



Drives and motors for electrically driven deck winches

Performance. Speed. Reliability. Safety. Everything counts.

Working closely with several OEM's, we've developed drives and motors that enable precise, dependable and energy efficient winch operation, while reducing wear on ropes and the winch. And because our drives have direct torque control (DTC) with winch control software built-in, no motor encoders or load cell sensors are needed to run the winch smoothly.



We offer motors and drives for anchoring and mooring winches, RoRo gate ramp winches and tugboat winches. We also offer products for electrical spooling.

Our marine certified motors and drives fulfill marine and offshore requirements, and the design and operation comply with regulations from all major classification societies.

For new designs or retrofits of existing winches.

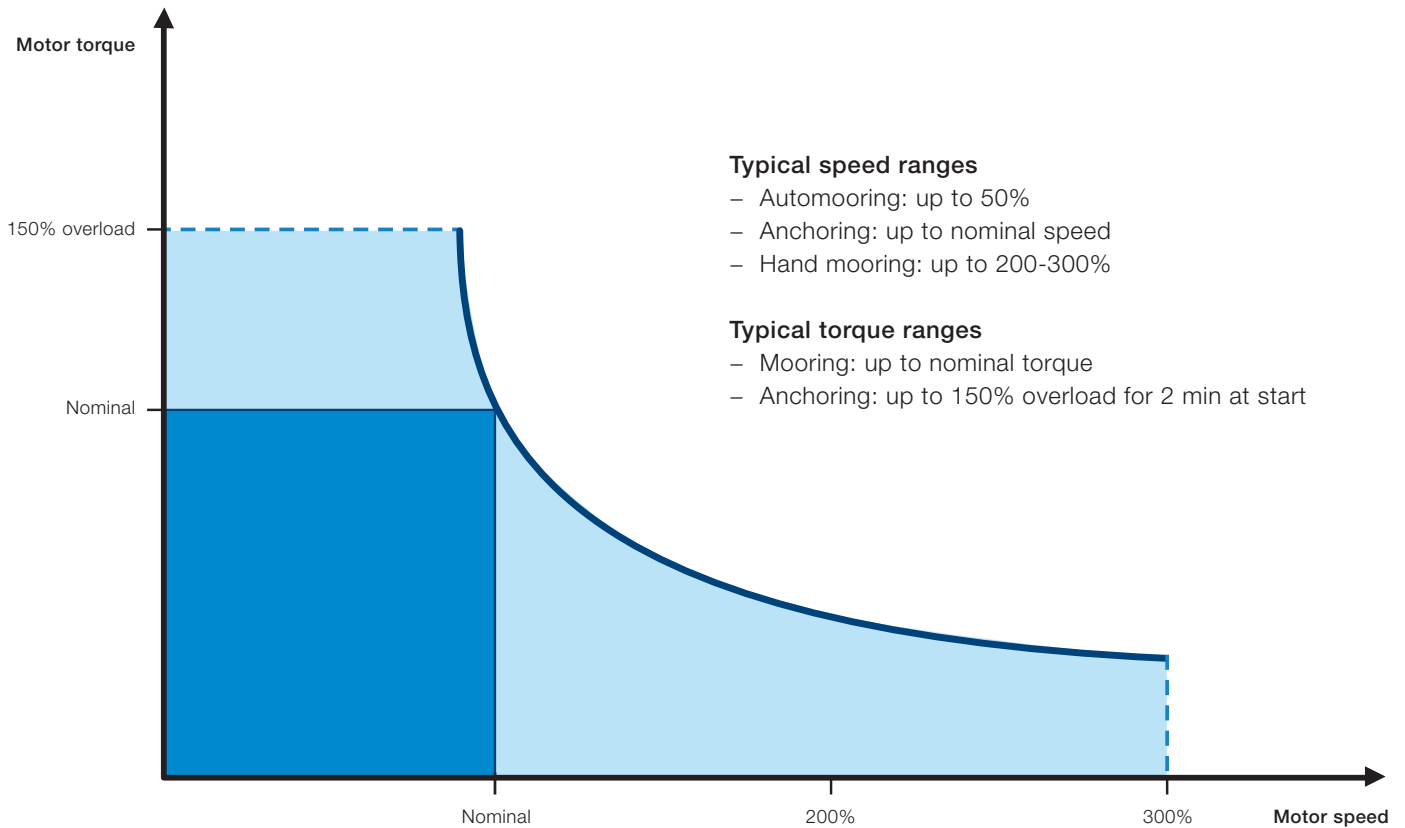
Our electrical drive solutions improve reliability and give you many advantages over hydraulic systems. They enable more precise rope control and reduce operating noise. No hydraulics means no hydraulic fluid concerns, less parts, reduced installation space and reduced maintenance needs.

We can help you select drives and motors sized best to meet your requirements.

Buying both the drive and motor from one supplier helps you save time and simplifies the ordering process.

Easy commissioning and configuration helps meet tight shipyard schedules

Electrically driven deck winch motor performance



Take advantage of these motor and drive benefits

ACS800 drives

- Built-in winch control program provides a wide range of functionality that you can easily customize to meet your unique requirements
- Our ACS800 drives feature direct torque control (DTC) to control the motor. The combination of DTC and winch control program eliminate the need for motor shaft encoders and load cell sensors in the winch gearbox.
- Ensures smooth winch startup, eliminating the motor startup voltage and current peaks on the ship's electrical network
- Dynamic braking with integrated brake chopper and external braking resistor
- Stepless speed and torque operation reduces winch noise
- Direct bulkhead installation or in cabinets

Marine motors

- Proven performance in heavy-duty operations and on-deck environments
- Exact nominal data on rating plate helps you optimize operation especially when motor encoder is not used
- Specially designed low wear shaft seal
- Highly durable construction to deal with difficult weather conditions
- Corrosion resistance improved with zinc primer painting
- IP56 open deck protection class
- Optional heating element and temperature supervision available
- Ex motors also available

Winch motor and drive ratings

Selected marine motor ratings

| Motor product code | Motor type | S2-30 min. | | Torque [Nm] | Max. speed [rpm] | Torque at max. speed [Nm] | I_{VSD} [A] | 150% overload up to 1500 rpm | | Brake torque [Nm] |
|--------------------|----------------|------------|-------|-------------|------------------|---------------------------|---------------|------------------------------|-------------|-------------------|
| | | P_n | N_n | | | | | $I_{VSD\ 150\%}$ [A] | Torque [Nm] | |
| | | [kW] | [rpm] | | | | | | | |
| 3GBP 162 033-DG | M3BP 160 MLC 4 | 18.5 | 1800 | 98 | 3600 | 25 | 34 | 49 | 147 | 160 |
| 3GBP 162 034-DG | M3BP 160 MLD 4 | 22 | 1800 | 117 | 3600 | 29 | 41 | 59 | 175 | 250 |
| 3GBP 182 033-DG | M3BP 180 MLC 4 | 30 | 1800 | 159 | 3600 | 40 | 55 | 80 | 239 | 250 |
| 3GBP 202 032-DG | M3BP 200 MLB 4 | 37 | 1800 | 196 | 3600 | 49 | 66 | 92 | 294 | 400 |
| 3GBP 202 033-DG | M3BP 200 MLC 4 | 45 | 1800 | 239 | 3600 | 60 | 81 | 112 | 358 | 400 |
| 3GBP 222 033-DG | M3BP 225 SMC 4 | 55 | 1800 | 292 | 3600 | 73 | 96 | 134 | 438 | 630 |
| 3GBP 252 031-DG | M3BP 250 SMA 4 | 75 | 1800 | 398 | 3600 | 99 | 132 | 188 | 597 | 630 |
| 3GBP 252 032-DG | M3BP 250 SMB 4 | 90 | 1800 | 478 | 3600 | 119 | 157 | 219 | 716 | 1000 |
| 3GBP 282 220-DG | M3BP 280 SMB 4 | 110 | 1800 | 584 | 3600 | 146 | 190 | 265 | 875 | 1000 |
| 3GBP 282 230-DG | M3BP 280 SMC 4 | 132 | 1800 | 700 | 3600 | 175 | 228 | 317 | 1051 | 1600 |
| 3GBP 282 410-DG | M3BP 280 MLA 4 | 160 | 1800 | 849 | 3600 | 212 | 280 | 389 | 1273 | 1600 |

Motor selection is based on:

- 440 V 60 Hz, temperature rise class F, ambient temperature 45 °C
- Constant torque at 0-1800 rpm and 1/n² torque from 1800 rpm to max. speed
- Speed range from 0 to 1800/3600 rpm
- Mechanical brake torque: 150% × nominal motor torque
- IC 410: totally enclosed motor without a fan

Selected ACS800 drive ratings

| Drive type | Nominal ratings | | No-overload use | Light-overload use* | | Heavy-overload use** | | Marine-dimension ($I_{cont.max. 45\ °C}$)*** | $I_{max\ 120\ s\ (45\ °C)}$ **** | Frame size |
|------------------|--------------------|---------------|---------------------|---------------------|------------|----------------------|---------------|--|----------------------------------|------------|
| | $I_{cont.max}$ [A] | I_{max} [A] | $P_{cont.max}$ [kW] | I_{2n} [A] | P_n [kW] | I_{2hd} [A] | P_{hd} [kW] | [A] | [A] | |
| 500 V AC | | | | | | | | | | |
| ACS800-01-0030-5 | 42 | 62 | 22 | 39 | 22 | 32 | 18.5 | 40 | 42.4 | R4 |
| ACS800-01-0040-5 | 48 | 72 | 30 | 44 | 30 | 36 | 22 | 46 | 61 | R4 |
| ACS800-01-0050-5 | 65 | 86 | 37 | 61 | 37 | 50 | 30 | 62 | 86 | R5 |
| ACS800-01-0060-5 | 79 | 112 | 45 | 75 | 45 | 60 | 37 | 75 | 112 | R5 |
| ACS800-01-0070-5 | 96 | 138 | 55 | 88 | 55 | 69 | 45 | 92 | 125 | R5 |
| ACS800-01-0105-5 | 145 | 170 | 90 | 141 | 90 | 100 | 55 | 137 | 154 | R5 |
| ACS800-01-0120-5 | 157 | 202 | 90 | 145 | 90 | 113 | 75 | 149 | 171 | R6 |
| ACS800-01-0140-5 | 180 | 282 | 110 | 163 | 110 | 141 | 90 | 171 | 207 | R6 |
| ACS800-01-0165-5 | 225 | 326 | 132 | 220 | 132 | 163 | 110 | 214 | 250 | R6 |
| ACS800-01-0205-5 | 260 | 326 | 160 | 254 | 160 | 215 | 132 | 247 | 293 | R6 |
| ACS800-01-0255-5 | 290 | 351 | 200 | 285 | 200 | 234 | 160 | 276 | 318 | R6 |
| 690 V AC | | | | | | | | | | |
| ACS800-01-0030-7 | 33 | 44 | 30 | 30 | 22 | 22 | 18.5 | 31 | 40.6 | R4 |
| ACS800-01-0040-7 | 36 | 54 | 30 | 34 | 30 | 27 | 22 | 34 | 43 | R4 |
| ACS800-01-0050-7 | 51 | 68 | 45 | 46 | 37 | 34 | 30 | 48 | 52 | R5 |
| ACS800-01-0060-7 | 57 | 84 | 55 | 52 | 45 | 42 | 37 | 54 | 64 | R5 |
| ACS800-01-0070-7 | 79 | 104 | 75 | 73 | 55 | 54 | 45 | 75 | 78 | R6 |
| ACS800-01-0100-7 | 93 | 124 | 90 | 86 | 75 | 62 | 55 | 88 | 97 | R6 |
| ACS800-01-0120-7 | 113 | 172 | 110 | 108 | 90 | 86 | 75 | 107 | 105 | R6 |
| ACS800-01-0145-7 | 134 | 190 | 132 | 125 | 110 | 95 | 90 | 127 | 142 | R6 |
| ACS800-01-0175-7 | 166 | 245 | 160 | 155 | 132 | 131 | 110 | 157 | 177 | R6 |
| ACS800-01-0205-7 | 190 | 245 | 160 | 180 | 160 | 147 | 132 | 180 | 203 | R6 |

* Continuous current. 110% is allowed for one minute every 5 minutes.

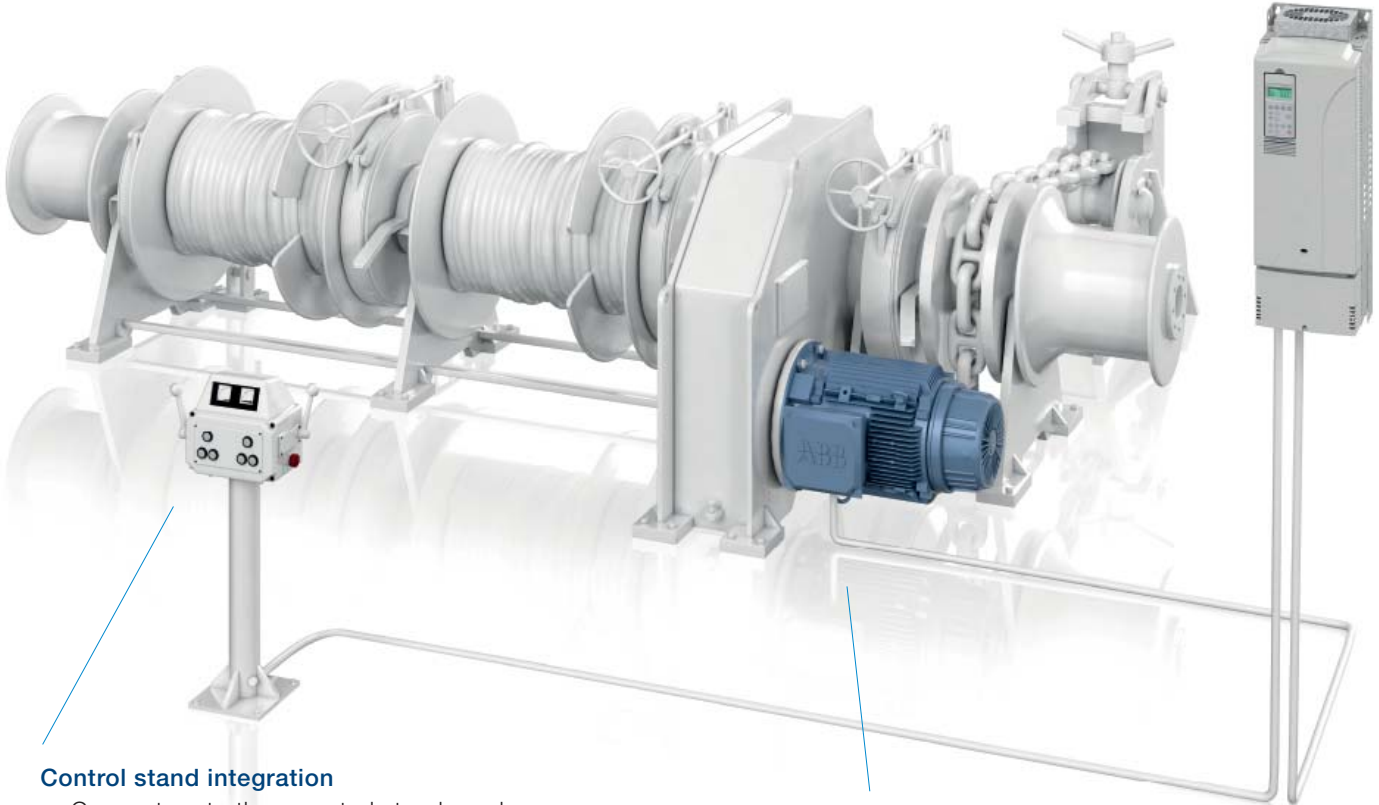
** Continuous current. 150% is allowed for one minute every 5 minutes.

*** Available continuous maximum output current at 45 °C.

**** Typical marine/anchor overload requirement 150% for 2 minutes.

ACS800 industrial drives

- Built-in winch control program includes features like automooring mode, hand mooring mode, brake control, anchor control, motor power control and master/follower configuration for two winch systems
- The combination of DTC and winch control program eliminates the need for motor shaft encoders and load cell sensors



Control stand integration

- Connect up to three control stands and one wireless radio controller to a single drive
- Connect via drive I/O, PLC or fieldbus communications

Low voltage marine motors with mechanical disc brakes

- Design fulfills most demanding operations and installations

Additional automation products



CP600 series operator panels

- Wide range of sizes, up to 15"
- Integrate directly with our drives and PLCs



NETA-21/NEXA-21 remote monitoring tool

- Connects to the ACS800 drive enabling continuous data logging to SD card and winch status monitoring through an Ethernet connection



AC500 series PLC's

- Easily integrates with the ACS800 drives when you need a PLC based automation system
- Scalable to meet your I/O and communication needs
- Extreme condition variant for more demanding environments

Contact us

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

www.abb.com/drives

www.abb.com/drivespartners

www.abb.com/motors&generators

© Copyright 2014 ABB. All rights reserved.
Specifications subject to change without notice.



See how Norwegian Deck Machinery used our drives onboard a passenger ship.

3AUA0000157570 REV A EN 11.6.2014 #17060