

cyber[®] power motor AFW
liquid-cooled brushless servo motors

powerful
high continuous torque
adjustable



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Liquid-cooled servo motors for highly dynamic servo applications

The WITTENSTEIN liquid-cooled cyber[®] power motors AFW (12 poles) are designed for highly dynamic servo applications requiring a wide speed range and variable load. These servo motors offer one of the largest power ranges in the industry, with standard models delivering continuous stall torque values from 21.9 to 277 Nm [193.7–2,449.8 lb-in].

Compared to their naturally-cooled counterpart (cyber[®] power motor AF), the torque and output power of the cyber[®] power motors AFW are almost doubled, despite their sizes being almost the same. Another advantage of these liquid-cooled motors is their ability to operate at higher ambient temperatures.

The cyber[®] power motors AFW feature modular designs that support a variety of options. In addition, WITTENSTEIN cyber motor can provide fully customized solutions. We offer winding systems and special insulation options for different intermediate circuit voltages (12 V, 24 V, 48 V, 330 V, 560 V and 700 VDC) as well as for a wide range of different voltage constants (from about 1 to 500 V min. / 1,000). Additional rotor options include special lightweight rotors for reduced inertia. We can also customize active lengths and develop special mechanical designs for the flange, shaft end and bearings, for applications requiring higher radial and axial forces. Our motors can be engineered to meet even the toughest environmental requirements (higher temperature; hazardous or harsh environment), have increased IP ratings and be equipped with a variety of available encoder options to meet all our customer needs.

Specifications

Dimensions	Measuring Unit	cyber [®] power motor AFW
Continuous Stall Torque M°	Nm [lb-in]	21.9–277 [193.7–2,449.8]
Peak Torque M_{max}	Nm [lb-in]	50–556 [442.2–4,917.4]
Rated Speed n_N	min ⁻¹ (rpm)	0–5,500
Rated Power P_N	kW [hp]	3.4–76.9 [4.559–103.1]
Rated Torque M_N	Nm [lb-in]	21.9–245 [193.7–2166.8]
Moment of Inertia J	kg m ² [lb-in sec ² x 10 ⁻⁴]	9.4–429 [83.18–3,796.1]
Position Transducer	Standard / Optional	Resolver / Encoder
Temperature Monitoring	N/A	PTC, PT1000, Thermoswitch
Brake	N/A	Optional
Rated Bus Voltage V_{DC}	V	300/560 (or customizable)
Certificate / Marks	N/A	CE
Cooling	N/A	Water *

* The standard cooling agent for the WITTENSTEIN cyber[®] power motors AFW is water. However, different types of coolants (e.g. oils, antifreeze mixtures, etc.) with varying temperature ranges are available upon request.

Features

- High continuous torque
- Compact dimensions
- High efficiency
- High quality production
- High precision assembly
- Long life and high operational reliability

Benefits

- Highly customizable
- Powerful
- Space-saving equipment dimensions
- Rugged structure
- Minimal maintenance needs
- Ability to operate at increased ambient temperatures
- Different winding options available



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