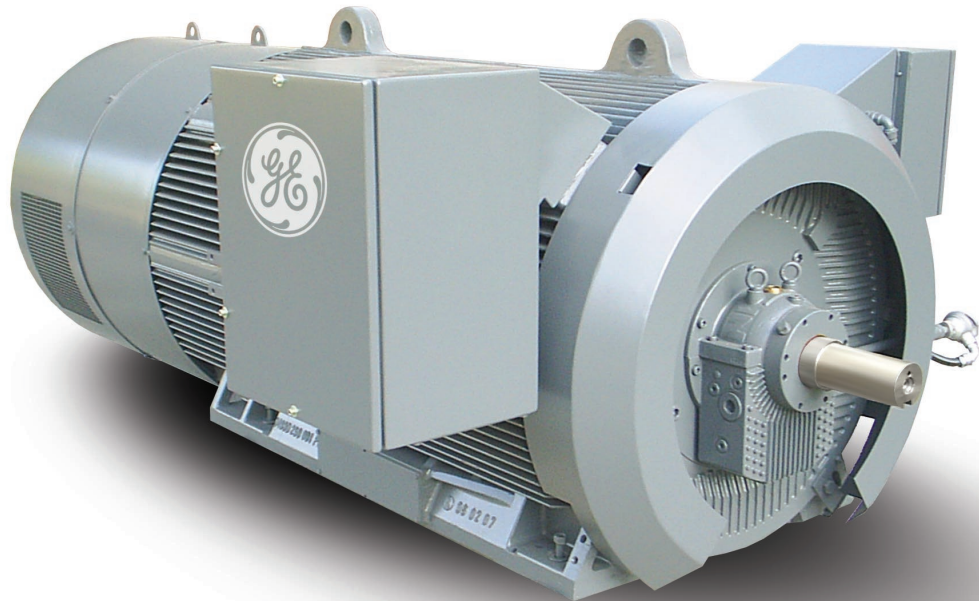




Motors

QuantumTM LMV

Medium Voltage AC Induction
Totally Enclosed Fan Cooled Motors



NEMA Frames 7010/7011
350-2000 HP
IEC Frame 450
250-1400 kW
2-10 Pole

Reliability Matters



We've manufactured motors for over 125 years.

In 1879, GE founder, Thomas Edison constructed the first electric motor for a 110 to 120 Volt line at Menlo Park, NJ. This device still exists and is operative! It is located in the Edison Historical Collection in New Jersey.

Since 1987, GE has produced over 15,000 medium/high voltage machines. We've been a certified ISO 9001:2000 Quality System since 1992. Six Sigma processes have been hardwired into our organic functions since 1995. And now we presently offer a full range of large motors and generators up to 100,000HP (75,000KW).



Applications & Standards

These motors are commonly used in the petrochemical, pulp & paper, power generation, water & waste water and mining for various applications including pumps, blowers, compressors and conveyors.

GE Motors can hold to these standards and certifications: NEMA, IEC, CSA, API 547 & 541 4th ed, Div 2, Ex-n, and Ex-e.



More compact, energy-efficient machines have less life-cycle costs and better payback for your investment

Frame and rotor redesign increased motor output per frame size

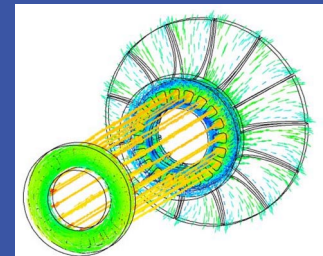
- The frame design has a new duct system and rotor vents, which result in better temperature distribution throughout the motor.

Redesigned internal & external fans

- An external fan, quieter than in previous models, and fan cover with dramatically improved airflow over the motor which results in improved heat transfer.



New internal fan and rotor duct design provides a cooler platform on which to run at higher power ratings in smaller frames.



Superior Design

Low Vibration

Reduced vibration was achieved by designing the motor to have a large separation between the frame natural frequency and line frequencies, exceeding API standards. Rigid feet utilizing class 30 cast iron, offers solid mounting and a high degree of safety factor during the starting cycle of the machine

Inverter Duty / Reliability

VFD applications are best served by these machines with strict adherence to NEMA MG1 part 31 and IEEE-522 figure 2 (or figure 1 if requested). The Quantum™ LMV can include an insulated opposite drive end (O.D.E.) bearing with a shaft grounding brush, which decreases the possibility of circulating shaft currents. A top mounted blower may be offered based on motor application requirements.

Meets API 541 4th Edition and API 547 for Petroleum & Chemical Applications

Vibration and total electrical/mechanical run out levels meet stringent API standards, which translates to increased motor uptime and an improved overall reliability. Efficiency and load are tested via IEEE-112 method B.

Rotor Construction

The standard construction is aluminum bar, copper bar is available when required for API or when specified by the customer. Rotor has multiple oversized vents for maximum cooling yielding a low temperature rise. The rotor and internal fan are shrink-fit onto the shaft meeting API specifications.

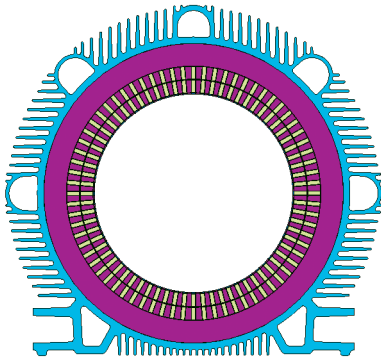
Insulation Construction

More than 30 years of successful field experience proves the reliability of the insulation system. In addition to providing the necessary electrical insulation, this system meets all the stringent mechanical and thermal requirements found in modern applications. Quantum™ LMV products use an epoxy solventless resin vacuum-pressure-impregnation (VPI) process to unite superior insulation materials into a complete insulation system assuring long life. For line voltages of 5000 Volts and above, a semi-conducting armor is applied to the slot portion and graded beyond the core to provide corona protection. The binding agent used in this case is GE's third generation epoxy resin, selected and tested to IEEE-429 and IEEE-1043. The coils receive a protective armor of heavy glass tape for protection against mechanical shock and abrasion.

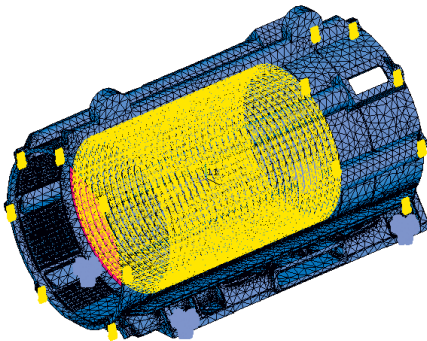
GE's Custom Polyseal® insulation system is also available upon request. Custom Polyseal® is a sealed winding insulation system which meets NEMA MG1 1.27.2 and passes the test criteria for 12.62 and 20.18. It is designed to meet severe operation conditions and have resistance to moisture penetration, oil, chemicals and salt water.

Bearings

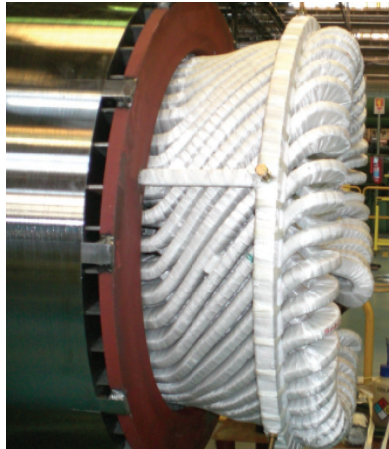
Self-aligning spherically seated sleeve bearings per DIN 31693 are available for all ratings and are standard for all 2 pole ratings. Ball bearings are standard for all other speeds. Roller bearings for belted applications are available as well.



The frame was designed with 7 "D-Ducts". This unique shape dramatically increases airflow for a cooler operating motor at a lower, more versatile shaft height.

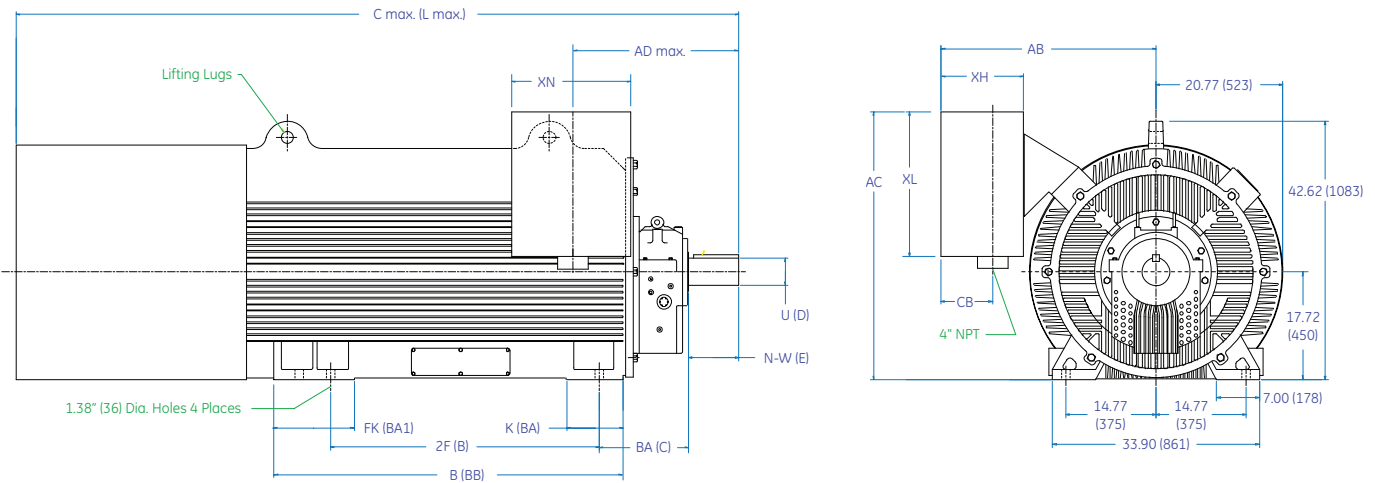


A stiff frame and increased foot strength leads to a lower vibration and increased horsepower capability.



GE's unique coil brace construction enhances the rigidity of the end turns leading to a longer coil life.

NEMA 7000 Frame (IEC 450 Frame) TEFC Sleeve Bearing - Dimensions in inches (millimeters)



NEMA Dimensions in Inches

Frame	Pole	Mounting				Shaft				Outline	
		BA	2F	K	FK	U	N-W	Key Length	Keyway Width	C max.	B
7010	2 pole	13.5	39.37 44.1	9.3	12.72	3.38	6.75	5	0.88	107	51.9
7010	4 pole and up	14.6	39.37 44.1	9.3	12.72	4.5	8	6.75	1	121.5	51.9
7011	2 pole	13.5	44.1 49.21	9.3	13.3	3.38	6.75	5	0.88	121	57.3
7011	4 pole and up	14.6	44.1 49.21	9.3	13.3	4.5	8	6.75	1	135.5	57.3

IEC Dimensions in Millimeters

Frame	Pole	Mounting				Shaft				Outline	
		C	B	BA	BA1	D	E	Key Length	Keyway Width	L max.	BB
450 (1120)	2 pole	343	1000 1120	236	323	85.8	171.5	127	22.3	2718	1319
450 (1120)	4 pole and up	371	1000 1120	236	323	114.3	203.2	171.5	25.4	3086	1319
450 (1250)	2 pole	343	1120 1250	236	338	85.8	171.5	127	22.3	3073	1454
450 (1250)	4 pole and up	371	1120 1250	236	338	114.3	203.2	171.5	25.4	3442	1454

Conduit Box Dimensions in Inches

Conduit Box Protective Equipment	Voltage	Box Number	XL	XN	XH	CB	AB	AC	AD max.
Without	Up to 4800 V	1	23.62	18.9	14.17	7.1	36.75	43.65	26.75
	4801 V to 6600 V	NEMA II	30	36	18	9	41.65	43.5	26.75
With	Up to 6600 V	NEMA II	30	36	18	9	41.65	43.5	26.75

Note for conduit boxes:

When using NEMA II box additional support from box to the ground may be necessary and will be indicated in the outline drawing

Horsepower	kW	Poles				
		2	4	6	8	10
350	250					
400	315					
450	355					
500	400					
600	450					
700	500					
750	560					
800	630					
900	710					
1000	800					
1250	900					
1350	1000					
1500	1120					
1750	1250					
2000	1400					

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imagination at work

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