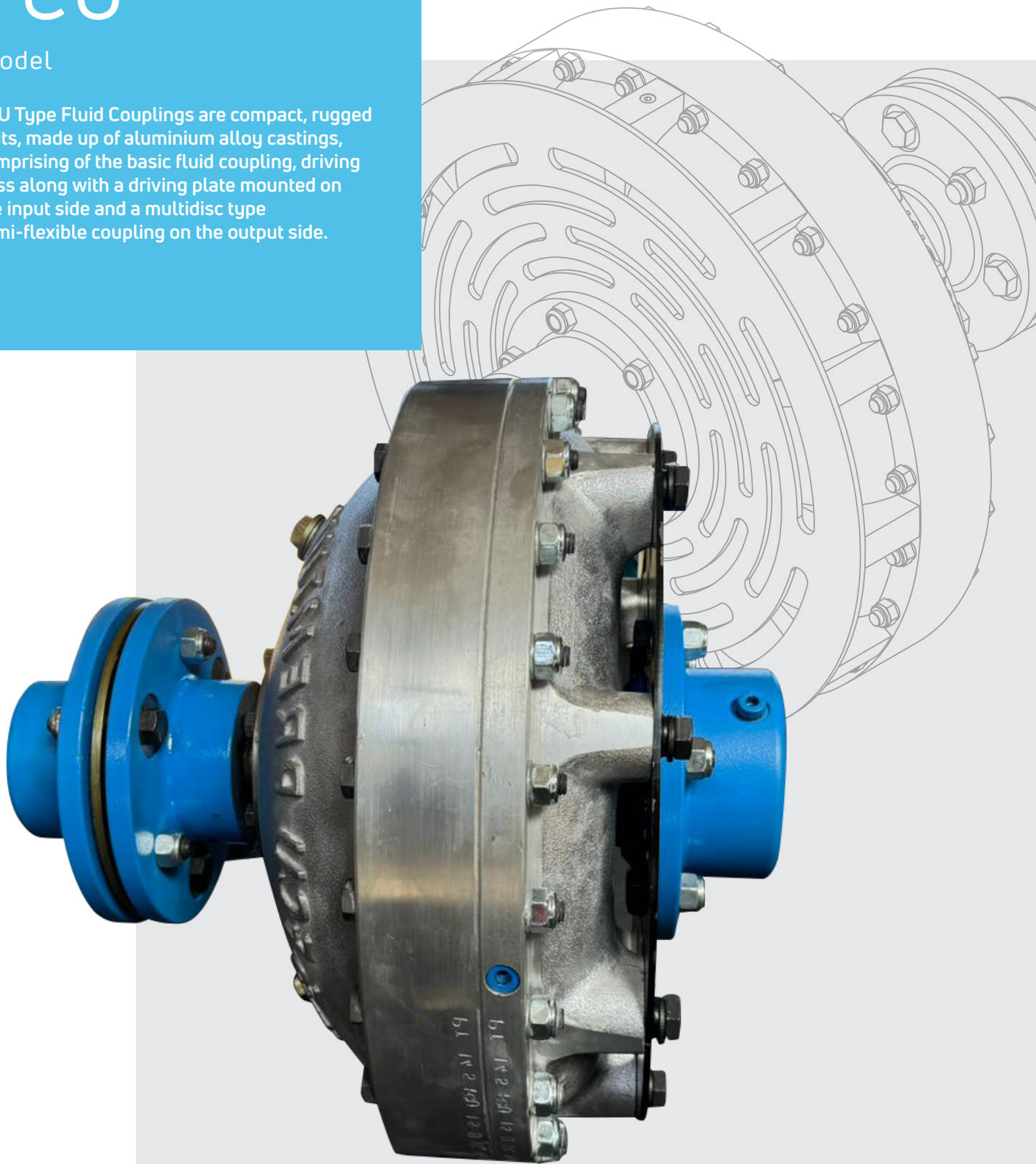


FCU

Model

FCU Type Fluid Couplings are compact, rugged units, made up of aluminium alloy castings, comprising of the basic fluid coupling, driving boss along with a driving plate mounted on the input side and a multidisc type semi-flexible coupling on the output side.



EXPERIENCE. EXPERTISE. EXCELLENCE.



These couplings have a metallic seal on the output side which allows the coupling to withstand higher temperatures in operation. There is no mechanical connection between the input and output shafts of the fluid coupling and the transmission of power is by the hydro-kinetic energy of the fluid filled in the casing. The torque transmission capacity can be set in the range of 150 to 250% of the full load torque by simply varying the oil fill level.

During start up the impeller starts to rotate creating a fluid vortex between the impeller and runner wheel. The fluid vortex is essential for torque transfer from the input shaft and impeller to the runner wheel and driven shaft.

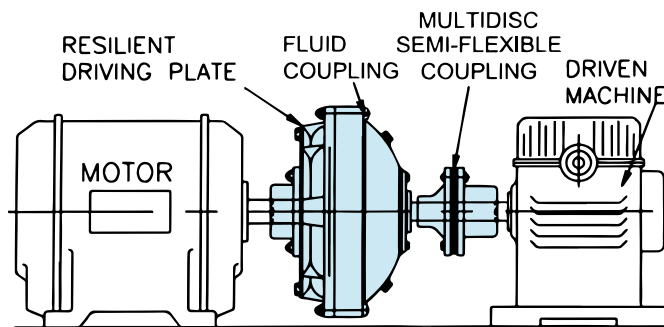
The difference of the rotational speeds between the input shaft and output shaft is called slip. At start up the slip is at 100% and gradually reduces as the runner wheel starts to accelerate.

This ensures that the motor starts under a low load with no torque transfer through the fluid coupling. As the fluid vortex is created between the impeller and runner wheel, so too does the torque transfer gradually start increasing and begin driving.

These couplings are also well protected by fusible plugs against excess rise in temperature during operation. In the event of overheating the fusible plugs alloy melts away and the oil is discharged, ultimately disengaging the drive due to low/no torque transfer through the fluid plugs.

This happens when your slip % is too high and heat is generated within the coupling. Increase in the slip percentage is typically due to an inefficient level of oil fill or an overload/jam of the drive causing torque values to spike above that of the fluid couplings power rating capacity.

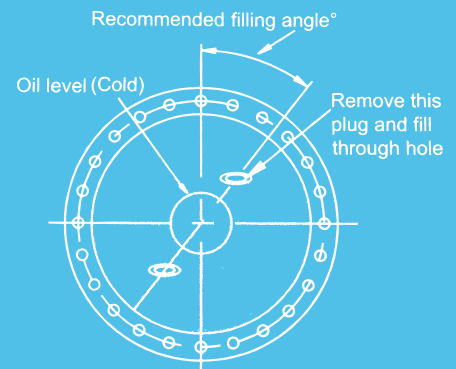
MOUNTING EXAMPLE



This standard arrangement has a resilient driving disc on the input side and a multidisc semi-flexible coupling on the output shaft. (refer figure above) The weight of the fluid coupling unit is thus shared between the shaft of the motor (or engine) and driven machine. The resilience of the mounting at each end caters for a certain degree of misalignment between the motor and driven shaft.

APPROVED OILS

1. Castrol	HYSPIGN AWS32/46
2. Mobile	DTE ·24 (VG-32)/ DTE·25 (VG-46) DTE LIGHT (VG-32)
3. Shell	TELLUS OIL 32/37/46
4. BP	ENERGOL HLP 32/46
5. Texaco	RANDO OIL HD 32/46
6. Fina	HYDRAN LZ 32/46
7. Elf	ELFONA 32/46
8. Esso	NUTO 32/46
9. Total	AZOLLA ZS 32/46

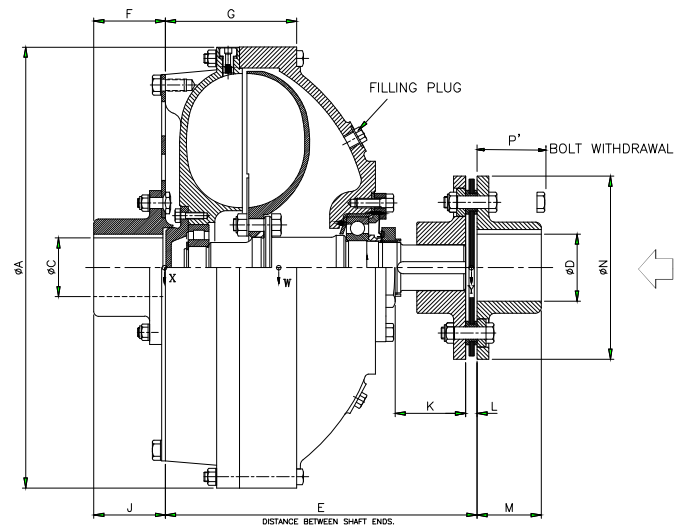


M-FCU OIL FILL

Size	Litre
8	1.7
9.25	2.6
10.5	3.7
11.5	4.6
12.75	6.8
14.5	10.2
16.25	13.6
17.75	17
20	26
23	39.5
26	56.5
29	78
32	105
36	136
41	205

FCU SERIES TECHNICAL SPECIFICATION

Size	Maximum Operating KW rating at Various operating speeds							
	500	580	720	870	960	1200	1450	1750
8			0.29	0.51	0.69	1.2	2.3	4.1
9.25		0.31	0.6	1.06	1.4	2.6	4.9	8.6
10.5	0.38	0.59	1.3	2	2.7	4.7	9.2	16.2
11.5	0.61	0.96	2	3	4	8	15	26
12.75	1.04	1.64	3.1	4.5	7.5	13.6	26	43
14.5	1.86	3	5.7	10	13.4	24.3	46	76
16.25	3.5	5.4	10.4	18.4	24.8	45	75	107
17.75	5.2	8.1	15.5	27.6	37.3	67	120	158
20	10.3	15.7	30	55	75	112	151	210
23	19	30	56.7	100	130	180	275	418
26	37.3	58	112	172	210	261	455	574
29	64.9	101	187	261	340	420	615	
32	100	155	271	360	420	692	837	
36	175	273	345	560	725			
41	336	410	634	750	1000			



C&D - Standard bores with standard keyways - mm

W - Approx total weight of unit (filled weight) - kg

W1 - Approx total weight of unit (dry weight) - kg

X - Weight reaction on driving machine - kg

Y - Weight reaction on driven machine (filled weight) - kg

Z1 - GD2 of primary parts - kgm²

Z2 - GD2 of secondary parts - kgm²

Size	A	C		D		E	F	G	J	K	L	M	N	P	Q	W	W1	X	Y	Z1	Z2
		Min.	Max.	Min.	Max.																
8	237	127	42	95	35	165	46	68	44	35	64	32	111	35	17	13.2	11.7	8.2	5	0.246	0.037
9.25	268	127	48	127	48	194	44	73	41	41	9.5	40	146	46	2.6	17.7	15.4	11.3	6.4	0.332	0.109
10.5	308	127	48	127	48	210	44	87	41	44	9.5	40	146	46	3.7	22.2	18.9	14.1	8.1	0.54	0.21
11.5	333	19	60	127	55	232	52	93	51	54	9.5	51	165	57	4.6	35	30.9	23	12	0.75	0.298
12.75	368	19	60	127	55	262	52	110	51	54	9.5	51	165	57	6.8	41	35	26	15	1.38	0.374
14.5	419	25.4	80	19	70	287	70	119	67	57	12.7	67	191	64	10.2	57.6	48.6	36.3	21.3	2.53	0.627
16.25	454	25.4	80	19	70	335	70	141	67	76	12.7	67	191	64	13.6	74	62	49	25	4.2	0.876
17.75	502	25.4	85	25.4	76	354	92	138	89	94	12.7	70	222	76	17	106	91	69.2	36.8	6.4	1.77
20	578	25.4	85	25.4	76	390	92	148	89	95	12.7	70	222	76	26	142	119.1	99	43	11.5	2.53
23	660	31.7	110	25.4	100	457	117	165	114	117	19	95	260	105	40	207	171.8	142	65	23	5.56
26	749	31.7	110	25.4	100	492	117	195	114	117	19	95	260	105	57	272	221.9	181	91	38	8.5
29	838	31.7	130	38.1	115	552	137	197	133	130	22	114	324	140	78	358	289.5	258	100	65	17.8
32	914	31.7	130	38.1	115	587	137	219	133	130	22	114	324	140	106	520	426.9	316	204	95	27
36	1032	38.1	150	50.8	150	626	165	256	165	156	22	140	381	140	136	679	559.6	420	259	182	43
41	1162	38.1	150	50.8	150	660	165	278	165	156	22	140	381	140	205	952	772	605	347	316	78

EXPERIENCE. EXPERTISE. EXCELLENCE.

57 EVA ROAD, FAIRLEADS, BENONI

+27 11 742 9600

+27 10 035 6037

+27 11 425 2857

SALES@MANUDEC.CO.ZA

WWW.MANUDEC.CO.ZA



PREMIUM
TRANSMISSION

MANUDEC

POWER TRANSMISSION AND SPRAG COMPONENTS