

Motor Mod Express®

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Motor Mod Express®

Ordering Information

Note: Motors made for sale in the U.S. must comply with the Small Motor Rule and the Integral Horsepower Rule (10 CFR 431) including those modified from stock. After any modification, the motor must comply with the minimum efficiency levels if the motor is sold for use in the United States.

Motors sold for use in Canada must comply with the applicable regulations such as Natural Resources Canada if used in that country. Motors sold through distribution into Mexico must be registered and comply with NOM ANCE standards. Motors modified and sold for use in Europe must comply with CE for efficiency and other markings. Other countries have their own specific requirements and certifications for those specific countries.

Order size limited to qty.(1-10) and will ship as a single lot upon completion of modification. To order, specify the catalog number of the stock product and the MOD number. Apply the motor discount to the motor list price. Apply the modification discount symbol MX to the modification list price. Customer will absorb all freight costs when motor is shipped to Fort Smith from field warehouses. For order qty.(1-5) lead times will be as indicated and are subject to availability of stock motors in the Fort Smith Warehouse. Orders with qty.(6-10) may require additional scheduling lead time, contact your ABB sales office.

Lead times indicated are subject to availability of stock motors in the Fort Smith Warehouse.

Customer will absorb all freight costs when motor is shipped to Fort Smith from field warehouses.

Note: Some modifications do not apply to explosion-proof motors. Contact your local sales office for approval.

Modifications for the 449T frame 2300 Volt and above as well as the 5008-5810 frame motors have been specifically created for the General Purpose Motor (GPM) product family of Large AC TEFC motors. Factory modifications are not available for the 450 and 500 IEC frame sizes in the GPM product. Some of the modifications may be used on the Severe Duty or Ammonia Compressor ODP products, however please check with the factory prior to order entry to ensure availability of required modification.

MOD Express Cancellation Policy

Should it be necessary to cancel an order for a motor after it is modified, but before it ships – a cancellation charge of double the modification charge will be invoiced to the customer. Any MOD order cancelled before modification is completed is subject to 25% cancellation charge.

Once shipped, modified motors returned at purchaser's expense will be invoiced at double the MOD fee plus 10% restock fee.

Note: Mod Express for RPM AC, RPM III DC and V*S Master is available. Contact your local Sales Office for details.

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

Notes

NEW modifications are indicated with **RED** titles.

All lead times indicated are subject to availability of stock motors and parts in the Fort Smith warehouse. Please check stock availability before quoting lead time.

Some conversions may not be allowed if they result in a change of operating parameters that affect efficiency or change the EISA or NRCAN classification of compliant motors.

Modification prices do not include the cost of the motor, speed reducer, etc.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Balance

M1A

Dynamic Balance of Rotor

TWO
DAYS

Re-balance stock motor to special balance NEMA 42 through 5810 frame.

Squirrel Cage Type

NEMA Frame	Standard Balance	Special Balance	List Price Per Motor
40 - 140	0.15"/s	0.08"/s	256
180 - 210	0.15"/s	0.08"/s	621
250 - 280	0.15"/s	0.08"/s	894
320 - 360	0.15"/s	0.08"/s	1,734
400	0.15"/s	0.10"/s	2,100
440	0.15"/s	0.10"/s	2,192
5008 - 5810	0.15"/s	0.10"/s	2,342

Note: Balance units are for velocity in inches per second.
Special balance is the standard level for IEEE-841 (2009).

Bearings

M2A

Sealed

TWO
DAYS

This modification provides the option of replacing standard bearings in AC motors with sealed bearings.

NEMA Frame	List Price Per Motor (2 Bearings)
48, 56	181
143 - 145	185
182 - 184	233
213 - 215	233
254 - 256	435
284 - 286	435
324 - 326	562
364 - 365	562

Note: Grease fittings will be replaced with slotted head pipe plugs.
Contact your sales representative.

Grease fittings will be replaced with slotted head pipe plugs unless otherwise specified.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Bearings continued...

M2B

Ball to Roller 1800 RPM or Below

THREE DAYS

Roller bearings have the capability to handle higher radial loads than ball bearings, but must have high minimum radial loads to operate correctly.

Roller bearings must only be used in heavy belted loads, they are not suitable for coupled loads. Only the stock 449T frames 2300V and above, as well as the TEFC 5000 and 5800 frame GPM TEFC motors with “L” shafts have high strength steel shafts.

Also see the main catalog section for stocked Baldor-Reliance® motors with roller bearings already installed. These stock motors are identified with a “LR” suffix after the catalog number. Example: EM58606LR-2340.

Does Not Apply to Explosion-Proof Motors or designs that must be built as custom motors.

NEMA Frame	List Price Per Motor
449T*	1,948
5008L - 5810L	1,948

Note: *449T - Applicable to 449T, 2300 volt and above.

Users must ensure to not exceed load carrying capability of installed roller bearing.

Maximum load capability of a rating can be provided.

If unsure of your load data, a belt load datasheet can be provided to assist.

M2F

Add Isolated Bearings NEMA 56 Through 5810 (SKF Insocoat or equivalent)

TWO DAYS

If insulating both bearings, the addition of M39A is recommended.

NEMA Frame	List Price (x2 per set)
56 - 145T	539
182T - 184T	560
213T - 215T	762
254T - 256T	1,168
284T - 286T	1,466
324T - 326T	1,634
364T - 365T	1,693
404T - 405T	1,772
444T - 445T	1,852
447T - 449T	3,174
5008 - 5810	1,305 (1 Bearing)

Note: Totally Enclosed (TEFC) 449T frames at 2300/4000V and 5008-5810 motors come standard with an insulated opposite drive bearing.

For pricing on 2300/4000V 449T frame, please use 5008-5810 frame adder

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Brake Motors

M3D

Change Stearns Brake Voltage

Brake coils will be changed to allow operation from different voltage supplies for both 50 and 60 hertz AC or from DC supplies.

External brake coil lead connections will be brought from the brake or from the motor conduit box when necessary in the application.

Specify brake lead location, voltage of brake coil, frequency of supply source. (Allow 2 weeks for brake coil delivery.)

List price: \$282 per brake (plus any difference in coil cost).

CONTACT
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Conduit Box

M4A

Tap or Provide Additional Lead Hole

Lead outlet hole in conduit box with dimensions as shown below will be tapped to accept threaded conduit as shown in "Optional threaded hole..." column below.

An additional clearance hole or threaded hole may be supplied if specified. Use same list adder for threaded hole.

NEMA Frame	Hole Diameter *	Stock Motor	Optional	List Price Per Motor
		For Conduit Size	Threaded Hole For Conduit Size	
48 - 145T	7/8"	1/2"	3/4"	126
182 - 215T	1-1/16"	3/4"	1"	126
254 - 256T	1-3/8"	1"	1-1/4"	206
284 - 326T	2"	1-1/2"	2"	206
364 - 365T	2-1/2"	2"	2-1/2"	276
404 - 405T	3"	2 1/2"	3"	300
444 - 447T	3"	2-1/2"	3"	300

Note: * Stock motor lead holes are not threaded except on Dirty Duty and Chemical Process motors.

Extra lead holes do not apply to Explosion-Proof motors.

If additional hole is needed, specify hole diameter and exact location.

Contact your sales representative for application assistance.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Conduit Box continued...

M4B	Rotate Conduit Box Lead Opening Specify lead opening location facing conduit box List Price Per Motor: \$147	TWO DAYS
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M4F	Replace Die Cast Aluminum Conduit Box Install cast iron conduit box with drilled and tapped entrance hole.	TWO DAYS
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NEMA Frame	List Price Per Motor
42 - 56	162
143 - 215T	187
254 - 286T	230
324 - 365T	368

M4G	Add Conduit Box for Thermostat or Heater Leads Not for Explosion-Proof motors	CONTACT YOUR LOCAL SALES OFFICE
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NEMA Frame	List Price Per Motor
56 - 145T	441
182 - 215T	515
254 - 365T	778
404 - 449T	984

Motor Mod

ABB Mod

Index

Quick Ref Charts

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Cord

M5A

Install Line Cord in Conduit Box or Terminal Panel

TWO DAYS

Heavy duty, industrial type SO oil resistant cord with ground will be installed in conduit box or terminal panel. Strain relief included.

Plug not included.

Does Not Apply to Explosion-Proof Motors.

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

Wire Gauge	Stock Motor		Six Feet or Less List Price	Each Additional Foot to Ten Max List Price
	Single Phase	Three Phase		
18	10	7	133	10
16	13	10	133	11
14	18	15	154	14
12	25	20	162	15

Note: Specify voltage and rotation facing drive end of motor.

M5B

Install 6 Foot, 3 Conductor, Type SO Cord With Plug

TWO DAYS

With ground plug for 115VAC, single phase only.

Does Not Apply to Explosion-Proof Motors.

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

Hp	List Price Per Motor
1 Hp and smaller	142

Note: Advise rotation facing drive end of motor

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Drains

M7A

Add Condensation Drain Holes

TWO
DAYS

A maximum of two additional drilled holes will be made in both endplates of 215T frame and smaller TEFC motors.

A maximum of one additional plastic T-drain fitting will be installed in both endplates of 254T frame and larger TEFC motors.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
215 and Smaller	223
254 - 449	303

Note: Indicate position of drain holes in each endplate.

M7C

Close Standard Condensation Drain Holes

TWO
DAYS

Close existing drain holes with plugs.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
215 and Smaller	185
254 - 449	223

M7D

Add Breather Drains to Cast Iron Explosion-Proof Motor

TWO
DAYS

Drain Type	List Price Per Motor
UL Listed Explosion-Proof Drain – ANSI 316 S.S.	389
UL Listed Explosion-Proof Drain – Crouse-Hinds ECD	437

Dripcovers

M8A

Install Dripcover on TEFC or ODP

TWO
DAYS

NEMA Frame	List Price Per Motor ODP or TEFC
48 - 145	147
182 - 184	158
213 - 215	176
254 - 256	202
284 - 286	244
324 - 326	270
364 - 365	488
404-405 (NEMA Frame)	488
444 - 449 (NEMA Frame)	692

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Leads

M10A

Install Terminal Lugs

TWO
DAYS

Ring-type non insulated terminals made of copper alloy and seamless compression type lugs.

Prices are standard 3-lead single voltage three-phase motors.

Multiply mod list adder for actual number of leads per motor.

NEMA Frame	List Additions for 3 Terminal Lugs
215 and Smaller	180
254-365	223
404-445	265
447-449	265

Note: 5008 and up, come standard with lead lugs. Option is for conversion to single or double Burndy style lugs.
5008 and above contact your sales representative for lead time and freight charges back to plant of manufacturing.

M10B

Reconnect Motor from Nine Leads to Three

TWO
DAYS

Specify Voltage When Ordering

NEMA Frame	List Price Per Motor
42 - 145	162
182 - 184	251
213 - 215	333
254 - 256	375
284 - 286	494
324 - 326	624

Note: On explosion proof, leads are connected in conduit box.

M10C

Reconnect Motor to High or Low Voltage in Conduit Box

TWO
DAYS

Please specify voltage.

NEMA Frame	List Price Per Motor
42 - 145	162
182 - 184	251
213 - 215	333
254 - 256	375
284 - 286	494
324 - 326	624

M10D

Longer Leads, Additional Leads added

TWO
DAYS

Does Not Apply to Explosion-Proof Motors.

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

NEMA Frame	Number of Leads	List Price		
		18 Inches	24 Inches	36 Inches
42-286	3 - 12 Leads	215	218	224
	3 Leads	324	335	346
	6 Leads	358	380	403
324-449	9 Leads	392	425	459
	12 Leads	425	470	515

Note: If lead requirements are longer than 8 feet contact your sales representative.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Lubrication

M11A

Install Low Temperature Lubricant in Bearings

(Single Shield or Open Bearing)

Standard grease is Exxon POLYREX® EM, with bearing operating temperature range of -15° to +250°F.

For low temperature operation, please specify either Aeroshell #7 or Mobil Temp SHC-32 low temperature grease which allows an operating temperature range for bearings of -55° to +200°F.

New bearings are installed when grease is changed.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
48	126
56 - 145T	135
182 - 184T	145
213 - 215T	150
254 - 256T	192
284 - 286T	213
324 - 326T	299
364 - 365T	319
404 - 405T	507
444 - 449T	700

Note: Low temperature operation below -25C (-13F)

TWO
DAYS

M11B

Add High Temperature Grease

Standard grease is Exxon POLYREX® EM, with bearing operating temperature range of -15° to +250°F. For High temperature operation, please specify Mobilith SHC 220 high temperature grease which allows an operating temperature range for bearings of -40° to +302°F.

New bearings are installed when grease is changed.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
48	126
56 - 145T	135
182 - 184T	145
213 - 215T	150
254 - 256T	192
284 - 286T	213
324 - 326T	299
364 - 365T	319
404 - 405T	507
444 - 449T	700

Note: Contact your sales representative to discuss application prior to ordering.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Seals

M12A

Install Oil Seals

Nitrile is the standard oil seal material

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Each
48, 56	342
143T - 145T	342
182T - 184T	378
213T - 215T	417
254T - 256T	574
284T - 286T	673
324T - 326T	760
364T - 365T	956
404T - 405T	956
444T - 449T*	1,008

* For 449T frames 2300 Volt and above, consult M27B Mod.

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M12B

Install Inpro/Seal® Drive End Only

Inpro/Seal® VBX is the standard material used.

Note: Contact your sales representative for opposite drive end installation or order IEEE 841 motor from stock.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Each
143T-215T	1,070
254-256T	1,340
284-286T	1,428
324-326T	1,516
364-365T	1,739
404-405T	1,825
444-449T	2,224
5008 - 5810	1,101

FOUR
DAYS

M12C

Install V-Ring Seals to Motor

Add set of V-Ring seals to the motor. One seal in the DE, and another seal between the fan and ODE Endplate.

TENV and OPEN motors only get a seal on the DE.

List per motor: \$266

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Mountings

M13A

Add Rigid Base

Weld stamped steel base to steel band explosion proof motor unless motor meets VEM or VEL.

Not available if conversion results in motors that fall under EISA/NRCAN requirements.

NEMA Frame	List Price Per Motor
42 - 48	168
56	172
143 - 145T	172
182 - 184T	209
213 - 215T	251

Note: Not available for cast iron motors.

TWO
DAYS

M13B

Install NEMA C-Face Steel Band Motor Construction

Add to rigid base mounted motor.

Not for explosion proof motors.

NEMA Frame	List Price Per Motor
42, 48 & 56	221
143 - 145T (1)	221
182 - 184T (1)	242
213 - 215T (1)	293
254 - 256T (2)	557
284 - 286T (2)	756
324 - 326T (2)	988

Note: (1) These motors will have a non-NEMA BA dimension when C-Face is added.

(2) Applies to ODP only.

Open motors having type numbers beginning with "34" cannot be modified to C-Face. Contact your local sales office for details.

TWO
DAYS

284T &
LARGER
SUBJECT TO
CASTING
AVAILABILITY

M13C-1

Install NEMA C-Face - Cast Iron Construction

Install Cast Iron Endplate where aluminum die cast parts are supplied as standard.

Does Not Apply to Explosion-Proof Motors, See M13G

NEMA Frame	List Price Per Motor
48 & 56	234
143 - 145T (1)	234
182 - 184T (1)	282
213 - 215T (1)	324
254 - 256T	717
284 - 286T	988
324 - 326T	1,069
364 - 365T	1,153
404 - 405T	1,438
444 - 449T	1,725

Note: (1) These motors will have a non-NEMA BA dimension when C-Face is added.

Specify C-face or Standard horizontal endplate.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Mountings continued...

M13C-2 Install NEMA C-Face – IEEE 841 Motors

TWO
DAYS

NEMA Frame	NEMA C-Face Price
284 - 365TC	1,022
324 - 326TC	1,590
364 - 326TC	1,611
404 - 405TC	1,793
447 - 449TC	1,902

M13D Add D-Flange

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LOCAL
SALES
OFFICE

Some motors may be converted to D-Flange mounting and meet NEMA BA dimensions.

All other frame sizes needing D-Flange mounting please order as custom motor.

Does Not Apply to Explosion-Proof Motors

Steel Band

NEMA Frame	List Price Per Motor
140	221
180	598
320	986

Cast Iron

NEMA Frame	List Price Per Motor
180	321 * †
250	1,069 * †
280	1,192 *
320	1,357 *

Note: * TEFC motors only

† Must start with motor that already has C-Face on it.

M13E Remove Rigid Base from Foot Mounted Steel Band Motors

TWO
DAYS

NEMA Frame	List Price Per Motor
42 - 48	224
56	230
143 - 145T	230
182 - 184T	279

Notes: Bases cannot be removed from motors above 180T frame.

Bases cannot be removed from explosion proof motors.

Motor Mod Express®

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Mountings continued...

M13F-1

Convert Mounting Configuration for Steel Band Motor

TEN DAYS

Available on all Steel Band AC motors through 449T Frame.

For conversion to F2 designs, check available inventory before using Mod. Consists of repositioning endplate vents, condensation drains, and where applicable, the conduit to positions shown in the Mountings chart at the end of Mountings mods.

Converting a steel band motor requires a new steel band frame.

Does Not Apply to Stainless Steel Band Motors

Does Not Apply to Explosion-Proof Motors

NEMA Frame Enclosure	Specify Mounting configuration using Drawing at the end of ModEx Mountings section		List Price Per Motor
	ODP	TEFC	
UP TO 184T	Yes	Yes	564
213 - 215T	Yes	Yes	564
254 - 326T	Yes	254-6	733
364 - 449T	Yes	Yes	959

M13F-2

Convert Mounting Configuration for Cast Iron Motor

THREE DAYS

Available on all Cast Iron AC motors through 449T Frame. For conversion to F2 designs, check available inventory before using Mod.

Consists of repositioning endplate vents, condensation drains, and where applicable, the conduit to positions shown in the Mountings chart at the end of Mountings mods.

Does Not Apply to Explosion-Proof Motors

NEMA Frame Enclosure	Specify Mounting configuration using Drawing at the end of ModEx Mountings section		List Price Per Motor
	ODP	TEFC	
UP TO 184T	Yes	Yes	213
213 - 215T	Yes	Yes	213
254 - 326T	Yes	Yes	213
365 - 449T	Yes	Yes	213
5008-5810	No	Yes	414

Note: For 5008-5810 Open motors (WPI, WPII), please contact factory to determine if F2 is achievable.

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Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Mountings continued...

M13G

Add C-Face to Explosion-Proof Motors

THREE
DAYS

Only available on NEMA frames shown below.

NEMA Frame	List Price Per Motor
56	268
143 - 145T (Steel Band only)	268
284 - 286T	1,932
324 - 326T	2,643
364 - 365T	2,957
404 - 405T	3,489

Note: Any other frame size must be built as a custom motor.

M13I

Mount Grinder or Buffer onto Pedestal

TWO
DAYS

Price does not include the grinder or buffer, pedestal or any accessories.

Wheel Size	List Price Per Grinder or Buffer
All	213

Motor Mod Express®

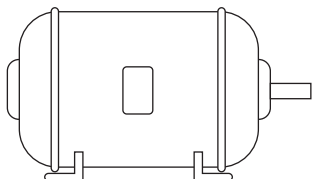
Modification
Number

Motor Mod Express®
Description and List Price

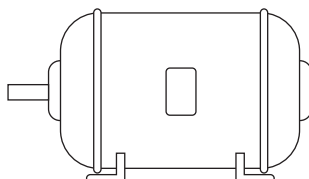
Working Days
Required

Mountings continued...

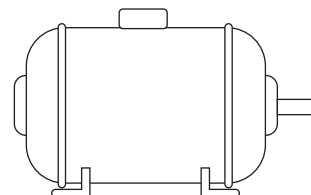
Floor Mountings



Assembly F-1

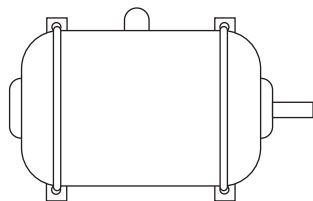


Assembly F-2

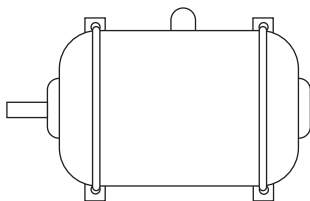


Assembly F-3

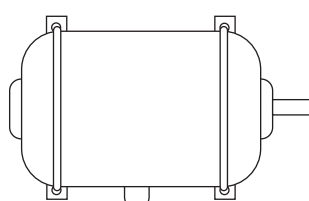
Wall Mountings



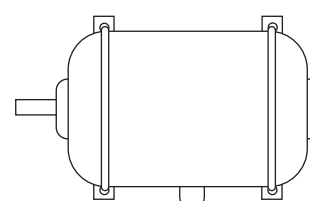
Assembly W-1



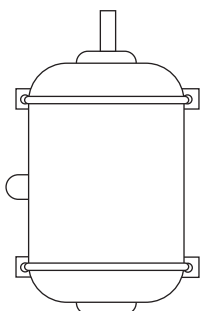
Assembly W-2



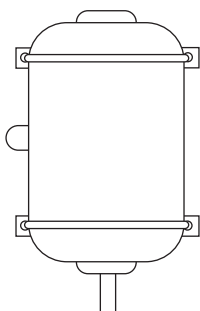
Assembly W-3



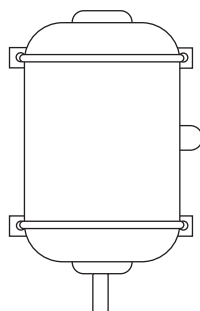
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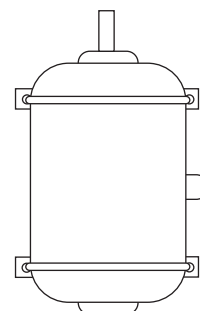
Assembly W-5



Assembly W-6

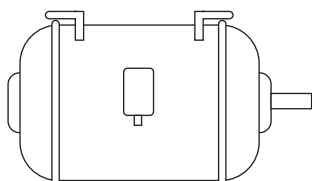


Assembly W-7

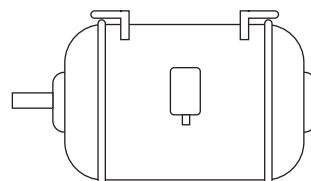


Assembly W-8

Ceiling Mountings



Assembly C-1



Assembly C-2

Note: For all NEMA mounting configurations, refer to NEMA MG 1-2016.

For more information visit baldor.com or new.abb.com/motors-generators

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Export Packaging

M14A

Open Crate Packaging

EIGHT
DAYS

Replace standard motor packaging with Open Crate.

For NEMA 360 thru 449 frames the open crate has Euro base as standard. Requests for Euro pallet on NEMA 320 frame and smaller must be made in shipping instructions.

NEMA Frame	Open Crate List Price
56-215	525
254-326	684
364-445	965
447-449	1,091
5008-5012	2,043
5810	2,179

M14B

Totally Enclosed Crate Packaging

EIGHT
DAYS

Replace standard motor packaging with Enclosed Crate.

For NEMA 360 thru 449 frames the enclosed crate has Euro base as standard.

Requests for Euro pallet on NEMA 320 frame and smaller must be made in shipping instructions.

NEMA Frame	Open Crate List Price
56-215	658
254-326	925
364-445	1,151
447-449	1,338
5008-5012	9,154
5810	9,974

M14C

Motor and Nameplate Photograph

FIVE
DAYS

Take photo of motor and nameplate for FAA Security Endorsement Documents.

Photos will be attached to sales order.

List price per motor: \$85

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required				
Nameplate						
M15A	<p>Provide Original Nameplate for Remote Mounting</p> <p>Extra nameplate is packed with motor, not mounted. All CSA and UL_R markings are removed on duplicate nameplates. Shipped loose.</p> <p>List per motor: \$123 5000 Frame and Above: \$369 List</p>	TWO DAYS				
M15B	<p>Replace Nameplate</p> <p>Replace motor nameplate which may include customer part numbers, voltage, hertz, etc.</p> <p>List per motor: \$147 5000 Frame and Above: \$400 List</p>	TWO DAYS				
M15C	<p>Laser Engrave Nameplate into Stainless Steel Motor</p> <p>Motor nameplate is laser etched on stainless steel band surface up to 210 frame motor</p> <p>List per motor: \$147</p>	TWO DAYS				
M15E	<p>Mail Nameplates to Customer</p> <p>(All CSA and UL_R markings are removed on nameplates ordered as a mail out order)</p> <p>No Explosion-Proof Nameplates (No Exceptions!)</p> <p>Order minimum charge of \$31 net. Add \$3.00 net for each additional nameplate.</p> <p>5000 Frame and above: \$369</p> <p>Note: No charge orders, only accepted if with RA or warranty claim. Nameplates for Explosion-proof motors will not be mailed out, no exceptions.</p>	TWO DAYS				
M15F	<p>Mark Nameplate with CE</p> <p>The motor has to meet IE2 efficiency standards and be ATEX / IECEx approved in order to be CE marked. Does not apply to Div. 1 or Div. 2 classified motors.</p> <p>List per motor: \$147</p>	TWO DAYS				
Blowers						
M16A	<p>Add Constant Velocity Blower Unit</p> <p>Contact your sales representative for details</p>	TWO DAYS				
M16B	<p>Convert from a 3 Phase to a Single Phase Blower</p> <table border="1"> <thead> <tr> <th>NEMA Frame</th> <th>List Price Per Motor</th> </tr> </thead> <tbody> <tr> <td>All</td> <td>228</td> </tr> </tbody> </table>	NEMA Frame	List Price Per Motor	All	228	TWO DAYS
NEMA Frame	List Price Per Motor					
All	228					

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Paint

M17A

Paint Motor Baldor-Reliance® Stock Paint Color

TWO
DAYS

Baldor-Reliance® Stock colors are: Metallic Gray, Reliance Blue/Green, Gold Super-E, Black, White, Silver, Lite Tan. Stock colors for 5008 and up are:

White, Black, Yellow, Gray and Signal Red. Please specify color on order.

All orders that call for Epoxy paint require an additional day to allow for complete drying of paint.

NEMA Frame	Open Crate List Price
42 - 215T	147
254 - 449T	579
5008 - 5812	1,359

M17B

Paint Motor or Parts Customer Specified Color

TWO
DAYS

Painted parts include, but are not limited to, fan covers, conduit boxes, drip covers, etc.

Please provide color chip or RAL number on order.

All orders that call for Epoxy paint require an additional day to allow for complete drying of paint.

List price: Contact your local sales office for quote.

Lifting Lugs

M18A

Add Lifting Lugs Up to a 326T Frame Size

TWO
DAYS

NEMA Frame	List Price Per Motor
48 - 145T	219
182 - 215T	272
254 - 286T	353
324 - 326T	431

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Hardware

M20A

Exchange Plated Hardware with Stainless Steel

Replaces all mounting hardware for fan cover, conduit box, bearing retainers, thru-bolts, and frame bolts with 304 stainless steel hardware.

NEMA Frame	List Price Per Motor
56-184	337
213-215	373
254-256	431
284-286	488
324-326	561
364-405	647
444-445	792
447-449	876
5008-5810	3,410

Note: 5008 frame and up, pricing includes grease and relief tubes.

TWO
DAYS

Space Heaters

M21A

Add Space Heaters to TEFC or Open Motors

Standard space heater voltage is 110VAC.

Heaters for 230 or 460 volts are available. Specify circuit voltage.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
145T and Smaller	319
182 - 215T	402
254 - 365T	598
404 - 449T	680

Note: Strip type space heaters are standard.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Thermal Protectors

M23A

Thermostats

TWO
DAYS

One or More Thermostats Laced to Winding

For over temperature protection.

These are pilot circuit devices only with leads into conduit box tagged "JJ".

Specify normally open or closed contacts.

All ECP motors require hermetically sealed thermostats to maintain Division 2 marking.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	Number of Devices	Standard List Price Per Motor	Hermetically Sealed for Division 2
Single Phase	1	185	N/A
Three Phase 42 - 215T	3 (3)	209	304
Three Phase 254 - 449T	3 (3)	557	653
Direct Current 48 - 215T	1	209	N/A

Note: (3) In Series with two leads into conduit box. Normally open are in parallel.

Winding Thermocouples

(3 per motor, 6 foot standard length)

M24A

Iron Constantan (3 per motor)

TWO
DAYS

Specify location.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Thermocouple
42 - 215T	202
254 - 449T	417

Note: Thermocouples are installed on end turns.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Winding Thermistors

M25A

Thermistors

Thermistors are normally applied in sets of Three (3) per Motor, One (1) per Phase.

Does Not Apply to Explosion-Proof Motors

List Price per motor: \$669

TWO
DAYS

Tropicalization

M26A

Protection of Windings and Mechanical Parts

Protection from tropical environments.

NEMA Frame	List Price Per Motor
	AC
Through 215T	244
254 - 365T	350
404 - 449T	598
5008 - 5810	1,609

Note: For 5008-5810 this includes epoxy coating of rotor and stator and additional fungus protection.

TWO
DAYS

Weatherproofing

M27A

Treatment of Windings and Mechanical Parts

Protection from the elements or high moisture areas.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price Per Motor
	AC
42 - 215T	238
254 - 365T	1,112
404 - 449T	1,306

Note: "Dirty Duty", "CP" and "ECP" motors are weatherproofed as standard.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Shaft Modifications

Includes modifications to existing shafts only. FIVE DAYS
 Not applicable if new shaft is required. Price each modification per table.
 One or both bearings will be replaced after shaft modification is complete.

NEMA Frame	List Price Per Modification	NEMA Frame	List Price Per Modification
42 - 145T	219	254T - 256T	291
182 - 184T	230	284 - 286T	291
ASM62 (5)	270	324-326T	337
213 - 215T	319	364-365T	359
ASM75 (5)	319	404-405T	401

Note: (5) Arbor Saw Motors.

M29A **Drill and Tap One Hole in End of Shaft or Mill Flat on Shaft Extension.** THREE DAYS

Provide details on order.
 Price this modification per table above.

M29B **Convert from TEFC to TEAO** THREE DAYS

Cut off shaft extension for external fan.
 Price this modification per table above.
Does Not Apply to Explosion-Proof Motors

M29C **Threading** FIVE DAYS

Specify right hand or left hand thread, also type and length of thread.
 Price this modification per table above.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Shaft Modifications continued...

M29D

Convert “T” Frame to “U” Frame Shaft Dimension or Smaller (TS)

FIVE
DAYS

Shorten shaft and reduce overall diameter. Provide details on order. For “U” frame conversion on 280, 320, 360, and 440 frames, please enter custom order. Not available through Mod Express.

NEMA Shaft	Conversion of T Frame to TS or U Frame List Price Per Motor
143 thru 145T	219
182 thru 215T	402
254 thru 286T	916
324 thru 365T	1,364
404 thru 449T	2,248

M29F

Shorten Shafts Without Reducing the Overall Diameter

THREE
DAYS

Shortening the shaft may cause the motor to fall out of NEMA standards. If motor falls out of NEMA standards, the nameplate will be designated with a “TZ” to signify short shaft.

NEMA Shaft	List Price Per Motor
48 - 145T	232
182 - 215T	247
254 - 256T	253
324 - 326T	267
364 - 365	281
404 - 405	281
447 - 449	294

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Tach and Encoder Mounting Kits

M31D

Add Encoder Kit to Inverter Duty V*S Master or RPMAC Motor

TWO
DAYS

Order encoders separately.

Encoders can be found in the Variable Speed AC motors section.

NEMA Frame	RPMAC Frame	List Price Per Motor
56 - 215T	FL/RL180-210	191
254T - 404T	FL/RL 250-400	397
444T - 449T	FL/RL440	619
5008 - 5810	N/A	2,614

Note: For 5008-5810 frames motors come with HS35R Dynapar encoders.

M31E

Additional Mounted Encoder Options for IDRPM Motors

TWO
DAYS

List price includes encoder and mounting to motor.

Type	Frame Size	Mfg.	PPR	Mag or Optical	Conn Type	Input Voltage VDC	List Price
HS35	All	BEI	1024	O	MS-TL	5-28	1,834
HS35	All	BEI	2048	O	MS-TL	5-28	1,834
LP35	All	BEI	1024	M	Term. Block	5-15	1,834
LP35	All	BEI	1024	M	MS-TL	5-15	1,834
LP35	All	BEI	1024	M	MS-ST	5-15	1,834
HS20	All	Dynapar	1024	O	MS-TL	5-26	1,834
ST85	All	Northstar	1024	O	EPIC Latch	5-15	3,226
HS35M	All	Avtron	1024	M	MS-ST	5-24	1,995
HS35M	All	Avtron	1024	M	EPIC Latch	5-24	1,995

Motor Mod Express®

Modification
Number

Motor Mod Express®
Description and List Price

Working Days
Required

Testing

Contact your local sales office for original factory test reports.

M32A

CSA C390 Method 1 Equivalent to IEEE 112 Method B Performance Testing

SEVEN *
DAYS

Three phase stock motors will be tested under lab conditions according to CSA C390 (equivalent to IEEE 112b).

Complete test data will be supplied.

Bearings are replaced after testing.

NEMA Frame	List Price Per Motor
42 - 215	2,400
254 - 320	3,901
360 - 449	4,694
5008 - 5810	5,250

Note: For 449T frames 2300V and above use 5000 frame price – motors will be tested at factory.

M33A

Short Motor Test

SEVEN *
DAYS

Three phase or single phase motors will have any or all of the following motor characteristics measured. Test data will be supplied.

All data will be taken on cold motor.

- No Load Current
- Full Load Current
- Breakdown Torque
- Locked Rotor (Starting) Current
- Locked Rotor Torque
- Hi-Potential Test

NEMA Frame	List Price Per Motor
42 - 215T	400
254 - 449T	731

Note: Not available for 449T Frame 2300 Volt and up.

M33B

Routine Motor Test

SEVEN *
DAYS

This is a test reported per IEEE Std. 112 – 2004 Annex B.

All data will be taken on a cold motor.

Test includes:

- No Load Current
- Locked Rotor Current
- High-Potential
- Winding Resistance

NEMA Frame	List Price Per Motor
42 - 215T	270
254 - 449T*	496

Note: * Lead time is dependent on Test Lab availability. Contact your local sales office.

For more information visit baldor.com or new.abb.com/motors-generators

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Testing continued...

M33C

Complete Performance Test

SEVEN *
DAYS

A Complete test uses a dynamometer to verify nameplate description and electrical design characteristics. The motor is allowed to achieve its full load temperature rise before making performance measurements.

Testing conducted per IEEE Std 112-2004 Annex C. Test report includes:

- No Load Current
- Full Load Current
- Locked Rotor Current
- High-Potential
- Winding Resistance
- Full Load Heat Run
- Temperature Rise
- Full Load Slip
- Measure breakdown and starting torques
- Measure efficiency at 100%, 75%, 50% of full load
- Measure power factor at 100%, 75%, 50% of full load

NEMA Frame	List Price Per Motor
42 - 215T	2,400
254 - 320T	3,597
360T - 449T*	8,787

Note: For 449T frame 2300 Volt and up please see M32A.

M33D

Calibration Test

* CONTACT
YOUR
LOCAL
SALES
OFFICE

This test consists of 0 to 125% rated load test measurement of speed, torque, current, power factor and efficiency at rated voltage.

The data is provided as a curve plotted on Baldor-Reliance® standard format.

Tests may also be performed as a witnessed test.

NEMA Frame	Calibration Test
42 - 215T	2,160
254T - 320T	2,878
360T - 449T*	7,913

Note: Not available for 449T frame 2300 Volt and above.

M33E

Sound Measurement Test

SEVEN *
DAYS

Two tests are available to measure the sound produced by the motor at idle and operated from a line power supply.

The basic test is an overall sound measurement (one band). The Noise test that verifies sound levels per procedures defined in IEEE-85 under a No Load Condition showing an octave band analysis is also available.

Double these prices for witnessed tests.

Note: Sound tests must be performed in Fort Smith or the Motor R&D Lab in Greenville. Allow for extra shipping time and freight charges from plant.

NEMA Frame	List Price Per Motor
42 - 215T	985
254 - 445T	1,472
447 - 449T	3,595

Note: * Lead time is dependent on Test Lab availability. Contact your local sales office.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Terminal Blocks

M35A

Install IEC Terminal Blocks in Conduit Box and Connect Leads

TWO
DAYS

IEC Frame, stocked with terminal blocks.

Advise how motors leads are to be connected.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	List Price
34 FRAME - 56-143T	228
35 FRAME - 56-145T	245
182-184	272
213-215	298
254-256	342
284-286	353
324-326	1,031
364-365	1,031
404-405	1,031
444-449	1,031

Motor Mod Express®

Modification
Number

Motor Mod Express®
Description and List Price

Working Days
Required

Starters

Add Magnetic or Manual Starter to Grinder or Buffer

Mounted and wired on Baldor-Reliance® industrial grinders and buffers. Starters are in NEMA 1 enclosure and have the push button in cover. Available only as factory installed options.

Lead time is dependent on delivery of the starter.

Price of the starter is included.

M36A

Starter – Single Phase

TWO
DAYS

Full voltage control.

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

Grinder Wheel Size	Buffer Hp	Manual		Magnetic
		115/230 Volts List Price	115 Volts List Price	230 Volts List Price
6"	1/3	503	825	922
7"	N/A	503	825	922
8"	3/4	503	946	922
10"	1	503	946	922
N/A	1-1/2	503	946	810
12"	2	Standard Equipment	803*	810*

Note: Specify voltage when ordering.

*Price includes allowance for omission of standard starter.

M36B

Starter – Three Phase

TWO
DAYS

Full voltage control. **Price of the starter is included.**

Some modifications cannot be performed on UL, CSA, or UL/CSA Certified Grinders, Buffers, or Belt Sanders without voiding the Certification.

In such instances, the Certification Mark(s) would need to be removed.

Please contact your sales representative.

Grinder Wheel Size	Buffer Hp	Manual		Magnetic
		208-230/460 Volts List Price	208-230 Volts List Price	460 Volts List Price
7"	N/A	581	922	850
8"	N/A	581	922	850
10"	3/4	581	922	850
12"	1	Standard Equipment	650*	597*
12"	2	Standard Equipment	650*	597*

Note: Specify voltage when ordering.

*Price includes allowance for omission of standard starter.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Starters continued...

M36C

Magnetic Starter – Three Phase

TWO DAYS

With Low Voltage Control.

Price of the starter is included.

Grinder Wheel Size	Buffer Hp	Magnetic With 110 Volt Control Circuit Transformer	
		208-230 Volts List Price	460 Volts List Price
7"	N/A	2,071	2,291
8"	N/A	2,071	2,291
10"	3/4	2,071	2,291
12"	1	2,032*	2,074*
12"	2	2,032*	2,074*
14"	5	2,032*	2,074*
14"	7-1/2	2,032*	2,074*

Note: Specify voltage when ordering.

*Price includes allowance for omission of standard starter.

M36D

Overload Protection for Dust Control Unit

TWO DAYS

Price of the starter is included.

NEMA Frame	List Price
All	619

Note: Must be used with magnetic control. Contact your sales representative for details.

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Shaft Grounding

A shaft ground may be specified by many HVAC, pump and conveyor manufacturers to mitigate the effects of Adjustable Speed Drive circulating currents and prolong bearing life. Shaft grounding is available as an option on Baldor-Reliance custom motors or can be installed on a stock motor in Motor Mod Express®. On applications where washdown or debris may be present, mounting the ground internally on the motor (as custom) may be required.

Note: A shaft ground is a sparking device not suited for explosion-proof Division 1 or 2 applications, even when mounted internally.

ABB offers three main types of shaft grounding devices:

- **M39A - Shaft Grounding Systems**
- **M39B - Shaft Grounding Rings**
- **M39C - Shaft Grounding Brush**

M39A

Shaft Grounding Systems

The SGS™ (Shaft Grounding Systems) design is a robust, enclosed unit designed for harsh environments.

Mounts to the opposite drive end of the motor on TEFC, TENV, TEBC and ODP motors.

Does Not Apply to Explosion-Proof or Division 2 Motors



THREE
DAYS

NEMA Frame	List Price
56 - 449T	1,231

M39B-1

AEGIS® Bearing Protection Ring

NEMA Frame	Shaft Diameter	External List Price	Internal List Price
56	0.625	221	663
140T, 180	0.875	232	696
180T, 210	1.125	244	732
210T, 250U	1.375	258	774
250T, 280U	1.625	322	966
280T, 320U, 320TS, 360TS	1.875	343 (1)	1,029
320T, 360U, 400TS	2.125	379 (1)	1,137
360T, 400U, 440TS	2.375	456 (1)	1,368
400T, 440U	2.875	643 (1)	1,929
440T	3.375	766 (1)	2,298

(1) Motors over 100 Hp / 75 kW require an additional modification to add an insulated bearing on the opposite drive end. Reference Mod M2F to add for one insulated bearing on the ODE of the motor.

Note: For this modification, the AEGIS Bearing Protection Ring mounts to the drive end of the motor.

TWO
DAYS

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Shaft Grounding continued...

M39C

Baldor-Reliance® Shaft Grounding Brush Assembly

TWO
DAYS

Add external or internal shaft grounding brush to motor endplate.
Brush contacts motor shaft diameter.

Does Not Apply to Explosion-Proof Motors

NEMA Frame	External List Price	Internal List Price
48, 56	221	663
140	232	696
180	244	732
210	258	774
250	272	816
280	291 (1)	873 (1)
320	318 (1)	954 (1)
360	350 (1)	1,050 (1)
400	386 (1)	1,158 (1)
440	431 (1)	1,293 (1)
5008 - 5810	1,306 (1)	



(1) Motors over 100 Hp / 75 kW require an additional modification to add an insulated bearing on the opposite drive end.
Reference Mod M2F to add for one insulated bearing on the ODE of the motor.

M39D

Add AEGIS® Colloidal Silver Shaft Coating to Shaft

TWO
DAYS

Add a coating of AEGIS colloidal silver to shaft of motor to enhance the conductivity of the surface.

List price: \$350

Motor Mod Express®

Modification Number	Motor Mod Express® Description and List Price	Working Days Required
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Check Total Indicated Runout (TIR)

M40A

Check Total Indicated Runout (TIR)

Check C-face and shaft run out.
If applicable, check foot flatness.

List price: \$123

TWO
DAYS

ABB Ability™

M43A

Install ABB Ability™ Smart Sensor for Motors

Pricing includes the installation of a Smart Sensor to NEMA 140 - 440 Cast Iron frames.

All sensors mounted through the mod shop come with a 2 year web subscription.

Specify between F1, F2 or F3 mounting orientation.

List per motor: \$774

Note: Choosing F3 position may require lifting provisions to be omitted.

CONTACT
YOUR
LOCAL
SALES
OFFICE