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For more information, please contact your local ABB representative or visit

www.abb.com/drives

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FOR SMOOTH MOTOR CONTROL AND ENERGY SAVINGS

Low voltage AC drives

Product guide

AC drives. For smooth motor control and energy savings.

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Smooth motor control and energy savings

What is an AC drive?
An AC drive is an electronic device that is used to adjust the rotating speed and torque of a standard electric AC motor. The electric motor, in turn, drives a load such as a fan, pump or conveyor.

AC drives are also referred to as frequency converters, variable frequency drives (VFD), variable speed drives (VSD), adjustable frequency drives (AFD), adjustable speed drives (ASD) or inverters.

ABB - global market and technology leader in AC drives
ABB (www.abb.com) is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. ABB is the world's largest drives manufacturer. The ABB Group of companies operates in around 100 countries and employs more than 140,000 people.

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Electric motors consume about 65% of all electricity used throughout industry. Yet, less than 10% of those motors are fitted with a variable frequency drive.

Improve your processes with AC drives

Increased life time
Reduced starting current decreases electrical stress on the motor and network. Smooth ramp up to full speed also reduces mechanical wear on the equipment prolonging its life.

Increased productivity
Using drives increases the productivity of the applications by reducing the number of unintended stops caused by excessive heating of the motor or sudden breakdowns of mechanical equipment due to high mechanical stress.

Reduced need for maintenance
Being able to apply a softer start and vary the speed and torque of an electric motor means there is less wear and tear on the motor and the driven machine.

Further optimize your processes with AC drives

Substantial energy savings
Rather than having an electric motor running continuously at full speed, an electric drive allows the user to slow down or speed up the motor depending on the demand.

Optimal process control
An electric drive enables the process to achieve the right speed and torque while maintaining its accuracy. This contributes to more consistent quality and throughput of the end product.

Efficient system upgrade
An AC drive allows the removal of some valves, gears and belts. It also ensures network dimensioning based on a lower starting current.

ABB drives common features

- **Easy to select**
  You can be sure to find a right product for your application from a wide selection of ABB AC drives.
- **Easy to purchase**
  ABB drives are available from ABB and selected ABB partners.

Easy to install
The drives are simple to install, featuring a variety of mounting options from wall-mounted to cabinet mounted.

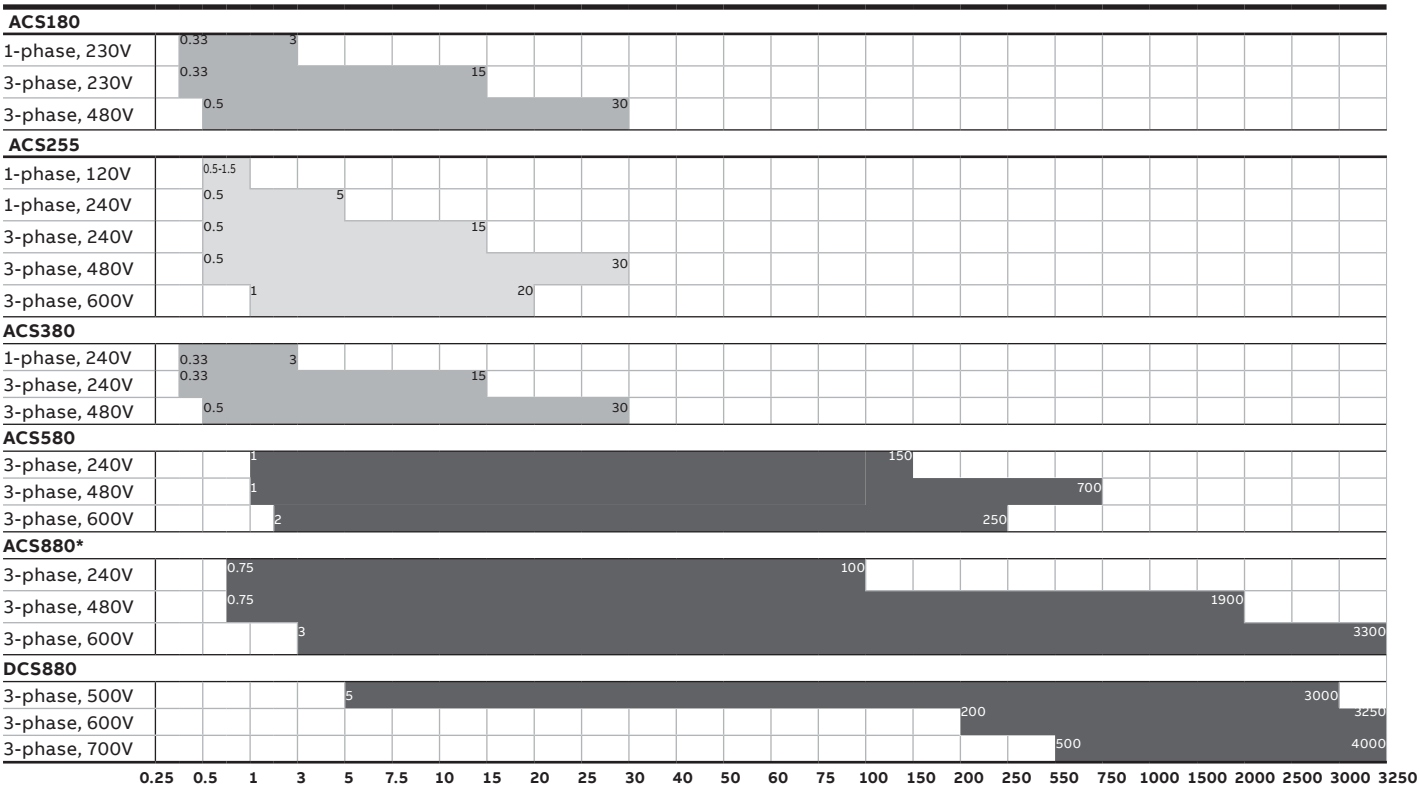
- **Easy to operate**
  Once installed and commissioned, the drives are incredibly easy to operate. The user interface allows instant adjustments to speed or other more advanced parameters.

Choosing the right drive for your application

Step	Process	Action
1	**Identify the application** Identify the type of application and the likely demands of the drive.	Continue to step 2.
2	**Gather the load data: system inertia, required acceleration and deceleration rates, minimum and maximum speeds, overload requirements, etc.** This information can often be determined by the performance of the existing motor.	Continue to step 3.
3	**Gather the motor data: rated torque, kW, volts, insulation class, speed, etc.** Whether an existing motor or a new motor is being used, the motor information is critical to choosing a drive.	Continue to step 4.
4	**Choose a drive** Match the data gathered in Steps 1 to 3 against the table of drive features on page 8-9. Select a drive that meets the motor requirements and has all the software features needed for the application.	Continue to step 5.
5	**Is the drive offered in the correct hp rating?** The drive you choose must be able to supply the necessary current to the motor to produce the torque required. This includes normal and overload conditions. Select current from the tables on pages 7, depending on drive type selected.	If yes, continue to step 6. If no, go to step 4.
6	**Is the drive offered in the correct enclosure and environmental ratings?** The drive you choose must be available in an enclosure style that will withstand the application's environment. It also must produce the required current at the application's altitude and ambient temperature.	If yes, continue to step 7. If no, go to step 4.
7	**Does this drive have the features needed to meet the application's demands?** The drive you choose must have a feature set that matches the application. It also must have sufficient hardware (inputs and outputs, feedback, communications, etc.) to perform the application.	If yes, continue to step 8. If no, go to step 4.
8	**Does this drive have the motor control performance to meet the application's demands?** The drive you choose must be able to produce the needed torque at the necessary speeds. It must also be able to control speed and torque depending on the application requirements.	If yes, continue to step 9. If no, go to step 4.
9	**Congratulations!** The ABB AC drive you have chosen has the features and performance needed for a successful application.	

Drive type	Micro		Machinery	General purpose	Industrial	
Applications	**ACS180**	**ACS255**	**ACS380**	**ACS580**	**ACS880**	**DCS880**
General purpose/broad distribution				●		
Food & beverage	●		●	●	●	
Irrigation		●		●		
MCC				●		
Compressor	●			●	●	
Conveyor	●		●		●	
Fan	●	●		●		
Mixer	●			●	●	
Pump	●			●		
Integrated / machinery	●	●	●		●	●
Oil & gas					●	●
Metals & mining					●	●
Rubber & plastic					●	
Electric Power Generation					●	●
Centrifuge					●	
Extruder					●	●
Hoist crane					●	
Overhead / gantry crane			●		●	
Punch press					●	
Winder					●	

Horsepower comparison



* Chart represents air-cooled drives only.

Drive selection table

Specification		ACS180	ACS255	ACS380
Voltage and power ranges		1-phase, 200 to 240 V: 0.33 to 3 hp (0.25 to 2.2 kW)	1-phase, 110 to 120 V: 0.5 to 1.5 hp (0.37 to 1.1 kW)	1-phase, 200 to 240 V: 0.33 to 3 hp (0.37 to 2.2 kW)
		3-phase, 200 to 240 V: 0.33 to 20 hp (0.25 to 15 kW)	1-phase, 200 to 240 V: 0.5 to 5 hp (0.37 to 4 kW)	3-phase, 200 to 240 V: 0.33 to 20 hp (0.37 to 15 kW)
		3-phase, 380 to 480 V: 0.5 to 30 hp (0.37 to 22 kW)	3-phase, 200 to 240 V: 0.5 to 15 hp (0.37 to 11 kW)	3-phase, 380 to 480 V: 0.33 to 30 hp (0.37 to 22 kW)
			3-phase, 380 to 480 V: 0.5 to 30 hp (0.37 to 22 kW)	
			3-phase, 500 to 600 V: 1 to 15 hp (0.75 to 11 kW)[1] 1 to 20 hp (0.75 to 15 kW)	
Protection classes	UL type 0/IP20	●	●	●
	UL type 1/IP21	❍[10]	–	❍
	UL Type 12/IP54/IP55	–	–	–
	UL Type 4X/IP66/IP67	–	●	–
	UL type 3R	–	–	–
Mounting arrangements	Optimal for cabinet mounting	●	●[6]	●
	Optimal for wall mounting	❍[10]	●[1]	❍
Programming	Parameter programming	●	●	●
	Sequence programming	●	–	●
Human-Machine interface	Basic control panel	❍	–	❍
	Assistant control panel	❍	–	❍
	Bluetooth enabled panel	❍	–	❍
	Integrated control panel	●	●	●
Motor Control		Open loop vector, Scalar (V/Hz) AC induction and PMAC	Open loop vector, Scalar (V/Hz), enhanced V/Hz or open loop vector	Open loop vector, Scalar (V/Hz) and Closed loop control - AC induction and AC induction , PM & RPMAC, SynRm, EC Titanium motors
Ambient temperature		14 to 122˚F (-10 to 50˚C), Up to 140˚F (60˚C) with derating No frost allowed.	UL Type 0: 14 to 104˚F (-10 to 40˚C), 122˚F (50˚C) with derate UL type 4X: 14 to 104˚F (-10 to 40˚C), No frost allowed.	14 to 122˚F (-10 to 50˚C), Up to 140˚F (60˚C) with derating No frost allowed.
Inputs and outputs	Digital inputs/outputs	4/1	4/0	4/2[4]
	Relay outputs	1	1 (+1 as option)	1 (+4 as option)
	Analog inputs/outputs	2/1	2/1	2
	Encoder feedback	–	–	●
Supported fieldbus protocols	Modbus RTU	●	●	●
	Profibus DP	–	–	●
	DeviceNet™	–	–	–
	ControlNet	–	–	–
	CANopen®	–	–	●
	Ethernet (Modbus/TCP)	–	–	●
	Ethernet (EtherNet/IP™)	–	–	●
	Ethernet (EtherCAT®)	–	–	●
	Ethernet (PROFINET IO)	–	–	●
	Ethernet (PowerLink)	–	–	●
EMC compliance (EN 61800-3)	C3, industrial use	●	❍	❍
	C2, commercial use (installation by EMC experts)	● (200 V only)	❍	❍
	C1, commercial use	–	❍	❍
	Input reactors	❍	❍	❍
	Output reactors	❍	❍	❍
Brake chopper		Sizes 2,3 & 4 only	Sizes 2 & 3 only	●
Suggested maximum motor cable length		98.5 to 196.9 ft (30 to 60 m)	328 ft (100 m)	98.5 to 196.9 ft (30 to 60 m)
Switching frequency		up to 12 kHz	up to 32 kHz	up to 12 kHz
Output frequency		0 to 599 Hz	0 to 500 Hz	0 to 500 Hz
Overload capacity		150% for 60 s, 180% for 2 s	150% for 60 s, 175% for 2 s	150% for 60 s, 180% for 2 s
Number of preset speeds		7	4	7
PC tools	Drive commissioning tool	●	–	●
	Drive offline prog tool	●	–	●
	Drive dimensioning tool	●	–	●
Approvals	UL, cUL, CE, CSA, C-Tick, EAC, UKCA	●	●	●
RoHS compliance		●	●	●

● Standard ❍ Option — Not Available [1] IP66 product variants [2] up to R2 as standard [3] G1/G2 frames IP00 [4] DO are DIO and can be used as DI [5] Frame dependent
[6] IP20 variant [7] I/O can be expanded with optional modules [8] Eight digital outputs can be configured to be DI or DO [9] ACS580-0P only [10] Frames R2-R4 Only

Specification		ACS580	ACS880	DCS880
Voltage and power ranges		3-phase, 208 to 240V: 1 to 150 hp (0.75 to 110 kW)	3-phase, 208 to 240V: 0.75 to 100 hp (0.75 to 75 kW)	3-phase, 230 to 525 V: 5 to 3000 hp (4 to 2250 kW)
		3-phase, 380 to 480 V: 1 to 700 hp (0.75 to 522 kW)	3-phase, 380 to 500 V: 0.75 to 1900 hp (0.75 to 1500 kW)	3-phase, 600 V: 200 to 3250 hp (150 to 1700 kW)
		3-phase, 500 to 600 V: 2 to 250 hp (1.5 to 180 kW)	3-phase, 525 to 690V: 5 to 3300 hp (3 to 3000 kW)	3-phase, 700 V: 500 to 4000 hp (400 to 3000 kW)
				higher upon request
Protection classes	**UL type 0/IP20**	–	●	●
	UL type 1/IP21	●	●	–
	UL Type 12/IP54/IP55	●	●	–
	UL Type 4X/IP66/IP67	●	–	–
	UL type 3R	❍ [9]	–	–
Mounting arrangements	**Optimal for cabinet mounting**	●	❍	●
	Optimal for wall mounting	●	●	–
Programming	**Parameter programming**	●	●	●
	Sequence programming	●	–	–
Human-Machine interface	**Basic control panel**	–	–	–
	Assistant control panel	●	❍	●
	Bluetooth enabled panel	❍	●	–
	Integrated control panel	–	–	–
Motor Control		Open Loop Vector, Scalar (V/Hz) AC Induction, PM & RPMAC, SynRm, EC Titanium motors	Direct Torque Control (DTC), Scalar (V/Hz) AC Induction, PM & RPMAC, SynRm, EC Titanium motors	–
Ambient temperature		5 to 122˚F (-15 to +50˚C) From 104 to 122˚F (+40 to +50˚C) with derating. No frost allowed.	5 to 131˚F (-15 to +55˚C) From 104 to 131˚F (40 to 55˚C) with derating. No frost allowed.	32 to 104˚F (0 to 40˚C) From 104 to 131˚F (40 to 55˚C) with derating. No frost allowed.
Inputs and outputs	**Digital inputs/outputs**	6/0	6/8 [7,8]	8/7
	Relay outputs	3 + (3 as option)	3 [7]	1
	Analog inputs/outputs	2 /2	2/2 [7]	4/2
	Speed feedback	–	❍	●
Supported fieldbus protocols	**Modbus RTU**	●	●/❍	❍
	Profibus DP	❍	❍	❍
	DeviceNet™	❍	❍	❍
	ControlNet	❍	❍	❍
	CANopen®	❍	❍	❍
	Ethernet (Modbus/TCP)	❍	❍	❍
	Ethernet (EtherNet/IP™)	❍	❍	❍
	Ethernet (EtherCAT®)	❍	❍	❍
	Ethernet (PROFINET IO)	❍	❍	❍
	Ethernet (PowerLink)	❍	❍	❍
EMC compliance (EN 61800-3)	**C3, industrial use**	●	❍	●
	C2, commercial use (installation by EMC experts)	●	❍	❍
	C1, commercial use	O(conductive emissions)	–	–
	Input reactors	●	●(built-in)	Required; supplied by others
	Output reactors	❍	❍(cabinets)	–
Brake chopper		R1-R3 Frames	●/❍ [5]	Not applicable
Suggested maximum motor cable length		300m	5000 ft / 1000 ft (150m / 300m) [5]	Not applicable
Switching frequency		2, 4, 8, 12 kHz	2.7 kHz (typical)	Not applicable
Output frequency [11]		0 to 500Hz	0 to 500 Hz	Not applicable
Overload capacity		110% for 60s 150% for 60s	110% for 60s, 150% for 60s	150% for 60 s, 150% for 30 s, 110% for 60 s
Number of preset speeds		7	7	4
PC tools	**Drive commissioning tool**	❍	❍	●
	Drive offline prog tool	❍	❍	–
	Drive sizing tool	❍	❍	❍
Approvals	**UL, cUL, CE, CSA, C-Tick, EAC, UKCA**	●	●	●
RoHS compliance		●	●	●

[11] Check ABB Factory for higher output frquency capabilities.

ACS180, machinery drives
0.5 to 30 hp (0.37 to 22kW)

What is it?
The ACS180 is a compact machinery drive and a part of the ABB family of all-compatible drives. It is designed to meet the needs of demanding constant torque applications in the food and beverage, material handling, and compact machinery industry segments.

ACS180 has a a graphical, icon-based, control panel to simplify setup, operation, and data gathering, while removing language barriers for a drive/control interface.

The ACS180 offers all essential Features included; dual ratings, SIL3 Safe Torque Off, modbus RTU, part of the all-compatible family. Save costs with

essential features and reduce installation time. Designed for machine builders to optimize panel space and provide the performance and reliability to set your machine apart.

Feature	Advantage	Benefit
Optimized cooling configuration	Allows drive operation up to 50 °C at full rating and up to 60 °C with derating. Channels most of the cooling air over the heatsink and DC capacitors and less over the control board	Minimizes dust and dirt contamination of sensitive electronics, extending the drives lifespan and minimizing maintenance cost
Same height and depth across power range	More efficient panel layout and installation	Reduced design and installation time
Integrated graphic icon-based control panel	Quick setup, easy configuration and commissioning, rapid fault diagnosis	Substantial time savings locating faults and implementing repairs, thereby reducing maintenance costs
Adaptive programming with sequence programming	State machine programming with PLC-like functionality included as standard	Reduces cost for components and integration in the control system
Integrated EMC filter options	Standard or high electromagnetic compatibility	Low EMC emissions in the local environment extends the life and usability of sensitive components located near the drive.
Safe Torque Off function (SIL3) as standard	Built-in and certified function that is used for prevention of an unexpected startup and other stopping related functions.	Reduces the need for external safety components. Helps machine builders to fulfill the requirements of Machinery Directive 2006/42/EC.

For additional technical information, see the AC1380 Technical Catalog (ACS180-PHTC01U-EN) or www.abb.com/drives.

ACS255, micro drives
0.5 to 30 hp (0.37 to 22 kW)

What is it?
The ACS255 micro drive offers easy to use and compact solutions for general purpose, low power applications, including mixers, pumps, fans, conveyors. All variants include a built-in Modbus RTU serial communication to provide straightforward integration with control and monitoring systems.

Available in IP20 and outdoor-rated IP66/NEMA4x enclosures.

Feature	Benefit	Result
User-friendly LCD control panel	Clear alphanumeric display Easy setup and use	Time savings with programming and monitoring
Optional front mounted operator controls (IP66 variant)	Allows the drive to be mounted on the machine close to the operator	Cost savings with operator controls already mounted on the drive – no need for custom panels
Flexible mounting alternatives (IP20 variant)	Wall or DIN rail mounting without extra accessory kits	One drive type can be used in various designs, saving installation costs and time
PI control	Simple integration to process control	Cost savings with PLC functionality built into the drive
Slide-out help card (IP20 variant)	Ready reference, right on the drive	Time savings with setup and programming
Epoxy coated heatsink (IP66 variant)	Protects the heatsink from harsh washdown chemicals	Cost savings with extended life in the harshest environments
Enhanced V/Hz control for variable or constant torque applications	Optimized performance and energy savings for all applications	One drive can efficiently power both VT or CT applications
Flow through wiring (IP20 variant)	Facilitates panel layout, or contactor replacement, with power leads in at the top and motor cables out at the bottom	Time and cost savings for panel builders
Separate terminal cover (IP66 variant)	No need to expose sensitive electronics to the environment when connecting and commissioning the drive	Time savings with easy access to connection terminals
Built-in brake chopper as standard (sizes 2, 3, & 4)	No need for an external brake chopper	Space savings, reduced installation cost
Safe torque off function (SIL3) as standard (600V only)	Built-in and certified function that is used for prevention of an unexpected startup and other stopping related functions	Reduces the need for external safety components. Helps machine builders to fulfill the requirements of Machinery Directive 2006/42/EC
High protection class variant (IP20 variant, up to 20 hp) (IP66 variant, up to 30 hp)	No need to design special enclosure for applications that require high ingress protection	Time and cost savings
CopyStick tool	CopyStick is used to quickly and easily set drive parameters. The tool uploads drive parameters directly to unpowered drives. The tool can copy parameters from one drive to another or between a PC and a drive.	Time savings, especially with multiple drives

For additional technical information, see the ACS255 documentation (ACS255-PHPB01U-EN, ACS255-PHPB02U-EN, and ACS255-PHPB03U-EN) or www.abb.com/drives.

ACS380, machinery drives
0.5 to 30 hp (0.37 to 22kW)

What is it?
The ACS380 is a compact machinery drive and a part of the ABB family of all-compatible drives. It is designed to meet the needs of demanding constant torque applications in the food and beverage, material handling, and compact machinery industry segments.

It is the first compact industrial drive available with a graphical, icon-based, control panel to simplify setup, operation, and data gathering, while removing language barriers for a drive/control interface.

The ACS380 achieves a new level of high performance motor control with the ability to power AC induction, permanent magnet AC, and SynRM motors.

Feature	Advantage	Benefit
Optimized cooling configuration	Allows drive operation up to 50 °C at full rating and up to 60 °C with derating. Channels most of the cooling air over the heatsink and DC capacitors and less over the control board	Minimizes dust and dirt contamination of sensitive electronics, extending the drives lifespan and minimizing maintenance cost
Same height and depth across power range	More efficient panel layout and installation	Reduced design and installation time
Integrated graphic icon-based control panel	Quick setup, easy configuration and commissioning, rapid fault diagnosis	Substantial time savings locating faults and implementing repairs, thereby reducing maintenance costs
Adaptive programming with sequence programming	State machine programming with PLC-like functionality included as standard	Reduces cost for components and integration in the control system
Integrated EMC filter options	Standard or high electromagnetic compatibility	Low EMC emissions in the local environment extends the life and usability of sensitive components located near the drive.
Built-in brake chopper as standard	No need for an external brake chopper	Space savings, reduced installation cost
Safe Torque Off function (SIL3) as standard	Built-in and certified function that is used for prevention of an unexpected startup and other stopping related functions.	Reduces the need for external safety components. Helps machine builders to fulfill the requirements of Machinery Directive 2006/42/EC.
Preconfigured connectivity for all major machine automation fieldbus protocols	At power-up, the installed fieldbus module automatically configures drive parameters allowing drive programming directly from the PLC.	Time is saved by not having to configure drive parameters to enable PLC direct control
NEMA 1 conversion kit	Expand the use of compact drives from cabinet-mounted to wall-mounted with UL Type 1 (finger-safe) level protection	Cost and space savings for compact machines
Cold Configuration Tool	The CCA-01 is used to connect a PC to an unpowered drive for loading or managing drive parameters using DriveComposer. Direct connection between the drive and PC is possible using the BCBL-01 cable and the RJ-25 panel port on the top of the ACS380.	Saves time for OEM's programming multiple drives for production or to send out as machine replacements

For additional technical information, see the ACS380 Technical Catalog (ACS380-PHTC01U-EN) or www.abb.com/drives.

ACS580, general purpose drives
1 to 700 hp (0.75 to 522 kW)

What is it?
The ACS580 is plug-in ready to control your pumps, fans, compressors, conveyors, mixers and many other variable and constant torque applications. Most essential features are built-in as standard, simplifying drive selection, and making additional hardware unnecessary. Straightforward settings menu and assistants enable fast setup, commissioning, use and maintenance.

The ACS580 drive meets the requirements of drive users, installers, electricians, machine builders, system integrators and panel builders.

Feature	Advantage	Benefit
Control panel and Primary settings menu with multi-language support	Effortless commissioning, configuration, monitoring and defect tracking. No need to know parameters with the Primary settings menu.	Substantial time savings. Drive speaks your local language. No need for manual as the help function is already built-in to the panel.
Installation and commissioning	Highest power density against most of the comparable products in the market. Multiple drives can be installed side-by-side.	Cost, space and time savings
Connect to public low voltage networks	Integrated C2 EMC filter (1st environment) for frame sizes R1 to R9 or C3 EMC filter (2nd environment) for frame sizes R10 to R11 and swinging choke (compatible harmonics levels) as standard	Ensure that the product can be used on public installations and therefore no additional filters or engineering is required.
Energy efficiency functionality	The built-in energy efficiency calculators monitoring used and saved kWh, CO_2 reduction and money saved. The energy optimizer ensures the maximum torque per ampere. The wall-mounted drive fulfills the highest IE2 drive (EN 50598-2) energy efficiency class and is compatible with high-efficiency IE4 motors.	Energy savings through improved energy management
Standard safety functions	Integrated, certified safety with SIL3/PL e Safe Torque Off (STO), fulfilling the machinery directive.	Fulfills Machinery Directive 2006/42/EC, EN/IEC 61800-5-2:2007. Cost-effective and certified solution for safe machine maintenance.

For additional technical information, see the ACS580 Technical Catalog (ACS580-PHTC01U-EN) or www.abb.com/drives.

ACS880, industrial drives
0.75 to 8050 hp (0.56 to 6000 kW)

What is it?
The all-compatible ACS880 industrial drives are designed to tackle any of your motor-driven applications, in any industries, whatever the power range. Compatible with virtually all of your processes, automation systems, users and business requirements, the innovation behind the ACS880 drives is our drives architecture that simplifies operation, optimizes energy efficiency and helps maximize process output. The ACS880 series consists of single drives, multi-drives and drive modules.

These drives are also available as regenerative and ultra-low harmonic constructions.

Feature	Advantage	Benefit
Compact wall-mounted and cabinet-built drives and drives modules, with a wide power and voltage range	Designed to provide customers across industries and applications with unprecedented levels of compatibility and flexibility. Drives are built to order with a wide range of options such as EMC filters, braking options and different enclosure variants.	Simplifies configuration and ordering process. Reduces training costs. Reduces service and maintenance costs.
Controls virtually any type of motor	Our robust industrial drives ensure an energy efficient and reliable motor controller with significant cost savings for the user.	Reduces costs by improving energy efficiency.
Direct Torque Control (DTC) as standard	Accurate, dynamic and static speed and torque control. Excellent process control even without pulse encoder. High overload and high starting torque. Less noise during motor operation. Output frequency up to 500 Hz as standard.. Enhanced motor identification at standstill.	Improves product quality, productivity and reliability. Reduces maintenance costs.
Integrated safety features including safe torque off (STO) as standard	Safe torque off is built-in as standard. Optional safety functions modules provides extended safety functions.	Simplifies the configuration. Reduces product installation footprint. Reduces the need for additional external safety components.
Removable memory unit	The removable memory unit stores the software that includes user settings, parameter settings and motor data.	Easy to install, update and replace. Drastically reducing Mean Time to Recover (MTTR).
Remote monitoring possibilities	With a built-in web server, NETA-21 enables worldwide access to the drive via the Internet or local Ethernet network.	Increases productivity and reduces downtime with instant access to drives
Communication with all major automation networks	Fieldbus adapters enable connectivity with all major automation networks. The plug-in fieldbus adapter module can easily be mounted inside the drive.	Reduces wiring costs compared to traditional I/O connections. Simplifies the installation and commissioning process

For additional technical information, see the ACS880 Technical Catalogs (3AUA0000139403, 3AUA0000139404) or www.abb.com/drives.

DCS880, DC drives
5 to 8050 hp (3.7 to 6000 kW)

What is it?
The DCS880 DC industrial drive from ABB combines a powerful controller with a thyristor power platform that has been proven in factories all over the world. The DCS880 boasts a wider power range than any other DC drive on the market. Special features make installation and configuration simple and allow you to customize the application to your needs. Both regenerative and non-regenerative drives are available. ABB also offers rebuild and upgrade kits specifically for retrofits to update the controls on existing DC drives. Panel drives are also available which include the DCS880 module and associated system components mounted and wired on a sub-panel.

Feature	Advantage	Benefit
20 - 20,000 A; up to 5200 A in a single module package	Widest available power range in the industry Highest power rating in the industry	The DCS880 will work regardless of the size of the load Saves the time and expense of paralleling drives
250 - 1500 Vdc	Widest supply voltage range in the industry	The DCS880 will work regardless of the size of the incoming voltage
Adaptive Programming	The user can easily customize the drive to their needs	The DCS880 will work in almost any application
Compact design	Highest power-to-size ratio in its class	Smaller enclosures; Makes system wiring faster and easier
Controls can be replaced without replacing the power section	Upgrade without replacing properly-functioning power components	Less costly upgrades
DriveWindow Light	Includes a commissioning wizard at no extra charge, making commissioning and adjustments easier	Faster commissioning; easier to make adjustments
Multi-lingual control panel	The DCS880 can be used in user's native language	Makes it easier to specify and order a drive
Wide range of high-speed fieldbus modules	The DCS880 can communicate with almost any PLC	Eliminates need to modify the PLC when retrofitting the drive, reducing cost
ControlBuilder / IEC 61131 Option	The drive is fully customizable	The DCS880 will work in highly unusual applications or when the customer needs some special firmware features
DCS880-EP drive module and system components pre-wired on a panel	System components are preselected, wired and tested	Less engineering, easier to implement, faster to commission
DCS880-EP are designed so components are accessible for maintenance	Any part is able to be replaced quickly	Less down time

For additional technical information, see the DCS880 Technical Catalog (DCS880-PHTC01U-EN) or www.abb.com/drives.
FlexPak® 3000 is a registered trademark of Rockwell Automation, Inc.

A lifetime of peak performance

You're in control of every life cycle phase of your drives. At the heart of drive services is a four-phase product life cycle management model. This model defines the services recommended and available throughout drives lifespan.

Now it's easy for you to see the exact service and maintenance available for your drives.

ABB drives life cycle phases explained:

	Full range of life cycle services and support		Limited range of life cycle services and support	Replacement and end-of-life services
Product	Product is in active sales and manufacturing phase.	Serial production has ceased. Product may be available for plant extensions, as a spare part or for installed base renewal.	Product is no longer available.	Product is no longer available.
Services	Full range of life cycle services is available.	Full range of life cycle services is available. Product enhancements may be available through upgrade and retrofit solutions.	Limited range of life cycle services is available. Spare parts availability is limited to available stock.	Replacement and end-of-life services are available.

Keeping you informed
We notify you every step of the way using life cycle status statements and announcements.

Your benefit is clear information about your drives' status and precise services available. It helps you plan the preferred service actions ahead of time and make sure that continuous support is always available.

Step 1

Life Cycle Status Announcement
Provides early information about the upcoming life cycle phase change and how it affects the availability of services.

Step 2

Life Cycle Status Statement
Provides information about the drive's current life cycle status, availability of product and services, life cycle plan and recommended actions.

Introducing the most complete drives portfolio in the world

ABB low voltage AC drives
The ABB low voltage AC drives product range, from 0.18 to 5600 kW, is the widest available from any manufacturer. These drives are the global benchmark that signifies reliability, simplicity, flexibility and ingenuity throughout the entire life cycle of the drive.

Several ABB drives feature calculators that provide energy consumption data. This information can be used to further analyze and tune a process for even greater energy savings.

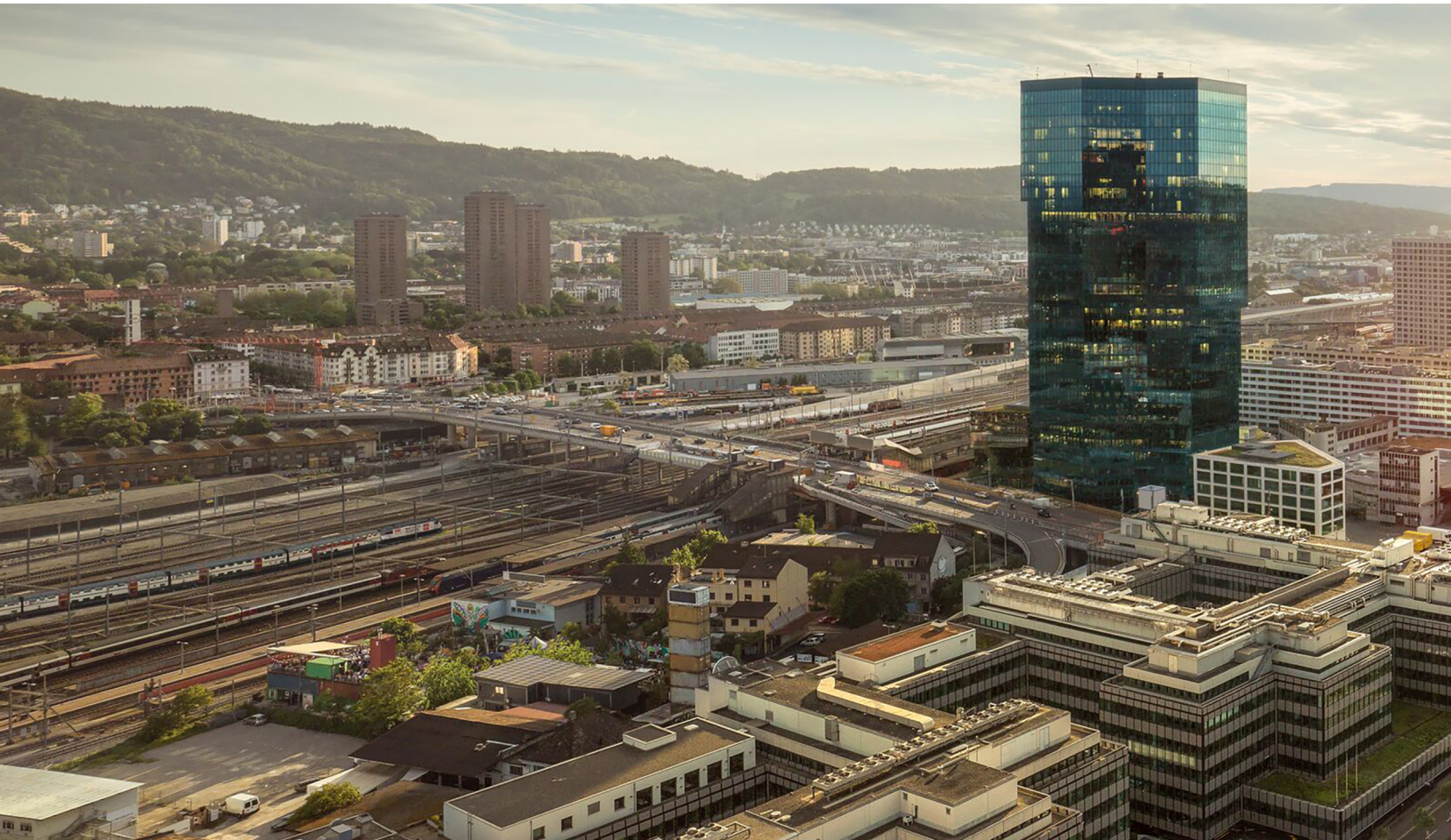
The portfolio is supported by a selection of PC tools, fieldbus and communication options.

ABB micro drives
ABB micro drives are suitable for many low power applications such as pumps, fans and conveyors. The focus in our design has been the easy integration into machines, which provides flexible mounting alternatives and straightforward commissioning.

ABB general purpose drives
ABB general purpose drives are ideal in those situations where there is a need for simplicity to install, commission and use. They are designed to control a wide range of standard drives applications, including pump, fan and constant torque use, such as conveyors.

ABB machinery drives
ABB machinery drives can be configured to meet the precise needs of industries and order-based configuration is an integral part of the offering. Covering a wide power and voltage range with standard and optional features, the drives are readily programmable, making their adaptation to different applications easy.

ABB industrial drives
The ABB industrial drive portfolio is designed for heavy industrial applications such as those found in pulp and paper, metals, mining, cement, power, chemical, oil and gas, water and wastewater and food and beverage. Drives adapted and approved for use in the marine environment are also included within this portfolio.

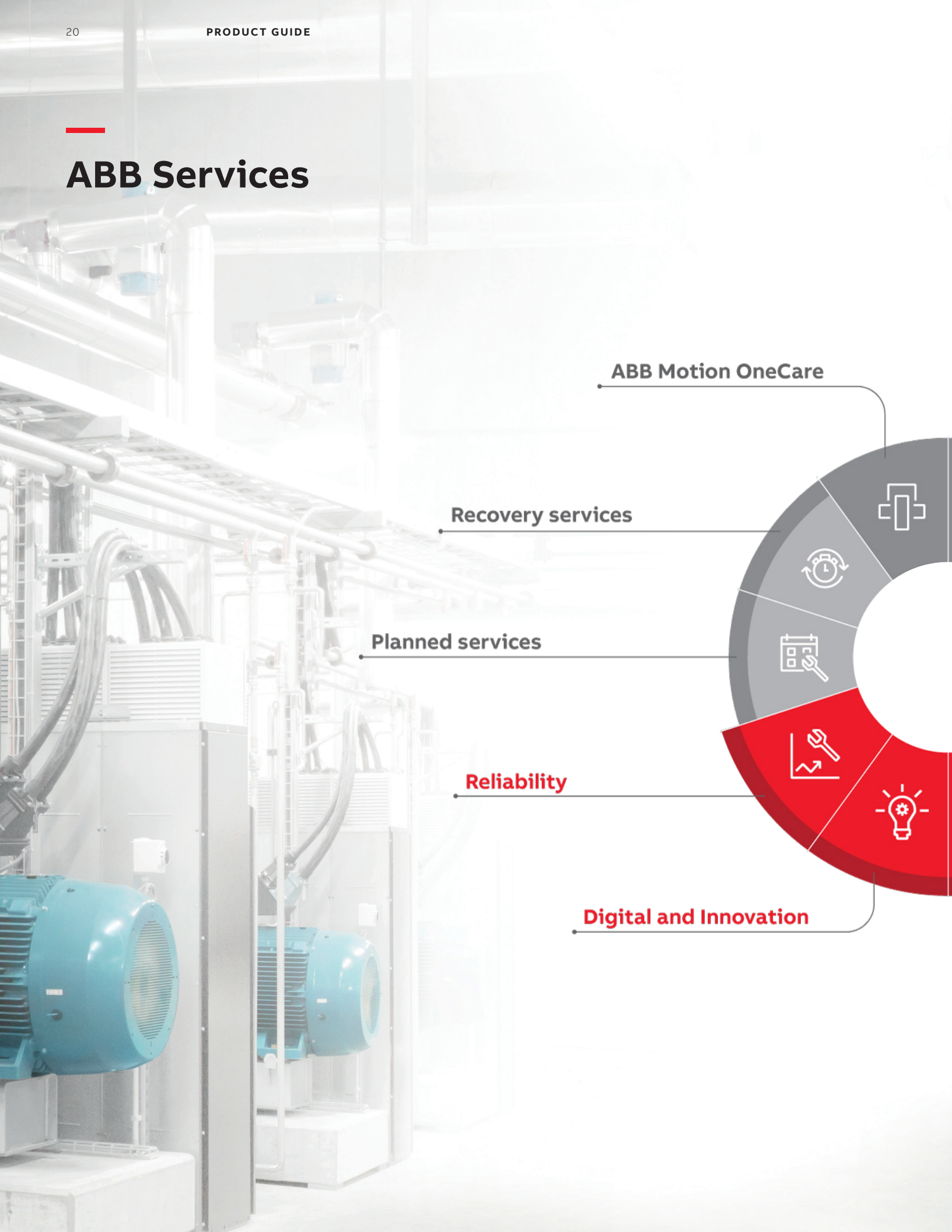


Industry specific drives
Our industry specific ABB drives provide our customers with dedicated drive solutions for AC motor control used in industries such as HVAC and water and wastewater. Working closely with these industries, we have developed targeted functionality to help you improve your overall operating performance while also helping to reduce energy use. Built-in application macros in the drives help you easily setup and tailor processes.

ABB DC drives
ABB's DC drive portfolio, from 9 to 18000 kW, provides the highest power-to-size ratio on the market. The drives are designed for most industries including metals, cement, mining, pulp and paper, printing, food and beverage, wire manufacturing, test rigs, ski lift and cranes. ABB DC drives are available as complete cabinets, modules for cabinet assembly, and as retrofit kits. With built-in field exciters and integrated PLC's, they are the best DC drives choice for all new and retrofit applications.

To find more information please visit:
www.abb.com/drives

ABB Services



Partnered solutions

Data and Advisory services

Modernization and Performance improvement services

Energy efficiency and Circularity

Life cycle management

OUR EXPERTISE
YOUR ADVANTAGE

ABB Services

ENGINEERED TO OUTRUN

We help industries outrun – leaner and cleaner

ABB Services helps you maximize uptime, extend product lifetime, enhance performance and boost energy efficiency of your motors, generators and drives. Our tailored services and digital solutions keep your operations running profitably, safely, and reliably.

We bring together over 130 years of experience with motors and generators, and more than 40 years of expertise with drives in manufacturing, servicing and optimizing across a wide range of industries. Our domain expertise is strengthened by a service offering tailored to your needs, enabling you to unlock new possibilities and achieve more sustainable outputs.

Partner with us for the future and benefit from our service experience and digital expertise, so you can achieve success through innovation. Let’s work together and plan for a sustainable tomorrow.

Planned services
Protecting your investment and avoiding costly downtime efficiently and effectively.
- Commissioning
- Preventive maintenance
- Failure coverage

Modernization and Performance Improvement services
Fast, efficient, and cost-effective ways of improving plant reliability and performance.
- Retrofits (for cabinets)
- Upgrades (for cabinet drives)

Recovery services
Our service experts are at your disposal to ensure fast and recovery interventions minimizing any costly downtime.
- On-site repair service
- Workshop repair
- Technical support

Partnered solutions
Get the right competence, the right capabilities, and the right parts wherever you re.
- Spare parts
- Drive exchange

Data and Advisory services
Stay one step ahead with accurate, real-time information about the performance and energy consumption of your equipment for better operational decision making and cost management.
- ABB Ability™ Digital Powertrain – Condition Monitoring for powertrains

Motion OneCare
- A program to help you plan, coordinate and execute your equipment maintenance according to the spe-cific criticality needs.