GREEN SPARK AUTOMATION
Solutions for a Better Tomorrow
Smart Energy and Sustainable Growth

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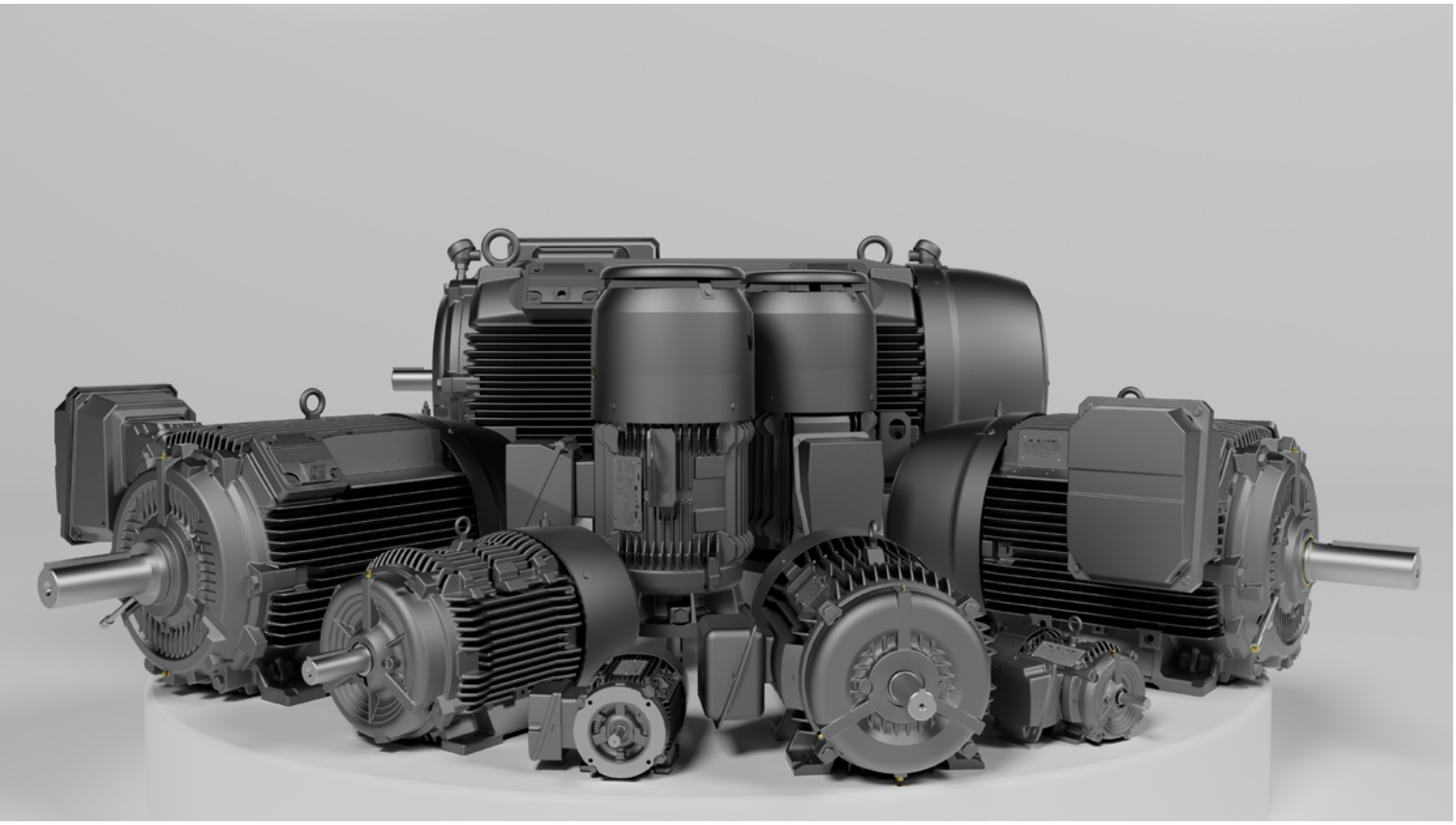
PRODUCT LINE BROCHURE

ABB NEMA MOTORS

Low voltage industrial motors



- Flexiblity and modularity in design
- Quality design and manufacturing

ENGINEERED
TO OUTRUN

ABB’s line of NEMA motors are designed with flexibility, durability and ease of maintenance in mind - minimizing operating costs and downtime. These motors are readily available and meet or exceed the NEMA Premium® energy efficiency requirements.

ABB NEMA MOTORS

Our solutions enhance safety, reliability and sustainability

Proving value to us means having the right motor for the job and offering solutions that are close to our customers' location. At ABB, we strive to offer a wide variety of motor types, in all frame sizes and power ratings with a comprehensive set of options and quick modifications.

This NEMA motor portfolio consists of motors with power ratings from 1 to 800 HP with variety of voltages up to 600V, stocked to meet the needs of the North American market. The flexibility and modularity in design provides a wide range of use from lightweight aluminum housed GP100A to the most robust and durable NEMA 5013 frame SD200 severe duty motors.

NEMA PREMIUM

A COMPLETE LINE OF LOW VOLTAGE NEMA MOTORS

1 to 800 Hp

						Severe Duty
Features		**SD100 & SD100 IEEE841**	**Severe Duty 661**	**SD 200**	**SD200 841**	**DP200 Crush+**
HP Range	3600 RPM	1-100Hp	-	125-600Hp	125-500Hp	-
	1800 RPM	1-100Hp	5-75Hp	125-800Hp	125-500Hp	125-600Hp
	1200 RPM	1-75Hp	7½-50Hp	100-600Hp	100-500Hp	125-600Hp
	900 RPM	1-60Hp	-	75-250Hp	75-250Hp	-
Frame Size	143T–5811	143T-405T	184T-365T	444T-5013	444T-5013	444T-5811
Standard Voltage (3 phase)	230/460V	140-250 [1]	-	-	-	-
	460V, 60Hz	143T-405T	184T-365T	444T-5013	444T-5013	444T-5811
	575V, 60Hz	143T-405T	184T-365T	444T-5013	444T-5013	444T-5811
Efficiency	NEMA Premium® [2]	143T-405T	184T-365T	444T-5013[5]	444T-5013	444T-5811
Insulation	Non-Hygroscopic	Class F	Class F	Class H	Class H	Class H
Temperature Rise	Class B	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF
	Class F	@ 1.15 SF	@ 1.15 SF	@ 1.15 SF	@ 1.5 SF	@ 1.15 SF
Construction		Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Fan		Polypropylene bi-directional	Polypropylene bi-directional	Polypropylene bi-directional	Polypropylene bi-directional	Polypropylene bi-directional
Ingress Protection		IP55	IP56	IP55	IP56	IP65
Hazardous classification	Gas	140T-400T CL I, Div. 2 GR. A, B, C & D	Division 2 Class I GR. A, B, C & D	Division 2 Class I, GR. A, B, C & D	Division 2 Class I, GR. A, B, C & D	Division 2 Class I, GR. A, B, C or D
	Dust [4]	280–400T CL II, Div. 2 GR. F & G	Division 2 Class I GR. F & G	Division 2 Class II, GR. F & G	Division 2 Class II GR. F & G	Division 2 Class II GR. F & G
Inverter Duty [5]	Variable Torque	20:1	20:1	20:1	20:1	20:1
	Constant Torque	4:1	4:1	4:1	4:1	4:1
		-	-	2:1 [3]	2:1 [3]	2:1

[1] Suitable for 208V (not on nameplate). Not for IEEE 841 motors.
[2] MG1 - Table 12-12.
[3] FS440 <350HP & FS500 4 Pole ≤600 HP.
[4] 140-320 available on request.
[5] NEMA Premium 4 efficient for 100 -250Hp

	Severe Duty Pump Motors		Explosion Proof		General Purpose
Horizontal Pump Systems (HPS)	**P-Base VSS Pump LP100**	**P-Base VSS Pump HP100**	**XP100**	**GP100**	**GP100A**
450–600Hp	3 - 100Hp	3-100Hp	1-300Hp	1-200Hp	1-20Hp
-	3 - 250Hp	3-250Hp	1-250Hp	1-200Hp	1-20Hp
-	3 - 250Hp	3-250Hp	1-200Hp	1-200Hp	1-20Hp
-	-	-	-	1-250Hp	-
509S-2011S	182LP-447LP	182Hp-447	143T-449T	143T-449T	143T-256T
-	182LP-286LP	182Hp-286	143T-445T (1)	143T-405T (1)	143T-256T (1)
509S-2011S	182LP-447LP	182Hp-447	143T-449T	143T-449T	143T-256T
509S-2011S	182LP-447LP	182Hp-447	143T-449T	143T-449T	143T-256T
509S-2011S	182LP-447LP	182 HP-447	143T-449T	143T-449T	143T-256T
Class H	Class F	Class F	Class F	Class F	Class F
@ 1.0 SF	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF	@ 1.0 SF
@ 1.15 SF	@ 1.15 SF	@ 1.15 SF	@ 1.15 SF	@ 1.15 SF	@ 1.15 SF
Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Aluminum
Metallic bi-directional	Polypropylene bi-Directional	Polypropylene bi-directional	Polypropylene bi-directional	Polypropylene bi-directional	Polypropylene bi-directional
IP55	IP55	IP55	IP65	IP55	IP55
500 CL I, Div. 2 GR. A, B, C	180T - 440T CL I, Div. 2 GR. A, B, C or D	180T-440T CL I, Div. 2 GR. A, B, C or D	140T-400T CL I, Div. 1 GR. C & D	-	-
			CL II, Div. 1 GR. F & G	-	-
20:1	20:1	20:1	20:1	-	-
4:1	4:1	4:1	4:1	-	-
2:1 (4)	-	-	-	-	-

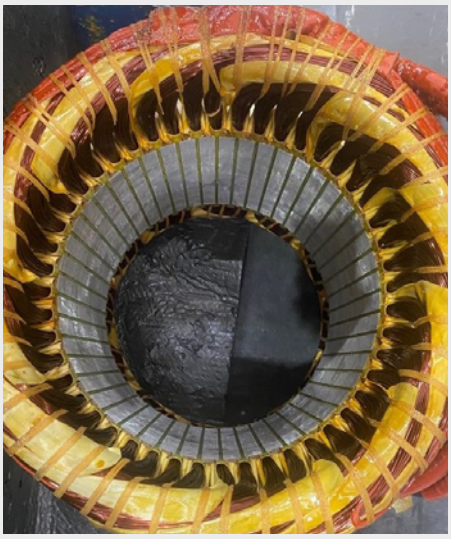
PRODUCT FAMILY

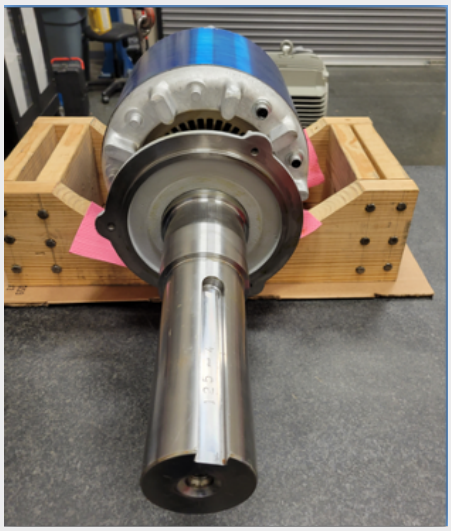
Purpose-built designs for your application

Severe Duty

- For harsh environments in industry such as petrochemical, pulp and paper, and, wastewater treatment
- Next generation efficiency and performance available in our SD200 and SD200 IEEE models
- SD family consists of 100 series, 200 next generation series, and sub-lines 661 that meets API standards and IEEE 841 that meets or exceeds IEEE 841 Std.2021
- DP200 Crush+ has the highest startup and breakdown torque, ideal for crusher and hard-start applications.

SD100 | **SD100 IEEE 841** | **SD661** | **SD200** | **SD200 IEEE 841** | **DP200 Crush+**



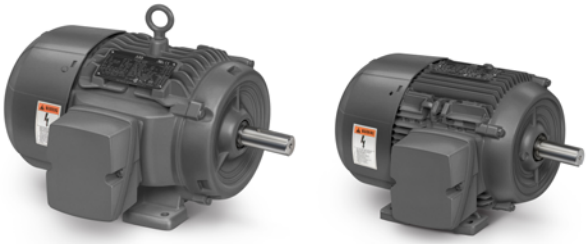


IEEE 841 specified motors have premium components such as:

- Premium grade electrical steel stator core using C5 core plate as standard
- Class H copper windings designed for cool operation
- High strength C1045/C4140 carbon steel shaft
- Inpro/Seal® or equivalent
- Oversized bearings on both ends

General Purpose

- General Purpose NEMA motors are designed and built to be operated in a variety of commercial and industrial environments.
- Many applications such as fans, compressors, pumps, conveyors
- Aluminum housing for lightweight (GP100A) and robust cast iron housing for durability (GP100)



GP100 **GP100A**

Explosion Proof

- Designed for Division 1 hazardous locations
- XP100 1D1 is only for gas (Division 1, Class I, Group D)
- Available also in JP pump design (JP shaft and flange (182JP – 215JP)

XP100

Specialty Pump

- LP100 and HP100 are vertical pump motor for both normal thrust and high thrust applications
- DP 200 HPS is our next generation horizontal pump system
- Suitable for API pumps and designed for long, trouble-free life in the harshest environments from oil and gas to petrochemical and wastewater treatment.

LP100 **HP100** **DP200 HPS**

CONFIGURE THE PRODUCT TO YOUR NEEDS

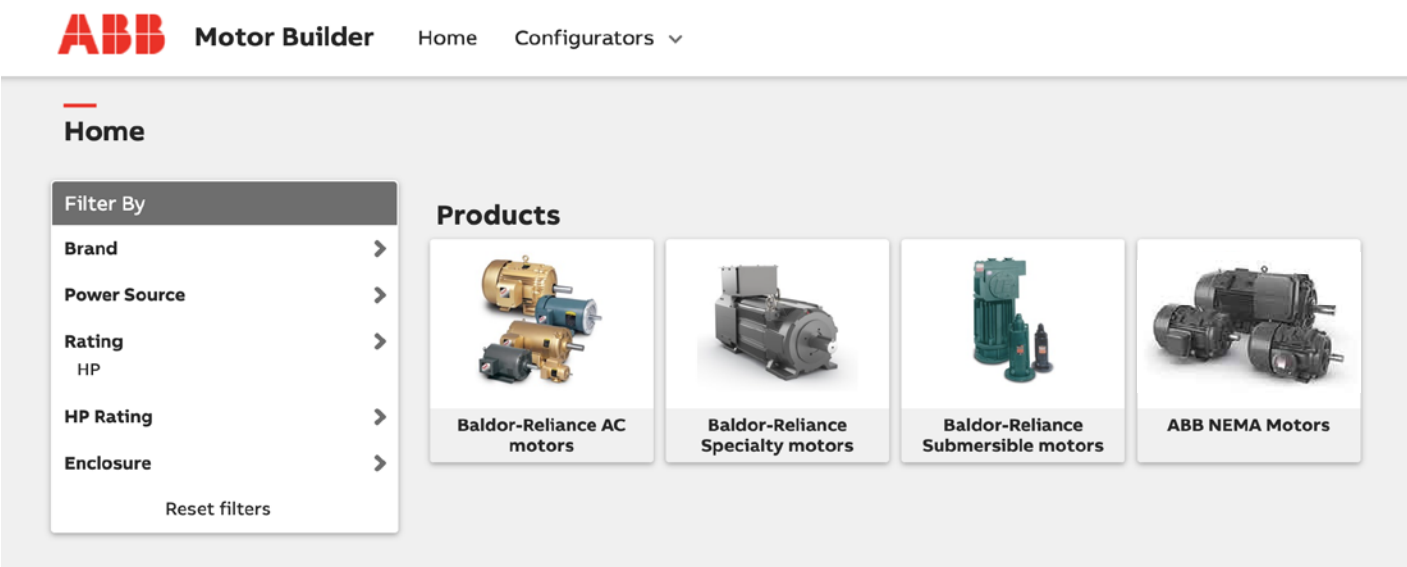
Options and customization

Need a motor for a special project? ABB has that covered with a wide selection of modification and custom options available and a highly skilled quotation team to help ensure that the best selection for the job is offered.

Our highly qualified research and development group is working to add to this list as part of our commitment to become your single source for motors.

Special documentations, drawings, wiring diagrams, performance curves, certificates and even product manuals are available on our ABB motor-builder configurator website at https://motorbuilder.abb.com

Motor builder



SUSTAINABILITY THROUGH CONDITION MONITORING
for hazardous locations

The ABB Ability™ Smart Sensor for hazardous areas monitors the health and performance of rotating machines operating in explosive atmospheres.

Sensor features

Certified for hazardous areas

The ABB Ability™ Smart Sensor for hazardous areas is designed for harsh environments. Its enclosure withstands high vibration levels and protects the sensor from dust and water ingress and is rated IP66/67. The sensor is certified for ATEX, IECEx, and NEC500, making it compliant with the strictest requirements for equipment operating in explosive atmospheres.

Health checks

Based on ABB's extensive know-how, advanced algorithms are used to analyze the data and produce meaningful information such as temperature, vibration, load, number of starts and more. The sensor sends this information directly to a smartphone or gateway and to a dedicated ABB Ability™ Smart Sensor portal. Data is also tracked over time for trend analysis.

ABB Ability™ Smart Sensor condition monitoring for motors brochure

QUALITY DESIGN AND MANUFACTURING

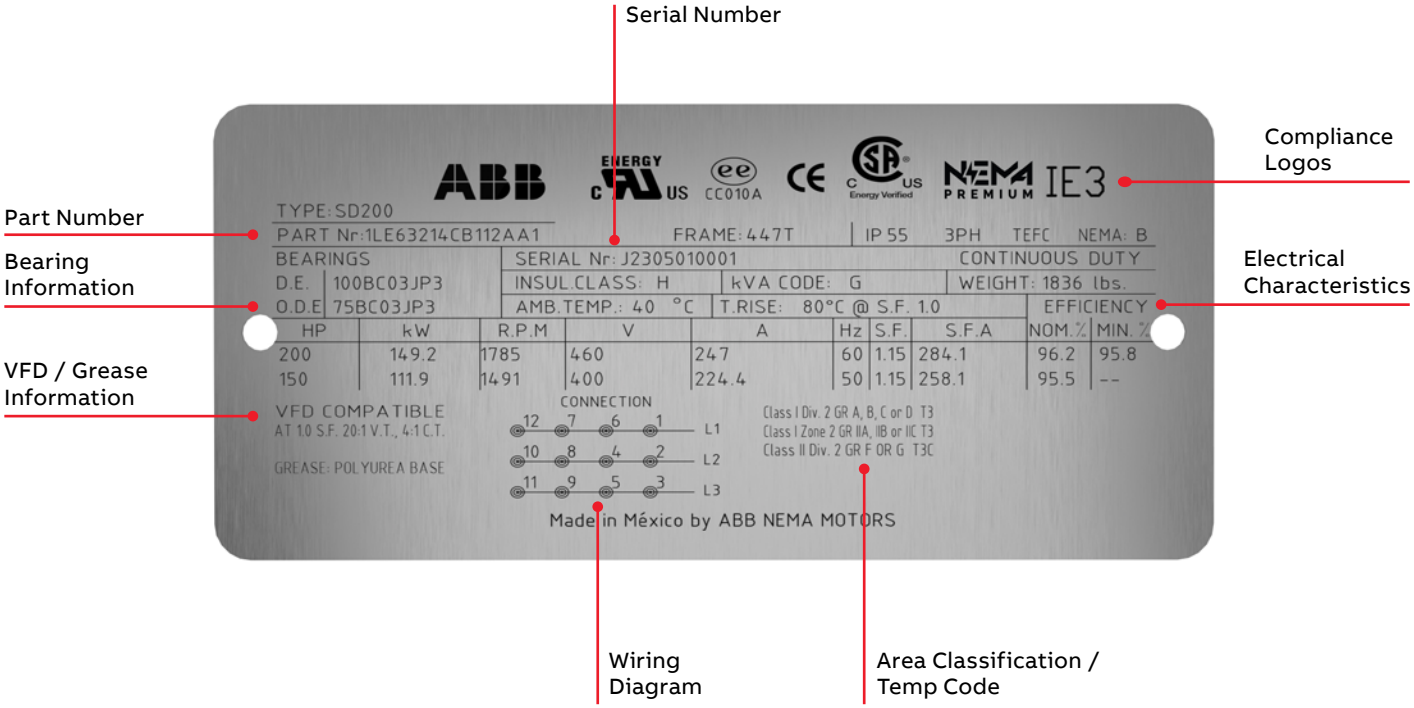
Bringing products close to our customers

Manufacturing plant located in Guadalajara, Mexico

History:
Founded in 1972
Siemens factory since 1982
ABB factory since 2023

Low voltage motor manufacturing scope: NEMA Frames size NEMA 143 – 5013, ABB NEMA motors SD, XP, GP and SD special pump motors

ABB NEMA motors are manufactured in a state-of-the-art, ISO 9001 certified facility. All products meet or exceed NEMA Premium® energy efficiency requirements suitable for the North American market.

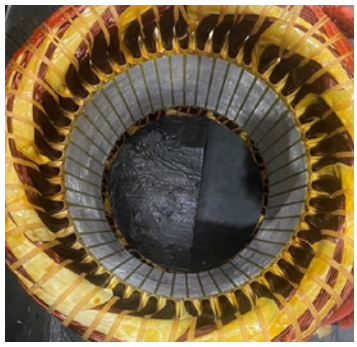
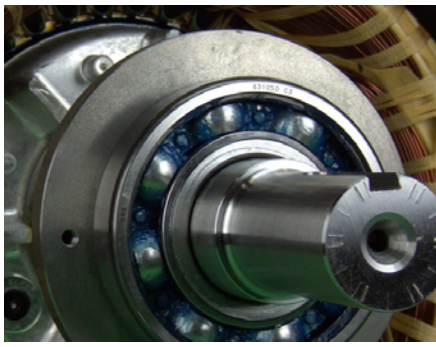


ABB, YOUR GLOBAL VALUE PARTNER

Partnering with ABB gives you access to some of the world's most innovative technology and thinking.

Global reach
ABB operates in over 100 countries with its own manufacturing, logistics and sales operations together with a wide network of local channel partners that can quickly respond to your needs. They bring our products and services straight to your front door. ABB channel partners have in-depth knowledge of local markets and are conversant with the defined ABB products and processes.

Energy efficiency
ABB has what it takes to help every industry and application reach new levels of efficiency and energy savings even under the most demanding conditions. Combining the best available materials with superior technology, our motors are designed to operate reliably no matter how challenging the process or application, and to have low life cycle costs.

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new.abb.com/motors-generators

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