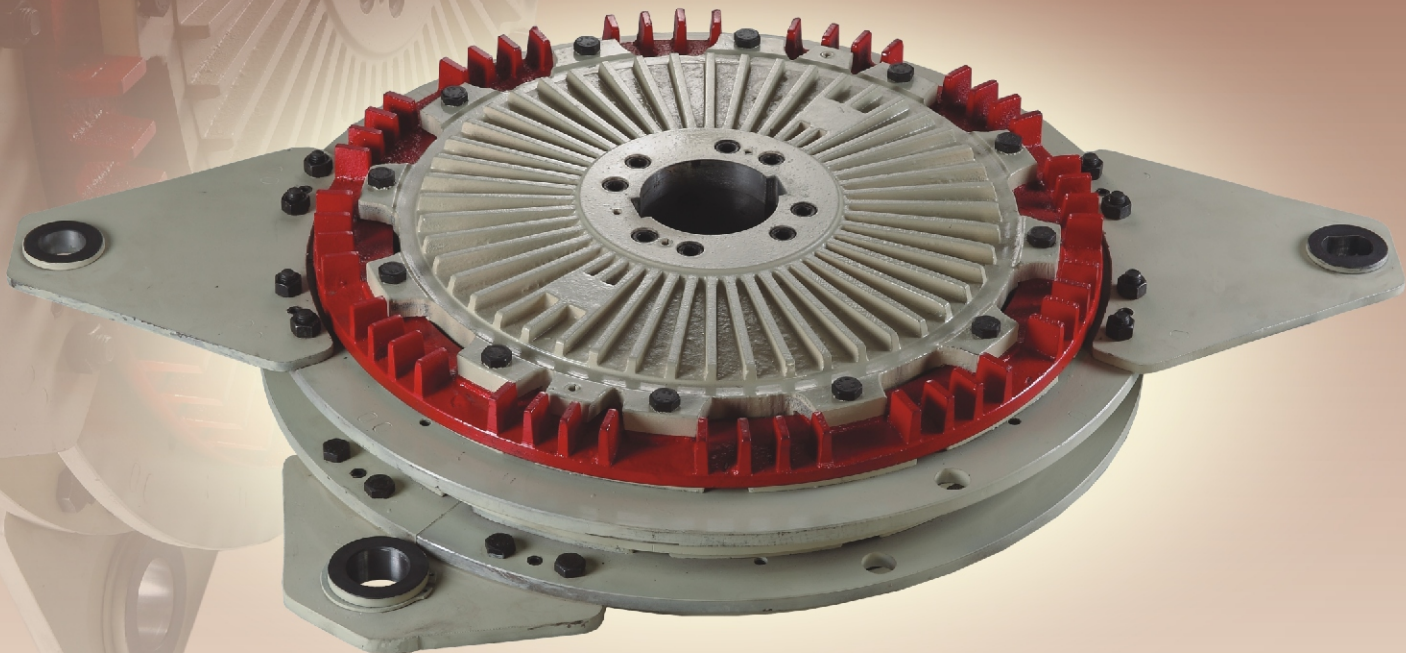


AIRTORQ

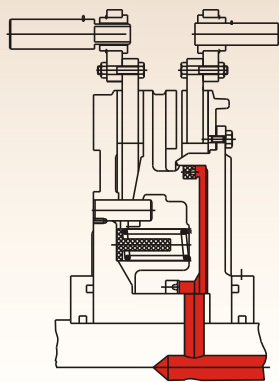
PNEUMATIC COMBINATION CLUTCH/BRAKES

SERIES CCB

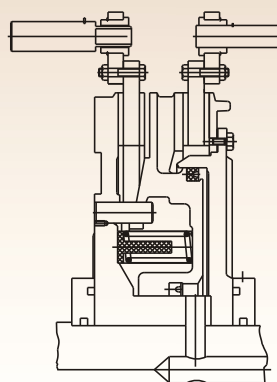


FEATURES :

- LOW INERTIA DESIGN
- LOW AIR CONSUMPTION
- RAPID START & STOP CAPABILITY
- HIGH THERMAL DISSIPATION CAPABILITY



CLUTCH ENGAGED

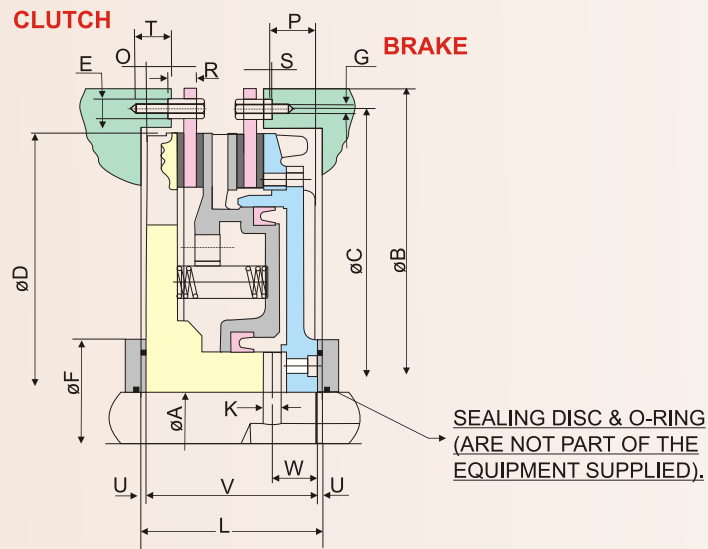


BRAKE ENGAGED

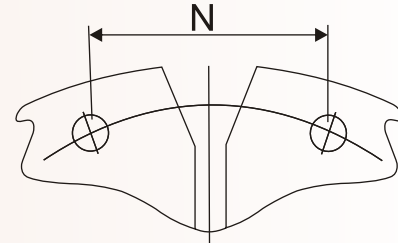
HOW THESE OPERATE

- Clutch plate is attached to the Rotating Member / Fly Wheel.
- Brake Plate is attached to the machine frame.
- Pressurised Air Moves Piston toward the rotating clutch plate, depressing the brake springs.
- As full clutch torque is achieved (in 50-150 ms.) the C/B main shaft begins to torque.
- As air is released. The Brake springs push the piston away from the clutch plate toward the brake plates. Stopping the C/B and shaft rotation.

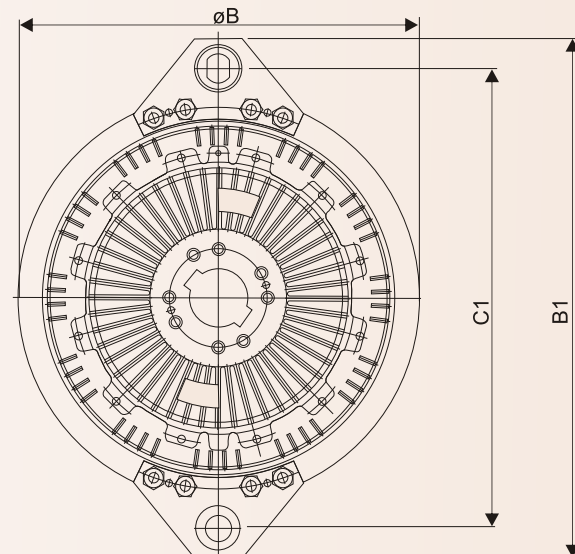
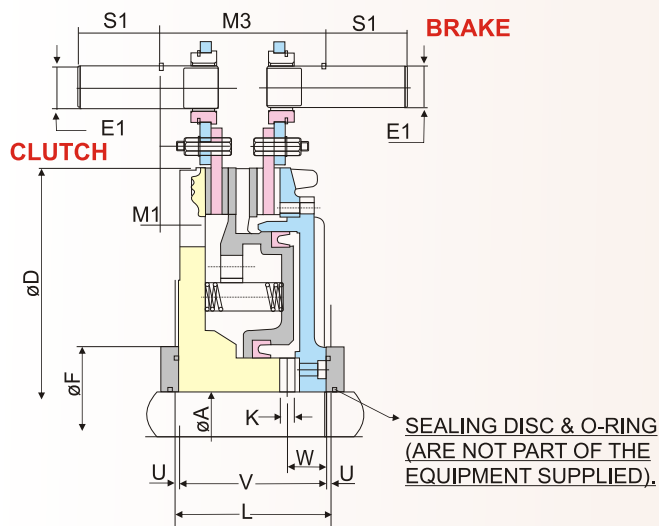
12-12 BUSH MOUNTING ARRANGEMENT



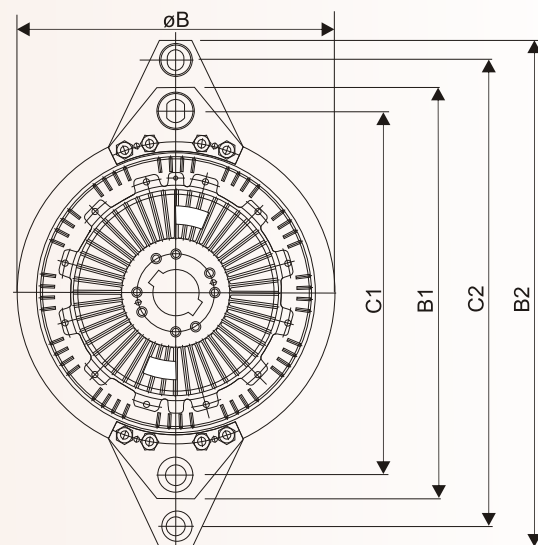
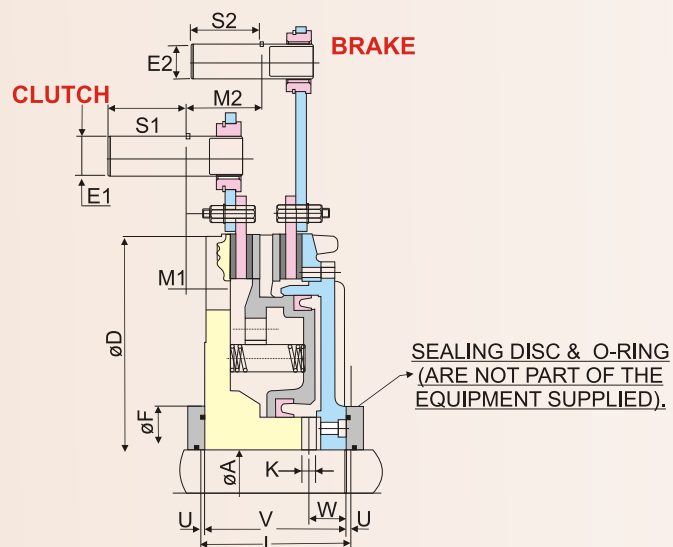
- In the bore 2 Keyways offset by 180° 2 Air Inlets offset by 180° and offset Relative to the Keyways by 90°
- Operating Pressure 5.0 to 6.0 Bar.
- For dry running only keep all friction surfaces free of lubricants.
- Mounting bushes and arms are not part of standard Equip.



SHORT ARM-SHORT ARM MOUNTING ARRANGEMENT



SHORT ARM-LONG ARM MOUNTING ARRANGEMENT



CAPACITIES & DIMENSIONAL DETAILS

MODEL			CCB 25	CCB 50	CCB 100	CCB 200	CCB 400	CCB 500	CCB 600	CCB 800	CCB 1200	CCB 1600
TORQUE CAPACITIES (N.M.)	AT-5.5 BAR	CLUTCH TORQUE	260	550	1050	2150	4250	5150	6300	8600	12800	17000
		BRAKE TORQUE	180	350	700	1500	3000	3500	4500	6000	8500	12000
	AT-6.0 BAR	CLUTCH TORQUE	300	630	1250	2500	5000	6000	7500	10000	15000	20000
		BRAKE TORQUE	180	350	700	1500	3000	3500	4500	6000	8500	17000
INERTIA KGM 2	EXT.	0.008	0.025	0.062	0.24	1.25	0.825	2.35	4.0	7.5	11.0	
	INT.	0.02	0.058	0.188	0.55	1.75	2.175	4.0	5.75	10.25	18.5	
STROKE VOLUME LTR.	WORN OUT LINING	0.10	0.17	0.29	0.61	1.15	1.37	1.37	1.71	3.21	3.85	
	NEW LINING	0.07	0.13	0.23	0.46	0.82	1.00	1.00	1.18	2.22	2.65	
MAX. SPEED	RPMS	2750	2250	1750	1400	1200	1100	1000	900	800	700	
APPROX WEIGHT		10	25	35	56	105	113	157	200	311	420	
SERIES-CCB	MAX øA	35	45	65	80	95	105	110	125	145	160	
	øB	220	275	347	435	535	570	620	680	775	865	
	B1	282	360	435	560	695	730	780	870	1000	1090	
	B2	357	442	522	680	855	895	950	1075	1235	1335	
	C	205	255	325	408	500	536	584	640	725	810	
	C1	250	315	390	495	610	645	695	770	880	970	
	C2	325	410	490	635	790	830	885	990	1135	1235	
	øD	188	236	304	480	465	497	543	593	675	755	
	E	10	12	15	18	25	25	25	30	35	40	
	E1	14	22	22	30	40	40	40	45	55	55	
	E2	14	14	14	22	30	30	30	40	45	45	
	F	70	85	125	145	160	175	180	200	240	300	
	G	M5	M6	M8	M10	M14	M14	M14	M16	M20	M24	
	K	5	6	8	11	14	17	17	17	23	23	
	L	66	74	100	115	145	150	161	171	201	221	
	N	53	66	84	105.6	129.4	138.7	151.2	165.6	187.6	209.6	
	O	11	10	14	15	19	17.5	20	24	28	28	
	P	11	8.5	25	28	35	36	44	46	50	62	
	R	11	13	16	19	22	22	26	27	32	37	
	S	2	2	3	3	3	3	3	5	5	5	
	S1	28	45	45	60	80	80	80	90	110	110	
	S2	28	28	28	45	60	60	60	80	90	90	
	T	20	25	30	35	45	50	55	70	80	90	
	U	3	4	4	5	5	5	5	5	5	5	
	V	60	66	92/82	105/100	135/125	140	151/145	181/160	191/185	211/203	
	W	19	18.5	23	27	32	36	36.5	42	48	53	
	M1	3	17.5	4	7	9	12.5	21	22	28	24	
	M2	32	51	47	48	65	80	83	86	109	113	
	M3	67	100.3	87	106	152	146.5	158	183	217	225	

AIR SUPPLY

In mobile applications or if no central Air Supply is available the size of the compressor is decided by the Air Consumption of the Clutch. Table 1 give the Cylinder volume of the different sizes. The volume of the supply line between the Clutch and the Control Valve must be added. The required amount of free air can be calculated as follows :

$Q = 1.5 \text{ V.P.Z.} = \text{Compressor capacity at atmospheric pressure in litres / min.}$

$V = \text{Volume of Cylinder and Connection Pipe.}$

$P = \text{Working Pressure in bar.}$

$Z = \text{Max. number of engagement per minute.}$

$1.5 = \text{Leakage factor depending on operating conditions}$

If more than one unit is incorporated into the supply Line, this must be taken into account in the above calculations.

NOTE : Use Filtered & Lubricated Air only.

CYLINDER CAPACITY IN LITERS		
SIZE	MIN.	MAX.
CCB-25	0.07	0.10
CCB-50	0.13	0.17
CCB-100	0.23	0.29
CCB-200	0.46	0.61
CCB-400	0.82	1.15
CCB-500	1.00	1.37
CCB-600	1.00	1.37
CCB-800	1.18	1.71
CCB-1200	2.22	3.21
CCB-1600	2.65	3.85

Table 1

ROTATING AIR INLET

Air Inlets for direct connection of Solenoid Valve can be supplied. The connection of the Air Inlet to the Shaft should be adequately sealed and well aligned. Accurate performance and Long Life can only be warranted if the inner part is running true with the shaft. Air supply, Pipes must be connected to the Air Inlet by a flexible Hose of at least 300 mm length to prevent excessive load on the bearing.

AIR ACCUMULATOR

Especially with high engagement figures. The accentric pressure or similar. It is recommended to use a pressure compensating tank (accumulator) of suitable size in order to avoid a drop in pressure engagement. The connection pipeline should be kept as short as possible.

A pressure switch can be incorporated to prevent engagement at too low pressure which might cause the Clutch to slip.

The volume of the accumulator should be at least 3-4 times the max. Cylinder volume (with worn linings) plus line volume times working. Refer table 2 to select the proper solenoid and rotary joint.

During engagement the pressure in the supply line just before the clutch should not fall below 90% of normal valve.

Min. Operating Pressure 5.5 bar

Max. Operating Pressure 6.0 bar

SIZE	I/D OF PIPES AND VALVES USED IN PRESS AIR SUPPLY LINE
CCB-25	(G 1/4)-G-1/2
CCB-50	G-1/2
CCB-100	G-1/2
CCB-200	G-3/4
CCB-400	G-1
CCB-500	G-1
CCB-600	G-1
CCB-800	G-1
CCB-1200	G-1-1/2
CCB-1600	G-1-1/2

Table 2

PIPE LINES

To achieve accurate performance in rapidly working presses etc. it is necessary to use min. pipe dimensions as listed in table 2. The lubricator must be set to give a oil feed of 2 to 3 drops per m³ of Air.

1. FILTER
2. PRESSURE REGULATOR
3. LUBRICATOR
4. AIR ACCUMULATOR (TANK)
5. FLEXIBLE HOSE
6. THREE WAY SOLENOID VALVE
7. AIR INLET ROTARY JOINT
8. CLUTCH/BRAKE COMBINED UNIT
9. CHECK VALVE

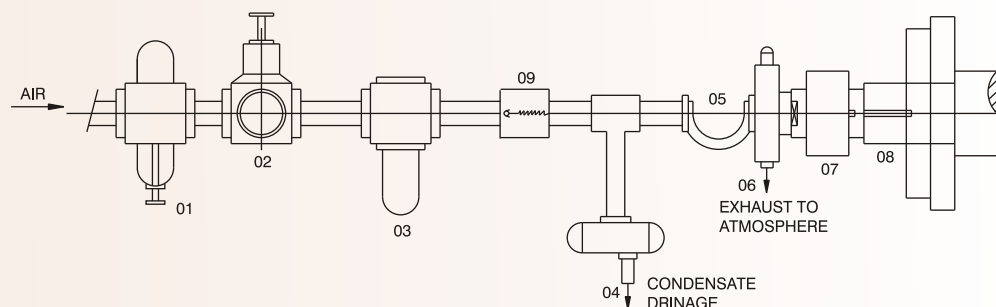


DIAGRAM OF COMPRESSED AIR SYSTEM

AIRTORQ INDIA

(An ISO 9001:2000 Certified Company)

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