

Air or Hydraulic Clutches & Brakes



Model AHA

THE MAXITORQ® ADVANTAGES

- *Air or Hydraulic actuation.*
- *Highest torque in the smallest space.*
- *Wet or dry operation.*
- *Self-adjusting for wear.*
- *Stationary cylinder assembly.*
- *No levers, cams, or highly stressed parts.*
- *Long-life floating discs for low heat and extremely low neutral drag.*

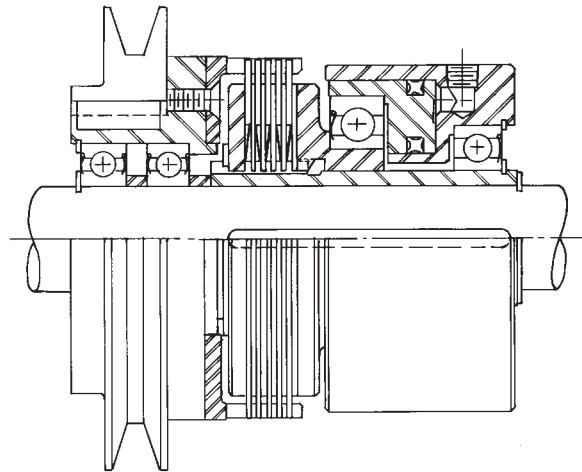
SUPERIOR PERFORMANCE, PROVEN RELIABILITY

Carlyle Johnson MAXITORQ® Multiple Disc Air or Hydraulic clutches and brakes deliver more than 10 times the torque of single disc air/hydraulic units of the same package size.

The time-tested MAXITORQ® floating disc principle incorporates separator springs between clutch discs that assure instant disengagement as well as a minimum amount of neutral drag and the resultant heat. As with other MAXITORQ® Clutches and Brakes, automatic compensation for wear is an inherent feature that eliminates machine downtime for possible periodic clutch adjustment. The clutch can be operated in either a dry or an oil atmosphere. If run wet, (oil mist, spray, splash, bath) and enclosed, the clutch should be ordered without bearing shields. For dry applications the clutch is usually furnished with permanently lubricated ball bearings.

Design and construction of the air or hydraulically operated clutches or brakes feature a minimum of moving parts, simple installation, stationary cylinder assembly mounted on deep groove ball bearings to accommodate thrust loads, quad-ring seals to assure maximum performance without leakage of air or hydraulic fluid, and ample sized ports and passages to provide fast piston action.

Typical Pulley Type Air Hydraulic Clutch Application



HOW THE AIR/HYDRAULIC CLUTCH OR BRAKE WORKS

Since the cylinder does not rotate, installation is quick and simple. The clutch is keyed to one shaft and can be used with either internal or external flange drive cups as the other member. The standard clutch is furnished with shielded pre-lubricated bearings.

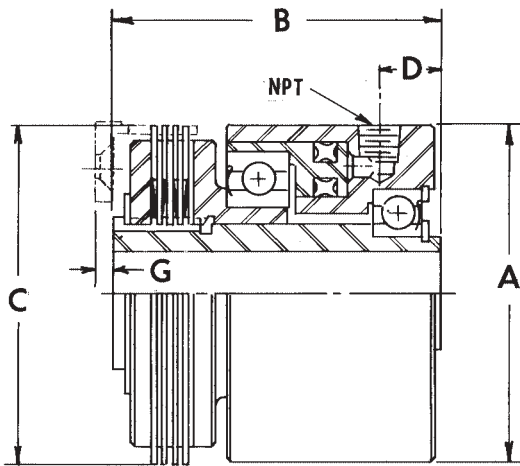
Actuation of the clutch can be electric with solenoid operated air or hydraulic valves or manual with a simple three-way hand operating valve. When actuated, air or hydraulic fluid enters the cylinder, moving the piston to exert force against the pressure ring, thus compressing the clutch disc and spring assembly for full power transmission or braking action. When the actuating medium is vented the Bellville springs separate the discs instantaneously, resulting in positive engagement.

MODEL AHA AIR & HYDRAULIC BRAKES/CLUTCHES

SPECIAL DESIGNS

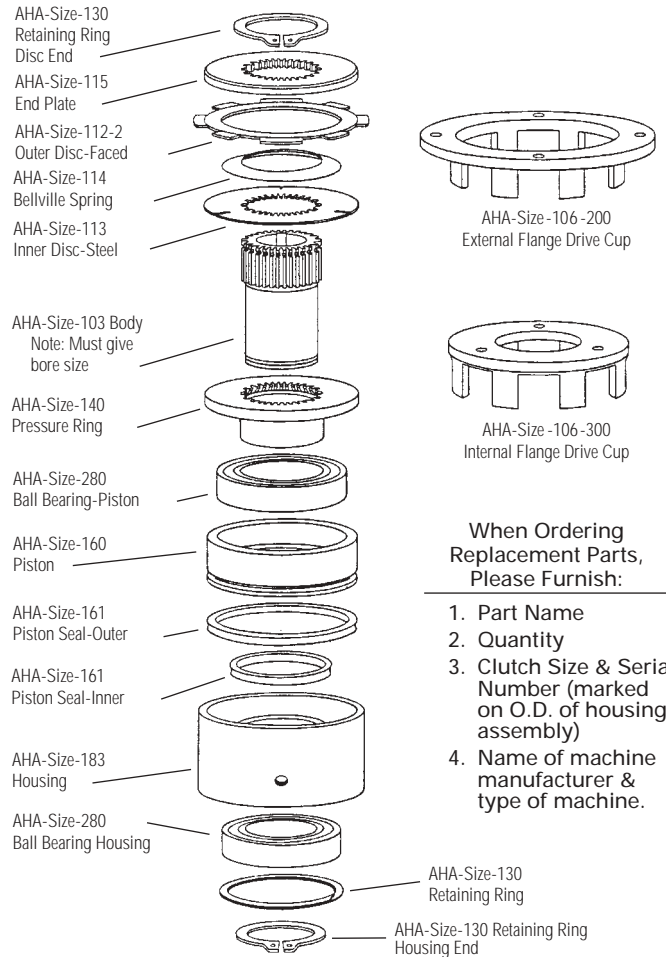
Clutches described in this catalog are Carlyle Johnson's standard models. However, a significant portion of our production is devoted to the design and manufacture of special clutches that meet specific user requirements.

At the heart of our product is our engineering expertise. Carlyle Johnson engineers are ready and available to provide assistance with recommendations well beyond the clutch itself. Do not hesitate to ask for this service at any time.



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

Model AHA Air Hydraulic Clutch Replacement Parts



When Ordering Replacement Parts, Please Furnish:

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.

NOTE: MAXITORQ® Clutches and brakes as furnished can run dry or in oil. We specifically recommend Series A oils when operating wet. If extreme pressure additives that would reduce clutch torque are utilized, please contact the factory for recommendations.

SPECIFICATIONS...Model AHA AIR OR HYDRAULIC CLUTCHES OR BRAKES

CLUTCH NUMBER	TORQUE @ 60 PSIG		B ₁₀ BEARING* LIFE @ 1800 RPM (HOURS)	A	B	STD. BORE	KEYWAY	C	D	G	NPT
	FT.LBS. STATIC	FT.LBS. DYNAMIC									
AHA0015999	30	15	10,000	3.500	3.34375	$\frac{3}{4}$ or $\frac{7}{8}$	$\frac{3}{16} \times \frac{3}{32}$	3.5000	.62500	.09375	.12500
AHA0025999	70	35	5,600	4.000	3.6250	1 or $1\frac{1}{8}$	$\frac{3}{16} \times \frac{3}{32}$	4.1875	.68750	.06250	.12500
AHA0050999	100	50	5,600	4.500	3.9375	$1\frac{1}{4}$ or $1\frac{3}{8}$	$\frac{1}{4} \times \frac{1}{8}$	4.6875	.68750	.06250	.12500
AHA0100999	150	75	12,000	4.875	4.21875	$1\frac{1}{2}$ or $1\frac{5}{8}$	$\frac{5}{16} \times \frac{5}{32}$	5.1875	.87500	.18750	.12500
AHA0200999	250	125	5,600	5.750	4.6250	$1\frac{3}{4}$ or $1\frac{7}{8}$	$\frac{3}{8} \times \frac{3}{16}$	6.7500	.81250	.18750	.25000
AHA0400999	600	300	8,000	7.000	5.53125	2 or $2\frac{1}{4}$	$\frac{7}{16} \times \frac{7}{32}$	8.500	1.09375	.12500	.25000
AHA0800999	1,200+	600+	8,000+	9.500	6.37500	$2\frac{3}{4}$ or 3	$\frac{9}{16} \times \frac{7}{32}$	10.0000	1.18750	.18750	.25000

*B₁₀ Bearing Life means that there is a 10% chance of bearing failure at the end of the stated period of time.

+Torque rating for AHA 800 are for 120 psig and 240 psig.



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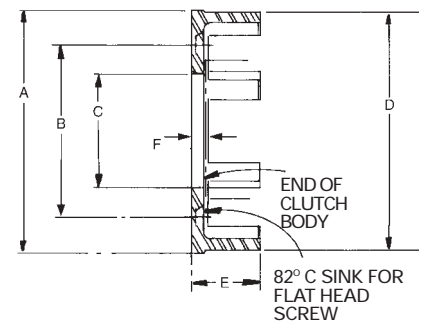
MODEL AHA AIR HYDRAULIC BRAKES/CLUTCHES

MAXITORQ® Internal and External Flange Driving Cups have been designed to provide an economical means of adapting Model AHA Air or Hydraulic Clutches or Brakes to various types of driven or driving members. They are hardened for durability and long life, and can be secured to various types of driven or driving members by means of screws. If required, cups can be drilled for a dowel. Screw holes are counter sunk for flat head screws and

positive fastening. Moreover, users of Model AHA Air or Hydraulic Clutches or Brakes have a price advantage by using MAXITORQ® Driving Cups. It is more practical and economical for machinery manufacturer's to use MAXITORQ® Cups than to make their own. MAXITORQ® Cups are manufactured on a production basis incorporating close tolerances for precise alignment of lug slots.

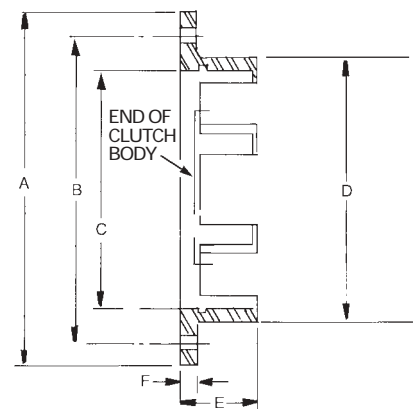
Internal Flange										
USED WITH CLUTCH NUMBER	PART NUMBER	A	B.C. B	Screw Size	# of Holes	PILOT DIA. C	D	E	F	# of Slots
AHA0015999	EMA00325 106-300	3.562 3.560	2.5670 2.5570	1/4	3	1.877 1.875	3.5000	1.0625	.1875	8
AHA0025999	AHA0025 106-300	4.250 4.248	3.067 3.057	1/4	3	2.377 2.375	4.1875	1.2500	.1875	8
AHA0050999	EMA0425 106-300	4.750 4.748	3.630 3.620	1/4	3	2.517 2.515	4.6875	1.2500	.1875	8
AHA0100999	EMA0475 106-300	5.250 5.248	3.942 3.932	5/16	3	2.517 2.515	5.1875	1.3750	.2500	8
AHA0200999	EMA0625 106-300	6.812 6.810	5.317 5.307	3/8	4	3.767 3.765	6.7500	1.6562	.3125	8
AHA0400999	AHA0400 106-300	8.562 8.560	6.255 6.245	1/2	4	4.877 4.875	8.5000	1.9375	.3125	12
AHA0800999	AHA0800 106-300	10.062 10.060	8.067 8.057	3/8	6	5.517 5.515	10.0000	2.0625	.3125	12

Internal Flange



External Flange										
USED WITH CLUTCH NUMBER	PART NUMBER	A	B.C. B	Screw Size	# of Holes	PILOT DIA. C	D	E	F	# of Slots
AHA0015999	EMA00325 106-200	4.625 4.623	4.130 4.120	1/4	3	3.300 3.298	3.5000	1.0625	.2500	8
AHA0025999	AHA0025 106-200	5.625 5.623	4.880 4.870	1/4	3	3.814 3.812	4.1875	1.1875	.2500	8
AHA0050999	EMA0425 106-200	6.125 6.123	5.380 5.370	1/4	4	4.314 4.312	4.6875	1.2500	.2500	8
AHA0100999	EMA0475 106-200	6.875 6.873	6.005 5.995	5/16	4	4.814 4.812	5.1875	1.3750	.2500	8
AHA0200999	EMA0625 106-200	8.500 8.498	7.692 7.682	3/8	4	6.377 6.375	6.7500	1.6562	.3125	8
AHA0400999	AHA0400 106-200	10.625 10.623	9.630 9.620	1/2	4	8.095 8.093	8.5000	1.9375	.3125	12
AHA0800999	AHA0800 106-200	12.250 12.248	11.130 11.120	3/8	6	9.533 9.531	10.0000	2.0625	.3125	12

External Flange



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