

BALDOR-RELIANCE®

HydroCool XT™ Efficient cooling for demanding applications

BALDOR · RELIANCE



HydroCool XT Efficient cooling for demanding applications

Water-cooled motor Efficient cooling technology for demanding applications

Keeping your motor performing in rugged environments should not tie up your maintenance team. The Baldor-Reliance HydroCool XT is a water-cooled motor that is quiet and versatile, requiring little to no maintenance, which can perform in some of the toughest environments.

The water-jacket cooling technology extends motor life while saving space, energy and maintenance costs.

For more than 100 years, Baldor-Reliance has been the leading brand of NEMA motors, and we are pleased to add a water-cooled motor to the family. HydroCool XT is available in standard NEMA frames and equipped with provisions for ABB Ability[™] condition monitoring. It is the most torque-dense solution for extremely demanding applications.

Baldor-Reliance® HydroCool XT



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Made to last in demanding conditions Versatility for extreme duty

HydroCool XT represents a new generation of water-cooled motors developed in response to market demands for improved technical features. The range is available in NEMA frame sizes 360 to 5800.

Cooling efficiency is maintained throughout the speed range, which is especially important in constant torque applications. These advantages make the motors ideal for a variety of uses, including marine applications, pulp and paper, water and wastewater pumping, mining and aggregate. The basic structure of the motors is optimized for variable speed use.



Main specifications		
Output power:	60 to 1250 Hp (45 - 932 kW)	
Frame sizes:	NEMA 360, 400, 440 and 5800	
Efficiency:	NEMA Premium® (IE3) with induction rotor	
	Ultra-premium (IE5) with	
	permanent magnet rotor	
Electrical design: Standard voltage: 230 - 690 (special upon request)	DOL & variable speed	
Material design:	No dust-collecting cooling ribs - corrosion resistant fabricated steel frame	
Protection:	IP55 (optionally IP56)	
Bearings:	PLS (Positive Lubrication System) for prolonged bearing life	
Insulation:	Class F (optionally Class H)	
Inverter duty:	Withstands voltage spikes requirements of MG1 Part 31.4.4.2	
Mounting:	Horizontal (optionally vertical mounted) with F1/F2 conduit box options, C-face, D-flange	
Ex protection types:	Class I Division 2 certifications (Class A,B,C,D)	
Thermostats:	3 (one per phase)	
Fully customizable:	Power ratings, base speeds, constant power speeds available upon request	
Standard accessories:	Shaft grounding brush, drain plugs, stainless steel nameplate	
Optional features:	Water flow switch, space heaters, NDE insulated bearings, RTD (resistance temperature detector), thermistors, encoders and resolvers, smart sensor	
Condition	Mounting provisions for	
monitoring:	ABB ADIIIty''' Smart Sensor	

Unmatched torque density Saving valuable space

Hp (kW)	Std. NEMA TEFC Induction/1800 RPM ⁽¹⁾	HydroCool XT TEWC Induction/1800 RPM ⁽²⁾	HydroCool XT TEWC IPM/1200 RPM ⁽²⁾
60 (45)	200		
75 (56)	360		
100 (75)	400	360	200
125 (93)			360
150 (112)			
200 (149)		400	
250 (186)	440		100
300 (224)		440	400
350 (261)			
400 (298)	L449		140
450 (336)		L449	440
500 (373)	5000		
600 (447)			1.4.40
700 (522)			L449
800 (597)			
900 (671)	5900	-	5000
1000 (746)	5800		5800
1250 (932)	6800		

(1) 2:1 CT; 4:1 VT(2) 1000:1 CT

Totally enclosed water-cooled (TEWC) motors are typically several frame sizes smaller than standard NEMA fan-cooled (TEFC) motors.





Commitment to quality

HydroCool XT motors are designed and built in Gainesville, Georgia, USA under a certified ISO 9001 program. All water-cooled motors are available with UL component recognition, CE mark and CSA approval. A complete IEC product line is also available.

Compare ABB IEC and NEMA water-cooled motors

HydroCool XT water-cooled motors Made to last in demanding conditions



Converts traditional motors into smart, wirelessly connected devices.





- Stainless steel nameplate
- Class I Division II hazardous locations Groups A, B, C & D
 Markings: standard certifications will be CSA, CE.
- Upon request will be DNV, Lloyds, ABS.

Exclusive PLS (Positive Lubrication System) is a patented bearing lubrication design that was developed 40 years ago to ensure proper bearing lubrication in all mounting configurations. Grease is channeled directly into the rolling elements. Easily accessible lubrication fittings are positioned on both endplates and come standard on all Baldor-Reliance HydroCool XT motors.

PLS design allows the bearings to run 5-7°C cooler



Scan to see how it works

Water-cooled vs. air-cooled motors Efficiency gained through cooling methods

The water-cooled motor uses a highly efficient cooling method to transfer heat away from the motor without the use of fans by circulating fluids through the water jacket. Cooling efficiency is maintained even at lower speeds, making this motor ideal for constant torque applications.

Water-cooled motors offer a power dense solution for the most compact and demanding applications found in marine, mining and other process industries.



Video of water-cooled vs. air-cooled technology





ABB Ability™ condition monitoring for hazardous locations

HydroCool XT has built in provisions for ABB AbilityTM smart sensors and no additional mounting kit is required. ABB Ability™ Smart Sensors 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, 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

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.





For more information on ABB Ability™ Smart Sensors



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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