



# PEMBRIL CONSTANT FILLING FLUID COUPLINGS

Type AFC Sizes 46 To 80

The 'AFC coupling is specially designed for underground Mining application as Belt & Chain Conveyor drive and other mining application. In AFC coupling water or fire resistance fluid is used as transmission fluid. The fluid coupling type AFC, when used in conjunction with squirrel cage motor has several advantages. AFC couplings are suitable for use with machines subject to heavy loads on starting and those with high rotational inertia. The drive motors are not tied to the load and are free to run up to near top speed where they can develop twice full load torque for rapid acceleration of the load at the same time reducing current consumption.

Because the starting or stalling torque can be accurately predetermined by the initial quantity of fluid in the system; the AFC fluid coupling can be used to limit the torque applied to machines liable to stalling or jamming.

## Advantages

- Light load start
- Reduced power demand
- Over load protection for motor & driven m/c
- Smooth progressive build up of torque
- Smooth controlled acceleration

Type AFC fluid coupling has a deep drawn outer steel casing which makes it very compact and exceptionally robust. The internal power transmitting components are aluminium alloy castings which makes the coupling lighter. A fusible plug is fitted to provide protection against excess temperature rise should the motor overload trip fail to operate during stall or over load. Rupture disc is also fitted to allow excessive pressure of fluid.

**The steel casing makes the type AFC ideal for use in underground coal mines or elsewhere in gassy explosive atmosphere where use of aluminium is restricted.** Units are available in six sizes to transmit power ranging from 1 kW to 160 kW at speeds up to 1500 RPM. Coupling to work at higher power and speed rating can be supplied.

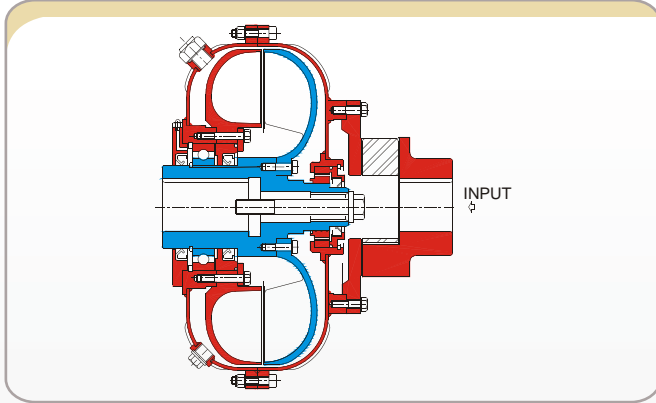
## Applications

- Mine-Head Belt Conveyors
- Chain Conveyors
- Armoured Flexible Conveyors
- Belt Conveyor





**46, 51 & 58 AFC WITH STAR TYPE FLEXIBLE COUPLING**



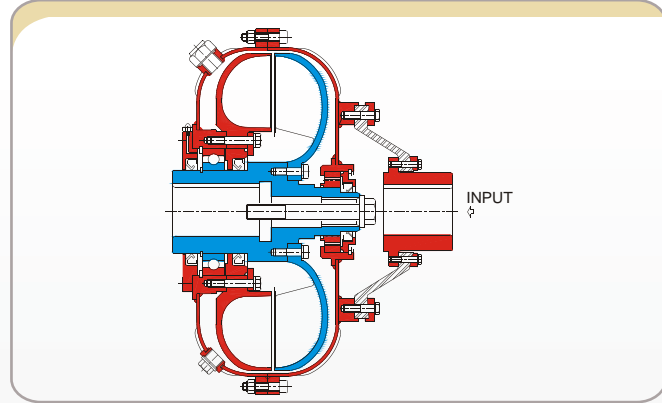
**Selection Data**

Max. operating KW rating at various motor speeds				
Size	580	720	960	1450
46	0.96	1.8	4.3	15
58	2.8	5.5	13	45
51	1.5	2.8	6.9	22

**Main features of AFC fluid coupling :**

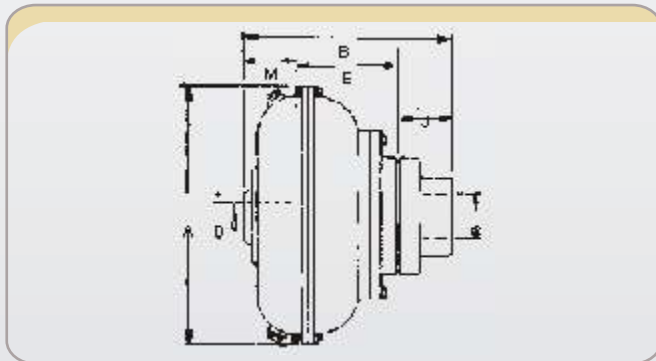
Multivanes circuit enables regulation of power transmission capacity and stalling torque. Stalling torque can be adjusted between 140 to 250%.

**65, 71 & 80 AFC WITH DIAPHRAGM PERIFLEX CPLG**



Max. operating KW rating at various motor speeds				
Size	580	720	960	1450
65	4.8	9.1	21.76	75
71	5.5	14.6	36.1	120
80	16.5	28.5	76.2	160

Slip is low, normally 2 to 5%. Reserve oil ante chamber provides a soft start. Mounting arrangement makes the drive compact. The hollow shaft of coupling with bore and keyway machined is directly mounted on driven machine input shaft and fastened. The drive to the fluid coupling from motor is through Star type coupling or Periflex type flexible coupling.



Where required, brake rim with standard AFC coupling can be supplied to suit input shaft of driven machine. C&D-Max. std bore dia of input & output side. W-total wt. of fluid coupling in kgs.

ALL DIMENSIONS ARE IN MM

SIZE	A	B	C	D	E	J	M	W. Dry Wt. (kgs.)	GD <sup>2</sup> PRI (Kgm <sup>2</sup> )	Oil Qty. (ltr.)
46	350	273	60	42	138	55	80	30	1.7	4.5
51	375	283	60	60	138	59	90	41	2.4	8.9
58	418	331	80	60	170	70	90	51	3.1	10.8
65	475	380	90	80	160	98	120	36	4.8	13.5
71	513	396	90	80	156	98	140	85	7/5	15
80	578	389	95	90	148	86	155	125	11.5	33

\* Solid Shaft coupling having both sides Flexible couplings for Radial Removal facility can be supplied on request.

**Premium Energy Transmission Limited**

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