A199	KIT 199	213/215T	TEFC (4-IN-1)	5
A092	B176214.00	213/215T	TEFC (TTFBD & TTFCD)	5
-	WD210DCF	213/215T	TEFC (TE, SD) & (TTFC)	5
A093	B176215.00	254/256T	TEFC (TTFCD)	5
-	WD250DCF	254/256T	TEFC (TE, SD) & (TTFCA)	5
A095	B176217.00	324/326T/TS	TEFC (TTFCD)	8
A096	B176218.00	364/365T/TS	TEFC (TTFCD)	15
A097	B176219.00	404/405T/TS	TEFC (TTFCD)	18
A098	B176220.00	444/445T/TS	TEFC (TTFCD)	18
A099	B176221.00	447/449T/TS	TEFC (TTFCD)	18

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 - LEESON® MOTORS ONLY

CAT. NO.	KIT / ITEM NO.	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	3
-	176044.60	213/215T	Wattsaver® and "G15" Series Motors	3
-	176046.60	284/286T/TS	Wattsaver® and "G15" Series Motors	12

All kits listed on this page are stock

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.	FRAME	ENCLOSURE	WT.
A720	KIT 180/210CB	182-215T	TTFS, TTFN or TTFND	
A933	B176242.00	182/184T	TTFC	
A934	B176276.00	213/215T	TTFC	
A722	KIT 250CB	254/256T	TTFS, TTFN, TTFNA, or TTFPA	
A935	B176209.00	254/256T	TTFC	
A729	KIT 280CB	284/286T/TS	TTFN, TTFNA, TTFP, or TTFPA	
A936	B176210.00	284/286T/TS	TTFC	
A730	KIT 320CB	324/326T/TS	TTFS, TTFN, TTFP, or TTFPA	
A937	B176211.00	324/326T/TS	TTFC	
A119	KIT 364-445CB	364/445T/TS	TTFS, TTFN	
A938	B176212.00	364/365T/TS	TTFC	
A939	B176213.00	404/449T/TS	TTFC	

Includes conduit box, plug, cover, gaskets and mounting hardware.

Two 1/2-NPT tapped lead holes, one hole is plugged, LEESON models.

CAST ALUMINUM

CAT. NO.	KIT / ITEM NO.	FRAME	ENCLOSURE	WT.
-	175649.00	182/184T	Motors with the letter "M" after the date code	2
-	175847.00	213/215T	Motors with the letter "M" after the date code	11

Q-CAR™ REPLACEMENT KITS

Fits Extreme Duck® Ultra 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.	FITS EXTREME DUCK® ULTRA SKU	WT.
-	176332.00	132646.00	36
-	176333.00	132647.00	28
-	176334.00	132648.00	37
-	176335.00	132649.00	30
-	176336.00	141409.00	28
-	176337.00	141410.00	55
-	176338.00	141411.00	50
-	176339.00	141412.00	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.	WHERE USED	WT.	FIGURE
180-210	A1000	KIT 180-210 TERM BLK	DOMESTIC MODELS	2	1
180-210	-	175668.60	LEESON 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	LEESON SERIES 15 / 17 MODELS	3	2
250-280	A1194	KIT B175667	TEFC FCD MODELS	3	2
320-360	-	175666.30	LEESON SERIES 15 / 17 MODELS	4	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	LEESON 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



All kits listed on this page are stock
*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.	FRAME	WHERE USED	WT.
A715	KIT 140CB	143T-145T	TTTN	4
A718	KIT 180R	182T-184T	THFN, THFS, THTS, TTFC (Not XRI), TTFN, TTFS, TTTS	17
A721	KIT 210R	213T-215T	THFS, THTS, TTFC (Not XRI), TTFS, TTTS	19
A723	KIT 250RFPA	254T-256T	TTFPA, or THFPA	32
A724	KIT 250RFNA	254T-256T	TTFNA, TTFCNA (Not XRI), THNA, or THFNA	34
A725	KIT 250R	254T-256T	TTFC (Not XRI)	32
A726	KIT 280RFPA	284T-286T	TTFPA, TSTFPA, or TSHFPA	34
A727	KIT 280RFN	284T-286T	TTFN or TSTFN	39
A728	KIT 280R	284T-286T	TTFC (Not XRI) or TTFP	39
A731	KIT 280RFNA	284T-286T	TTFNA, TSTFNA, THFNA or TSHFNA	32
A733	KIT 320RFPA	324T-326T	TTFPA, TSTFPA, THFPA, or TSHFPA	55

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.	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	10
A1061	KIT 250BRFGT-NU309	254-6T	TEFC	309	TTFCD - GT CAT NUMBERS ONLY	12
A1062	KIT 280BRFGT-NU311	284-6T	TEFC	311	TTFCD - GT CAT NUMBERS ONLY	16
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	20
A1074	KIT 360BRFCD-NU313	364-5T	TEFC	313	TTFCD - ALL CAT NUMBERS ONLY	25
A1075	KIT 400BRFCD-NU316	404-5T	TEFC	316	TTFCD - ALL CAT NUMBERS ONLY	30
A1076	KIT 440BRFCD-NU319	444-9T	TEFC	319	TTFCD - ALL CAT NUMBERS ONLY	35
A760	KIT 440BBFN	444T-445T	TEFC	318	TTFN, THFN	160
A795	KIT L449BBFS-322	L447T-L449T	TEFC	322	TTFS	190

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.	FRAME	ENCLOSURE	WHERE USED (MODELS CONTAINING)	WT.
A1085	KIT 400BRDCD-NU316	404-5T	ODP	TTDCD	30
A1086	KIT 440BRDCD-NU319	444-9T	ODP	TTDCD	35
A1093	KIT 320BRFCD-NU312	324-6T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	20
A1094	KIT 360BRFCD-NU313	364-5T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	25
A1095	KIT 400BRFCD-NU316	404-5T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	30
A1096	KIT 440BRFCD-NU319	444-9T	TEFC	TTFCD - ALL CAT NUMBERS ONLY	35
A755	KIT 360BRFSR-314	364T-365T	TEFC & TEBC	TTFS, THFS	14
A756	KIT 400BRFS-316	404T-405T	TEFC & TEBC	TTFS, THFS	19
A759	KIT 440BRFN	444T-445T	TEFC & TEBC	TTFN, THFN	13
A758	KIT 449BRFS	447T-449T	TEFC & TEBC	TTFS, THFS	20

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.	FRAME	WT.	BLOWER VOLTS AND PHASE	WHERE USED (MODELS CONTAINING)
A680	4900030	1HP Motor Only	56	230/460V, 3Ø	Replacement motor for TEBC blower unit
A681A	4900670	2HP Motor Only	57	230/460V, 3Ø	Replacement motor for TEBC blower unit
A692	KIT 21TEBC	213T-215T	104	230/460V, 3Ø	TTFS
A691	KIT 25TEBCNA	254T-256T	158	230/460V, 3Ø	TTFNA (Also fits 284/286T/TS TTFPA)
A701	KIT 28TEBCNA	284T/TS-286T/TS	103	230/460V, 3Ø	TTFNA
A695	KIT 32TEBC	324T/TS-326T/TS	200	230/460V, 3Ø	TTFS
A696	KIT 36TEBC	364T/TS-365T/TS	172	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)
A700	KIT 44TEBC-318	444T-449T	401	230/460V, 3Ø	A 6318 bearing on opposite shaft end (excludes roller bearing)
A796	KIT L449TEBC	L447T-L449T	272	230/460V, 3Ø	With L447/449 Frames

These kits are used for converting LEESON® 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.	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
-	175896.00	213T-215T	5	115V, 1Ø	Rolled steel, TEFC motors with the letter "M" after the date code
-	175675.00	213T-215T	11	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
-	176002.00	364T/TS-365T/TS	35	230/460V, 3Ø	Cast iron, TEFC models with 150, G150 & 170 Series numbers. Post 2006 mfg.
-	175880.00	404T/TS-405T/TS	45	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.	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.	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.	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

*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 and instructions.

standard drive end bracket

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.	WT.	KIT / ITEM NO.	CAT. NO.	WT.	KIT / ITEM NO.	CAT. NO.	WT.
48	A500-5	1	—	—	—	—	—	—
56	A500-8	1	KIT SGR-0.625-UK	A499-1	5	KIT SGR-0.625-1A4-UK	A495-1	5
143-145T	A500-14	1	KIT SGR-0.875-UK	A499-2	5	KIT SGR-0.875-1A4-UK	A495-2	5
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.	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

CONDUCTIVE EPOXY

Epoxy comes in two 7g syringes, 14g (0.35oz). This two part epoxy offers high electrical conductivity and strong conductive bonding. Use in place of traditional end bracket drilling.

CAT. NO.	KIT / ITEM NO.	WT.
A496	EP2400	2

*See back cover page for attribution.

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.

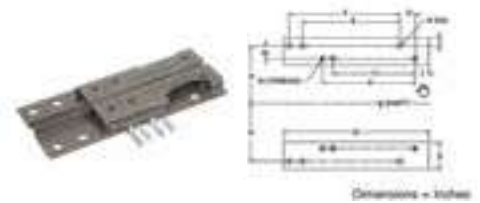
ENCL.	FRAME	BRAND / MODEL	PPR	CAT. NO.	KIT / ITEM NO.	WT.	NOTES	
TENV (5/8" bore)	56-286	Avtron®* HS25A	1024	A746	KIT HS25A1024-NV	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	
			2048	A747	KIT HS25A2048-NV			
		Avtron AV32	1024	A1010	KIT AV321024-NV	1	Shaft Mount, 5-24 VDC, with 10 pin connector/mate	
				A1012	KIT AV32B1024-NV		Shaft Mount, 5-24 VDC, with 10 pin connector/mate (BEI Phased)	
			2048	A1011	KIT AV322048-NV	1	Shaft Mount, 5-24 VDC, with 10 pin connector/mate	
				A1013	KIT AV32B2048-NV		Shaft Mount, 5-24 VDC, with 10 pin connector/mate (BEI Phased)	
		Avtron HS35A	1024	A736	KIT HS35A1024-NV	4	Shaft Mount, 5-26 VDC, with 10 pin connector/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	
		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	
		Avtron HS45	1024	A753	KIT HS451024-NV	10	Shaft Mount, 5-24 VDC, with EPIC connector/mate	
		Avtron AV56	512	A713	KIT AV56512-NV	5	Modular Mount, 5-24 VDC, with EPIC connector/mate, Double C-Face	
			1024	A793	KIT AV561024-NV		Modular Mount, 5-24 VDC, with EPIC connector/mate, Double C-Face	
		BEI** HS35	1024	A779	KIT HS35B1024-NV	3	Shaft Mount, 5-28 VDC, with 10 pin connector/mate	
		Dynapar** HS20	1024	A687	KIT HS201024-NV	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	
		Dynapar HS35R	1024	A772	KIT HS351024-NV	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	
			2048	A776	KIT HS352048-NV			
		NorthStar®** HSD35	1024	A711	KIT HSD351024-NV	4	Shaft Mount, 5-26 VDC, with EPIC connector/mate	
				A785	KIT LKSR512		Modular Mount, 5-15 VDC, with EPIC connector/mate	
A763	KIT LKSR02			Modular Mount, 5-15 VDC, with EPIC connector/mate				
A786	KIT LKSR-CFACE			Modular Mount, 5-15 VDC, with EPIC connector/mate, Double C-Face				
TEFC (1" bore)	182-449	Avtron AV32	1024	A1014	KIT AV321024-FC	1	Shaft Mount, 5-24 VDC, with 10 pin connector/mate	
				A1016	KIT AV32B1024-FC		Shaft Mount, 5-24 VDC, with 10 pin connector/mate (BEI Phased)	
			2048	A1015	KIT AV322048-FC	1	Shaft Mount, 5-24 VDC, with 10 pin connector/mate	
				A1017	KIT AV32B2048-FC		Shaft Mount, 5-24 VDC, with 10 pin connector/mate (BEI Phased)	
		Avtron HS35A	1024	A737	KIT HS35A1024-FC	4	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	
				A783A	KIT HS35A/B1024-FC		Shaft Mount, 5-26 VDC, with 10 pin connector/mate (REPLACE BEI A783)	
			2048	A740	KIT HS35A2048-FC	4	Shaft Mount, 5-26 VDC, with 10 pin connector/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	
		2048	A744	KIT HS35M2048	4	Shaft Mount, 5-24 VDC, with EPIC connector/mate		
		Avtron HS45	1024	A754	KIT HS451024-FC	10	Shaft Mount, 5-24 VDC, with EPIC connector/mate	
		Dynapar HS35R	1024	A774	KIT HS351024-FC	3	Shaft Mount, 5-26 VDC, with 10 pin connector/mate	
2048	A777		KIT HS352048-FC					
NorthStar HSD35	1024	A712	KIT HSD351024-FC	4	Shaft Mount, 5-26 VDC, with EPIC connector/mate			
TEBC (1" bore)	284-449	Avtron HS35A	1024	A738	KIT HS35A1024-BC	3	Shaft Mount, 5-26 VDC	
		Avtron AV56	1024	A794	KIT AV561024-BC	4	Shaft Mount, 5-24 VDC	
		Dynapar HS35R	1024	A775	KIT HS351024-BC	3	Shaft Mount, 5-26 VDC	
			2048	A778	KIT HS352048-BC		Shaft Mount, 5-26 VDC	
		NorthStar ST56 ALL	1024	A764	KIT LKSR03	5	Modular Mount, 5-15 VDC	
				A801	KIT ENCB0X		Encoder Conduit Box (required for all TEBC encoders)	
TENV BRAKE MOTORS	143-256	Avtron AV56	1024	A748A	KIT AV561024BRK-140	4	Fits Blue Max Brakemotors (Y986, Y987)	
				A749A	KIT AV561024BRK-182		Fits Blue Max Brakemotors (Y988)	
		Avtron AV85		A750A	KIT AV851024BRK-184	8	Fits Blue Max Brakemotors (Y989)	
				A751A	KIT AV851024BRK-210		Fits Blue Max Brakemotors (Y990, Y991)	
				A752A	KIT AV851024BRK-250		Fits Blue Max Brakemotors (Y992, Y993)	
				A786	KIT LKSR-CFACE		Fits Blue Max Brakemotors (Y986, Y987)	
		NorthStar ST56		A789A	KIT ST561024-182NV	5	Fits Blue Max Brakemotors (Y988)	
				A790A	KIT ST851024-184NV		Fits Blue Max Brakemotors (Y989)	
		NorthStar ST85		1024	A791A	KIT ST851024-210NV	8	Fits Blue Max Brakemotors (Y990, Y991)
					A792A	KIT ST851024-250NV		Fits Blue Max Brakemotors (Y992, Y993)
CABLE KITS	56-449	Danaher®** Controls	---	A688-10	KIT A688-10	3	10' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-20	KIT A688-20	3	20' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-25	KIT A688-25	4	25' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-30	KIT A688-30	4	30' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-50	KIT A688-50	5	50' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-60	KIT A688-60	5	60' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A688-100	KIT A688-100	10	100' cable and pre-wired 10-pin connector for all 10 pin (MS) connectors	
				A690-15	KIT A690-15	3	15 feet bulk cable, for use with NorthStar encoders	

Specifications and prices are subject to change without notice.
*See back cover page for attribution.

ACCESSORY KITS

TRANSITION BASES

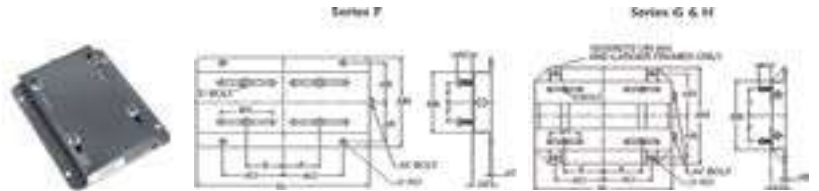
Convert "T" frame ratings to "U" frame based dimensions and shaft heights. Shaft dimensions may vary from actual "U" frame specifications.



CAT. NO.	KIT NO.	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.	AL	AM	AX	BB	E	F	AO	AR	AU	BT	AT	XC	D BOLT	AY BOLT	WT.
F	48	48A	175032	98	10	6 1/4	1 1/8	2 1/8	1 3/8	3 1/2	2 3/4	3/8	3	.08	7/8	5/16x1	3/8x4	2
F	56	56A	KIT 56SB	98	10 5/8	6 1/2	1 1/8	2 7/16	1 1/2	3 13/16	2 7/8	3/8	3	.08	7/8	5/16x1	3/8x4	3
F	143	143A	KIT 143SB	10 1/2	7 1/2	1 1/8	5 1/2	2 3/4	2	3 3/4	3 3/8	3/8	3	0.119	13/16	5/16 x1	3/8x4	5
F	145	145A	KIT 145SB	10 1/2	8 1/2	1 1/8	6 1/2	2 3/4	2 1/2	3 3/4	3 7/8	3/8	3	0.119	13/16	5/16x1	3/8x4	6
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 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 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

Specifications and prices are subject to change without notice.
*See back cover page for attribution.

FOOTNOTES

1	Capacitor start/capacitor run design for reduced amperage
2	Capacitor start induction run design
3	Split phase design
4	Sleeve bearing
5	56H, 143T, and 145T combination base with 12 mounting holes
6	Bolt-on removable base for footless mounting option
7	Shaft extension 1-1/2" long by 1/2" diameter
8	Shaft extension 1-7/8" long by 1/2" diameter
9	Shaft extension 2-1/4" long by 1/2" diameter
10	Shaft extension 2-1/4" long by 5/8" diameter
11	Shaft extension 2-1/4" long by 7/8" diameter
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
20	1.35 service factor
21	Double shaft extension 1-1/2" L by 1/2" dia with flat each end
22	Double shaft extension 1-7/8" L by 5/8" dia each end
23	Shaft extension 3/8" diameter
24	Motor will NOT accept a brake kit
25	Motor will NOT accept C-face kit
26	5/8" shaft adapter included
27	Drip cover included
28	Steel endshields
29	End bracket weep holes with removable plugs, remove bottom plug after installation
30	Resilient ring mount, base not included
31	5/8" thru-bolts, shaft end
32	3/4" thru bolts, shaft end
33	Shaft ext 6" L by 5/8" diameter with full flat and key 90° apart
34	1" thru-bolts, shaft end
35	1-1/8" thru-bolts, shaft end
36	1-1/4" thru-bolts, shaft end
37	1-1/2" thru-bolts, shaft end
38	2" thru-bolts, shaft end
39	No thru-bolts, shaft end
40	Space heaters and 100 ohm platinum stator RTDs included
41	1/2" thru-bolts, opposite shaft end
42	3/4" thru-bolts, opposite shaft end
43	2-1/2" resilient rings included
44	1" thru-bolts, opposite shaft end
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
49	Shaft ext 1-13/16" L by 1/2" dia., & 6-3/8" mounting flange
50	Designed for 50 Hz operation

51	Resilient rings not included, see accessory section
52	1/2" x 1-7/8" shaft with 1-5/8" flat
53	1/2" shaft with 5/8" adapter and key
54	30 minute duty cycle, not rated for continuous duty
55	Shaft ext 3-13/16" L by 5/8" dia., 3.5" keyway
56	1-5/8" thru-bolts, shaft end
57	Open construction
58	Capacitor supplied with motor
59	TEAO construction
60	Foot locating set screws on frame, 90° apart
61	10" Leads
62	43" Leads
63	1-1/2" Thru-bolts, opposite shaft end
64	50" Leads
65	Mounting accessories and DE resilient ring not included. Use kit 161L131AB1 for resilient ring mounting.
66	Sealed switch design
67	Capacitor not included, see accessory section
68	Rated 60/50 hertz, 190/380 or 380 volt at next lower horsepower
69	50°C Ambient
70	Not nameplated 50 hz
71	Includes length adapter bracket
72	Usable on 200/208 volts at 1.0 service factor
73	No hubs
74	Split phase/capacitor run electrical design
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
80	Rolled steel fan guard on 143T-145T
81	24" long #18 SO 2-conductor cord exit at 11 o'clock position
82	Welded rigid base
83	Shaft ext 1-7/8" long by 5/8" dia with 6-3/8" flange
84	NEMA 145T C-face mounting with removable 182T rigid base
85	Not tach adaptable
86	2:1 constant torque speed range; RTM for greater torque capability
87	10:1 constant torque available as build-up, RTM for price and availability
88	182T base and shaft height, 145TC mounting face and shaft dim
89	Threaded NPT opening in conduit box
90	Not UL Recognized
91	Suitable for use on VFD at 208 volt
92	7/8" thru-bolts, shaft end
93	Permanent split capacitor-switchless
94	1/2" Thru -bolts, shaft end
95	Will not accept drip cover kit
96	3 lead reversible, with single pole, double throw switch
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

*See back cover page for attribution.

FOOTNOTES

100	6" shaft ext with 2 flats 90° apart
101	Rain shield included
102	5/8" extended thru bolts, 1 7/8" shaft length and 1/2" shaft dia.
103	48/56 FR = 1/2" X 1 1/2" shaft with 5/8" shaft adapter - 48/56 slotted 3" height base
104	Shaft N-W = 2.50" with 5/8" diameter and keyway
105	Includes split bushing and key for 5/8" shafts. 3 thru bolts on a 4.42" dia. bolt circle
106	5/8" dia. keyed and flatted shaft, 6" long
107	5/8" keyed shaft with flat
108	5/8" keyed shaft
109	48Z = 5/8" dia. X 2" shaft, with 3" height
110	1.20 service factor
111	1.30 service factor
112	1.40 service factor
113	1.50 service factor
114	1.60 service factor
115	1.75 service factor
116	1-3/4" thru-bolt extension on shaft-end
117	48-56 frame mounting - 3" shaft height, sleeve and key adapter to 5/8" shaft
118	48-56 frame mounting - 3 1/2" shaft height, sleeve and key adapter to 5/8" shaft
119	56Z = 1/2" shaft with flat, 1 5/8" long
120	5/8" diameter shaft - 2.37" long.
121	5/8" diameter shaft - 3.88" long
122	5/8" keyed shaft 2.31" long
123	56Z = 5/8" diameter keyed shaft, 2 1/8" long
124	2 1/4" X 7/8" keyed shaft
125	56Y = 7/8" diameter keyed shaft, 2.25" long
126	1.0 service factor at 50 HZ
127	Shaft diameter is 1/2", N=1 15/16" with .04" deep flat
128	1/2" dia. shaft - single flat
129	56Z = 1/2" flat X 1 1/2" shaft, 3 1/2" shaft height
130	56Z = 1/2" flat X 1.62" shaft, with 56 FR. base
131	48Z = 1/2" flat X 1 7/8" shaft, with 48 FR base
132	184T base, 4.5" shaft height
133	15" leads
134	115 volt tap off main winding to power gear drive unit
135	Open shaft end bracket
136	No keyway, double flat
137	Includes 6' cord and switch
137	Cord, plug and pull chain
138	Equipped with rotation switch for easy reversibility
139	Equipped with provisions for mounting 4" X 4" conduit box
140	Quick connect design bracket, auto overload protector
141	Includes base
142	Proofing switch included
143	303 stainless steel shaft
144	Open dripproof
145	Includes 6' cord and switch

2:1	Suitable for 2:1 CT operation; consult "R164 rework" table 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
E	Design incorporates electronic switch
F	Class F Insulation
H	Class H insulation
I	Reduced HP @ 120 HZ
N	Totally enclosed, non-ventilated
P	BCP (Bearing Current Protection)
Q	"Quick connect" terminal board
S	Steel frame construction
V	Suitable for 10:1 CT 60 minute duty, otherwise 2:1 CT
X	XRI® motor, ultra high efficiency design
Z	56HZ with 7/8" shaft dia., 3-1/2" shaft height, and slotted 56 frame base
AH	Conforms to GM 7EH and satisfies Ford® EM-1 and GM 7EQ
AI	Class A insulation
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
CT	Suitable for 20:1 CT on vector drive, continuous duty or 2000:1
ES	Energy saver design
F2	F2 conduit box location
FN	Drive has cooling fan
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
VC	Voltage change device feature for quick voltage changes
YD	12 Leads for WYE-DELTA, part winding on low voltage, or across-the-line starting

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® or LEESON® 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, imbedded 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 of 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 **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 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.

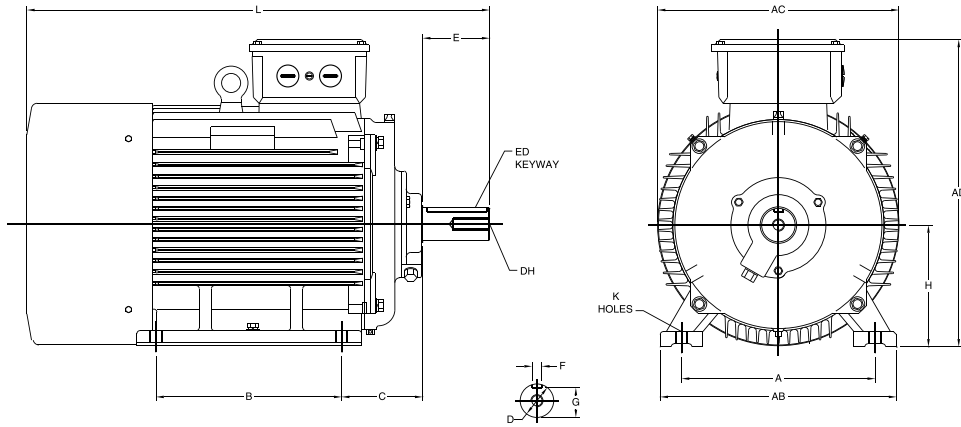
In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

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.

IEC®* QUICK REFERENCE DIMENSIONAL CHART

B3 FOOT-MOUNTED (RIDGE BASE)

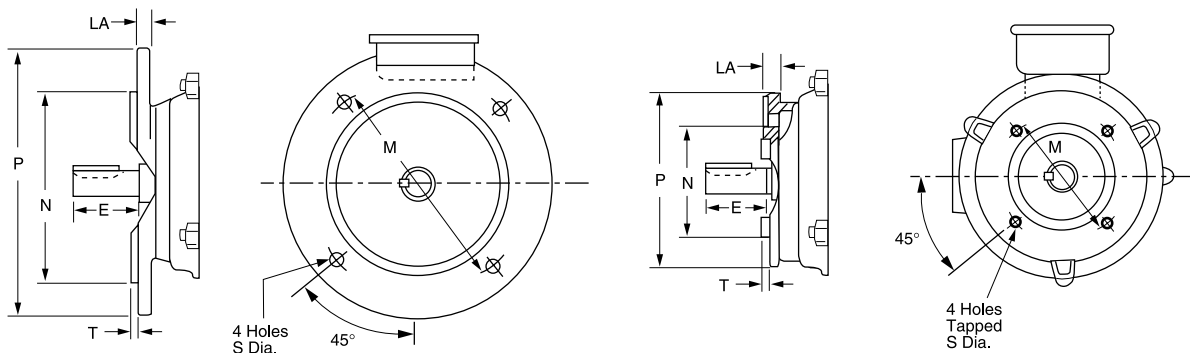


IEC FRAME DIMENSIONS (MILLIMETERS)

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
63	100	80	40	63	119	7	11	23	4	8.5	10	M4 x 10	126	-	169	115	95	140	10	3.0	7	75	60	90	M5	2.5	7
71	112	90	45	71	131	7	14	30	5	11.0	20	M5 x 12.5	140	-	186	130	110	160	10	3.5	7	85	70	105	M6	2.5	9
80	125	100	50	80	157	10	19	40	6	15.5	25	M6 x 16	158	132	212	165	130	200	12	3.5	12	100	80	120	M6	3.0	9
90S	140	100	56	90	174	10	24	50	8	20.0	32	M8 x 19	178	140	230	165	130	200	12	3.5	12	115	95	140	M8	3.0	9
90L	140	125	56	90	174	10	24	50	8	20.0	32	M8 x 19	178	140	230	165	130	200	12	3.5	12	115	95	140	M8	3.0	9
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



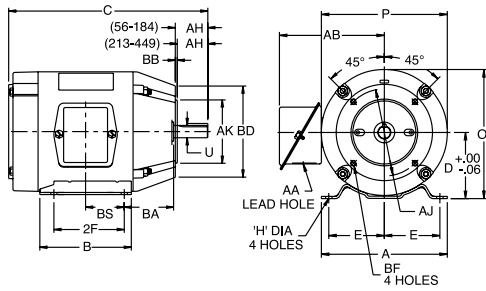
FF Flange B5 Mount

FT Face B14 Mount

*See back cover page for attribution.

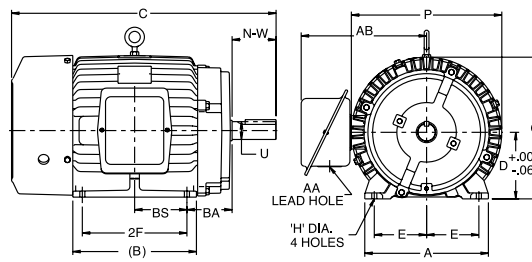
NEMA®* QUICK REFERENCE DIMENSIONAL CHART

Typical C-Face Motor



Contact your Marathon sales rep. for "AB", "O", & "P" Dim.

Typical Rigid Base Motor



Refer to your Marathon catalog for "C" Dim.

NEMA C-Face	BA Dim.
143-5TC	2-3/4
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
48	3.00	2.12	2.75	.34 SLOT	.5000	1.50	1/2	1.69	3.750	3.000	2.50	.13	5.62	1/4-20
56	3.50	2.44	3.00	.34 SLOT	.6250	1.88	1/2	2.06	5.875	4.500	2.75	.13	6.50	3/8-16
56H	3.50	2.44	5.00	.34 SLOT	.6250	1.88	1/2	2.06	5.875	4.500	2.75	.13	6.50	3/8-16
143T	3.50	2.75	4.00	.34	.8750	2.25	3/4	2.12	5.875	4.500	2.25	.13	6.50	3/8-16
145T	3.50	2.75	5.00	.34	.8750	2.25	3/4	2.12	5.875	4.500	2.25	.13	6.50	3/8-16
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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