Tension Brakes/Very High Heat Capacity

AquaMaKKs Water Cooled Clutches and Brakes

AquaMaKKs™ clutches and brakes are pneumatically or hydraulically controlled and water cooled. They consist of a series of alternating friction discs and water jackets. Torque is transmitted by applying axial force from the pneumatic, hydraulic, or spring set actuator. Copper wear plates are used for excellent heat dissipation. AquaMaKKs provides accurate torque control for constant tensioning and are perfectly suited for applications in oil and gas, metal processing and forming, forestry, and marine deck machinery.

Engineered composite water jacket improves performance for marine applications

Wichita engineers have utilized the latest cutting edge technologies and state-of-the-art materials to develop a revolutionary new breakthrough in water cooled clutch and brake design... composite water jackets (patent pending).

Corrosion resistant, saltwater friendly

Composite material will not corrode, so salt water and water sources with high PH acidic values can be used for cooling without the need to supply fresh water.

Other composite water jacket benefits include:

- Improved channeled water flow - achieved via groove designed and molded into jacket providing enhanced cooling capability
- Easier maintenance, lightweight – smaller sizes do not require a lifting device. Repair/replace jackets in minutes – AquaMaKKs uses fewer copper mounting bolts than competitors
- Water jacket design and material allows for longer life, requiring fewer replacements
- Reduced overall clutch weight – critical for weight restricted applications (eg: truck mounted)
- Lower cost

AquaMaKKs Design Benefits

- Simplicity of design with fewer parts simplifies installation and maintainability, saving both time and money.
- The standard AquaMaKKs design incorporates premium materials and finishes suitable for marine deck environments. No optional salt water corrosion protection is required.
- Shim design makes it easy to maintain and adjust for wear.
- Unique patent pending water jacket design ensures high heat absorption and torque stability, allowing for greater heat dissipation over similar sized competitive units.
- Unique mounting pattern enables direct replacement to Wichita or competitors’ units, requiring no design changes for the customer.
- AquaMaKKs is a perfect solution for field retrofits, rebuilds or new OEM applications.

75% Weight Reduction

A new 36” composite water jacket weighs approx. 95 lbs. A 36” cast iron jacket weighs approx. 375 lbs. The reduced weight is a significant composite jacket benefit, especially where equipment is mounted on a flat bed trailer.
Oil and Gas
The AquaMakks family is ideally suited for superior water cooled tension control for drawworks applications. It also can be the perfect solution for integration into electronic drilling systems as well as traditional style drawworks control systems.

Features that make AquaMakks ideal for oil and gas applications:
- Compatible with major electronic drilling systems
- Airtube design has less hysteresis than piston type actuators, making it ideal for automatic drilling systems
- Engineered packaged solutions including shafts, water kits, covers, and deck mounts
- The unit can be easily removed for service if required and/or quickly swapped out for maximum rig availability and rapid serviceability, reducing expensive downtime

Metal Processing and Forming
AquaMakks clutches and brakes can be used to control tension on the coils in metal processing plants and to control tension in unwind stands and slitters in metal forming facilities.

Features that make AquaMakks ideal for metal processing and metal forming applications:
- Compatible with PLC control systems
- Higher thermal capacity than comparable models
- Easy to maintain minimizing downtime
- Open design concept for easy wear inspection
- Safety covers provided for increased operator and plant safety

Marine Deck Machinery
Positioning and Mooring Winches require high heat dissipation and accurate tension control. That’s why AquaMakks is ideal for these applications.

Features that make AquaMakks ideal for marine deck applications:
- The standard AquaMakks design incorporates premium materials and finishes suitable for marine deck environments.
- Compatible with electronic and analog control systems for tension winches
- Long lasting friction material for improved wear life
- Optional designs available for suitability in low temperature environments
- Accessories and packaged engineered solutions available such as deck mounts, manifold kits, water connection kits, covers, and sensor mounting provisions

Forestry
AquaMakks water cooled brakes provide precise tension control on winch drives for mobile forestry equipment, such as yarders.

Features that make AquaMakks ideal for forestry applications:
- Compatible with tension control systems on yarders
- Open case design enables easy wear inspection and serviceability
- Higher thermal capacity than comparable models
- Lighter weight version available for mobile equipment

No optional salt water corrosion protection is required.
Tension Brakes/Very High Heat Capacity
AquaMaKKs Water Cooled Clutches and Brakes

Features
• Durable air tube design with high strength reinforced neoprene air-tubes, offering longer service life.
• Water channels for balanced water flow for the highest thermal capacity.
• Long-lasting friction material with minimal wear on mating copper.
• Copper alloy wear plates enable higher heat transfer than any other metals.
• Hub spline provides perfect alignment of rotating discs.
• External air & water connections.
• Release springs ensure complete disengagement.
• Adjustment for wear is easily accomplished by removing shims without any unit disassembly.
• Unique torque pin column arrangement provides structural integrity of case.
• Open case design with covers for safe, simple, visual inspection and easy maintenance.

Options
• Standard and HICO friction materials available.
• Optional HICO friction material provides up to 50% higher torque.
• Provisions for electronic wear monitoring.
• Customer specific back-plate mounting configurations.
• Custom engineered solutions available for adding accessories such as deck mount assemblies, water kits, shaft assemblies, etc.
• Materials available for operation in low temperature environments.
• Hydraulic piston actuation available.
• Spring Set version with either air or hydraulic release available.
Tension Brakes/Very High Heat Capacity
AquaMaKKs Water Cooled Clutches and Brakes

Horsepower Curves for Models 219, 225, and 236
(Standard Linings)

Contact Wichita Clutch for unique HP curve information

These curves represent a multi-plate disc brake/clutch using a constant horsepower rating of 370, 700, or 1750. The torque curve is flat to approximately 175 RPM using 80 psi of air pressure. Normal operating conditions are in the area under the curve lines.

Component Parts
Tension Brakes/Very High Heat Capacity

AquaMaKKs Water Cooled Clutches and Brakes

Ordering Number System

- **Clutch or Brake**: 6 = Clutch, 7 = Brake
- **Unit Size**: 19, 25 or 36
- **Internal Code**: W or B
- **Factory-Provided Sequential Number**: 7 = Air Set Water Cooled, 2 = Spring Set Water Cooled, 1 = Low Inertia, 4 = Low Inertia Spring Set, 5 = Reserved

Qty. of Drive Plates
- 1 - 4

AquaMakks

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**Dimensions**

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<th>Model Size</th>
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**Specifications**

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**Mounting Hole Pattern**

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