

# MOTORS AND DRIVES PRICE BOOK

Effective: 08-01-11



**TECO**  **Westinghouse**



## QUALITY STATEMENT

TECO-Westinghouse Motor Company is committed to serving the needs of our customers BETTER THAN ANYONE ELSE by providing products and services that meet requirements, are delivered on time, and are priced to provide superior value. This is achieved through excellence in everything we do. Each task is performed in exact conformance to requirements, and precise processes and systems assure error-free performance in every activity of the business. Our focus is to exceed customer expectations. QUALITY IS THE CORE VALUE OF OUR BUSINESS.

## POLITICA DE CALIDAD

TECO-Westinghouse Motor Company esta comprometido a servir las necesidades de nuestros clientes MEJOR QUE NADIE proporcionando productos y servicios que cumplen lo requerimientos, como tiempo de entrega y son evaluados a un valor superior. Esto se cumple a través de la excelencia en todo lo que hacemos. Cada objetivo es desarrollado con exacto cumplimiento de requerimientos y un proceso preciso de sistemas que aseguran un funcionamiento libre de error en cada actividad de la compañía. Nuestro objetivo es exceder las demandas de nuestros clientes. CALIDAD ES LA ESCENCIA DE NUESTRO NEGOCIO.

A handwritten signature in black ink, appearing to read "Vincent C. Tang".

Vincent C. Tang  
President  
TECO-Westinghouse Motor Company

1/6/09

All data presented in this book is for reference only and subject to change without notice. For specific applications, certified dimensions, or additional performance data, etc., please contact your TECO-Westinghouse representative or call: 1-800-873-8326

<b>GENERAL INFORMATION</b>	
ONLINE SUBMITTAL DATA INSTRUCTIONS _____	5
CATALOG NUMBER REFERENCE GUIDE _____	6
<b>WARRANTY</b>	
TECO-WESTINGHOUSE STOCK MOTOR AND CONTROL PRODUCTS WARRANTY POLICY _____	7
PROCEDURE FOR WARRANTY CLAIMS ON STOCK MOTORS AND CONTROL PRODUCTS _____	8
<b>SINGLE PHASE</b>	
SINGLE PHASE (1/3 HP - 10 HP) _____	9
<b>THREE PHASE ODP</b>	
ROLLED STEEL ODP FAMILY _____	11
ROLLED STEEL ODP (1/3 HP - 40 HP) _____	12
ROLLED STEEL ODP JP/JM EPACT (1 HP - 40 HP) _____	13
CAST IRON ODP NEMA PREMIUM (1 HP - 500 HP) _____	14
OIL WELL PUMP (5 HP - 125 HP) _____	17
MAX-VH™ FAMILY: VERTICAL HOLLOW SHAFT, WP1 (7.5 HP - 400 HP) _____	19
COUPLING KITS _____	22
STEADY BUSHING KITS _____	23
<b>THREE PHASE TEFC</b>	
3-PHASE FRACTIONAL HP TEFC (1/3 HP - 2 HP) _____	24
ROLLED STEEL TEFC, NEMA PREMIUM EFFICIENCY (1 HP - 10 HP) _____	26
MAX-SE™ ROUND BODY C-FACE (1 HP - 100 HP) _____	29
MAX-HT™ (20 HP - 600 HP) _____	31
MAX-PE™ (1 HP - 200 HP) _____	34
MAX-E1° FAMILY _____	38
MAX-E1° NEMA PREMIUM EFFICIENCY (3/4 HP - 800 HP) _____	39
MAX-E1° NEMA PREMIUM EFFICIENCY, FOOTED C-FACE (1 HP - 100 HP) _____	44
MAX-E1° NEMA PREMIUM EFFICIENCY, ROUND BODY C-FACE (1 HP - 100 HP) _____	45
MAX-E2° NEMA PREMIUM EFFICIENCY (1 HP - 300 HP) _____	46
MAX-E2/841™ FAMILY _____	48
MAX-E2/841™ NEMA PREMIUM EFFICIENCY (1 HP - 500 HP) _____	49
MAX-E2/841™ NEMA PREMIUM EFFICIENCY, FOOTED C-FACE (1 HP - 100 HP) _____	51
MAX-E2/841™ NEMA PREMIUM EFFICIENCY, ROUND BODY C-FACE (1 HP - 100 HP) _____	52
STAINLESS STEEL WASHDOWN (1/2 HP - 10 HP) _____	53
CLOSED COUPLED PUMP JP/JM EPACT (3/4 HP - 50 HP) _____	55
TEXP NEMA PREMIUM EXPLOSION PROOF FAMILY _____	57
NEMA PREMIUM EFFICIENCY EXPLOSION PROOF (1 HP - 150 HP) _____	58
NEMA PREMIUM EFFICIENCY EXPLOSION PROOF C-FACE (1 HP - 100 HP) _____	59
HIGH EFFICIENCY EXPLOSION PROOF ROUND BODY C-FACE (1 HP - 75 HP) _____	60
2 SPEED, 1 WINDING, VARIABLE TORQUE (100/ 25 HP - 300/ 75 HP) _____	61

<b>MEDIUM VOLTAGE WPI</b>	
GLOBAL-HD WPI, MEDIUM VOLTAGE (100 HP - 1250 HP)	63
<b>MEDIUM VOLTAGE TEFC</b>	
GLOBAL-PLUS TEFC, NEMA PREMIUM EFFICIENCY (100 HP - 900 HP)	66
GLOBAL-PLUS (800 HP - 2000 HP)	68
<b>KITS</b>	
COUPLING KITS	22
STEADY BUSHING KITS	23
C-FLANGE KITS	70
D-FLANGE KITS	71
P-BASE KITS, DRIP COVERS, AND PAINT	72
<b>FACTORY MODIFICATIONS</b>	
FACTORY MODIFICATION PRICING	73
FACTORY MODIFICATION DESCRIPTIONS	75
MODIFICATION DRAWING REQUIREMENTS	78
<b>CUSTOM ENGINEERED LARGE MOTORS</b>	
WORLD SERIES® MOTORS	81
WORLD SERIES® AIR CABINETS DESIGN LIST	83
SYNCHRONOUS MOTORS	85
DC MOTORS	86
<b>SERVICE</b>	
LARGE MOTOR REPAIR	87
RENEWAL PARTS AND ENGINEERED COMPONENTS	87
ENGINEERING SERVICES	87
<b>REFERENCE</b>	
DIMENSIONS FOR NEMA FRAME AC MACHINES	79
USEFUL FORMULAS	89

<b>AC DRIVES</b>	
DRIVE PACKAGING CAPABILITIES _____	91
EV MICRO DRIVE (0.25 HP - 3 HP) _____	92
EV NEMA 4 WITH OPERATOR DEVICES (0.5 HP - 3 HP) _____	95
FM50 NEMA 4 WITH KEYPAD (0.25 HP - 3 HP) _____	97
N3 COMPACT DRIVE (1 HP - 40 HP) _____	99
MA7200 PLUS NEMA 1 SENSORLESS VECTOR (1 HP - 75 HP) _____	103
MA7200 PLUS NEMA 4/12 SENSORLESS VECTOR (1 HP - 20 HP) _____	106
7200GS 230/460V NEMA 1 HEAVY DUTY (25 HP - 450 HP) _____	108
EQ5 AC DRIVE (.25 HP - 800 HP) _____	110
<b>BRAKE MODULES AND RESISTORS</b>	
230V 3-PHASE _____	115
460V 3-PHASE _____	116
<b>LINE REACTORS</b>	
LINE REACTORS 3% IMPEDANCE 230V (1 HP - 150 HP) _____	117
LINE REACTORS 5% IMPEDANCE 230V (1 HP - 150 HP) _____	117
LINE REACTORS 3% IMPEDANCE 460V (1 HP - 800 HP) _____	118
LINE REACTORS 5% IMPEDANCE 460V (1 HP - 800 HP) _____	119
OUTPUT REACTORS/ LOW PASS FILTER COMBINATION 460V (1 HP - 600 HP) _____	120
<b>SOLID STATE STARTERS</b>	
TEAMMASTER (650 HP - 3000 HP) _____	122
<b>ADDITIONAL DRIVE INFORMATION</b>	
DRIVE RMA RETURN PROCEDURE _____	124
ABBREVIATED APPLICATION CHECKLIST _____	125

# ONLINE SUBMITTAL DATA INSTRUCTIONS

## ONLINE INSTRUCTIONS

### SUBMITTAL DATA

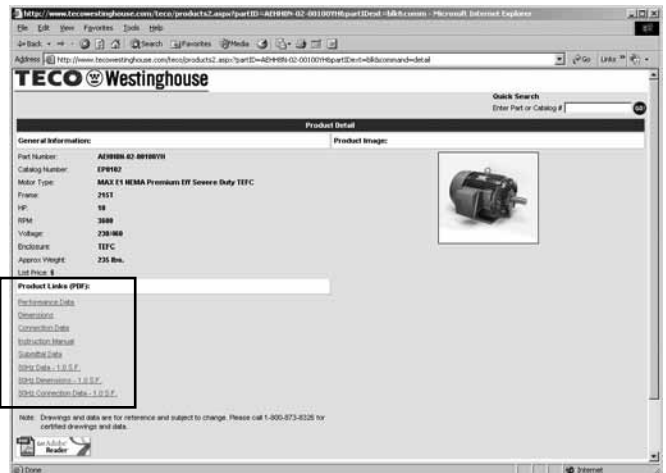
Submittal data consists of basic performance data, dimensional drawings, connection diagrams, and instruction manuals. Mechanical and electrical submittal data is available on many stock catalog motors through our website [www.tecowestinghouse.com](http://www.tecowestinghouse.com) by following the three easy steps below. If additional submittal data is required, please contact your TECO-Westinghouse representative.

1. From our website homepage, [www.tecowestinghouse.com](http://www.tecowestinghouse.com), enter in the part or catalog number in the box in the middle of the page and then click on "Go".

(Note: If you have a TECO-Westinghouse motor and are looking for the performance data, please use the catalog number off the nameplate for your search. Ex: EP0102.)



2. A product listing page will appear about the motor. You will be able to print the available performance data, dimensional drawings, connection diagrams, and instruction manuals in PDF format for the motor you have selected. Links to the available information are listed at the bottom of the screen. **Click on the appropriate product link for the information that you need.**



3. Your results will look similar to the example shown to the right for the TECO-Westinghouse MAX-E1® NEMA Premium Efficiency Severe Duty TEFC motor, catalog # EP0102.

**It's that easy!**

TECO Westinghouse											
PERFORMANCE DATA						TEFC					
3-PHASE INDUCTION MOTOR						PARTICULAR					
EP0102						EP0102					
TYPE	A21998-02-001001					INDUCTION	TEFC				
HP	230/460					EFFICIENCY	90.0				
NO. OF PHASES	3					NO. OF POLES	4				
VOLTS	230/460					FL. CURR.	11.5				
AMPS	11.5					LOCKED ROTOR CURR.	45.0				
NO. OF TURNS	11.5					STARTING TORQUE	1.5				
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# CATALOG NUMBER REFERENCE GUIDE

EXAMPLE:

## DHP 0754R

### FIRST 1-3 SPACES (LETTERS) DESIGNATE THE MOTOR PRODUCT LINE

#### LOW VOLTAGE

S=	TEFC	-	SINGLE PHASE (1/3 HP - 10 HP)
DS=	ODP	-	ROLLED STEEL - 56 FRAME (1/3 HP - 3 HP)
DTP=	ODP	-	ROLLED STEEL ODP NEMA PREMIUM EFFICIENCY (1 HP - 40 HP)
DJM=	ODP	-	ROLLED STEEL - JM FRAME (1HP - 40 HP)
DJP=	ODP	-	ROLLED STEEL - JP FRAME (1HP - 40 HP)
DHP=	ODP	-	CAST IRON NEMA PREMIUM EFFICIENCY (1 HP - 400 HP)
Q=	ODP	-	OIL WELL PUMP (5 HP - 125 HP)
VH=	WPI	-	MAX-VH VERTICAL HOLLOW SHAFT WP1 (7.5 HP - 400 HP)
VHP=	WPI	-	NEMA PREMIUM EFF. VERTICAL HOLLOW SHAFT WPI (7.5 HP - 400 HP)
G=	TEFC	-	3 PHASE FRACTIONAL HP (1/3 HP - 2 HP)
GV=	TEFC	-	3 PHASE FRACTIONAL HP ROUND BODY WITH C-FACE (1/3 HP - 2 HP)
GH=	TEFC	-	ROLLED STEEL PREMIUM EFF. 1/3 HP TO 2 HP 56 FRAME
GHV=	TEFC	-	ROLLED STEEL PREMIUM EFF. ROUND BODY C-FACE (1 HP - 10 HP)
GP=	TEFC	-	ROLLED STEEL NEMA PREMIUM EFFICIENCY
GPV	TEFC	-	ROLLED STEEL NEMA PREMIUM EFFICIENCY ROUND BODY WITH C-FACE
NV=	TEFC	-	MAX-SE™ EPACT EFFICIENCY - ROUND BODY WITH C-FACE (1 HP - 100 HP)
NP=	TEFC	-	NEMA PREMIUM (1-200 HP)
CD=	TEFC	-	MAX-HT™ CRUSHER DUTY (200 HP - 600 HP)
E=	TEFC	-	MAX-E1® HIGH EFFICIENCY - ALL 900 RPM AND 600 HP AND LARGER
EP=	TEFC	-	MAX-E1® NEMA PREMIUM EFFICIENCY (1 HP - 500 HP)
EPV=	TEFC	-	MAX-E1® NEMA PREMIUM EFFICIENCY ROUND BODY WITH C-FACE (1 HP - 100 HP)
HH=	TEFC	-	MAX-E2® NEMA PREMIUM EFFICIENCY IEEE 841 READY (1 HP - 300 HP)
HB=	TEFC	-	MAX-E2/841™ NEMA PREMIUM EFFICIENCY - IEEE 841 (1 HP - 500 HP)
HBV=	TEFC	-	MAX-E2/841™ NEMA PREMIUM EFFICIENCY ROUND BODY WITH C-FACE (1 HP - 100 HP)
WP/WFP/WPV=	TEFC	-	S.S. NEMA PREMIUM WASHDOWN DUTY WITH C-FACE (1/2 HP - 10 HP)
JMN=	TEFC	-	EPACT EFFICIENCY CLOSED COUPLED PUMP JM FRAME (3/4 HP - 50 HP)
JPN=	TEFC	-	EPACT EFFICIENCY CLOSED COUPLED PUMP JP FRAME (3/4 HP - 50 HP)
XV=	TEFC	-	TEXP HE HIGH EFFICIENCY EXPLOSION PROOF - ROUND BODY WITH C-FACE (1 HP - 30 HP)
XP=	TEFC	-	TEXP NEMA PREMIUM EXPLOSION PROOF (1 HP-150 HP)
CP=	TEFC	-	TWO SPEED ONE WINDING MOTOR (100 HP - 300 HP)

#### MEDIUM VOLTAGE

P=	ODP/WPI	-	STANDARD EFFICIENCY (100 HP - 900 HP)
K=	TEFC	-	STANDARD EFFICIENCY (100 HP - 250 HP)
KG=	TEFC	-	NEMA PREMIUM EFFICIENCY (150 HP - 900 HP)
JH/JF=	TEFC	-	PREMIUM EFFICIENCY (800 HP - 2000 HP)

### NEXT 3-4 SPACES (NUMBERS) DESIGNATE THE HORSEPOWER

"JH", "JF", and "P" MOTOR LINES ARE THE ONLY LINES THAT WILL HAVE 4 SPACES

IF "JH" HP < 1000, USE A "0" IN THE 1<sup>ST</sup> SPACE - "0800" = 800 HP

IF HP IS < 100, USE A "0" IN THE 1<sup>ST</sup> SPACE - "075" = 75 HP

IF HP < 1, USE A "0" IN THE 1<sup>ST</sup> SPACE, FOLLOWED BY A "/", THEN THE BOTTOM NUMBER OF THE FRACTION - "0/3" = 1/3 HP

IF HP HAS A DECIMAL > 1, USE THE WHOLE NUMBER 1<sup>ST</sup> FOLLOWED BY A "/", THEN THE NUMBER AFTER THE DECIMAL - "7/5" = 7.5 HP

### NEXT SPACE (NUMBER) DESIGNATES THE SPEED

2 = 2 POLE = 3600 OR 3000 RPM

4 = 4 POLE = 1800 OR 1500 RPM

6 = 6 POLE = 1200 OR 1000 RPM

8 = 8 POLE = 900 OR 750 RPM

### NEXT SPACE IF OCCUPIED:

S = 4 POLE MOTOR WITH SHORT SHAFT (TS)

5 = MOTOR STOCKED STANDARD AS 575 VOLT

2 = MOTOR STOCKED STANDARD AS 200 VOLT

R = MOTOR STOCKED STANDARD WITH A DRIVE-END ROLLER BEARING

C = MOTOR STOCKED STANDARD WITH A C-FACE

# TECO-WESTINGHOUSE STOCK MOTOR AND CONTROL PRODUCTS WARRANTY POLICY

Effective 08-01-11  
Supercedes 12-01-09

## STANDARD WARRANTY FOR TECO-WESTINGHOUSE STOCK MOTOR AND CONTROL PRODUCTS

All TECO-Westinghouse brand Stock Motors and Low Voltage Control Products, such as Solid State Starters and AC Drives, ("control products") sold by TECO-Westinghouse Motor Company ("TWMC") are warranted to be free from defects in material and workmanship for a period of 36 months from the date of manufacture. A warranty of 36 months from the date of sale is applicable when a TWMC Low Voltage Control Product and a TWMC Inverter Duty Motor are purchased together.

This warranty is conditioned upon the installation, operation, and maintenance of the motors and control products in accordance with TWMC's recommendations or standard industry practice, and the motors and control products have at all times been operated or used under the normal operating conditions for which they were designed. This warranty will not be applicable to products that have been altered without written permission from TWMC.

TWMC shall, at its sole option and expense, either repair or replace, F.O.B. warehouse or TWMC designated service center, any such motor, motor part, or control product which is defective within the warranty period.

In the event of warranty claims, TWMC must be notified promptly following any motor or control product failure. The motor or control product shall be sent to a TWMC authorized service center for diagnosis on the cause of failure. For motor and control products, if the failure is due to defective material and/or workmanship, TWMC will replace or repair the defective motor, motor part, or control product at its discretion.

The repair or replacement of defective material and workmanship shall constitute complete fulfillment of TWMC's warranty liability whether the warranty claims are based on contract, tort (including negligence and strict liability), or otherwise. **THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING AND USAGE OF TRADE. UNDER NO CIRCUMSTANCES SHALL TECO-WESTINGHOUSE MOTOR COMPANY BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING FREIGHT.**

## STOCK MOTOR AND CONTROL PRODUCTS RETURN POLICY

All returned goods are subject to prior approval and must be accompanied by a Return Material Authorization (RMA) number. These goods must be returned within 90 days, freight prepaid, in resalable condition and in original packaging. A 15% restocking charge will be applied. If upon receipt of RMA, goods are deemed not to be in resalable condition or in original packaging then additional fees will be applied. **RETURNS ON MODIFIED MOTORS OR CONTROL PRODUCTS WILL NOT BE ALLOWED.**



# PROCEDURE FOR WARRANTY CLAIMS ON STOCK MOTORS

Effective 08-01-11  
Supercedes 12-01-09

## WARRANTY CLAIMS

In the event of warranty claims, TECO-Westinghouse Motor Company must be notified promptly prior to any repairs or replacement of failed motors and/ or motor components. Original purchase information will be requested. The failed motor shall be sent to a TECO-Westinghouse authorized service center for diagnosis on the cause of the failure. If the failure is due to defective material and/ or workmanship, TECO-Westinghouse shall, at its sole option, either repair on a straight time basis, issue credit, or replace, FOB warehouse, any such motor or component that is defective within the warranty period. Failure to notify TECO-Westinghouse prior to performing repairs or providing replacements will result in denial of warranty claims.

Contact the TECO-Westinghouse Warranty Department at 512-218-7475.

## AUTHORIZED SERVICE

Authorized service centers shall contact the TECO-Westinghouse Warranty Department for serial number verification to determine warranty status of the motor. If the motor is within the original warranty period, the service center shall dismantle and inspect the motor, and prepare a standard EASA Warranty Repair Report. Fax the report to the TECO-Westinghouse Warranty Department at 512-218-7378 for review of the failure and determination if the failure will be covered under terms of the TECO-Westinghouse standard warranty.

## WARRANTY DETERMINATION

If the motor failure is determined to be a warranty failure, a Warranty Claim Authorization (WCA) number will be assigned to the claim. The WCA number represents the credit memo number for any motor not repaired, as well as the purchase order number for inspection, and/ or repair charges for motors to be replaced or repaired. Charges for inspections and/ or repairs to motors outside the warranty period or for failures not resulting from material or workmanship issues are the sole responsibility of the end user.

**For Warranty Repairs:** The original EASA Warranty Repair Report, along with pictures documenting the failure, shall be submitted to the TECO-Westinghouse Warranty Department, along with an invoice for all repair charges. All reports and invoices submitted require an RMA number for processing. Claims submitted without RMA numbers will be denied.

**For Warranty Credit:** The original EASA Warranty Repair Report, pictures, invoice and the original nameplate off the motor must be returned to the TECO-Westinghouse Warranty Department prior to issuance of credit. All claims and invoices submitted require a WCA number for processing. Claims submitted without WCA numbers will be denied. An invoice must be received for payment of inspection charges. Invoice only for inspection charges. Credit will be issued to the buyer's account for any motor determined not to be repairable.

**Request for warranty replacements:** Customers must submit a new purchase order. The TECO-Westinghouse Warranty Department can process replacement orders, if an exact replacement motor/ component is in stock. All such orders will be shipped FOB warehouse, and the customer will receive an invoice for the replacement. On receipt of the nameplate from the original failed motor, credit will be issued for the failed motor. Freight is not covered under warranty.

**NOTE:** If the cause of the failure is determined to not be a result of a manufacturer's defect, all expenses associated with inspection, repair, etc., will be the responsibility of others.

See page 124 for Control Products Return Procedure.

# SINGLE PHASE



## TYPE BEGCFD, BECCFD, BECSFD

Effective 08-01-11  
Supersedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Compressors
- Farm Equipment
- Machine Tools

### FEATURES:

- 1/3 - 10 hp
- 1800 RPM
- Totally Enclosed Fan Cooled (IP44)
- High Torque Design
- 36 Month Warranty from Date of Manufacture
- 1 Phase – 60 Hz – 115/230V (3 hp and Larger are 230V Only)
- Capacitor Start, Induction Run – 1/3 to 1.5 hp
- Capacitor Start, Permanent Split Capacitor Run – 2 to 10 hp
- 1.15 Service Factor – Continuous
- Class B Insulation from 1/3 to 3 hp
- Class F Insulation from 5 to 10 hp
- Manual Reset Overload with Outside Rubber Boot
- Class B Temperature Rise
- Bidirectional Rotation
- Rolled Steel Frame for 1/3 – 1 hp
- Cast Iron Frame for 1.5 – 10 hp
- Rolled Steel Terminal Box
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Green – Munsell 5G 4/ 4
- Double Shielded Bearings Pre-Packed with MULTEMP SRL Grease
- Rubber Flinger on Drive-End
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate on Frames 143T and Larger
- Motors are UL Recognized and CSA Approved

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

# SINGLE PHASE



## TYPE BEGCFD, BECCFD, BECSFD

Effective 08-01-11  
Supercedes 12-01-09



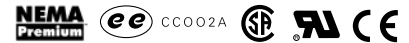
CATALOG NO.	TYPE	HP	RPM	FRAME	FL EFF	FL PF	FR. MAT.*	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
S0/34 <sup>(1)</sup>	BEGCFD	1/3	1800	56	51.0	47.0	RS	29	353
S0/54 <sup>(1)</sup>	BEGCFD	1/2	1800	56	58.0	58.0	RS	33	375
S0/74 <sup>(1)</sup>	BEGCFD	3/4	1800	56	65.0	63.0	RS	38	398
S0014 <sup>(1)</sup>	BEGCFD	1	1800	56	69.0	68.0	RS	38	427
S1/54 <sup>(1)</sup>	BECCFD	1.5	1800	145T	70.0	63.0	CI	73	516
S0024 <sup>(2)</sup>	BECSFD	2	1800	182T	73.0	63.5	CI	120	718
S0034 <sup>(2)(3)</sup>	BECSFD	3	1800	182T	74.0	63.0	CI	120	816
S0054 <sup>(2)(3)</sup>	BECSFD	5	1800	184T	78.5	69.0	CI	135	931
S7/54 <sup>(2)(3)</sup>	BECSFD	7.5	1800	213T	80.0	84.5	CI	200	1,583
S0104 <sup>(2)(3)</sup>	BECSFD	10	1800	215T	78.5	87.0	CI	210	1,885

**Notes:**

- (1) BEGCFD and BECCFD are capacitor start, induction run.
- (2) BECSFD is capacitor start and permanent split capacitor run.
- (3) Ratings 3 hp and larger are 230V only.

\* Frame Material:  
RS = Rolled Steel  
CI = Cast Iron

# ODP ROLLED STEEL FAMILY



TYPE ASGH (140~280 FRAME) NEMA PREMIUM

Effective 08-01-11  
Supersedes 12-01-09

TYPE ASGA (56 FRAME), ASGAJP/JM



## APPLICATIONS:

- Fans & Blowers
- Pumps
- HVAC Equipment
- Compressors

## FEATURES:

- 1/3 - 40 hp
- 3600, 1800, 1200 RPM
- Open Drip Proof (IP22)
- Available in Horizontal Foot Mounted or JP/JM Frame Configurations
- Meets or Exceeds EISA Requirements
- Department of Energy Efficiency Certification #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 200V and 208V)
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – F1 Mounted.  
F2 Available for Frames 180T-280T – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Rolled Steel Frame and Conduit Box
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: ASGA Light Gray - Munsell N5.0, ASGH Blue - Munsell 5PB 3/8
- Double Shielded Bearings Pre-Packed with MULTEMP SRL Grease
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- VFD Rated per NEMA MG1, Part 30, 4.4.2 - Note (3)(4)
- Speed Ranges: 20:1 VT, 10:1 CT
- 12 Leads - 7.5 hp and Up; 9 Leads for all Others
- Motors are UL Recognized, CSA Approved, and CE Marked
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

## EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

## Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Motor service factor is 1.0 when operated on a VFD.
- (4) Maximum lead length is 150 feet with a carrier frequency of 3 kHz. Addition of output reactor or filter may allow for increased carrier frequency. Please contact TWMC if lead length and carrier frequency surpass these values.

# ROLLED STEEL ODP



## TYPE ASGA (56 FRAME), ASGANE (140~280 FRAME)

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (230V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
DS0/32	1/3	3600	A56	68.0	73.8	1.24	21	243
DS0/34	1/3	1800	A56	75.5	73.0	1.13	22	259
DS0/36	1/3	1200	A56	75.5	67.2	1.23	22	348
DS0/52	1/2	3600	A56	72.0	73.8	1.76	22	259
DS0/54	1/2	1800	A56	77.0	68.8	1.77	22	285
DS0/56	1/2	1200	A56	75.5	65.5	1.89	23	378
DS0/72	3/4	3600	A56	75.5	74.2	2.51	35	291
DS0/74	3/4	1800	A56	75.5	70.0	2.66	23	316
DS0/76	3/4	1200	A56	75.5	63.2	2.94	26	384
DS0012	1	3600	A56	74.0	74.0	3.40	25	338
DTP0012	1	3600	143T	78.5	83.0	2.87	34	356
DS0014	1	1800	A56	77.0	75.8	3.20	25	338
DTP0014	1	1800	143T	85.5	79.0	2.77	42	356
DS0016	1	1200	A56	77.0	70.8	3.40	32	400
DTP0016	1	1200	145T	82.5	64.0	3.55	43	460
DS1/52	1.5	3600	A56	77.0	79.2	4.60	26	362
DTP1/52	1.5	3600	143T	84.0	87.5	3.82	34	380
DS1/54	1.5	1800	A56	80.0	80.0	4.40	30	362
DTP1/54	1.5	1800	145T	86.5	81.0	4.01	47	394
DTP1/56	1.5	1200	182T	86.5	54.0	6.01	94	487
DS0022	2	3600	A56	80.0	80.5	5.80	28	384
DTP0022	2	3600	145T	85.5	89.0	4.92	42	429
DS0024	2	1800	A56	81.5	82.0	5.60	35	384
DTP0024	2	1800	145T	86.5	83.0	5.22	47	418
DTP0026	2	1200	184T	87.5	57.0	7.51	94	533
DS0032	3	3600	A56	85.2	85.0	8.00	36	464
DTP0032	3	3600	145T	85.5	84.0	7.82	42	479
DS0034	3	1800	C56HZ	86.5	80.5	8.00	53	415
DTP0034	3	1800	182T	89.5	73.0	8.60	94	460
DTP0036	3	1200	213T	88.5	69.0	9.20	158	744
DTP0052	5	3600	182T	87.5	88.0	12.20	94	543
DTP0054	5	1800	184T	89.5	75.5	13.90	94	576
DTP0056	5	1200	215T	89.5	73.0	14.30	158	898
DTP7/52	7.5	3600	184T	88.5	90.0	17.60	94	715
DTP7/54	7.5	1800	213T	91.0	81.0	19.10	158	826
DTP7/56	7.5	1200	254T	90.2	77.0	20.20	292	1,340
DTP0102	10	3600	213T	90.2	85.5	24.30	158	898
DTP0104	10	1800	215T	91.7	84.0	24.30	158	979
DTP0106	10	1200	256T	91.7	79.5	25.70	292	1,531
DTP0152	15	3600	215T	91.0	87.0	35.50	158	1,202
DTP0154	15	1800	254T	93.0	83.0	36.40	292	1,349
DTP0156	15	1200	284T	91.7	80.0	38.30	344	2,047
DTP0202	20	3600	254T	91.7	90.0	45.40	292	1,565
DTP0204	20	1800	256T	93.0	83.0	48.50	292	1,667
DTP0206	20	1200	284T	93.0	81.5	49.40	344	2,481
DTP0252	25	3600	256T	91.7	91.0	56.10	292	1,857
DTP0254	25	1800	284T	93.6	85.0	58.80	344	2,060
DTP0302	30	3600	284TS	92.4	90.0	67.60	344	2,296
DTP0304	30	1800	286T	94.1	86.0	69.40	415	2,421
DTP0402	40	3600	286TS	92.4	90.5	89.60	415	2,939

**Notes:**

- To order 575V , please add "5" to the end of Catalog Number as shown, for example: "DHP00545" for 5 hp, 1800 RPM, 575V.

# ROLLED STEEL ODP JP/JM EPACT



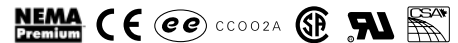
## TYPE ASGAJP/JM

Effective 08-01-11  
Supersedes 12-01-09



JP CATALOG NO.	JM CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (230V)	APPROX. JP SHIPPING WT. (lbs.)	APPROX. JM SHIPPING WT. (lbs.)	LIST PRICE
DJP0014	DJM0014	1	1800	143JP/JM	82.5	78.5	2.90	40	40	387
DJP0016	DJM0016	1	1200	145JP/JM	80.0	72.5	3.20	45	45	485
DJP1/52	DJM1/52	1.5	3600	143JP/JM	82.5	82.8	4.10	40	40	422
DJP1/54	DJM1/54	1.5	1800	145JP/JM	84.0	84.0	4.00	47	47	422
DJP1/56	DJM1/56	1.5	1200	182JP/JM	84.0	55.0	6.08	90	83	501
DJP0022	DJM0022	2	3600	145JP/JM	84.0	83.5	5.30	45	45	431
DJP0024	DJM0024	2	1800	145JP/JM	84.0	81.0	5.50	50	49	431
DJP0026	DJM0026	2	1200	184JP/JM	85.5	62.0	7.10	93	89	555
DJP0032	DJM0032	3	3600	145JP/JM	84.0	87.0	7.70	50	50	546
DJP0034	DJM0034	3	1800	182JP/JM	86.5	78.0	8.30	113	95	485
DJP0036	DJM0036	3	1200	213JP/JM	86.5	71.0	9.20	155	146	776
DJP0052	DJM0052	5	3600	182JP/JM	85.5	90.0	12.2	95	78	679
DJP0054	DJM0054	5	1800	184JP/JM	87.5	81.5	13.1	113	108	573
DJP0056	DJM0056	5	1200	215JP/JM	87.5	72.0	14.9	155	146	1,075
DJP7/52	DJM7/52	7.5	3600	184JP/JM	87.5	91.0	17.6	100	78	810
DJP7/54	DJM7/54	7.5	1800	213JP/JM	88.5	85.0	18.7	155	140	824
DJP7/56	DJM7/56	7.5	1200	254JP/JM	88.5	81.0	19.6	265	265	1,330
DJP0102	DJM0102	10	3600	213JP/JM	88.5	88.0	24.0	167	165	1,041
DJP0104	DJM0104	10	1800	215JP/JM	89.5	86.5	24.2	180	150	916
DJP0106	DJM0106	10	1200	256JP/JM	90.2	81.0	25.6	290	275	1,551
DJP0152	DJM0152	15	3600	215JP/JM	89.5	87.5	35.9	167	165	1,374
DJP0154	DJM0154	15	1800	254JP/JM	91.0	88.0	35.1	265	257	1,356
DJP0156	DJM0156	15	1200	284JP/JM	90.2	83.0	37.5	375	365	1,981
DJP0202	DJM0202	20	3600	254JP/JM	90.2	91.0	45.6	265	250	1,620
DJP0204	DJM0204	20	1800	256JP/JM	91.0	88.0	46.8	275	265	1,689
DJP0206	DJM0206	20	1200	284JP/JM	91.0	84.0	49.0	410	405	2,537
DJP0252	DJM0252	25	3600	256JP/JM	91.0	91.0	56.5	300	275	1,974
DJP0254	DJM0254	25	1800	284JP/JM	91.7	86.0	59.4	375	365	1,991
DJP0302	DJM0302	30	3600	284JP/JM	91.0	89.0	69.4	370	350	2,240
DJP0304	DJM0304	30	1800	286JP/JM	92.4	86.5	70.3	395	370	2,334
DJP0402	DJM0402	40	3600	286JP/JM	91.7	88.0	92.8	395	370	3,057

# CAST IRON ODP NEMA PREMIUM



## TYPE ASHH

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Compressors

### FEATURES:

- 1 - 500 hp
- 3600, 1800, 1200 RPM
- Open Drip Proof Enclosure (IP22 Rating)
- NEMA Premium Efficiency
- CE Mark on Nameplate
- Department of Energy Efficiency Certification #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 208V). 150 hp and Larger is 460V Only
- Available in 575V - Note (1)
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – F1 Mounted. F2 Available – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (2)
- Designed for 3300 ft. Elevation - Note (3)
- Bidirectional Rotation
- Cast Iron Frame and End Brackets
- Rolled Steel Conduit Box
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell N5
- Vacuum De-Gassed Regreasable Ball (or Roller) Bearings on Frames 280TS - 5009 Using Polyrex EM Grease
- Double Shielded Bearings on Frames 140T-280T Pre-Packed with MULTEMP SRL Grease
- Labyrinth Type Metal Flinger on Both Ends for Frames 280TS - 5009
- Cast Iron Inner and Outer Bearing Caps for Frames 280TS - 5009
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- Inverter Duty Magnet Wire Rated per NEMA MG1, Part 31, 4.4.2 - Note (4)
- Speed Ranges: 20:1 VT, 10:1 CT
- 9 Leads - 5 hp and Below, 12 Leads - 7.5 hp to 125 hp, 6 Leads - 150 hp and Larger
- Motors are UL Recognized, CSA Approved, and CE Marked
- Precautions Should be Taken to Eliminate or Reduce Shaft Currents that May be Imposed on the Motor by the VFD as Stated per NEMA MG 1 Part 31.4.4.3.

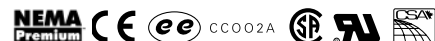
### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

#### Notes:

- (1) TWMC carries minimal 575V stock. Please check availability to ensure required motors are in stock. Ratings may be available from our Canadian warehouses or from our factory. Pricing and leadtime may vary.
- (2) Please consult factory for suitability in higher ambients.
- (3) Please consult factory for suitability in higher elevations.
- (4) Motor service factor is 1.0 when operated on a VFD.

# CAST IRON ODP NEMA PREMIUM



## TYPE ASHH

Effective 08-01-11  
Supersedes 12-01-09



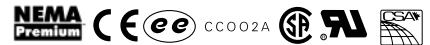
CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
DHP0014	1	1800	143T	85.5	78.0	1.4	54	375
DHP0016	1	1200	145T	82.5	65.5	1.7	75	484
DHP1/52	1.5	3600	143T	85.5	80.0	2.1	50	400
DHP1/54	1.5	1800	145T	86.5	80.5	2.0	60	415
DHP1/56	1.5	1200	182T	87.5	63.0	2.5	123	513
DHP0022	2	3600	145T	85.5	84.5	2.6	57	452
DHP0024	2	1800	145T	86.5	79.5	2.7	58	440
DHP0026	2	1200	184T	87.5	71.0	3.0	130	561
DHP0032	3	3600	145T	87.5	87.0	3.7	66	504
DHP0034	3	1800	182T	89.5	81.0	3.9	117	484
DHP0036	3	1200	213T	88.5	77.0	4.1	183	783
DHP0052	5	3600	182T	87.5	91.0	5.9	120	572
DHP0054	5	1800	184T	89.5	84.5	6.2	145	606
DHP0056	5	1200	215T	89.5	79.0	6.6	195	945
DHP7/52	7.5	3600	184T	88.5	91.5	8.7	134	753
DHP7/54	7.5	1800	213T	91.0	86.0	9.0	187	869
DHP7/56	7.5	1200	254T	90.2	79.0	9.9	260	1,410
DHP0102	10	3600	213T	90.2	88.0	11.8	190	945
DHP0104	10	1800	215T	91.7	87.0	11.7	215	1,030
DHP0106	10	1200	256T	91.7	81.0	12.6	329	1,612
DHP0152	15	3600	215T	90.2	87.5	17.8	220	1,265
DHP0154	15	1800	254T	93.0	84.5	17.9	247	1,420
DHP0156	15	1200	284T	91.7	83.0	18.5	367	2,155
DHP0202	20	3600	254T	91.0	90.5	22.8	233	1,647
DHP0204	20	1800	256T	93.0	86.5	23.3	350	1,755
DHP0206	20	1200	286T	92.4	83.5	24.3	392	2,612
DHP0252	25	3600	256T	91.7	92.0	27.7	317	1,955
DHP0254	25	1800	284T	93.6	87.0	28.7	352	2,168
DHP0256	25	1200	324T	93.0	83.0	30.3	640	3,240
DHP0302	30	3600	284TS	92.4	90.5	33.6	405	2,417
DHP0304	30	1800	286T	94.1	87.0	34.3	429	2,548
DHP0306	30	1200	326T	93.6	83.5	35.9	568	3,641
DHP0402	40	3600	286TS	92.4	91.5	44.3	442	3,094
DHP0404	40	1800	324T	94.1	86.0	46.3	608	3,159
DHP0406	40	1200	364T	94.1	87.0	45.7	835	4,543
DHP0502	50	3600	324TS	93.0	86.0	58.5	552	3,810
DHP0504	50	1800	326T	94.5	85.0	58.3	629	3,541
DHP0506	50	1200	365T	94.1	86.0	57.8	766	5,383
DHP0602	60	3600	326TS	93.6	87.0	69.0	614	4,479
DHP0604	60	1800	364T	95.0	85.0	69.6	735	4,492
DHP0606	60	1200	404T	94.5	85.5	69.5	1100	6,468
DHP0752	75	3600	364TS	94.1	90.5	82.5	704	5,950
DHP0754	75	1800	365T	95.0	86.0	86.0	850	5,322
DHP0754R	75	1800	365T	95.0	86.0	86.0	850	5,322
DHP0756	75	1200	405T	94.5	86.5	86.0	1210	7,752
DHP0756R	75	1200	405T	94.5	86.5	86.0	1210	7,752

**Notes:**

- To order 575V, please add "5" to the end of Catalog Number as shown, for example: "DHP00545" for 5 hp, 1800 RPM, 575V.



# CAST IRON ODP NEMA PREMIUM



## TYPE ASHH

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
DHP1002	100	3600	365TS	94.1	90.5	109.9	761	7,892
DHP1004	100	1800	404T	95.4	85.5	114.8	961	6,827
DHP1004R	100	1800	404T	95.4	85.5	114.8	961	6,827
DHP1006	100	1200	444T	95.0	82.0	120.0	1350	11,276
DHP1006R	100	1200	444T	95.0	82.0	120.0	1350	11,276
DHP1252	125	3600	404TS	94.1	90.5	137.5	907	9,996
DHP1254	125	1800	405T	95.4	84.5	145.2	1109	8,554
DHP1254R	125	1800	405T	95.4	84.5	145.2	1109	8,554
DHP1256	125	1200	445T	95.0	82.0	150.0	1605	13,195
DHP1256R	125	1200	445T	95.0	82.0	150.0	1605	13,195
DHP1502 <sup>(1)</sup>	150	3600	405TS	94.5	90.5	164.0	1003	12,107
DHP1504 <sup>(1)</sup>	150	1800	444T	95.8	86.0	170.0	1540	11,448
DHP1504R <sup>(1)</sup>	150	1800	444T	95.8	86.0	170.0	1540	11,448
DHP1506 <sup>(1)</sup>	150	1200	445T	95.4	82.5	178.0	1705	15,616
DHP1506R <sup>(1)</sup>	150	1200	445T	95.4	82.5	178.0	1705	15,616
DHP2002 <sup>(1)</sup>	200	3600	444TS	95.0	88.5	223.0	1324	15,681
DHP2004 <sup>(1)</sup>	200	1800	445T	95.8	86.5	226.0	1577	14,014
DHP2004R <sup>(1)</sup>	200	1800	445T	95.8	86.5	226.0	1577	14,014
DHP2006 <sup>(1)</sup>	200	1200	447T	95.4	83.0	236.0	2010	20,785
DHP2006R <sup>(1)</sup>	200	1200	447T	95.4	83.0	236.0	2010	20,785
DHP2502 <sup>(1)</sup>	250	3600	445TS	95.0	88.5	278.0	1470	19,069
DHP2504 <sup>(1)</sup>	250	1800	447T	95.8	87.0	281.0	1806	19,839
DHP2504R <sup>(1)</sup>	250	1800	447T	95.8	87.0	281.0	1806	19,839
DHP2506 <sup>(1)</sup>	250	1200	449T	95.4	83.0	296.0	2420	25,983
DHP2506R <sup>(1)</sup>	250	1200	449T	95.4	83.0	296.0	2420	25,983
DHP3002 <sup>(1)</sup>	300	3600	445TS	95.4	89.0	331.0	1320	24,418
DHP3004 <sup>(1)</sup>	300	1800	449T	95.8	87.5	335.0	2140	24,271
DHP3006 <sup>(1)</sup>	300	1200	449TZ	95.4	87.0	338.0	2615	31,180
DHP3502 <sup>(1)</sup>	350	3600	447TS	95.4	90.0	382.0	1590	27,431
DHP3504 <sup>(1)</sup>	350	1800	449TZ	95.8	87.5	391.0	2310	28,320
DHP3506 <sup>(1)</sup>	350	1200	5009B	95.4	85.0	404.0	3715	55,300
DHP4002 <sup>(1)</sup>	400	3600	449TS	95.8	90.0	434.0	2055	31,308
DHP4004 <sup>(1)</sup>	400	1800	449T	95.8	87.7	446.0	2445	32,365
DHP4006 <sup>(1)</sup>	400	1200	5009B	95.8	84.5	463.0	3835	56,850
DHP4502 <sup>(1)</sup>	450	3600	449TS	95.8	90.5	486.0	2125	36,000
DHP4504 <sup>(1)</sup>	450	1800	5009B	96.2	88.0	498.0	3620	52,350
DHP4506 <sup>(1)</sup>	450	1200	5009B	96.2	84.0	521.0	3960	64,750
DHP5002 <sup>(1)</sup>	500	3600	449TS	95.8	91.2	536.0	2225	39,735
DHP5004 <sup>(1)</sup>	500	1800	5009B	96.2	88.0	553.0	3790	57,950
DHP5006 <sup>(1)</sup>	500	1200	5009B	96.2	84.0	579.0	4075	67,750

**Notes:**

- To order 575V, please add "5" to the end of Catalog Number as shown, for example: "DHP00545" for 5 hp, 1800 RPM, 575V.
- (1) Ratings 150 hp and larger are 460V only.
- (R) Motor stocked standard with a drive-end roller bearing.

# OIL WELL PUMP

## TYPE ASFAPF

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Oil Well Pumps
- Any Applications Requiring NEMA Design D Torques

### FEATURES:

- 5 - 125 hp
- 1200 RPM
- Open Drip Proof Enclosure (IP22 Rating) with Rodent Screens
- Standard Efficient Design
- 36 Month Warranty from Date of Manufacture
- 60 Hz – 230/ 460/ 796V
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Class B Temperature Rise
- Standard with Klixon 9700K Temperature Limiting Switch, 1 per Phase
- NEMA Design D Torques
- 5% Minimum Slip
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance - F2 Mounted. F1 Available – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Cast Iron Frame, End Bells, and Conduit Box
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: White
- Vacuum De-Gassed Regreasable Bearings for Frames 324T and Larger Using Polyrex EM Grease
- Double Shielded Bearings on Frames 215T-286T Pre-Packed with MULTEMP SRL Grease
- Labyrinth Type Metal Flinger on Both Ends for Frames 324T and Larger
- Cast Iron Inner and Outer Bearing Caps for Frames 324T and Larger
- Grounding Terminal Inside Main Box and on Frame
- Stainless Steel Nameplate
- 12 Leads
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.

# OIL WELL PUMP

## TYPE ASFAFP

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
Q0056	5	1200	215T	81.5	77.0	7.5	205	1,154
Q07/56	7.5	1200	254T	85.5	82.0	10.0	270	1,470
Q0106	10	1200	256T	85.5	85.0	12.9	335	1,797
Q0156	15	1200	284T	87.5	86.0	18.7	410	2,574
Q0206	20	1200	286T	85.5	89.0	24.6	453	3,175
Q0256	25	1200	324T	86.5	89.0	30.4	620	3,807
Q0306	30	1200	326T	86.5	90.0	36.1	700	4,121
Q0406	40	1200	365T	89.5	90.0	46.5	795	5,723
Q0506	50	1200	404T	88.5	89.5	59.1	1,075	7,053
Q0606	60	1200	404T	89.5	90.0	70.0	1,165	8,096
Q0756	75	1200	405T	88.5	91.0	87.5	1,245	9,606
Q1006R	100	1200	444T	86.5	82.0	132.0	1,585	12,636
Q1256R	125	1200	445T	87.0	82.0	164.0	1,725	13,693

**Notes:**

(R) Motor stocked standard with a drive-end roller bearing.

# MAX-VH™ FAMILY



## TYPE AMRC, AMRCNH

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Pumps
- Irrigation

### FEATURES:

- 7.5 - 400 hp
- 1800 RPM
- High Thrust Vertical Hollow Shaft with P-base
- Weather Protected Type 1 (WP1) Enclosure
- Standard with Coupling and Gib Key
- Standard with Non-Reverse Ratchet
- Meets or Exceeds EPC Act Efficiency Levels and the (AMRCNH) VHP Products are NEMA Premium Efficient.
- 36 Month Warranty from Date of Manufacture
- 60 Hz, 230/ 460 - 150 hp and Larger are 460 Volt Only; 50 Hz, 190/ 380V Data will be on Nameplate
- 1.15 Service Factor - Continuous on Sine Wave Power, 1.0 S.F. on PWM
- Class F Insulation with 2 Dips & Bakes and Phenolic Alkyd Resin Varnish Finish
- Class B Temperature Rise
- NEMA Design B Torques as a Minimum
- Oversized Main Conduit Box Rotatable in 90 Degree Increments - Fully Gasketed with NPT Threaded Entrance
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- CCW Rotation when Viewed from Top
- Cast Iron Frame, End Brackets, and Main Conduit Box
- Fabricated Steel Drip Cover
- 1045 Hollow Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray - Munsell 7.5BG 3.5/0.5
- Guide Bearings - 213TP-286TP - Double Shielded
- Guide Bearings - 324TP-449TP - Re-Greasable with Polyrex EM Grease
- Thrust Bearings - 213TP-286TP - Re-Greasable Angular Contact with Polyrex EM Grease
- Thrust Bearings - 324TP-449TP - Oil Lubricated Angular Contact with Site Glass
- Oil Requirements for 324TP-405TP - 145 to 175 S.S.U. @ 100°F
- Oil Requirements for 444TP-449TP - 300 S.S.U. @ 100°F
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate and Rodent Screens
- 9 Leads (PWS on 230V) on 210TP to 365TP
- 12 Leads (PWS on 230V) on 404TP to 405TP
- 6 Leads (PWS on 460V) on 444TP and Larger
- Inverter Duty - 4:1 Variable Torque
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 which show common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) **The VHP Catalog Items are NEMA Premium Efficient.**

# MAX-VH™ VERTICAL HOLLOW SHAFT WP1



## TYPE AMRC

Effective 08-01-11  
Supersedes 12-01-09



CAT. NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS @ 460V	DOWN THRUST	BD DIM	CD DIM	AG DIM	CPLG KEY SIZE	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
VH7/54	7.5	1800	213TP	88.5	85.0	9.4	2600	10.0"	20.25	23.93	0.25"	227	2,750
VH0104	10	1800	215TP	89.5	86.5	12.1	2600	10.0"	20.25	23.93	0.25"	241	3,000
VH0154	15	1800	254TP	91.0	88.0	17.5	3350	10.0"	23.38	26.91	0.25"	349	3,750
VH0204	20	1800	256TP	91.0	88.0	23.4	3350	10.0"	23.38	26.91	0.25"	373	3,975
VH0254	25	1800	284TP	91.7	86.0	29.7	3350	10.0"	24.73	28.25	0.25"	480	4,575
VH0304	30	1800	286TP	92.4	86.5	35.1	3350	10.0"	24.73	28.25	0.25"	525	4,900
VH0404	40	1800	324TP	93.0	88.0	45.7	5700	16.5"	28.22	32.71	0.25"	716	6,700
VH0504	50	1800	326TP	93.0	88.0	57.0	5700	16.5"	28.22	32.71	0.25"	777	7,169
VH0604	60	1800	364TP	93.6	84.5	71.0	6000	16.5"	31.16	35.89	0.25"	887	9,000
VH0754	75	1800	365TP	94.1	84.5	88.5	6000	16.5"	31.16	35.89	0.25"	949	9,964
VH1004	100	1800	404TP	94.1	86.0	115.5	7900	16.5"	36.94	42.32	0.375"	1,278	12,732
VH1254	125	1800	405TP	94.5	87.5	141.5	7900	16.5"	36.94	42.32	0.375"	1,348	15,381
VH1504	150	1800	444TP	95.0	86.5	172.0	10,700	16.5"	44.78	50.39	0.375"	1,815	19,275
VH2004	200	1800	445TP	95.0	87.5	228.0	10,700	16.5"	44.78	50.39	0.375"	1,815	23,062
VH2504	250	1800	445TP	95.4	86.5	284.0	13,400	20.0"	44.78	50.39	0.375"	2,312	30,222
VH3004	300	1800	447TP	95.4	87.5	337.0	13,400	20.0"	49.78	55.60	0.375"	2,841	35,655
VH3504	350	1800	447TP	95.4	88.0	390.0	13,300	20.0"	49.78	55.60	0.375"	3,335	41,175
VH4004	400	1800	449TP	95.4	88.5	444.0	13,200	20.0"	53.91	59.73	0.500"	3,818	46,690

### Notes:

1. Although the BD on the 280TP frames is 10.0", the AK and AJ dimensions match that of the 12.0" BD: AJ = 9.125", and AK = 8.50"
2. **Alternate coupling kits available to give additional BX combinations, please specify the coupling diameter when ordering.**
3. Steady bushing kits available.
4. Down thrust based on an L10 bearing life of 8,800 hours.

# MAX-VH™ VERTICAL HOLLOW SHAFT WP1



## TYPE AMRCNH

Effective 08-01-11  
Supersedes 12-01-09



CAT. NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS @460V	DOWN THRUST	BD DIM	CD DIM	AG DIM	CPLG KEY SIZE	APPROX. SHIPPING WT. (LBS.)	LIST PRICE
VHP7/54	7.5	1800	213TP	91.0	81.0	10.8	2600	10.0"	20.25	23.93	0.25"	227	4,124
VHP0104	10	1800	215TP	91.7	84.0	14.0	2600	10.0"	20.25	23.93	0.25"	241	4,347
VHP0154	15	1800	254TP	93.0	83.0	20.4	3350	10.0"	23.38	26.91	0.25"	349	5,213
VHP0204	20	1800	256TP	93.0	83.0	27.1	3350	10.0"	23.38	26.91	0.25"	373	5,591
VHP0254	25	1800	284TP	93.6	85.0	34.5	3350	10.0"	24.73	28.25	0.25"	480	6,653
VHP0304	30	1800	286TP	94.1	86.0	40.8	3350	10.0"	24.73	28.25	0.25"	525	6,952
VHP0404	40	1800	324TP	94.1	86.0	53.1	5700	16.5"	28.22	32.71	0.25"	716	9,951
VHP0504	50	1800	326TP	94.5	85.0	66.1	5700	16.5"	28.22	32.71	0.25"	777	10,438
VHP0604	60	1800	364TP	95.0	85.0	82.4	6000	16.5"	31.16	35.89	0.25"	892	12,574
VHP0754	75	1800	365TP	95.0	86.0	102.7	6000	16.5"	31.16	35.89	0.25"	989	13,000
VHP1004	100	1800	404TP	95.4	85.5	134.0	7900	16.5"	36.94	42.32	0.375"	1,278	18,500
VHP1254	125	1800	405TP	95.4	84.5	164.1	7900	16.5"	36.94	42.32	0.375"	1,398	19,900
VHP1504	150	1800	444TP	95.8	86.0	171.0	10700	16.5"	44.78	50.39	0.375"	1,815	31,500
VHP2004	200	1800	445TP	95.8	86.5	225.0	10700	16.5"	44.78	50.39	0.375"	1,815	33,000
VHP2504	250	1800	445TP	95.8	86.5	284.0	13400	20.0"	44.78	50.39	0.375"	2,312	40,000
VHP3004	300	1800	447TP	95.8	87.5	337.0	13400	20.0"	49.78	55.60	0.375"	2,841	50,000
VHP3504	350	1800	447TP	95.8	88.0	390.0	13300	20.0"	49.78	55.60	0.375"	3,335	55,000
VHP4004	400	1800	449TP	95.8	88.5	444.0	13200	20.0"	53.91	59.73	0.500"	3,818	60,000

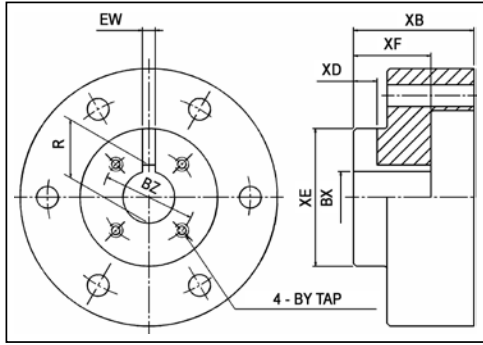
### Notes:

1. Although the BD on the 280TP frames is 10.0", the AK and AJ dimensions match that of the 12.0" BD: AJ = 9.125", and AK = 8.50"
2. **Alternate coupling kits available to give additional BX combinations, please specify the coupling diameter when ordering.**
3. Steady bushing kits available.
4. Down thrust based on an L10 bearing life of 8,800 hours.

# COUPLING KITS

## FOR TYPE AMRC & AMRCNH VERTICAL HOLLOW SHAFT MOTORS

Effective 08-01-11  
Supersedes 12-01-09



### Notes:

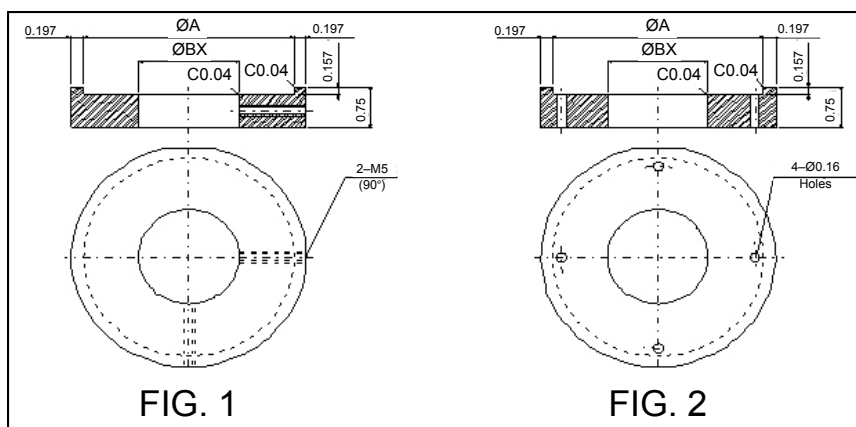
1. Tolerance on BX dimensions up to and including 1.500 inches diameter: +0.001 inches, -0.000 inches; Larger than 1.500 inches diameter: +0.0015 inches, -0.0000 inches.
2. Dimension EW tolerance: +0.002 inches, -0.000 inches.
3. Dimension R tolerance: +0.010 inches, -0.000 inches.

FRAME	BX	BY	BZ	EW	R	XB	XD	XE	XF	CATALOG NO.
213TP 215TP	0.751	NO. 10-32 UNF	1.375	0.188	0.845	1.75	0.406	2.000	1.125	AC210-0.751
	0.876	NO. 10-32 UNF	1.375	0.188	0.970	1.75	0.406	2.000	1.125	AC210-0.876
	0.938	NO. 10-32 UNF	1.375	0.250	1.078	1.75	0.406	2.000	1.125	AC210-0.938
	1.001	NO. 10-32 UNF	1.375	0.250	1.126	1.75	0.406	2.000	1.125	AC210-1.001
254TP 256TP	0.751	NO. 10-32 UNF	1.375	0.188	0.845	2.17	0.410	2.250	1.230	AC250-0.751
	0.876	NO. 10-32 UNF	1.375	0.188	0.970	2.17	0.410	2.250	1.230	AC250-0.876
	1.001	NO. 10-32 UNF	1.375	0.250	1.126	2.17	0.410	2.250	1.230	AC250-1.001
	1.188	1/4"-20 UNC	1.750	0.250	1.313	2.17	0.410	2.250	1.230	AC250-1.188
284TP 286TP	1.251	1/4"-20 UNC	1.750	0.250	1.376	2.17	0.410	2.250	1.230	AC250-1.251
	0.751	NO. 10-32 UNF	1.375	0.188	0.845	2.17	0.410	2.250	1.230	AC280-0.751
	0.876	NO. 10-32 UNF	1.375	0.188	0.970	2.17	0.410	2.250	1.230	AC280-0.876
	1.001	NO. 10-32 UNF	1.375	0.250	1.126	2.17	0.410	2.250	1.230	AC280-1.001
324TP 326TP	1.188	1/4"-20 UNC	1.750	0.250	1.313	2.17	0.410	2.250	1.230	AC280-1.188
	1.251	1/4"-20 UNC	1.750	0.250	1.376	2.17	0.410	2.250	1.230	AC280-1.251
	1.001	NO. 10-32 UNF	1.375	0.250	1.126	2.54	0.410	2.875	1.540	AC320-1.001
	1.188	1/4"-20 UNC	1.750	0.250	1.313	2.54	0.410	2.875	1.540	AC320-1.188
364TP 365TP	1.251	1/4"-20 UNC	1.750	0.250	1.376	2.54	0.410	2.875	1.540	AC320-1.251
	1.438	1/4"-20 UNC	2.125	0.375	1.625	2.54	0.470	2.875	1.540	AC320-1.438
	1.501	1/4"-20 UNC	2.125	0.375	1.688	2.54	0.470	2.875	1.540	AC320-1.501
	1.001	NO. 10-32 UNF	1.375	0.250	1.126	2.54	0.410	2.875	1.540	AC360-1.001
404TP 405TP	1.188	1/4"-20 UNC	1.750	0.250	1.313	2.54	0.410	2.875	1.540	AC360-1.188
	1.251	1/4"-20 UNC	1.750	0.250	1.376	2.54	0.410	2.875	1.540	AC360-1.251
	1.438	1/4"-20 UNC	2.125	0.375	1.625	2.54	0.530	2.875	1.540	AC360-1.438
	1.501	1/4"-20 UNC	2.125	0.375	1.688	2.54	0.530	2.875	1.540	AC360-1.501
444TP 445TP	1.688	1/4"-20 UNC	2.500	0.375	1.891	2.76	0.530	3.150	1.500	AC400-1.688
	1.751	1/4"-20 UNC	2.500	0.375	1.954	2.76	0.530	3.150	1.500	AC400-1.751
	1.188	1/4"-20 UNC	1.750	0.250	1.304	2.76	0.530	3.150	1.500	AC400-1.188
	1.251	1/4"-20 UNC	1.750	0.250	1.367	2.76	0.530	3.150	1.500	AC400-1.251
	1.438	1/4"-20 UNC	2.125	0.375	1.605	2.76	0.530	3.150	1.500	AC400-1.438
	1.501	1/4"-20 UNC	2.125	0.375	1.669	2.76	0.530	3.150	1.500	AC400-1.501
445TP20 447TP 449TP	1.688	1/4"-20 UNC	2.500	0.375	1.859	4.35	0.531	3.740	2.875	AC444/5-1.688
	1.751	1/4"-20 UNC	2.500	0.375	1.922	4.35	0.531	3.740	2.875	AC444/5-1.751
	1.938	1/4"-20 UNC	2.500	0.500	2.160	4.35	0.688	3.740	2.875	AC444/5-1.938
	1.188	1/4"-20 UNC	1.750	0.250	1.304	4.35	0.406	3.740	2.875	AC444/5-1.188
	1.251	1/4"-20 UNC	1.750	0.250	1.367	4.35	0.406	3.740	2.875	AC444/5-1.251
	1.438	1/4"-20 UNC	2.125	0.375	1.605	4.35	0.531	3.740	2.875	AC444/5-1.438
445TP20 447TP 449TP	1.501	1/4"-20 UNC	2.125	0.375	1.669	4.35	0.531	3.740	2.875	AC444/5-1.501
	1.688	1/4"-20 UNC	2.500	0.375	1.859	4.35	0.531	3.740	2.875	AC444/5-1.688
	1.751	1/4"-20 UNC	2.500	0.375	1.922	4.35	0.531	3.740	2.875	AC444/5-1.751
	1.938	1/4"-20 UNC	2.500	0.500	2.160	4.35	0.688	3.740	2.875	AC444/5-1.938
	1.438	1/4"-20 UNC	2.125	0.375	1.605	4.74	0.531	4.725	3.071	AC447/9-1.438
	1.501	1/4"-20 UNC	2.125	0.375	1.669	4.74	0.531	4.725	3.071	AC447/9-1.501
	1.688	1/4"-20 UNC	2.500	0.375	1.859	4.74	0.531	4.725	3.071	AC447/9-1.688
	1.751	1/4"-20 UNC	2.500	0.375	1.922	4.74	0.531	4.725	3.071	AC447/9-1.751
	1.938	1/4"-20 UNC	2.500	0.500	2.160	4.74	0.688	4.725	3.071	AC447/9-1.938
	2.001	3/8"-16 UNC	3.250	0.500	2.223	4.74	0.688	4.725	3.071	AC447/9-2.001
	2.063	3/8"-16 UNC	3.250	0.500	2.287	4.74	0.688	4.725	3.071	AC447/9-2.063
	2.126	3/8"-16 UNC	3.250	0.500	2.350	4.74	0.688	4.725	3.071	AC447/9-2.126
2.188	3/8"-16 UNC	3.250	0.500	2.414	4.74	0.688	4.725	3.071	AC447/9-2.188	
2.251	3/8"-16 UNC	3.250	0.500	2.477	4.74	0.688	4.725	3.071	AC447/9-2.251	
2.376	3/8"-16 UNC	3.250	0.625	2.651	4.74	0.813	4.725	3.071	AC447/9-2.376	
2.438	3/8"-16 UNC	3.250	0.625	2.714	4.74	0.813	4.725	3.071	AC447/9-2.438	
2.501	3/8"-16 UNC	3.250	0.625	2.778	4.74	0.813	4.725	3.071	AC447/9-2.501	

# STEADY BUSHING KITS

## FOR TYPE AMRC & AMRCNH VERTICAL HOLLOW SHAFT MOTORS

Effective 08-01-11  
Supercedes 12-01-09



FRAME	BX DIMENSION	TWMC CATALOG NO.	LIST PRICE
210TP	0.751	SB210-0.751	96
	0.876	SB210-0.876	96
	0.938	SB210-0.938	96
	1.001	SB210-1.001	96
250TP	0.751	SB250-0.751	96
	0.876	SB250-0.876	96
	1.001	SB250-1.001	96
	1.188	SB250-1.188	96
	1.251	SB250-1.251	96
280TP	0.751	SB280-0.751	96
	0.876	SB280-0.876	96
	1.001	SB280-1.001	96
	1.188	SB280-1.188	96
	1.251	SB280-1.251	96
320TP	1.001	SB320-1.001	125
	1.188	SB320-1.188	125
	1.251	SB320-1.251	125
	1.438	SB320-1.438	125
	1.501	SB320-1.501	125
360TP	1.001	SB360-1.001	125
	1.188	SB360-1.188	125
	1.251	SB360-1.251	125
	1.438	SB360-1.251	125
	1.501	SB360-1.501	125
400TP	1.188	SB400-1.188	144
	1.251	SB400-1.251	144
	1.438	SB400-1.438	144
	1.501	SB400-1.501	144
	1.688	SB400-1.688	144
	1.751	SB400-1.751	144

FRAME	BX DIMENSION	TWMC CATALOG NO.	LIST PRICE
444 - 445TP	1.188	SB444/5-1.188	173
	1.251	SB444/5-1.251	173
	1.438	SB444/5-1.438	173
	1.501	SB444/5-1.501	173
	1.688	SB444/5-1.688	173
	1.751	SB444/5-1.751	173
	1.938	SB444/5-1.938	173
447-449TP	1.438	SB447/9-1.438	192
	1.501	SB447/9-1.501	192
	1.688	SB447/9-1.688	192
	1.751	SB447/9-1.751	192
	1.938	SB447/9-1.938	192
	2.001	SB447/9-2.001	192
	2.063	SB447/9-2.063	192
	2.126	SB447/9-2.126	192
	2.188	SB447/9-2.188	192
	2.251	SB447/9-2.251	192
	2.376	SB447/9-2.376	192
2.438	SB447/9-2.438	192	
2.501	SB447/9-2.501	192	

**Notes:**

The frames 210TP, 250TP, and 280TP use Figure 1.  
All other frames use Figure 2.



# 3-PHASE FRACTIONAL HP TEFC



Effective 08-01-11  
Supercedes 12-01-09

## TYPE AEGA, AETACF



### APPLICATIONS:

- Fans & Blowers
- Pumps
- HVAC Equipment
- Compressors

### FEATURES:

- 1/3 - 2 hp
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled Enclosure (IP44)
- 36 Month Warranty from Date of Manufacture
- Round Body C-Face Available for 1800 RPM and 3/4 hp at 1200 RPM (Type AETACF)
- 60 Hz - 230/ 460V (Usable on 200V and 208V)
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – F1 Mounted
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Rolled Steel Frame and Conduit Box
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Gray – Munsell 10B 4/ 1.5
- Double Shielded Bearings on Frames Pre-Packed with MULTEMP SRL Grease
- Grounding Terminal Inside Main Box
- Mylar Nameplate
- Rubber Flinger on Drive-End
- 9 Leads
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) 1 hp and larger are CSA certified and UL recognized. Motors below 1 hp are CSA certified only.

# 3-PHASE FRACTIONAL HP TEFC



## TYPE AEGA, AETACF

Effective 08-01-11  
Supercedes 12-01-09



HP	RPM	FL EFF	FL PF	FL AMPS (230V)	RIGID BASE MOUNT				ROUND BODY C-FACE			
					FRAME	CATALOG NUMBER	APPROX. SHIPPING WT.(lbs.)	LIST PRICE	FRAME	CATALOG NUMBER	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
1/3	3600	66.0	78.0	1.2	56	G0/32	24	259	-	-	-	-
1/3	1800	71.0	70.0	1.3	56	G0/34	26	305	56C	GV0/34C	27	349
1/3	1200	68.0	63.0	1.5	56	G0/36	26	415	-	-	-	-
1/2	3600	70.0	80.0	1.7	56	G0/52	26	292	-	-	-	-
1/2	1800	72.0	69.0	1.9	56	G0/54	26	349	56C	GV0/54C	32	396
1/2	1200	70.0	60.0	2.2	56	G0/56	30	452	-	-	-	-
3/4	3600	76.0	84.0	2.2	56	G0/72	26	317	-	-	-	-
3/4	1800	73.0	66.0	2.9	56	G0/74	30	376	56C	GV0/74C	32	416
3/4	1200	73.0	66.0	2.9	56	G0/76	32	471	56C	GV0/76C	37	416
1	3600	76.0	84.0	2.9	56	G0012	26	371	-	-	-	-
1	1800	77.0	71.0	3.4	56	G0014	33	394	56C	GV0014C	35	437
1	1200	75.0	70.0	3.8	56	G0016	35	500	-	-	-	-
1.5	3600	78.0	83.0	4.3	56	G1/52	30	399	-	-	-	-
1.5	1800	78.0	77.0	4.7	56	G1/54	39	431	56C	GV1/54C	40	467
1.5	1200	75.0	71.0	5.3	56	G1/56	39	566	-	-	-	-
2	3600	81.0	86.0	5.4	56	G0022	39	487	-	-	-	-
2	1800	78.5	76.0	6.3	56	G0024	39	453	56C	GV0024C	44	504

**Notes:**

- Cast iron C-Face kits are available for Rigid Base Mount motors. Please see modification page for appropriate adder.
- This product line is not effected by the EISA Legislation and will not be discontinued.

# ROLLED STEEL TEFC NEMA PREMIUM EFFICIENCY



## TYPE AEGH, AEGHCF, AETHCF

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- HVAC Equipment
- Compressors

### FEATURES:

- 1/3 - 10 hp
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled Enclosure (IP44)
- 36 Month Warranty from Date of Manufacture
- Meets or Exceeds NEMA Premium Efficiency Levels
- 60 Hz - 230/ 460V (Usable on 200 & 208V)
- 1.15 Service Factor - Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments - F1 Mounted
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Rolled Steel Frame, Fan Cover, and Conduit Box
- Cast Iron End Brackets
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue - Munsell 5PB 3/ 8
- Double Shielded Bearings Pre-Packed with MULTEMP SRL Grease
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of up to 2200 V
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.
- Speed Ranges: 20:1 VT, 10:1 CT
- 9 Leads - 5 hp and Below, 12 Leads for 7.5 hp and larger

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.

# ROLLED STEEL TEFC NEMA PREMIUM EFFICIENCY



## TYPE AEGH

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FL EFF	FL PF	FL AMPS (230V)	FRAME	APPROX SHIPPING WT. (lbs.)	LIST PRICE
GH0/32	1/3	3600	74.0	78.5	1.07	56	25	285
GH0/34	1/3	1800	75.5	74.5	1.11	56	27	336
GH0/36	1/3	1200	72.0	61.0	1.42	56	31	457
GH0/52	1/2	3600	75.5	85.0	1.46	56	26	322
GH0/54	1/2	1800	77.0	73.5	1.65	56	30	384
GH0/56	1/2	1200	75.5	63.0	1.97	56	37	498
GH0/72	3/4	3600	78.5	80.5	2.22	56	28	349
GH0/74	3/4	1800	78.5	75.5	2.37	56	30	414
GH0/76	3/4	1200	78.5	72.0	2.48	56	38	519
GH0012	1	3600	80.0	85.5	2.74	56	31	402
GP0012	1	3600	80.0	85.5	2.74	143T	33	402
GH0014	1	1800	85.5	75.5	2.90	56	41	405
GP0014	1	1800	85.5	75.5	2.90	143T	41	405
GH0016	1	1200	82.5	66.0	3.44	56	45	524
GP0016	1	1200	82.5	66.0	3.44	145T	43	524
GH1/52	1.5	3600	85.5	83.0	3.96	56	35	462
GP1/52	1.5	3600	85.5	83.0	3.96	143T	33	462
GH1/54	1.5	1800	86.5	80.5	4.03	56	44	464
GP1/54	1.5	1800	86.5	80.5	4.03	145T	46	464
GP1/56	1.5	1200	87.5	55.0	5.84	182T	75	545
GH0022	2	3600	86.5	85.0	5.09	56	42	487
GP0022	2	3600	86.5	85.0	5.09	145T	41	487
GH0024	2	1800	86.5	79.0	5.48	56	46	494
GP0024	2	1800	86.5	79.0	5.48	145T	46	494
GP0026	2	1200	88.5	64.5	6.56	184T	97	615
GP0032	3	3600	87.5	87.5	7.34	182T	84	573
GP0034	3	1800	89.5	74.0	8.48	182T	69	560
GP0036	3	1200	89.5	68.0	9.23	213T	145	807
GP0052	5	3600	89.5	90.0	11.60	184T	97	709
GP0054	5	1800	89.5	80.0	13.10	184T	94	646
GP0056	5	1200	90.2	73.5	14.10	215T	189	1,156
GP7/52	7.5	3600	90.2	84.5	18.40	213T	141	958
GP7/54	7.5	1800	91.7	83.0	18.50	213T	135	961
GP0102	10	3600	91.0	86.0	23.90	215T	186	1,111
GP0104	10	1800	91.7	85.0	24.00	215T	183	1,156

# ROLLED STEEL TEFC NEMA PREMIUM EFFICIENCY



## TYPE AEGHCF, AETHCF

Effective 08-01-11  
Supersedes 12-01-09



HP	RPM	FL EFF	FL PF	FL AMPS (230V)	FRAME	FOOTED C-FACE		ROUND BODY C-FACE		LIST PRICE
						CATALOG NO.	APPROX SHIPPING WT. (lbs.)	CATALOG NO.	APPROX SHIPPING WT. (lbs.)	
1/3	3600	74.0	78.5	1.07	56C	GH0/32C	30	GHV0/32C	29	388
1/3	1800	75.5	74.5	1.11	56C	GH0/34C	32	GHV0/34C	31	401
1/3	1200	72.0	61.0	1.42	56C	GH0/36C	36	GHV0/36C	35	503
1/2	3600	75.5	85.0	1.46	56C	GH0/52C	31	GHV0/52C	30	401
1/2	1800	77.0	73.5	1.65	56C	GH0/54C	35	GHV0/54C	34	455
1/2	1200	75.5	63.0	1.97	56C	GH0/56C	42	GHV0/56C	41	523
3/4	3600	78.5	80.5	2.22	56C	GH0/72C	33	GHV0/72C	32	425
3/4	1800	78.5	75.5	2.37	56C	GH0/74C	35	GHV0/74C	34	432
3/4	1200	78.5	72.0	2.48	56C	GH0/76C	42	GHV0/76C	41	545
1	3600	80.0	85.5	2.74	56C	GH0012C	35	GHV0012C	34	462
1	3600	80.0	85.5	2.74	143TC	GP0012C	35	GPV0012C	34	462
1	1800	85.5	75.5	2.90	56C	GH0014C	45	GHV0014C	44	466
1	1800	85.5	75.5	2.90	143TC	GP0014C	45	GPV0014C	44	466
1	1200	82.5	66.0	3.44	56C	GH0016C	42	GHV0016C	41	603
1	1200	82.5	66.0	3.44	145TC	GP0016C	42	GPV0016C	41	603
1.5	3600	85.5	83.0	3.96	56C	GH1/52C	39	GHV1/52C	38	531
1.5	3600	85.5	83.0	3.96	143TC	GP1/52C	39	GPV1/52C	38	531
1.5	1800	86.5	80.5	4.03	56C	GH1/54C	48	GHV1/54C	47	534
1.5	1800	86.5	80.5	4.03	145TC	GP1/54C	48	GPV1/54C	47	534
1.5	1200	87.5	55.0	5.84	182TC	GP1/56C	75	GPV1/56C	74	627
2	3600	86.5	85.0	5.09	56C	GH0022C	46	GHV0022C	45	560
2	3600	86.5	85.0	5.09	145TC	GP0022C	46	GPV0022C	45	560
2	1800	86.5	79.0	5.48	56C	GH0024C	49	GHV0024C	48	568
2	1800	86.5	79.0	5.48	145TC	GP0024C	49	GPV0024C	48	568
2	1200	88.5	64.5	6.56	184TC	GP0026C	132	GPV0026C	97	707
3	3600	87.5	87.5	7.34	182TC	GP0032C	130	GPV0032C	84	659
3	1800	89.5	74.0	8.48	182TC	GP0034C	135	GPV0034C	69	644
3	1200	89.5	68.0	9.23	213TC	GP0036C	164	GPV0036C	145	928
5	3600	89.5	90.0	11.60	184TC	GP0052C	135	GPV0052C	97	815
5	1800	89.5	80.0	13.10	184TC	GP0054C	135	GPV0054C	94	743
5	1200	90.2	73.5	14.10	215TC	GP0056C	210	GPV0056C	189	1,329
7.5	3600	90.2	84.5	18.40	213TC	GP7/52C	180	GPV7/52C	141	1,102
7.5	1800	91.7	83.0	18.50	213TC	GP7/54C	200	GPV7/54C	135	1,105
10	3600	91.0	86.0	23.90	215TC	GP0102C	220	GPV0102C	186	1,278
10	1800	91.7	85.0	24.00	215TC	GP0104C	219	GPV0104C	183	1,329

**Notes:**

- Drip Covers are available for rigid base mount motors.

# MAX-SE ROUND BODY C-FACE™



## TYPE AEVANE

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Crushers
- Compressors
- Mixers
- Conveyors

### FEATURES:

- 1 - 100 hp - Round Body C-Flange
- 3600, 1800 RPM
- Totally Enclosed Fan Cooled (IP54 Rating)
- Meets or Exceeds EPAct Efficiency Levels
- Department of Energy Efficiency Certification #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 208V).
- 1.15 Service Factor – Continuous
- 50 Hz Data on Nameplate – 190/ 380V at 1.0 S.F.
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design C Torques for 20 hp and Above, 4 and 6 Pole Speed – NEMA Design B for All Other Ratings
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Factory Self-Certified for Class I, Division II, Groups B, C, D; Temp Code T3C, 400T and Below - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Main Conduit Box, and Rolled Steel Fan Cover
- Rolled Steel Fan Cover can be Modified to Add a Drip Cover
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5 BG 4/ 2
- Vacuum De-Gassed Re-greasable Ball Bearings on Frames 280TS-405T/ TS Using Polyrex EM Grease
- Double Shielded Bearings on Frames 140T-280T Pre-Packed with MULTEMP SRL Grease
- Automatic Grease Discharge Fitting on Re-Greasable Motors
- Labyrinth Type Metal Flinger on Both Ends for Frames 280TS to 405T/ TS
- Rubber Flinger on Drive-End for Frames 140T to 280T
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- VFD Rated per NEMA MG1, Part 30 - Note (4) and (5)
- Speed Ranges: 10:1 VT, 5:1 CT
- 9 Leads - 5 hp and Below, 12 Leads - 7.5 hp to 100 hp
- CE Mark on Nameplate, U.L. Recognized and CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Factory self-certification for 440T/ TS frames requires fan change. Please see modifications section. There is an additional charge for Division II nameplates.
- (4) Motor service factor is 1.0 when operated on a VFD.
- (5) Maximum lead length is 150 feet with a carrier frequency of 3 kHz. The addition of an output reactor or filter may allow for increased carrier frequency. Please contact TWMC if lead length and carrier frequency surpass these values.

# MAX-SE™ ROUND BODY C-FACE



## TYPE AEVANE

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
NV0012C	1	3600	143TC	77.0	84.5	1.44	85	360
NV0014C <sup>(C)</sup>	1	1800	143TC	82.5	77.0	1.48	50	398
NV1/52C	1.5	3600	143TC	82.5	85.0	2.01	50	424
NV1/54C <sup>(C)</sup>	1.5	1800	145TC	84.0	80.5	2.08	54	446
NV0022C	2	3600	145TC	84.0	88.5	2.52	53	481
NV0024C	2	1800	145TC	84.0	82.5	2.70	80	487
NV0032C	3	3600	182TC	85.5	90.0	3.65	135	573
NV0034C	3	1800	182TC	87.5	82.5	3.89	122	559
NV0052C	5	3600	184TC	87.5	91.5	5.85	145	686
NV0054C	5	1800	184TC	87.5	86.5	6.20	150	653
NV7/52C	7.5	3600	213TC	88.5	87.0	9.10	190	964
NV7/54C	7.5	1800	213TC	89.5	88.0	8.90	198	947
NV0102C	10	3600	215TC	89.5	90.0	11.6	218	1,113
NV0104C	10	1800	215TC	89.5	89.5	11.7	221	1,150
NV0152C	15	3600	254TC	90.2	91.5	17.0	350	1,598
NV0154C	15	1800	254TC	91.0	88.0	17.6	365	1,568
NV0202C	20	3600	256TC	90.2	92.0	22.6	375	1,971
NV0204C <sup>(C)</sup>	20	1800	256TC	91.0	88.0	23.4	410	1,885
NV0252C	25	3600	284TSC	91.0	90.5	28.4	444	2,473
NV0254C <sup>(C)</sup>	25	1800	284TC	92.4	89.0	28.5	515	2,310
NV0302C	30	3600	286TSC	91.0	91.0	33.9	555	2,956
NV0304C <sup>(C)</sup>	30	1800	286TC	92.4	88.0	34.6	503	2,812
NV0402C	40	3600	324TSC	91.7	89.5	45.7	625	3,614
NV0404C <sup>(C)</sup>	40	1800	324TC	93.0	89.0	45.3	740	3,533
NV0502C	50	3600	326TSC	92.4	90.5	56.0	706	4,757
NV0504C <sup>(C)</sup>	50	1800	326TC	93.0	89.5	56.0	835	4,524
NV0602C	60	3600	364TSC	93.0	93.0	65.0	910	6,251
NV0604C <sup>(C)</sup>	60	1800	364TC	93.6	86.5	69.5	915	5,776
NV0752C	75	3600	365TSC	93.0	93.5	81.0	871	8,058
NV0754C <sup>(C)</sup>	75	1800	365TC	94.1	87.5	85.5	1,035	7,202
NV1002C	100	3600	405TSC	93.6	91.5	109.5	1,203	11,279
NV1004C <sup>(C)</sup>	100	1800	405TC	94.5	89.0	111.5	1,365	10,192

### Notes:

- See Page 72 for Drip Cover Adders.
- See Page 74 for Drip Cover Factory Modifications.
- Product is not effected by the EISA Legislation, therefore will not be discontinued.

(C) Meets NEMA Design C torque

**APPLICATIONS:**

- Crushers
- Impactors
- Chippers/ Shredders
- Ball Mills/ Rolling Mills
- Any High Torque Application

**FEATURES:**

- 20 - 600 hp
- 1800, 1200, 900 RPM
- Totally Enclosed Fan Cooled (IP55 Rating)
- Standard Efficient Design
- 36 Month Warranty from Date of Manufacture
- 60 Hz – 230/ 460V (Usable on 208V). 150 hp and Larger is 460V Only
- 50 Hz Data on Nameplate - 190/ 380V at 1.0 S.F. 150 hp and Larger is 380V Only at 1.0 S.F.
- Standard With Thermistors (PTC 140°C), 1 per Phase, Wired to a Separate Auxiliary Box
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Class B Temperature Rise
- NEMA Design C Torques -  $\geq 200\%$  Starting Torque,  $\geq 250\%$  Breakdown Torque
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrances - F1 Mounted.
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, and Conduit Box
- Rolled Steel Fan Cover
- High Strength 4140 AISI Steel Shaft
- Locknut and Washer on NDE for Vertical Shaft Down Applications on 440 Frames and Larger
- Drain Holes/ Plugs on Both End Brackets for Vertical Applications
- Threaded One Way Breather Drains for Horizontal Applications
- Aluminum Die Cast Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5GB 4/ 2
- Vacuum De-Gassed Re-Greasable Bearings with Polyrex EM Grease
- Roller Bearing on Drive-End – 360T Frames and Larger
- Labyrinth Type Metal Grease Flinger on Both Ends
- Cast Iron Inner and Outer Bearing Caps – 320T Frames and Larger
- Grounding Terminal Inside Main Box and on Motor Foot
- Stainless Steel Nameplate
- 6 Leads
- Motors are CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.

**EXTRAS/ OPTIONS:**

Please refer to pages 73 - 78 for common modifications that can be performed.

**Notes:**

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.



## TYPE AEEAGD

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
CD0204	20	1800	256T	94.1	85.0	23.4	395	1,898
CD0206	20	1200	286T	93.6	80.0	24.9	520	2,999
CD0254	25	1800	284T	93.6	80.0	28.5	510	2,357
CD0256	25	1200	324T	94.1	88.5	31.3	745	3,911
CD0304	30	1800	286T	94.1	88.5	34.6	545	2,860
CD0306	30	1200	326T	94.1	85.0	38.1	775	4,580
CD0404	40	1800	324T	94.1	85.0	45.3	710	3,700
CD0406	40	1200	364T	94.1	85.0	46.6	945	6,174
CD0504	50	1800	326T	94.1	85.0	56.0	795	4,805
CD0506	50	1200	365T	94.1	81.0	59.0	1,040	7,463
CD0604	60	1800	364T	94.1	89.0	69.5	870	6,505
CD0606	60	1200	404T	94.1	89.5	68.0	1,295	9,665
CD0754R	75	1800	365T	94.1	89.0	85.5	1,075	8,316
CD0756R	75	1200	405T	94.1	85.0	85.0	1,317	10,025
CD1004R	100	1800	405T	94.1	85.0	111.5	1,360	10,477
CD1006R	100	1200	444T	94.5	85.0	119.0	1,665	18,802
CD1254R	125	1800	444T	94.1	81.0	142.0	1,705	19,231
CD1256R	125	1200	445T	94.1	81.0	150.0	1,995	23,027
CD1504R	150	1800	445T	94.1	89.5	168.0	1,865	20,148
CD1506R	150	1200	447TZ	94.1	89.5	171.0	2,363	25,167
CD2004R	200	1800	447TZ	94.5	89.5	223.0	2,465	21,900
CD2006R	200	1200	449TZ	95.0	86.5	228.0	2,783	25,400
CD2006RZ	200	1200	505UZ	94.5	85.0	234.0	3,500	25,386
CD2008R	200	900	5007C	94.5	85.0	250.0	3,728	38,080
CD2504TR	250	1800	449TZ	94.5	81.0	281.0	2,708	22,780
CD2504TB	250	1800	449T	94.5	81.0	281.0	2,708	22,780
CD2504R	250	1800	5007C	94.5	89.5	281.0	3,570	25,386
CD2504RZ	250	1800	505UZ	94.5	89.5	283.0	3,150	24,750
CD2506TR	250	1200	449TZ	94.5	85.5	293.0	2,800	26,917
CD2506R	250	1200	5007C	94.5	85.5	293.0	3,500	27,978
CD2506RZ	250	1200	586/7	94.5	81.5	293.0	4,750	36,278
CD2508R	250	900	5009C	94.5	90.0	311.0	4,200	42,402
CD3004TR	300	1800	449TZ	94.5	85.5	335.0	2,800	26,683
CD3004R	300	1800	5007C	94.5	90.0	334.0	3,585	28,336
CD3004RZ	300	1800	586/7	94.5	85.5	335.0	4,748	36,278
CD3006TR	300	1200	449TZ	95.1	90.0	351.0	3,100	32,582
CD3006R	300	1200	5009C	95.1	90.0	351.0	4,175	35,337
CD3006RZ	300	1200	586/7	95.1	85.5	350.0	5,100	41,711
CD3008R	300	900	5806C	94.1	81.0	368.0	5,093	52,832

**Notes:**

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.

## TYPE AEEAGD

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
CD3504TR	350	1800	449TZ	94.1	89.5	391	3,100	29,548
CD3504R	350	1800	5009C	94.5	89.5	389	3,945	31,563
CD3504RZ	350	1800	586/7	94.5	85.0	387	5,093	39,012
CD3506R	350	1200	5806C	94.5	85.0	407	4,750	42,540
CD3506RZ	350	1200	586/7	94.5	81.0	407	5,565	44,637
CD3508R	350	900	5808C	94.5	81.0	428	5,610	55,371
CD4004R	400	1800	5806C	94.5	89.5	443	4,748	40,207
CD4004RZ	400	1800	586/7	94.5	85.5	443	5,445	43,050
CD4006R	400	1200	5808C	94.5	85.5	464	5,100	47,753
CD4006RZ	400	1200	586/7	94.5	81.5	464	6,020	47,753
CD4008R	400	900	5808C	94.5	90.0	486	5,828	67,089
CD4504R	450	1800	5808C	94.5	90.0	495	5,093	44,765
CD4504RZ	450	1800	586/7	94.5	85.5	495	6,510	44,765
CD4506R	450	1200	5808C	94.5	90.0	521	5,565	51,871
CD5004R	500	1800	5808C	94.5	85.5	550	5,445	46,164
CD5006R	500	1200	5808C	95.1	90.0	579	6,020	55,165
CD6004R	600	1800	5808C	95.1	90.0	656	6,510	65,799
CD6006R	600	1200	5810C	95.1	85.5	691	6,898	79,125

**Notes:**

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.

**TYPE AEHH8P**

Effective 08-01-11  
Supercedes 12-01-09

**APPLICATIONS:**

- |                  |               |
|------------------|---------------|
| ■ Fans & Blowers | ■ Compressors |
| ■ Pumps          | ■ Mixers      |
| ■ Crushers       | ■ Conveyors   |

**FEATURES:**

- 1 - 200 hp
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled (IP44 Rating)
- Meets or Exceeds NEMA Premium Efficiency Levels
- Department of Energy Efficiency Certificate #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz – 230/ 460V (Usable on 208V). 150 hp and Larger is 460V Only
- 1.15 Service Factor – Continuous
- 50 Hz Data on Nameplate - 190/ 380V at 1.0 S.F. 150 hp and Larger is 380V Only at 1.0 S.F.
- Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Class B Temperature Rise
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed F1 Mounted. F2 Available - See EXTRAS/OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Factory Self Certified for Class 1, Div. 2, Groups B, C, D; Temp Code T3C, 400T and Below - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Pressed Steel Fan Cover and Conduit Box
- Dual Drilled Feet - Longer Frames (i.e. 145T Drilled also for 143T)
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5 BG 3.5/ .05
- Vacuum De-Gassed Re-Greasable Bearings for Frames 280TS-449T/TS with Polyrex EM Grease
- Double Shielded Bearings on Frames 140T-280T Pre-Packed with MULTEMP SRL Grease
- Automatic Grease Discharge on Frames on Re-Greaseable Motors
- Labyrinth Type Metal Flinger on Both Ends for Frames 280TS-449T/TS
- Cast Iron Inner and Outer Bearing Caps for Frames 280TS-449T/TS
- Rubber Flinger on Drive-End for Frames 140T - 280T
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200 Volts
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1 Part 31.4.4.3.
- Speed Ranges: 20:1 VT, 10:1 CT
- VFD Rated per NEMA MG1, Part 30 - Note (4)
- 9 Leads - 5 hp and Below, 12 Leads 7.5 hp - 125 hp, 6 Leads - 150 hp and Larger
- CE Mark on Nameplate, U.L. Recognized and CSA Approved

**EXTRAS/ OPTIONS:**

Please refer to pages 73 - 78 for common modifications that can be performed.

**Notes:**

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Factory self-certified for 440T/TS frames requires fan change. Please see modifications section. There is an additional charge for Division II Nameplate - See modifications section.
- (4) Motor service factor is 1.0 when operated on a VFD.

**TYPE AEHH8P**

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	SHIPPING WT. (lbs.)	LIST PRICE
NP0012	1	3600	143T	82.5	85.0	1.34	83	387
NP0014	1	1800	143T	85.5	73.0	1.50	48	394
NP0016	1	1200	145T	82.5	65.5	1.73	90	500
NP1/52	1.5	3600	143T	84.0	83.5	2.00	85	442
NP1/54	1.5	1800	145T	86.5	78.0	2.08	78	444
NP1/56	1.5	1200	182T	87.5	63.5	2.53	120	526
NP0022	2	3600	145T	86.5	86.0	2.52	62	469
NP0024	2	1800	145T	86.5	78.0	2.78	90	476
NP0026	2	1200	184T	88.5	70.5	3.00	132	589
NP0032	3	3600	182T	88.5	90.0	3.53	130	552
NP0034	3	1800	182T	89.5	84.0	3.74	135	537
NP0036	3	1200	213T	89.5	78.0	4.02	164	773
NP0052	5	3600	184T	88.5	92.5	5.72	135	679
NP0054	5	1800	184T	89.5	85.5	6.12	133	618
NP0056	5	1200	215T	91.0	82.5	6.24	210	1,109
NP7/52	7.5	3600	213T	91.0	89.0	8.67	180	921
NP7/54	7.5	1800	213T	91.7	86.5	8.85	200	919
NP7/56	7.5	1200	254T	91.0	80.5	9.59	315	1,553
NP0102	10	3600	215T	91.0	89.5	11.5	220	1,071
NP0104	10	1800	215T	91.7	88.0	11.6	219	1,107
NP0106	10	1200	256T	91.0	80.5	12.8	340	1,886
NP0152	15	3600	254T	92.4	91.5	16.6	325	1,500
NP0154	15	1800	254T	92.4	88.0	17.3	316	1,461
NP0156	15	1200	284T	92.4	83.5	18.2	530	2,597
NP0202	20	3600	256T	92.4	92.5	21.9	380	1,911
NP0204	20	1800	256T	93.0	87.5	23.0	395	1,842
NP0206	20	1200	286T	91.7	84.0	24.3	520	3,259
NP0252	25	3600	284TS	92.4	91.0	27.8	460	2,436
NP0254	25	1800	284T	93.6	86.0	29.1	510	2,266
NP0254S	25	1800	284TS	93.6	86.0	29.1	510	2,266
NP0256	25	1200	324T	93.0	83.0	30.3	745	4,074
NP0302	30	3600	286TS	93.0	91.0	33.2	508	2,875
NP0304	30	1800	286T	93.6	87.5	34.3	545	2,750
NP0304S	30	1800	286TS	93.6	87.5	34.3	545	2,750
NP0306	30	1200	326T	93.0	80.5	37.5	775	4,558
NP0402	40	3600	324TS	94.1	90.0	44.2	650	3,808
NP0404	40	1800	324T	94.1	86.0	46.3	710	3,695
NP0404S	40	1800	324TS	94.1	86.0	46.3	710	3,695
NP0406	40	1200	364T	94.1	86.5	46.0	945	5,994
NP0502	50	3600	326TS	94.1	91.0	54.7	775	5,104
NP0504	50	1800	326T	94.5	87.0	56.9	795	4,681
NP0504S	50	1800	326TS	94.5	87.0	56.9	795	4,681
NP0506	50	1200	365T	94.1	86.0	57.8	1,040	7,389



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	SHIPPING WT. (lbs.)	LIST PRICE
NP0602	60	3600	364TS	94.1	93.0	64.2	890	6,702
NP0604	60	1800	364T	95.0	86.5	68.4	870	6,024
NP0604S	60	1800	364TS	95.0	86.5	68.4	870	6,024
NP0606	60	1200	404T	94.5	87.0	68.3	1,295	8,786
NP0752	75	3600	365TS	94.5	93.0	79.9	970	8,578
NP0754	75	1800	365T	95.4	86.5	85.1	1,075	7,772
NP0754S	75	1800	365TS	95.4	86.5	85.1	1,075	7,772
NP0754R	75	1800	365T	95.4	86.5	85.1	1,075	7,772
NP0756	75	1200	405T	94.5	86.5	85.9	1,317	10,443
NP0756R	75	1200	405T	94.5	86.5	85.9	1,317	10,443
NP1002	100	3600	405TS	95.4	92.0	107.0	1,286	11,586
NP1004	100	1800	405T	95.4	87.5	112.0	1,360	10,801
NP1004S	100	1800	405TS	95.4	87.5	112.0	1,360	10,801
NP1004R	100	1800	405T	95.4	87.5	112.0	1,360	10,801
NP1006	100	1200	444T	95.0	82.5	119.0	1,665	13,339
NP1006R	100	1200	444T	95.0	82.5	119.0	1,665	13,339
NP1252	125	3600	444TS	95.0	86.0	143.0	1,530	14,501
NP1254	125	1800	444T	95.4	84.0	146.0	1,705	13,600
NP1254S	125	1800	444TS	95.4	84.0	146.0	1,705	13,600
NP1254R	125	1800	444T	95.4	84.0	146.0	1,705	13,600
NP1256	125	1200	445T	95.0	83.0	148.0	1,860	17,541
NP1256R	125	1200	445T	95.0	83.0	148.0	1,860	17,541
NP1502 <sup>(1)</sup>	150	3600	445TS	95.0	87.0	170.0	1,710	17,292
NP1504 <sup>(1)</sup>	150	1800	445T	95.8	84.0	175.0	1,865	15,452
NP1504S <sup>(1)</sup>	150	1800	445TS	95.8	84.0	175.0	1,865	15,452
NP1504R <sup>(1)</sup>	150	1800	445T	95.8	84.0	175.0	1,865	15,452
NP1506 <sup>(1)</sup>	150	1200	447T	95.8	83.5	176.0	2,230	19,539
NP1506R <sup>(1)</sup>	150	1200	447T	95.8	83.5	176.0	2,230	19,539
NP2002 <sup>(1)</sup>	200	3600	447TS	95.4	87.0	226.0	2,015	23,684
NP2004 <sup>(1)</sup>	200	1800	447T	96.2	84.5	230.0	2,465	20,282
NP2004S <sup>(1)</sup>	200	1800	447TS	96.2	84.5	230.0	2,465	20,282
NP2004R <sup>(1)</sup>	200	1800	447T	96.2	84.5	230.0	2,465	20,282
NP2006 <sup>(1)</sup>	200	1200	449T	95.8	84.0	233.0	2,625	25,554
NP2006R <sup>(1)</sup>	200	1200	449T	95.8	84.0	233.0	2,625	25,554

**Notes:**

(1) Ratings 150 hp and larger are 460V only.

**TYPE AEHH8PCF, FOOTED C-FACE**

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	SHIPPING WT. (LBS.)	LIST PRICE
NP0012C	1	3600	143TC	82.5	85.0	1.34	85	418
NP0014C	1	1800	143TC	85.5	73.0	1.50	50	449
NP0016C	1	1200	145TC	82.5	65.5	1.73	92	577
NP1/52C	1.5	3600	143TC	84.0	83.5	2.00	87	500
NP1/54C	1.5	1800	145TC	86.5	78.0	2.08	80	508
NP1/56C	1.5	1200	182TC	87.5	63.5	2.53	122	600
NP0022C	2	3600	145TC	86.5	86.0	2.52	64	544
NP0024C	2	1800	145TC	86.5	78.0	2.78	92	553
NP0026C	2	1200	184TC	88.5	70.5	3.00	134	680
NP0032C	3	3600	182TC	88.5	90.0	3.53	132	654
NP0034C	3	1800	182TC	89.5	84.0	3.74	137	624
NP0036C	3	1200	213TC	89.5	78.0	4.02	166	987
NP0052C	5	3600	184TC	88.5	92.5	5.72	137	771
NP0054C	5	1800	184TC	89.5	85.5	6.12	135	683
NP0056C	5	1200	215TC	91.0	82.5	6.24	212	1,260
NP7/52C	7.5	3600	213TC	91.0	89.0	8.67	182	1,066
NP7/54C	7.5	1800	213TC	91.7	86.5	8.85	202	1,065
NP7/56C	7.5	1200	254TC	91.0	80.5	9.59	317	1,743
NP0102C	10	3600	215TC	91.0	89.5	11.5	222	1,239
NP0104C	10	1800	215TC	91.7	88.0	11.6	221	1,295
NP0106C	10	1200	256TC	91.0	80.5	12.8	342	2,164
NP0152C	15	3600	254TC	92.4	91.5	16.6	327	1,745
NP0154C	15	1800	254TC	92.4	88.0	17.3	318	1,682
NP0156C	15	1200	284TC	92.4	83.5	18.2	532	3,021
NP0202C	20	3600	256TC	92.4	92.5	21.9	382	2,235
NP0204C	20	1800	256TC	93.0	87.5	23.0	397	2,135
NP0206C	20	1200	286TC	91.7	84.0	24.3	522	3,825
NP0252C	25	3600	284TSC	92.4	91.0	27.8	462	2,843
NP0254C	25	1800	284TC	93.6	86.0	29.1	512	2,653
NP0256C	25	1200	324TC	93.0	83.0	30.3	747	4,751
NP0302C	30	3600	286TSC	93.0	91.0	33.2	510	3,372
NP0304C	30	1800	286TC	93.6	87.5	34.3	547	3,227
NP0306C	30	1200	326TC	93.0	80.5	37.5	777	5,372
NP0402C	40	3600	324TSC	94.1	90.0	44.2	652	4,278
NP0404C	40	1800	324TC	94.1	86.0	46.3	712	4,191
NP0406C	40	1200	364TC	94.1	86.5	46.0	947	6,814
NP0502C	50	3600	326TSC	94.1	91.0	54.7	777	5,668
NP0504C	50	1800	326TC	94.5	87.0	56.9	797	5,264
NP0506C	50	1200	365TC	94.1	86.0	57.8	1,042	8,241
NP0602C	60	3600	364TSC	94.1	93.0	64.2	892	7,429
NP0604C	60	1800	364TC	95.0	86.5	68.4	872	6,848
NP0606C	60	1200	404TC	94.5	87.0	68.3	1,297	9,922
NP0752C	75	3600	365TSC	94.5	93.0	79.9	972	9,510
NP0754C	75	1800	365TC	95.4	86.5	85.1	1,077	8,615
NP0756C	75	1200	405TC	94.5	86.5	85.9	1,319	11,580
NP1002C	100	3600	405TSC	95.4	92.0	107.0	1,288	12,843
NP1004C	100	1800	405TC	95.4	87.5	112.0	1,362	12,073

# MAX-E1® FAMILY NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N, AEHH8NCF, AEUH8NDC

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Crushers
- Compressor
- Mixers
- Conveyors
- Any Severe Duty/ Petro-Chem/ Pulp & Paper Application

### FEATURES:

- 3/4 - 800 hp: 3600, 1800, 1200, 900 RPM
- 1 - 100 hp: Foot Mounted with C-Flange or Round Body C-Flange
- Totally Enclosed Fan Cooled (IP54 Rating; IP55 Ratings for Frames Sizes 5000 and Larger)
- NEMA Premium Efficient Ratings From 1 - 500 hp, Denoted Catalog Number Prefix of "EP" - Note (1)
- Department of Energy Efficiency Certification # CC002A
- 36 Month Warranty from Date of Manufacture
- 3 Phase, 60 Hz , 230/ 460V (Usable on 208V) – 150 hp and Larger are 460V Only - Note (2)
- 575V Ratings Available, Denoted by a Catalog Number Suffix of "5" - Note (2)
- 1.15 Service Factor – Continuous
- NEMA Design B Torques as a Minimum; Design C Motors are Denoted with a superscript "C"
- Class B Temperature Rise, Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance – F1 Mounted. F2 Available – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature and 3300 ft. Elevation - Note (3)
- CSA Certified for Class I, Division II, Groups B, C, D; Temp Code T3C, Non Sparking, Non Static Fan - Note (4)
- Bidirectional Rotation Except 2 Pole Motors 5000 Frame and Larger which are Uni-directional CCW Facing the Drive-End. See EXTRAS/ OPTIONS Below if CW Rotation is Required.
- Cast Iron Frame, End Brackets, Fan Cover, and Main Conduit Box
- Dual Drilled Feet – Longer Frames. (i.e. 145T Drilled Also for 143T) Through 449T Frames Only (5)
- 1045 Carbon Steel Shaft.
- Aluminum Die Cast Squirrel Cage Rotor Construction for Frames 5011 and Smaller. Copper/ Copper Alloy Rotor for Frames 5800-6800 Frames.
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat/ Paint Color: Light Grey – Munsell N5.0
- Vacuum De-Gassed Re-greaseable Ball Bearings (or Roller) on 280TS Frames and Larger Using Polyrex EM Grease
- Single Shielded Bearings on Frames 140T-280T Pre-Packed with Polyrex EM Grease
- Automatic Grease Discharge Fittings on Frames on Re-Greaseable Motors
- Labyrinth Type Metal Flinger on Both Ends for Frames 280TS to 6800
- Rubber Flinger on Drive-End for Frames 140T to 280T
- Cast Iron Inner and Outer Bearing Caps on Both Ends for Frames 280TS to 6800
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- UL Recognized and CSA Approved for Inverter Duty per NEMA MG 1, Part 31 – 300 hp and Below. 350 hp and Above are Suitable for Inverter Duty per NEMA MG 1, Part 31, 4.4.2 - Note (6)
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200 Volts
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.
- Insulated Non-Drive End Bearing on 2-Pole Motors 600 hp and Larger
- Speed Ranges: 20:1 VT, 10:1 CT. 350 hp and Larger are 3:1 CT
- 9 Leads - 5 hp and Below, 12 Leads - 7.5 hp to 125 hp, 6 Leads - 150 hp and Larger

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) NEMA Premium Efficiency levels only applies to 1-500 hp, 3600, 1800, 1200 RPM.
- (2) 208V or the current rating will not appear on the motor nameplate. Please see Modification for Nameplate adder. TWMC carries minimal 575V stock. Please check availability to ensure required motors are in stock. Ratings may be available from our Canadian warehouses or factory. Pricing and lead time may vary.
- (3) Please consult factory for suitability in higher ambients and higher elevations.
- (4) Self-Certification applies to 300 hp and above.
- (5) EP3006, EP3502 and EP3504 are not dual drilled.
- (6) Motor service factor is 1.0 when operated on a VFD.

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V or 575V)*	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
E0/78	3/4	900	145T	70.0	53.5	1.90	85	780
E0/785	3/4	900	145T	70.0	53.5	1.52	85	780
EP0012	1	3600	143T	82.5	85.0	1.34	65	423
EP00125	1	3600	143T	82.5	85.0	1.07	65	423
EP0014 <sup>(C)</sup>	1	1800	143T	85.5	73.0	1.50	58	426
EP00145 <sup>(C)</sup>	1	1800	143T	85.5	73.0	1.20	56	426
EP0016	1	1200	145T	82.5	65.5	1.73	83	552
EP00165	1	1200	145T	82.5	65.5	1.38	83	552
E0018	1	900	182T	77.0	58.5	2.10	105	917
E00185	1	900	182T	77.0	58.5	1.68	105	917
EP1/52	1.5	3600	143T	84.0	83.5	2.00	56	486
EP1/525	1.5	3600	143T	84.0	83.5	1.60	56	486
EP1/54 <sup>(C)</sup>	1.5	1800	145T	86.5	78.0	2.08	80	488
EP1/545 <sup>(C)</sup>	1.5	1800	145T	86.5	78.0	1.66	80	488
EP1/56	1.5	1200	182T	87.5	63.5	2.53	125	574
EP1/565	1.5	1200	182T	87.5	63.5	2.02	125	574
E1/58	1.5	900	184T	77.0	60.5	3.00	125	1,093
E1/585	1.5	900	184T	77.0	60.5	2.40	125	1,093
EP0022	2	3600	145T	86.5	86.0	2.52	95	513
EP00225	2	3600	145T	86.5	86.0	2.02	95	513
EP0024 <sup>(C)</sup>	2	1800	145T	86.5	78.0	2.78	68	520
EP00245 <sup>(C)</sup>	2	1800	145T	86.5	78.0	2.22	68	520
EP0026 <sup>(C)</sup>	2	1200	184T	88.5	70.5	3.00	136	647
EP00265 <sup>(C)</sup>	2	1200	184T	88.5	70.5	2.40	136	647
E0028 <sup>(C)</sup>	2	900	213T	85.5	64.0	5.00	173	1,272
E00285 <sup>(C)</sup>	2	900	213T	85.5	64.0	4.00	173	1,272
EP0032	3	3600	182T	88.5	90.0	3.53	125	603
EP00325	3	3600	182T	88.5	90.0	2.82	125	603
EP0034 <sup>(C)</sup>	3	1800	182T	89.5	84.0	3.74	130	589
EP00345 <sup>(C)</sup>	3	1800	182T	89.5	84.0	2.99	130	589
EP0036 <sup>(C)</sup>	3	1200	213T	89.5	78.0	4.02	180	849
EP00365 <sup>(C)</sup>	3	1200	213T	89.5	78.0	3.22	180	849
E0038 <sup>(C)</sup>	3	900	215T	85.5	66.0	5.00	192	1,675
E00385 <sup>(C)</sup>	3	900	215T	85.5	66.0	4.00	192	1,675
EP0052	5	3600	184T	88.5	92.5	5.72	145	746
EP00525	5	3600	184T	88.5	92.5	4.58	145	746
EP0054 <sup>(C)</sup>	5	1800	184T	89.5	85.5	6.12	150	680
EP00545 <sup>(C)</sup>	5	1800	184T	89.5	85.5	4.90	150	680
EP0056 <sup>(C)</sup>	5	1200	215T	91.0	82.5	6.24	225	1,217
EP00565 <sup>(C)</sup>	5	1200	215T	91.0	82.5	4.99	225	1,217
E0058	5	900	254T	86.5	72.0	7.50	305	2,279
E00585	5	900	254T	86.5	72.0	6.00	305	2,279
EP7/52	7.5	3600	213T	91.0	89.0	8.67	200	1,008
EP7/525	7.5	3600	213T	91.0	89.0	6.94	200	1,008
EP7/54 <sup>(C)</sup>	7.5	1800	213T	91.7	86.5	8.85	210	1,012
EP7/545 <sup>(C)</sup>	7.5	1800	213T	91.7	86.5	7.08	210	1,012
EP7/56 <sup>(C)</sup>	7.5	1200	254T	91.0	80.5	9.59	325	1,712
EP7/565 <sup>(C)</sup>	7.5	1200	254T	91.0	80.5	7.67	325	1,712
E7/58 <sup>(C)</sup>	7.5	900	256T	85.5	71.5	11.50	365	2,901
E7/585 <sup>(C)</sup>	7.5	900	256T	85.5	71.5	9.20	365	2,901

**Notes:**

- 5 at end of catalog number denotes 575V.
- (C) Meets NEMA Design C torque



# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V or 575V)*	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EP0102	10	3600	215T	91.0	89.5	11.5	235	1,169
EP01025	10	3600	215T	91.0	89.5	9.2	235	1,169
EP0104 <sup>(C)</sup>	10	1800	215T	91.7	88.0	11.6	265	1,217
EP01045 <sup>(C)</sup>	10	1800	215T	91.7	88.0	9.3	265	1,217
EP0106 <sup>(C)</sup>	10	1200	256T	91.0	80.5	12.8	380	2,082
EP01065 <sup>(C)</sup>	10	1200	256T	91.0	80.5	10.2	380	2,082
E0108 <sup>(C)</sup>	10	900	284T	89.5	73.5	14.2	445	3,655
E01085 <sup>(C)</sup>	10	900	284T	89.5	73.5	11.4	445	3,655
EP0152	15	3600	254T	92.4	91.5	16.6	345	1,653
EP01525	15	3600	254T	92.4	91.5	13.3	345	1,653
EP0154 <sup>(C)</sup>	15	1800	254T	92.4	88.0	17.3	350	1,609
EP01545 <sup>(C)</sup>	15	1800	254T	92.4	88.0	13.8	350	1,609
EP0156 <sup>(C)</sup>	15	1200	284T	92.4	83.5	18.2	460	2,851
EP01565 <sup>(C)</sup>	15	1200	284T	92.4	83.5	14.6	460	2,851
E0158	15	900	286T	89.5	78.0	20.1	510	4,794
E01585	15	900	286T	89.5	78.0	16.1	510	4,794
EP0202	20	3600	256T	92.4	92.5	21.9	405	2,102
EP02025	20	3600	256T	92.4	92.5	17.5	405	2,102
EP0204 <sup>(C)</sup>	20	1800	256T	93.0	87.5	23.0	410	2,028
EP02045 <sup>(C)</sup>	20	1800	256T	93.0	87.5	18.4	410	2,028
EP0206 <sup>(C)</sup>	20	1200	286T	91.7	84.0	24.3	550	3,595
EP02065 <sup>(C)</sup>	20	1200	286T	91.7	84.0	19.4	550	3,595
E0208 <sup>(C)</sup>	20	900	324T	90.2	81.0	25.6	585	5,780
E02085 <sup>(C)</sup>	20	900	324T	90.2	81.0	20.5	585	5,780
EP0252	25	3600	284TS	92.4	91.0	27.8	498	2,694
EP02525	25	3600	284TS	92.4	91.0	22.2	498	2,694
EP0254 <sup>(C)</sup>	25	1800	284T	93.6	86.0	29.1	520	2,474
EP02545 <sup>(C)</sup>	25	1800	284TS	93.6	86.0	29.1	520	2,474
EP02545 <sup>(C)</sup>	25	1800	284T	93.6	86.0	23.3	520	2,474
EP0256 <sup>(C)</sup>	25	1200	324T	93.0	83.0	30.3	725	4,456
EP02565 <sup>(C)</sup>	25	1200	324T	93.0	83.0	24.2	725	4,456
E0258 <sup>(C)</sup>	25	900	326T	90.2	79.5	25.6	684	6,832
E02585 <sup>(C)</sup>	25	900	326T	90.2	79.5	20.5	684	6,832
EP0302	30	3600	286TS	93.0	91.0	33.2	530	3,204
EP03025	30	3600	286TS	93.0	91.0	26.7	530	3,204
EP0304 <sup>(C)</sup>	30	1800	286T	93.6	87.5	34.3	558	3,043
EP03045 <sup>(C)</sup>	30	1800	286TS	93.6	87.5	34.3	558	3,043
EP03045 <sup>(C)</sup>	30	1800	286T	93.6	87.5	27.4	558	3,043
EP0306 <sup>(C)</sup>	30	1200	326T	93.0	80.5	37.5	775	5,022
EP03065 <sup>(C)</sup>	30	1200	326T	93.0	80.5	30.0	775	5,022
E0308 <sup>(C)</sup>	30	900	364T	93.0	77.5	39.0	898	7,945
E03085 <sup>(C)</sup>	30	900	364T	93.0	77.5	31.2	898	7,945
EP0402	40	3600	324TS	94.1	90.0	44.2	755	4,186
EP04025	40	3600	324TS	94.1	90.0	35.4	755	4,186
EP0404 <sup>(C)</sup>	40	1800	324T	94.1	86.0	46.3	750	4,039
EP04045 <sup>(C)</sup>	40	1800	324TS	94.1	86.0	46.3	750	4,039
EP04045 <sup>(C)</sup>	40	1800	324T	94.1	86.0	37.0	750	4,039
EP0406 <sup>(C)</sup>	40	1200	364T	94.1	86.5	46.0	1,025	6,587
EP04065 <sup>(C)</sup>	40	1200	364T	94.1	86.5	36.8	1,025	6,587
E0408 <sup>(C)</sup>	40	900	365T	91.7	76.5	53.4	1,020	9,813
E04085 <sup>(C)</sup>	40	900	365T	91.7	76.5	42.7	1,020	9,813

**Notes:**

- 5 at end of catalog number denotes 575V
- S at end of catalog number denotes "TS" Short Shaft
- (C) Meets NEMA Design C torque

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V or 575V)*	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EP0502	50	3600	326TS	94.1	91.0	54.7	815	5,580
EP05025	50	3600	326TS	94.1	91.0	43.8	815	5,580
EP0504 <sup>(C)</sup>	50	1800	326T	94.5	87.0	56.9	845	5,129
EP0504S <sup>(C)</sup>	50	1800	326TS	94.5	87.0	56.9	845	5,129
EP05045 <sup>(C)</sup>	50	1800	326T	94.5	87.0	45.5	845	5,129
EP0506 <sup>(C)</sup>	50	1200	365T	94.1	86.0	57.8	1,105	8,125
EP05065 <sup>(C)</sup>	50	1200	365T	94.1	86.0	46.2	1,105	8,125
E0508 <sup>(C)</sup>	50	900	404T	93.0	80.5	53.4	1,098	11,578
E05085 <sup>(C)</sup>	50	900	404T	93.0	80.5	42.7	1,098	11,578
EP0602	60	3600	364TS	94.1	93.0	64.2	960	7,353
EP06025	60	3600	364TS	94.1	93.0	51.4	960	7,353
EP0604 <sup>(C)</sup>	60	1800	364T	95.0	86.5	68.4	945	6,626
EP0604S <sup>(C)</sup>	60	1800	364TS	95.0	86.5	68.4	945	6,626
EP06045 <sup>(C)</sup>	60	1800	364T	95.0	86.5	54.7	945	6,626
EP0606 <sup>(C)</sup>	60	1200	404T	94.5	87.0	68.3	1,305	9,552
EP06065 <sup>(C)</sup>	60	1200	404T	94.5	87.0	54.6	1,305	9,552
E0608 <sup>(C)</sup>	60	900	405T	93.0	81.0	74.6	1,410	13,414
E06085 <sup>(C)</sup>	60	900	405T	93.0	81.0	59.7	1,410	13,414
EP0752	75	3600	365TS	94.5	93.0	79.9	995	9,391
EP07525	75	3600	365TS	94.5	93.0	63.9	995	9,391
EP0754 <sup>(C)</sup>	75	1800	365T	95.4	86.5	85.1	1,045	8,463
EP0754S <sup>(C)</sup>	75	1800	365TS	95.4	86.5	85.1	1,045	8,463
EP07545 <sup>(C)</sup>	75	1800	365T	95.4	86.5	68.1	1,045	8,463
EP0754R <sup>(C)</sup>	75	1800	365T	95.4	86.5	85.1	1,045	8,463
EP07545R <sup>(C)</sup>	75	1800	365T	95.4	86.5	68.1	1,045	8,463
EP0756 <sup>(C)</sup>	75	1200	405T	94.5	86.5	85.9	1,440	11,376
EP07565 <sup>(C)</sup>	75	1200	405T	94.5	86.5	68.7	1,440	11,376
EP0756R <sup>(C)</sup>	75	1200	405T	94.5	86.5	85.9	1,440	11,376
EP07565R <sup>(C)</sup>	75	1200	405T	94.5	86.5	68.7	1,440	11,376
E0758	75	900	444T	93.0	79.0	95.6	1,790	16,933
E07585	75	900	444T	93.0	79.0	95.6	1,790	16,933
E0758R	75	900	444T	93.0	79.0	76.5	1,833	16,933
E07585R	75	900	444T	93.0	79.0	76.5	1,790	16,933
EP1002	100	3600	405TS	95.4	92.0	107.0	1,386	12,737
EP10025	100	3600	405TS	95.4	92.0	85.6	1,386	12,737
EP1004 <sup>(C)</sup>	100	1800	405T	95.4	87.5	112.0	1,415	11,874
EP1004S <sup>(C)</sup>	100	1800	405TS	95.4	87.5	112.0	1,415	11,874
EP10045 <sup>(C)</sup>	100	1800	405T	95.4	87.5	89.6	1,415	11,874
EP1004R <sup>(C)</sup>	100	1800	405T	95.4	87.5	112.0	1,415	11,874
EP10045R <sup>(C)</sup>	100	1800	405T	95.4	87.5	89.6	1,415	11,874
EP1006	100	1200	444T	95.0	82.5	119.0	1,783	14,615
EP10065	100	1200	444T	95.0	82.5	95.2	1,783	14,615
EP1006R	100	1200	444T	95.0	82.5	119.0	1,783	14,615
EP10065R	100	1200	444T	95.0	82.5	95.2	1,783	14,615
E1008	100	900	445T	93.0	79.0	127.0	2,088	21,995
E10085	100	900	445T	93.0	79.0	102.0	2,088	21,995
E1008R	100	900	445T	93.0	79.0	127.0	2,088	21,995
E10085R	100	900	445T	93.0	79.0	102.0	2,088	21,995

**Notes:**

- 5 at end of catalog number denotes 575V
- S at end of catalog number denotes "TS" Short Shaft
- R at end of catalog number denotes motor stocked standard with a drive-end roller bearing.
- (C) Meets NEMA Design C torque

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V or 575V)*	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EP1252	125	3600	444TS	95.0	86.0	143	1,656	15,835
EP1252S	125	3600	444TS	95.0	86.0	114	1,830	15,835
EP1254	125	1800	444T	95.4	84.0	146	1,830	14,741
EP1254S	125	1800	444TS	95.4	84.0	146	1,830	14,741
EP1254S	125	1800	444T	95.4	84.0	117	1,830	14,741
EP1254R	125	1800	444T	95.4	84.0	146	1,830	14,741
EP1254SR	125	1800	444T	95.4	84.0	117	1,830	14,741
EP1256	125	1200	445T	95.0	83.0	148	2,193	19,182
EP1256S	125	1200	445T	95.0	83.0	118	2,193	19,182
EP1256R	125	1200	445T	95.0	83.0	148	2,139	19,182
EP1256SR	125	1200	445T	95.0	83.0	118	2,193	19,182
E1258	125	900	447T	93.6	80.0	156	2,490	25,292
E1258S	125	900	447T	93.6	80.0	125	2,490	25,292
E1258R	125	900	447T	93.6	80.0	156	2,394	25,292
E1258SR	125	900	447T	93.6	80.0	125	2,490	25,292
EP1502 <sup>(1)</sup>	150	3600	445TS	95.0	87.0	170	1,783	18,964
EP1502S <sup>(1)</sup>	150	3600	445TS	95.0	87.0	136	1,783	18,964
EP1504 <sup>(1)</sup>	150	1800	445T	95.8	84.0	175	2,005	16,982
EP1504S <sup>(1)</sup>	150	1800	445TS	95.8	84.0	175	2,005	16,982
EP1504S <sup>(1)</sup>	150	1800	445T	95.8	84.0	140	2,005	16,982
EP1504R <sup>(1)</sup>	150	1800	445T	95.8	84.0	175	2,005	16,982
EP1504SR <sup>(1)</sup>	150	1800	445T	95.8	84.0	140	2,005	16,982
EP1506 <sup>(1)</sup>	150	1200	447T	95.8	83.5	176	2,547	21,458
EP1506R <sup>(1)</sup>	150	1200	447T	95.8	83.5	141	2,547	21,458
EP1506S <sup>(1)</sup>	150	1200	447T	95.8	83.5	176	1,830	21,458
EP1506SR <sup>(1)</sup>	150	1200	447T	95.8	83.5	141	2,547	21,458
E1508 <sup>(1)</sup>	150	900	449T	93.6	80.0	242	2,903	30,378
E1508S <sup>(1)</sup>	150	900	449T	93.6	80.0	194	2,903	30,378
E1508R <sup>(1)</sup>	150	900	449T	93.6	80.0	242	2,903	30,378
E1508SR <sup>(1)</sup>	150	900	449T	93.6	80.0	194	2,903	30,378
EP2002 <sup>(1)</sup>	200	3600	447TS	95.4	87.0	226	2,100	25,973
EP2002S <sup>(1)</sup>	200	3600	447TS	95.4	87.0	181	1,830	25,973
EP2004 <sup>(1)</sup>	200	1800	447T	96.2	84.5	230	2,547	22,203
EP2004S <sup>(1)</sup>	200	1800	447TS	96.2	84.5	230	2,547	22,203
EP2004S <sup>(1)</sup>	200	1800	447T	96.2	84.5	184	2,547	22,203
EP2004R <sup>(1)</sup>	200	1800	447T	96.2	84.5	230	2,440	22,203
EP2004SR <sup>(1)</sup>	200	1800	447T	96.2	84.5	184	2,547	22,203
EP2006 <sup>(1)</sup>	200	1200	449T	95.8	84.0	233	2,785	28,028
EP2006S <sup>(1)</sup>	200	1200	449T	95.8	84.0	186	2,785	28,028
EP2006R <sup>(1)</sup>	200	1200	449T	95.8	84.0	133	3,057	28,028
EP2006SR <sup>(1)</sup>	200	1200	449T	95.8	84.0	186	2,785	28,028
E2008 <sup>(1)</sup>	200	900	5007B	94.4	82.0	306	3,570	38,215
E2008S <sup>(1)</sup>	200	900	5007B	94.4	82.0	245	3,570	38,215
E2008R <sup>(1)</sup>	200	900	5007C	94.4	82.0	306	3,570	38,215
E2008SR <sup>(1)</sup>	200	900	5007C	94.4	82.0	245	3,570	38,215
EP2502 <sup>(1)</sup>	250	3600	449TS	95.8	88.0	278	2,547	33,849
EP2504 <sup>(1)</sup>	250	1800	449T	96.2	85.5	285	2,720	28,550
EP2504S <sup>(1)</sup>	250	1800	449T	96.2	85.5	285	2,720	28,550
EP2506 <sup>(1)</sup>	250	1200	449T	95.8	84.5	289	2,925	29,353
EP2506R <sup>(1)</sup>	250	1200	449T	95.8	84.5	289	3,057	29,353
E2508 <sup>(1)</sup>	250	900	5009B	94.5	81.0	306	4,200	42,984
E2508R <sup>(1)</sup>	250	900	5009C	94.5	81.0	306	4,200	42,984

**Notes:**

- (1) Ratings 150 hp and larger are 460V only.
- 5 at end of catalog number denotes 575V
- S at end of catalog number denotes "TS" Short Shaft
- R at end of catalog number denotes motor stocked standard with a drive-end roller bearing.

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHE, AEHH8N

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EP3002 <sup>(1)</sup>	300	3600	449TS	95.8	88.0	333	2,550	36,455
EP3004 <sup>(1)</sup>	300	1800	449T	96.2	85.5	342	2,855	29,897
EP3004R <sup>(1)</sup>	300	1800	449T	96.2	85.5	342	2,855	29,897
EP3006 <sup>(1)(3)</sup>	300	1200	449T	95.8	86.5	339	3,057	30,784
EP3006R <sup>(1)(3)</sup>	300	1200	449T	95.8	86.5	339	3,057	30,784
E3008 <sup>(1)</sup>	300	900	5009B	94.6	81.0	366	4,410	47,183
E3008R <sup>(1)</sup>	300	900	5009C	94.6	81.0	366	4,410	47,183
EP3502 <sup>(1)(3)</sup>	350	3600	449TS	95.8	91.6	373	2,785	38,480
EP3504 <sup>(1)(3)</sup>	350	1800	449T	96.2	90.0	389	3,280	32,346
EP3504R <sup>(1)(3)</sup>	350	1800	449T	96.2	90.0	389	3,280	32,346
EP3506 <sup>(1)</sup>	350	1200	5011B	95.8	87.0	393	5,565	50,932
EP3506R <sup>(1)</sup>	350	1200	5011C	95.8	87.0	393	5,565	50,932
E3508 <sup>(1)</sup>	350	900	5011B	94.8	81.0	426	5,040	57,973
E3508R <sup>(1)</sup>	350	900	5011C	94.8	81.0	426	5,040	57,973
EP4002 <sup>(1)(2)</sup>	400	3600	5009A	95.8	91.6	427	3,623	51,490
EP4004 <sup>(1)</sup>	400	1800	5009B	96.2	90.0	433	4,025	45,886
EP4004R <sup>(1)</sup>	400	1800	5009C	96.2	90.0	433	4,025	45,886
EP4006 <sup>(1)</sup>	400	1200	5011B	95.8	87.0	449	5,145	58,597
EP4006R <sup>(1)</sup>	400	1200	5011C	95.8	87.0	449	5,145	58,597
E4008 <sup>(1)</sup>	400	900	5808B	94.8	82.5	478	5,355	74,687
E4008R <sup>(1)</sup>	400	900	5808C	94.8	82.5	478	5,355	74,687
EP4502 <sup>(1)(2)</sup>	450	3600	5011A	95.8	91.7	480	4,410	60,575
EP4504 <sup>(1)</sup>	450	1800	5011B	96.2	90.0	487	5,040	54,819
EP4504R <sup>(1)</sup>	450	1800	5011C	96.2	90.0	487	5,040	54,819
EP4506 <sup>(1)</sup>	450	1200	5808B	95.8	88.0	500	5,513	65,680
EP4506R <sup>(1)</sup>	450	1200	5808C	95.8	88.0	500	5,513	65,680
E4508 <sup>(1)</sup>	450	900	5808B	95.0	82.5	537	5,723	77,582
E4508R <sup>(1)</sup>	450	900	5808C	95.0	82.5	537	5,723	77,582
EP5002 <sup>(1)(2)</sup>	500	3600	5011A	95.8	91.7	533	4,830	63,570
EP5004 <sup>(1)</sup>	500	1800	5011B	96.2	90.0	541	5,250	60,227
EP5004R <sup>(1)</sup>	500	1800	5011C	96.2	90.0	541	5,250	60,227
EP5006 <sup>(1)</sup>	500	1200	5808B	95.8	88.0	555	5,880	71,086
EP5006R <sup>(1)</sup>	500	1200	5808C	95.8	88.0	555	5,880	71,086
E5008 <sup>(1)</sup>	500	900	5810B	95.2	82.5	596	6,300	83,031
E5008R <sup>(1)</sup>	500	900	5810C	95.2	82.5	596	6,300	83,031
E6002 <sup>(1)(2)(4)</sup>	600	3600	5810A	95.4	90.5	650	6,355	72,975
E6004 <sup>(1)</sup>	600	1800	5808B	95.5	90.0	654	6,360	68,099
E6004R <sup>(1)</sup>	600	1800	5808C	95.5	90.0	654	6,090	68,099
E6006 <sup>(1)</sup>	600	1200	5810B	95.6	86.8	677	6,720	80,584
E6006R <sup>(1)</sup>	600	1200	5810C	95.6	86.8	677	6,720	80,584
E6008 <sup>(1)</sup>	600	900	6808B	95.5	84.0	700	8,750	98,305
E6008R <sup>(1)</sup>	600	900	6808C	95.5	84.0	700	8,453	98,305
E7002 <sup>(1)(2)(4)</sup>	700	3600	5810A	95.5	90.5	758	6,500	80,449
E7004 <sup>(1)</sup>	700	1800	5810B	95.6	90.0	762	7,140	80,040
E7004R <sup>(1)</sup>	700	1800	5810C	95.6	90.0	762	7,140	80,040
E7006 <sup>(1)</sup>	700	1200	5810B	95.8	86.8	788	7,245	91,049
E7006R <sup>(1)</sup>	700	1200	5810C	95.8	86.8	788	7,245	91,049
E7008 <sup>(1)</sup>	700	900	6808B	95.6	84.0	816	8,925	105,385
E7008R <sup>(1)</sup>	700	900	6808C	95.6	84.0	816	8,925	105,385
E8002 <sup>(1)(2)(4)</sup>	800	3600	6808A	95.5	90.5	867	8,750	107,856
E8004 <sup>(1)</sup>	800	1800	5810B	95.6	90.5	866	7,613	85,750
E8004R <sup>(1)</sup>	800	1800	5810C	95.6	90.5	866	7,613	85,750
E8006 <sup>(1)</sup>	800	1200	6808B	96.0	87.0	897	8,000	103,401
E8006R <sup>(1)</sup>	800	1200	6808C	96.0	87.0	897	8,400	103,401
E8008 <sup>(1)</sup>	800	900	6808B	95.6	84.0	933	9,293	111,433
E8008R <sup>(1)</sup>	800	900	6808C	95.6	84.0	933	9,293	111,433

**Notes:**

- (1) Ratings 150 hp and larger are 460V only.
- (2) Motors are unidirectional, counter clockwise rotation, facing the drive-end side. To change direction of rotation, please consult factory for adder.
- (3) D-Flange not available, nor is dual drilled feet.
- (4) Stator will be form-wound.
  - R at end of catalog number denotes motor stocked standard with a drive-end roller bearing.

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEHH8NCF, FOOTED WITH C-FACE

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EP0012C	1	3600	143TC	82.5	85.0	1.34	59	503
EP0014C <sup>(C)</sup>	1	1800	143TC	85.5	73.0	1.50	59	531
EP0016C	1	1200	145TC	82.5	65.5	1.73	88	689
EP1/52C	1.5	3600	143TC	84.0	83.5	2.00	59	607
EP1/54C <sup>(C)</sup>	1.5	1800	145TC	86.5	78.0	2.08	65	609
EP1/56C	1.5	1200	182TC	87.5	63.5	2.53	133	716
EP0022C	2	3600	145TC	86.5	86.0	2.52	65	641
EP0024C <sup>(C)</sup>	2	1800	145TC	86.5	78.0	2.78	65	649
EP0026C <sup>(C)</sup>	2	1200	184TC	88.5	70.5	3.00	145	806
EP0032C	3	3600	182TC	88.5	90.0	3.53	100	751
EP0034C <sup>(C)</sup>	3	1800	182TC	89.5	84.0	3.74	100	734
EP0036C <sup>(C)</sup>	3	1200	213TC	89.5	78.0	4.02	191	1,059
EP0052C	5	3600	184TC	88.5	92.5	5.72	120	886
EP0054C <sup>(C)</sup>	5	1800	184TC	89.5	85.5	6.12	120	843
EP0056C <sup>(C)</sup>	5	1200	215TC	91.0	82.5	6.24	239	1,405
EP7/52C	7.5	3600	213TC	91.0	89.0	8.67	175	1,197
EP7/54C <sup>(C)</sup>	7.5	1800	213TC	91.7	86.5	8.85	175	1,202
EP7/56C <sup>(C)</sup>	7.5	1200	254TC	91.0	80.5	9.59	345	1,910
EP0102C	10	3600	215TC	91.0	89.5	11.5	198	1,387
EP0104C <sup>(C)</sup>	10	1800	215TC	91.7	88.0	11.6	198	1,405
EP0106C <sup>(C)</sup>	10	1200	256TC	91.0	80.5	12.8	403	2,247
EP0152C	15	3600	254TC	92.4	91.5	16.6	310	1,888
EP0154C <sup>(C)</sup>	15	1800	254TC	92.4	88.0	17.3	310	1,833
EP0156C <sup>(C)</sup>	15	1200	284TC	92.4	83.5	18.2	488	3,146
EP0202C	20	3600	256TC	92.4	92.5	21.9	350	2,292
EP0204C <sup>(C)</sup>	20	1800	256TC	93.0	87.5	23.0	350	2,219
EP0206C <sup>(C)</sup>	20	1200	286TC	91.7	84.0	24.3	583	3,932
EP0252C	25	3600	284TSC	92.4	91.0	27.8	430	3,090
EP0254C <sup>(C)</sup>	25	1800	284TC	93.6	86.0	29.1	441	2,910
EP0256C <sup>(C)</sup>	25	1200	324TC	93.0	83.0	30.3	769	4,888
EP0302C	30	3600	286TSC	93.0	91.0	33.2	469	3,562
EP0304C <sup>(C)</sup>	30	1800	286TC	93.6	87.5	34.3	490	3,427
EP0306C <sup>(C)</sup>	30	1200	326TC	93.0	80.5	37.5	822	5,393
EP0402C	40	3600	324TSC	94.1	90.0	44.2	635	4,663
EP0404C <sup>(C)</sup>	40	1800	324TC	94.1	86.0	46.3	682	4,494
EP0406C <sup>(C)</sup>	40	1200	364TC	94.1	86.5	46.0	1,018	7,135
EP0502C	50	3600	326TSC	94.1	91.0	54.7	710	6,067
EP0504C <sup>(C)</sup>	50	1800	326TC	94.5	87.0	56.9	744	5,618
EP0506C <sup>(C)</sup>	50	1200	365TC	94.1	86.0	57.8	1,172	8,651
EP0602C	60	3600	364TSC	94.1	93.0	64.2	839	7,865
EP0604C <sup>(C)</sup>	60	1800	364TC	95.0	86.5	68.4	920	7,247
EP0606C <sup>(C)</sup>	60	1200	404TC	94.5	87.0	68.3	1,384	10,449
EP0752C	75	3600	365TSC	94.5	93.0	79.9	903	9,887
EP0754C <sup>(C)</sup>	75	1800	365TC	95.4	86.5	85.1	1,050	8,988
EP0756C <sup>(C)</sup>	75	1200	405TC	94.5	86.5	85.9	1,527	12,191
EP1002C	100	3600	405TSC	95.4	92.0	107.0	1,183	13,370
EP1004C <sup>(C)</sup>	100	1800	405TC	95.4	87.5	112.0	1,310	12,583

**Notes:**

(C) Meets NEMA Design C torque

# MAX-E1® NEMA PREMIUM EFFICIENCY



## TYPE AEUH8NDC, ROUND BODY, C-FACE WITH CAST IRON DRIP COVER

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
EPV0012C	1	3600	143TC	82.5	85.0	1.34	59	575
EPV0014C <sup>(C)</sup>	1	1800	143TC	85.5	73.0	1.50	59	607
EPV0016C <sup>(C)</sup>	1	1200	145TC	82.5	65.5	1.73	88	749
EPV1/52C	1.5	3600	143TC	84.0	83.5	2.00	59	693
EPV1/54C <sup>(C)</sup>	1.5	1800	145TC	86.5	78.0	2.08	65	696
EPV1/56C <sup>(C)</sup>	1.5	1200	182TC	87.5	63.5	2.53	138	818
EPV0022C	2	3600	145TC	86.5	86.0	2.52	65	732
EPV0024C <sup>(C)</sup>	2	1800	145TC	86.5	78.0	2.78	65	741
EPV0026C <sup>(C)</sup>	2	1200	184TC	88.5	70.5	3.00	150	922
EPV0032C	3	3600	182TC	88.5	90.0	3.53	100	858
EPV0034C <sup>(C)</sup>	3	1800	182TC	89.5	84.0	3.74	100	839
EPV0036C <sup>(C)</sup>	3	1200	213TC	89.5	78.0	4.02	198	1,338
EPV0052C	5	3600	184TC	88.5	92.5	5.72	120	1,012
EPV0054C <sup>(C)</sup>	5	1800	184TC	89.5	85.5	6.12	120	963
EPV0056C <sup>(C)</sup>	5	1200	215TC	91.0	82.5	6.24	248	1,605
EPV7/52C	7.5	3600	213TC	91.0	89.0	8.67	175	1,368
EPV7/54C <sup>(C)</sup>	7.5	1800	213TC	91.7	86.5	8.85	175	1,374
EPV7/56C <sup>(C)</sup>	7.5	1200	254TC	91.0	80.5	9.59	358	2,183
EPV0102C	10	3600	215TC	91.0	89.5	11.5	198	1,586
EPV0104C <sup>(C)</sup>	10	1800	215TC	91.7	88.0	11.6	198	1,605
EPV0106C <sup>(C)</sup>	10	1200	256TC	91.0	80.5	12.8	418	2,568
EPV0152C	15	3600	254TC	92.4	91.5	16.6	310	2,157
EPV0154C <sup>(C)</sup>	15	1800	254TC	92.4	88.0	17.3	310	2,095
EPV0156C <sup>(C)</sup>	15	1200	284TC	92.4	83.5	18.2	506	3,595
EPV0202C	20	3600	256TC	92.4	92.5	21.9	350	2,619
EPV0204C <sup>(C)</sup>	20	1800	256TC	93.0	87.5	23.0	350	2,536
EPV0206C <sup>(C)</sup>	20	1200	286TC	91.7	84.0	24.3	605	4,269
EPV0252C	25	3600	284TSC	92.4	91.0	27.8	430	3,254
EPV0254C <sup>(C)</sup>	25	1800	284TC	93.6	86.0	29.1	441	3,065
EPV0256C <sup>(C)</sup>	25	1200	324TC	93.0	83.0	30.3	798	5,147
EPV0302C	30	3600	286TSC	93.0	91.0	33.2	469	3,751
EPV0304C <sup>(C)</sup>	30	1800	286TC	93.6	87.5	34.3	490	3,609
EPV0306C <sup>(C)</sup>	30	1200	326TC	93.0	80.5	37.5	853	5,679
EPV0402C	40	3600	324TSC	94.1	90.0	44.2	635	4,910
EPV0404C <sup>(C)</sup>	40	1800	324TC	94.1	86.0	46.3	682	4,733
EPV0406C <sup>(C)</sup>	40	1200	364TC	94.1	86.5	46.0	1,078	7,513
EPV0502C	50	3600	326TSC	94.1	91.0	54.7	710	6,389
EPV0504C <sup>(C)</sup>	50	1800	326TC	94.5	87.0	56.9	744	5,916
EPV0506C <sup>(C)</sup>	50	1200	365TC	94.1	86.0	57.8	1,215	9,111
EPV0602C	60	3600	364TSC	94.1	93.0	64.2	839	8,034
EPV0604C <sup>(C)</sup>	60	1800	364TC	95.0	86.5	68.4	920	7,403
EPV0606C <sup>(C)</sup>	60	1200	404TC	94.5	87.0	68.3	1,436	10,674
EPV0752C	75	3600	365TSC	94.5	93.0	79.9	903	10,100
EPV0754C <sup>(C)</sup>	75	1800	365TC	95.4	86.5	85.1	951	9,182
EPV0756C <sup>(C)</sup>	75	1200	405TC	94.5	86.5	85.9	1,584	12,453
EPV1002C	100	3600	405TSC	95.4	92.0	107.0	1,183	13,658
EPV1004C <sup>(C)</sup>	100	1800	405TC	95.4	87.5	112.0	1,310	12,854

**Notes:**

(C) Meets NEMA Design C torque

# MAX-E2® NEMA PREMIUM EFFICIENCY



## TYPE AEHH

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Crushers
- Compressors
- Mixers
- Conveyors
- Any Severe Duty/ Petro-Chem/ Pulp & Paper Application

### FEATURES:

- 1 - 300 hp
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled (IP55 Rating)
- IEEE 841 Ready
- Meets GM 7E-TA Specifications
- Meets IEEE 45 Marine Duty
- NEMA Premium Efficient
- Department of Energy Efficiency Certification #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz , 460V Only
- 1.15 Service Factor – Continuous
- NEMA Design B Torques as a Minimum
- Class B Temperature Rise, Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance – F1 Mounted. F2 Available – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- CSA Certified for Class I, Division II, Groups B, C, D; Temp Code T3C, Non-Sparking, Non-Static Fan - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Fan Cover, and Main Conduit Box
- Cast Iron Inner and Outer Bearing Caps
- Dual Drilled Feet – Longer Frames. (i.e. 145T Drilled Also for 143T)
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: 2 Part Epoxy
- Paint Color: Blue – Munsell 5PB 3/ 8
- Vacuum De-Gassed Re-Greasable Ball Bearings Using Polyrex EM Grease
- Automatic Grease Discharge Fittings on Frames on Re-Greaseable Motors
- Grounding Terminal Inside Main Box with Provisions for Grounding on Foot
- Stainless Steel Nameplate and Hardware
- Stainless Steel Automatic Breather Drains
- UL and CSA Approved for Inverter Duty per NEMA MG 1, Part 31 - Note (4)
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200 Volts
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.
- Speed Ranges: 20:1 VT, 10:1 CT
- 3 Leads Only
- Vibration Not to Exceed 0.08 Inches per Second
- Noise Level Not to Exceed 85 dB(A) at 1 Meter Unloaded

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

#### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Additional charge for Division II nameplate.
- (4) Motor service factor is 1.0 when operated on a VFD.

# MAX-E2® NEMA PREMIUM EFFICIENCY



## TYPE AEHH

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
HH0012	1	3600	143T	82.5	85.0	1.34	58	510
HH0014 <sup>(C)</sup>	1	1800	143T	85.5	73.0	1.50	58	488
HH0016	1	1200	145T	82.5	65.5	1.73	97	608
HH1/52	1.5	3600	143T	84.0	83.5	2.00	58	528
HH1/54 <sup>(C)</sup>	1.5	1800	145T	86.5	78.0	2.08	65	560
HH1/56	1.5	1200	182T	87.5	63.5	2.53	130	628
HH0022	2	3600	145T	86.5	86.0	2.52	78	572
HH0024 <sup>(C)</sup>	2	1800	145T	86.5	78.0	2.78	97	597
HH0026 <sup>(C)</sup>	2	1200	184T	88.5	70.5	3.00	150	721
HH0032	3	3600	182T	88.5	90.0	3.53	100	667
HH0034 <sup>(C)</sup>	3	1800	182T	89.5	84.0	3.74	130	673
HH0036 <sup>(C)</sup>	3	1200	213T	89.5	78.0	4.02	220	935
HH0052	5	3600	184T	88.5	92.5	5.72	140	832
HH0054 <sup>(C)</sup>	5	1800	184T	89.5	85.5	6.12	150	794
HH0056 <sup>(C)</sup>	5	1200	215T	91.0	82.5	6.24	235	1,359
HH7/52	7.5	3600	213T	91.0	89.0	8.67	202	1,121
HH7/54 <sup>(C)</sup>	7.5	1800	213T	91.7	86.5	8.85	202	1,127
HH7/56 <sup>(C)</sup>	7.5	1200	254T	91.0	80.5	9.59	323	1,885
HH0102	10	3600	215T	91.0	89.5	11.5	224	1,306
HH0104 <sup>(C)</sup>	10	1800	215T	91.7	88.0	11.6	224	1,341
HH0106 <sup>(C)</sup>	10	1200	256T	91.0	80.5	12.8	380	2,304
HH0152	15	3600	254T	92.4	91.5	16.6	323	1,829
HH0154 <sup>(C)</sup>	15	1800	254T	92.4	88.0	17.3	345	1,780
HH0156 <sup>(C)</sup>	15	1200	284T	92.4	83.5	18.2	540	3,098
HH0202	20	3600	256T	92.4	92.5	21.9	367	2,296
HH0204 <sup>(C)</sup>	20	1800	256T	93.0	87.5	23.0	425	2,243
HH0206 <sup>(C)</sup>	20	1200	286T	91.7	84.0	24.3	565	3,839
HH0252	25	3600	284TS	92.4	91.0	27.8	490	2,854
HH0254 <sup>(C)</sup>	25	1800	284T	93.6	86.0	29.1	555	2,684
HH0256 <sup>(C)</sup>	25	1200	324T	93.0	83.0	30.3	759	4,635
HH0302	30	3600	286TS	93.0	91.0	33.2	535	3,356
HH0304 <sup>(C)</sup>	30	1800	286T	93.6	87.5	34.3	565	3,317
HH0306 <sup>(C)</sup>	30	1200	326T	93.0	80.5	37.5	795	5,299
HH0402	40	3600	324TS	94.1	90.0	44.2	755	4,404
HH0404 <sup>(C)</sup>	40	1800	324T	94.1	86.0	46.3	740	4,247
HH0406 <sup>(C)</sup>	40	1200	364T	94.1	86.5	46.0	898	7,080
HH0502	50	3600	326TS	94.1	91.0	54.7	782	5,720
HH0504 <sup>(C)</sup>	50	1800	326T	94.5	87.0	56.9	845	5,215
HH0506 <sup>(C)</sup>	50	1200	365T	94.1	86.0	57.8	1,110	8,426
HH0602	60	3600	364TS	94.1	93.0	64.2	853	7,747
HH0604 <sup>(C)</sup>	60	1800	364T	95.0	86.5	68.4	955	7,475
HH0606 <sup>(C)</sup>	60	1200	404T	94.5	87.0	68.3	1,355	10,057
HH0752	75	3600	365TS	94.5	93.0	79.9	1,015	9,648
HH0754 <sup>(C)</sup>	75	1800	365T	95.4	86.5	85.1	1,040	9,377
HH0756 <sup>(C)</sup>	75	1200	405T	94.5	86.5	85.9	1,363	11,619
HH1002	100	3600	405TS	95.4	92.0	107	1,330	13,107
HH1004 <sup>(C)</sup>	100	1800	405T	95.4	87.5	112	1,385	12,093
HH1006	100	1200	444T	95.0	82.5	119	1,833	16,171
HH1252	125	3600	444TS	95.0	86.0	143	1,783	17,123
HH1254	125	1800	444T	95.4	84.0	146	1,833	15,900
HH1256	125	1200	445T	95.0	83.0	148	1,961	19,949
HH1502	150	3600	445TS	95.0	87.0	170	1,808	20,521
HH1504	150	1800	445T	95.8	84.0	175	2,037	18,516
HH1506	150	1200	447T	95.8	83.5	176	2,400	22,327
HH2002	200	3600	447TS	95.4	87.0	226	2,317	26,548
HH2004	200	1800	447T	96.2	84.5	230	2,426	22,960
HH2006	200	1200	449T	95.8	84.0	233	2,801	28,796
HH2502	250	3600	449TS	95.8	88.0	278	2,725	34,416
HH2504	250	1800	449T	96.2	85.5	285	2,710	29,277
HH2506	250	1200	449T	95.8	84.5	289	3,080	37,099
HH3002	300	3600	449TS	95.8	88.0	333	2,928	41,240
HH3004	300	1800	449T	96.2	85.5	342	2,980	35,320

**Notes:**

(C) Meets NEMA Design C torque



# MAX-E2/841™ FAMILY NEMA PREMIUM EFFICIENCY

TYPE AEHH8B, AEHH8BCF, AEUH8BDC

ee CCO02A



Effective 08-01-11  
Supercedes 12-01-09



## APPLICATIONS:

- Fans & Blowers
- Pumps
- Crushers
- Compressors
- Mixers
- Conveyors
- Any Severe Duty/ Petro-Chem/ Pulp & Paper Application

## FEATURES:

- 1 - 500 hp
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled (IP55 Rating)
- Meets or Exceeds IEEE 841 Standards - Note (1)
- Meets GM 7E-TA Specifications
- Meets IEEE 45 Marine Duty
- NEMA Premium Efficient
- Department of Energy Efficiency Certification #CC002A
- 60 Month Warranty from Date of Manufacture
- 3 Phase, 60 Hz, 460V
- 1.15 Service Factor – Continuous
- NEMA Design B Torques as a Minimum
- Class B Temperature Rise, Class F Insulation with Phenolic Alkyd Resin Varnish – 2 Dips and Bakes
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance – F1 Mounted. F2 Available – See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (2)
- Designed for 3300 ft. Elevation - Note (2)
- CSA Certified for Class I, Division II, Groups B, C, D; Temp Code T3C, Non-Sparking, Non-Static Fan - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Fan Cover, and Main Conduit Box
- Dual Drilled Feet – Longer Frames. (i.e. 145T Drilled Also for 143T)
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: 2 Part Epoxy
- Paint Color: Blue – Munsell 5PB 3/ 8
- Double Shielded Bearings on Frames 140T-280T Pre-Packed with MULTEMP SRL Grease
- Vacuum De-Gassed Re-Greasable Ball Bearings for Frames 280TS - 5808B Using Polyrex EM Grease
- Automatic Grease Discharge Fittings on Frames on Re-Greasable motors
- Grounding Terminal Inside Main Box with Provisions for Grounding on Frame
- Stainless Steel Nameplate and Hardware
- Stainless Steel Automatic Breather Drains
- UL Recognized and CSA Approved for Inverter Duty per NEMA MG 1, Part 31 - Note (4)
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200V
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD. **Non-drive end bearing is insulated only for 2-pole motors, 600 hp and larger.**
- Speed Ranges: 20:1 VT, 10:1 CT
- 3 Leads Only
- Vibration Not to Exceed 0.08 Inches per Second
- Noise Level Not to Exceed 85 dB(A) at 1 Meter Unloaded
- INPRO™ Seals Installed on Both Ends

## EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Main conduit box on 444-449T/TS and larger is TWMC standard size.
- (2) Please consult factory for suitability in higher ambients and higher elevations.
- (3) Additional charge for Division II nameplate.
- (4) Motor service factor is 1.0 when operated on a VFD.
- (5) HB3006, HB3502, HB3504, and 5000 frames and larger are not dual drilled.

# MAX-E2/841™ NEMA PREMIUM EFFICIENCY



## TYPE AEHH8B

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	SHIPPING WT. (lbs.)	LIST PRICE
HB0012	1	3600	143T	82.5	85.0	1.3	58	969
HB0014	1	1800	143T	85.5	73.0	1.50	58	928
HB0016	1	1200	145T	82.5	65.5	1.73	97	1,013
HB0018	1	900	182T	77.0	58.5	2.10	115	1,223
HB1/52	1.5	3600	143T	84.0	83.5	2	58	958
HB1/54	1.5	1800	145T	86.5	78.0	2.08	65	970
HB1/56	1.5	1200	182T	87.5	63.5	2.53	130	1,120
HB1/58	1.5	900	184T	78.5	60.5	3	125	1,368
HB0022	2	3600	145T	86.5	86.0	2.52	78	978
HB0024	2	1800	145T	86.5	78.0	2.78	97	985
HB0026	2	1200	184T	88.5	70.5	3	150	1,233
HB0028	2	900	213T	85.5	64.0	5	173	1,814
HB0032	3	3600	182T	88.5	90.0	3.53	100	1,154
HB0034	3	1800	182T	89.5	84.0	3.74	130	1,126
HB0036	3	1200	213T	89.5	78.0	4.02	220	1,620
HB0038	3	900	215T	85.5	66.0	5	192	2,009
HB0052	5	3600	184T	88.5	92.5	5.72	140	1,345
HB0054	5	1800	184T	89.5	85.5	6.12	150	1,259
HB0056	5	1200	215T	91.0	82.5	6.24	235	1,962
HB0058	5	900	254T	86.5	72.0	7.50	305	2,659
HB7/52	7.5	3600	213T	91.0	89.0	8.67	202	1,752
HB7/54	7.5	1800	213T	91.7	86.5	8.85	202	1,733
HB7/56	7.5	1200	254T	91.0	80.5	9.59	323	2,754
HB7/58	7.5	900	256T	86.5	71.5	11.50	365	3,077
HB0102	10	3600	215T	91.0	89.5	11.5	224	1,874
HB0104	10	1800	215T	91.7	88.0	11.6	224	1,901
HB0106	10	1200	256T	91.0	80.5	12.8	380	3,182
HB0108	10	900	284T	89.5	73.5	14.2	445	4,000
HB0152	15	3600	254T	92.4	91.5	16.6	323	2,703
HB0154	15	1800	254T	92.4	88.0	17.3	345	2,648
HB0156	15	1200	284T	92.4	83.5	18.2	540	3,901
HB0158	15	900	286T	89.5	78.0	20.1	510	4,923
HB0202	20	3600	256T	92.4	92.5	21.9	367	3,232
HB0204	20	1800	256T	93.0	87.5	23.0	425	3,120
HB0206	20	1200	286T	91.7	84.0	24.3	565	4,596
HB0208	20	900	324T	90.2	81.0	25.6	585	5,759
HB0252	25	3600	284TS	92.4	91.0	27.8	490	3,816
HB0254	25	1800	284T	93.6	86.0	29.1	555	3,689
HB0256	25	1200	324T	93.0	83.0	30.3	759	5,758
HB0258	25	900	326T	90.2	79.5	25.6	684	6,500
HB0302	30	3600	286TS	93.0	91.0	33.2	535	4,062
HB0304	30	1800	286T	93.6	87.5	34.3	656	3,963
HB0306	30	1200	326T	93.0	80.5	37.5	795	6,131
HB0308	30	900	364T	93.0	77.5	39.0	898	8,814
HB0402	40	3600	324TS	94.1	90.0	44.2	755	5,547
HB0404	40	1800	324T	94.1	86.0	46.3	740	5,434
HB0406	40	1200	364T	94.1	86.5	46.0	898	9,137
HB0408	40	900	365T	91.7	76.5	53.4	1,035	10,818
HB0502	50	3600	326TS	94.1	91.0	54.7	835	6,590
HB0504	50	1800	326T	94.5	87.0	56.9	835	6,088
HB0506	50	1200	365T	94.1	86.0	57.8	963	10,292
HB0508	50	900	404T	93.0	80.5	53.4	1,098	12,314

# MAX-E2/841™ NEMA PREMIUM EFFICIENCY



## TYPE AEHH8B

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	SHIPPING WT. (lbs.)	LIST PRICE
HB0602	60	3600	364TS	94.1	93.0	64.2	920	10,067
HB0604	60	1800	364T	95.0	86.5	68.4	930	9,568
HB0606	60	1200	404T	94.5	87.0	68.3	1,201	11,631
HB0608	60	900	405T	93.0	81.0	74.6	1,410	13,364
HB0752	75	3600	365TS	94.5	93.0	79.9	1,005	11,405
HB0754	75	1800	365T	95.4	86.5	85.1	1,040	10,645
HB0756	75	1200	405T	94.5	86.5	85.9	1,363	12,840
HB0758	75	900	444T	93.6	79.0	95.6	1,790	16,705
HB1002	100	3600	405TS	95.4	92.0	107	1,330	14,432
HB1004	100	1800	405T	95.4	87.5	112	1,385	13,108
HB1006	100	1200	444T	95.0	82.5	119	1,833	17,430
HB1008	100	900	445T	93.6	79.0	127	2,088	20,259
HB1252	125	3600	444TS	95.0	86.0	143	1,783	18,290
HB1254	125	1800	444T	95.4	84.0	146	1,833	17,381
HB1256	125	1200	445T	95.0	83.0	148	1,961	21,576
HB1258	125	900	447T	94.1	80.0	156	2,490	23,436
HB1502	150	3600	445TS	95.0	87.0	170	1,808	21,197
HB1504	150	1800	445T	95.8	84.0	175	2,037	19,269
HB1506	150	1200	447T	95.8	83.5	176	2,400	22,978
HB1508	150	900	449T	94.1	80.0	242	2,903	27,941
HB2002	200	3600	447TS	95.4	87.0	226	2,160	27,075
HB2004	200	1800	447T	96.2	84.5	230	2,426	23,132
HB2006	200	1200	449T	95.8	84.0	233	2,675	29,166
HB2008	200	900	5007B	94.5	82.0	306	3,570	36,273
HB2502	250	3600	449TS	95.8	88.0	278	2,595	35,116
HB2504	250	1800	449T	96.2	85.5	285	2,801	31,548
HB2506	250	1200	449T	95.8	84.5	289	2,955	37,791
HB2508	250	900	5009B	94.5	81.0	306	4,200	55,777
HB3002	300	3600	449TS	95.8	88.0	333	2,928	43,497
HB3004	300	1800	449T	96.2	85.5	342	2,930	37,085
HB3006	300	1200	449T	95.8	86.5	339	3,450	56,232
HB3008	300	900	5009B	94.6	81.0	366	4,410	58,514
HB3502	350	3600	449TS	95.8	91.6	373	3,100	64,913
HB3504	350	1800	449T	96.2	90.0	379	3,350	55,397
HB3506	350	1200	5011B	95.8	87.0	393	4,200	77,184
HB3508	350	900	5011B	94.8	81.0	426	5,040	81,043
HB4002 <sup>(1)</sup>	400	3600	5009A	95.8	91.6	427	3,450	76,400
HB4004	400	1800	5009B	96.2	90.0	433	3,700	71,099
HB4006	400	1200	5011B	95.8	87.0	449	4,900	85,011
HB4008	400	900	5808B	94.8	82.5	478	5,355	87,561
HB4502 <sup>(1)</sup>	450	3600	5011A	95.8	91.7	480	4,200	84,588
HB4504	450	1800	5011B	96.2	90.0	487	4,800	80,510
HB4506	450	1200	5808B	95.8	88.0	500	5,250	101,369
HB4508	450	900	5808B	95.0	82.5	537	5,723	105,423
HB5002 <sup>(1)</sup>	500	3600	5011A	95.8	91.7	533	4,600	93,063
HB5004	500	1800	5011B	96.2	90.0	541	5,000	85,644
HB5006	500	1200	5808B	95.8	88.0	555	5,600	103,997
HB5008	500	900	5810C	95.2	82.5	596	6,300	107,117

**Notes:**

- (1) Motors are unidirectional, counterclockwise facing the drive-end. To change direction of rotation please consult factory for adder.
- (2) D-Flange not available
- (C) Meets NEMA Design C torque

# MAX-E2/841™ NEMA PREMIUM EFFICIENCY



## TYPE AEHH8BCF, FOOTED WITH C-FACE

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
HB0012C	1	3600	143TC	82.5	85.0	1.34	58	1,113
HB0014C <sup>(C)</sup>	1	1800	143TC	85.5	73.0	1.50	58	1,107
HB0016C	1	1200	145TC	82.5	65.5	1.73	97	1,187
HB1/52C	1.5	3600	143TC	84.0	83.5	2.00	65	1,125
HB1/54C <sup>(C)</sup>	1.5	1800	145TC	86.5	78.0	2.08	65	1,176
HB1/56C	1.5	1200	182TC	87.5	63.5	2.53	137	1,370
HB0022C	2	3600	145TC	86.5	86.0	2.52	78	1,159
HB0024C <sup>(C)</sup>	2	1800	145TC	86.5	78.0	2.78	97	1,193
HB0026C <sup>(C)</sup>	2	1200	184TC	88.5	70.5	3.00	150	1,547
HB0032C	3	3600	182TC	88.5	90.0	3.53	100	1,370
HB0034C <sup>(C)</sup>	3	1800	182TC	89.5	84.0	3.74	130	1,370
HB0036C <sup>(C)</sup>	3	1200	213TC	89.5	78.0	4.02	220	2,164
HB0052C	5	3600	184TC	88.5	92.5	5.72	140	1,587
HB0054C <sup>(C)</sup>	5	1800	184TC	89.5	85.5	6.12	150	1,542
HB0056C <sup>(C)</sup>	5	1200	215TC	91.0	82.5	6.24	235	2,324
HB7/52C	7.5	3600	213TC	91.0	89.0	8.67	202	2,067
HB7/54C <sup>(C)</sup>	7.5	1800	213TC	91.7	86.5	8.85	202	2,101
HB7/56C <sup>(C)</sup>	7.5	1200	254TC	91.0	80.5	9.59	323	3,203
HB0102C	10	3600	215TC	91.0	89.5	11.5	224	2,215
HB0104C <sup>(C)</sup>	10	1800	215TC	91.7	88.0	11.6	224	2,255
HB0106C <sup>(C)</sup>	10	1200	256TC	91.0	80.5	12.8	380	3,706
HB0152C	15	3600	254TC	92.4	91.5	16.6	323	3,146
HB0154C <sup>(C)</sup>	15	1800	254TC	92.4	88.0	17.3	345	3,135
HB0156C <sup>(C)</sup>	15	1200	284TC	92.4	83.5	18.2	540	4,539
HB0202C	20	3600	256TC	92.4	92.5	21.9	367	3,757
HB0204C <sup>(C)</sup>	20	1800	256TC	93.0	87.5	23.0	425	3,706
HB0206C <sup>(C)</sup>	20	1200	286TC	91.7	84.0	24.3	565	5,476
HB0252C	25	3600	284TSC	92.4	91.0	27.8	490	4,287
HB0254C <sup>(C)</sup>	25	1800	284TC	93.6	86.0	29.1	555	4,238
HB0256C <sup>(C)</sup>	25	1200	324TC	93.0	83.0	30.3	759	6,525
HB0302C	30	3600	286TSC	93.0	91.0	33.2	535	4,569
HB0304C <sup>(C)</sup>	30	1800	286TC	93.6	87.5	34.3	656	4,569
HB0306C <sup>(C)</sup>	30	1200	326TC	93.0	80.5	37.5	795	6,984
HB0402C	40	3600	324TSC	94.1	90.0	44.2	755	6,326
HB0404C <sup>(C)</sup>	40	1800	324TC	94.1	86.0	46.3	740	6,155
HB0406C <sup>(C)</sup>	40	1200	364TC	94.1	86.5	46.0	898	10,337
HB0502C	50	3600	326TSC	94.1	91.0	54.7	782	7,282
HB0504C <sup>(C)</sup>	50	1800	326TC	94.5	87.0	56.9	845	7,122
HB0506C <sup>(C)</sup>	50	1200	365TC	94.1	86.0	57.8	1,110	12,006
HB0602C	60	3600	364TSC	94.1	93.0	64.2	853	11,133
HB0604C <sup>(C)</sup>	60	1800	364TC	95.0	86.5	68.4	955	10,807
HB0606C <sup>(C)</sup>	60	1200	404TC	94.5	87.0	68.3	1,355	13,459
HB0752C	75	3600	365TSC	94.5	93.0	79.9	1,015	12,614
HB0754C <sup>(C)</sup>	75	1800	365TC	95.4	86.5	85.1	1,040	12,061
HB0756C <sup>(C)</sup>	75	1200	405TC	94.5	86.5	85.9	1,363	14,652
HB1002C	100	3600	405TSC	95.4	92.0	107.0	1,330	15,829
HB1004C <sup>(C)</sup>	100	1800	405TC	95.4	87.5	112.0	1,385	14,774

**Notes:**

(C) Meets NEMA Design C torque

# MAX-E2/841™ NEMA PREMIUM EFFICIENCY



## TYPE AEUH8BDC, ROUND BODY C-FACE WITH CAST IRON DRIP COVER

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
HBV0012C	1	3600	143TC	82.5	85.0	1.34	58	1,173
HBV0014C (C)	1	1800	143TC	85.5	73.0	1.50	58	1,168
HBV0016C	1	1200	145TC	82.5	65.5	1.73	97	1,248
HBV1/52C	1.5	3600	143TC	84.0	83.5	2.00	58	1,186
HBV1/54C (C)	1.5	1800	145TC	86.5	78.0	2.08	65	1,240
HBV1/56C	1.5	1200	182TC	87.5	63.5	2.53	130	1,457
HBV0022C	2	3600	145TC	86.5	86.0	2.52	78	1,224
HBV0024C (C)	2	1800	145TC	86.5	78.0	2.78	97	1,256
HBV0026C (C)	2	1200	184TC	88.5	70.5	3.00	150	1,631
HBV0032C	3	3600	182TC	88.5	90.0	3.53	100	1,457
HBV0034C (C)	3	1800	182TC	89.5	84.0	3.74	130	1,457
HBV0036C (C)	3	1200	213TC	89.5	78.0	4.02	220	2,268
HBV0052C	5	3600	184TC	88.5	92.5	5.72	140	1,669
HBV0054C (C)	5	1800	184TC	89.5	85.5	6.12	150	1,626
HBV0056C (C)	5	1200	215TC	91.0	82.5	6.24	235	2,425
HBV7/52C	7.5	3600	213TC	91.0	89.0	8.67	202	2,175
HBV7/54C (C)	7.5	1800	213TC	91.7	86.5	8.85	202	2,208
HBV7/56C (C)	7.5	1200	254TC	91.0	80.5	9.59	323	3,339
HBV0102C	10	3600	215TC	91.0	89.5	11.5	224	2,317
HBV0104C (C)	10	1800	215TC	91.7	88.0	11.6	224	2,360
HBV0106C (C)	10	1200	256TC	91.0	80.5	12.8	380	3,834
HBV0152C	15	3600	254TC	92.4	91.5	16.6	323	3,285
HBV0154C (C)	15	1800	254TC	92.4	88.0	17.3	345	3,274
HBV0156C (C)	15	1200	284TC	92.4	83.5	18.2	540	4,704
HBV0202C	20	3600	256TC	92.4	92.5	21.9	367	3,883
HBV0204C (C)	20	1800	256TC	93.0	87.5	23.0	425	3,834
HBV0206C (C)	20	1200	286TC	91.7	84.0	24.3	565	5,623
HBV0252C	25	3600	284TSC	92.4	91.0	27.8	490	4,452
HBV0254C (C)	25	1800	284TC	93.6	86.0	29.1	555	4,399
HBV0256C (C)	25	1200	324TC	93.0	83.0	30.3	759	6,725
HBV0302C	30	3600	286TSC	93.0	91.0	33.2	535	4,725
HBV0304C (C)	30	1800	286TC	93.6	87.5	34.3	656	4,725
HBV0306C (C)	30	1200	326TC	93.0	80.5	37.5	795	7,177
HBV0402C	40	3600	324TSC	94.1	90.0	44.2	755	6,530
HBV0404C (C)	40	1800	324TC	94.1	86.0	46.3	778	6,362
HBV0406C (C)	40	1200	364TC	94.1	86.5	46.0	898	10,576
HBV0502C	50	3600	326TSC	94.1	91.0	54.7	782	7,467
HBV0504C (C)	50	1800	326TC	94.5	87.0	56.9	845	7,309
HBV0506C (C)	50	1200	365TC	94.1	86.0	57.8	1,110	12,213
HBV0602C	60	3600	364TSC	94.1	93.0	64.2	853	11,355
HBV0604C (C)	60	1800	364TC	95.0	86.5	68.4	955	11,034
HBV0606C (C)	60	1200	404TC	94.5	87.0	68.3	1,355	13,744
HBV0752C	75	3600	365TSC	94.5	93.0	79.9	1,015	12,807
HBV0754C (C)	75	1800	365TC	95.4	86.5	85.1	1,040	12,266
HBV0756C (C)	75	1200	405TC	94.5	86.5	85.9	1,363	14,918
HBV1002C	100	3600	405TSC	95.4	92.0	107.0	1,330	16,070
HBV1004C (C)	100	1800	405TC	95.4	87.5	112.0	1,385	15,033

**Notes:**

(C) Meets NEMA Design C torque

# STAINLESS STEEL WASHDOWN



## TYPE AEGP, AEGPVM

Effective 08-01-11  
Supersedes 12-01-09



### APPLICATIONS:

- Packaging Industry
- Food and Beverage Industry
- Any Application Where the Motor Will be Subjected to High Pressure Spray Down

### FEATURES:

- 1/2 - 10 hp
- 3600, 1800 RPM
- Totally Enclosed Fan Cooled Enclosure (IP56)
- C-Flange with Feet , Also Available in a Round Body C-Face)
- EISA Compliant with the NEMA Premium Efficiencies
- Department of Energy Efficiency Certificate #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 208V), 50 Hz - 190/ 380V Data Also Provided
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish - 2 Dips and Bakes
- Class B Temperature Rise
- NEMA Design B Torques
- Stainless Steel Frame, End Brackets and Hardware
- Stainless Steel Oversized Main Conduit Box Rotatable in 90 Degree Increments – F1 Mounted
- SUS304 Stainless Steel Shaft with Keyway and Key
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Two Drain Holes on Bottom of Frame and One in End Bracket and C-Flange
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Double Sealed Bearings Pre-Packed with MULTEMP SRL Grease
- Contact Lip Type Seal on Both Drive End and Opposite Drive End
- Grounding Terminal Inside Main Box
- Etched Nameplate on the Stainless Steel Frame
- 9 Leads, with Solderless Lug Terminals
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200V
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.

# STAINLESS STEEL WASHDOWN



## TYPE AEGPCW, AEGPFW

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (230V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
WP0/52C	1/2	3600	A56C	72.0	82.0	1.6	37	710
W0/54C	1/2	1800	A56C	74.0	72.5	1.8	37	725
WP0/72C	3/4	3600	A56C	75.5	82.0	2.3	39	775
W0/74C	3/4	1800	A56C	75.5	74.0	2.5	39	800
WFP0012C	1.0	3600	A56C	77.0	86.0	2.8	37	955
WP0012C	1.0	3600	143TC	77.0	86.0	2.8	46	955
WFP0014C	1.0	1800	B56C	85.5	81.0	2.7	44	985
WP0014C	1.0	1800	143TC	85.5	81.0	2.7	46	985
WFP1/52C	1.5	3600	B56C	84.0	89.0	3.8	45	1,035
WP1/52C	1.5	3600	143TC	84.0	89.0	3.8	50	1,035
WFP1/54C	1.5	1800	C56C	86.5	81.0	4.0	55	1,022
WP1/54C	1.5	1800	145TC	86.5	81.0	4.0	58	1,022
WFP0022C	2.0	3600	C56C	85.5	89.5	4.9	52	1,238
WP0022C	2.0	3600	145TC	85.5	89.5	4.9	58	1,238
WFP0024C	2.0	1800	C56C	86.5	82.5	5.3	62	1,215
WP0024C	2.0	1800	145TC	86.5	82.5	5.3	65	1,215
WP0032C	3.0	3600	182TC	86.5	88.0	7.4	80	2,345
WP0034C	3.0	1800	182TC	89.5	77.0	8.2	115	2,390
WP0052C	5.0	3600	184TC	88.5	89.0	12.0	128	2,730
WP0054C	5.0	1800	184TC	89.5	80.0	13.1	128	2,750
WP7/52C	7.5	3600	213TC	89.5	85.0	18.5	175	4,228
WP7/54C	7.5	1800	213TC	91.7	83.0	18.5	190	4,650
WP0102C	10.0	3600	215TC	90.2	86.0	24.1	210	4,283
WP0104C	10.0	1800	215TC	91.7	84.0	24.3	225	4,847

## TYPE AEGPVM, ROUND BODY C-FACE

CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (230V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
WPV0/52C <sup>(1)</sup>	1/2	3600	A56C	72.0	82.0	1.6	34	710
WPV0/54C <sup>(1)</sup>	1/2	1800	A56C	74.0	72.5	1.8	34	725
WPV0/72C <sup>(1)</sup>	3/4	1800	A56C	75.5	82.0	2.3	37	775
WPV0/74C <sup>(1)</sup>	3/4	1800	A56C	75.5	74.0	2.5	37	800
WPV0012C <sup>(1)</sup>	1	3600	143TC	77.0	86.0	2.8	44	955
WPV0014C <sup>(1)</sup>	1	1800	143TC	85.5	81.0	2.7	44	985
WPV1/52C <sup>(1)</sup>	1.5	3600	143TC	84.0	89.0	3.8	47	1,035
WPV1/54C <sup>(1)</sup>	1.5	1800	145TC	86.5	81.0	4.0	52	1,022
WPV0022C <sup>(1)</sup>	2	3600	145TC	85.5	89.5	4.9	52	1,238
WPV0024C <sup>(1)</sup>	2	1800	145TC	86.5	82.5	5.3	60	1,215
WPV0032C <sup>(1)</sup>	3	3600	182TC	86.5	88.0	7.4	75	2,345
WPV0034C <sup>(1)</sup>	3	1800	182TC	89.5	77.0	8.2	110	2,390
WPV0052C <sup>(1)</sup>	5	3600	184TC	88.5	89.0	12.0	123	2,730
WPV0054C <sup>(1)</sup>	5	1800	184TC	89.5	80.0	13.1	123	2,750
WPV7/52C <sup>(1)</sup>	7.5	3600	213TC	89.5	85.0	18.5	170	4,228
WPV7/54C <sup>(1)</sup>	7.5	1800	213TC	91.7	83.0	18.5	185	4,650
WPV0102C <sup>(1)</sup>	10	3600	215TC	90.2	86.0	24.1	205	4,283
WPV0104C <sup>(1)</sup>	10	1800	215TC	91.7	84.0	24.3	220	4,847

# CLOSED COUPLED PUMP JP/JM EPACT



## TYPE AEEANEJM, AEEANEJP

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Pumps

### FEATURES:

- 3/4 - 50 hp
- 3600, 1800, 1200 RPM
- JP and JM Shafts
- Totally Enclosed Fan Cooled (IP54)
- Meets or Exceeds EPAct Efficiency Levels and EISA Legislation
- Department of Energy Efficiency Certificate # CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 208V)
- 1.15 Service Factor – Continuous
- 50 Hz Data on Nameplate - 190/ 380V at 1.0 S.F.
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments - Fully Gasketed with NPT Threaded Entrance - F1 Mounted. F2 Available - See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Factory Self-Certified for Class 1, Div. 2, Groups B, C, D; Temp Code T3C, 400T and Below - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Main Conduit Box and Rolled Steel Fan Cover
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5 BG 4/ 2
- Vacuum De-Gassed Re-Greasable Bearings Frames 324JM/JP-365JM/JP with Polyrex EM Grease
- Double Shielded Bearings on Frames 140JM/JP-280JM/JP Pre-Packed with MULTEMP SRL Grease
- Labyrinth Type Metal Flinger on Both Ends for Frames 324JM/JP-365JM/JP
- Cast Iron Inner and Outer Bearing Caps for Frames 324JM/JP-365JM/JP
- Rubber Flinger on Drive-End for Frames 140JM/JP-280JM/JP
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- VFD Rated per NEMA MG1, Part 30 - Note (4) and (5)
- Speed Ranges: 10:1 VT, 5:1 CT
- 9 Leads - 5 hp and Below, 12 Leads 7.5 hp Larger
- CE Mark on Nameplate, CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) There is an additional charge for Division II nameplate - See Modification Pricing.
- (4) Motor service factor is 1.0 when operated on a VFD.
- (5) Maximum lead length is 150 feet with a carrier frequency of 3 kHz. Addition of output reactor or filter may allow for increased carrier frequency. Please consult TWMC if lead length and carrier frequency surpass these values.



# CAST IRON TEFC CLOSED COUPLED PUMP JP/JM EPACT



## TYPE AEEANEJP, AEEANEJM

Effective 08-01-11  
Supercedes 12-01-09



JP CATALOG NO.	JM CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	JP APPROX. SHIPPING WT. (lbs.)	JM APPROX. SHIPPING WT. (lbs.)	LIST PRICE
JPN0/76	JMN0/76	3/4	1200	143JP/JM	74.0	65.5	1.5	101	101	551
JPN0014	JMN0014	1	1800	143JP/JM	82.5	77.0	1.48	60	80	466
*JPN0016	*JMN0016	1	1200	145JP/JM	80.0	63.5	1.85	110	110	579
JPN1/52	JMN1/52	1.5	3600	143JP/JM	82.5	85.0	2.01	79	75	483
JPN1/54	JMN1/54	1.5	1800	145JP/JM	84.0	80.5	2.08	47	58	513
*JPN1/56	*JMN1/56	1.5	1200	182JP/JM	85.5	66.5	2.47	139	139	612
JPN0022	JMN0022	2	3600	145JP/JM	84.0	88.5	2.52	81	80	551
JPN0024	JMN0024	2	1800	145JP/JM	84.0	82.5	2.70	85	75	551
*JPN0026	*JMN0026	2	1200	184JP/JM	86.5	67.0	3.23	152	152	685
JPN0032	JMN0032	3	3600	182JP/JM	85.5	90.0	3.65	108	105	644
JPN0034	JMN0034	3	1800	182JP/JM	87.5	82.5	3.89	110	105	626
*JPN0036	*JMN0036	3	1200	213JP/JM	87.5	76.5	4.20	184	184	841
JPN0052	JMN0052	5	3600	184JP/JM	87.5	91.5	5.85	125	165	806
JPN0054	JMN0054	5	1800	184JP/JM	87.5	86.5	6.20	130	120	736
*JPN0056	JMN0056	5	1200	215JP/JM	87.5	76.5	7.00	223	210	1,256
JPN7/52	JMN7/52	7.5	3600	213JP/JM	88.5	87.0	9.10	178	180	994
JPN7/54	JMN7/54	7.5	1800	213JP/JM	89.5	88.0	8.90	143	180	958
*JPN7/56	JMN7/56	7.5	1200	254JP/JM	89.5	81.0	9.70	287	310	1,696
JPN0102	JMN0102	10	3600	215JP/JM	89.5	90.0	11.6	205	205	1,164
JPN0104	JMN0104	10	1800	215JP/JM	89.5	89.5	11.7	235	230	1,140
*JPN0106	*JMN0106	10	1200	256JP/JM	89.5	82.5	12.7	342	325	2,112
JPN0152	JMN0152	15	3600	254JP/JM	90.2	91.5	17.0	281	246	1,641
JPN0154	JMN0154	15	1800	254JP/JM	91.0	88.0	17.6	340	330	1,614
*JPN0156	*JMN0156	15	1200	284JP/JM	90.2	83.0	18.8	450	470	2,764
JPN0202	JMN0202	20	3600	256JP/JM	90.2	92.0	22.6	370	220	2,097
JPN0204	JMN0204	20	1800	256JP/JM	91.0	88.0	23.4	370	370	2,025
*JPN0206	*JMN0206	20	1200	286JP/JM	90.2	83.5	24.9	513	520	3,591
JPN0252	JMN0252	25	3600	284JP/JM	91.0	90.5	28.4	515	470	2,504
JPN0254	JMN0254	25	1800	284JP/JM	92.4	89.0	28.5	431	431	2,382
*JPN0256	*JMN0256	25	1200	324JP/JM	91.7	81.5	31.3	660	660	4,322
JPN0302	JMN0302	30	3600	286JP/JM	91.0	91.0	33.9	565	535	3,049
JPN0304	JMN0304	30	1800	286JP/JM	92.4	88.0	34.6	574	560	2,865
*JPN0306	*JMN0306	30	1200	326JP/JM	91.7	80.5	38.1	671	671	4,970
JPN0402	JMN0402	40	3600	324JP/JM	91.7	89.5	45.7	695	695	4,037
JPN0404	JMN0404	40	1800	324JP/JM	93.0	89.0	45.3	715	730	3,863
*JPN0406	*JPN0406	40	1200	364JP/JM	93.0	86.5	46.6	785	785	6,610
JPN0502	JMN0502	50	3600	326JP/JM	92.4	90.5	56.0	671	671	5,357
JPN0504	*JMN0504	50	1800	326JP/JM	93.0	89.5	56.0	741	741	4,914
*JPN0506	NA	50	1200	365JP/JM	93.0	85.5	59.0	913	N/A	7,644

**Notes:**

\* Refer to factory for availability

# TEXP NEMA PREMIUM EXPLOSION PROOF FAMILY



## TYPE AEHHXU, AEHHXF, AEUHXF

Effective 08-01-11  
Supercedes 12-01-09



### APPLICATIONS:

- Grain Elevators
- Pumps
- Blowers
- Applications Where Explosive Gases are Present
- Applications Where Explosive Dusts/ Grains are Present

### FEATURES:

- 1 - 150 hp
- 1 - 100 hp – Foot Mounted with C-Flange or 1 - 75 hp Round Body with C-Flange
- 3600, 1800, 1200 RPM
- Totally Enclosed Fan Cooled - Explosion Proof (IP55 Rating)
- UL and CSA Listed for Class I, Division I, Group D and Class II, Groups E, F, G; Temp Code T2D/T3B
- UL File #: E84757
- CSA File #: 64671
- NEMA Premium Efficient Design
- Meets or Exceeds EPCo Efficiency Levels on the Round Body C-Face Design
- Department of Energy Efficiency Certification #CC002A
- 36 Month Warranty from Date of Manufacture
- 60 Hz - 230/ 460V (Usable on 208V). 150 hp is 460V Only
- 1.15 Service Factor – Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish
- Standard with Klaxon 9700K Temperature Limiting Switch, 1 per Phase
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrance – F1 Mounted.
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation
- Cast Iron Frame, Fan Cover, End Bells, and Main Conduit Box. Capable of Withstanding Explosion Force as Required by UL.
- Stainless Steel Breather Drains with Bronze Filters
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Dark Blue – Munsell 5PB 4.5/ 2
- Vacuum De-Gassed Regreasable Ball (or Roller) Bearings on Frames 280TS - 445T/ TS Using Polyrex EM Grease
- Double Shielded Bearings on Frames 140T-280T Pre-Packed with MULTEMP SRL Grease
- Brass Flinger on Both Ends
- Cast Iron Inner and Outer Bearing Caps for Frames 280TS - 445T/ TS
- Grounding Terminal Inside Main Box
- Stainless Steel Nameplate
- UL Listed for Inverter Duty - Note (3)
- Inverter Duty Magnet Wire Capable of Withstanding Voltage Spikes of Up to 2200 Volts
- Speed Ranges: VT = 3 - 60 Hz CT for 140 - 210 frames = 10 - 60 Hz.  
CT for 250 - 320 frames = 13 - 60 Hz CT for 360 - 440 frames = 16 - 60 Hz
- 9 Leads for 5 hp and Below, 12 Leads for 7.5 hp to 125 hp, 6 Leads for 150 hp
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed. - Note (4)

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Motor service factor is 1.0 when operated on a VFD.
- (4) EXTRAS/ OPTIONS are limited on TEXP products.

# NEMA PREMIUM EFFICIENCY EXPLOSION PROOF



## TYPE AEHHXU

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	APPROX. LIST PRICE
XP0014	1	1800	143T	85.5	73.0	1.5	64	695
XP0016	1	1200	145T	82.5	65.5	1.7	93	806
XP1/52	1.5	3600	143T	84.0	83.5	2.0	78	791
XP1/54	1.5	1800	145T	86.5	78.0	2.1	80	788
XP1/56	1.5	1200	182T	87.5	63.5	2.5	125	873
XP0022	2	3600	145T	86.5	86.0	2.5	68	819
XP0024	2	1800	145T	86.5	78.0	2.8	80	782
XP0026	2	1200	184T	88.5	70.5	3.0	148	1,009
XP0032	3	3600	182T	88.5	90.0	3.5	130	944
XP0034	3	1800	182T	89.5	84.0	3.7	135	948
XP0036	3	1200	213T	89.5	78.0	4.0	240	1,276
XP0052	5	3600	184T	88.5	92.5	5.7	153	1,165
XP0054	5	1800	184T	89.5	85.5	6.1	145	1,096
XP0056	5	1200	215T	91.0	82.5	6.2	235	1,643
XP7/52	7.5	3600	213T	91.0	89.0	8.7	235	1,579
XP7/54	7.5	1800	213T	90.2	87.5	8.9	200	1,544
XP7/56	7.5	1200	254T	91.0	80.5	9.6	365	2,145
XP0102	10	3600	215T	89.5	89.5	11.7	250	1,662
XP0104	10	1800	215T	89.5	88.5	11.8	265	1,799
XP0106	10	1200	256T	91.0	80.5	12.8	420	2,627
XP0152	15	3600	254T	92.4	91.5	16.6	400	2,162
XP0154	15	1800	254T	92.4	88.0	17.3	390	2,484
XP0156	15	1200	284T	92.4	83.5	18.2	575	3,587
XP0202	20	3600	256T	92.4	92.5	21.9	440	2,914
XP0204	20	1800	256T	93.0	87.5	23.0	455	2,912
XP0206	20	1200	286T	91.7	84.0	24.3	600	4,066
XP0252	25	3600	284TS	92.4	91.0	27.8	460	3,425
XP0254	25	1800	284T	93.6	86.0	29.1	585	3,599
XP0256	25	1200	324T	93.0	83.0	30.3	825	5,009
XP0302	30	3600	286TS	93.0	91.0	33.2	583	4,044
XP0304	30	1800	286T	93.6	87.5	34.3	565	4,168
XP0306	30	1200	326T	93.0	80.5	37.5	787	6,120
XP0402	40	3600	324TS	94.1	90.0	44.2	805	5,702
XP0404	40	1800	324T	94.1	86.0	46.3	708	5,925
XP0406	40	1200	364T	94.1	86.5	46.0	980	8,047
XP0502	50	3600	326TS	94.1	91.0	54.7	890	7,152
XP0504	50	1800	326T	94.5	87.0	56.9	925	6,827
XP0506	50	1200	365T	94.1	86.0	57.8	1,125	8,124
XP0602	60	3600	364TS	94.1	93.0	64.2	1,015	8,472
XP0604	60	1800	364T	95.0	86.5	68.4	1,010	8,447
XP0606	60	1200	404T	94.5	87.0	68.3	1,322	11,783
XP0752	75	3600	365TS	94.5	93.0	79.9	1,085	10,077
XP0754	75	1800	365T	95.4	86.5	85.1	1,110	9,900
XP0756	75	1200	405T	94.5	86.5	85.9	1,540	13,839
XP1002	100	3600	405TS	95.4	92.0	107.0	1,495	15,608
XP1004	100	1800	405T	95.4	87.5	112.0	1,545	13,836
XP1006	100	1200	444T	95.0	82.5	119.0	1,920	18,301
XP1006R	100	1200	444T	95.0	82.5	119.0	1,920	18,301
XP1252	125	3600	444TS	95.0	86.0	143.0	1,800	20,753
XP1254	125	1800	444T	95.4	84.0	146.0	1,970	19,269
XP1254R	125	1800	444T	95.4	84.0	146.0	1,970	19,269
XP1256	125	1200	445T	95.0	84.0	147.0	2,100	24,513
XP1256R	125	1200	445T	95.0	84.0	147.0	2,100	24,513
XP1502 <sup>(1)</sup>	150	3600	445TS	95.0	87.0	170.0	1,940	24,089
XP1504 <sup>(1)</sup>	150	1800	445T	95.8	84.0	175.0	2,120	23,406
XP1504R <sup>(1)</sup>	150	1800	445T	95.8	84.0	175.0	2,120	23,406

**Notes:**

- (1) Ratings 150 hp and larger are 460V only.
- (R) Motor stocked standard with a drive-end roller bearing.

# NEMA PREMIUM EFFICIENCY EXPLOSION PROOF FOOTED C-FACE

## TYPE AEHHXU

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
XP0014C	1	1800	143TC	85.5	73.0	1.5	64	983
XP0016C	1	1200	145TC	82.5	65.5	1.7	93	1,121
XP1/52C	1.5	3600	143TC	84.0	83.5	2.0	78	1,101
XP1/54C	1.5	1800	145TC	86.5	78.0	2.1	80	1,060
XP1/56C	1.5	1200	182TC	87.5	63.5	2.5	125	1,181
XP0022C	2	3600	145TC	86.5	86.0	2.5	68	1,142
XP0024C	2	1800	145TC	86.5	78.0	2.8	80	1,095
XP0026C	2	1200	184TC	88.5	70.5	3.0	148	1,355
XP0032C	3	3600	182TC	88.5	90.0	3.5	130	1,271
XP0034C	3	1800	182TC	89.5	84.0	3.7	135	1,280
XP0036C	3	1200	213TC	89.5	78.0	4.0	240	1,618
XP0052C	5	3600	184TC	88.5	92.5	5.7	153	1,494
XP0054C	5	1800	184TC	89.5	85.5	6.1	145	1,485
XP0056C	5	1200	215TC	91.0	82.5	6.2	235	2,136
XP7/52C	7.5	3600	213TC	91.0	89.0	8.7	235	2,002
XP7/54C	7.5	1800	213TC	91.7	86.5	8.9	200	2,092
XP7/56C	7.5	1200	254TC	91.0	80.5	9.6	365	2,707
XP0102C	10	3600	215TC	91.0	89.5	11.5	250	2,254
XP0104C	10	1800	215TC	91.7	88.0	11.6	265	2,435
XP0106C	10	1200	256TC	91.0	80.5	12.8	420	3,289
XP0152C	15	3600	254TC	92.4	91.5	16.6	400	2,724
XP0154C	15	1800	254TC	92.4	88.0	17.3	390	3,023
XP0156C	15	1200	284TC	92.4	83.5	18.2	575	4,464
XP0202C	20	3600	256TC	92.4	92.5	21.9	440	3,634
XP0204C	20	1800	256TC	93.0	87.5	23.0	455	3,647
XP0206C	20	1200	286TC	91.7	84.0	24.3	600	5,078
XP0252C	25	3600	284TSC	92.4	91.0	27.8	460	4,369
XP0254C	25	1800	284TC	93.6	86.0	29.1	585	4,461
XP0256C	25	1200	324TC	93.0	83.0	30.3	825	6,945
XP0302C	30	3600	286TSC	93.0	91.0	33.2	583	5,217
XP0304C	30	1800	286TC	93.6	87.5	34.3	565	5,193
XP0306C	30	1200	326TC	93.0	80.5	37.5	787	8,057
XP0402C	40	3600	324TSC	94.1	90.0	44.2	805	7,408
XP0404C	40	1800	324TC	94.1	86.0	46.3	708	7,440
XP0406C	40	1200	364TC	94.1	86.5	46.0	980	10,656
XP0502C	50	3600	326TSC	94.1	91.0	54.7	890	8,576
XP0504C	50	1800	326TC	94.5	87.0	56.9	925	8,447
XP0506C	50	1200	365TC	94.1	86.0	57.8	1,125	12,996
XP0602C	60	3600	364TSC	94.1	93.0	64.2	1,015	10,787
XP0604C	60	1800	364TC	95.0	86.5	68.4	1,010	11,046
XP0606C	60	1200	404TC	94.5	87.0	68.3	1,322	15,269
XP0752C	75	3600	365TSC	94.5	93.0	79.9	1,085	14,295
XP0754C	75	1800	365TC	95.4	86.5	85.1	1,110	13,320
XP0756C	75	1200	405TC	94.5	86.5	85.9	1,540	16,569
XP1002C	100	3600	405TSC	95.4	92.0	107.0	1,495	18,194
XP1004C	100	1800	405TC	95.4	87.5	112.0	1,545	16,569

# HIGH EFFICIENCY EXPLOSION PROOF ROUND BODY C-FACE



Effective 08-01-11  
Supersedes 12-01-09

## TYPE AEUHXF



FOOTLESS CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
XV0014C	1	1800	143TC	84.0	73.0	1.5	68	870
XV0016C <sup>(1)</sup>	1	1200	145TC	82.5	65.5	1.7	100	992
XV1/52C <sup>(1)</sup>	1.5	3600	143TC	84.0	83.5	2.0	104	974
XV1/54C	1.5	1800	145TC	85.5	78.0	2.1	100	938
XV1/56C <sup>(1)</sup>	1.5	1200	182TC	87.5	63.5	2.5	154	1,045
XV0022C <sup>(1)</sup>	2	3600	145TC	86.5	86.0	2.5	110	1,011
XV0024C	2	1800	145TC	84.0	78.0	2.9	110	969
XV0026C <sup>(1)</sup>	2	1200	184TC	88.5	70.5	3.0	150	1,199
XV0032C <sup>(1)</sup>	3	3600	182TC	88.5	90.0	3.5	150	1,125
XV0034C	3	1800	182TC	88.5	82.0	3.9	150	1,133
XV0036C	3	1200	213TC	88.5	80.5	3.9	240	1,432
XV0052C	5	3600	184TC	87.5	92.5	5.8	170	1,322
XV0054C	5	1800	184TC	87.5	87.5	6.1	160	1,314
XV0056C <sup>(1)</sup>	5	1200	215TC	89.5	83.5	6.3	270	1,890
XV7/52C <sup>(1)</sup>	7.5	3600	213TC	90.2	88.0	8.9	230	1,772
XV7/54C	7.5	1800	213TC	90.2	87.5	8.9	250	1,851
XV7/56C <sup>(1)</sup>	7.5	1200	254TC	91.0	80.5	9.6	360	2,396
XV0102C	10	3600	215TC	89.5	89.5	11.7	285	1,995
XV0104C	10	1800	215TC	89.5	88.5	11.8	325	2,155
XV0106C <sup>(1)</sup>	10	1200	256TC	91.0	80.5	12.8	430	2,911
XV0152C <sup>(1)</sup>	15	3600	254TC	92.4	91.5	16.6	390	2,411
XV0154C <sup>(1)</sup>	15	1800	254TC	92.4	88.0	17.3	435	2,675
XV0156C <sup>(1)</sup>	15	1200	284TC	92.4	83.5	18.2	560	3,950
XV0202C <sup>(1)</sup>	20	3600	256TC	92.4	92.5	21.9	420	3,216
XV0204C	20	1800	256TC	91.7	87.5	23.4	460	3,227
XV0206C	20	1200	286TC	91.0	84.5	24.4	604	4,702
XV0252C <sup>(1)</sup>	25	3600	284TSC	92.4	91.0	27.9	513	4,045
XV0254C	25	1800	284TC	93.0	86.0	29.3	640	4,131
XV0256C	25	1200	324TC	92.4	83.0	30.5	780	6,431
XV0302C <sup>(1)</sup>	30	3600	286TSC	93.0	91.0	33.2	551	4,831
XV0304C	30	1800	286TC	93.0	87.5	34.5	617	4,808
XV0306C <sup>(1)</sup>	30	1200	326TC	93.0	80.5	37.5	859	7,460
XV0402C <sup>(1)</sup>	40	3600	324TSC	94.1	90.0	44.2	760	6,859
XV0404C	40	1800	324TC	93.6	89.5	44.7	790	6,889
XV0406C	40	1200	364TC	93.6	86.5	46.3	1,040	9,867
XV0502C <sup>(1)</sup>	50	3600	326TSC	94.1	91.0	54.5	840	7,941
XV0504C	50	1800	326TC	93.6	89.0	56.0	865	7,821
XV0506C	50	1200	365TC	93.6	86.0	58.0	1,120	12,033
XV0602C <sup>(1)</sup>	60	3600	364TSC	94.1	93.0	64.0	1,000	9,988
XV0604C	60	1800	364TC	94.5	86.5	68.5	1,010	10,228
XV0752C <sup>(1)</sup>	75	3600	365TSC	94.5	93.0	80.0	1,085	13,236
XV0754C	75	1800	365TC	95.0	86.5	85.5	1110	12,333

**Notes:**

(1) Ratings Meet NEMA Premium Efficiency Levels.

# 2 SPEED, 1 WINDING, VARIABLE TORQUE



Effective 08-01-11  
Supercedes 12-01-09

## TYPE AECA



### APPLICATIONS:

- Fans & Blowers
- Pumps
- Cooling Towers

### FEATURES:

- 100 - 300 hp
- 1800/ 900 RPM
- 2 Speed, 1 Winding - Variable Torque
- Totally Enclosed Fan Cooled (IP55)
- High Efficiency Severe Duty
- 36 Month Warranty from Date of Manufacture
- 60 Hz, 460 Volt Only
- 1.15 Service Factor - Continuous
- Class F Insulation with Phenolic Alkyd Resin Varnish - Two Dips and Bakes
- Class B Temperature Rise
- NEMA Design B Torques as a Minimum
- Oversized Main Conduit Box Rotatable in 90 Degree Increments - Fully Gasketed with NPT Threaded Entrance - F1 Mounted. F2 Available - See EXTRAS/ OPTIONS Below
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Self-Certified for Class 1, Div. 2, Groups B, C, D; Temp Code T3C, Non Sparking, Non Static Fan - Note (3)
- Bidirectional Rotation
- Cast Iron Frame, End Brackets, Fan Cover, and Main Conduit Box (4)
- Dual Drilled Feet - Longer Frames
- 1045 Carbon Steel Shaft
- Aluminum Die Cast Squirrel Cage Rotor Construction
- Paint System: 2 Part Epoxy
- Paint Color: Blue Gray - Munsell 7.5BG 4/ 2
- Epoxy Coated Internals
- Vacuum De-Gassed Re-Greasable Bearings with Polyrex EM Grease
- Automatic Grease Discharge on Frames on Re-Greasable Motors
- Grounding Terminal Inside Main Box with Provisions for Grounding on Frame.
- Stainless Steel Nameplate and Hardware
- Stainless Steel Automatic Breather Drain
- 6 Leads Only
- Noise Level Not to Exceed 85 dB(A) at 1 Meter Unloaded
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1; Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Additional charge for Division II nameplate - See Modification Pricing.
- (4) 5000 frames will have a steel fan cover.

## 2 SPEED, 1 WINDING, VARIABLE TORQUE



### TYPE AECA

Effective 08-01-11  
Supercedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (460V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
CP1004/8	100/25	1800/900	444T	92.5/88.0	90.0/62.0	112/42.9	1,855	27,720
CP1254/8	125/31	1800/900	445T	92.5/88.0	90.0/62.0	141/53.2	2,105	33,957
CP1504/8	150/37	1800/900	447T	93.0/90.0	90.0/62.0	168/62.9	2,647	41,580
CP2004/8	200/50	1800/900	449T	93.5/90.0	90.5/62.0	221/83.9	2,820	49,896
CP2504/8	250/69.5	1800/900	449T	94.0/90.0	90.5/62.0	275/105	2,820	62,370
CP3004/8	300/75	1800/900	5009B	94.5/92.0	91.0/72.0	327/106	4,125	67,914

# GLOBAL-HD WPI MEDIUM VOLTAGE



Effective 08-01-11  
Supercedes 12-01-09

## TYPE ASHA



### APPLICATIONS:

- Pumps
- Fans & Blowers
- Compressors

### FEATURES:

- 100 - 1,250 hp
- 3600, 1800, 1200, 900 RPM Normally in Stock. Slower Speeds Available on Special Order.
- Weather Protected Type I Enclosure (IP23 rating)
- Standard Efficiency Design
- 36 Month Warranty from Date of Manufacture
- 60 Hz, 2300/ 4160V
- Standard with 120V Space Heaters Terminated in Separate Auxiliary Box
- Standard with 100 Ohm Platinum Stator RTDs, 2 per Phase, Terminated in Separate Auxiliary Box
- 1.15 Service Factor – Continuous
- Class F Insulation with VPI Treatment of Solventless Epoxy Varnish
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrances - F1 Mounted.
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Bidirectional Rotation Except 2 Pole Motors, 5000 Frame and Larger, which are Unidirectional CCW Facing the Drive-End. See EXTRAS/ OPTIONS Below if CW Rotation is Required.
- Cast Iron Frame, End Brackets, and Conduit Box
- 1045 Carbon Steel Shaft
- Copper/ Copper Alloy Rotor Construction for Frames 5800 - 6800. Aluminum Die-Cast Rotor Construction for All Others
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5BG 4/ 2
- Vacuum De-Gassed Re-greasable Ball Bearings Using Polyrex EM Grease
- Insulated Non-Drive End Bearing on 3600 RPM Motors, 600 hp and Larger
- Labyrinth Type Metal Grease Flinger on Both Ends
- Cast Iron Inner and Outer Bearing Caps
- Grounding Terminal Inside Main Box and on Motor Foot
- Stainless Steel Nameplate
- Suitable for Use on a VFD - Notes (3)(4)(5)
- 6 Leads
- Motors are CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Service factor is 1.0 when motor is used on a VFD.
- (4) An isolation transformer or other method of mitigating common mode voltages from motor terminals must be utilized.
- (5) Please contact TWMC for variable and constant torque speed ranges.
- (6) **Please refer to page 122 to check out our accompanying TEAMMaster starters.**



# GLOBAL-HD WPI MEDIUM VOLTAGE



## TYPE ASHA

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (2300V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
P1002	100	3600	444TS	91.0	90.2	22.8	1,292	16,146
P1004	100	1800	444T	91.0	87.5	23.5	1,680	16,514
P1006R	100	1200	445T	91.0	80.0	25.7	2,205	20,814
*P1008R	100	900	447TZ	91.0	77.0	26.7	1,943	25,491
*P1252	125	3600	444TS	91.0	90.2	28.5	1,370	19,022
P1254	125	1800	444T	91.0	87.5	29.4	1,490	18,672
*P1256R	125	1200	447TZ	91.7	80.0	32.0	2,139	25,829
*P1258R	125	900	449TZ	91.0	77.0	33.0	2,258	29,795
P1502	150	3600	445TS	91.7	90.2	34.0	1,450	21,542
P1504	150	1800	445T	91.7	87.5	35.0	1,645	21,891
P1506	150	1200	449TZ	91.7	80.0	38.0	2,547	29,441
*P1508R	150	900	5007C	91.0	77.0	40.0	2,940	33,378
P2002	200	3600	447TS	91.7	90.2	45.0	1,733	26,500
P2004	200	1800	447T	91.7	87.5	47.0	2,050	25,482
P2004R	200	1800	447TZ	91.7	87.5	47.0	2,050	25,482
*P2006R	200	1200	5007C	91.7	81.5	50.1	3,057	33,741
*P2008R	200	900	5009C	91.7	78.5	52.0	3,833	40,564
P2502	250	3600	449TS	92.4	91.0	56.0	2,095	31,582
P2504	250	1800	449TZ	92.4	87.5	58.0	2,668	30,510
P2506	250	1200	5007B	92.4	84.0	60.3	3,362	39,489
P2506R	250	1200	5007C	92.4	84.0	60.3	3,362	39,489
P2508	250	900	5009B	92.4	78.5	64.5	3,990	47,032
P3002	300	3600	449TS	93.0	91.0	66.0	2,280	36,610
P3004	300	1800	5007B	93.0	88.5	68.3	3,255	35,176
P3004R	300	1800	5007C	93.0	88.5	68.3	3,255	35,176
P3006	300	1200	5009B	93.0	84.0	71.9	3,945	43,790
P3006R	300	1200	5009C	93.0	84.0	71.9	3,945	43,790
P3008R	300	900	5808C	93.0	80.0	75.5	4,515	52,765
P3502 <sup>(1)</sup>	350	3600	5007A	93.0	90.2	78.1	2,991	41,997
P3504	350	1800	5007B	93.6	88.5	79.1	3,465	40,201
P3506R	350	1200	5009C	93.0	84.0	83.9	3,938	48,812
*P3508R	350	900	5808C	93.0	80.0	88.1	4,673	57,793
P4002 <sup>(1)</sup>	400	3600	5009A	93.6	90.5	88.4	3,485	46,306
P4004	400	1800	5009B	93.6	89.5	89.4	4,065	43,790
P4004R	400	1800	5009C	93.6	89.5	89.4	4,065	43,790
P4006R	400	1200	5808C	93.6	85.5	93.6	5,055	53,125
P4008	400	900	5808B	93.0	81.5	98.8	5,250	62,815
P4008R	400	900	5808C	93.0	81.5	98.8	5,250	62,815
P4502 <sup>(1)</sup>	450	3600	5808A	93.6	91.0	98.9	5,145	50,970
P4504	450	1800	5808B	93.6	88.5	102.0	4,200	47,378
P4506	450	1200	5808B	93.6	85.5	105.0	5,640	57,423
P4506R	450	1200	5808C	93.6	85.5	105.0	5,640	57,423
*P4508R	450	900	5810C	93.0	82.5	110.0	5,565	67,946

### Notes:

(1) Motors are unidirectional, counter clockwise facing the drive-end. To change direction of rotation please consult factory for adder.

(2) **Please refer to page 122 to check out our accompanying TeamMaster starters.**

(R) Motor stocked standard with a drive-end roller bearing.

\* These ratings are not carried in stock, please refer to factory for lead time.

# GLOBAL-HD WPI MEDIUM VOLTAGE



## TYPE ASHA

Effective 08-01-11  
Supersedes 12-01-09



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (2300V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
P5002 <sup>(1)</sup>	500	3600	5808A	94.1	91.0	109.0	4,680	55,280
P5004	500	1800	5808B	94.1	89.5	111.0	5,115	50,970
P5006R	500	1200	5808B	94.1	85.5	116.0	6,038	61,735
P5008	500	900	5810B	93.6	82.5	121.0	6,325	72,503
P6002 <sup>(1)</sup>	600	3600	5808A	94.5	91.3	130.0	5,135	61,735
P6004	600	1800	5808B	94.1	89.5	133.0	5,418	57,423
P6004R	600	1800	5808C	94.1	89.5	133.0	5,418	57,423
P6006R	600	1200	5810B	94.1	86.5	138.0	6,120	67,839
*P6008R	600	900	6806B	94.1	84.0	142.0	6,983	82,557
P7002 <sup>(1)</sup>	700	3600	5810A	94.5	91.7	151.0	5,410	66,765
P7004	700	1800	5808B	94.5	90.2	154.0	5,355	63,177
P7006R	700	1200	5810B	94.5	86.5	160.0	6,625	73,577
P7008	700	900	6808B	94.5	84.0	165.0	7,860	91,172
P8002 <sup>(1)</sup>	800	3600	5810A	95.0	91.7	172.0	5,475	69,993
P8004	800	1800	5810B	94.5	90.2	176.0	5,828	68,204
P8006R	800	1200	6806B	94.5	86.5	183.0	7,770	80,411
P8008R	800	900	6808B	94.5	84.5	188.0	8,820	100,864
P9002 <sup>(1)</sup>	900	3600	5810A	95.0	91.7	193.0	5,685	82,529
P9004	900	1800	5810B	95.0	90.2	197.0	6,143	73,945
P9006	900	1200	6806B	95.0	86.5	205.0	8,190	88,657
P10002 <sup>(1)</sup>	1,000	3600	5810A	95.0	90.2	214.0	5,950	92,425
*P10004	1,000	1800	6806B	95.0	90.2	219.0	7,750	79,693
P10006R	1,000	1200	6808B	95.0	86.5	228.0	8,610	95,122
P12504	1,250	1800	6808B	95.0	90.2	273.0	7,193	93,332

### Notes:

- (1) Motors are unidirectional, counter clockwise facing the drive-end. To change direction of rotation please consult factory for adder.
  - (2) **Please refer to page 122 to check out our accompanying TeamMaster starters.**
  - (R) Motor stocked standard with a drive-end roller bearing.
- \* These ratings are not carried in stock; please refer to factory for lead-time.

# GLOBAL-PLUS TEFC NEMA PREMIUM EFFICIENCY



Effective 08-01-11  
Supercedes 12-01-09

## TYPE AEHGK, AEHA



### APPLICATIONS:

- Pumps
- Fans & Blowers
- Compressors

### FEATURES:

- 100 - 900 hp
- 3600, 1800, 1200, 900 RPM
- Totally Enclosed Fan Cooled (IP55 Rating)
- NEMA Premium Efficiency Design (250 hp - 500 hp, 2, 4, 6, Pole)
- 36 Month Warranty from Date of Manufacture
- 60 Hz, 2300/ 4160V
- Standard with 120V Space Heaters Terminated in Separate Auxiliary Box
- Standard with 100 Ohm Platinum Stator RTDs, 2 per Phase, Terminated in Separate Auxiliary Box
- Factory Self-Certified for Class I, Division II, Groups B, C, D; Temp Code T3B - Note (1)
- 1.15 Service Factor – Continuous
- Class F with VPI Treatment of Solventless Epoxy Varnish Insulation
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrances - F1 Mounted.
- Designed for 40°C Ambient Temperature - Note (2)
- Designed for 3300 ft. Elevation - Note (3)
- Bidirectional Rotation Except 2 Pole Motors, 5000 Frames and Larger which are Unidirectional, CCW, Facing the Drive-End. See EXTRAS/ OPTIONS Below if CW Rotation is Required.
- Cast Iron Frame, End Brackets, and Conduit Box
- Rolled Steel Fan Cover
- 1045 Carbon Steel Shaft
- Copper/ Copper Alloy Rotor Construction for Frames 5800 - 6800.  
Aluminum Die-Cast Rotor Construction for All Others
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5BG 4/ 2
- Vacuum De-Gassed Re-Greasable Ball or Roller Bearings Using Polyrex EM Grease
- Insulated Non-Drive End Bearing on 3600 RPM Motors, 600 hp and Larger
- Labyrinth Type Metal Grease Flinger on Both Ends
- Cast Iron Inner and Outer Bearing Caps
- Grounding Terminal Inside Main Box and on Motor Foot
- Stainless Steel Nameplate
- Suitable for Use on a VFD 2:1 CT, 4:1 VT - Notes (4)(5)(6)
- 6 Leads
- Motors are CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please see modifications section if auxiliary nameplate stating this info is required.
- (2) Please consult factory for suitability in higher ambients.
- (3) Please consult factory for suitability in higher elevations.
- (4) Service factor is 1.0 when motor is used on a VFD.
- (5) An isolation transformer or other method of mitigating common mode voltages from motor terminals must be utilized.
- (6) Please contact TWMC for variable and constant torque speed ranges.
- (7) **Please refer to page 122 to check out our accompanying TEAMMaster starters.**

# GLOBAL-PLUS TEFC NEMA PREMIUM EFFICIENCY



Effective 08-01-11  
Supercedes 12-01-09

## TYPE AEHA, AEHGK



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (2300V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
K1002	100	3600	444TS	90.6	87.5	23.6	1,470	22,097
K1004 <sup>(C)</sup>	100	1800	444T	91.7	84.0	24.3	2,079	21,720
K1006R <sup>(C)</sup>	100	1200	445T	91.7	80.0	25.6	2,903	25,397
K1008R	100	900	447T	91.7	77.0	26.6	2,363	34,250
K1252	125	3600	445TS	90.6	87.5	29.5	1,838	27,611
K1254 <sup>(C)</sup>	125	1800	445T	91.7	84.0	30.4	1,990	25,036
K1256R <sup>(C)</sup>	125	1200	447T	92.4	80.0	31.7	2,415	36,081
K1258R	125	900	449T	91.7	77.0	33.2	2,835	51,542
K1502	150	3600	447TS	92.4	90.2	33.8	2,600	29,454
K1504 <sup>(C)</sup>	150	1800	447T	92.4	85.5	35.6	2,375	29,083
K1506R <sup>(C)</sup>	150	1200	449T	92.4	80.0	38.0	2,903	40,156
KG1508R	150	900	5007C	93.6	77.0	37.7	3,780	50,476
K2002	200	3600	449TS	92.4	90.2	45.0	2,495	41,825
K2004 <sup>(C)</sup>	200	1800	449T	92.4	85.5	46.4	2,775	40,683
KG2006R	200	1200	5007C	95.0	86.0	45.9	3,728	54,553
KG2008R	200	900	5009C	94.1	80.0	49.8	4,358	65,333
KG2502 <sup>(1)</sup>	250	3600	5007A	95.0	88.5	55.7	3,360	54,779
KG2504	250	1800	5007B	95.0	90.0	54.8	3,580	54,352
KG2506R	250	1200	5009C	95.0	86.0	57.3	4,305	62,650
KG2508R	250	900	5009C	95.0	80.0	61.6	4,515	79,372
KG3002 <sup>(1)</sup>	300	3600	5009A	95.4	90.5	65.1	3,675	66,408
KG3004	300	1800	5009B	95.4	90.0	65.4	4,200	60,795
KG3006R	300	1200	5009C	95.0	86.2	68.6	4,568	71,058
KG3008R	300	900	5011C	95.0	80.5	73.5	4,988	89,613
KG3502 <sup>(1)</sup>	350	3600	5009A	95.4	90.5	75.9	3,800	72,218
KG3504	350	1800	5009B	95.4	90.0	76.4	4,568	72,631
KG3506R	350	1200	5011C	95.0	86.3	79.9	4,988	81,088
KG3508R	350	900	5808C	95.0	81.0	85.1	5,355	103,265
KG4002 <sup>(1)</sup>	400	3600	5011A	95.4	91.0	86.3	5,040	79,168
KG4004	400	1800	5011B	95.4	90.0	87.2	4,890	78,519
KG4006R	400	1200	5011C	95.0	86.3	91.4	4,725	88,704
KG4008R	400	900	5808C	95.0	81.0	97.3	5,565	118,215
KG4502 <sup>(1)</sup>	450	3600	5011A	95.4	91.0	97.1	4,830	93,474
KG4504	450	1800	5011B	95.4	90.5	97.6	5,035	85,289
KG4506R	450	1200	5808C	95.4	86.5	102.1	5,565	102,045
KG4508R	450	900	5810C	95.0	81.5	108.8	6,195	125,388
KG5002 <sup>(1)</sup>	500	3600	5808A	95.4	91.0	108.0	5,620	101,998
KG5004	500	1800	5808B	95.8	90.5	108.0	5,250	98,301
KB5004 <sup>(2)</sup>	500	1800	5011B	93.6	90.6	110.0	5,235	89,553
KG5006R	500	1200	5810C	95.4	87.0	113.0	6,495	116,426
KG5008R	500	900	6808C	95.4	85.0	115.4	7,245	154,089
KG6002 <sup>(1)</sup>	600	3600	5810A	95.8	91.0	129.0	6,248	111,495
KG6004	600	1800	5810B	95.8	90.5	130.0	7,010	118,295
KG6006R	600	1200	5810C	95.4	87.0	135.4	6,090	135,274
KG6008R	600	900	6808C	95.4	85.0	139.0	7,770	163,809
KG7002 <sup>(1)</sup>	700	3600	5810A	96.2	91.0	150.0	6,760	118,011
KG7004	700	1800	5810B	95.8	90.5	151.2	6,038	136,580
KG7006R	700	1200	6808C	95.8	87.2	157.0	7,403	150,499
KG7008R	700	900	6808C	95.4	86.0	160.0	9,083	164,970
KG8002 <sup>(1)</sup>	800	3600	6808A	96.2	91.5	170.0	8,768	161,222
KG8004	800	1800	6808B	95.8	90.5	172.8	9,275	147,334
KG8006R	800	1200	6808C	95.8	87.2	179.3	8,820	164,082
KG9004	900	1800	6808B	95.8	90.5	194.4	8,925	155,419

**Notes:**

- Catalog numbers starting with K only or KB are not NEMA Premium Efficient.
- (1) Motors are unidirectional, with counter clockwise rotation, facing the drive-end. To change direction of rotation, please consult factory for adder.
- (2) Motor is dual drilled for 5011 & 5010
- (3) **Please refer to page 122 to check out our accompanying TEAMMaster starters.**
- (R) Motor stocked standard with a drive-end roller bearing.
- (C) Meets NEMA Design C torque levels



### APPLICATIONS:

- Pumps
- Fans & Blowers
- Compressors

### FEATURES:

- 800 – 2,000 hp
- 3600, 1800, 1200, 900 RPM
- Totally Enclosed Fan Cooled (IP54)
- High Efficient Design
- 36 Month Warranty from Date of Manufacture
- 60 Hz, 2300/ 4160V
- Standard with 120V Space Heaters Terminated in Separate Auxiliary Box
- Standard with 100 Ohm Platinum Stator RTDs, 2 per Phase, Terminated in Separate Auxiliary Box
- 1.15 Service Factor – Continuous
- Class F with VPI Treatment of Solventless Epoxy Varnish Insulation
- Class B Temperature Rise
- NEMA Design B Torques
- Oversized Main Conduit Box Rotatable in 90 Degree Increments – Fully Gasketed with NPT Threaded Entrances - F1 Mounted.
- Designed for 40°C Ambient Temperature - Note (1)
- Designed for 3300 ft. Elevation - Note (2)
- Cast Iron Frame, End Brackets, and Conduit Box
- Rolled Steel Fan Cover
- 1045 Carbon Steel Shaft
- Copper/ Copper Alloy Rotor Construction
- Paint System: Phenolic Rust Proof Base Plus Polyurethane Top Coat
- Paint Color: Blue Gray – Munsell 7.5BG 4/ 2
- Vacuum De-Gassed Re-Greasable Ball or Roller Bearings Using Polyrex EM Grease
- Insulated Non – Drive-End Bearing on 500 Frames and Larger
- Labyrinth Type Metal Grease Flinger on Both Ends
- Dust Flinger on Both Ends
- Cast Iron Inner and Outer Bearing Caps
- Grounding Terminal Inside Main Box and on Motor Foot
- Stainless Steel Nameplate
- Suitable for Use on a VFD 2:1 CT; 4:1 VT - Notes (3)(4)(5)(6)
- 6 Leads
- CSA Approved
- Precautions should be taken to eliminate or reduce shaft currents that may be imposed on the motor by the VFD as stated per NEMA MG1, Part 31.4.4.3.

### EXTRAS/ OPTIONS:

Please refer to pages 73 - 78 for common modifications that can be performed.

### Notes:

- (1) Please consult factory for suitability in higher ambients.
- (2) Please consult factory for suitability in higher elevations.
- (3) Service factor is 1.0 when motor is used on a VFD.
- (4) An isolation transformer or other method of mitigating common mode voltages from motor terminals must be utilized.
- (5) Please contact TWMC for variable and constant torque speed ranges.
- (6) **Please refer to page 122 to check out our accompanying TeamMaster starters.**



CATALOG NO.	HP	RPM	FRAME	FL EFF	FL PF	FL AMPS (2300V)	APPROX. SHIPPING WT. (lbs.)	LIST PRICE
*JH08008	800	900	450C	95.8	87.0	180	9,030	168,977
*JF09002	900	3600	400C	95.9	89.6	189	8,200	200,000
*JH09006	900	1200	450C	95.8	88.0	200	10,890	166,436
*JH09008	900	900	500C	95.8	87.5	201	11,550	172,173
*JF10002	1,000	3600	450C	97.0	91.0	213	9,200	240,000
*JH10004	1,000	1800	450C	96.2	90.0	216	10,635	158,813
*JH10006	1,000	1200	500C	96.2	89.0	219	12,400	180,642
*JH10008	1,000	900	500C	95.8	87.5	223	14,000	194,940
*JF12502	1,250	3600	500C	96.8	91.5	264	11,500	270,000
*JH12504	1,250	1800	500C	96.2	90.0	270	11,550	165,356
*JH12506	1,250	1200	500C	96.2	89.5	272	12,180	194,940
*JH12508	1,250	900	560C	96.0	84.0	290	16,000	212,013
*JF15002	1,500	3600	560C	96.3	92.0	318	12,900	313,600
*JH15004	1,500	1800	500C	96.5	90.0	323	12,285	179,998
*JH15006	1,500	1200	560C	96.2	86.0	340	12,495	217,705
*JH15008	1,500	900	560C	96.0	84.0	348	18,000	220,550
JF17502	1,750	3600	560C	96.5	92.0	369	13,200	333,500
*JH17504	1,750	1800	560C	96.5	90.5	375	13,230	197,783
*JH17506	1,750	1200	560C	96.2	86.0	396	18,000	221,974
JH20004	2,000	1800	560C	96.5	90.5	415	17,000	219,128

**Notes:**

- \* Rating now carried in stock.
- (1) For other voltages, please refer to factory.
- (2) For 3600 RPM motors, 1,000 hp and larger come standard with sleeve bearings.
- (3) **Please refer to page 122 to check out our accompanying TeamMaster starters.**

# C-FLANGE KITS

Effective 08-01-11  
Supersedes 12-01-09

NEMA FRAME	LIST PRICE	ODP ASHE CATALOG NO.	MAX-PE™ AEHH8P CATALOG NO.	MAX-E1® AEHE, AEHH8N CATALOG NO.	MAX-E2 AEHH CATALOG NO.	MAX-E2/841® AEHH8B LIST PRICE	MAX-E2/841® AEHH8B CATALOG NO.
140T	108	N/A	CFN140T	CFE140T	CFHH140T	333	CFHB140T
180T	162	N/A	CFN180T	CFE180T	CFHH180T	458	CFHB180T
210T	275	N/A	CFN210T	CFE210T	CFHH210T	621	CFHB210T
250T	354	CFDH250T	CFN250T	CFE250T	CFHH250T	671	CFHB250T
280TS	473	CFDH280TS*	CFN280TS**	CFE280TS**	CFHH280TS**	1,053	CFHB280TS**
280T	473	CFDH280T	CFN280T	CFE280T	CFHH280T	1,053	CFHB280T
320TS	581	CFDH320TS*	CFN320TS**	CFE320TS**	CFHH320TS**	1,153	CFHB320TS**
320T	581	CFDH320T	CFN320T	CFE320T	CFHH320T	1,153	CFHB320T
360TS	624	CFDH360TS*	CFN360TS**	CFE360TS**	CFHH360TS**	1,197	CFHB360TS**
360T	624	CFDH360T	CFN360T	CFE360T	CFHH360T	1,247	CFHB360T
400TS	820	CFDH400TS*	CFN400TS**	CFE400TS**	CFHH400TS**	1,508	CFHB400TS**
400T	820	CFDH400T	CFN400T	CFE400T	CFHH400T	1,717	CFHB400T
444/445TS	1,765	CFDH444/5TS*	CFN444/5TS**	CFE444/5TS**	CFHH444/5TS**	3,353	CFHB444/5TS**
444/445T	1,765	CFDH444/5T	CFN444/5T	CFE444/5T	CFHH444/5T	3,665	CFHB444/5T
447/449TS	1,804	CFDH447/9TS*	CFN447/9TS**	CFE447/9TS**	CFHH447/9TS**	3,621	CFHB447/9TS**
447/449T	1,804	CFDH447/9T	CFN447/9T	CFE447/9T	CFHH447/9T	3,933	CFHB447/9T
Hybrid 449TS	1,950	N/A	N/A	CFE449TS-HYBRID	N/A	N/A	N/A
Hybrid 449T"	1,950	N/A	N/A	CFE449T-HYBRID	N/A	N/A	N/A

NEMA FRAME	LIST PRICE	ROLLED STEEL ASGA/ASGH CATALOG NO.	SINGLE PHASE BEGC(CC,CS)FD CATALOG NO.	3 PHASE ROLLED STEEL AEGA-AEGH CATALOG NO.
56	83	CFDS56	CF556	CFG56
140T	83	CFDT140T	CFS140T	CFGP140
180T	142	CFDT180T	CFS180T	CFGP180
210T	149	CFDT210T	CFS210T	CFGP210
250T	211	CFDT250T	N/A	N/A
280TS	418	CFDT280TS	N/A	N/A
280T	459	CFDT280T	N/A	N/A

FRAME	LIST PRICE	CATALOG NO.
5007A	3,500	CFE5007A
5009A	3,500	CFE5009A
5009B/C	3,500	CFE5009B/C
5011A	3,750	CFE5011A
5011B/C	3,750	CF5011B/C
5808A	4,000	CFE5808A
5808B/C	4,000	CFE5808B/C
5810A	5,100	CFE5810A
5810B/C	5,100	CFE5810B/C

**Notes:**

For frame sizes larger than 449T, please refer to the factory.  
HYBRID Ratings are EP3006, EP3502, EP3504.  
\* For MAX-E2/841® (AEHH8B) INPRO™ Seal is included in the price.  
\*\* TS Flanges are for 2 pole motors only. 280TS-449TS are interchangeable between MAX-E1® and MAX®/SE/PE. 140T-280T are not.

**Notes:**

(1) Fits product types MAX-E1® (AEHE, AEHH8N) and Medium Voltage TEFC (AEHGK).

# D-FLANGE KITS

Effective 08-01-11  
Supercedes 12-01-09

NEMA FRAME	LIST PRICE	NEMA PREMIUM ODP CATALOG NO.	MAX-PE™ AEHH8P CATALOG NO.	MAX-E1® AEHE, AEHH8N CATALOG NO.	MAX-E2® AEHH CATALOG NO.	MAX-E2/841® AEHH8B LIST PRICE	MAX-E2/841® AEHH8B CATALOG NO.
56	N/A	N/A	N/A	N/A	N/A	N/A	N/A
140T	171	N/A	DFN140T	DFE140T	DFHH140T	333	DFHB140T
180T	230	N/A	DFN180T	DFE180T	DFHH180T	446	DFHB180T
210T	N/A	N/A	N/A	N/A	N/A	N/A	N/A
250T	350	DFDH250T	DFN250T	DFE250T	DFHH250T	688	DFHB250T
280TS	506	DFDH280TS**	DFN280TS**	DFN280TS**	N/A	N/A	N/A
280T	506	DFDH280T	DFN280T	N/A	N/A	N/A	N/A
320TS	654	DFDH320	DFN320	N/A	N/A	N/A	N/A
320T	654	DFDH320	DFN320	N/A	N/A	N/A	N/A
360TS	750	DFDH360TS**	DFN360TS**	DFE360TS**	N/A	N/A	N/A
360T	750	DFDH360T	DFN360T	N/A	N/A	N/A	N/A
404TS/405TS	861	DFDH400TS**	DFN400TS**	DFE400TS**	DFHH400TS**	1,548	DFHB400TS**
404T/405T	861	DFDH400T	DFN400T	DFE400T	DFHH400T	1,758	DFHB400T
444TS/445TS	1,750	DFDH444/5TS**	DFN444/5TS**	DFE444/5TS**	DFHH444/5TS**	3,406	DFHB444/5TS**
444T/445T	1,750	DFDH444/5T	DFN444/5T	DFE444/5T	DFHH444/5T	3,718	DFHB444/5T
447TS/449TS	2,686	DFDH447/9TS	DFN447/9TS**	DFE447/9TS**	DFHH447/9TS**	3,507	DFHB447/9TS**
447T/449T	2,686	DFDH447/9T	DFN447/9T	DFE447/9T	DFHH447/9T	3,819	DFHB447/9T
5007A	3,500	N/A	N/A	DFE5007A	N/A	N/A	N/A
5009A	3,500	N/A	N/A	DFE5009A	N/A	N/A	N/A
5009B/C	3,500	N/A	N/A	DFE5009B/C	N/A	N/A	N/A
5011A	3,750	N/A	N/A	DFE5011A	N/A	N/A	N/A
5011B/C	3,750	N/A	N/A	DF5011B/C	N/A	N/A	N/A
5808A	4,000	N/A	N/A	DFE5808A	N/A	N/A	N/A
5808B/C	4,000	N/A	N/A	DFE5808B/C	N/A	N/A	N/A
5810A	5,100	N/A	N/A	DFE5810A	N/A	N/A	N/A
5810B/C	5,100	N/A	N/A	DFE5810B/C	N/A	N/A	N/A

**Notes:**

- \*\* TS Flange is for 2 pole only.
- For frame sizes larger than 449T, please refer to factory.
- D-Flanges are not available for EP3006, EP3502, EP3504, HB3006, HB3502 and HB3504
- (1) For MAX-E2/841® (AEHH8B), INPRO™ seal is included in the price.



# P-BASE KITS, DRIP COVERS, & PAINT

Effective 08-01-11  
Supersedes 12-01-09

## ALTERNATE P-BASE FOR MAX-VH

CATALOG NO.	FRAME SIZE	BASE DIMENSION	AJ	AK	LIST PRICE
PBVH-250-12	250TP	12.0	9.125	8.25	350
PBVH-250-16.5	250TP	16.5	14.75	13.5	350
PBVH-280-12	280TP	12.0	9.125	8.25	506
PBVH-280-16.5	280TP	16.5	14.75	13.5	506
PBVH-320-12	320TP	12.0	9.125	8.25	654
PBVH-360-12	360TP	12.0	9.125	8.25	750
PBVH-400-20	400TP	20.0	14.75	13.5	861
PBVH444/5-16.5	444/445TP	16.5	14.75	13.5	1,750
PBVH444/5-20	444/445TP	20.0	14.75	13.5	1,750
PBVH447/9-20	447/449TP	20.0	14.75	13.5	2,686
PBVH447/9-24.5	447/449TP	24.5	14.75	13.5	2,686

## DRIP COVERS

NEMA FRAME	ROLLED STEEL LIST PRICE	ROLLED STEEL CATALOG NO.	CAST IRON CATALOG NO.	CAST IRON LIST PRICE
140T	76	RSDC140T	CIDC140T	312
180T	119	RSDC180T	CIDC180T	400
210T	187	RSDC210T	CIDC210T	449
250T	355	RSDC250T	CIDC250T	624
280TS	442	RSDC280TS	CIDC280TS	923
280T	442	RSDC280T	CIDC280T	923
320TS	564	RSDC320TS	CIDC320TS	1,135
320T	564	RSDC320T	CIDC320T	1,135
360TS	1,413	RSDC360TS	CIDC360TS	1,965
360T	1,413	RSDC360T	CIDC360T	1,965
404TS/ 405TS	1,833	RSDC400T	CIDC400	2,045
404T/ 405T	1,833	RSDC400T	CIDC400	2,045

## PAINT

MOTOR TYPE	PAINT PART NUMBER	COLOR	PAINT #	LIST PRICE
MAX-PE™, ALL MEDIUM VOLTAGE, AEEAGD, AEEAJMJ/P	5D98549H03	DARK GRAY	Munsell 7.5BG 4/ 2	67/ can
MAX-E1®, LOW VOLTAGE ODP	5D98549H04	LIGHT GRAY	Munsell N5.0	67/ can
MAX-E2®, MAXE2/841®	5D98549H05	BLUE	Munsell 5PB 3/ 8	67/ can
AEHEVS	5D98549H06	BEIGE	Munsell 2.5Y 8/2	67/ can
SINGLE PHASE FARM DUTY	5D98549H07	GREEN	Munsell 5G 4/ 4	67/ can
EXPLOSION PROOF	5D98549H08	DARK BLUE	Munsell 5PB 4.5/ 2	67/ can
MAX-PE™	5D98549Hxx	BLUE-GREY	Munsell 7.5B 3.5/5	67/ can

### Notes:

- Minimum order is three cans of paint, freight prepaid and added; allow 3-5 days for delivery.

# FACTORY MODIFICATION PRICING

Effective 08-01-11  
Supercedes 12-01-09

## MODIFICATION LEAD TIME

1. TWMC standard lead time for all modifications is 5-10 working days. If shorter lead time is required, please contact TWMC. Expediting fees may apply.
2. Modification lead time does not include transit time.
3. Lead time is based upon availability of parts.

**Note: M2X is the only modification that can be done to our explosion-proof motors**

MOD. NUMBER	DESCRIPTION	LIST PRICE									
		56-180T	210T	250T	280T	320T	360T	400T	440T	5000	5800 & UP
M1	Nameplate Change	95	95	95	95	95	95	95	95	95	95
M1A	Additional Nameplate	127	127	127	127	127	127	127	127	127	127
M1B	304 Stainless Steel Hardware	N/A	N/A	425	550	675	850	1050	1325	1550	1850
M2 <sup>(1)</sup>	Space Heater	370	370	446	486	549	549	612	751	1,525	1,733
M2A <sup>(1)</sup>	Space Heater w/ Auxiliary Box	801	801	907	978	1,047	1,116	1,185	1,325	1,925	2,137
M2X	Space Heater "Explosion Proof"	558	558	697	838	978	978	1,116	1,395	N/A	N/A
M3C <sup>(2)</sup>	Installation of C-Face	300	384	468	677	823	1,047	1,475	2,093	5,580	6,278
M3C841 <sup>(2)</sup>	Installation of C-Face w/ INPRO™ Seal (MAX-E2/841® only)	613	873	1,256	1,395	1,744	1,953	2,372	2,372	N/A	N/A
M3D <sup>(7)</sup>	Installation of D-Flange	300	N/A	468	677	823	1,047	1,475	2,093	5,580	6,278
M3D841 <sup>(2)</sup>	Installation of D-Flange w/ INPRO™ Seal (MAX-E2/841® only)	613	N/A	1,256	N/A	N/A	N/A	2,372	2,372	N/A	N/A
M4 <sup>(3)</sup>	Stator Winding RTD's, 100 Ohm Platinum (1/ Phase)	809	924	982	982	1,116	1,116	1,271	1,271	1,617	1,617
M4A <sup>(3)</sup>	Stator Winding RTD's w/ Auxiliary Box (1/ Phase)	N/A	N/A	N/A	N/A	N/A	1,744	1,744	1,744	2,232	2,302
M4B <sup>(3)</sup>	Stator Winding RTD's, 100 Ohm Platinum w/ Auxiliary Box (2/ Phase)	N/A	N/A	N/A	N/A	N/A	N/A	3,244	3,244	3,732	3,802
M5	Thermistors (1/ Phase)	558	838	838	838	1,116	1,116	1,116	1,116	1,395	1,395
M5A	Thermistors (1/ Phase) w/ Auxiliary Box	1,271	1,386	1,395	1,395	1,675	1,744	1,744	1,744	2,232	2,302
M6	Thermostats (1/ Phase)	279	418	418	418	558	589	670	670	697	697
M6A	Thermostats (1/ Phase) w/ Auxiliary Box	801	942	978	978	1,116	1,185	1,185	1,185	1,535	1,604
M7	Bearing RTD's, 100 Ohm Platinum (2/ Motor)	N/A	N/A	N/A	N/A	N/A	N/A	3,004	3,004	3,004	3,004
M8 <sup>(4)</sup>	Bearing Conversion - Roller to Ball or Ball to Roller	N/A	N/A	N/A	N/A	N/A	2,310	2,625	3,437	5,082	5,544
M8A <sup>(4)</sup>	Convert to Insulated or Ceramic Bearings	998	1,575	1,680	1,838	2,520	3,413	4,095	6,563	11,025	14,175
M9	Change Rotation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,587	2,587
M9A	Change to Low Noise Fan/ Fan Cover	N/A	N/A	N/A	N/A	N/A	N/A	N/A	QUOTE	QUOTE	QUOTE
M10	Shorten Shaft to NEMA TS Dimensions; Non-NEMA Dim Requires TWMC Drawing	N/A	N/A	N/A	1,256	1,395	1,535	1,675	1,953	QUOTE	QUOTE
M10A	Special Keyless 4140 Shaft Ext. for 5000 Frames and Above	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	QUOTE	QUOTE
M11	F1 to F2 Mounting Conversion	210	264	377	377	377	503	503	589	9,486	9,486
M12	Oversized Main Conduit Box	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,620	4,620	4,620
M12A	Fully Loaded Main Conduit Box	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18,480	18,480	18,480

### Notes:

- (1) Please double the List Price for 240 Volt Space Heaters operated on 120 Volts.
- (2) Price includes the flange.
- (3) Only 1/ phase available for 360 frames and smaller.
- (4) Price is per bearing.
- (5) Not required for MAX-E2® or MAX-E2/841®.
- (6) For frames 140T through 400T, please use MAX-E2/841®.
- (7) Not available for Hybrid 449T/ TS frames: EP3006, EP3502, EP3504, HB3006, HB3502 and HB3504.

# FACTORY MODIFICATION PRICING

Effective 08-01-11  
Supersedes 12-01-09

## MODIFICATION LEAD TIME

1. TWMC standard lead time for all modifications is 5-10 working days. If shorter lead time is required, please contact TWMC. Expediting fees may apply.
2. Modification lead time does not include transit time.
3. Lead time is based upon availability of parts.

MOD. NUMBER	DESCRIPTION	LIST PRICE									
		56-180T	210T	250T	280T	320T	360T	400T	440T	5000	5800 & UP
M13	Stainless Steel Breather Drains	210	264	377	377	377	503	503	589	589	670
M14	Tropicalization/ Fungus Protection	284	284	284	284	284	284	284	323	364	384
M15	Provisions for Vertical Jack Screws	N/A	N/A	N/A	N/A	N/A	N/A	1,185	1,185	Included	Included
M16	Alternate Grease	314	364	364	427	508	589	670	751	809	809
M17	Chico Motor Leads	210	264	377	377	377	503	549	549	N/A	N/A
M18 <sup>(5)</sup>	Epoxy Paint Finish	838	838	1,152	1,152	1,152	1,152	1,152	1,152	1,535	1,535
M19 <sup>(6)(4)</sup>	Shaft INPRO™ Seals	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,003	3,003	3,003
M20 <sup>(5)</sup>	Grounding Provisions on Frame	140	140	140	140	140	140	140	Included	Included	Included
M21	Drip Cover (TEFC) Rolled Steel	347	404	578	962	1,213	1,386	2,195	N/A	N/A	N/A
M21A	Drip Cover (TEFC) Cast Iron	572	771	922	1,116	1,451	1,688	2,617	N/A	N/A	N/A
M22	Extend Leads - Connection Behind Conduit Box; Price Based on 4' Leads	628	628	628	669	757	855	991	1,049	1,028	1,427
M23	Supply Shaft Grounding Ring	742	834	834	834	834	834	989	1,587	1,587	2,285
M24 <sup>(4)</sup>	Provisions for Vibration Sensor	N/A	N/A	N/A	N/A	N/A	N/A	384	384	384	384
M24A <sup>(4)</sup>	Provide and Install Vibration Sensor (Does Not Include Cabling or Terminations)	N/A	N/A	N/A	N/A	N/A	QUOTE	QUOTE	QUOTE	QUOTE	QUOTE
M25	Mill Off Motor Feet	816	838	884	928	1,019	1,155	1,382	1,608	1,857	2,151
M26 <sup>(7)</sup>	Inline Blower for 1000:1 Speed Range	508	681	951	1,109	1,756	1,860	2,044	6,999	12,249	17,499
M27 <sup>(7)</sup>	Installation of Encoder	2,573	2,573	2,678	2,783	3,019	3,019	3,281	3,615	6,825	8,138
M28	Lock Nut and Washer for Mounting the Motor Vertical Shaft Down	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,397	3,397
M29 <sup>(8)</sup>	Oil Mist Ready	N/A	N/A	N/A	N/A	N/A	N/A	2,625	3,413	6,563	9,188
M30	CSA Div. 2 Medium Voltage TEFC Mod.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9,900	9,900
M31 <sup>(8)</sup>	Convert to IP56 or IP65	489	682	795	795	935	1,092	1,219	1,219	QUOTE	QUOTE

### Notes:

- (1) Please double the List Price for 240 Volt Space Heaters operated on 120 Volts.
- (2) Price includes the flange.
- (3) Only 1-phase available for 360 frames and smaller.
- (4) Price is per bearing.
- (5) Not required for MAX-E2® or MAX-E2/841™
- (6) For Frames 140T through 400T, please use MAX-E2/841™.
- (7) "M8A" Mod required as well from frames 440TS/T and larger.
- (8) Must start with IEEE 841 motor.

# FACTORY MODIFICATION DESCRIPTIONS

Effective 08-01-11  
Supercedes 12-01-09

## **M1. Nameplate Change:**

Add new nameplate displaying approved data changes such as new voltage and frequency, revised hp and service factor, higher or lower ambient temperature, etc. Information should be clearly stamped on P.O.

## **M1A. Additional Nameplate:**

Add second data plate with customer part number, order number, or other data.

## **M1B. 304 Stainless Steel Hardware:**

Add for 304 Stainless Steel Hardware - Bolts, Nameplate.

## **M2. Space Heater:**

Add wrap around space heaters with leads brought out to main terminal box. Standard voltage is 115V, however other voltages are available. Please specify voltage when ordering. All heaters are single phase.

## **M2A. Space Heater w/ Auxiliary Box:**

Same as M2, except an auxiliary terminal box is added to the side of the main terminal box and the space heater leads are brought out to the auxiliary terminal box.

## **M2X. Space Heater "Explosion Proof":**

Add wrap around space heaters with leads brought out to main terminal box. Standard voltage is 115V, however other voltages are available. Please specify voltages when ordering. All heaters are single phase. This applies to TWMC's explosion proof line of motors.

## **M3C. Installation of C-Face:**

Remove drive-end bracket and replace with C-Face: Modification Price includes the C-Face.

## **M3C841. Installation of C-Face w/ INPRO™ Seal (MAX-E2/841® only):**

Remove drive-end bracket and replace with C-Face and INPRO™ Seal: Only Available on MAX-E2/841® Line.

## **M3D. Installation of D-Flange:**

Remove drive-end bracket and replace with D-Flange: Modification Price includes the D-Flange.

## **M3D841. Installation of D-Flange w/ INPRO™ Seal (MAX-E2/841® only):**

Remove drive-end bracket and replace with D-Flange and INPRO™ Seal: Only Available on MAX-E2/841® Line

## **M4. Stator Winding RTD's, 100 Ohm Platinum (1/ phase):**

Provide 100 Ohm platinum resistant temperature detectors (RTD's), two per phase, on the winding end turns with leads brought out to main terminal box. Note TWMC's medium voltage line of products come standard with 100 Ohm platinum RTD's, two per phase.

## **M4A. Stator Winding RTD's w/ Auxiliary Box (1/ Phase):**

Provide 100 Ohm platinum resistant temperature detectors (RTD's) one per phase on the winding end turns with leads terminated in an auxiliary terminal box.

**Note:** On motors 360T - 449T, the auxiliary box will be located on the same side as the main lead box. On 5000 frames and larger, the auxiliary box will be located on the F2 side, or on the opposite side of the main lead box.

## **M4B. Stator Winding RTD's, 100 Ohm Platinum w/ Auxiliary Box (2/ Phase):**

Provide 100 Ohm platinum resistant temperature detectors (RTD's) two per phase on the winding end turns with leads terminated in an auxiliary terminal box.

**Note:** On motors 360T - 449T, the auxiliary box will be located on the same side as the main lead box. On 5000 frames and larger, the auxiliary box will be located on the F2 side, or on the opposite side of the main lead box.

## **M5. Thermistors (1/ Phase):**

Provide (3) PTC thermistors (140°C) on the winding end turns with leads brought out to main terminal box.

Note: these are standard on Metric motors with frames 160L and larger.

## **M5A. Thermistors (1/ Phase) w/ Auxiliary Box:**

Provide (3) PTC thermistors (140°C) on the winding end turns with leads brought out to an auxiliary terminal box. The auxiliary box will be located on the side of the main terminal box.

## **M6. Thermostats (1/ Phase):**

Addition of (3) normally closed thermostats (140°C) to the winding end turns, connected in series with the leads brought out to the main terminal box. This is standard on Explosion Proof Motors.

# FACTORY MODIFICATION DESCRIPTIONS

Effective 08-01-11  
Supercedes 12-01-09

## **M6A. Thermostats (1/ Phase) w/ Auxiliary Box:**

Addition of (3) normally closed thermostats (140°C) to the winding end turns, connected in series with the leads brought out to an auxiliary terminal box. The auxiliary box will be located off the side of the main terminal box.

## **M7. Bearing RTD's, 100 Ohm Platinum (2/ motor):**

Add 100 Ohm platinum bearing resistance temperature detectors, on both the drive and non-drive end bearing. Specify if alternate type is required.

## **M8. Bearing Conversion - Roller to Ball or Ball to Roller:**

Convert from Roller Bearings to Ball Bearings or Ball Bearings to Roller Bearings. The Roller to Ball conversion requires some machining on bearing caps to allow for thermal growth.

## **M8A. Convert to Insulated or Ceramic Bearings:**

Replace existing bearing(s) with either ceramic ball bearings, or ceramic coated bearings. This would be to reduce/ eliminate shaft currents. TWMC's standard is on the Non-Drive End bearing only.

## **M9. Change Rotation (2 Pole Motors Only):**

This modification only applies to 2-Pole (3600/ 3000 RPM) motors in 5000 frames and larger. Standard direction of rotation is counter clockwise, facing the drive-end of the motor. This modification will change either the internal or external fans for operation in the clockwise direction, facing the drive-end.

## **M9A. Change to Low Noise Fan/ Fan Cover:**

Low noise fan/ fan cover designed to reduce noise to below 85 dB at 1m.

## **M10. Shorten Shaft to NEMA TS Dimensions; Non-NEMA Dim Requires TWMC Drawing:**

Machine shafts to TS dimensional length per NEMA MG1 or customer required length. Any other extension requirements will have to be approved by TWMC and require a shaft drawing. End result may produce a step key configuration. Note, this does not include new bearings.

## **M10A. Special Keyless 4140 Shaft Extension for 5000 Frames and above:**

Extension is for 5000 frames and above, where torsional stress in the application is high, such as reciprocating gas compressors. Requires TWMC approval, quote, and drawing.

## **M11. F1 to F2 Mounting Conversion:**

Convert terminal box location from standard F1 to F2, or F2 to F1, depending on the product line. On medium voltage motors, the auxiliary terminal boxes will be on the opposite side of the main terminal box as standard. If the requirement is to have all terminal boxes on either the F1 side or the F2 side, please specify.

## **M12. Oversized Main Conduit Box:**

Replace existing conduit box with an oversized main conduit box. This would be done if the TWMC standard box does not meet customer's requirement. Mount and extend leads if necessary.

## **M12A. Fully Loaded Main Lead Box:**

Replace existing conduit box with a fully loaded box. The box will be TWMC standard size and will contain TWMC standard lightning arrestors, surge capacitors and current transformers (50:5). Box is not self supporting and will require the customer to support.

## **M13. Stainless Steel Breather Drains:**

Drill and tap the existing drain holes to accommodate a Crouse-Hinds stainless steel breather drain. Note, this is standard on MAX-E2®, MAX-E2/841® and Explosion Proof motors.

## **M14. Tropicalization/ Fungus Protection:**

Involves disassembling the motor and spraying the internal windings.

## **M15. Provisions for Vertical Jack Screws:**

Drill and tap (2) holes per motor.

## **M16. Alternate Grease:**

Purge and repack lubricant in end brackets with TWMC standard high temp. or low temp. grease. Please contact TWMC for alternates.

## **M17. Chico Motor Leads**

Apply a compound between terminal box and frame of motor. This feature is standard for explosion proof motors.

# FACTORY MODIFICATION DESCRIPTIONS

Effective 08-01-11  
Supersedes 12-01-09

## **M18. Epoxy Paint Finish:**

Standard paint finish will be changed to Epoxy paint (e.g. MAX-E2® Epoxy Paint (Blue)).

## **M19. Shaft INPRO™ Seals:**

Add INPRO™ seals to drive-end only of MAX-E2® motors 140T~449T/TS frames. This modification is only available for frames 440T and larger. The price reflects drive-end only.

## **M20. Grounding Provisions on Frame:**

Drill and tap the motor frame. This is standard on MAX-E2®, MAX-E2/841®, Oil Well Pump motors, and motors on 5000 frames and larger. All motors have a grounding lug inside the main lead box as a standard.

## **M21. Drip Cover (TEFC) Rolled Steel:**

Replace the existing fan cover with a rolled steel drip cover. This is only for motors mounted vertically.

## **M21A. Drip Cover (TEFC) Cast Iron:**

Replace the existing fan cover with a cast iron drip cover. This is only for motors mounted vertically.

## **M22. Extend Leads - Connection Behind Conduit Box; Price Based on 4' leads:**

Extend existing leads to the length specified by customer. The splice will be made behind the conduit box so it is not seen.

## **M23. Supply Shaft Grounding Ring:**

Install AEGIS shaft grounding ring as made by ELECTRO STATIC TECHNOLOGY. This would be to reduce or eliminate shaft currents. For other methods of shaft grounding, please contact TWMC.

## **M24. Provisions for Vibration Sensor:**

Drill, tap and machine end bracket(s) to accommodate vibration sensor. Customer is required to submit specifications of vibration sensor. Price is per bracket.

## **M24A. Provide and Install Vibration Sensor (Does Not Include Cabling or Terminations):**

Drill, tap and machine end bracket(s) to accommodate vibration sensor. TWMC standard switch will be provided as made by METRIX, ROBERTSHAW, PREDICTECH, or STI. For details or pricing to provide another brand, please contact TWMC. Price is per bracket.

## **M25. Mill Off Motor Feet:**

TWMC will cut off the feet of a footed motor to create a round body type motor. Second lifting lug available for an additional price adder.

## **M26. Inline Blower for 1000:1 Speed Range:**

Remove existing fan and fan cover and replace with TWMC standard inline blower/ fan cover configuration. Blower motor will require a separate power source. This modification will also require an "M8A" modification for 440TS/T frames and larger.

## **M27. Installation of Encoder:**

Install TWMC standard Encoder as made by Dynapar. Other brands available upon request for an additional price adder

## **M28. Lock Nut and Washer for Mounting the Motor Vertical Shaft Down.**

## **M29. Oil Mist Ready:**

TWMC to prepare motors for immediate Oil Mist Lubrication on 400 frames and above. Must use MAX-E2/841® if applicable.

## **M30. CSA Div. 2 Medium Voltage TEFC Mod.**

Modify TEFC medium voltage motors such that a CSA Div. 2 nameplate can be affixed. Can only be performed on motors used on sine wave power. Please check with TWMC on temperature code as it depends on service factor and hp.

## **M31. Convert to IP56 or IP65**

TWMC to take IEEE 841 motor, perform M16 modification and add extra sealant to end-brackets.

# MODIFICATION DRAWING REQUIREMENTS

Effective 08-01-11  
Supercedes 12-01-09

## DRAWING REQUIREMENTS

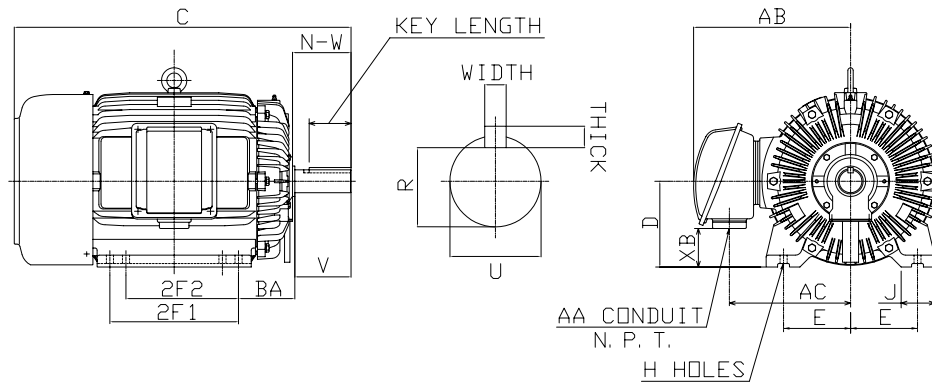
X No Drawing      ● Basic Drawing      ■ Modification Drawing

DRAWING REQ.	MOD CODE	MODIFICATION DESCRIPTION
X	M1	Nameplate Change
X	M1A	Additional Nameplate
	M1B	304 Stainless Steel Hardware
●	M2	Space Heater
●	M2A	Space Heater w/ Auxiliary Box
X	M2X	Space Heater "Explosion Proof"
●	M3C	Installation of C-Face
X	M3C841	Installation of C-Face w/ INPRO™ Seal (MAX-E2/841® only)
●	M3D	Installation of D-Flange
X	M3D841	Installation of D-Flange w/ INPRO™ Seal (MAX-E2/841® only)
X	M4	Stator Winding RTD's, 100 Ohm Platinum (1/ phase)
●	M4A	Stator Winding RTD's w/ Auxiliary Box (1/ phase)
	M4B	Stator Winding RTD's, 100 Ohm Platinum w/ Auxiliary Box (2/ phase)
X	M5	Thermistors (1/ Phase)
●	M5A	Thermistors (1/ Phase) w/ Auxiliary Box
X	M6	Thermostats (1/ Phase)
●	M6A	Thermostats (1/ Phase) w/ Auxiliary Terminal Box
■	M7	Bearing RTD's, 100 Ohm Platinum (2/ motor)
X	M8	Bearing Conversion - Roller to Ball or Ball to Roller
X	M8A	Convert to Insulated or Ceramic Bearings
X	M9	Change Rotation (2 Pole Motors Only)
●	M9A	Change to Low Noise Fan/ Fan Cover
X	M10	Shorten Shaft to NEMA TS Dimensions; Non-NEMA Dim Requires TWMC Drawing
●	M10A	Special Keyless 4140 Shaft Ext. for 5000 Frames and Above
●	M11	F1 to F2 Mounting Conversion
■	M12	Oversized Main Conduit Box
■	M12A	Fully Loaded Main Conduit Box
X	M13	Stainless Steel Breather Drains
X	M14	Tropicalization/ Fungus Protection
●	M15	Provisions for Vertical Jack Screws
X	M16	Alternate Grease
X	M17	Chico Motor Leads
X	M18	Epoxy Paint Finish
●	M19	Shaft INPRO™ Seals
X	M20	Grounding Provisions on Frame
●	M21	Drip Cover (TEFC) Rolled Steel
●	M21A	Drip Cover (TEFC) Cast Iron
X	M22	Extend Leads - Connection Behind Conduit Box; Price based on 4' Leads
X	M23	Supply Shaft Grounding Ring
X	M24	Provisions for Vibration Sensor
■	M24A	Provide and Install Vibration Sensor (Does not Include Cabling or Terminations)
■	M25	Mill Off Motor Feet
■	M26	Inline Blower for 1000:1 Speed Range
■	M27	Installation of Encoder
X	M28	Lock Nut and Washer for Mounting the Motor Vertical Shaft Down
■	M29	Oil Mist Ready
X	M30	CSA Div. 2 Medium Voltage TEFC Modification
X	M31	Convert to IP56 or IP65

# DIMENSIONS - AC MACHINES

## Dimensions for Foot-Mounted Machines with a Single Straight-Shaft Extension

Effective 08-01-11  
Supercedes 12-01-09



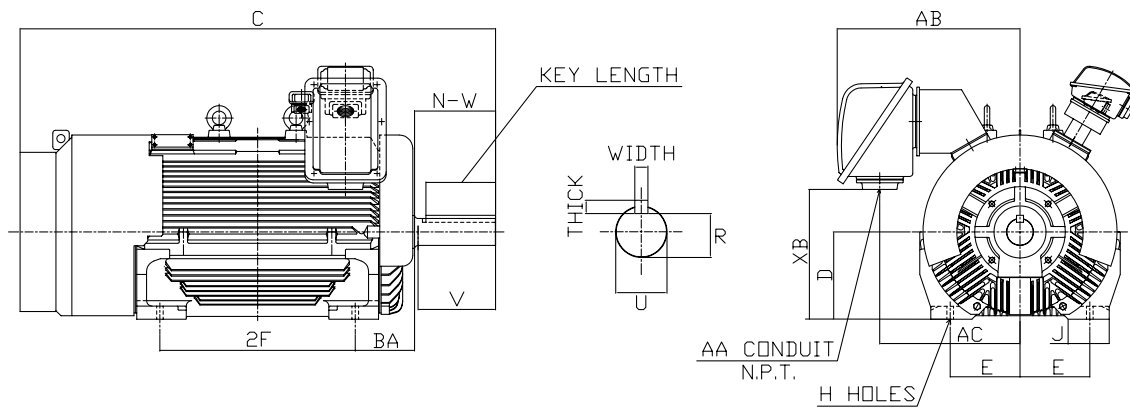
FRAME SIZE	MOUNTING							SHAFT EXTENSION			KEY & KEYSEAT				TERMINAL HOUSING			
	C	D	E	2F1	2F2	H	BA	N-W	U	V	WIDTH	THICK	LENGTH	R	AA	AB	AC	XB
143T	12.47	3.50	2.75	4.00	—	0.34	2.25	2.25	0.875	2.20	0.188	0.188	1.410	0.771	.75	6.18	4.92	2.52
145T	13.46	3.50	2.75	5.00	4.00	0.34	2.25	2.25	0.875	2.20	0.188	0.188	1.410	0.771	.75	6.18	4.92	2.52
182T	14.77	4.50	3.75	4.50	—	0.41	2.75	2.75	1.125	2.70	0.250	0.250	1.780	0.986	.75	7.44	6.06	3.36
184T	15.79	4.50	3.75	5.50	4.50	0.41	2.75	2.75	1.125	2.70	0.250	0.250	1.780	0.986	.75	7.44	6.06	3.36
213T	18.09	5.25	4.25	5.50	—	0.41	3.50	3.38	1.375	3.30	0.312	0.312	2.410	1.201	1.00	8.86	7.07	3.32
215T	19.59	5.25	4.25	7.00	5.50	0.41	3.50	3.38	1.375	3.30	0.312	0.312	2.410	1.201	1.00	8.86	7.07	3.32
254T	23.70	6.25	5.00	8.25	—	0.53	4.25	4.00	1.625	3.90	0.375	0.375	2.910	1.416	1.25	10.24	8.58	4.37
256T	25.44	6.25	5.00	10.00	8.25	0.53	4.25	4.00	1.625	3.90	0.375	0.375	2.910	1.416	1.25	10.24	8.58	4.37
284T	26.80	7.00	5.50	9.50	—	0.53	4.75	4.62	1.875	4.50	0.500	0.500	3.280	1.591	1.25	12.13	9.84	3.97
284TS	25.43	7.00	5.50	9.50	—	0.53	4.75	3.25	1.625	3.20	0.375	0.375	1.930	1.416	1.25	12.13	9.84	3.97
286T	28.30	7.00	5.50	11.00	9.50	0.53	4.75	4.62	1.875	4.50	0.500	0.500	3.280	1.591	1.25	12.13	9.84	3.97
286TS	26.93	7.00	5.50	11.00	9.50	0.53	4.75	3.25	1.625	3.20	0.375	0.375	1.930	1.416	1.25	12.13	9.84	3.97
324T	29.93	8.00	6.25	10.50	—	0.66	5.25	5.25	2.125	5.15	0.500	0.500	3.910	1.845	2.00	13.47	10.98	3.59
324TS	28.43	8.00	6.25	10.50	—	0.66	5.25	3.75	1.875	3.65	0.500	0.500	2.030	1.591	2.00	13.47	10.98	3.59
326T	31.42	8.00	6.25	12.00	10.50	0.66	5.25	5.25	2.125	5.15	0.500	0.500	3.910	1.845	2.00	13.47	10.98	3.59
326TS	29.92	8.00	6.25	12.00	10.50	0.66	5.25	3.75	1.875	3.65	0.500	0.500	2.030	1.591	2.00	13.47	10.98	3.59
364T	32.57	9.00	7.00	11.25	—	0.66	5.88	5.88	2.375	5.75	0.625	0.625	4.280	2.021	3.00	15.10	12.28	2.39
364TS	30.44	9.00	7.00	11.25	—	0.66	5.88	3.75	1.875	3.65	0.500	0.500	2.030	1.591	3.00	15.10	12.28	2.39
365T	33.55	9.00	7.00	12.25	11.25	0.66	5.88	5.88	2.375	5.75	0.625	0.625	4.280	2.021	3.00	15.10	12.28	2.39
365TS	31.42	9.00	7.00	12.25	11.25	0.66	5.88	3.75	1.875	3.65	0.500	0.500	2.030	1.591	3.00	15.10	12.28	2.39
404T	36.50	10.00	8.00	12.25	—	0.81	6.62	7.25	2.875	7.15	0.750	0.750	5.650	2.450	3.00	19.07	14.33	1.81
405T	37.99	10.00	8.00	13.75	12.25	0.81	6.62	7.25	2.875	7.15	0.750	0.750	5.650	2.450	3.00	19.07	14.33	1.81
405TS	34.99	10.00	8.00	13.75	12.25	0.81	6.62	4.25	2.125	4.15	0.500	0.500	2.780	1.845	3.00	19.07	14.33	1.81
444T	44.40	11.00	9.00	14.50	—	0.81	7.50	8.50	3.375	8.00	0.875	0.875	6.890	2.880	3.00	24.00	17.90	2.40
444TS	40.65	11.00	9.00	14.50	—	0.81	7.50	4.75	2.375	4.50	0.625	0.625	3.030	2.021	3.00	24.00	17.90	2.40
445T	46.40	11.00	9.00	16.50	14.50	0.81	7.50	8.50	3.375	8.00	0.875	0.875	6.890	2.880	3.00	24.00	17.90	2.40
445TS	42.65	11.00	9.00	16.50	14.50	0.81	7.50	4.75	2.375	4.50	0.625	0.625	3.030	2.021	3.00	24.00	17.90	2.40
447T	49.90	11.00	9.00	20.00	16.50	0.81	7.50	8.50	3.375	8.00	0.875	0.875	6.910	2.880	3.00	24.00	17.90	2.40
447TZ	51.12	11.00	9.00	20.00	16.50	0.81	7.50	10.12	3.375	9.62	0.875	0.875	8.500	2.880	3.00	24.00	17.90	2.40
447TS	46.15	11.00	9.00	20.00	16.50	0.81	7.50	4.75	2.375	4.50	0.625	0.625	3.030	2.021	3.00	24.00	17.90	2.40
449T	54.90	11.00	9.00	25.00	20.00	0.81	7.50	8.50	3.375	8.00	0.875	0.875	6.910	2.880	3.00	24.00	17.90	2.40
449TZ	56.12	11.00	9.00	25.00	20.00	0.81	7.50	10.12	3.375	9.62	0.875	0.875	8.500	2.880	3.00	24.00	17.90	2.40
449TS	54.51	11.00	9.00	25.00	20.00	0.81	7.50	4.75	2.375	4.50	0.625	0.625	3.030	2.021	3.00	24.00	17.90	2.40

All dimensions are in inches and for reference only.



# DIMENSIONS - AC MACHINES

Effective 08-01-11  
Supercedes 12-01-09



FRAME SIZE	MOUNTING						SHAFT EXTENSION			KEY & KEYSEAT				TERMINAL HOUSING				
	C	D	E	2F	H	BA	N-W	U	V	WIDTH	THICK	LENGTH	R	AA	AB	AC	XB <sup>E1</sup>	XB <sup>CD</sup>
505UZ	53.04	12.5	10.00		0.94	8.50	11.62	3.875	11.38	1.000	1.000	10.000	3.309	4				
5007A	63.25	12.5	10.00	22.00	0.94	8.50	5.75	2.625	5.50	0.625	0.625	4.010	2.275	4	26.20	20.10	18.60	—
5007B,C	63.80	12.5	10.00	22.00	0.94	8.50	11.62	3.875	11.12	1.000	1.000	10.000	3.309	4	26.20	20.10	18.60	2.75
5009A	69.20	12.5	10.00	28.00	0.94	8.50	5.75	2.625	5.50	0.625	0.625	4.010	2.275	4	26.20	20.10	18.60	—
5009B,C	69.75	12.5	10.00	28.00	0.94	8.50	11.62	3.875	11.12	1.000	1.000	10.000	3.309	4	26.20	20.10	18.60	2.75
5011A	77.15	12.5	10.00	36.00	0.94	8.50	5.75	2.625	5.50	0.625	0.625	4.010	2.275	4	26.20	20.10	18.60	—
5011B,C	77.67	12.5	10.00	36.00	0.94	8.50	11.62	3.875	11.12	1.000	1.000	10.000	3.309	4	26.20	20.10	18.60	—
586/7UZ	64.37	14.5	11.50	22.00	1.125	10.00	11.625	4.375	11.125	1.000	1.000	8.661	3.816	2-3	29.33	23.23	—	2.96
5806B,C	64.37	14.5	11.50	22.00	1.13	10.00	11.88	4.875	11.38	1.250	1.250	10.000	4.169	2-3	29.35	23.25	—	2.95
5808B,C	74.08	14.5	11.50	28.00	1.13	10.00	11.88	4.875	11.38	1.250	1.250	10.000	4.169	2-3	30.50	24.40	21.10	2.95
5810A	81.40	14.5	11.50	36.00	1.13	10.00	5.75	2.625	5.50	0.625	0.625	4.010	2.275	2-3	30.50	24.40	21.10	2.95
5810B,C	81.81	14.5	11.50	36.00	1.13	10.00	11.88	4.875	11.38	1.250	1.250	10.000	4.169	2-3	30.50	24.40	21.10	2.95
6808A	88.43	17.0	13.50	36.00	1.38	11.50	5.75	2.625	5.50	0.625	0.625	4.010	2.275	2-3	31.80	25.70	25.90	—
6808B,C	87.68	17.0	13.50	36.00	1.38	11.50	11.88	4.875	11.38	1.250	1.250	10.000	4.169	2-3	31.80	25.70	25.90	2.95

All dimensions are in inches and for reference only  
 (E1) Denotes the MAX-E1® and MAX-E2® frame construction  
 (CD) Denotes the MAX-HT™ frame construction.



## WORLD SERIES® MOTORS: SETTING THE STANDARD OF EXCELLENCE

Building on over 100 years of Westinghouse motor experience, TECO-Westinghouse World Series® motors represent the induction motor at its highest state of evolution. We began with a product known for excellence, and through computer-aided design and the use of advanced materials, made it even better. We have made it leaner, more efficient, and highly refined. Yet the World Series® line of motors retains all the original quality features that established Westinghouse as the world leader among large motor manufacturers – features such as rugged copper bar rotor construction, Thermalastic® insulation, and heavy-duty frame construction.

At TECO-Westinghouse Motor Company, we pride ourselves on service. As our customer, you can tap the strength of our resources for superior front-end services, including engineering support, computer-aided engineering studies, product information and quotation assistance. Once your World Series® Motor is in place, you can rely on our worldwide field service and engineering network to service and protect your investment.

World Series® motors offer a full range of benefits to fill your large induction motor requirements. For more information, contact your local TECO- Westinghouse representative, or call us direct at our Round Rock, Texas headquarters: 1-800-451-8798.

## WORLD SERIES® VERTICAL MOTORS FOR HIGH-THRUST CONDITIONS

A long and successful history with vertical motor construction goes into the making of every vertical motor in the World Series® line.

Used primarily for pump applications, World Series® vertical motors are designed to handle virtually any thrust load that might be imposed (loads well in excess of 100,000 lbs., continuous downward thrust). High-thrust load capability is achieved by utilizing Kingsbury-type tilting-pad thrust bearings. Both sleeve and ball bearings are available for guide bearings, depending on the application.

For long wear and reliability, the thrust bearings and guide bearings are air-cooled through constant ventilation and are oil lubricated from a large reservoir. Special water-cooling coils can also be added when needed.

World Series® vertical motors reflect the same high quality construction and insulation processes that distinguish all the various components of our horizontal motors. Our vertical motors are readily adaptable to a variety of specific needs. For example, non-reverse ratchets are available and flywheels can be included in the design when required. Our vertical motors can also be started from zero-speed or reverse-speed and can be designed to accommodate overspeed situations, as in a hydro-generator.



## QUALITY FEATURES AND TIME-TESTED PERFORMANCE

- Copper rotor bars provide high conductivity and outstanding reliability.
- High frequency induction brazing ensures uniform end ring connections.
- Swaging contributes to long motor life by minimizing rotor bar movement.
- Rugged frame construction ensures lateral and torsional stability.
- Innovative PAM motors provide two-speed operation with only one winding.
- Thermalastic® insulation provides excellent protection from environmental contaminants.
- 250 hp to 30,000 hp ranges available for a wide variety of applications.
- High operating efficiency yields low life cycle cost.
- Split-sleeve bearings offer outstanding service and are easy to inspect.
- Adjustable frequency capability is available when specified.
- Each motor is custom designed for the most demanding applications.
- Over 100 years of experience goes into every motor we produce.

## AVAILABLE ENCLOSURES

World Series® motors are offered in a complete range of enclosures to meet the toughest demands of any industry. IEC enclosures are also supplied. Available NEMA enclosures include the following configurations:

- Open Drip-Proof (Guarded), IP22/ IC01
- Weather Protected Type I, IP23/ IC01
- Weather Protected Type II, IPW24/ IC01
- Totally Enclosed Water-to-Air Cooled, IP44-54/ ICW81
- Totally Enclosed Air-to-Air Cooled, IP44-54/ IC411
- Totally Enclosed Pipe Ventilated, IP44/ IC31/ 37

## TERMINAL BOXES

World Series® motors feature main lead and auxiliary terminal boxes constructed of 12-gauge steel. Each terminal box is gasketed for air-tight, dust-free, and weather-proof protection of terminal leads. Available for F1 or F2 locations, terminal boxes can be modified to include any customer terminations and accessory devices.

The main lead terminal box provides termination of the motor's main power leads. Available terminal box options include lightning arresters, surge capacitors, current transformers, special grounding devices, cable or bus bar terminations, and top or bottom lead entry.

# WORLD SERIES® AIR CABINETS DESIGN LIST

Effective 08-01-11  
Supersedes 12-01-09



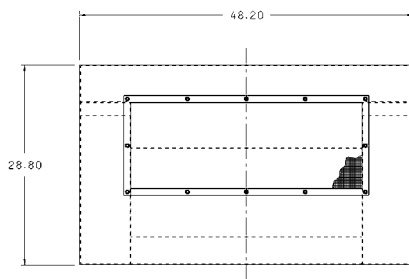
## REPLACEMENT WPII AIR CABINETS FOR AGING TECO-WESTINGHOUSE AND WESTINGHOUSE MOTORS

### Features and Benefits:

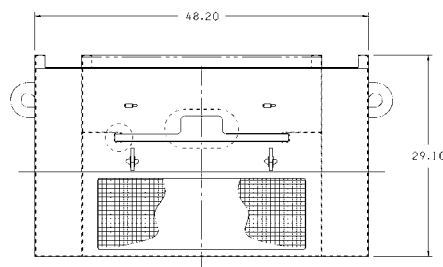
- Replacements for corroded air cabinets on aged motors
- Meets NEMA MG 1 requirements for WPI and WPII enclosures
- Tested to MIL-STD-810E for water-tightness
- Split-hinge design (Fig-2): for inlets, allowing for fast and safe filter replacement without the use of hand tools  
Filter replacement possible without motor shutdown.
- Air cabinet changeout achievable onsite without motor removal.
- Minimal differences in overall dimensions between old and new design. Example shown below for frame 3509; actual dimensions will vary with frame size.

### Standard Construction:

- A36 carbon steel – 11 gauge
- Full acoustic lining
- #4 Mesh stainless steel screens
- Stainless steel filters included.



WORLD SERIES® DESIGN  
FIGURE 1



UNIVERSAL DESIGN  
FIGURE 2

# WORLD SERIES® AIR CABINETS DESIGN LIST

Effective 08-01-11  
Supersedes 12-01-09



WORLD SERIES® FRAME SIZE	UNIVERSAL AIR CABINET PART NUMBER
3505	2563F39G04
3506	2563F39G08
3507	2563F39G12
3508	2563F39G16
3509	2563F39G20
3510	2563F39G24
4008	2563F40G04
4009	2563F40G08
4010	2563F40G12
4011	2563F40G16
4509	2563F41G04
4510	2563F41G08
4511	2563F41G12
4512	2563F41G16
5010	2563F42G04
5011	2563F42G08
5012	2563F42G12
5014	2563F42G16
5611	2563F43G04
5612	2563F43G08
5614	2563F43G12
5616	2563F43G16

WORLD SERIES® FRAME SIZE	UNIVERSAL AIR CABINET PART NUMBER
6312	6D47635G04
6314	6D47635G08
6316	6D47635G12
6318	6D47635G16
7112	6D45158G04
7114	6D45158G08
7116	6D45158G12
7118	6D45158G16
8014	2565F19G04
8016	2565F19G08
8018	2565F19G12
8020	2565F19G16
9016	2573F69G04
9018	2573F69G08
9020	2573F69G12
9022	2573F69G16

#### Available Options:

- All stainless steel construction
- Differential pressure devices
- Manometers
- Air temperature devices
- Mufflers
- Heat shield

#### NOTE:

Universal air cabinets are also available for Westinghouse Buffalo Life Line® D Series and TECO-Westinghouse Round Rock Life Line® D Series. For information, contact the Renewal Parts team at (888) 754-5006 or visit our website at [www.tecowestinghouse.com](http://www.tecowestinghouse.com).

# SYNCHRONOUS MOTORS

Effective 08-01-11  
Supercedes 12-01-09



## SYNCHRONOUS MACHINES: THE OPTIMAL CHOICE OF HEAVY INDUSTRY

TECO-Westinghouse Motor Company synchronous motors and generators provide superior value in terms of proven reliability, low maintenance performance, and long life in arduous applications. Our synchronous machines offer numerous benefits, including:

- Constant-speed operation
- High-efficiency ratings
- Low inrush currents
- Leading power factor (for corrective kVA capability)
- Horsepower range from 1000 hp to 100,000 hp

For more information, contact your local TECO-Westinghouse representative, or call us direct at our Round Rock, Texas headquarters: 1-800-451-8798.

## PROVEN FEATURES FOR EFFICIENT SYNCHRONOUS MOTOR PERFORMANCE

TECO-Westinghouse Motor Company synchronous machines feature high efficiency designs in which great care is taken to minimize losses. To ensure maximum operating efficiencies and trouble free operations, the following features are standard on these motors:

- Airgap, slot openings, and slot ratios are selected to reduce pole face losses due to flux pulsations.
- Low loss, core-plated, non-aging, silicon steel stator punchings are used to reduce core losses.
- The stator copper is stranded to minimize eddy current losses.
- The number of stator slots, slot width, slot depth, and stator core depths are dimensioned to reduce magnetic noise.
- Pole punchings are designed for reduced pole leakage flux and field excitation to minimize field copper losses.
- Blowers are carefully selected to reduce windage loss.
- Stator end-plates are designed to ensure a tight and rigid core assembly, to minimize noise due to core distortion, and to transmit torque to the frame bulkhead.



## DC MOTOR APPLICATIONS

TECO-Westinghouse Motor Company DC motors are ideally suited to a multitude of industrial and marine applications in which high torque and variable speed are required. These applications include ship propulsion, mine hoists, and steel rolling mills. They also drive many other types of industrial equipment such as fans, Banbury mixers, and extruders.

To meet the needs of a broad range of applications, our rugged DC motors are available in sizes ranging from 22-inch to 12-foot armature diameters, with available power ratings from 250 hp to over 35,000 hp.

For more information, contact your local TECO-Westinghouse representative, or call us direct at our Round Rock, Texas headquarters: 1-800-451-8798.

## CUSTOM DESIGNS AS A STANDARD FEATURE

TECO-Westinghouse Motor Company DC motors are designed and built for long life and minimum maintenance. Over 100 years of motor industry experience has yielded design features that add up to precision, performance, and reliability.

Our DC motors and generators are custom engineered to meet your specified needs. We can incorporate existing foundations, space limitations, service conditions, and enhanced sparing capabilities into our motor and generator designs. In addition, you can apply TECO-Westinghouse DC machines to any quality brand of controls with total confidence.



## LARGE MOTOR REPAIR

At TECO-Westinghouse, size or complexity are never an issue. With a 200 ton lifting capacity and 90 feet under hook, TWMC can handle almost any large motor repair. Our service group, backed by a full staff of motor design and manufacturing engineers, can perform for you! Our range of services extends from basic motor maintenance to complete redesigns and rebuilds. Each repair is customized to meet your needs and work is performed via a carefully controlled process dictated by industry standards as well as to your specifications (when supplied). At TWMC, we don't just put your motor back together the way we found it, we use sound engineering judgment, extensive manufacturing and design experience, and the same ISO 9001 quality system incorporated into new motor manufacturing, to ensure that the machine will perform as originally designed, if not better.

Each motor is carefully disassembled and rigorously inspected for mechanical or electrical issues, with digital photographs taken during the process. A full battery of non-destructive electrical tests are performed, and a detailed inspection report is generated and supplied for your review along with recommendations for repairs and improvements. Recommendations are often made for improvements to the machine from an operational or reliability viewpoint. Upon authorization to proceed, a detailed "project control plan" is developed by one of our service engineers advising of the work to be done and specifying the parts to be used in the repairs or modifications. All work is performed by factory trained technicians with years of experience in both motor repair and in manufacturing the quality machines that the Westinghouse and TECO-Westinghouse names have come to represent.

## RENEWAL PARTS AND ENGINEERED COMPONENTS

TECO-Westinghouse Motor Company supplies genuine OEM replacement parts for large Westinghouse/TECO-Westinghouse AC and DC motors manufactured from 1900 to present. If you have any vintage or large Westinghouse motor in your plant, odds are that we have all the design and manufacturing data for your motor and can supply any part you may need, from nuts and bolts, to a complete drop in spare armature, rotor, or stator. Have an ongoing operation or maintenance concern? Let us know about it! Many older components can be, or have been, analyzed and redesigned for improved performance and maintainability. Need a large component for a non-Westinghouse machine? We may be able to design a drop in replacement.

## ENGINEERING SERVICES

Would you like to get more horsepower out of your existing motor? Curious if it can be driven by a VFD? Have a nagging maintenance problem that just won't go away? Through an engineering study, we can research these and other questions, and provide you with viable solutions and answers. With our full complement of skilled design and manufacturing engineers, we can perform a broad spectrum of analyses and offer a complete solution that you won't find elsewhere!





## ENGINEERING STUDIES

Our engineering staff has the tools and experience required to perform a wide range of analyses and provide a clear concise report answering your questions and providing expert recommendations and solutions. As the repository for most Westinghouse large motor design information, TWMC is able to provide OEM performance data for thousands of machines and is able to recreate the original designs with our modern design software for more in depth analysis.

## 3D MODELING & FINITE ELEMENT ANALYSIS

Using the most up to date tools, we can perform complete electrical, magnetic, thermal, and mechanical analyses. Our fully staffed Design and R&D Centers have the expertise to analyze and review the most complex motor designs.

## FAILURE ANALYSIS

Want to avoid recurring failures and improve reliability? Complete motor failure analysis can be performed and root cause often determined for many types of electrical and mechanical motor problems. TWMC is fully equipped to gather the facts, perform diagnostic or material testing, review results for design, manufacturing or operational issues, and provide a detailed written report of findings.

## FIELD SERVICE/ FACTORY TECHNICAL SUPPORT

The Service and Repair Group has you covered from the time the motor leaves our state of the art manufacturing facility. Our highly qualified staff of Field Service Engineers is ready to be dispatched throughout the world to support all of your field needs, and our Technical Support Staff is equipped to answer your questions, with the additional backing of our Design Center engineering personnel. Whether it be start-up and commissioning, preventative/ predictive maintenance, testing, installation and removal assistance, troubleshooting, consulting services, alignments, vibration analysis, dynamic balancing, turnkey projects or training, only our engineers are at the ready to tackle your most challenging needs.

# USEFUL FORMULAS

Effective 08-01-11  
Supersedes 12-01-09

kW	=	hp * .746
Torque in lb-ft	=	$\frac{hp * 5250}{RPM}$
Motor synchronous speed in RPM	=	$\frac{120 * Hz}{\text{Number of Poles}}$
Three-Phase Full-Load Amp	=	$\frac{hp * .746}{1.73 * kV * \left(\frac{\text{Efficiency}}{100}\right) * \left(\frac{\text{Power Factor}}{100}\right)}$
Rated Motor kVA	=	$\frac{hp * .746}{\text{Efficiency} * \text{Power Factor}}$
kW Loss	=	$\frac{(HP * .746) * (1.0 - \text{Efficiency})}{\text{Efficiency}}$
Wk <sup>2</sup> Referred to Motor Shaft Speed	=	[Driven Machine Wk <sup>2</sup> (Driven Machine RPM/ Motor RPM) <sup>2</sup> ]+ Gear Wk <sup>2</sup> at Motor Speed
Accelerating Time	=	$\frac{0.462 (Wk^2 \text{ of Motor and Load}) RPM^2}{\text{Motor Rated kW} * 104 * \text{Per-Unit Effective Accelerating Torque}}$
kVA inrush	=	Percent Inrush * Rated kVA
Approximate Voltage Drop (%)	=	$\frac{\text{Motor kVA Inrush}}{\text{Transformer kVA}} * \text{Transformer Impedance (Normally 5\% to 7\%)}$
Stored Kinetic Energy in kW-sec	=	2.31 * (Total Wk <sup>2</sup> ) * RPM <sup>2</sup> x 10 <sup>-7</sup>
Inertia Constant (H) in Seconds	=	$\frac{\text{Stored Kinetic Energy in kW Seconds}}{hp * .746}$
Conversion Factors:		
CV	=	(Metric hp) = 735.5 Watts = 75 KW-m/sec
Wk <sup>2</sup> (lb-ft)	=	5.93 x GD <sup>2</sup> (kg-m <sup>2</sup> )

Derating motor for change in elevation: For each 330 foot increase in elevation above 3300 feet above sea level, derate motor horsepower by 1 percent.

Cooling-water requirements: 2 gpm of water for each kW of loss

Ventilating-air requirements: 100-125 cfm of 40°C air at 1/2 water pressure for each W of loss

# AC DRIVES/ SOFT STARTERS SECTION

Effective 08-01-11  
Supersedes 12-01-09



# DRIVES PACKAGING CAPABILITIES

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Effective 08-01-11  
Supercedes 12-01-09

## PACKAGED DRIVES

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- Nema 12, 3R, 4, 4X
- Bypass: Two and three contactor
  - Fused disconnects or circuit breakers
  - Soft start on bypass transfer
  - Automatic or manual bypass transfer
  - Fireman's override
  - Damper actuation circuit
  - Electrical and mechanical interlocks

## OPTION CABINETS

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- Fused disconnects or circuit breakers
- Wall mount or free standing

## SPECIAL APPLICATIONS

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- Power conditioning via harmonic filters or 12, 18 pulse systems
- Multiple motors on drive (bypass and options)
- Manual duplex, triplex
- RS-485 Protocols
  - Modbus
  - BACNet
  - Johnson Metasys
  - Ethernet
  - Profibus
  - SCADA
- High elevations
- Surge suppression
- Phase monitoring
- RFI/ EMI Filtering

# EV MICRO DRIVE

## MEDIUM DUTY



Effective 08-01-11  
Supersedes 12-01-09



**A compact, low cost, and versatile AC Drive  
that is easy to program and ideal for OEM's.**

### APPLICATIONS:

- Mixing
- Fans
- Small Conveyors
- Treadmills
- AC Contactor Replacement
- Pumps

### FEATURES:

- Chassis Style Enclosure (IP20)
- Sensorless Vector or V/ Hz
- 0.25 to 1 hp, 115V, 50/ 60 Hz, 1-Phase
- 0.25 to 3 hp, 230V, 50/ 60 Hz, 1-Phase
- 0.50 to 3 hp, 230V, 50/ 60 Hz, 3-Phase
- 1 to 3 hp, 460V, 50/ 60Hz, 3-Phase
- Micro Drive with Din Rail Option
- PID Control
- 0 to 200 Hz Speed Range
- 24VDC, 50mA External Sensor Supply Built-in
- 8 Preset Speeds
- Multi-function Analog Input/ Output
- Options Include: RS485, RS232, Copy Unit, Remote Keypad, I/ O Expansion
- Built-in Filter for EMC Compliance (Optional)
- UL, cUL, and CE Approved

# EV MICRO DRIVE



## MEDIUM DUTY

Effective 08-01-11  
Supercedes 12-01-09



### 115V 1-Phase Input/ 3-Phase 230V Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE CHASSIS
			HEIGHT	WIDTH	DEPTH		
JNEV-1P2-H1	0.25	1.7	5.20	3.03	5.13	1	240
JNEV-1P5-H1	0.50	3.1	5.20	3.03	5.13	2	258
JNEV-101-H1	1	4.2	5.20	3.03	5.13	2	266

### 230V 1-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE CHASSIS
			HEIGHT	WIDTH	DEPTH		
JNEV-2P2-H1	0.25	1.7	5.20	3.03	5.13	1	240
JNEV-2P5-H1	0.50	3.1	5.20	3.03	5.13	1	258
JNEV-201-H1	1	4.2	5.20	3.03	5.13	1	266
JNEV-202-H1	2	7.5	5.20	4.65	5.83	2	360
JNEV-203-H1	3	10.5	5.20	4.65	5.83	2	438

### 230V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE CHASSIS
			HEIGHT	WIDTH	DEPTH		
JNEV-2P5-H3	0.50	3.1	5.20	3.03	5.13	1	258
JNEV-201-H3	1	4.2	5.20	3.03	5.13	1	266
JNEV-202-H3	2	7.5	5.20	4.65	5.83	2	360
JNEV-203-H3	3	10.5	5.20	4.65	5.83	2	438

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE CHASSIS
			HEIGHT	WIDTH	DEPTH		
JNEV-401-H3	1	2.3	5.20	4.65	5.83	3	363
JNEV-402-H3	2	3.8	5.20	4.65	5.83	3	406
JNEV-403-H3	3	5.2	5.20	4.65	5.83	3	492

**NOTE:**

H1 = 1-Phase  
H3 = 3-Phase

# EV MICRO DRIVE

## MEDIUM DUTY



Effective 08-01-11  
Supersedes 12-01-09



### EMC Filter

PART NO.	DESCRIPTION	RATING	LIST PRICE
JNFS21017-20.8-07	1P2, 1P5, 101, 2P2, 2P5, 201	1Ø 1-Phase	100
JNFS21015-22-07	202, 203	1Ø	100
JNFS21019-8.9-07	2P2, 2P5, 201	3Ø 3-Phase	100
JNFS21016-15-07	202, 203	3Ø	100
JNFS20858-7-07	401, 402, 403	3Ø	100

### Miscellaneous Options

PART NO.	DESCRIPTION	LIST PRICE
SIF-485	Communications Interface RS485	30
SIF-232	RS232 Interface Card with Wire to PC	25
SIF-MP	Copy Module	15
SDOP-LED-2M	Remote LED Keypad with Cable to EV	75
SIF-IO	I/ O Expansion Module	50
JNSWPDA	PDA Interface Module	18
DINE2-201	Din Rail Kit, FM50, JNEV	50
TBU-203	EV Dynamic Braking Units - 230V	200
TBU-403	EV Dynamic Braking Units - 460V	225
TL-ENC-01	TECO Link Kit - Includes Box Label, Wiring Diagram, SIF - 232, CD with Software and Drive User Manuals, USB-RS485 Converter	425

# EV MICRO DRIVE



## NEMA 4, 4X with OPERATOR DEVICES

Effective 08-01-11  
Supersedes 12-01-09



**A compact, low cost and versatile AC Drive  
that operates in harsh environments.**

### APPLICATIONS:

- Mixing
- Fans
- Conveyors
- Food Processing
- Beverage
- Pharmaceutical

### FEATURES:

- Micro AC Inverter
- Has all the Software Features of the Chassis Style EV Micro Drives
- NEMA 4, 4X for Harsh Environments (Indoor Use Only)
- 0.50 – 3 hp, 230V, 50/ 60 Hz, 3-Phase
- 1 – 3 hp, 460V, 50/ 60 Hz, 3-Phase
- Low Cost
- Space Saving Design
- Digital Keypad
- UL, cUL, and CE Approved



# EV MICRO DRIVE



## NEMA 4, 4X with OPERATOR DEVICES

Effective 08-01-11  
Supersedes 12-01-09



### 230V 1-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
JNEV-2P5-H1FN4S	0.50	2.3	8.49	5.54	7.19	8	546
JNEV-201-H1FN4S	1	4.2	8.49	5.54	7.19	8	560
JNEV-202-H1FN4S	2	7.5	11.62	9.14	8.33	14	775
JNEV-203-H1FN4S	3	10.5	11.62	9.14	8.33	14	835

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
JNEV-401-H3FN4S	1	2.3	11.62	9.14	8.33	13	850
JNEV-402-H3FN4S	2	3.8	11.62	9.14	8.33	14	905
JNEV-403-H3FN4S	3	5.2	11.62	9.14	8.33	14	995

# FM50

NEMA 4, 4X with KEYPAD



Effective 08-01-11  
Supersedes 12-01-09



**A compact, low cost, and versatile AC Drive  
that operates in harsh environments.**

## APPLICATIONS:

- Mixing
- Fans
- Conveyors
- Food Processing
- Beverage
- Pharmaceutical

## FEATURES:

- Micro AC Inverter
- NEMA 4, 4X for Harsh Environments (Indoor Use Only)
- Low Cost
- Space Saving Design
- Digital Keypad
- 115V/ 230V/ 460V Ratings from 0.50 - 3 hp

# FM50



## NEMA 4, 4X with KEYPAD

Effective 08-01-11  
Supersedes 12-01-09



### 115V 1-Phase Input/ 3-Phase 230V Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
FM50-1P5-N4	0.50	2.3	8.49	5.54	6.70	8	409
FM50-101-N4	1	4.2	8.49	5.54	6.70	8	434

### 230V 1-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
FM50-201-N4	1	4.2	8.49	5.54	6.70	8	448

### 230V 1-Phase or 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
FM50-202-N4	2	7.5	11.62	9.14	7.11	14	643
FM50-203-N4	3	10.5	11.62	9.14	7.11	14	718

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
			HEIGHT	WIDTH	DEPTH		
FM50-401-N4	1	2.3	11.62	9.14	7.11	13	736
FM50-402-N4	2	3.8	11.62	9.14	7.11	14	793
FM50-403-N4	3	5.2	11.62	9.14	7.11	14	889

# N3 COMPACT DRIVE



Effective 08-01-11  
Supersedes 12-01-09

## MEDIUM DUTY



A compact, low cost, and versatile AC Drive that can operate in constant torque, variable torque, or sensorless vector modes for maximum application flexibility.

### APPLICATIONS:

- Fan and Pump Systems
- Larger Conveyors
- Mixers
- Centrifugal Applications
- OEM Products

### FEATURES:

- IP20 Enclosure: 1 to 10 hp, 230V, 1 to 15 hp, 460V (NEMA 1 Option Kits Available for IP20 Enclosures)
- NEMA 1 Enclosure: 15 hp and Above (230V), 20 hp and Above (460V)
- Sensorless Vector or V/Hz
- 0.50 to 3 hp, 230V, 50/ 60 Hz, 1-Phase
- 0.50 to 40 hp, 230V, 50/ 60 Hz, 3-Phase
- 1 to 75 hp, 460V, 50/ 60 Hz, 3-Phase
- PID Control
- Sleep Mode
- 0 - 400 Hz Speed Range
- Standard Unit with LED Display
- LCD Digital Operator (Optional)
- Dynamic Braking Transistor Standard through 20 hp Models
- PC Programming Software/ Pocket PC/ Copy Unit
- RS485 Interface Option
- RS232 Interface Option
- Multi-function Digital and Analog Inputs/ Outputs
- UL, cUL, and CE Approved

# N3 COMPACT DRIVE



## MEDIUM DUTY

Effective 08-01-11  
Supersedes 12-01-09



### 230V 1-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
*N3-2P5-CS	0.50	3.1	6.42	3.54	5.79	3	325
*N3-201-CS	1	4.5	6.42	3.54	5.79	3	360
*N3-202-CS	2	7.5	7.36	5.04	5.83	4	470
*N3-203-CS	3	10.5	7.36	5.04	5.83	5	640

### 230V 3-Phase Input/ 3-Phase Output \*\*\*

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
*N3-2P5-C	0.50	3.1	6.42	3.54	5.79	3	325
*N3-201-C	1	4.5	6.42	3.54	5.79	3	350
*N3-202-C	2	7.5	6.42	3.54	5.79	3	430
*N3-203-C	3	10.5	7.36	5.04	5.83	4	575
*N3-205-C	5	17.5	7.36	5.04	5.83	5	680
*N3-207-C	7.5	26.0	10.24	7.32	7.68	13	980
*N3-210-C	10	35.0	10.24	7.32	7.68	13	1,100
*N3-215-N1	15	48.0	14.17	10.43	9.70	27	1,651
*N3-220-N1	20	64.0	14.17	10.43	9.70	27	1,908
N3-225-N1	25	80.0	14.17	10.43	9.70	29	2,528
**N3-230-N1	30	96.0	25.45	10.60	12.00	67	3,524
**N3-240-N1	40	130.0	25.45	10.60	12.00	67	4,751

**NOTE:**

**Suffix CS = Chassis (IP20) Unit 1-Phase**

**C = Chassis (IP20) Unit 3-Phase**

**N1 = NEMA 1**

**All Chassis Units will Ship with NEMA 1 Boxes for Field Installation**

\* Includes Dynamic Braking Transistor

\*\* Includes DC Bus Link Reactor

\*\*\* Do Not Apply Single Phase Input Power to these Models

# N3 COMPACT DRIVE



## MEDIUM DUTY

Effective 08-01-11  
Supercedes 12-01-09



### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
*N3-401-C	1	2.3	6.42	3.54	5.79	3	440
*N3-402-C	2	3.8	6.42	3.54	5.79	3	500
*N3-403-C	3	5.2	7.36	5.04	5.83	4	625
*N3-405-C	5	8.8	7.36	5.04	5.83	4	750
*N3-407-C	7.5	13.0	10.24	7.32	7.68	13	1,075
*N3-410-C	10	17.5	10.24	7.32	7.68	13	1,135
*N3-415-C	15	25.0	10.24	7.32	7.68	13	1,350
*N3-420-N1	20	32.0	14.17	10.43	9.70	27	1,977
N3-425-N1	25	40.0	14.17	10.43	9.70	29	2,488
N3-430-N1	30	48.0	14.17	10.43	9.70	29	2,737
**N3-440-N1	40	64.0	25.45	10.60	12.00	67	3,538
**N3-450-N1	50	80.0	25.45	10.60	12.00	67	4,415
**N3-460-N1	60	96.0	29.39	12.13	15.20	102	5,017
**N3-475-N1	75	128.0	29.39	12.13	15.20	102	5,763

**NOTE:**

**C = Chassis (IP20) Unit 3-Phase**  
**N1 = NEMA 1**

**All Chassis Units will Ship with NEMA 1 Boxes for Field Installation**

- \* Includes Dynamic Braking Transistor
- \*\* Includes DC Bus Link Reactor

# N3 OPTIONS

## MEDIUM DUTY



Effective 08-01-11  
Supersedes 12-01-09



### Options

PART NUMBER	DESCRIPTION	LIST PRICE
SIF-485	Communications Interface RS485	30
SIF-232	RS232 Interface Card with Wire to PC	25
SIF-MP	Copy Module	15
N3-LED-W	LED Keypad	30
N3-LCD-W	LCD Keypad	45
N3-LCD-N4KIT	NEMA 4 Kit, LCD Keypad (Not Provided as Standard)	69
SW30P5	Remote Wire for Keypad (0.5 m)	50
SW3001	Remote Wire for Keypad (1.0 m)	52
SW3002	Remote Wire for Keypad (2.0 m)	54
SW3003	Remote Wire for Keypad (3.0 m)	57
SW3005	Remote Wire for Keypad (5.0 m)	61
3H300C0830001	JNEP-16 Remote Analog Operator	100
**SNA201	NEMA 1 Box for Frame 1	15
**SNA202	NEMA 1 Box for Frame 2	16
**SNA203	NEMA 1 Box for Frame 3	21
TL-ENC-01	TECO Link Kit - Includes Box Label, Wiring Diagram, SIF - 232, CD with Software and Drive User Manuals, USB-RS485 Converter	425
<b>***BRAKING RESISTOR</b>		<b>LIST PRICE</b>
JNBR-150W200	Braking Resistor for N3-2P5, 201	30
JNBR-150W100	Braking Resistor for N3-202	35
JNBR-260W70	Braking Resistor for N3-203	50
JNBR-390W40	Braking Resistor for N3-205	70
JNBR-520W30	Braking Resistor for N3-207	125
JNBR-780W20	Braking Resistor for N3-210	150
JNBR-150W750	Braking Resistor for N3-401	30
JNBR-150W400	Braking Resistor for N3-402	35
JNBR-260W250	Braking Resistor for N3-403	50
JNBR-400W150	Braking Resistor for N3-405	75
JNBR-600W130	Braking Resistor for N3-407	125
JNBR-800W100	Braking Resistor for N3-410	150
<b>EMC FILTER</b>		<b>LIST PRICE</b>
FS 6146-11-07	1-Phase 11A, 170~264V for N3-2P5/201-CS	85
FS 6146-27-07	1-Phase 27A, 170~264V for N3-202/203-CS	160
FS 6147-8.9-07	3-Phase 8.9A, 170~264V for N3-2P5/201/202-C	225
FS 6147-19-07	3-Phase 19A, 170~264V for N3-203/205-C	275
FS 6147-39-07	3-Phase 39A, 170~264V for N3-207/210-C	400
FS 6149-4.6-07	3-Phase 4.6A, 323~528V for N3-401/402-C	200
FS 6149-10-07	3-Phase 10A, 323~528V for N3-403/405-C	250
FS 6149-28-07	3-Phase 28A, 323~528V for N3-407/410/415-C	350

\*\* Frame 1 2P5-CS, 201-CS, 2P5-C, 201-C, 202-C, 401-C, 402-C

Frame 2 202-CS, 203-CS, 203-C, 205-C, 403-C, 405-C

Frame 3 207-C, 210-C, 407-C, 410-C, 415-C

\*\*\* For higher hp ratings, please refer to the Brake Modules and Resistors Section on pages 115 - 116.

# MA7200 PLUS NEMA 1



## MEDIUM DUTY

Effective 08-01-11  
Supersedes 12-01-09



A general purpose V/ Hz or sensorless vector drive that is capable of handling a wide variety of applications. The MA7200 Plus contains an enhanced parameter set for HVAC and wastewater applications.

### APPLICATIONS:

- Mixing
- Conveyors
- Process Lines
- Fans
- Pumps (Centrifugal, Positive Displacement, Metering, etc.)
- Mechanical Drive Upgrade/ Replacement
- Multi-Stage Operations

### FEATURES:

- Multi-purpose AC Drive
- 1 to 40 hp (CT), 230V, 50/ 60 Hz, 3-Phase
- 1 to 50 hp (VT), 230V, 50/ 60 Hz, 3-Phase
- 1 to 75 hp (CT), 460V, 50/ 60 Hz, 3-Phase
- 1 to 100 hp (VT), 460V, 50/ 60 Hz, 3-Phase
- Sensorless Vector, V/ Hz, and PG Feedback Control
- 2 Line English LCD Keypad/ Copy Unit
- Flexible Input/ Output Configurations
- 0 to 400 Hz Speed Range
- PID Control
- UL, cUL, and CE Approved
- Built-in RS485 Communications (Modbus)
- Diagnostic Registers for Troubleshooting
- Pump Control Software Package Included



# MA7200 PLUS NEMA 1



## MEDIUM DUTY

Effective 08-01-11  
Supersedes 12-01-09



### 230V 1-Phase or 3-Phase Input/ 3-Phase Output

MODEL NO.	HP		DRIVE AMPS		DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 1
	CONSTANT TORQUE	VARIABLE TORQUE	CONSTANT TORQUE	VARIABLE TORQUE	HEIGHT	WIDTH	DEPTH		
‡*MA7200-2001-N1	1	1	4.8	5.6	8.54	5.20	5.65	6	462
‡*MA7200-2002-N1	2	2	6.4	7.6	8.54	5.20	5.65	6	494
‡*MA7200-2003-N1	3	3	9.6	9.8	11.00	5.51	6.95	9	665
*MA7200-2005-N1	5	7.5	17.5	22.7	11.00	5.51	6.95	9	799
*MA7200-2007-N1	7.5	10	24.0	32.0	11.81	8.32	8.46	13	1,200
*MA7200-2010-N1	10	10	32.0	32.0	11.81	8.32	8.46	13	1,311
*MA7200-2015-N1	15	20	48.0	56.7	14.17	10.43	8.86	27	1,705
*MA7200-2020-N1	20	25	64.0	70.9	14.17	10.43	8.86	27	2,053
MA7200-2025-N1	25	30	80.0	80.0	14.17	10.43	8.86	29	2,654
**MA7200-2030-N1	30	30	96.0	108.0	25.45	10.60	10.91	67	4,280
**MA7200-2040-N1	40	50	130.0	130.0	25.45	10.60	10.91	67	4,909

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP		DRIVE AMPS		DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 1
	CONSTANT TORQUE	VARIABLE TORQUE	CONSTANT TORQUE	VARIABLE TORQUE	HEIGHT	WIDTH	DEPTH		
*MA7200-4001-N1	1	1	2.6	2.9	8.54	5.20	5.65	6	550
*MA7200-4002-N1	2	2	4.0	4.6	8.54	5.20	5.65	6	602
*MA7200-4003-N1	3	3	4.8	4.9	11.00	5.51	6.95	9	780
*MA7200-4005-N1	5	7.5	8.7	12.5	11.00	5.51	6.95	9	854
*MA7200-4007-N1	7.5	10	12.0	15.4	11.81	8.32	8.46	13	1,277
*MA7200-4010-N1	10	15	15.0	22.7	11.81	8.32	8.46	13	1,485
*MA7200-4015-N1	15	20	24.0	30.3	14.17	10.43	8.86	27	1,759
*MA7200-4020-N1	20	25	32.0	38.0	14.17	10.43	8.86	27	2,026
MA7200-4025-N1	25	30	40.0	44.0	14.17	10.43	8.86	29	2,613
MA7200-4030-N1	30	30	48.0	48.0	14.17	10.43	8.86	29	2,799
**MA7200-4040-N1	40	50	64.0	71.0	25.45	10.60	10.91	67	3,774
**MA7200-4050-N1	50	60	80.0	80.0	25.45	10.60	10.91	67	4,562
**MA7200-4060-N1	60	75	96.0	108.0	29.39	12.13	11.11	102	5,184
**MA7200-4075-N1	75	100	128.0	140.0	29.39	12.13	11.11	102	5,972

\* Includes Dynamic Braking Transistor

\*\* Includes DC Bus Link Reactor

‡ Operates on single or three phase inputs at specified rating

# MA7200 PLUS NEMA 1



## MEDIUM DUTY

Effective 08-01-11  
Supersedes 12-01-09



### Miscellaneous Options

PART NUMBER	DESCRIPTION	LIST PRICE
4H000D0250001	JUNFOC046S Zero-Sequence Noise Ferrite Core	275
4H332D0010000	1 Meter Extension Cable with Blank Operator (No Interface)	50
4H332D0030001	2 Meter Extension Cable with Blank Operator (No Interface)	52
4H332D0020005	3 Meter Extension Cable with Blank Operator (No Interface)	54
4H332D0040006	5 Meter Extension Cable with Blank Operator (No Interface)	56
4H339D0170008	60mm Cable for MA7200 Digital Operator and RS232 Port	50
4H339D0130006	120mm Cable for MA7200 Digital Operator and RS232 Port	50
3H300C0830001	JNEP-16, Remote Analog Operator for MA7200	200
4H300C0020003	JNEP-31, LCD Digital Operator	165
4LA95X357501	JNEP36A LCD Digital Operator	175
4H300D0290009	MA-SP, Profibus Communication Card (External Power Supply Required)	400
*MA7200-1000	BACnet MS/ TP Communication Module (External Power Supply Required; 9V 350mA) #10456	650
TL-MQ-01	TECO Link Kit - Includes Box, Label, Wiring Diagram, CD with MA Link Software and Drive User Manuals, USB-RS485 Converter	475

**For Braking Resistors, please refer to the Brake Modules and Resistors Section on pages 115 - 116.**

**\*Consult factory for Metasys N2 Communication Module.**

# MA7200 PLUS NEMA 4/12



## MEDIUM DUTY

Effective 08-01-11  
Supersedes 12-01-09



### APPLICATIONS:

- Mixers
- Process Lines
- Food, Beverage, and Pharmaceutical Processes
- Pumps (Centrifugal, Positive Displacement, Metering, etc.)

### FEATURES:

- Multi-purpose AC Drive
- 1 - 20 hp, 230V and 460V, 50/ 60 Hz, 3-Phase
- NEMA 4/ 12 for Harsh Environments (Indoor Use Only)
- Sensorless Vector, V/ Hz, and PG Feedback Control
- 2 Line English LCD Keypad
- Enclosure Mounted Potentiometer
- Flexible Input/ Output Configurations
- 0 to 400 Hz Speed Range
- PID Control
- UL, cUL, and CE Approved
- Built-in RS485 Communications (Modbus) as Standard
- Diagnostic Registers for Troubleshooting
- Dynamic Braking Transistor as Standard
- Pump Control Software Package Included

# MA7200 PLUS NEMA 4/ 12



Effective 08-01-11  
Supercedes 12-01-09

## MEDIUM DUTY



### 230V 1-Phase or 3-Phase Input/ 3-Phase Output

MODEL NO.	HP		DRIVE AMPS		DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
	CONSTANT TORQUE	VARIABLE TORQUE	CONSTANT TORQUE	VARIABLE TORQUE	HEIGHT	WIDTH	DEPTH		
‡MA7200-2001-N4	1	1	4.8	5.6	13.19	7.80	8.54	17	780
‡MA7200-2002-N4	2	2	6.4	7.6	13.19	7.80	8.54	17	825
‡MA7200-2003-N4	3	3	9.6	9.8	13.19	7.80	8.54	17	1,151
MA7200-2005-N4	5	7.5	17.5	22.7	13.19	7.80	8.54	17	1,295
MA7200-2007-N4	7.5	10	24.0	32.0	18.11	8.78	9.65	36	1,783
MA7200-2010-N4	10	10	32.0	32.0	18.11	8.78	9.65	36	1,957
MA7200-2015-N4	15	20	48.0	56.7	18.11	8.78	9.65	36	2,451
MA7200-2020-N4	20	25	64.0	70.9	18.11	8.78	9.65	36	2,626

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP		DRIVE AMPS		DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE NEMA 4
	CONSTANT TORQUE	VARIABLE TORQUE	CONSTANT TORQUE	VARIABLE TORQUE	HEIGHT	WIDTH	DEPTH		
MA7200-4001-N4	1	1	2.6	2.9	13.19	7.80	8.54	17	836
MA7200-4002-N4	2	2	4.0	4.6	13.19	7.80	8.54	17	891
MA7200-4003-N4	3	3	4.8	4.9	13.19	7.80	8.54	17	1,151
MA7200-4005-N4	5	7.5	8.7	12.5	13.19	7.80	8.54	17	1,295
MA7200-4007-N4	7.5	10	12.0	15.4	18.11	8.78	9.65	36	1,820
MA7200-4010-N4	10	15	15.0	22.7	18.11	8.78	9.65	36	1,975
MA7200-4015-N4	15	20	24.0	30.3	18.11	8.78	9.65	36	2,488
MA7200-4020-N4	20	25	32.0	38.0	18.11	8.78	9.65	36	2,663

### Miscellaneous Options

PART NUMBER	DESCRIPTION	LIST PRICE
4H300D667008	NEMA 4 Complete Cover for 1 - 5 hp	290
4H300D666002	NEMA 4 Complete Cover for 7.5 - 20 hp	300

All ratings shown above include Dynamic Braking Transistor.  
See pages 115-116 for Dynamic Braking Resistors.  
‡ Operates on a single or three phase input at specified rating.

# 7200GS

## HEAVY DUTY



Effective 08-01-11  
Supersedes 12-01-09



A rugged and versatile drive with a wide range of ratings for specialized and more demanding applications.

### APPLICATIONS:

- Crushers, Grinders
- Compressors
- Reciprocating Machinery
- Dynamometers
- Positive Displacement Pumps
- Stamping, Punch Press
- Extruders

### FEATURES:

- 25 to 100 hp, 230V, 50/ 60 Hz, 3-Phase
- 25 to 450 hp, 460V, 50/ 60 Hz, 3-Phase
- Sensorless Vector, V/ Hz, and PG Feedback Control
- 2 Line English Language LCD Keypad
- PID Mode
- UL and CE Approved
- Diagnostic Registers for Troubleshooting
- 0 to 400 Hz Speed Range
- NEMA 1 Standard for all Models



### 230V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
JNTEBGBB0025JK	25	80.0	29.33	11.48	12.09	74	3,950
JNTEBGBB0030JK	30	96.0	29.33	11.48	12.09	74	4,147
JNTEBGBB0040JK	40	130.0	43.50	18.19	12.78	179	8,295
JNTEBGBB0050JK	50	160.0	43.50	18.19	12.78	181	9,085
JNTEBGBB0060JK	60	183.0	43.50	18.19	12.78	188	9,874
JNTEBGBB0075JK	75	224.0	43.50	18.19	12.78	195	10,269
JNTEBGBB0100JK	100	300.0	51.38	23.70	15.02	287	13,824

### 460V 3-Phase Input/ 3-Phase Output

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
**JNTEBGBB0025AZ	25	40.0	14.17	10.43	8.86	27	3,100
JNTEBGBB0030AZ	30	48.0	29.33	11.48	12.09	84	3,864
JNTEBGBB0040AZ	40	64.0	29.33	11.48	12.09	84	4,497
JNTEBGBB0050AZ	50	80.0	37.20	13.86	12.78	111	5,457
JNTEBGBB0060AZ	60	96.0	37.20	13.86	12.78	111	5,719
JNTEBGBB0075AZ	75	128.0	37.20	13.86	12.78	111	6,985
JNTEBGBB0100AZ	100	165.0	37.20	13.86	12.78	144	10,259
JNTEBGBB0125AZ	125	192.0	43.50	18.19	12.78	188	11,089
JNTEBGBB0150AZ	150	224.0	43.50	18.19	12.78	190	12,922
JNTEBGBB0200AZ	200	300.0	51.38	23.70	15.02	307	18,073
JNTEBGBB0250AZ	250	340.0	51.38	23.70	15.02	307	22,963
*JNTEBGBB0300AZ	300/ 350	450.0	52.36	28.74	15.04	390	28,900
*JNTEBGBB0400AZ	400	600.0	52.36	28.74	15.04	435	37,980

\* External 3% Impedance 460V Line Reactor Required. A failure to use Line Reactor may void warranty. (See Line Reactor Price Section for Part Number Selection.)

\*\* Includes Dynamic Braking Transistor

### Miscellaneous Options

PART NUMBER	DESCRIPTION	LIST PRICE
4H332D0010000	1 Meter Extension Cable with Blank Operator (No Interface)	50
4H332D0030001	2 Meter Extension Cable with Blank Operator (No Interface)	52
4H332D0020005	3 Meter Extension Cable with Blank Operator (No Interface)	54
4H332D0040006	5 Meter Extension Cable with Blank Operator (No Interface)	56
3H300C0830001	JNEP-16, Remote Analog Operator for 7200GS	200
4H300C0060005	JNEP-34, Digital Operator for 7200GS	165
4H300D4560001	Modbus Interface Card SI-M	600
GS-P	Profibus Interface Card	500

## MULTIPLE DUTY

Effective 08-01-11  
Supersedes 12-01-09



A rugged and versatile drive with a wide range of ratings for specialized and more demanding applications.

### APPLICATIONS:

- Crushers, Grinders
- Compressors
- Reciprocating Machinery
- Dynamometers
- Water and Wastewater
- Warehouse Automation
- Centrifugal Pumps
- Positive Displacement Pumps
- Stamping, Punch Press
- Material Handling
- Winders
- Commercial Washing Machines
- Fans
- Chillers and Refrigeration

### FEATURES:

- Designed for Constant/ Variable Torque applications
- Dynamic Torque - Sensorless Vector Control
- PID control
- Backlit LCD/ English language with LED monitor display/ selections for 6 languages
- Keypad may be used as copy unit/ remote mounting options
- Provided with low-noise control power supply
- .25 to 125 hp @ 230V & .5 to 600 hp @ 460V (Constant Torque)
- .25 to 150 hp @ 230V & .5 to 800 hp @ 460V (Variable Torque)
- For external mounting of heatsink when installed in control panels
- Torque limit and control features
- Extensive Diagnostic Information on LCD
- Built-in RS485 communications (Modbus)/ optional Profibus-DP, DeviceNet, Modbus Plus, BACNet, and Metasys protocols
- UL and CE Approved
- NEMA 1 standard up to 30 hp
- Chassis unit 40 hp and above (NEMA 1 option kit available)

## CONSTANT TORQUE

Effective 08-01-11  
Supersedes 12-01-09

## APPLICATIONS:

- Crushers, Grinders
- Compressors
- Reciprocating Machinery
- Dynamometers
- Water and Wastewater
- Positive Displacement Pumps
- Stamping, Punch Press
- Material Handling
- Winders
- Warehouse Automation

## 230V 3-Phase - Constant Torque

MODEL NO.	HP	DRIVE AMPS	APPROXIMATE DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
EQ5-20P2-N1	0.25	1.5	10.24	4.33	5.12	4.9	830
EQ5-20P5-N1	0.50	3	10.24	4.33	5.12	4.9	840
EQ5-2001-N1	1	5	10.24	4.33	5.71	5.5	1,001
EQ5-2002-N1	2	8	10.24	5.91	5.71	8.4	1,080
EQ5-2003-N1	3	11	10.24	5.91	5.71	8.4	1,140
EQ5-2005-N1	5	17	10.24	5.91	5.71	8.4	1,310
EQ5-2007-N1	5	17	10.24	8.66	7.68	13	1,490
EQ5-2010-N1	7.5	25	10.24	8.66	7.68	13	1,710
EQ5-2015-N1	10	33	10.24	8.66	7.68	13	1,800
EQ5-2020-N1	15	46	15.75	9.84	7.68	23	2,250
EQ5-2025-N1	20	59	15.75	9.84	7.68	23	2,500
EQ5-2030-N1	25	74	15.75	9.84	7.68	23	2,960
EQ5-2032-N1	30	87	15.75	9.84	7.68	23	3,550
EQ5-2040-C	30	87	21.70	13.4	10.0	64	5,258
EQ5-2050-C	40	115	21.70	13.4	10.0	64	5,990
EQ5-2060-C	50	145	24.20	14.8	10.6	79	7,090
EQ5-2075-C	60	180	29.10	14.8	10.6	97	8,459
EQ5-2100-C	75	215	29.10	14.8	10.6	97	9,400
EQ5-2125-C	100	283	29.50	20.9	11.2	154	13,400
EQ5-2150-C	125	346	34.60	26.8	14.2	254	17,400

## 460V 3-Phase - Constant Torque

MODEL NO.	HP	DRIVE AMPS	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
EQ5-40P5-N1	0.50	1.5	10.24	4.33	5.12	4.9	710
EQ5-4001-N1	1	2.5	10.24	4.33	5.71	5.5	980
EQ5-4002-N1	2	3.7	10.24	5.90	5.71	8.4	1,017
EQ5-4003-N1	3	5.5	10.24	5.90	5.71	8.4	1,250
EQ5-4005-N1	5	9	10.24	5.90	5.71	8.4	1,340
EQ5-4007-N1	5	9	10.24	8.66	7.68	13	1,901
EQ5-4010-N1	7.5	13	10.24	8.66	7.68	13	1,915
EQ5-4015-N1	10	18	10.24	8.66	7.68	13	1,949
EQ5-4020-N1	15	24	15.75	9.84	7.68	23	2,315
EQ5-4025-N1	20	30	15.75	9.84	7.68	23	2,590
EQ5-4030-N1	25	39	15.75	9.84	7.68	23	2,999
EQ5-4032-N1	30	45	15.75	9.84	7.68	23	3,450
EQ5-4040-C	30	45	21.70	13.4	10.0	64	4,852
EQ5-4050-C	40	60	21.70	13.4	10.0	64	5,110
EQ5-4060-C	50	75	21.70	14.8	10.6	75	6,340
EQ5-4075-C	60	91	26.60	14.8	10.6	88	6,930
EQ5-4100-C	75	112	26.60	14.8	10.6	88	7,154
EQ5-4125-C	100	150	29.10	14.8	10.6	106	10,327
EQ5-4150-C	125	176	29.10	20.9	12.4	154	11,778
EQ5-4200-C	150	210	29.10	20.9	12.4	154	15,449
EQ5-4250-C	200	253	39.40	20.9	14.2	220	17,854
EQ5-4300-C	250	304	39.40	20.9	14.2	220	20,342
EQ5-4350-C	300	377	39.40	26.8	14.2	309	27,393
EQ5-4400-C	350	415	39.40	26.8	14.2	309	29,881
EQ5-4450-C	350	415	39.40	26.8	14.2	309	32,190
EQ5-4500-C	400	520	55.10	26.8	17.7	551	36,517
EQ5-4600-C	450	585	55.10	26.8	17.7	551	59,000
EQ5-4700-C	500	650	55.10	34.6	17.7	793	69,500
EQ5-4800-C	600	740	55.10	34.6	17.7	793	71,000



## VARIABLE TORQUE

Effective 08-01-11  
Supersedes 12-01-09

## 230V 3-Phase - Variable Torque

MODEL NO.	HP	DRIVE AMPS	APPROXIMATE DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
EQ5-20P2-N1	0.25	1.5	10.24	4.33	5.12	4.9	830
EQ5-20P5-N1	0.50	3	10.24	4.33	5.12	4.9	840
EQ5-2001-N1	1	5	10.24	4.33	5.71	5.5	1,001
EQ5-2002-N1	2	8	10.24	5.90	5.71	8.4	1,080
EQ5-2003-N1	3	11	10.24	5.90	5.71	8.4	1,140
EQ5-2005-N1	5	17	10.24	5.90	5.71	8.4	1,310
EQ5-2007-N1	7.5	22	10.24	8.66	7.68	13	1,490
EQ5-2010-N1	10	29	10.24	8.66	7.68	13	1,710
EQ5-2015-N1	15	42	10.24	8.66	7.68	13	1,800
EQ5-2020-N1	20	55	15.75	9.84	7.68	23	2,250
EQ5-2025-N1	25	68	15.75	9.84	7.68	23	2,500
EQ5-2030-N1	30	80	15.75	9.84	7.68	23	2,960
EQ5-2032-N1	30	87	15.75	9.84	7.68	23	3,550
EQ5-2040-C	40	115	21.70	13.4	10.0	64	5,258
EQ5-2050-C	50	145	21.70	13.4	10.0	64	5,990
EQ5-2060-C	60	180	24.20	14.8	10.6	79	7,090
EQ5-2075-C	75	215	29.10	14.8	10.6	97	8,459
EQ5-2100-C	100	283	29.10	14.8	10.6	97	9,400
EQ5-2125-C	125	346	29.50	20.9	11.2	154	13,400
EQ5-2150-C	150	415	34.60	26.8	14.2	254	17,400

## 460V 3-Phase - Variable Torque

MODEL NO.	HP	DRIVE AMPS	DIMENSIONS (Inches)			APPROX. WT. (lbs.)	LIST PRICE
			HEIGHT	WIDTH	DEPTH		
EQ5-40P5-N1	0.50	1.5	10.24	4.33	5.12	4.9	710
EQ5-4001-N1	1	2.5	10.24	4.33	5.71	5.5	980
EQ5-4002-N1	2	3.7	10.24	5.90	5.71	8.4	1,017
EQ5-4003-N1	3	5.5	10.24	5.90	5.71	8.4	1,250
EQ5-4005-N1	5	9	10.24	5.90	5.71	8.4	1,340
EQ5-4007-N1	7.5	12.5	10.24	8.66	7.68	13	1,901
EQ5-4010-N1	10	16.5	10.24	8.66	7.68	13	1,915
EQ5-4015-N1	15	23	10.24	8.66	7.68	13	1,949
EQ5-4020-N1	20	30	15.75	9.84	7.68	23	2,315
EQ5-4025-N1	25	37	15.75	9.84	7.68	23	2,590
EQ5-4030-N1	30	44	15.75	9.84	7.68	23	2,999
EQ5-4032-N1	30	45	15.75	9.84	7.68	23	3,450
EQ5-4040-C	40	60	21.70	13.4	10.0	64	4,852
EQ5-4050-C	50	75	21.70	13.4	10.0	64	5,110
EQ5-4060-C	60	91	21.70	14.8	10.6	75	6,340
EQ5-4075-C	75	112	26.60	14.8	10.6	88	6,930
EQ5-4100-C	100	150	26.60	14.8	10.6	88	7,154
EQ5-4125-C	125	176	29.10	14.8	10.6	106	10,327
EQ5-4150-C	150	210	29.10	20.9	12.4	154	11,778
EQ5-4200-C	200	253	29.10	20.9	12.4	154	15,449
EQ5-4250-C	250	304	39.40	20.9	14.2	220	17,854
EQ5-4300-C	300	377	39.40	20.9	14.2	220	20,342
EQ5-4350-C	350	415	39.40	26.8	14.2	309	27,393
EQ5-4400-C	400	485	39.40	26.8	14.2	309	29,881
EQ5-4450-C	450	520	39.40	26.8	14.2	309	32,190
EQ5-4500-C	500	650	55.10	26.8	17.7	551	36,517
EQ5-4600-C	600	740	55.10	26.8	17.7	551	59,000
EQ5-4700-C	700	840	55.10	34.6	17.7	793	69,500
EQ5-4800-C	800	960	55.10	34.6	17.7	793	71,000

# EQ5 PERIPHERALS



## MULTIPLE DUTY

Effective 08-01-11  
Supersedes 12-01-09



OPTION TYPE	MODEL	DESCRIPTION	LIST PRICE
NEMA1 Kit*	NEMA1-30G11-2	230V & 460V 40,50 hp	950
	NEMA1-55G11-2	230V 60, 75, 100 hp & 460V 125 hp	1,060
	NEMA1-75G11-2	230V 125 hp	1,425
	NEMA1-90G11-2	230V 150 hp & 460V 350, 400, 450 hp	1,725
	NEMA1-55G11-4	460V 60, 75, 100 hp	1,025
	NEMA1-110G11-4	460V 150, 200 hp	1,275
	NEMA1-160G11-4	460V 250, 300 hp	1,600
	NEMA1-315G11-4	460V 500, 600 hp	960
	NEMA1-400G11-4	460V 700, 800 hp	1,120
Braking Unit Transistor** (Chassis Rating)	BU22-2C	230V 40 hp and below	720
	BU37-2C	230V 50 hp - 60 hp	1,675
	BU55-2C	230V 75 hp - 100 hp	2,200
	BU90-2C	230V 125 - 150 hp	3,040
	BU22-4C	460V 40 hp and below	800
	BU37-4C	460V 50 hp - 60 hp	1,726
	BU55-4C	460V 75 hp - 100 hp	2,325
	BU90-4C	460V 125 hp - 150 hp	3,040
	BU132-4C	460V 200 hp - 250 hp	4,175
BU220-4C	460V 300 hp - 450 hp 2pc for 500 hp and above	6,075	
Braking Resistor** (Chassis Rating)	DB0.75-2C	230V 1 hp and below	100
	DB2.2-2C	230V 2 hp - 3 hp	125
	DB3.7-2C	230V 7.5 hp	175
	DB5.5-2C	230V 10 hp	265
	DB7.5-2C	230V 15 hp	307
	DB11-2C	230V 20 hp	388
	DB15-2C	230V 25 hp	555
	DB22-2C	230V 30 hp - 40 hp	915
	DB30-2C	230V 50 hp	1,432
	DB37-2C	230V 60 hp	1,850
	DB45-2C	230V 75 hp	2,265
DB55-2C	230V 100 hp	2,450	

\*NEMA 1 kit based on VT rating of EQ5 AC Drive.

\*\*Braking resistor and braking unit based on VT rating of EQ5 AC Drive.

# EQ5 PERIPHERALS



## MULTIPLE DUTY

Effective 08-01-11  
Supersedes 12-01-09



OPTION TYPE	MODEL	DESCRIPTION	LIST PRICE
Braking Resistor** (Chassis Rating)	DB75-2C	230V 125 hp	3,800
	DB90-2C	230V 150 hp	4,200
	DB0.75-4C	460V 1 hp	129
	DB2.2-4C	460V 2 hp - 3 hp	134
	DB3.7-4C	460V 7.5 hp	199
	DB5.5-4C	460V 10 hp	263
	DB7.5-4C	460V 15 hp	308
	DB11-4C	460V 20 hp	429
	DB15-4C	460V 25 hp	590
	DB22-4C	460 V 30 hp - 40 hp	978
	DB30-4C	460V 50 hp	1,163
	DB37-4C	460V 60 hp	1,873
	DB45-4C	460V 75 hp	2,156
	DB55-4C	460V 100 hp	1,854
	DB75-4C	460V 125 hp	3,290
	DB110-4C	460V 150 hp - 200 hp	3,755
	DB132-4C	460V 250 hp	4,500
	DB160-4C	460V 300 hp	5,425
DB200-4C	460V 350 hp	5,900	
DB220-4C	460V 400 hp - 450 hp	7,540	
Adapter Kit to Mount Heatsink Externally	PBG11-0.75	0.5 - 1 hp	150
	PBG11-3.7	2 - 5 hp	175
	PBG11-7.5	7.5 - 15 hp	175
	PBG11-22	20 - 30 hp	200
Option Card	OPC-G11S-RY	Relay	115
	OPC-G11S-AIO	Analog Input/ Output 4-20mA	565
	OPC-G11S-DIO	Digital Input/ Output	340
	OPC-G11S-SY	Synchronize	110
Option Communication Card	OPC-G11S-PDP	ProfibusDP	1,557
	OPC-G11S-DEV	DeviceNet	1,580
	OPC-G11S-MBP	ModBusPlus	1,400
	OPC-G11S-IBS	InterbusS	1,700
	MA7200-1000	BACnet MS/ TP Communication Module	650
Keypad Extension Cable	CB3-10R-2S	2m Straight	105
	CB3-10R-1C	1m Curled (Max. 5m)	160
	CB3-10R-2C	2m Curled (Max. 10m)	220

\*\*Braking Resistor and braking unit based on VT rating of EQ5 AC Drive.

# BRAKE MODULES AND RESISTORS

Effective 08-01-11  
Supercedes 12-01-09



Suitable for use with the N3, MA7200 PLUS , and 7200GS product families.

## 230V 3-Phase

AC DRIVE HP RATING	BRAKING TRANSISTOR			BRAKING RESISTOR							
	MODEL NUMBER	QTY USED	LIST PRICE	MODEL NUMBER	QTY USED	RESISTANCE		ENCLOSURE DIMENSIONS	BRAKING TORQUE %	DUTY CYCLE %	LIST PRICE
						OHMS	WATTS				
1	X	-	-	DBR-019	1	200	70	12"H x 5"W x 5"D	125	10	325
2	X	-	-	DBR-027	1	100	260	12"H x 5"W x 5"D	125	10	325
3	X	-	-	DBR-035	1	70	260	12"H x 5"W x 5"D	120	10	325
5	X	-	-	DBR-043	1	40	390	12"H x 5"W x 5"D	125	10	325
7.5	X	-	-	DBR-051	1	30	520	12"H x 7"W x 5"D	115	10	500
10	X	-	-	DBR-060	1	20	780	12"H x 7"W x 5"D	125	10	500
15	X	-	-	DBR-078	1	13.6	2400	19"H x 10"W x 5"D	125	10	1,050
20	X	-	-	DBR-086	1	10	3000	19"H x 13"W x 5"D	125	10	1,300
25	JUVPLV-60	1	712	DBR-094	1	8	4800	26.5"H x 10"W x 5"D	125	10	1,450
30	JUVPLV-60	1	712	DBR-108	1	6.8	4800	26.5"H x 10"W x 5"D	125	10	1,450
40	JUVPLV-40	2	535	DBR-086	2	10	3000	19"H x 13"W x 5"D	125	10	1,300
50	JUVPLV-40	2	535	DBR-086	2	10	3000	19"H x 13"W x 5"D	100	10	1,300
60	JUVPLV-60	2	712	DBR-094	2	8	4800	26.5"H x 10"W x 5"D	120	10	1,450
75	JUVPLV-60	2	712	DBR-094	2	8	4800	26.5"H x 10"W x 5"D	100	10	1,450
100	JUVPLV-60	3	712	DBR-094	3	8	4800	26.5"H x 10"W x 5"D	110	10	1,450

**X = Transistor built-in for all MA7200 and N3 Drives at these ratings.**

**For braking applications above 100 hp at 230V or above 200 hp at 460V, please consult the factory.**

**NOTE:**

**All brake resistor units include thermal overload switches.**

# BRAKE MODULES AND RESISTORS

Effective 08-01-11  
Supersedes 12-01-09



Suitable for use with the N3, MA7200 PLUS , and 7200GS product families.

## 460V 3-Phase

AC DRIVE HP RATING	BRAKING TRANSISTOR			BRAKING RESISTOR							
	MODEL NUMBER	QTY USED	LIST PRICE	MODEL NUMBER	QTY USED	RESISTANCE		ENCLOSURE DIMENSIONS	BRAKING TORQUE %	DUTY CYCLE %	LIST PRICE
						OHMS	WATTS				
1	X	-	-	DBR-116	1	750	70	12"L x 5"W x 5"D	130	10	325
2	X	-	-	DBR-124	1	400	260	12"L x 5"W x 5"D	125	10	325
3	X	-	-	DBR-132	1	250	260	12"L x 5"W x 5"D	135	10	325
5	X	-	-	DBR-141	1	150	390	12"L x 5"W x 5"D	135	10	325
7	X	-	-	DBR-159	1	100	520	12"L x 7"W x 5"D	135	10	500
10	X	-	-	DBR-167	1	75	780	12"L x 7"W x 5"D	130	10	500
15	X	-	-	DBR-175	1	50	1040	12"L x 10"W x 5"D	135	10	630
20	X	-	-	DBR-183	1	40	1560	12"L x 13"W x 5"D	125	10	775
25	JNTBU-430	1	605	DBR-191	1	32	4800	26.5"L x 13"W x 5"D	125	10	1,800
30	JNTBU-430	1	605	DBR-205	1	27.2	4800	26.5"L x 13"W x 5"D	125	10	1,800
40	JNTBU-430	1	605	DBR-213	1	20	6000	26.5"L x 13"W x 5"D	125	10	1,800
50	JUVPHV-60	1	783	DBR-221	1	16	9600	28"L x 10"W x 10"D	125	10	2,475
60	JUVPHV-60	1	783	DBR-230	1	13.6	9600	28"L x 10"W x 10"D	125	10	2,475
75	JNTBU-430	2	605	DBR-213	2	20	6000	26.5"L x 13"W x 5"D	135	10	1,800
100	JUVPHV-60	2	783	DBR-230	2	13.6	9600	28"L x 10"W x 10"D	145	10	2,475
125	JNTBU-430	3	605	DBR-213	3	20	6000	26.5"L x 13"W x 5"D	125	10	1,800
150	JNTBU-430	3	605	DBR-213	3	20	6000	26.5"L x 13"W x 5"D	100	10	1,800
175 - 200	JUVPHV-60	4	783	DBR-230	4	13.6	9600	28"L x 10"W x 10"D	140	10	2,475

**X = Transistor Built-in on all MA7200 and N3 Drives at these ratings.**

**For braking applications above 100 hp at 230V or above 200 hp at 460V, please consult the factory.**

**NOTE:**

**All brake resistor units include thermal overload switches.**

# LINE REACTORS



## 230V

Effective 08-01-11  
Supersedes 12-01-09

Low priced and easy to install, Line Reactors provide input transient protection from harmonic distortion. When applying a reactor between the drive output and the motor, please contact the Factory.

### 3% IMPEDANCE, 230V

HP	AMPS	CHASSIS UNIT				UL TYPE 1 ENCLOSURE			
		MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE	MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE
1	5.5	KDRULA25L	4.00 x 4.18 x 3.75	4	161	KDRULA25LE01	12.25 x 12.50 x 6.75	14.5	432
1.5	8	KDRULA26L	4.00 x 4.18 x 3.75	4	170	KDRULA26LE01	12.25 x 12.50 x 6.75	14.5	440
2	10	KDRULA27L	4.00 x 4.18 x 3.75	4	172	KDRULA27LE01	12.25 x 12.50 x 6.75	14.5	445
3	12	KDRULA28L	4.00 x 4.18 x 3.75	4	195	KDRULA28LE01	12.25 x 12.50 x 6.75	14.5	463
5	19	KDRULB22L	5.00 x 6.00 x 4.00	8	275	KDRULB22LE01	12.25 x 12.50 x 6.75	18.5	550
7.5	25	KDRULB23L	5.00 x 6.00 x 4.00	8	296	KDRULB23LE01	12.25 x 12.50 x 6.75	18.5	571
10	34	KDRULD25L	5.75 x 7.20 x 4.25	12	309	KDRULD25LE01	12.25 x 12.50 x 6.75	22.5	588
15	48	KDRULD24L	5.75 x 7.20 x 4.25	12	328	KDRULD24LE01	12.25 x 12.50 x 6.75	22.5	595
20	62	KDRULD26L	5.75 x 7.20 x 4.25	12	350	KDRULD26LE01	12.25 x 12.50 x 6.75	22.5	617
25	80	KDRULC22L	5.75 x 7.20 x 5.00	15	530	KDRULC22LE01	12.25 x 12.50 x 6.75	22.5	780
30	100	KDRULF24L	7.00 x 9.00 x 6.00	33	565	KDRULF24LE01	19.13 x 15.43 x 15.43	67	1,050
40	118	KDRULF25L	7.00 x 9.00 x 6.00	33	790	KDRULF25LE01	19.13 x 15.43 x 15.43	67	1,275
50	152	KDRULF26L	7.00 x 9.00 x 6.00	36	920	KDRULF26LE01	19.13 x 15.43 x 15.43	67	1,400
60	180	KDRULH22L	9.00 x 11.00 x 7.00	51	1,060	KDRULH22LE01	22.12 x 20.43 x 24.37	113	1,950
75	211	KDRULI23L	9.00 x 11.00 x 7.00	56	1,092	KDRULI23LE01	22.12 x 20.43 x 24.37	117	2,000
100	280	KDRULI24L	9.00 x 11.00 x 7.00	56	1,200	KDRULI24LE01	22.12 x 20.43 x 24.37	117	2,100
125	377	KDRULG22L	9.00 x 11.00 x 9.00	74	1,675	KDRULG22LE01	22.12 x 20.43 x 24.37	132	2,600
150	420	KDRULJ23L	9.00 x 11.00 x 11.50	80	1,850	KDRULJ23LE01	22.12 x 20.43 x 24.37	137	2,780

### 5% IMPEDANCE, 230V

HP	AMPS	CHASSIS UNIT				UL TYPE 1 ENCLOSURE			
		MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE	MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE
1	5.5	KDRULA25H	4.00 x 4.18 x 3.75	4	170	KDRULA25HE01	12.25 x 12.50 x 6.75	14.5	460
1.5	8	KDRULA27H	4.00 x 4.18 x 3.75	4	186	KDRULA27HE01	12.25 x 12.50 x 6.75	14.5	480
2	10	KDRULA26H	4.00 x 4.18 x 3.75	4	191	KDRULA26HE01	12.25 x 12.50 x 6.75	14.5	485
3	12	KDRULA28H	4.00 x 4.18 x 3.75	4	207	KDRULA28HE01	12.25 x 12.50 x 6.75	14.5	493
5	19	KDRULB25H	5.00 x 6.00 x 4.00	8	280	KDRULB25HE01	12.25 x 12.50 x 6.75	18.5	554
7.5	25	KDRULB26H	5.00 x 6.00 x 4.00	8	310	KDRULB26HE01	12.25 x 12.50 x 6.75	18.5	599
10	34	KDRULD21H	5.75 x 7.20 x 4.25	12	317	KDRULD21HE01	12.25 x 12.50 x 6.75	22.5	602
15	48	KDRULD22H	5.75 x 7.20 x 4.25	12	416	KDRULD22HE01	12.25 x 12.50 x 6.75	22.5	695
20	62	KDRULC22H	5.75 x 7.20 x 5.00	15	471	KDRULC22HE01	12.25 x 12.50 x 6.75	25.5	770
25	80	KDRULF28H	7.00 x 9.00 x 6.00	30	567	KDRULF28HE01	19.13 x 15.43 x 15.43	67	1,120
30	100	KDRULF25H	7.00 x 9.00 x 6.00	67	645	KDRULF25HE01	19.13 x 15.43 x 15.43	67	1,225
40	118	KDRULF26H	7.00 x 9.00 x 6.00	33	840	KDRULF26HE01	19.13 x 15.43 x 15.43	67	1,390
50	152	KDRULH24H	9.00 x 11.00 x 7.00	40	1,020	KDRULH24HE01	19.13 x 15.43 x 15.43	70	1,550
60	180	KDRULH23H	9.00 x 11.00 x 7.00	51	1,175	KDRULH23HE01	19.13 x 15.43 x 15.43	81	1,975
75	211	KDRULI22H	9.00 x 11.00 x 7.00	56	1,470	KDRULI22HE01	22.12 x 20.43 x 24.37	117	2,450
100	280	KDRULI21H	9.00 x 11.00 x 7.00	56	1,780	KDRULI21HE01	22.12 x 20.43 x 24.37	117	2,750
125	377	KDRULG25H	9.00 x 11.00 x 9.00	74	1,825	KDRULG25HE01	22.12 x 20.43 x 24.37	132	2,825
150	420	KDRULJ22H	9.00 x 11.00 x 9.75	79	1,975	KDRULJ22HE01	22.12 x 20.43 x 24.37	136	2,935

# LINE REACTORS



460V

Effective 08-01-11  
Supersedes 12-01-09

## 3% IMPEDANCE, 460V

HP	AMPS	CHASSIS UNIT				UL TYPE 1 ENCLOSURE			
		MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE	MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE
1	2.1	KDRULA8L	4.00 x 4.18 x 3.75	4	146	KDRULA8LE01	12.25 x 12.50 x 6.75	14.5	430
2	6.4	KDRULA1L	4.00 x 4.18 x 3.75	4	154	KDRULA1LE01	12.25 x 12.50 x 6.75	14.5	441
3	6	KDRULA2L	4.00 x 4.18 x 3.75	4	170	KDRULA2LE01	12.25 x 12.50 x 6.75	14.5	460
5	9.6	KDRULA3L	4.00 x 4.18 x 3.75	4	175	KDRULA3LE01	12.25 x 12.50 x 6.75	14.5	468
7.5	14	KDRULA4L	4.00 x 4.18 x 3.75	4	197	KDRULA4LE01	12.25 x 12.50 x 6.75	14.5	481
10	14	KDRULA5L	4.00 x 4.18 x 3.75	5	253	KDRULA5LE01	12.25 x 12.50 x 6.75	14.5	536
15	30	KDRULB2L	5.00 x 6.00 x 4.00	8	290	KDRULB2LE01	12.25 x 12.50 x 6.75	18.5	575
20	30	KDRULB1L	5.00 x 6.00 x 4.00	8	315	KDRULB1LE01	12.25 x 12.50 x 6.75	18.5	600
25	50	KDRULD1L	5.75 x 7.20 x 4.25	10	340	KDRULD1LE01	12.25 x 12.50 x 6.75	20.5	620
30	45	KDRULD2L	5.75 x 7.20 x 4.25	10	420	KDRULD2LE01	12.25 x 12.50 x 6.75	20.5	703
40	55	KDRULC1L	5.75 x 7.20 x 5.00	15	465	KDRULC1LE01	12.25 x 12.50 x 6.75	25.5	746
50	65	KDRULF2L	7.00 x 9.00 x 6.00	25	550	KDRULF2LE01	19.13 x 15.43 x 15.43	67.0	1,124
60	77	KDRULF4L	7.00 x 9.00 x 6.00	25	575	KDRULF4LE01	19.13 x 15.43 x 15.43	67.0	1,140
75	110	KDRULF3L	7.00 x 9.00 x 7.00	33	847	KDRULF3LE01	19.13 x 15.43 x 15.43	67.0	1,415
100	150	KDRULH3L	9.00 x 11.00 x 7.50	46	977	KDRULH3LE01	19.13 x 15.43 x 15.43	78.0	1,540
125	165	KDRULH2L	9.00 x 11.00 x 7.50	46	1,170	KDRULH2LE01	19.13 x 15.43 x 15.43	78.0	1,743
150	185	KDRULH1L	9.00 x 11.00 x 7.50	46	1,355	KDRULH1LE01	22.12 x 20.43 x 24.37	108.0	2,450
200	240	KDRULG3L	9.00 x 11.00 x 9.00	74	1,790	KDRULG3LE01	22.12 x 20.43 x 24.37	131.0	2,783
250	340	KDRULG1L	9.00 x 11.00 x 9.00	74	1,930	KDRULG1LE01	22.12 x 20.43 x 24.37	132.0	2,970
300	370	KDRULG2L	9.00 x 11.00 x 9.00	74	2,010	KDRULG2LE01	22.12 x 20.43 x 24.37	132.0	3,000
350	500	KDRULJ2L	9.00 x 12.00 x 11.50	80	2,330	KDRULJ2LE01	22.12 x 20.43 x 24.37	150.0	3,425
400	520	KDRULJ1L	9.00 x 12.00 x 11.50	80	2,590	KDRULJ1LE01	22.12 x 20.43 x 24.37	150.0	3,600
450	610	KDRULL1L	11.38 x 15.00 x 12.00	120	2,985	KDRULL1LE01	22.12 x 20.43 x 24.37	190.0	3,980
500	610	KDRULL2L	11.38 x 15.00 x 12.00	120	4,350	KDRULL2LE01	22.12 x 20.43 x 24.37	190.0	5,400
600	720	KDRULL3L	11.38 x 14.50 x 9.50	164	5,900	KDRULL3LE01	48.00 x 36.27 x 36.27	748	9,300
700	840	KDRULS1L	11.38 x 15.00 x 13.25	180	6,450	KDRULS1LE01	48.00 x 36.27 x 36.27	872	10,000
800	965	KDRULX2L	18.50 x 21.00 x 18.00	290	9,000	KDRULX2LE01	48.00 x 36.27 x 36.27	997	12,500

### 5% IMPEDANCE, 460V

HP	AMPS	CHASSIS UNIT				UL TYPE 1 ENCLOSURE			
		MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE	MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (lbs.)	LIST PRICE
1	2.1	KDRULA8H	4.00 x 4.18 x 3.75	4	170	KDRULA8HE01	12.25 x 12.50 x 6.75	14.5	440
2	6.4	KDRULA1H	4.00 x 4.18 x 3.75	4	175	KDRULA1HE01	12.25 x 12.50 x 6.75	14.5	450
3	6	KDRULA2H	4.00 x 4.18 x 3.75	4	225	KDRULA2HE01	12.25 x 12.50 x 6.75	14.5	500
5	9.6	KDRULA3H	4.00 x 4.18 x 3.75	4	260	KDRULA3HE01	12.25 x 12.50 x 6.75	14.5	535
7.5	14	KDRULA4H	4.00 x 4.18 x 3.75	5	290	KDRULA4HE01	12.25 x 12.50 x 6.75	15.5	573
10	14	KDRULA5H	4.00 x 4.18 x 3.75	5	360	KDRULA5HE01	12.25 x 12.50 x 6.75	15.5	630
15	30	KDRULB2H	5.00 x 6.00 x 4.00	7	370	KDRULB2HE01	12.25 x 12.50 x 6.75	17.5	640
20	30	KDRULC3H	5.75 x 7.20 x 5.00	15	415	KDRULC3HE01	12.25 x 12.50 x 6.75	25.5	680
25	50	KDRULC1H	5.75 x 7.20 x 5.00	15	500	KDRULC1HE01	12.25 x 12.50 x 6.75	25.5	760
30	45	KDRULE2H	5.75 x 7.20 x 5.00	16	570	KDRULE2HE01	12.25 x 12.50 x 6.75	26.5	830
40	55	KDRULF4H	7.00 x 9.00 x 6.00	25	590	KDRULF4HE01	19.13 x 15.43 x 15.43	67.0	1,150
50	65	KDRULF1H	7.00 x 9.00 x 6.00	25	800	KDRULF1HE01	19.13 x 15.43 x 15.43	67.0	1,375
60	77	KDRULF2H	7.00 x 9.00 x 6.00	25	850	KDRULF2HE01	19.13 x 15.43 x 15.43	67.0	1,400
75	110	KDRULH2H	9.00 x 11.00 x 7.00	52	1,020	KDRULH2HE01	19.13 x 15.43 x 15.43	82.0	1,580
100	150	KDRULI2H	9.00 x 11.00 x 7.00	52	1,230	KDRULI2HE01	19.13 x 15.43 x 15.43	82.0	1,730
125	165	KDRULG3H	9.00 x 11.00 x 8.00	57	1,405	KDRULG3HE01	22.12 x 20.43 x 24.37	122.0	2,375
150	185	KDRULG1H	9.00 x 11.00 x 8.00	60	1,650	KDRULG1HE01	22.12 x 20.43 x 24.37	127.0	2,660
200	240	KDRULJ1H	9.00 x 11.00 x 9.00	75	2,230	KDRULJ1HE01	22.12 x 20.43 x 24.37	136.0	3,250
250	340	KDRULL1H	11.38 x 14.50 x 9.50	105	2,450	KDRULL1HE01	22.12 x 20.43 x 24.37	162.0	3,400
300	370	KDRULL2H	11.38 x 14.50 x 9.31	105	2,500	KDRULL2HE01	22.12 x 20.43 x 24.37	162.0	3,475
350	500	KDRULL3H	11.38 x 14.50 x 9.31	109	2,885	KDRULL3HE01	22.12 x 20.43 x 24.37	166.0	3,775
400	520	KDRULL4H	11.38 x 14.50 x 9.50	135	3,700	KDRULL4HE01	22.12 x 20.43 x 24.37	176.0	4,600
450	610	KDRULL5H	11.38 x 14.50 x 11.00	135	3,890	KDRULL5HE01	36.00 x 28.39 x 30.19	295.0	5,900
500	610	KDRULL6H	11.38 x 14.50 x 11.00	135	4,775	KDRULL6HE01	36.00 x 28.39 x 30.19	295.0	6,800
600	720	KDRULS1H	11.38 x 15.00 x 13.25	272	6,000	KDRULS1HE01	48.00 x 36.27 x 36.27	685.0	9,400
700	840	KDRULS2H	11.38 x 15.00 x 13.25	280	6,885	KDRULS2HE01	48.00 x 36.27 x 36.27	385.0	10,600
800	965	KDRULX2H	18.50 x 21.00 x 18.00	305	9,500	KDRULX2HE01	48.00 x 36.27 x 36.27	715.0	12,900



# OUTPUT REACTORS/ LOW PASS FILTER COMBINATIONS



460V

Effective 08-01-11  
Supersedes 12-01-09

Output Reactors/ Low Pass Filter Combinations installed between an AC drive and a motor limit the magnitude of voltage spikes at the motor. The filters also protect cables and the motor's insulation from damage caused by PWM reflected waves.

## OUTPUT REACTOR/ LOW PASS FILTER COMBINATION, 460V

HP	AMPS	CHASSIS UNIT				UL TYPE 1 ENCLOSURE			
		MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (IBS.)	LIST PRICE	MODEL NO.	DIMENSIONS H x W x D (in.)	WEIGHT (IBS.)	LIST PRICE
1	3	V1K3A00	9.00 x 5.50 x 7.25	8	530	V1K3A01	9.00 x 5.50 x 10.00	11	830
2	4	V1K4A00	9.00 x 5.50 x 7.25	8	540	V1K4A01	9.00 x 5.50 x 10.00	11	840
3	6	V1K6A00	9.00 x 5.50 x 7.25	8	550	V1K6A01	9.00 x 5.50 x 10.00	11	860
5	8	V1K8A00	9.00 x 5.50 x 8.25	8	560	V1K8A01	9.00 x 5.50 x 10.00	11	875
7.5	12	V1K12A00	9.00 x 5.50 x 8.25	8	590	V1K12A01	9.00 x 5.50 x 10.00	11	900
10	18	V1K18A00	9.00 x 5.50 x 8.25	12	648	V1K18A01	9.00 x 5.50 x 10.00	15	975
15	25	V1K25A00	9.00 x 5.50 x 8.25	12	783	V1K25A01	9.00 x 5.50 x 10.00	15	1,050
20	27	V1K27A00	9.00 x 5.50 x 8.25	14	825	V1K27A01	9.00 x 5.50 x 10.00	15	1,075
25	35	V1K35A00	12.00 x 8.00 x 9.00	17	850	V1K35A01	12.00 x 8.00 x 11.50	23	1,100
30	45	V1K45A00	12.00 x 8.00 x 9.00	17	890	V1K45A01	12.00 x 8.00 x 11.50	23	1,175
40	55	V1K55A00	12.00 x 8.00 x 9.00	23	910	V1K55A01	12.00 x 8.00 x 11.50	23	1,282
50	80	V1K80A00	12.00 x 8.00 x 9.00	23	1,296	V1K80A01	12.00 x 8.00 x 11.50	29	1,648
60	80	V1K80A00	12.00 x 8.00 x 9.00	23	1,296	V1K80A01	12.00 x 8.00 x 11.50	29	1,648
75	110	V1K110A00	12.00 x 8.00 x 10.25	40	1,525	V1K110A01	16.50 x 18.00 x 15.00	68	2,268
100	130	V1K130A00	9.50 x 11.50 x 8.50	55	1,800	V1K130A01	16.50 x 18.00 x 15.00	83	2,484
125	160	V1K160A00	10.50 x 11.00 x 8.50	60	1,944	V1K160A01	16.50 x 18.00 x 15.00	83	2,592
150	200	V1K200A00	10.50 x 11.00 x 8.50	60	2,200	V1K200A01	16.50 x 18.00 x 15.00	93	2,800
200	250	V1K250A00	10.50 x 11.00 x 8.50	65	2,300	V1K250A01	16.50 x 18.00 x 15.00	93	2,900
250	305	V1K305A00	12.25 x 11.00 x 8.75	80	2,376	V1K305A01	16.50 x 18.00 x 30.00	117	3,000
300	362	V1K362A00	12.00 x 11.75 x 8.50	80	2,775	V1K362A01	16.50 x 18.00 x 30.00	117	3,200
350	420	V1K420A00	13.75 x 11.75 x 10.00	95	3,200	V1K420A01	16.50 x 18.00 x 30.00	132	3,700
400	480	V1K480A00	13.75 x 11.75 x 10.00	100	3,456	V1K480A01	16.50 x 18.00 x 30.00	138	4,000
500	600	V1K600A00	13.75 x 15.00 x 12.75	130	3,564	V1K600A01	16.50 x 18.00 x 30.00	168	4,400
600	750	V1K750A00	14.75 x 15.00 x 12.75	135	5,724	V1K750A01	16.50 x 18.00 x 30.00	180	7,600

# SOLID STATE STARTERS SECTION



Effective 08-01-11  
Supersedes 12-01-09





Engineered to provide solutions for a variety of heavy duty applications, TEAMMaster Medium Voltage Soft Starters are feature loaded. They are an excellent solution for starting Crushers, Grinders, Ball & Hammer Mills, Compressors, Centrifuges, plus many other operations.

### COMBINATION PANELS INCLUDE:

- NEMA 12, solid state starter, UL374 listed, Class E-2
- 45KV BIL
- 200MVA (2300VAC)/350MVA (4160VAC) short circuit fault rated
- 500% - 30 seconds rated solid state starter – UL347 certified and listed
- 8,000 PIV – UL347 certified and listed at 2.4KV
- 12,000 PIV – UL347 certified and listed at 4.2KV
- Fiber optic firing
- Selectable solid state or emergency full voltage operation via selector switch mounted inside of LV compartment
- Load matched Class R fusing with blown fuse indication
- 400A load break, 600A continuous, 5KV rated disconnect switch, with viewing window, grounding assembly and lockable handle mechanism. Mechanically interlocked for safety.
- Fixed mounted, start duty rated vacuum contactors for isolation and SCR bypass, wired for normal bypass operation and full voltage start operation, with (2) N/O and (2) N/C auxiliary contacts.
- Separately mounted “SPE” series electronic overload device has the following standard features:
  - Class 10-30 adjustable
  - Phase imbalance protection
  - 1 NO/1 NC trip contact
  - Phase reversal protection
  - “Trip free” design
  - Phase loss protection
- Built-in self test (BIST) features for “quick commissioning”
- 120VAC, 1000VA CPT with primary and secondary fusing, with 500VA available for customer use
- Door-mounted start and stop push buttons.
- Door-mounted LCD keypad Modular Options
- Communications bridges
- Space heater
- E-stop pushbutton
- NEMA 3R enclosure package
- Top hat enclosure module
- 8 channel RTD modules
- 16 channel RTD modules
- 45KV BIL



### SEVERE DUTY WITH ACROSS THE LINE BYPASS

TMVRXE12 - 2300 VOLT								
MODEL	HP	FLA AMPS	DIMENSIONS (IN)			WEIGHT (lbs)	LIST PRICE NEMA 12	LIST PRICE NEMA 3R
			H	W	D			
TMVRXE12-650-2300-**	650	160	92	36	32	1800	73,350	76,439
TMVRXE12-750-2300-**	750	180	92	36	32	1,800	75,150	77,552
TMVRXE12-1500-2300-**	1500	360	92	36	32	1,800	82,250	87,860

TMVRXE18 - 4160 VOLT								
MODEL	HP	FLA AMPS	DIMENSIONS (IN)			WEIGHT (lbs)	LIST PRICE NEMA 12	LIST PRICE NEMA 3R
			H	W	D			
TMVRXE18-1000-4160-**	1000	133	92	36	32	2,000	76,300	79,150
TMVRXE18-1500-4160-**	1500	200	92	36	32	2,000	77,100	81,503
TMVRXE18-3000-4160-**	3000	360	92	36	32	2,000	91,050	96,580

### MODULAR OPTIONS

MODEL	STANDARD OPTIONS	LIST PRICE
A171	Space heater with Thermostat (Included in NEMA 3R Option)	750
A008	E-Stop Pushbutton, Mushroom Head, Red	195
A406	8 Channel RTD Module, 100 OHM (Also Available for Remote Mounting, Call Factory for Details).	4,600
A407	16 Channel RTD Module(s), 100 OHM Platinum (Also Available for Remote Mounting, Call Factory for Details).	8,350
A408*	Top Hat Enclosure Module for Top Entry (18"H x 30"W x 20"D), Top Left or Top Right Mounting. Accomodates Stress Cones.	3,700
A409	Service Entrance Labeled	1,400
A106	Additional 1000VA Control Power Transformer	1,350

PROTECTIVE RELAY OPTIONS		
A875	Ground Fault CT, 2000:1, 4.0:Dia. (For MX3 Use)	435
A876	Ground Fault, CT, 2000:1, 8.13:Dia. (For MX3Use)	1,700

#### Notes:

Starters are top entry. Bottom exit available upon request.  
Dimensions and weights are approximate.

Insert appropriate option code as shown below:

\*\*NEMA 12 = 12

\*\*NEMA 3R = 3R

Power fuses ship loose. Please provide motor full load amps at time of order for proper fuse sizing.

The TeamMaster series was designed as an integrated package. Listed above are the available modular options. For systems requiring more extensive requirements, please call the factory.

Top hat will ship loose for customer installation.

#### Lead Time:

Build-to-order: Please allow 1-2 weeks for shipment of complete TeamMaster unit when ordering these options for a stock starter.

# DRIVE RMA RETURN PROCEDURE

Effective 08-01-11  
Supersedes 12-01-09

## DRIVE RMA RETURN PROCEDURE

- Contact a Drives Engineer for technical troubleshooting/ RMA Qualification at (800) 279-4007.
- TECO-Westinghouse will email or fax an RMA Request Form to complete. Completed RMA Request Form should be returned via e-mail or faxed to 512-218-7378 for processing.
- An RMA number will be issued and sent via e-mail or fax. Detailed instructions on where to ship the drive for warranty evaluation/ repair will be included with the RMA number.

**\*\*\*\*\* IF PRODUCT IS NOT RETURNED WITHIN 30 DAYS, THE RMA WILL BE CLOSED. \*\*\*\*\***

- The Drive is then evaluated and a Service Report is generated detailing the failure. (The evaluation process should take no longer than 5 working days).
- A copy of the Service Report will be sent to the requesting party via e-mail or fax.
- If the Drive is determined to have failed under Warranty, either of the following will take place, whichever is deemed more appropriate:
  1. The drive will be repaired and returned to the customer.
  2. The drive will be determined to be un-repairable and will be replaced.
  3. If the drive is determined to be functioning properly, the drive will be returned to the customer and considered non-warranty.

**\*\*\*\* If credit is being issued, the Controls Group will fax a copy to the customer. \*\*\*\***

If the failure/ problem is determined to be a non-warranty situation, one of the following three actions will take place.

1. The drive will be returned to the customer via freight collect. There might be a \$90.00 inspection fee.
2. If the drive is repairable, an estimate will be sent. TECO-Westinghouse will have to receive a PO before any repairs are completed. There is a \$90.00 inspection fee for this evaluation. If TECO-Westinghouse repairs the drive, this \$90.00 will be credited to the repair charges.
3. If the drive is un-repairable or TECO-Westinghouse is directed to not repair the unit, TWMC will return the drive via freight collect at the customers option.

**Please Note:** All repairable and "properly functioning" drives will be returned even if an offsetting order has been made for a replacement unit.



APPLICATION CHECKLIST FOR  
TWMC VARIABLE FREQUENCY DRIVES

The following checklist is provided to gather the necessary information to ensure that our product will meet your requirements and we can provide the most cost effective solution for your application.

\*\* Please complete with as much detail as possible and fax this form to 512-218-7378. \*\*

DATE: \_\_\_\_\_

**General Information**

Customer: \_\_\_\_\_

Contact Information - Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

TWMC Salesperson: \_\_\_\_\_

Application Description: \_\_\_\_\_

Quote Due Date \_\_\_\_\_

**Driven Load Information/ Details**

Quantity: \_\_\_\_\_ hp \_\_\_\_\_ hp (unit 2) \_\_\_\_\_ hp (unit 3) \_\_\_\_\_ hp (unit 4) \_\_\_\_\_

Load Description  Variable Torque  Constant Torque Machine Type: \_\_\_\_\_

Accel time: \_\_\_\_\_ sec from \_\_\_\_\_ RPM to \_\_\_\_\_ RPM

Decel time: \_\_\_\_\_ sec from \_\_\_\_\_ RPM to \_\_\_\_\_ RPM

Ratio or Minimum Speed \_\_\_\_\_ Maximum Speed \_\_\_\_\_

Duty Cycle Information \_\_\_\_\_

Vertical Load?  Yes  No If yes, please indicate weight of load \_\_\_\_\_

**AC Motor Details**

New  Existing Manufacturer \_\_\_\_\_ Model # \_\_\_\_\_

hp \_\_\_\_\_ Rated Speed \_\_\_\_\_ Rated Frequency \_\_\_\_\_ Rated Voltage \_\_\_\_\_ Frame \_\_\_\_\_

FLA \_\_\_\_\_ Service Factor \_\_\_\_\_ Insulation Class \_\_\_\_\_ Enclosure \_\_\_\_\_

Number of Motors: \_\_\_\_\_ Cable Distance from Motor to Drive: \_\_\_\_\_

Tach/ Generator/ Encoder: \_\_\_\_\_ Pulses per Revolution  Single Channel  Dual Channel

# TECO Westinghouse

## **Line Power Supply**

Voltage \_\_\_\_\_ Frequency \_\_\_\_\_

Generator Power  Yes  No If yes, indicate generator capacity: \_\_\_\_\_

Reactors or isolation transformer required? \_\_\_\_\_ Existing? \_\_\_\_\_

## **Serial Communications**

Modbus  Johnson Metasys  Profibus  BACNet  LonWorks  Siemens FLN  Other \_\_\_\_\_

Monitor only or control? \_\_\_\_\_ Baud Rate \_\_\_\_\_

## **Drive Enclosure/ Environment**

NEMA Rating  NEMA 1  NEMA 12  NEMA 3R  NEMA 4  NEMA 4X

(See attachment for NEMA definitions.)

Wall Mounted  Free Standing  Installed Units in MCC  Indoor Installation  Outdoor Installation

Ambient Temperature Range: \_\_\_\_\_

Elevation \_\_\_\_\_

## **AC Drive Control Characteristics**

Speed Reference Source\*: \_\_\_\_\_ (4-20mA, 0-10VDC, Keypad, Speed Pot, Serial)

Run/ Stop Command Source\*: \_\_\_\_\_ (Keypad, Terminal I/O, Serial)

Stop Function Types\*: \_\_\_\_\_ (E-stop, Coast to Stop, Interlocks)

PID Control Based on Process  Input  Pressure  Temperature Other \_\_\_\_\_

Protective Function: \_\_\_\_\_ (Motor Thermostat, PTC, RTD)

Braking Requirements: \_\_\_\_\_ (Dynamic Braking, Mechanical, or Other)

Other Inputs: \_\_\_\_\_ (Reset, Auto Restart, Encoder)

Analog Outputs: \_\_\_\_\_ (4-20mA, 0-10VDC, Pulse)

Digital Outputs: \_\_\_\_\_ (Run, Fault, High or Low Speed, etc.)

Two or Three Wire Start: \_\_\_\_\_ (Applies to Terminal I/O Only)

Communications: \_\_\_\_\_ (Telephone Modem, Wireless Modem, Ethernet)

Options: \_\_\_\_\_ (Analog, Serial, Relay)

\*Indicate if Door Mounted

## ENCLOSURE OPTIONS AND MODIFICATIONS

### **Auxiliary Equipment**

(Mounted and wired in an enclosure as specified per the NEMA rating selected.)

- Manual or Automatic Bypass     3-Contactor     2-Contactor
- Motor Overload Relay
- Input Circuit Breaker     Input Disconnect     Fused     Non-fused
- AC Drive Fuses     Blower Motor Starter
- Output Load Reactors     Output Contactor
- dV/dt Filters     Dynamic Braking
- Control Power Transformer     Secondary Volts \_\_\_\_\_     Capacity \_\_\_\_\_ VA
- Interior Mounted 120VAC Power Outlet     Interior Cabinet Lighting
- Additional Power Supply     Interior Cabinet Lighting     120VAC     240VAC     Other \_\_\_\_\_
- Heat Sink Extension

### **Auxiliary Controls** (Please specify devices in the Project Description below.)

- Operator Controls     Door Mounted     Remote
- Control Terminals     Pilot Lights
- Pushbuttons     Speed Potentiometer
- Control Power Supply    Volts \_\_\_\_\_    Capacity \_\_\_\_\_ mA
- Transfer to Bypass on Fault     Fireman's Override
- Damper Actuation on Start     Time Delay on Bypass Transfer

### **Input Power Quality Conditioning**

- Line Reactors     Isolation Transformers
- Active Harmonics Filter     EMC Suppression
- EMF/ RFI Filters     Line Noise Filter
- Lightning Arrestors

### **Documentation**

Number of Copies \_\_\_\_\_

- Wiring Diagrams     Dimensional Drawings
- Cabinet Layout Drawings     Additional Instruction Manuals

### **Support Services**

- Spare Parts List     Service/ Start up Assistance
- Witness Testing

Special Optional Requirements \_\_\_\_\_  
 \_\_\_\_\_

## PROJECT DESCRIPTION

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## NEMA ENCLOSURE RATING DESCRIPTIONS

**NEMA 1** – Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dirt.

**NEMA 3R** – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, and snow; and that will be undamaged by the external formation of ice on the enclosure.

**NEMA 4** – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure. Contact the factory if NEMA 4 is required for your application.

**NEMA 4X** – Same as NEMA 4, but also including protection against corrosion. Contact the factory if NEMA 4X is required for your application.

**NEMA 12 (UL1)** – Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, fibers, and flyings; and against dripping and light splashing of liquids.

# Global RESOURCES

**TECO-Westinghouse Motor Company** is dedicated to servicing our customers' needs in a variety of ways. Our manufacturing plants are located in the U.S., Taiwan, Mexico, Malaysia, Australia, Great Britain and China. A full line of induction, synchronous and DC motors and generators are available in both horizontal and vertical configurations from 1/4 hp to 100,000 hp. We also offer complimenting AC drive products. From wastewater, petrochemical, irrigation and water treatment, to pumping and lift stations, TECO-Westinghouse has the AC drive product that will enhance your application. In North America there are several regional warehouses stocking a vast array of motors and drive products for our customers' convenience.

Our Round Rock, Texas facility conducts sales and marketing, customer service, engineering, drafting, manufacturing, testing, final shipment, field service, and repairs of many types of large custom-designed and specialty motors.

These global resources uniquely position us to satisfy the market's diverse needs. Please contact us for more information.



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