

Data, facts and details

A new generation of motors

Innovation is why

The line of Siemens XP100 motors is not an evolution in hazardous motor design, but a total revolution. This distinctive line of NEMA frame motors is based on 14 decades of Siemens motor design leadership, manufacturing expertise and application knowledge. Combined with innovative and elegant new technologies, Siemens XP100 provides maximum value.

These motors are designed to provide superior operating performance and energy efficiency. Their advanced electromagnetic design meets and often exceeds the requirements of the Energy Independence & Security Act of 2007 (NEMA MG1– table 12-12).

XP100 Hazardous Duty Motors – Technical Overview			
HP Range	1-300		
Frame Size	140-440		
Efficiency	NEMA Premium® (MG1 Table 12-12)		
Voltage	208-230/460V, 230/460V, 460V, 575V		
Service Factor	1.0 sine wave		
Electrical Design	NEMA Design B		
Hazardous Classification	XP100 – C&D, CL II F&G Div 1 T3C XP100 ID1 – CL 1 Gr. D, Div 1 T2A		
Insulation	Class F NEMA, MG1 Part 31		
Temperature Rise	Class B @ 1.0 SF Class F @ 1.15 SF Sine wave		
Conduit Box (oversized)	Cast iron		
Fan Cover	Cast iron		
Cooling Fan	Bi-directional – polypropylene		
Shaft	High strength C1045 carbon steel		
Bearing Housing	Cast iron		
Bearings	Double shielded Regreaseable inlet & outlet		
Lubrication	Polyurea-based grease		
Lube Inlet Fittings	Alemite®		
Lube Relief Fittings	Plug		
Vibration	0.08 IPS		
Nameplate	Stainless steel engraved		
Hardware	Rust resistant		
Inverter Duty		VT 20:1	CT 4:1
	XP100	FS 140-440	FS 140-320
	XP100 ID1	FS 140-440	FS 140-440

Hazardous duty motors

Maximum protection for hazardous environments



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NEMA Low Voltage Motors

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SIEMENS

High flexibility

Performance that speaks for itself



Siemens XP100 motors are ideal for the toughest and harshest operating environments. Petrochemical and chemical processing, mining, pulp/paper and waste management are some of the many applications where these motors have proven their performance.

All Siemens XP100 motors are available with a wide variety of features, QuikMOD modifications and custom designs to meet your specific motor needs. Standard in their design, and clearly printed on the nameplate, these motors can be operated with an adjustable speed drive. Siemens XP100 meets or exceeds NEMA MG1 Part 30 and 31, and maintains its outstanding performance with a speed ratio capability of 20:1 variable torque and 4:1 constant torque for most ratings.

The Siemens line of XP100 hazardous duty motors are UL® listed and CSA certified for dust ignition-proof environments.

A systems approach to extended service life

Rugged construction

The Siemens XP100 motor features a cast iron frame and bearing housings that utilize the same design philosophy that goes into the design of all of our renowned severe duty motors – ruggedness, reliability, performance and efficiency. This design provides high structural strength, through the use of finite element analysis, to strategically place material within each component to resist the effects of stress and vibration. Materials that resist corrosion are liberally used throughout for long life in a wide variety of industrial applications.

Cooling system

The advanced cooling system developed for these motors is based on minimizing heat sources within the motor and then quickly dissipating any remaining heat. Cast iron fan covers are provided on all frame sizes for complete protection of the system. Its internal cooling system design reduces windage losses and noise, improves airflow and provides dependable cooling.

Frame and end shields

Cast iron frame and end shields are standard for exceptional structural integrity. They include UL approved condensation / breather drains from 404T through 449T frames.

Contaminant protection

To protect XP100 motors from the effects of moisture and industrial contaminants, they feature: cast iron frame and bearing housing, epoxy enamel paint system, polycarbonate cooling fan, non-hygroscopic insulation system, corrosion resistant hardware and stainless steel nameplate.

Advanced materials

Though you probably will never see them, the materials within these motors have been specially selected to provide high performance and long service life. For example, the insulation materials used for the windings result in an exceptional anti-corona system. This system is designed to withstand voltage spikes caused by fast switching IGBTs from adjustable speed drives.

Each die cast aluminum rotor assembly is dynamically balanced for extended bearing life, and includes a high strength carbon steel (C1045) shaft for maximum rotor performance.

1. An engineered finned cast iron frame design and a nonsparking cooling fan work together to provide superior air flow and optimum heat dissipation.

2. A low-loss stator and rotor designed to work together to minimize heat generation.



Explosion-proof motors

Maximum reliability with the highest efficiency

Increasing energy costs mean that energy consumption is of a growing significance. It is essential to fully exploit potential for optimizing energy costs without affecting performance.

Optimized design

Our rugged explosion-proof motors provide durable operation even under extreme conditions.

Siemens XP100 explosion-proof motors are UL® listed and CSA certified for gas and dust ignition-proof environments and suitable for Class I, Groups C&D, Class II, Groups F&G, Division 1 hazardous area classifications. They are also available for drill rig duty in Class I, Group D, Division 1 hazardous locations.

Manufactured with premium electrical grade steel laminations and copper electrical magnet wire to lower losses for improved efficiencies, these motors are designed to provide superior operating performance and energy efficiency. Their advanced electromagnetic design meets, and often exceeds the requirements of the Energy Independence & Security Act of 2007 (NEMA MG1– table 12-12).

