



TMEiC
We drive industry

TM21[®]-G Series Induction Motor Family

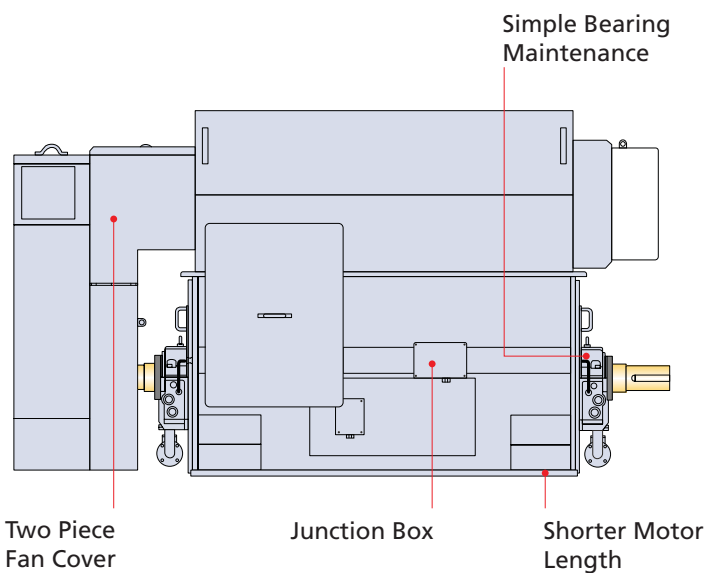


WWW.TMEIC.COM

JAPAN | NORTH AMERICA | SOUTH AMERICA | EUROPE | SOUTHEAST ASIA | INDIA | CHINA | MIDDLE EAST | AUSTRALIA

Introducing TMEIC's TM21-G Series Motors

- High Efficiency
- Low Vibration
- Exceptional Reliability
- Minimal Maintenance Required
- Reduced Footprint



High Efficiency

- Annual power savings of \$28,000 (relative to competitor motor 6,000 kW, with 0.55% lower efficiency, using power at \$0.10 / kWh) Exceptional design using Finite Element Analysis produces world class efficiency of 96.5 to 97.7%
- Optimized cooling air flow
 - Cooling flow and internal temperature analysis
 - Optimized electro magnetic field strength
 - Using high quality C5 magnetic core material standard for stator laminations

Low Vibration

- Complies with IEC 60034-14 grade A & B vibration limits
- Vibration complies with MG1
 - Optional test to API limits
 - Better balance produces longer life

Exceptional Reliability

- Building Exceptional Motors by Design
- Custom end turn support for long winding life
 - Vacuum impregnation (VPI) for stator insulation system
 - Full length rotor bar swaging
 - Good thermal margin to minimize winding heat stress

Small Footprint

- Installation in smaller spaces
- Reduction in installation, alignment, and maintenance time

Specifications

Power Levels	Up to 23,000 kW (30,800hp)	
Rated Voltage	Up to 11 kV	
Rated Speed	Up to 3,600 rpm (with VF drive)	
Number of Poles	2 poles up to 14 poles	
Enclosure	Protection	Cooling
WP2	IP24W	IC01
TEAAC	IP54, IP55, IP56	IC611
TEWAC	IP54, IP55, IP56	IC81W
Mounting Method	IMB3 (Horizontal), IMV1 (Vertical) Shaft	
Max Frame Size	Up to 900 mm	
Thermal Class	155 (F)	
Temperature Rise Limit	Class B rise	
Ambient Temperature	Min. -20 °C, Max. , 45, 50 °C	
Bearings	Anti-friction / Sleeve (self-lube / forced lube)	
Standards	IEC, BS, IS, AS, NEMA, CSA, JEC, API547	

Six winding RTDs and space heater for motor frame included as standard equipment.

High Efficiency, Durability & Low Vibration

Standard Features

- Base Frequency: 50Hz and 60HZ
- Frame size range 315-900
- Copper bar rotor
- Stainless steel accessory Junction Box
- Starting duty: 2 Cold / 1 Hot (Standard)
- NEMA design "B" (80°C)
- Class "F" (155°C) Insulation / Class "B" (80°C) rise
- Full VPI (Vacuum Pressure Impregnation) of Stator
- Standard Accessories:
 - Vibration Sensor Mounting provision
 - Winding RTDs
 - Space heaters

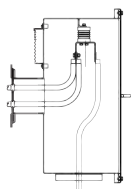
Optional Features

- Class 1 DIVII (Zone2) Hazardous Area Classification
- VFD application
- Auxiliary Blower for Forced Ventilation
- Min. -40 °C to Max. 55°C
- IP56 Enclosure
- Main Terminal box: Phase segregated
- Non-Reversing Ratchet (Vertical Motor)
- Mounting Bolts, Anchor Bolts, Jacking Bolts
- Vibration Sensors: B/N, SPM, etc.
- Current Transformer
- Surge Capacitor/Arrester
- Differential Air Pressure Switch
- Oil Manifold
- Sole Plate / Base Plate

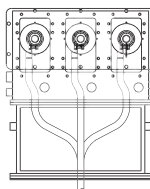
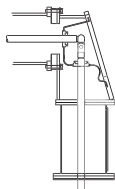
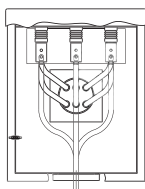
Main Circuit Terminal Box

Choice of Terminal Boxes

Standard terminal box



Phase-segregated terminal box



A variety of terminal boxes are available. Choices include a standard terminal box, a phase-segregated terminal box and an oversized box.

Optional Features continued

- Shim Plates
- Bearing RTDs
- Air Temperature RTDs
- Water Leakage Detector
- Flow Meter/switch
- Extended Warranty
- And more...

Accessory Junction Box

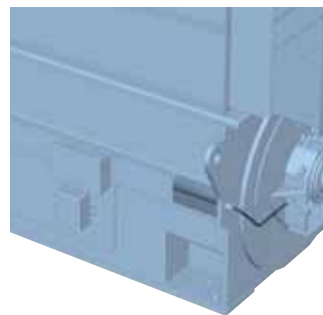
Cable Connection Work Simplified



Instrument cables are routed into a single junction box and the incorporation of clamp-type terminals as standard simplifies the cable connection process. As a result, external cable connection work is simplified, reducing installation times. Furthermore, the junction box is made of stainless steel, increasing operating durability under harsh conditions.

Cable Duct

Replacement So Easy a Novice Can Do It



Instrument and space heater cables pass through IP55 sealed cable ducts. This helps ensure motor operation even in harsh environments. Additionally the piping and armored cables required when running cables alongside the motor surface have been eliminated. As a result, less

time and effort are required when replacing instruments, and it's so easy virtually anyone can do it.

North American Sales and Service Network

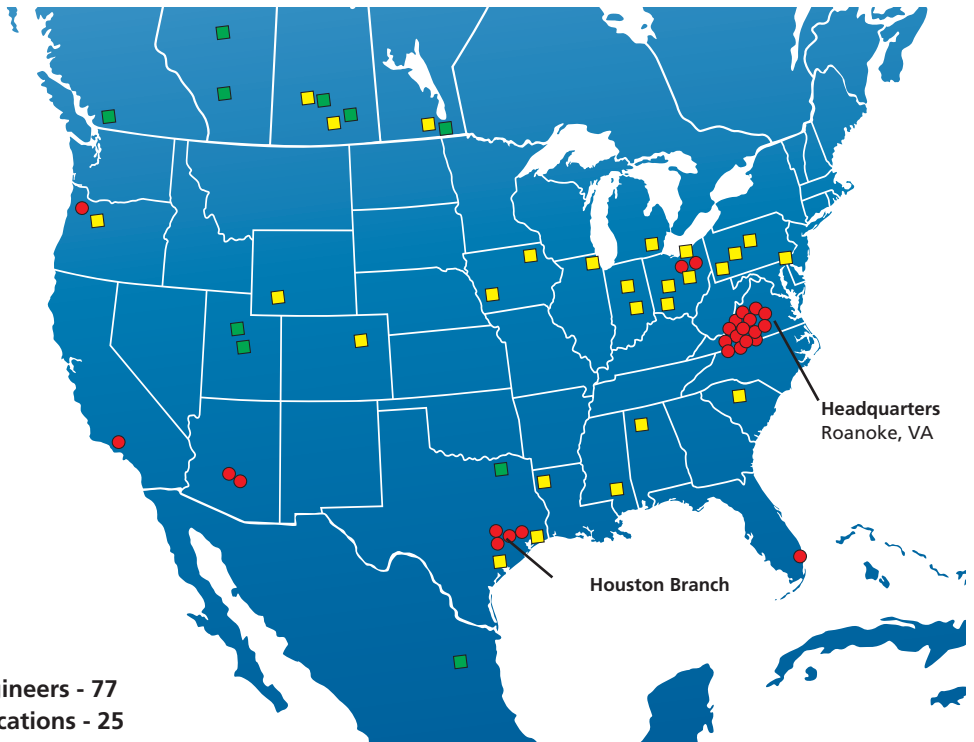
With bases located in North America and around the world, regional TMEIC companies and TMEIC motor service shops provide reliable support whenever needed.

**For Service or Parts,
Call 1-877-280-1835**

**International:
+1-540-283-2010**

- TMEIC Drive Service Engineers
- Motor Service Locations
- Headquarters and branch offices of Authorized Drive Service Providers

Number of USA/Canada Drive Service Engineers - 77
Number of USA/Canada Motor Service Locations - 25



Office Locations:

TMEIC Corporation

Office: 1325 Electric Road, Roanoke, VA, 24018, U.S.A.

Mailing: 2060 Cook Drive, Salem, VA, 24153, U.S.A.

Tel.: +1-540-283-2000 **Fax:** +1-540-283-2001

Web: www.tmeic.com

Houston Branch: Houston, TX;

Tel.: +1-832-767-2680; **Email:** Oil Gas@tmeic.com

TMEIC Power Electrics Products Corporation
13131 W. Little York Road, Houston, TX 77041

TMEIC-Sistemas Industriais da América do Sul Ltda.

São Paulo/SP, Brazil

Tel.: +55-11-3266-6161; **Fax:** +55-11-3253-0697

Toshiba Mitsubishi-Electric Industrial Systems Corp.

Tokyo, Japan; **Tel.:** +81-3-3277-5511; **Web:** www.tmeic.co.jp

TMEIC Europe Limited

UXbridge, Middlesex, United Kingdom

Tel.: +44 870 950 7220; **Fax:** +44 870 950 7221

Email: info@tmeic.eu; **Web:** www.tmeic.com/europe

**TMEIC and TM21-G are registered trademarks of
TOSHIBA MITSUBISHI-ELECTRIC INDUSTRIAL SYSTEMS
CORPORATION**

All other products mentioned are registered trademarks and/or trademarks of their respective companies.

All specifications in this document are subject to change without notice. The above brochure is provided free of charge and without obligation to the reader or to TMEIC, and is for informational purposes only. TMEIC does not accept, nor imply, the acceptance of any liability with regard to the use of the information provided. TMEIC provides the information included herein as is and without warranty of any kind, express or implied, including but not limited to any implied statutory warranty of merchantability or fitness for particular purposes. The brochure is not an implied or express contract.

If you have questions regarding your project requirements, please contact TMEIC Corporation at 540-283-2000