

## Explosion Protected Machines



**TMEIC has obtained Baseefa & other certifications for the manufacture of the following explosion protected motors.**

	Certificate Type	Zone	Certificate	Frame
Baseefa	Exn (Non-sparking) IEC/EN60079-15	2	Series certificate (Constant speed and Variable speed)	Frame 250 to 900
	Exe (Increased safety) IEC/EN60079-7	1	Component certificate	Frame 315 to 1200 Terminal Boxes
		2	Individual electrical certificate for each machine (Constant speed and Variable speed)	No limitation
	Exp (Inner pressurized) IEC/EN60079-2	1 2	Individual certificate for each machine (Constant speed and Variable speed)	No limitation
	Exd (Flameproof enclosure) IEC/EN60079-1	1 2	Series certificate (Constant speed and Variable speed)	Frame 250 to 400
TestSafe	Exn (Non-sparking) AS2380.9	2	Series certificate (Constant speed and Variable speed)	Frame 250 to 900
CQST	Exn (Non-sparking) GB3836.8	2	Series certificate (Constant speed and Variable speed)	Frame 250 to 900
	Exd (Flameproof enclosure) GB3836.2	1 2	Series certificate (Constant speed and Variable speed)	Frame 250 to 400

## Notes:

**Zone 1 or Class I, Div. 1:** Zone in which an explosive atmosphere is likely to occur during normal operation.

**Zone 2 or Class I, Div. 2:** Zone in which an explosive atmosphere is not likely to occur during normal operation, and if it occurs it will exist only for a short time.

Other machines not listed such as **large induction motors, wound rotor induction motors and brush-less synchronous motors**, can be manufactured based on individually-certified designs.

TMEIC has an **Exe certificate for a neutral terminal box** in which **Current Transformers** are installed.

The **Current Transformers** carry Exe certification; **air purging is not necessary** for the terminal box.



## Related authorities

Authority	Country	Certificates
Baseefa	UK	Exn, Exe, Exp & Exd certification has been issued to TMEIC for motors used around the world.
TestSafe	Australia	Exn certification has been issued to TMEIC for motors used in Australia.
CQST	China	Exn, Exe, Exp & Exd certification has been issued to TMEIC for motors used in China.
CSA	Canada	Exn certification has been issued to TMEIC for motors used in Canada.
KOSHA	Korea	Exn, Exe, Exp & Exd certification has been issued to TMEIC for motors used in Korea.
Nanio CCVE	Russia	Exp certification has been issued to TMEIC for motors used in Russia.
TIIS	Japan	Increased safety, Inner pressurized & Flameproof enclosure certification has been issued to TMEIC for motors used in Japan.
CESI	Italy	Hydrogen gas test for a prototype machine was carried out according to IEC/EN60079-7&15.

# IN HAZARDOUS AREA APPLICATIONS

## Baseefa, TestSafe and CQST Exn certification for variable speed machines

TMEIC holds Exn certification for constant and variable speed induction machines. Series certification is held for the complete range of motors. The explosion proof (Exn) rating for our motors as certified by Baseefa and other agencies brings many advantages to our customers:

- ➔ Cost savings – individual approval tests and expensive full load tests eliminated
- ➔ Reduced testing requirements lowers delivery time
- ➔ Simpler Exn designs reduce machine costs (when compared to alternative inner pressurized or flammable enclosures)
- ➔ Lower cost of ownership – eradication of the air supply system required for inner pressurized machines minimizes maintenance and operating cost



## TMEIC has obtained Baseefa certification according to ATEX requirements

ATEX is the European Union's Directive 94/9/EC which concerns equipment and protective systems intended for use in potentially explosive atmospheres.

- ➔ TMEIC's Baseefa certified machines conform to ATEX requirements



## Special features of the machines

- ➔ High efficiency and energy savings
- ➔ Low vibration and noise
- ➔ High reliability
- ➔ Meet international standards such as IEC, EN, BS
- ➔ Easy installation
- ➔ Quick delivery
- ➔ Excellent data service



**TMEIC Exn machines up to 11 kV and Exe machines up to 6.6 kV have passed IEC/EN standard gas tests, eliminating the requirement for air purging before starting.**

**T**MEIC is a market leader in the research, development and practical application of risk mitigation techniques, including:

- IP56 enclosure protection
- Partial discharge monitoring systems
- Purging systems for Exn or Exe machines

**T**MEIC executed the hydrogen gas test for rotors (CESI), and stators (Baseefa). TMEIC's motors up to 11 kV (Exn) and 6.6 kV (Exe) met the test requirements, eliminating the need for pre-start air purging for these machines.



Hydrogen gas test



Exp test



Exe test



**TOSHIBA MITSUBISHI-ELECTRIC INDUSTRIAL SYSTEMS CORPORATION**  
Mita 43 MT Bldg., 13-16 Mita 3 chome, Minato-ku Tokyo, 108-0073 Japan  
Tel.: +81-3-5444-3828, [www.tmeic.co.jp](http://www.tmeic.co.jp)

**TMEIC Corporation**  
1325 Electric Road, Suite 200, Roanoke, VA, United States 24018  
Tel.: +1-540-283-2000; [info@tmeic.com](mailto:info@tmeic.com), [www.tmeic.com](http://www.tmeic.com)

**TMEIC Corporation, Houston Branch**  
2901 Wilcrest Dr., Suite 110, Houston, TX 77042  
Tel.: +1-713-784-2163, [OilGas@tmeic.com](mailto:OilGas@tmeic.com), [www.tmeic.com](http://www.tmeic.com)