

FLUID COUPLINGS

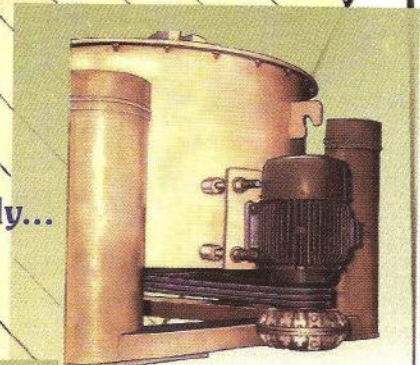
INHERENT ADVANTAGES

- No wear of power transmitting elements.
- Motor always starts unloaded. So, it accelerates quickly to its optimum speed at which it delivers its peak torque.
- The torque multiplication at start-up, enables a motor to be selected for running power of a machine, instead of its starting power required. Thus, acceleration of high inertia load is possible by a comparatively low powered motor. The rate of acceleration can also be controlled by varying the oil filling quantity. The shock free, smooth load take up is of great importance in some application.
- Maximum torque capacity of a coupling can be adjusted and limited to predetermined value to suit the motor or the machine, by adjusting the oil filling quantities.
- Simple, robust and more reliable, squirrel cage motor with simple star-delta starters combined with fluid couplings, can be employed for applications - which otherwise, require costly, special motors with even more complicated starting gears.
- The coupling, effectively dampens the shocks and torque fluctuations. Also protects motor from sudden jamming of machines. A fusible plug allows the oil to escape out and isolates the motor in case of prolonged delay in clearing the obstruction.
- Automatic load sharing and synchronisation is achieved in case of multi-motor drives.
- Braking of a running machine can be effected by reversing the rotation of motor. The opposite torque developed by the reverse rotation of motor stops the machine.

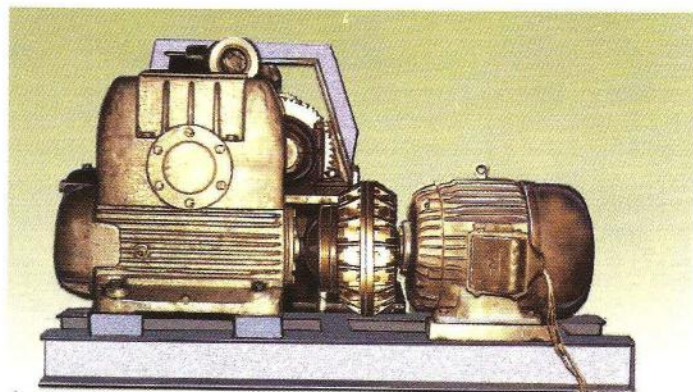


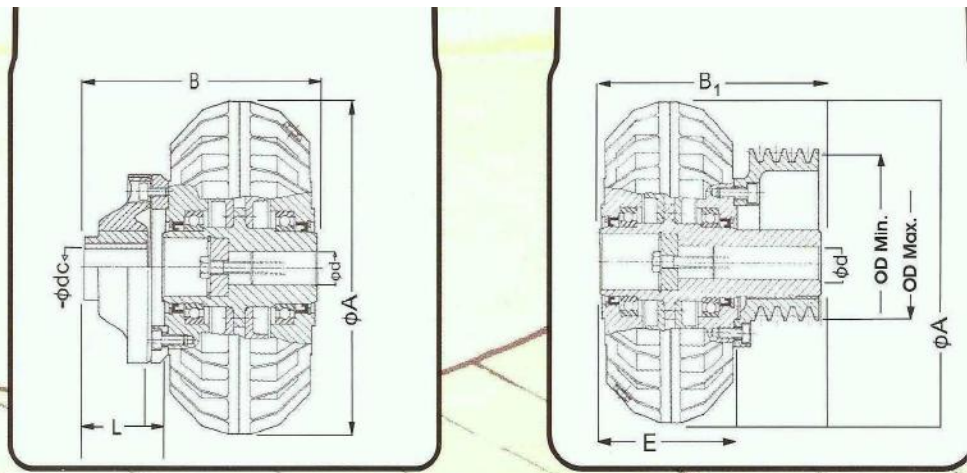
Saves energy...

Starts machines smoothly...



Lowers demand on powerlines...





Model	A	B	L	Ødc max.	B ₁	E	ØD min.	ØD max.	Ød max.
C-01	210	116	35	26	73	---	100	---	35
C-02	210	151	45	32	134	92	70	140	38
C-03	245	177	50	38	168	112	90	180	42
C-04	277	203	60	48	191	125	90	180	42
C-05	322	225	65	60	224	138	110	220	55
C-06	373	255	70	65	263	160	125	250	60
C-07	418	282	80	70	318	176	140	250	65
C-08	473	310	90	80	355	194	180	280	75
C-085	490	340	110	90	390	240	200	320	80
C-09	560	400	130	100	460	280	250	400	90
C-10	640	440	150	110	---	---	---	---	100
C-105	710	480	180	120	---	---	---	---	110
C-11	800	520	210	150	---	---	---	---	120

All dimensions are in millimetres

PRINCIPLE : "PARAG" Fluid Couplings (Models C **) are basically, 'constant speed, constant filling, hydrodynamic fluid couplings.' The basic power transmission is through a stream of 'fluid'-most commonly, oil, circulating between an impeller and a runner. The kinetic energy of oil leaving impeller is taken-up by runner and the oil is returned back to impeller. In operation, impeller is driven by the prime - mover - generally electric motor, and the runner drives the machine.

OPERATION : When the motor, fitted with a fluid coupling, is started, impeller starts rotating with motor, but the coupling has no torque capacity at the runner to drive the machine. As the motor accelerates and continues to run at a speed, near to its rated speed, the torque builds up gradually. During this start-up, the difference of speeds, between impeller and runner - the slip is maximum. Because of this slip, the output - torque is greater than the input torque, due to the multiplied kinetic energy imparted to the oil, by impeller. This increased output torque enables the motor to start and accelerate, machines of higher inertia.

Once the machine accelerates and is running at constant speed, the input and output torques are equal. But to transmit this torque, there is

an inherent slip of about 3% to 5% between input and output speeds. This indicates the efficiency of a coupling. So, in normal operations, the input and output torque of a coupling are equal but the speeds are reduced by 3% to 5%.

"PARAG" Fluid Couplings (Model C - **) are available in two versions

- (A) **AS BASIC UNITS :** The coupling shaft is pre-bored to suit standard motor shafts. Drilled and tapped holes are provided on the casing to fit suitable flexible coupling or V-belt pulley at customers works.
- (B) **AS 'READY-TO-FIT- UNITS' :** The coupling shaft is pre-bored to suit standard motor shafts and
 - (1) a suitable flexible coupling, pre-bored to suit machine shaft, fitted on the casing
 - (2) a suitable V-belt pulley fitted on the casing to drive the machine through V-belts
 - (3) an additional brake drum can also be fitted to the casing to accommodate mechanical brakes.
- (C) Special drive arrangements or drive units can also be supplied for specific applications..

TYPICAL APPLICATIONS : Agitators, Ball Mills, Bulldozers, Centrifuges, Decanters, Conveyors, Centrifugal Crushers, Cable Drum Transmission, Cranes, Concrete Mixers, Construction Machinery, Cement Plants, Compressors, Drilling Rigs, Dredgers, Elevators, Excavators, Fans, Forklifts, Kneaders, Locomotives, Mixers, Mining Machineries, Pulverisers, Paper Plant Machineries, Pug Mills, Rotary Kilns, Steel Plant Conveyor & Cars, Soap Plodders, Sugar Mill Machinery, Textile Machineries, Tractors, Vibrating Screens, Wire Drawing, Stranding & Cabling Machines, Wagon Tipplers.

CAPACITY HP RPM	MODEL												
	C-01	C-02	C-03	C-04	C-05	C-06	C-07	C-08	C-085	C-09	C-10	C-105	C-11
960	--	0.3	1.5	2.5	5.0	10.0	20.0	35.0	50.0	75.0	120.0	200.0	300.0
1440	1.0	2.0	3.0	7.5	15.0	25.0	50.0	75.0	130.0	200.0	300.0	500.0	750.0
2880	5.0	10.0	15.0	25.0	40.0	60.0	100.0	-	-	-	-	-	-

Couplings for other capacities can be supplied for specific applications.

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