



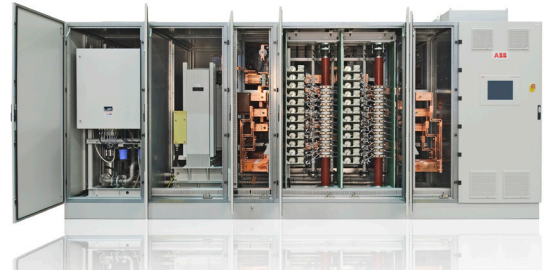
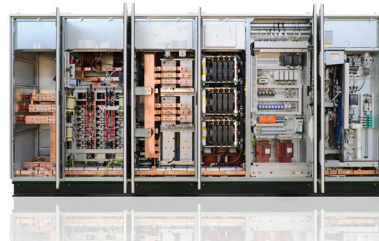
# ABB medium voltage drives

## Product overview

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General purpose medium voltage drives			
Type	ACS 1000	ACS 2000	ACS 5000
<b>Output voltage</b>	2.3 / 3.3 / 4.0 / 4.16kV Optional: 6.0 / 6.6kV with step-up transformer	4.0kV - 6.9kV	6.0-6.9kV Optional: 4.16 kV with step-down transformer
<b>Type of motor</b>	Induction	Induction	Induction, synchronous or permanent magnet
<b>Application type</b>	General purpose	General purpose	General purpose
<b>Converter cooling</b>	Air (A) / Water (W)	Air (A)	Air (A)
<b>Type of converter</b>	VSI - Voltage Source Inverter	VSI - Voltage Source Inverter	VSI - Voltage Source Inverter
<b>Typical applications</b>	Pumps, fans, conveyors, extruders, mixers, compressors, grinding mills, suitable for retrofit of existing motors	Pumps, fans, conveyors, extruders, mixers, compressors, grinding mills, suitable for retrofit of existing motors	Compressors, extruders, pumps, fans, grinding mills, conveyors, blast furnace blowers, gas turbine starters
<b>Power range</b>	Air: 400-2700 HP (315kW-2MW) Water: 2500-6700 HP (1.8-5MW)	300-3000 HP (250-2300kW)	Air: 1500-8000 HP (2-7MW)
<b>Input selection</b>	Diodes:12/24-pulse rectifier	Active front end (AFE): high-voltage IGBTs Diode front end (DFE): 24-pulse rectifier	Diodes:36-pulse rectifier
<b>Output selection</b>	IGCTs: 3-level VSI, sinusoidal output	High-voltage IGBTs: 5-level VSI, 9-level output waveform	IGCTs: 5-level VSI, 9-level output waveform
<b>Maximum output frequency</b>	66Hz (optional 82.5Hz)	75Hz	75Hz
<b>Field weakening</b>	> 45Hz (max. 1:1.5)	> 25Hz (max. 1:3)	> 35Hz (max. 1:2, higher optional)
<b>Typical system diagram</b>			
<b>Speed-torque quadrants</b>		ULH  ULH w/ regen	
<b>Special features and benefits</b>	<ul style="list-style-type: none"> <li>- Sinusoidal output</li> <li>- Constant network power factor over whole speed range</li> <li>- DTC (Direct Torque Control)</li> <li>- Fuseless</li> </ul>	<ul style="list-style-type: none"> <li>- Constant network power factor over whole speed range</li> <li>- DTC (Direct Torque Control)</li> <li>- Fuseless</li> </ul>	<ul style="list-style-type: none"> <li>- Constant network power factor over whole speed range</li> <li>- DTC (Direct Torque Control)</li> <li>- Fuseless</li> </ul>
<b>Examples of options</b>	<ul style="list-style-type: none"> <li>- Braking chopper</li> <li>- Synchronous bypass</li> <li>- Redundant cooling fan / pump</li> <li>- Integrated input transformer</li> </ul>	<ul style="list-style-type: none"> <li>- Available for direct-to-line connection, for connection to a separate input isolation transformer or with an integrated transformer</li> <li>- Reactive power compensation and regeneration</li> <li>- Configurable disconnect package</li> <li>- Output sine filter</li> <li>- Redundant cooling fan</li> <li>- Extended I/O for supervision functions</li> <li>- Regeneration</li> </ul>	<ul style="list-style-type: none"> <li>- Integrated input transformer</li> <li>- Synchronous bypass</li> <li>- Extended I/Os for supervision functions</li> <li>- Redundant cooling fan</li> </ul>



### Special purpose medium voltage drives

ACS 5000	ACS 6000	MEGADRIVE-LCI
6.0–6.9kV Optional: 4.16 kV with step-down transformer	3.0–3.3kV Optional: 2.3kV	2.1–10kV
Induction, synchronous or permanent magnet	Induction, synchronous or permanent magnet	Synchronous
Special purpose	Special purpose	Special purpose
Water (W)	Water (W)	Air (A) / Water (W)
VSI - Voltage Source Inverter	VSI - Voltage Source Inverter	LCI - Load Commutated Inverter
Compressors, extruders, pumps, fans, grinding mills, conveyors, blast furnace blowers, gas turbine starters	Rolling mills, marine propulsion, mine hoists, pumps, fans, compressors, grinding mills, extruders, conveyors	Compressors, pumps, fans, blast furnace blowers, pump storage plants
Water: 6800-48,250 HP (5–36MW) higher on request	4000-48,250 HP (3–36MW)	Air: 1500-40,000 HP (2–31MW) Water: 9000-100,000 HP (7–72MW) higher on request
Diodes:36-pulse rectifier	Diodes: 6/12/24-pulse rectifier (LSU) or IGCT: 6/12/24-pulse active rectifier (ARU)	Thyristors:6/12/24-pulse rectifier
IGCTs: 5-level VSI, 9-level output waveform	IGCTs: 3-level VSI, 5-level output waveform	Thyristors: 6/12-pulse inverter
75Hz (optional 250Hz)	75Hz (higher on request)	60Hz (optional 120Hz)
> 35Hz (max. 1:2, higher optional)	> 3Hz (max. 1:5)	Customized
<ul style="list-style-type: none"> <li>Constant network power factor over whole speed range</li> <li>DTC (Direct Torque Control)</li> <li>Fuseless</li> </ul>	<ul style="list-style-type: none"> <li>Constant network power factor over whole speed range</li> <li>Optimized pulse pattern to minimize network harmonics (with IGCT)</li> <li>DTC (Direct Torque Control)</li> <li>Multi-motor drive with common DC bus</li> <li>Fuseless</li> </ul>	<ul style="list-style-type: none"> <li>Soft start of large synchronous motors and generators</li> <li>Fuseless</li> </ul>
<ul style="list-style-type: none"> <li>Integrated input transformer</li> <li>Synchronous bypass</li> <li>Extended I/Os for supervision functions</li> <li>Redundant cooling pump</li> </ul>	<ul style="list-style-type: none"> <li>Reactive power compensation and regeneration (ARU)</li> <li>Extended I/Os for supervision functions</li> <li>Braking chopper</li> <li>Customized</li> </ul>	Customized

# Contact us

## **ABB Inc.**

### **Medium Voltage Drives**

16250 W. Glendale Drive

New Berlin, WI 53151

Tel: 800-752-0696

Fax: 262-785-3322

E-Mail: [mv.drives.sales@us.abb.com](mailto:mv.drives.sales@us.abb.com)

[www.abb.us/drives](http://www.abb.us/drives)

ABB ([www.abb.us](http://www.abb.us)) 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 120,000 people.

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