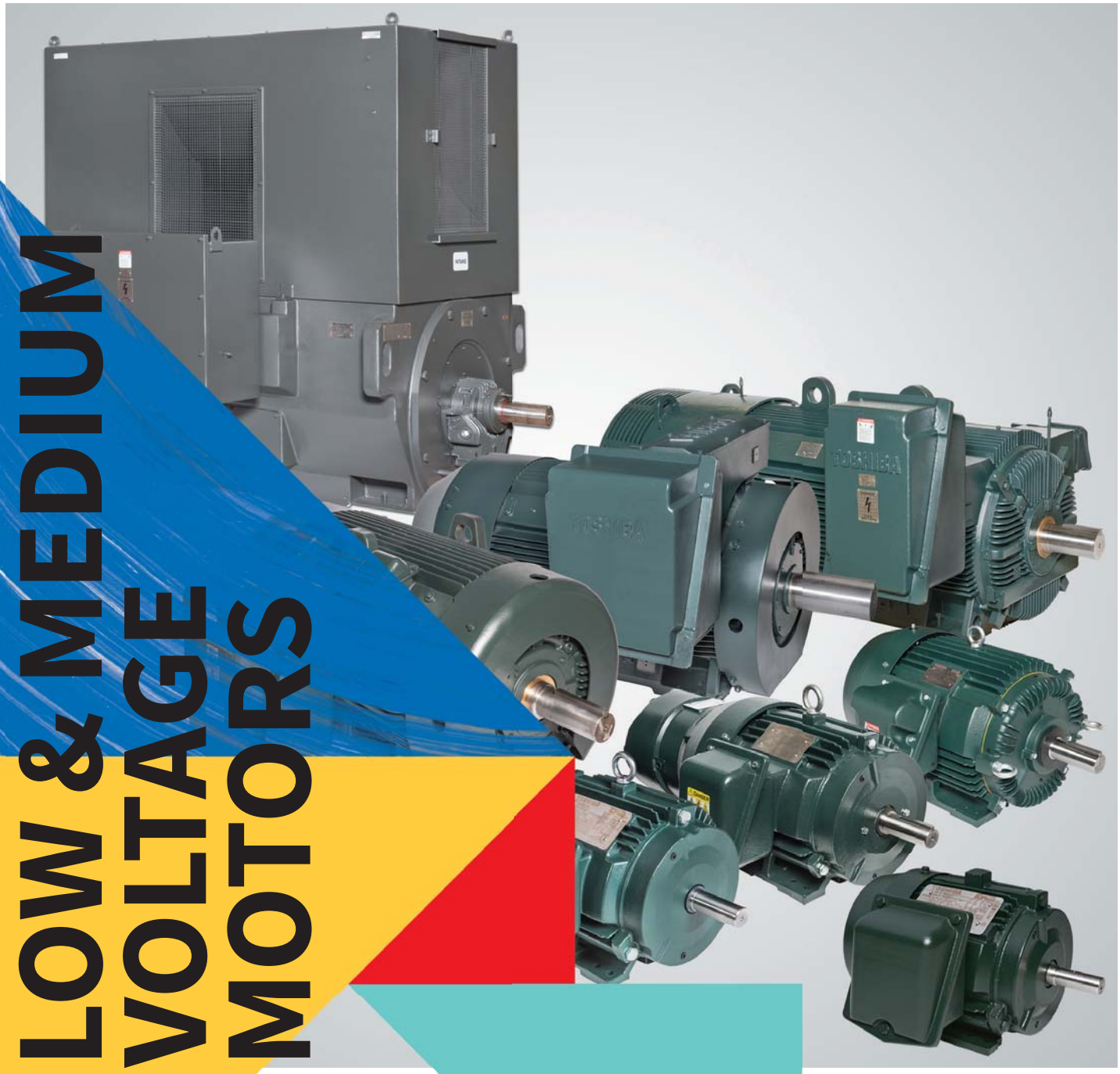
TOSHIBA

MOTORS

Product Offering



SMART, STRONG DESIGNS WITH PROVEN PERFORMANCE

Toshiba International Corporation (TIC) is proud to be a single-source solution for our customers, offering a complete product lineup of electric motors, adjustable speed drives, and motor starters for a variety of applications. Many of these products are manufactured at our 1,000,000+ sq. ft. facility located in Houston, Texas. Personnel at our Houston facility have extensive knowledge and experience in the following areas, and TIC offers the following services in-house:

- **Research & Development**
- **Engineering**
- **Manufacturing**
- **Technical Sales**
- **Product & Application Support**
- **Customer Service**
- **Project Management**
- **Field Services & Preventive Maintenance**
- **Product & Field Service Training**

CUSTOMIZABLE SOLUTIONS FOR MOTOR APPLICATIONS

Toshiba is a leading manufacturer of low voltage motors from ½ to 1,000 HP and 230 to 575 V and medium voltage motors from 100 to 50,000 HP and 2,300 to 13,800 V. Known for their quality, performance, and reliability, Toshiba motors are a preferred choice in the most demanding applications. With decades of experience, our US-based support team is a knowledgeable partner in providing customer-centric solutions. The large installed base across diverse industries demonstrates customers' confidence in Toshiba motors and service.

INDUSTRIES SERVED

- Oil & Gas
- Mining & Minerals
- Aggregate
- Assembly
- Food & Beverage
- Utilities
- Textiles
- Agriculture

APPLICATIONS

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

LOW VOLTAGE MOTORS

	EQP Global® SD	EQP Global® SD C-Face	EQP Global® Top Mount	EQP Global® 840	EQP Global® 841
Efficiency	NEMA Premium® Efficiency	NEMA Premium® Efficiency	NEMA Premium® Efficiency	NEMA Premium® Efficiency	NEMA Premium® Efficiency
Enclosure	TEFC	TEFC	TEFC	TEFC	TEFC
Horsepower	0.5 to 800 HP	0.5 to 75 HP	1 to 200 HP	0.75 to 500 HP	0.75 to 400 HP
Speed	(60 Hz): 3600, 1800, 1200 or 900 RPM (50 Hz): 3000, 1500, 1000 or 750 RPM	(60 Hz): 3600, 1800 or 1200 RPM (50 Hz): 3000, 1500 or 1000 RPM	(60 Hz): 3600, 1800 or 1200 RPM (50 Hz): 3000, 1500 or 1000 RPM	(60 Hz): 3600, 1800, 1200 or 900 RPM (50 Hz): 3000, 1500, 1000 or 750 RPM	(60 Hz): 3600, 1800, 1200 or 900 RPM
Voltage	(60 Hz): 230/460, 460 or 575 V (50 Hz): 190/380 or 380 V, 56 - S447T	(60 Hz): 230/460 or 575 V (50 Hz): 190/380 V	(60 Hz): 230/460 or 575 V (50 Hz): 190/380 V	(60 Hz): 460 or 575 V (50 Hz): 380 V, 143T - S447T	(60 Hz): 460 or 575 V
Frame Size	56 - 5811US	56C - 365TC	143T - S447T	143T - 5810UZ	143T - B449T
Protection	IP55 (Up to S447) & IP54 (S/B449 & Above)	IP55	IP55	IP55 (Up to 280 Frame) & IP56 (320 Frame & Above)	IP56
Frame Construction	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Insulation	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31
Vibration (Unfiltered)	0.10 Inches/Second or Less	0.10 Inches/Second or Less	0.10 Inches/Second or Less	0.08 Inches/Second or Less	0.08 Inches/Second or Less
Features	• Suitable for Severe Duty Applications • Dual Frequency 50/60 Hz Design • C-Flange Footed & Footless Available • Shaft V-Ring Protection System • Double Drilled Feet for Multi-Mount Capabilities • Suitable for Horizontal & Vertical Mounting • 4142 High Strength Shaft Steel on S444 Frames & Above	• Suitable for Severe Duty Applications • Dual Frequency 50/60 Hz Design • Footed & Footless Available • Shaft V-Ring Protection System • Double Drilled Feet for Multi-Mount Capabilities • Suitable for Horizontal & Vertical Mounting	• Dual Frequency 50/60 Hz Design • Shaft V-Ring Protection System • Double Drilled Feet for Multi-Mount Capabilities • Suitable for Horizontal & Vertical Mounting • 4142 High Strength Shaft Steel on S444 Frames & Above	• Mill & Chemical Duty • Dual Frequency 50/ 60 Hz Design • C-Flange Footed & Footless Available • Double Drilled Feet for Multi-Mount Capabilities • Suitable for Horizontal & Vertical Mounting • Umbrella Seal plus Forsheda® Seal System on DE & ODE (324T-365T) • 4142 High Strength Shaft Steel on S444 Frames & Above • Labyrinth Seal on S444 Frames & Above	• IEEE® 841 Petrochemical Duty • C-Face Footed & C-Face Footless Designs Available • Double Drilled Feet for Multi-Mount Capabilities • Suitable for Horizontal & Vertical Mounting • Labyrinth Seal on All Frames (DE & ODE) • 4142 High Strength Shaft Steel on S444 Frames & Above
Area Classification	Class I Division 2 Groups A, B, C, D	Class I Division 2 Groups A, B, C, D	Class I Division 2 Groups A, B, C, D	Class I Division 2 Groups A, B, C, D	Class I Division 2 Groups A, B, C, D

TOSHIBA

LOW VOLTAGE MOTORS

	EQP Global® Explosion Proof	EQP Global® IEC	EQP Global® Closed-Coupled Pump	EQP Global® Critical Cooling
Efficiency	NEMA Premium® Efficiency	IE3	NEMA Premium® Efficiency	NEMA Premium® Efficiency
Enclosure	TEXP	TEFC	TEFC	TEAO
Horsepower	1 to 350 HP	0.75 to 45 kW	1 to 75 HP	1 to 20 HP
Speed	(60 Hz): 3600, 1800, 1200 or 900 RPM	(60 Hz): 3600, 1800 or 1200 RPM (50 Hz): 3000, 1500 or 1000 RPM	(60 Hz): 3600, 1800 or 1200 RPM (50 Hz): 3000, 1500 or 1000 RPM	(60 Hz): 3600 or 1800 RPM
Voltage	(60 Hz): 230/460, 460 or 575 V	(60 Hz): 460 V (50 Hz): 230/400, 240/415, 220/380, 400, 415 or 380 V	(60 Hz): 230/460 or 575 V (50 Hz): 190/380 V	(60 Hz): 230/460 or 575 V
Frame Size	143T - N449T	80M - 225S	143JM/JP - 326JM & 365JP	143T - 256T
Protection	IP56	IP55	IP55	IP55
Frame Construction	Cast Iron	Aluminum Fin Type (90 - 160) Cast Iron (80, 180 - 225)	Cast Iron	Cast Iron
Insulation	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F, Exceeds IEC 60034-25 (Inverter Duty)	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31
Vibration (Unfiltered)	0.08 Inches/Second or Less	Max. Vibration Magnitude in Velocity (RMS) is 2.8 mm/sec.	0.10 Inches/Second or Less	0.10 Inches/Second or Less
Features	• T3C Temperature Code 160°C • C-Flange Footed & Footless Available • Double Drilled Feet for Multi-Mount Capabilities • Non-Sparking Brass V-Ring Shaft Slinger • Normally-Closed Thermostats • Ball Bearing Available on All Frames	• Dual Frequency 50/60 Hz Design • IE3 Efficiency Levels per IEC 60034-30-1 • Meets or Exceeds Global Standard Specifications including IEC60034, 60072, 60204 & 60038 • Shaft V Ring Protection System • Dual-Mount 225 IEC Frames (225M & 225S) • Lead Separation Protection • Terminal Block (6 Post) • Sealed Bearings on 80-180 Frames; Regreasable Bearings on 200 - 225 Frames	• Dual Frequency 50/60 Hz Design • Horizontal & Vertical with C-Flange Option • Shaft V-Ring Protection System • Double Drilled Feet for Multi-Mount Capabilities • Permanently Identified Leads with Single Ring Compression Type Lead Lugs on 284 Frames & Larger	• Critical Cooling Applications • Total Enclosed Air-Over • Extended Horsepower Capability • Insulated Bearings on DE & ODE • Sealed Maintenance-free Bearings • NEMA Design B • 1.15 SF @ 60 Hz • Double Drilled Feet for Multi-Mount Capabilities
Area Classification	Class I Division 1 Group D and Class II Division 1 Groups E, F & G, T3C 160°C	Non-Hazardous	Class I Division 2 Groups A, B, C, D	Non-Hazardous
Notes		B5, B34 Flanges Available		

LOW VOLTAGE MOTORS

	EQP Global® Cooling Tower	Quarry Duty	EQP Global® Brake
Efficiency	NEMA Premium® Efficiency	High & NEMA Premium® Efficiency	NEMA Premium® Efficiency
Enclosure	TEFC, TEAO	TEFC	TEFC
Horsepower	0.75 to 75 HP	5 to 750 HP	0.75 to 30 HP
Speed	(60 Hz): 1800 or 1200 RPM (50 Hz): 1500 or 1000 RPM	1800, 1200 or 900 RPM	(60 Hz): 1800 or 1200 RPM (50 Hz): 1500 or 1000 RPM
Voltage	(60 Hz): 230/460 or 575 V (50 Hz): 190/380 V	(60 Hz): 460 or 575 V	(60 Hz): 230/460 or 575 V (50 Hz): 190/380 V
Frame Size	143T - 365T	184T - B587LL	143T - 286T
Protection	IP56	IP55 (Up to S/B449) & IP54 (S/B587)	IP55
Frame Construction	Cast Iron	Cast Iron	Cast Iron
Insulation	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31	Class F Inverter Duty, Exceeds NEMA MG1 Part 31
Vibration (Unfiltered)	0.08 Inches/Second or Less	0.10 Inches/Second or Less	0.10 Inches/Second or Less
Features	• API® 661 Compliant • Dual-Frequency 50/60 Hz Design • Double Drilled Feet for Multi-Mount Capabilities • Epoxy Finished Paint • Suitable for Horizontal & Vertical Mounting • Umbrella Seal plus Forsheda® Seal System on DE & ODE	• High Torque Design • 1.25 SF on 184T - 365T Frames & 1.15 SF on 404T - 5810 Frames • Stamped Steel Fan Cover • Shaft V-Ring Protection System • 4142 High Strength Shaft Steel (505 Frames & Larger) • Polyurea Base Grease • Grade-8 Hardware • Bearing Lock Nuts for Vertical Mounting on 505 Frames & Larger • Double Drilled Feet for Multi-Mount Capabilities on Most Frames	• Holding Duty • Dual Frequency 50/60 Hz Design • Shaft V-Ring Protection System • Double Drilled Feet for Multi-Mount Capabilities • Brake Ratings 15 lb. ft. & Below Suitable for Vertical Mounting
Area Classification	Class I Division 2 Groups A, B, C, D	Non-Hazardous	Non-Hazardous

MEDIUM VOLTAGE MOTORS

	Open Drip-Proof	Weather-Protected I	Weather-Protected II
Efficiency	High Efficiency	High Efficiency	High Efficiency
Enclosure	ODP	WPI	WPII
Horsepower	200 to 900 HP	250 to 2,000 HP; 700 to 7,500 HP CT	250 to 7,500 HP
Speed	(60 Hz): 3600, 1800, 1200 or 900 RPM	(60 Hz): 3600, 1800, 1200 or 900 RPM	(60 Hz): 3600, 1800, 1200 or 900 RPM
Voltage	(60 Hz): 2300/4160 or 4000 V	(60 Hz): 2300/4000, 4000, 6000, or 6600 V	(60 Hz): 2300/4000, 4000, 6000, or 6600 V
Frame Size	505US through 5810US	588USS through 5811/12USS; N3512 - N5620	588USS through 450-1600
Protection	IP22	IP23	IP24
Frame Construction	Cast Iron	Cast Iron	Cast Iron
Insulation	Class F with Class B Rise at 1.0 SF	Class F with Class B Rise at 1.0 SF	Class F with Class B Rise at 1.0 SF
Features	• Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • IP22 Enclosure • Grounding Provision in Conduit Box • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. 31	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • NEMA Type II Terminal Box Available - Standard for 6800 Frames • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Insulated NDE Bearing • Insulated NDE and DE Sleeve Bearings Available Some Ratings • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP23 Enclosure • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Epoxy Coated Aluminum Fan Avaiable • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • NEMA Type II Terminal Box Available - Standard for 6800 Frames • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Insulated NDE Bearing • Insulated NDE and DE Sleeve Bearings Available Some Ratings • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP24 & IP24W Protected Enclosures • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Epoxy Coated Aluminum Fan Available • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV
Area Classification	Recommended for Indoor Use	Suitable for Class I Division 2 Groups A, B, C, D	Suitable for Class I Division 2 Groups A, B, C, D

MEDIUM VOLTAGE MOTORS

	Totally Enclosed TEFC	Totally Enclosed TEFC 841	High Torque 587 Frame
Efficiency	High & NEMA Premium® Efficiency	NEMA Premium® Efficiency	High & NEMA Premium® Efficiency
Enclosure	TEFC	TEFC	TEFC
Horsepower	100 to 2,500 HP	100 to 400 HP	200 to 750 HP
Speed	(60 Hz): 3600, 1800, 1200, 900 or 720 RPM	(60 Hz): 3600, 1800, 1200 or 900 RPM	(60 Hz): 1800 or 1200 RPM
Voltage	(60 Hz): 2300/4000, 4000, 6000, or 6600 V	(60 Hz): 2300/4000 V	(60 Hz): 2300/4000 or 4000 V
Frame Size	S447TS/449TS through N8810	S/B 447/9	S/B 586/7
Protection	IP54	IP56	IP55
Frame Construction	Cast Iron	Cast Iron	Cast Iron
Insulation	Class F with Class B Rise at 1.0 SF	Class F	Class F
Features	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • NEMA Type II Terminal Box Available - Standard for 6800 Frames • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box (Optional on S/B449) • Insulated NDE Bearing (Optional on S/B449) • Insulated NDE and DE Sleeve Bearings Available Some Ratings • Insulated NDE Bearing Housings • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP54 Enclosure • IP55 Enclosure Available • Cast Iron or Fabricated Steel Fan Covers • Fabricated Steel Only for 6800 Frames • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Epoxy Coated Aluminum Fan Available • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Corrosion Resistant Breather Drains at Lowest Location of Motor and Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP56 Enclosure • IEEE® 841 Nameplated • Labyrinth Seals on DE and NDE • Tropicalization Treatment on Windings • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • .005 in Provision Foot Flatness • Non-Sparking Epoxy Coated Aluminum Fan • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Corrosion Resistant Breather Drains at Lowest Location of Motor and Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV	• High-Torque Design • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Insulated NDE Bearing • Provisions for Housing Vibration Sensors • IP55 Enclosure • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Fan • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Corrosion Resistant Breather Drains at Lowest Location of Motor and Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV
Area Classification	Suitable for Class I Division 2 Groups A, B, C, D	Class I Division 2 Groups A, B, C, D Suitable for Class II Division 2 Groups F, G	Suitable for Class I Division 2 Groups A, B, C, D

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MEDIUM VOLTAGE MOTORS

	Totally Enclosed Air-to-Air Cooled	Totally Enclosed Water-Air-Cooled
Efficiency	High Efficiency	High Efficiency
Enclosure	TEAAC	TEWAC
Horsepower	450 to 3,000 HP	400 to 5,500 HP
Speed (60 Hz)	3600, 1800, 1200 or 900 RPM	3600, 1800, 1200 or 900 RPM
Voltage (60 Hz)	4000 V, Option for 2300 or 6000 V	2300/4000, 4000, or 6000 V
Frame Size	5810/11/12US through 450-1600	5011/12USS through 6812/13USS
Protection	IP54	IP54
Frame Construction	Cast Iron	Cast Iron
Insulation	Class F with Class B Rise at 1.0 SF	Class F with Class B Rise at 1.0 SF
Features	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • NEMA Type II Terminal Box Available - Standard for 6800 Frames • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Insulated NDE Bearing • Insulated NDE and DE Sleeve Bearings Available Some Ratings • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP54 Enclosure • IP55 Enclosure Available • Provisions for Housing Vibration Sensors • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Epoxy Coated Aluminum Fan Available • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Corrosion Resistant Breather Drains at Lowest Location of Motor and Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV	• 100 ohm Platinum Winding RTDs Wired to a Dedicated Auxiliary Box - 2/Phase • Oversized Cast Iron or Fabricated Steel NEMA Type I Terminal Box • NEMA Type II Terminal Box Available - Standard for 6800 Frames • 120 V Single Phase Space Heaters Wired to Dedicated Auxiliary Box • Insulated NDE Bearing • Insulated NDE and DE Sleeve Bearings Available Some Ratings • Provisions for Bearing Thermal Protection (RTDs or Thermocouples) • Provisions for Housing Vibration Sensors • IP54 Enclosure • IP55 Enclosure Available • Provisions for Housing Vibration Sensors • Grounding Provision on Motor Frame • Grounding Provision in Conduit Box • Non-Sparking Epoxy Coated Aluminum Fan Available • Gasketed Auxiliary Boxes • Lead Separator Gasketed Main Terminal Box • Corrosion Resistant Breather Drains at Lowest Location of Motor and Terminal Box • Designed to Meet NEMA MG1-2018 Part 31 Sect. IV
Area Classification	Suitable for Indoor or Outdoor Use	Suitable for Indoor or Outdoor Use

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Rev.02ESSENCE1524

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