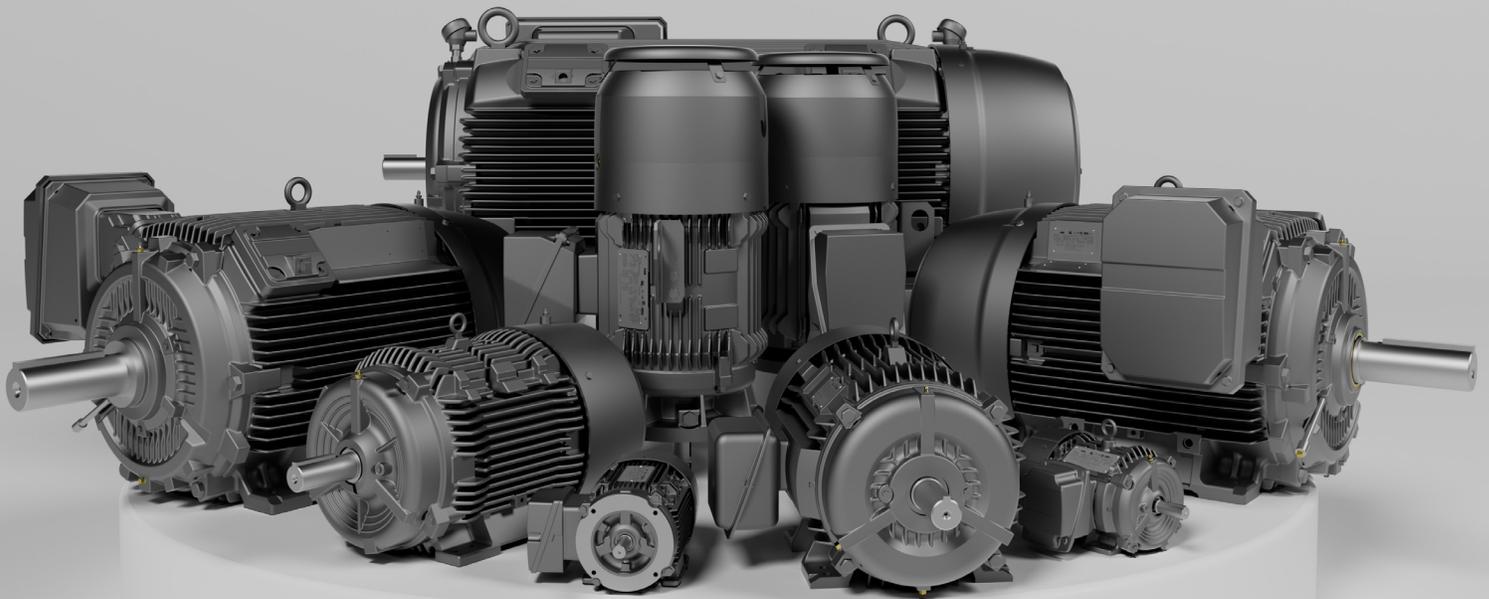


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BROCHURE

# ABB NEMA motors

## Low voltage industrial motors



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**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<sup>®</sup> energy efficiency requirements.**

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# 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.

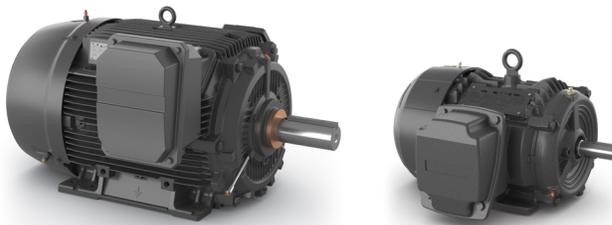
[Watch promo video](#)



# A complete line of low voltage motors

## 1 to 800 Hp

[ABB NEMA motors web page](#)



Features		SD200	SD200 IEEE 841	SD100	SD100 IEEE 841	Severe Duty SD661
HP Range	3600 RPM	125 - 800 HP	125 - 400 HP	1 - 100 HP	1 - 100 HP	-
	1800 RPM	125 - 800 HP	125 - 400 HP	1 - 100 HP	1 - 100 HP	5 - 75 HP
	1200 RPM	100 - 600 HP	100 - 300 HP	1 - 75 HP	1 - 75 HP	7½ - 50 HP
	900 RPM	75 - 250 HP	75 - 250 HP	1 - 60 HP	1 - 60 HP	-
Frame Size	140T - 500	440T - 500	440T - 500	140T - 400T	140T - 400T	180T - 360T
Standard Voltage (3 phase)	230V/460V	-	-	140T - 250T <sup>(1)</sup> & up to 75 HP	-	-
	460V, 60 Hz	440T - 500	440T - 500	140T - 400T	140T - 400T	180T - 360T
	575V, 60 Hz	440T - 500	440T - 500	140T - 400T	140T - 400T	180T - 360T
Efficiency	NEMA Premium® <sup>(2)</sup>	440T - 500	440T - 500	140T - 400T	140T - 400T	180T - 360T
Insulation	Non-Hygroscopic	Class H	Class H	Class F	Class F	Class F
Temperature Rise	Class B	@ 1.0SF	@ 1.0SF	@ 1.0SF	@ 1.0SF	@ 1.0SF
	Class F	@ 1.15SF	@ 1.15SF	@ 1.15SF	@ 1.15SF	@ 1.15SF
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	IP56
Hazardous classification	Gas <sup>(2)</sup>	440T - 500 CL I, Div. 2 GR. A, B, C or D	440T - 500 CL I, Div. 2 GR. A, B, C or D	140T - 400T CL I, Div. 2 GR. A, B, C or D	140T - 400T CL I, Div. 2 GR. A, B, C or D	180T - 360T CL I, Div. 2 GR. A, B, C or D
	Dust <sup>(4)</sup>	440T CL II, Div. 2 Gr. F & G	440T CL II, Div. 2 Gr. F & G	360T - 400T CL II, Div. 2 Gr. F & G	360T - 400T CL II, Div. 2 Gr. F & G	360T - 400T CL II, Div. 2 Gr. F & G
Inverter Duty <sup>(5)</sup>	Variable Torque	20:1	20:1	20:1	20:1	20:1
	Constant Torque	4:1 <sup>(3)</sup>	4:1 <sup>(3)</sup>	4:1	4:1	4:1
		2:1 <sup>(4)</sup>	2:1 <sup>(4)</sup>	-	-	-

(1) Available on 208V\*

(2) MG1 - Table 12-12

(3) GS440 <350HP & FS500 4 Pole ≤600 HP

(4) 35 - 60 HP: 2 Pole ≤700 HP



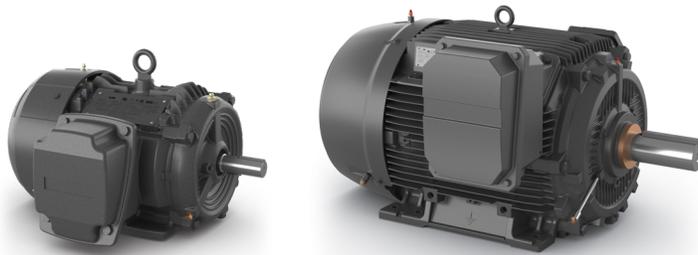
Severe Duty Pump Motors			Explosion Proof	General Purpose	
DP200 HPS	LP100	HP100	XP100	GP100	GP100A
450 - 800 HP	3 - 100 HP	3 - 100 HP	1 - 300 HP	1 - 200 HP	1 - 20 HP
-	3 - 250 HP	3 - 250 HP	1 - 250 HP	1 - 200 HP	1 - 20 HP
-	3 - 250 HP	3 - 250 HP	1 - 200 HP	1 - 200 HP	1 - 20 HP
-	-	-	-	1 - 250 HP	-
500	180T - 440T	180T - 440T	140T - 400T	140T - 400T	140T - 250T
-	180T - 250T	180T - 250T	140T - 250T <sup>(1)</sup>	140T - 250T <sup>(1)</sup>	140T - 250T <sup>(1)</sup>
500	180T - 440T	180T - 440T	140T - 400T	Up to 75HP	140T - 250T
500	180T - 440T	180T - 440T	140T - 400T	140T - 400T	140T - 250T
500	180T - 440T	180T - 440T	140T - 400T	140T - 400T	140T - 250T
Class H	Class F	Class F	Class F	Class F	Class F
@ 1.0SF	@ 1.0SF	@ 1.0SF	@ 1.0SF	@ 1.0SF	@ 1.0SF
@ 1.15SF	@ 1.15SF	@ 1.15SF	@ 1.15SF	@ 1.15SF	@ 1.15SF
Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Aluminium
Metallic Bi-Directional	Polypropylene Bi-Directional	Polypropylene Bi-Directional	Polypropylene Bi-Directional	Polypropylene	Polypropylene Bi-Directional
IP55	IP55	IP55	IP55	IP54	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 <sup>(2)</sup>	4:1 <sup>(2)</sup>	4:1 <sup>(2)</sup>	4:1	-	-
2:1 <sup>(4)</sup>	-	-	-	-	-

# ABB NEMA motors

## Product family

### 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



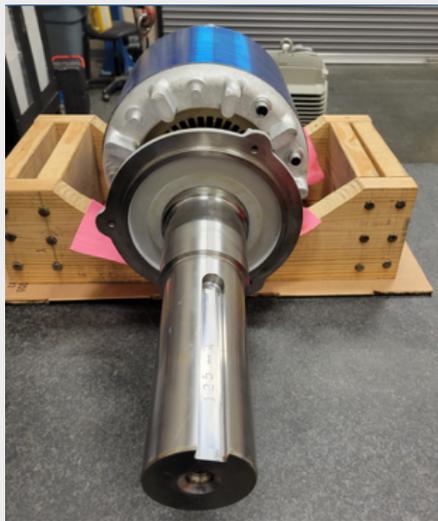
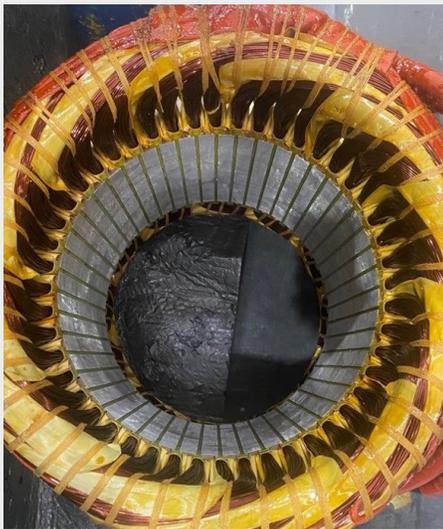
SD100

SD100 IEEE 841

SD661

SD200

SD200 IEEE 841



### IEEE 841 specified motors will 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

- HP100 is a normal thrust vertical pump motor.
- LP100 is vertical pump motor for high and very high thrust applications, also as fully compliant with API610 requirements.
- DP 200 HPS is our next-generation horizontal pump system
- 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

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Products



**Baldor-Reliance AC motors**



**Baldor-Reliance Specialty motors**



**Baldor-Reliance Submersible motors**



**ABB NEMA Motors**

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# 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

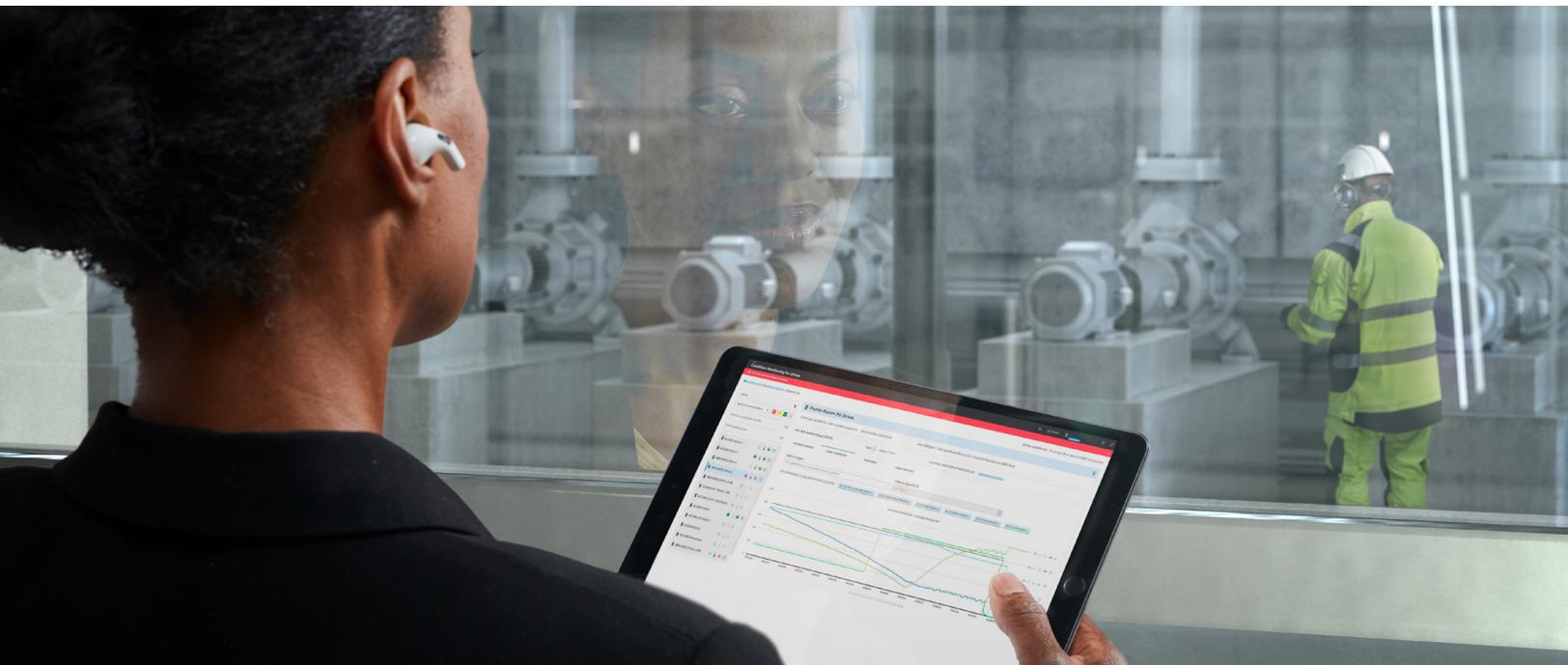
The ABB Ability™ Smart Sensor for hazardous areas is designed for harsh environments. Its enclosure withstands high vibration levels and protects the sensor from dust and water ingress and is rated IP66/67. The sensor is certified for ATEX, IECEx and NEC500, making it compliant with the strictest requirements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



[View 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.

**Serial Number**

**Compliance Logos**

**Part Number**

**Bearing Information**

**VFD / Grease Information**

**Electrical Characteristics**

**Wiring Diagram**

**Area Classification / Temp Code**

TYPE: SD200		PART N <sup>o</sup> : 1LE63214CB112AA1		FRAME: 447T	IP 55	3PH	TEFC	NEMA: B
BEARINGS		SERIAL N <sup>o</sup> : J2305010001		CONTINUOUS DUTY				
D.E.	100BC03JP3	INSUL.CLASS: H		kVA CODE: G	WEIGHT: 1836 lbs.			
O.D.E.	75BC03JP3	AMB.TEMP.: 40 °C		T.RISE: 80°C @ S.F. 1.0	EFFICIENCY			
HP	kW	R.P.M	V	A	Hz	S.F.	S.F.A	NOM.%   MIN.%
200	149.2	1785	460	247	60	1.15	284.1	96.2   95.8
150	111.9	1491	400	224.4	50	1.15	258.1	95.5   --

CONNECTION

```

    12 7 6 1
    10 8 4 2
    11 9 5 3
    
```

Class I Div. 2 GR A, B, C or D T3  
 Class I Zone 2 GR IIA, IIB or IIC T3  
 Class II Div. 2 GR F OR G T3C

Made in México by ABB NEMA MOTORS

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# 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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**ABB Motors and Mechanical Inc.**

5711 R.S. Boreham, Jr. Street

Fort Smith, AR 72901

Ph: 1.479.646.4711

**[new.abb.com/motors-generators](http://new.abb.com/motors-generators)**