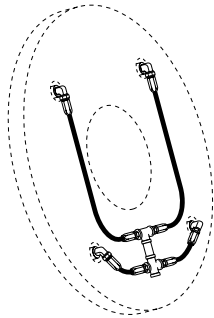
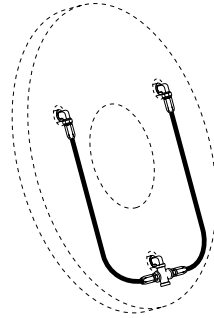
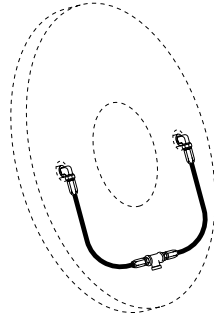
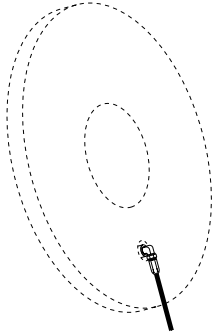
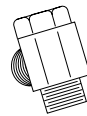


CSM Brake Air Hose Kits



Air hose kits contain all necessary parts (fittings, hoses and extensions) to completely plumb the brake air system.

Optional Quick Release Valves can replace elbows on most units (see page 20 & 21).



AquaMaKKs Clutches and Brakes



The newest addition to Wichita Clutch's family of water cooled airtube clutches and brakes

For increased torque and heat capacity, Wichita has introduced the AquaMaKKs™ range clutches and brakes, which 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 superior 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. See the following page for AquaMaKKs™ applications:

Design Benefits

- Simplicity of design with fewer parts simplifies installation and maintenance, 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.

AquaMaKKs Clutches and Brakes

AquaMaKKs Water Cooled Clutches and Brakes

Air, hydraulic, or spring set actuated and water cooled design, featuring copper wear plates optimized for heavy-duty continuous slip tension applications



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 & Metal Forming

AquaMaKKs clutches and brakes can be used to control tension on coilers 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.
- **No optional salt water corrosion protection is required.**
- 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



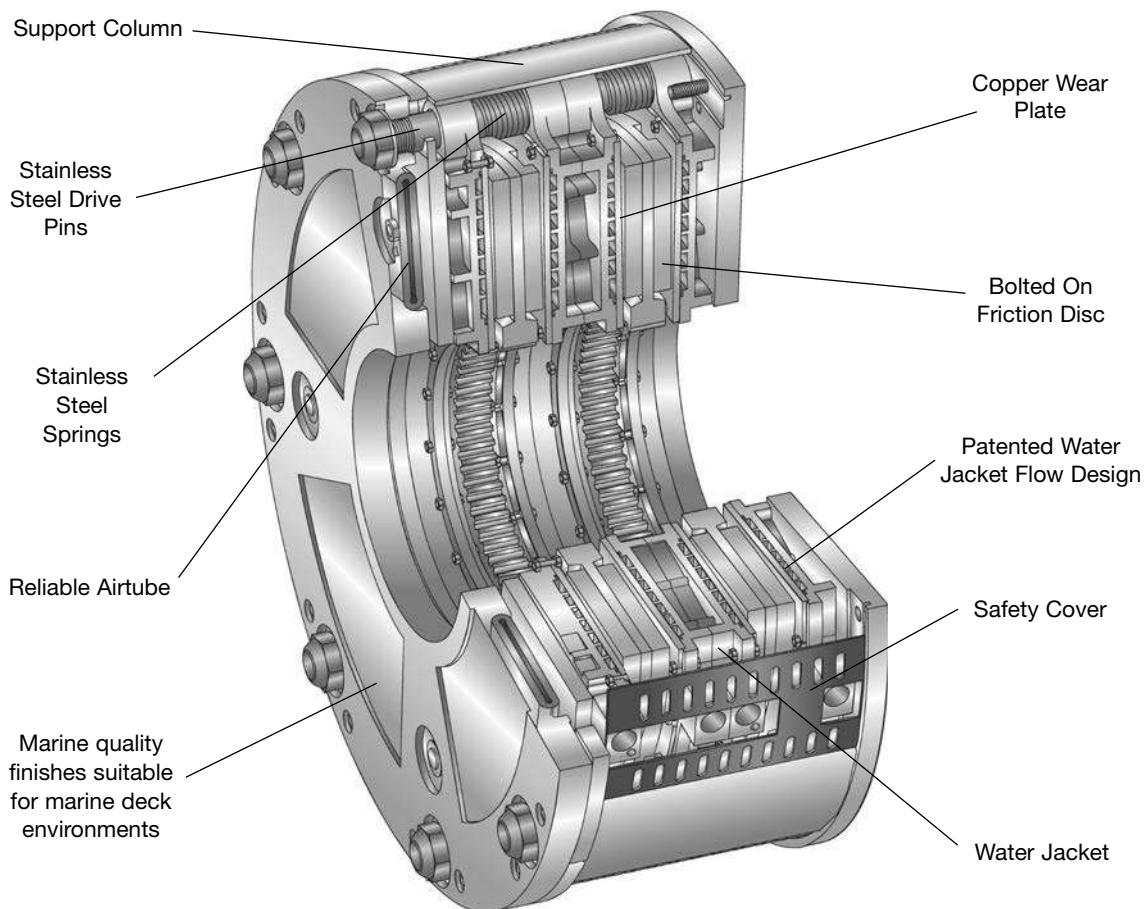
Forestry

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

AquaMaKKs Clutches and Brakes



Features

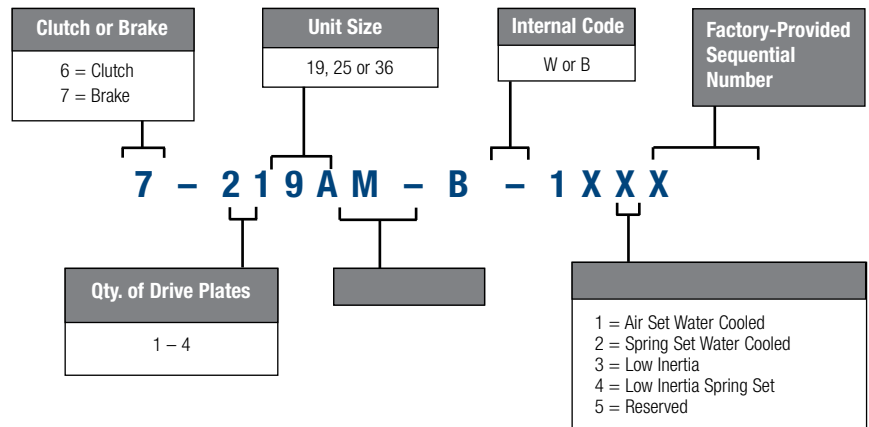
- Durable air tube design with high strength reinforced neoprene air-tubes, offering longer service life.
- Water channels for balanced water flow for the highest thermal capacity.
- Long-lasting friction material with minimal wear on mating copper.
- Copper alloy wear plates enable higher heat transfer 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.
- The standard AquaMaKKs design incorporates premium materials and finishes suitable for marine deck environments. No optional salt water corrosion protection is required.

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.

AquaMaKKs Clutches and Brakes

Order Numbering System

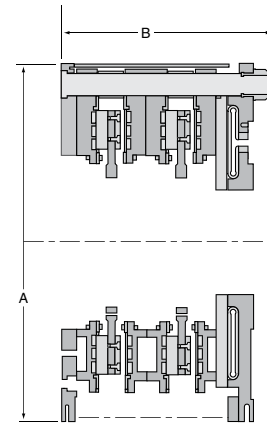


Dimensions and Specifications

Dimensions

inches mm

| Model Size ATD- | Assembly Number | (A) Diameter | | (B) Width | |
|--------------------|--------------------|--------------|------|-----------|-----|
| | | in. | (mm) | in. | mm |
| KKB119AM | 7-119AM-B-1000 | 28.28 | 718 | 12.35 | 317 |
| KKB219AM | 7-219AM-B-1000 | 28.28 | 718 | 18.00 | 457 |
| KKB319AM | 7-319AM-B-1000 | 28.28 | 718 | 23.65 | 601 |
| KKB225AM | 7-225AM-B-1000 | 34.12 | 867 | 20.16 | 512 |
| KKB325AM | 7-325AM-B-1000 | 34.12 | 867 | 26.85 | 682 |
| KKB136AM | 7-136AM-B-1000 | 45.50 | 1155 | 11.70 | 297 |
| KKB236AM | 7-236AM-B-1000 | 45.50 | 1155 | 18.80 | 478 |
| KKB336AM | 7-336AM-B-1000 | 45.50 | 1155 | 25.90 | 658 |
| KKB436AM | 7-436AM-B-1000 | 45.50 | 1155 | 33.06 | 840 |



Specifications

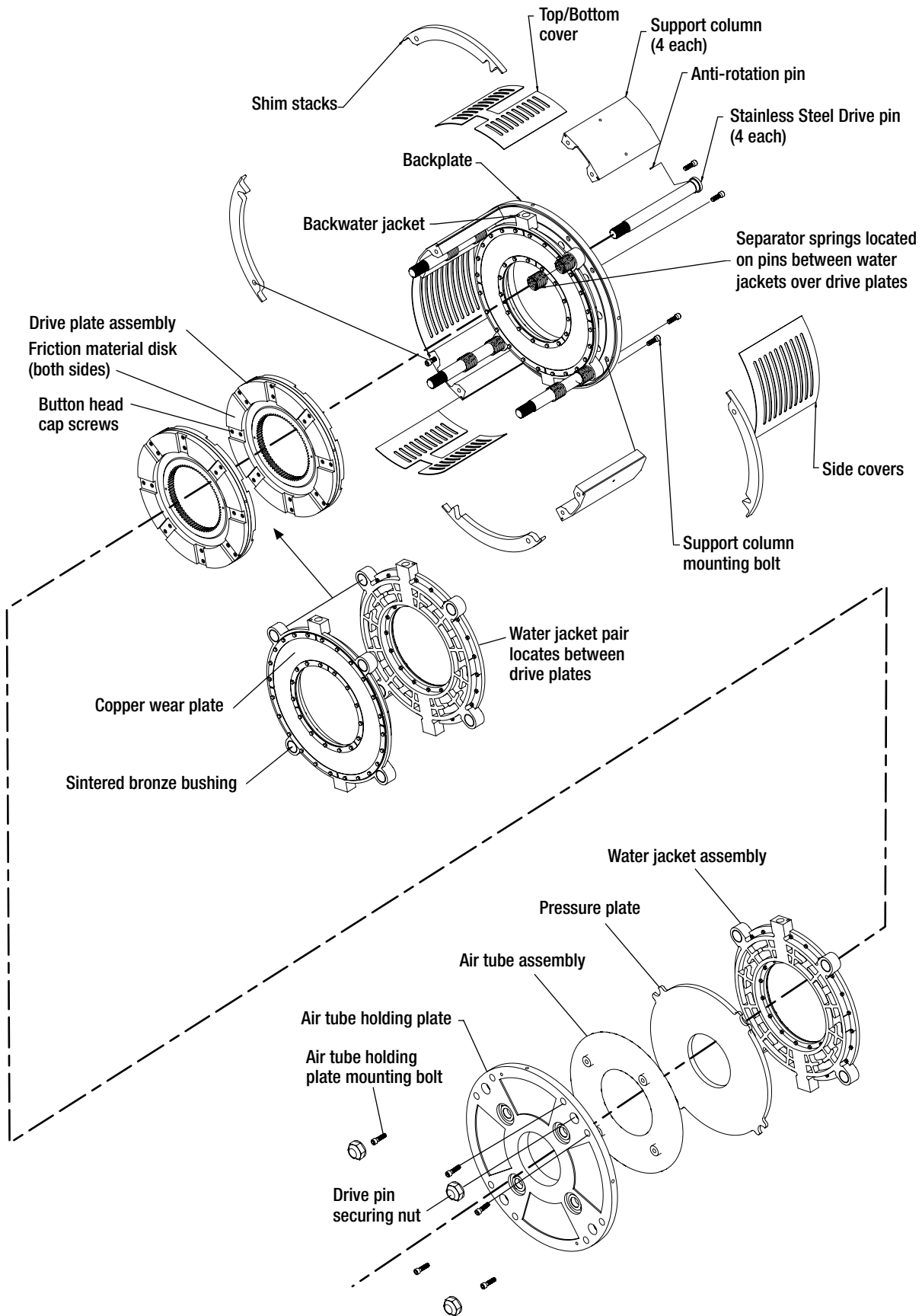
| Model Size ATD- | Assembly Number | Dynamic Torque Capacity with Standard Linings (optional linings available) | | | | Heat Capacity | | | Rect. Key in/mm |
|--------------------|--------------------|---|-----------|---------|---------|-----------------------|-----------------------|-----------------------|--------------------|
| | | lb.in. | | Nm | | Series | Parallel | Max Bore | |
| | | 80 PSI | 100 PSI | 5.5 BAR | 7 BAR | Water Hosing HP/kW | Water Hosing HP/kW | Water Hosing HP/kW | |
| KKB119AM | 7-119AM-B-1000 | 66,500 | 83,100 | 7,500 | 9,380 | 93/69 | 185/138 | 5.50/140 | |
| KKB219AM | 7-219AM-B-1000 | 133,000 | 166,300 | 15,000 | 18,700 | 185/135 | 370/276 | 5.50/140 | |
| KKB319AM | 7-319AM-B-1000 | 199,500 | 249,000 | 22,500 | 28,100 | 278/207 | 555/414 | 5.50/140 | |
| KKB225AM | 7-225AM-B-1000 | 264,000 | 330,000 | 29,800 | 37,200 | 350/261 | 700/522 | 8.13/207 | |
| KKB325AM | 7-325AM-B-1000 | 396,000 | 495,000 | 44,700 | 55,900 | 600/447 | 1200/895 | 8.13/207 | |
| KKB136AM | 7-136AM-B-1000 | 322,000 | 402,000 | 36,300 | 45,400 | 425/317 | 850/633 | 8.13/207 | |
| KKB236AM | 7-236AM-B-1000 | 644,000 | 805,000 | 72,700 | 90,900 | 875/652 | 1750/1304 | 9.00/229 | |
| KKB336AM | 7-336AM-B-1000 | 966,000 | 1,208,000 | 109,100 | 136,400 | 1275/950 | 2550/1900 | 9.00/229 | |
| KKB436AM | 7-436AM-B-1000 | 1,288,000 | 1,611,000 | 145,600 | 182,000 | 1700/1260 | 3400/2535 | 9.00/229 | |

Mounting Hole Pattern

| Model | øA | | øB | | øC | | Hole Circle | | PLT THK | |
|-------|-------|------|-------|-----|------|----|-------------|------|---------|----|
| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 19 | 28.28 | 718 | 11.00 | 279 | .656 | 17 | 25.50 | 648 | 1.38 | 35 |
| 25 | 34.12 | 867 | 16.70 | 424 | .656 | 17 | 31.00 | 787 | 1.38 | 35 |
| 36 | 45.50 | 1156 | 16.75 | 425 | 1.06 | 27 | 42.72 | 1085 | 1.38 | 35 |

AquaMaKKs Clutches and Brakes

Exploded View



Custom Engineered Solutions with Wichita

With Wichita Clutch, you get more than just a water cooled brake, you can get a turnkey solution. Whether you need a brake painted a preferred color, water connection kits, covers, shaft assemblies, or deck mount assemblies, Wichita will provide a custom engineered solution to meet your specific needs. Call Wichita today for more information.



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Wichita Clutch Facilities

North America

USA

2800 Fisher Road
Wichita Falls, TX 76302 - USA
940-723-3400

*Pneumatic Clutches
and Brakes*

Europe

United Kingdom

Amphill Road
Bedford MK42 9RD - England
+44 (0) 1234 350311

*Pneumatic Clutches
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Asia Pacific

Australia

+61 2 9894 0133

China

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