ADVANTAGES
- Air/hydraulic actuation.
- Highest torque in the smallest space.
- No special tools required for repair or installation.
- Quick and easy installation.
- Long-life floating discs for minimal neutral heat and low neutral drag.

OPERATION
- Wet or dry applications.
- Self-adjusting for wear.
- Stationary cylinder assembly.
- No levers, cams or highly-stressed parts.
- Static torque range 30 to 2,400 lbs. ft.

CUSTOMIZATION
- Custom designs and alterations are available.

AHA model MAXITORQ® multiple disc air/hydraulic clutches and brakes provide high-performance operation, delivering more than 10 times the torque of single disc air/hydraulic units of the same package size. Featuring the patented MAXITORQ® floating disc principle, these clutches and brakes ensure minimal resultant heat when in neutral, fast disengagement and low neutral drag. Customization is available to meet specific operational needs, including wet or dry applications.
Superior Performance, Proven Reliability

Innovative AHA model MAXITORQ® multiple disc air/hydraulic clutches and brakes provide users with reliable, effective solutions to fit specific operational needs. These clutches and brakes allow for high-performance and easy installation with many beneficial features such as:

- Stationary cylinder assembly mounted on deep groove ball bearings to accommodate thrust loads.
- Quad-ring seals for maximum performance without leakage of air/hydraulic fluid.
- Ample-sized ports and passages to provide fast installation with many beneficial features such as:
- Superior performance, robustness, and ease of use.
- MAXITORQ® floats disc principle to separate springs between clutch/brake discs to ensure minimal resultant heat in neutral, instantaneous engagement, and low neutral drag.

How the Air/Hydraulic Clutch or Brake Works

Air/hydraulic clutches and brakes include a non-rotating cylinder, making installation quick and easy. The clutch or brake is keyed to one shaft and can be used with either internal or external flange drive cups as the other member. Standard clutches and brakes are furnished with shielded, pre-lubricated bearings.

Clutches and brakes can have either electric actuation with solenoid-operated air or hydraulic valves, or manual actuation with a simple, three-way hand-operated valve. When actuated, air or hydraulic fluid enters the cylinder, moving the piston to exert force against the pressure ring. This causes the clutch disc and spring assembly to compress, resulting in full power transmission or braking action. When the actuating medium is vented, the separator springs separate the discs instantaneously, causing positive disengagement.

Designed for Wet & Dry Operations

Wet and dry applications can be accommodated with these units. In wet applications (oil mist, spray, splash, bath, etc.) where the clutch or brake is encased, the component should be ordered without bearing shields. For dry applications, the clutch or brake is typically furnished with permanently lubricated ball bearings.

Specifications for Model AHA Air/Hydraulic Clutches or Brakes

<table>
<thead>
<tr>
<th>Model AHA Air/Hydraulic Clutch Replacement Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHA-Size-130 Retaining Ring Disc End</td>
</tr>
<tr>
<td>AHA-Size-115 End Plate</td>
</tr>
<tr>
<td>AHA-Size-112-2 Outer Disc-Faced</td>
</tr>
<tr>
<td>AHA-Size-114 Belleville Spring</td>
</tr>
<tr>
<td>AHA-Size-113 Inner Disc-Steel</td>
</tr>
<tr>
<td>AHA-Size-103 Body</td>
</tr>
<tr>
<td>AHA-Size-140 Pressure Ring</td>
</tr>
<tr>
<td>AHA-Size-280 Ball Bearing-Piston</td>
</tr>
<tr>
<td>AHA-Size-160 Piston</td>
</tr>
<tr>
<td>AHA-Size-161 Piston Seal-Out</td>
</tr>
<tr>
<td>AHA-Size-183 Housing</td>
</tr>
<tr>
<td>AHA-Size-280 Ball Bearing Housing</td>
</tr>
</tbody>
</table>

Important: When the Model AHA clutch or brake is operated with compressed air, it is necessary to incorporate an air filter and lubricator in the supply line near the clutch or brake to ensure clean air and sufficient lubrication to the piston seals.

Innovative AHA model MAXITORQ® multple disc air/hydraulic clutches and brakes provide users with reliable, effective solutions to fit specific operational needs. These clutches and brakes allow for high-performance and easy installation with many beneficial features such as:

- Stationary cylinder assembly mounted on deep groove ball bearings to accommodate thrust loads.
- Quad-ring seals for maximum performance without leakage of air/hydraulic fluid.
- Ample-sized ports and passages to provide fast installation with many beneficial features such as:
- Superior performance, robustness, and ease of use.
- MAXITORQ® floats disc principle to separate springs between clutch/brake discs to ensure minimal resultant heat in neutral, instantaneous engagement, and low neutral drag.

How the Air/Hydraulic Clutch or Brake Works

Air/hydraulic clutches and brakes include a non-rotating cylinder, making installation quick and easy. The clutch or brake is keyed to one shaft and can be used with either internal or external flange drive cups as the other member. Standard clutches and brakes are furnished with shielded, pre-lubricated bearings.

Clutches and brakes can have either electric actuation with solenoid-operated air or hydraulic valves, or manual actuation with a simple, three-way hand-operated valve. When actuated, air or hydraulic fluid enters the cylinder, moving the piston to exert force against the pressure ring. This causes the clutch disc and spring assembly to compress, resulting in full power transmission or braking action. When the actuating medium is vented, the separator springs separate the discs instantaneously, causing positive disengagement.

Designed for Wet & Dry Operations

Wet and dry applications can be accommodated with these units. In wet applications (oil mist, spray, splash, bath, etc.) where the clutch or brake is encased, the component should be ordered without bearing shields. For dry applications, the clutch or brake is typically furnished with permanently lubricated ball bearings.

Specifications for Model AHA Air/Hydraulic Clutches or Brakes

<table>
<thead>
<tr>
<th>Clutch Model</th>
<th>Torque @ 60 psig</th>
<th>Rs. ft.</th>
<th>Dynamic @ 1800 rpm</th>
<th>@ 1000 rpm (B)</th>
<th>Static @ 1000 rpm (A)</th>
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</thead>
<tbody>
<tr>
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<td>15</td>
<td>10,200</td>
<td>60</td>
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<tr>
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<td>350</td>
<td>5,600</td>
<td>400</td>
<td>350</td>
</tr>
</tbody>
</table>

1. Part Name
2. Quantity
3. Clutch Size & Serial Number (marked on O.D. of housing assembly)
4. Name of machine manufacturer & type of machine.
5. Model AHA-Size-130 Retaining Ring Disc End
6. Model AHA-Size-108-300 Internal Flange Driving Cup
7. Model AHA-Size-100-200s External Flange Driving Cup

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Special Designs

While the clutches and brakes described in this catalog are standard models of Carlyle Johnson, a significant portion of our production is devoted to the design and manufacture of custom clutches and brakes. Our engineers are always available to help customers select the best solution to meet specific requirements, and provide additional recommendations beyond the clutch or brake.
MAXITORQ® internal and external flange driving cups are designed to provide an economical means of adapting Model AHA air/hydraulic clutches and brakes to various types of driven, or driving members. Utilizing a simple screw assembly, holes are counter sunk for flat head screws and positive fastening. Cups can also be drilled for a dowel, if required. These reliable cups are hardened to increase durability and longevity. Internal and external flange cups are manufactured on a production basis, incorporating close tolerances for precise alignment of lug slots. Additionally, machinery manufacturers can save time and money by using MAXITORQ® internal and external flange driving cups rather than producing their own units.

### Internal Flange

<table>
<thead>
<tr>
<th>Used with Clutch Number</th>
<th>Part Number</th>
<th>Screw Size</th>
<th># of Holes</th>
<th>Pilot Dia. C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th># of Slots</th>
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<tbody>
<tr>
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<td>EMA00325</td>
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<td>2.5670</td>
<td>1.877</td>
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</table>

### External Flange

<table>
<thead>
<tr>
<th>Used with Clutch Number</th>
<th>Part Number</th>
<th>Screw Size</th>
<th># of Holes</th>
<th>Pilot Dia. C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th># of Slots</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>5.1875</td>
<td>1.3750</td>
<td>.2500</td>
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