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Fixed Speed
Constant Fill Fluid
Couplings

Fluidomat Ltd an ISO accredited company for ISO 9001-2015, ISO 14001-2015 & OHSAS 18001-2007 is manufacturing fluid couplings since 1971 in various types & executions. Various types include.

- Constant Fill fluid couplings in Aluminium & Steel body Oil filled & Water filled.
- Scoop Control Variable Speed fluid couplings type SC.
- Nozzle type fluid couplings.
 1. Type FNCT for Industrial & Mining drives.
 2. Type HLN for IC Engine drives.

Fluidomat fluid couplings are used on more than 150 application in industrial, mining & automotive application.

Approved by all consultants, EPC companies & OEM internationally. More than 500 clients all over the world.





INDUSTRY → APPLICATION	Power Plants	Sponge Iron & Steel	Metal	Cement and Paper	Fertilizer Chemicals and Petro chemical	Ore and Coal Mining, Washeries	Harbour Handling	Others
Ball and Rod Mills		 	 	 	 			
Bucket Elevators								
Car & Wagon Tippers								
Centrifuges of Various Types								
Clinker Grinders								
Construction Machinery								
Conveyor of Various Types	 	 	 	 	 	 	 	 
Rope ways								
Cranes								
Crushers & Pulverisers	 	 	 	 	 			
Desolventiser and Toaster								
Extruders, Soap Plodders & Cutters								
Pumps of various types	 	 	 	 	 			 
Fork Lifts								
ID - FD Fans & Blowers	 	 	 	 	 			 
Ladle Cars								
Mining Machinery								
Mixers and Grinders of Various types								
Bucket Wheel Excavators and Scrappers								
Stacker cum Reclaimer								
Vibrating Screens								
Wire Drawing, Stranding and cabling								



Constant Speed Coupling



Scoop Control/Variable Speed Coupling

I N D E X

6-11	SM & HF
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12-13	SM-AR/HF-AR
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14-15	SMP
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16-17	ALFA-P
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18-19	T-12
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20-23	SF, CBSF & WF
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24	SPECIFICATION OF OIL
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25	MASS MOMENT OF INERTIA J
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26	MOTOR CHARACTERISTIC CURVE
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27	THERMAL PROTECTION
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Shaft Mounted SM/SMD/SM-DX

These are shaft mounted coupling enabling axially compact drive space. Rubber coupling on one end.



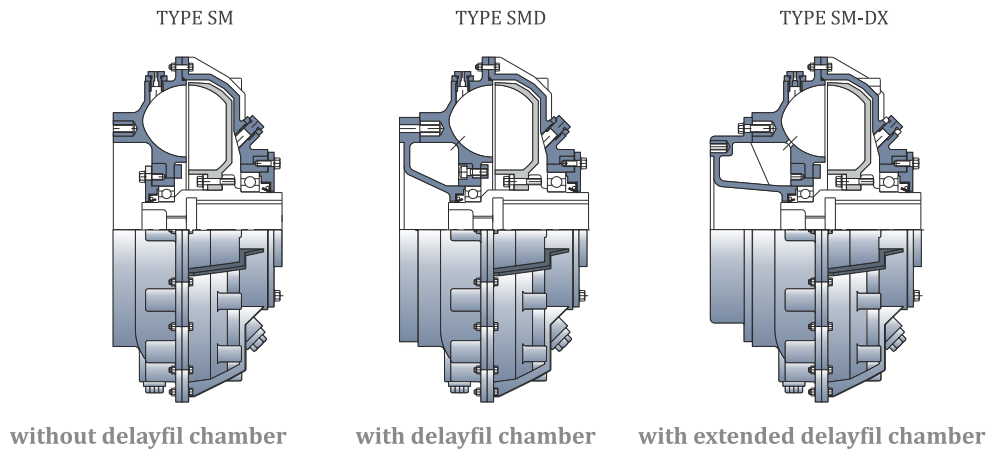
Radially Displaceable HF /HFD /HF-DX

These are radially displaceable coupling enabling prealignment of driving and driven shafts. Metallic disc flexible coupling on both ends. Weight of coupling shared by driving and driven shafts.

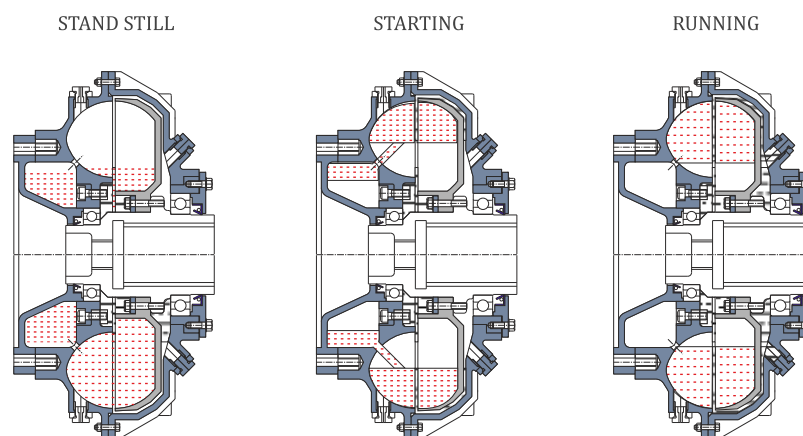
- To satisfy starting and running characteristics of industrial machines Fluidomat offer three circuit types to give starting torque down to 120% of nominal torque.
- Type SM and HF are basic coupling without delayfil chamber. Starting torque adjustable in the range of 180% to 275%.
- Type SMD and HFD are couplings with delayfil chamber. Starting torque adjustable in the range of 140% to 275%.
- Type SM-DX and HF-DX are couplings with extended delayfil chamber. Starting torque adjustable in the range of 120% to 270%.
- Normal operating slip - 2% to 5% depending on coupling size and starting torque value.
- Fusible plug blow off temperature 130°C as standard. Optional 160°C.
- Suitable for two consecutive starts from hot and three from cold.

SM & HF

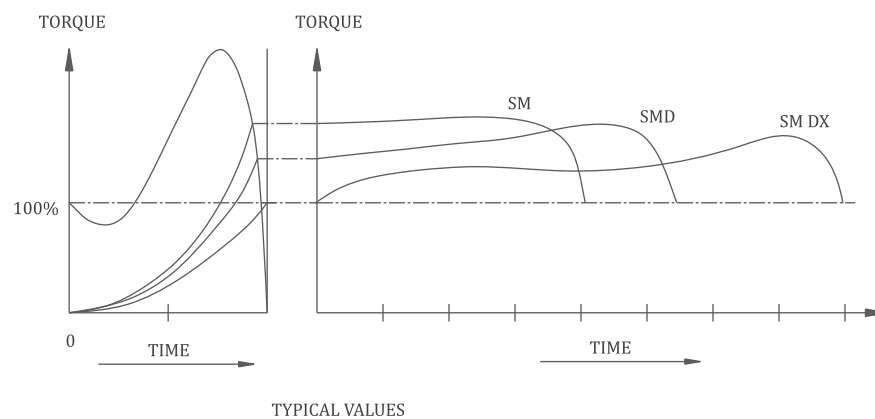
Different Executions of Oil Circuit

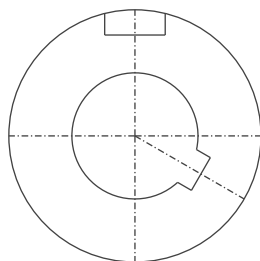
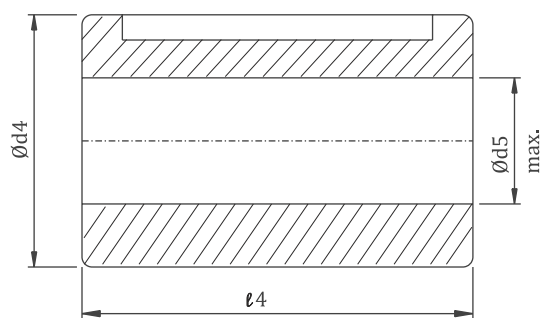


Oil Circuit and Oil Levels with Delayfil Chamber



Starting Torque Characteristics With & Without Delayfil Chamber





Coupling types SM/SMD/SM-DX are supplied in finished bores on the fluid coupling shaft. However where it is not possible to specify finished bores at the time of ordering, we can provide a separate shaft bush.

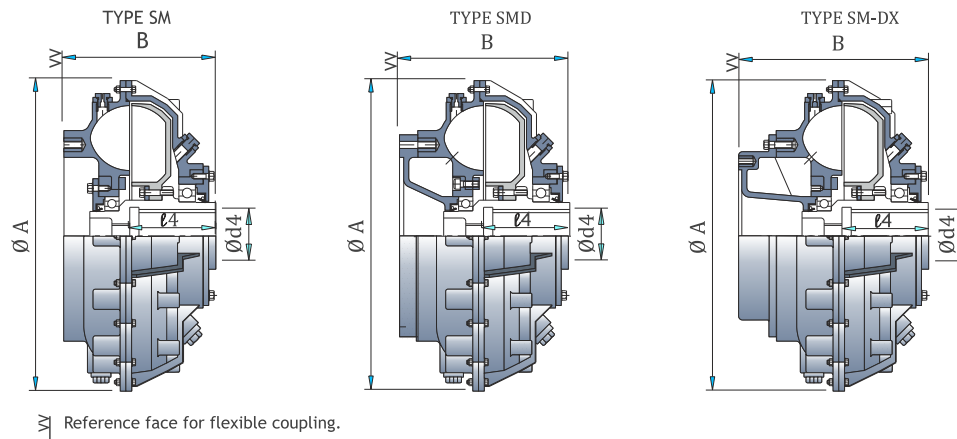
The allowable maximum bore in the shaft bush is denoted by Ød5 shown in the dimension table.

Rating Table

COUPLING MODEL	Maximum Ratings in KW at Different Input Speeds RPM.								
SM/SMD/SM-DX HF/HFD/HF-DX	600 RPM	730 RPM	900 RPM	970 RPM	1200 RPM	1470 RPM	1800 RPM	*3000 RPM	*3600 RPM
1	--	0.5	0.9	1.2	2.2	4	7.5	20	26
2	--	0.9	1.7	2.2	4.1	7.5	13.7	30	36
3	--	1.3	2.4	3	6	11	18	38	45
4	1	2	4	5	9	16.5	22	45	--
5	2	4	7	9	16.3	30	42	70	--
6	3	5	9	11	22	40	60	110	--
7	4	8	15	18	34	62	85	140	--
8	6	10	18	23	44	80	120	--	--
8 B	9	16	29	36	68	125	180	--	--
9	12	22	41	52	98	172	246	--	--
9 B	16	29	54	68	129	228	300	--	--
10	22	39	73	91	172	275	370	--	--
10 B	32	57	107	134	253	373	500	--	--
11	47	85	158	198	374	525	775	--	--
12	82	148	278	348	600	750	--	--	--
13	163	293	550	620	850	1100	--	--	--
14	277	500	758	850	1250	--	--	--	--
15	472	850	1148	1250	--	--	--	--	--
16	583	1050	1400	1500	--	--	--	--	--
16 DC	900	1500	1862	2000	--	--	--	--	--

*Coupling for 3000 & 3600 RPM should be selected only after our approval is obtained.

SM & HF



Technical Specification and Dimension Table for SM,SMD,SM-DX couplings

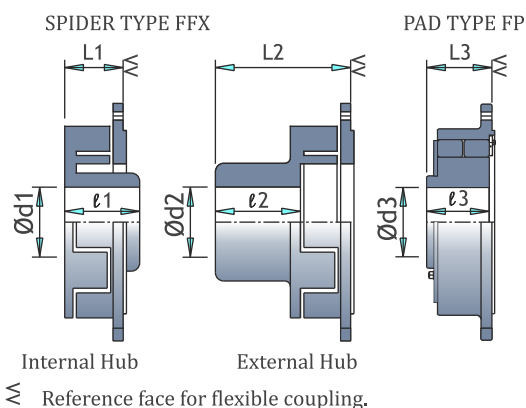
SM SMD SM-DX	ØA	B			Ød4 max.	Ød5 max.	l4 max.	*Dry Weight Kg.			Max. Oil Filling Liters			Threads 'M' For Coupling Withdrawl	Connected Flexible Coupling Model
		SM	SMD	SMD-DX				SM	SMD	SMD-DX	SM	SMD	SMD-DX		
1	295	147	--	--	38	--	86	24	--	--	1.9	--	--	3/4" BSW	FFX-1
2	328	153	--	--	48	--	90	27	--	--	2.8	--	--	3/4" BSW	FFX-1
3	342	158	213	247	42	28	80	27	30	32	2.9	3.9	4.3	3/4" BSW	FFX-1
4	367	160	215	249	50	36	90	30	34	35	3.8	4.3	4.6	3/4" BSW	FFX-1
5	406	190	220	280	65	50	110	40	44	45	4.9	5.8	6.7	1" BSW	FFX-2
6	435	213	239	310	70	53	120	55	59	61	6.5	7.7	9.6	1" BSW	FFX-3
7	471	218	263	333	80	63	135	66	71	73	8	9.4	11.3	1" BSW	FFX-3
8	505	238	279	359	80	63	140	77	83	85	9.7	11.5	14.8	1" BSW	FFX-4
8 B	553	250	290	380	95	70	155	96	102	105	14.5	16.1	19.1	1 1/4" BSW	FFX-4
9	584	255	305	385	95	80	155	104	110	113	16.1	19.3	20.8	1 1/4" BSW	FFX-4
9 B	620	270	335	430	95	80	160	150	165	168	19.4	21.5	24.7	1 1/2" BSW	FP-1/FFX-5
10	644	280	329	424	110	85	170	170	180	185	25.1	28.1	33.9	1 1/2" BSW	FP-1/FFX-5
10 B	714	310	355	451	110	85	190	210	225	230	31.8	36.5	45.4	1 1/2" BSW	FP-2A
11	751	320	375	471	120	100	200	254	268	273	37.1	42.9	49	# Ø50-8P	FP-2A
12	845	369	445	565	130	110	240	310	345	355	51.3	65.6	71.5	# Ø50-8P	FP-2B
13	960	441	489	619	150	--	270	440	480	495	72.4	91.3	106.6	# Ø50-8P	FP-3
14	1104	451	494	624	160	--	275	682	730	745	114.7	131.9	153.9	# Ø65-16P	FP-4A
15	1230	485	594	724	160	--	275	850	920	940	147.6	181.4	193.1	# Ø75-16P	FP-4B
16	1298	586	668	798	190	--	320	--	1250	--	189.2	241.7	268.4	# Ø75-16P	**
**16 DC	1298	831	--	--	190	--	320	--	1800	--	--	--	--	Ø75-16P	**

The min bore d4 should be > withdrawal bolt dia M by atleast 3 mm.

* With Connected flexible Coupling. ** 16-Rfer to us for Detail.

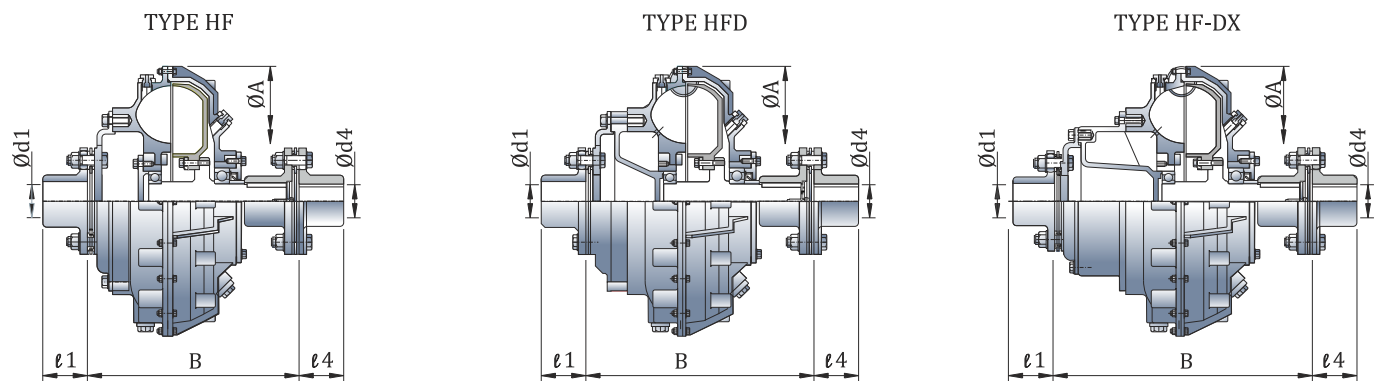
Square threads.

Flexible Coupling



Connected Flexible Coupling Model Wise

Model SM- SMD- SM-DX	Internal Hub			External Hub			Model SM- SMD- SM-DX	Pad Type Coupling		
	Ø d1 Max.	l 1	L1	Ø d2 Max.	l 2	L2		Ø d3 Max.	l 3	L3
3,4	48	67	67	60	75	130	9B,10	100	110	120
5	60	72	72	75	90	150	10B,11	120	140	151
6,7	80	92	72	90	110	170	12	140	155	167
8,8B,9	90	102	87	100	120	195	13	160	180	179
9B,10	-	-	-	125	150	230	14	160	180	194
							15,16	180	200	214



Technical Specification and Dimension Table for HF, HFD, HF-DX Couplings

Model HF, HFD, HF-DX	ØA	B			Ø d1 & Ød4 max	l 1 & l 4	*Dry Weight Kg.			Max. Oil Filling In Litres			Connected Flexible Coupling Model
		HF	HFD	HF-DX			HF	HFD	HF-DX	HF	HFD	HF-DX	
3	342	239	295	329	55	70	25	28	29	2.9	3.9	4.3	FXC-I
4	367	264	320	354	60	70	34	37	39	3.8	4.3	4.6	FXC-II
5	406	285	315	375	60	70	48	51	54	4.9	5.8	6.7	FXC-II
6	435	332	358	429	75	95	64	67	70	6.5	7.7	9.6	FXC-IIIA
7	471	345	390	460	75	95	81	84	86	8	9.4	11.3	FXC-IIIA
8	505	366	407	487	90	95	96	102	107	9.7	11.5	14.8	FXC-III
8 B	553	405	445	535	90	110	116	122	127	14.5	16.1	19.1	FXC-III
9	584	395	445	526	90	110	124	130	135	16.1	19.3	20.8	FXC-III
9 B	620	446	511	589	110	125	168	180	184	19.4	21.5	24.7	FXC-IV A
10	644	468	517	611	110	125	172	184	188	25.1	28.1	33.9	FXC-IV A
10 B	714	491	537	632	110	125	217	233	237	31.8	36.5	45.4	FXC-IV A
11	751	511	566	661	120	125	281	292	300	37.1	42.9	49	FXC-IV
12	845	614	700	820	145	200	400	421	430	51.3	65.6	71.5	FXC-V
13	960	697	745	875	145	200	570	596	605	72.4	91.3	106.6	FXC-V
14	1104	770	813	943	220	200	640	688	703	114.7	131.9	153.9	FXC-VI
15	1230	777	886	1016	220	200	810	880	900	147.6	181.4	193.1	FXC-VI
16	1298	882	965	1095	220	200	1280	1320	1380	189.2	241.7	268.4	FXC-VI

* With Connected flexible Coupling.
Coupling for 3000 RPM should be selected only after our approval is obtained.

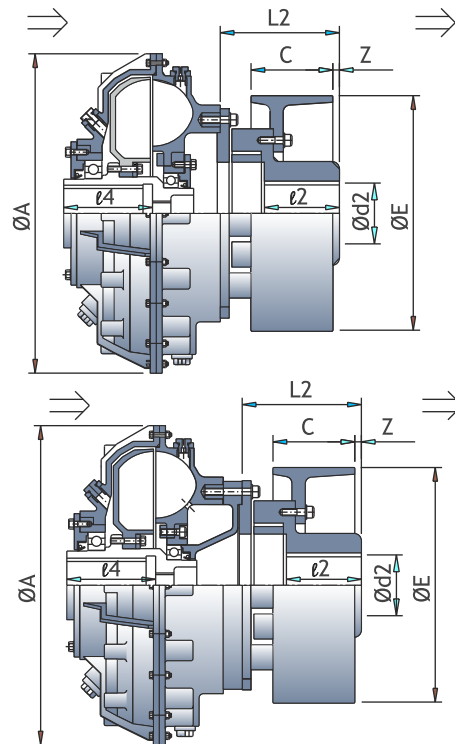
SM & HF

BRAKE DRUM MOUNTING

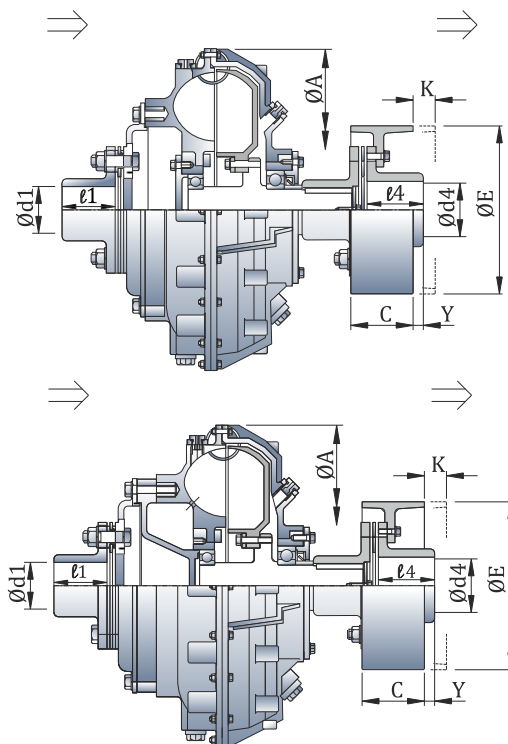
TYPE SM/SMD/SM-DX WITH BRAKE DRUM (Inner Wheel Drive)

Flexible Coupling Model	Spider Type Coupling				
	ØE	C	Z	ℓ2	L2
FFX-1	200	75	20	75	130
	250	95	0	75	130
FFX-2	250	95	20	90	150
	300	118	05	90	158
	315	118	05	90	158
FFX-3	300	118	17	110	170
	315	118	17	110	170
	400	150	05	110	190
FFX-4	300	118	42	120	195
	315	118	42	120	195
	400	150	10	120	195
	500	190	05	120	230
* FFX-5	400	150	29	150	230
	500	190	05	150	246

* For Fluid Coupling Model SM/SMD/SM-DX -9B & 10



TYPE HF/HFD/HF-DX WITH BRAKE DRUM (Outer Wheel Drive)



For radial displacement of Fluid Coupling the Brake drum shall need to be shifted by dimension 'K' As shown. The Machine/G.B. shaft length /space should be adequate for this shift of B.D.*

Flexible Coupling Model	Metallic disc Coupling			
	ØE	C	Y	K* Min
FXC-I	160	75	21	26
	200	75	21	26
FXC-II	200	75	19	26
	250	95	10	35
FXC-III	250	95	35	35
	300	118	32	55
	315	118	32	55
FXC-III	250	95	48	35
	300	118	30	55
	315	118	30	55
	400	150	18	73
FXC-IVA	300	118	52	55
	315	118	52	55
	400	150	40	65
	500	190	05	70
FXC-IV	400	150	40	65
	500	190	05	70
	600	236	(-)31	80
	630	236	(-)31	80
FXC-V	500	190	70	70
	600	236	34	70
	630	236	34	70
	710	265	25	90



SM DX AR / HF DX AR COUPLING

Type AR Fluid Couplings are with annular ring and extra long delayfil chamber.

During the initial rotation, the annular ring fills up and the working circuit is partially emptied enabling very low torque transmission during motor run up (acceleration). This enables very quick acceleration of motor speed and quick decay of motor current.

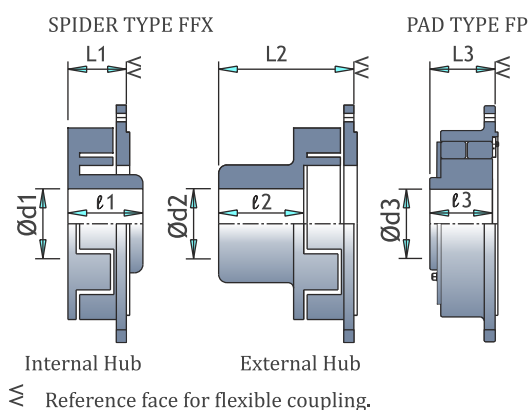
This is followed by increase in transmitted torque by gradual emptying of delayfil chamber oil into the working circuit. The torque is built up gradually and enables controlled acceleration torque to the driven machine.

Rating Table

COUPLING MODEL SM DX AR & HF DX AR	MAX. RATINGS IN KW AT DIFFERENT INPUT SPEEDS RPM						
	600 RPM	730 RPM	900 RPM	970 RPM	1200 RPM	1470 RPM	1800 RPM
9	12	22	41	52	98	172	246
9 B	16	29	54	68	129	228	300
10	22	39	73	91	172	275	370
10 B	32	57	107	134	253	373	500
11	47	85	158	198	374	525	775
12	82	148	278	348	600	750	--
13	163	293	550	620	850	1100	--
14	277	500	758	850	1250	--	--
15	472	850	1148	1250	--	--	--

Flexible Coupling

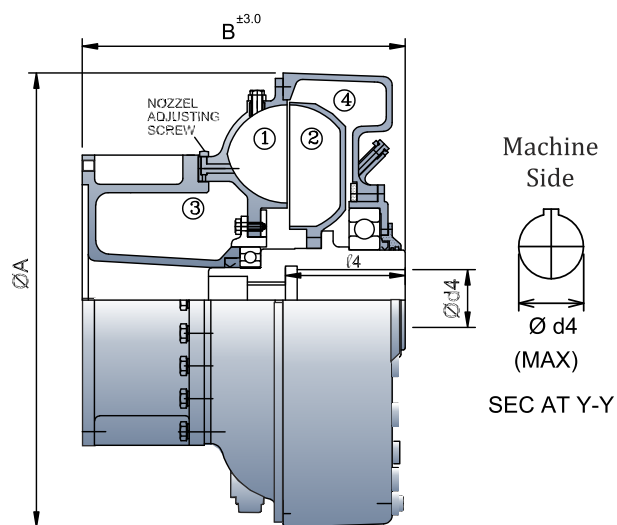
Connected Flexible Coupling Model Wise



Model SM DX AR	Internal Hub			External Hub			Model SM DX AR	Pad Type Coupling		
	Ø d1 Max.	ℓ 1	L1	Ø d2 Max.	ℓ 2	L2		Ø d3 Max.	ℓ 3	L3
9	90	102	87	100	120	195	9B,10	100	110	120
9B,10	—	—	—	125	150	230	10B,11	120	140	151
							12	140	155	167
							13	160	180	179
							14	160	180	194
							15	180	200	214

SM-AR/HF-AR

Type SM DX AR



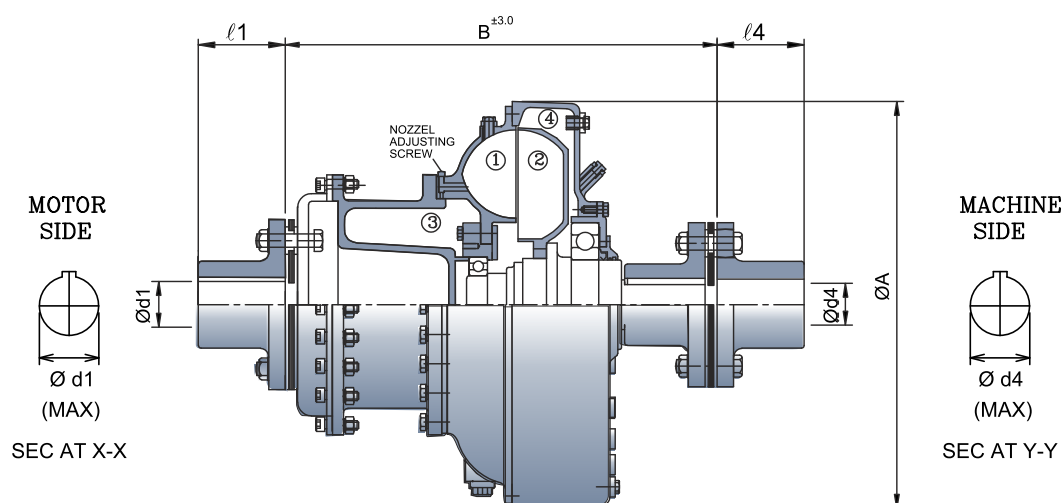
- 1) IMPELLER 3) DELAY FIL CHAMBER
2) ROTOR 4) ANNULAR CHAMBER

Dimension Table : SM DX AR

COUPLING MODEL	ø A	B	ød4	ℓ4	* DRY WEIGHT (Kgs.)
SM 9 DX AR	604	405	95	155	118
SM 9B DX AR	640	430	95	160	176
SM 10 DX AR	670	424	110	170	193
SM 10B DX AR	739	451	110	190	240
SM 11 DX AR	776	471	120	200	283
SM 12 DX AR	870	555	130	240	365
SM 13 DX AR	985	619	150	270	510
SM 14 DX AR	1130	624	160	275	765
SM 15 DX AR	1255	724	160	275	965

* With connected Flexible Coupling.

Type HF DX AR



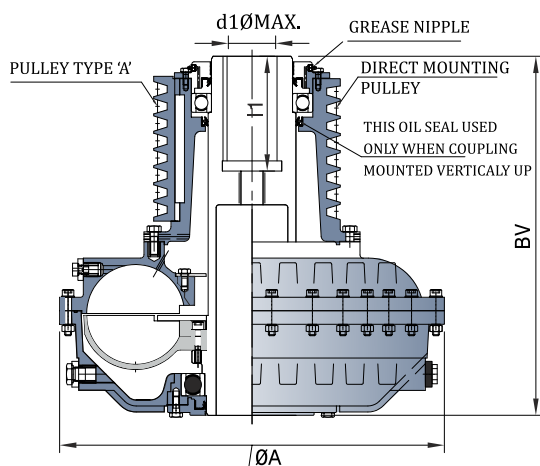
Dimension Table : HF DX AR

COUPLING MODEL	ø A	B	ød1 / ød4	ℓ 1 / ℓ 4	DRY WEIGHT (Kgs.)
HF 9 DX AR	604	546	95	110	143
HF 9B DX AR	640	589	95	125	192
HF 10 DX AR	670	611	110	125	198
HF 10B DX AR	739	632	110	125	247
HF 11 DX AR	776	661	120	125	310
HF 12 DX AR	870	820	130	200	440
HF 13 DX AR	985	875	150	200	620
HF 14 DX AR	1130	943	160	200	723
HF 15 DX AR	1255	1016	160	200	1134

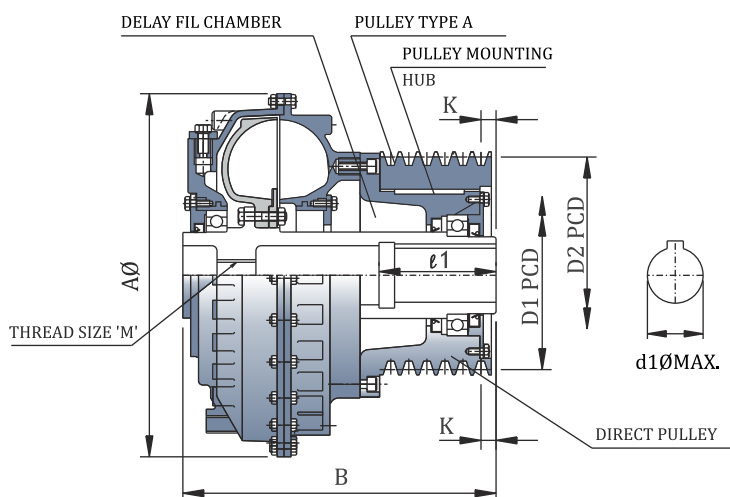


- SMP are fluid couplings for belt drive offering a wide range of pulley diameters.
- Have an in built delayfil chamber enabling quick decay of motor starting current.
- Suitable for two consecutive starts from hot and three from cold.
- Fusible plug blow off temp. is 130°C as standard. optional 160° C.

Model : SMP -vertical Mounting
Pulley Facing Up



For Horizontal & Pulley
Facing Down Mounting



Rating Table

Technical Specification and Dimension Table For SMP

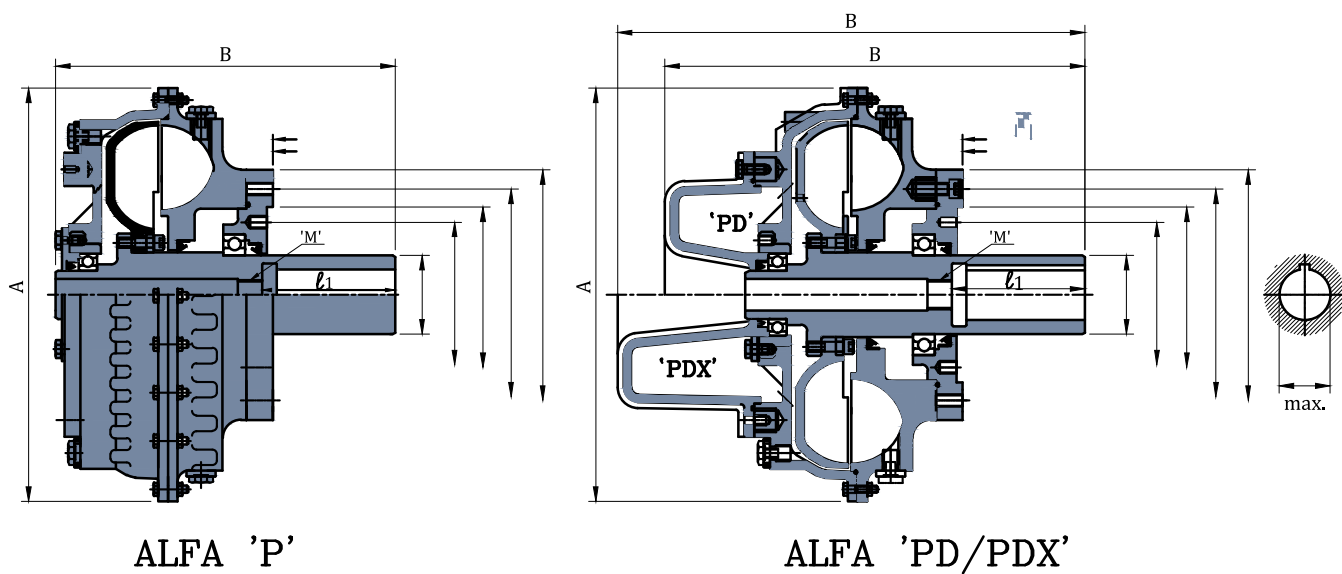
Coupling Model SMP	Max. Ratings In Kw At Different Input Speeds Rpm						Ø A	B	Pully Vertical Up BV	d1 max	ℓ 1	Dry* Wt. KG	Max. Oil Filling Liters	Threads M BSW
	750	900	1000	1200	1500	1800								
1R	0.6	1	1.5	2.5	5	8	280	219	239	38	91	18	2.2	1/2"
2R	0.9	1.6	2.2	3.8	7.5	12	310	205	225	38	91	25	2.8	3/4"
3R	1.2	2.1	3	5	10	15	330	262	282	42	110	30	3.3	3/4"
4R	2.3	4	5.5	9.5	18.5	25	360	284	304	42	110	35	4.1	3/4"
5R	4.1	7	10	17	30	38	395	331	351	65	142	46	6.5	1"
6R	5.6	10	13.3	23	45	60	420	374	394	65	142	65	8.3	1 ½"
7R	8.3	15	20	34.6	67.5	85	465	395	415	75	142	92	11.1	1 ½"
8R	11.2	19	26	46	90	120	505	430	450	85	142	115	14.6	1 ½"
8B-R	16.6	29	39.4	68	133	180	553	495	515	90	155	121	18	1 ½"
9R	19	33	45	78	152	200	570	512	532	90	170	127	22	1 ¾"
10R	36	62	85	147	250	325	630	535	555	110	210	220	28.5	1 ¾"
11R	87	150	205	355	450	...	740	590	610	110	210	275	44.8	Ø50-8P Square Thread

*with max. pulley Dia in Direct Pulley Mounting.

The Min. bore d1 should be > withdrawal bolt dia M by atleast 3mm.

Pulley Details

MODEL	PULLEY GROOVE 'SEC'	Direct Pulley Mounting				PULLEY GROOVE 'SEC'	Pulley Type-A			
		MAX. NO OF GROOVES	' D1' PCD		' K' ± 1.5		MAX. NO OF GROOVES	' D2' PCD		' K' ± 1.5
			MAX	MIN				MAX	MIN	
SMP-1R	SPA/A	3	260	140	16	—	—	—	—	—
	SPB/B	2	260	146	19	—	—	—	—	—
	SPC/C	1	260	156	23	—	—	—	—	—
SMP-2R	SPA/A	4	300	140	16	—	—	—	—	—
	SPB/B	3	300	147	19	—	—	—	—	—
	SPC/C	2	300	157	23	—	—	—	—	—
SMP-3R SMP-4R	SPB	3	160	145	26	A	5	260	160	18
	SPB	4	140	140	26	B	4	260	165	21
	B	4	140	140	26	C	3	260	170	25
	B	3	160	145	26	SPA	5	260	160	18
	C	2	140	140	30	SPB	4	260	165	21
	C	2	160	145	31	SPC	3	260	170	26
SMP-5R	B	5	180	175	23	—	—	—	—	—
	C	3	200	185	27	B	5	325	209	23
	C	4	185	180	27	C	4	325	215	27
	SPB	5	180	180	23	—	—	—	—	—
	SPC	3	200	195	27	SPB	5	325	213	23
	SPC	4	190	190	27	SPC	4	325	223	27
SMP-6R	B	6	200	175	34	B	6	350	220	22
	B	6	225	210	32	C	5	350	225	27
	C	5	200	180	32	SPB	6	350	222	22
	C	5	225	215	30	SPC	5	350	232	27
	SPB	6	200	180	34	—	—	—	—	—
	SPB	6	225	215	32	—	—	—	—	—
	SPC	5	200	190	32	—	—	—	—	—
	SPC	5	225	225	30	—	—	—	—	—
SMP-7R	B	6	228	195	26	B	6	380	224	26
	C	5	224	205	30	C	5	380	230	30
	C	5	200	200	30	SPB	6	380	230	26
	SPB	6	228	200	26	SPC	5	380	240	30
	SPC	5	225	215	30	—	—	—	—	—
SMP-8R	B	8	250	240	20	B	8	420	260	18
	B	8	235	225	20	C	6	420	265	22
	C	6	250	240	24	SPB	8	420	265	18
	C	6	235	230	24	SPC	6	420	275	22
	SPB	8	250	240	20	—	—	—	—	—
	SPB	8	235	230	20	—	—	—	—	—
	SPC	6	250	240	24	—	—	—	—	—
	SPC	6	235	235	24	—	—	—	—	—
SMP-8B-R & SMP-9R	B	10	250	235	28	B	10	500	260	25
	C	8	250	240	32	C	8	500	265	29
	SPB	10	250	240	28	SPB	10	500	265	25
	SPC	8	250	250	32	SPC	8	500	275	25
SMP-10R	SPB/B	12	350	285	19	SPB/B	12	520	360	19
	SPC/C	8	345	295	32	SPC/C	9	520	360	23
SMP-11R	SPB	11	359	300	5	SPB	11	500	360	3
	SPC	8	369	310	2.5	SPC	8	500	370	3
	B	11	350	292	5	B	11	500	352	2
	C	8	355	300	2.5	C	8	500	360	3



Rating Table

"Coupling Model ALFA P / PD / PDX"	MAX rating in KW at different input speeds in RPM						
	600	730	900	970	1200	1470	1800
3	...	1.3	2.4	3	6	11	18
4	1	2	4	5	9	16.5	22
5	2	4	7	9	16.3	30	42
6	3	5	9	11	22	40	60
7	4	8	15	18	34	62	85

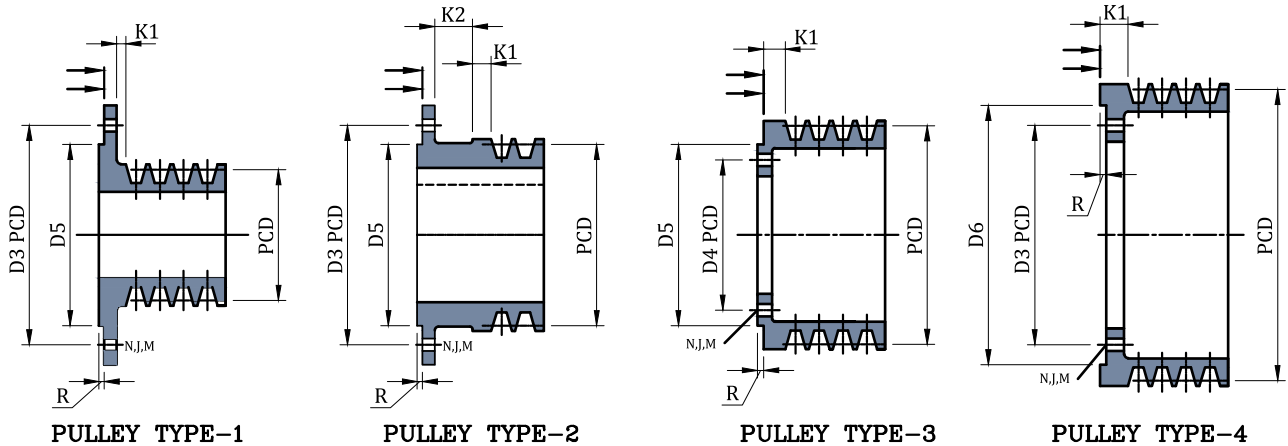
Alfa-P coupling are for Belt drive and are offered in different executions of with and without delayfil chamber. These couplings can be supplied without puyley and the pulley within specified range tabulated below, can be manufactured and installed by the buyer at his end. This provide flexibility for stocking and use of pulleys of different specification on the same coupling.

- Suitable for three consecutive starts two from hot and three from cold.
- Fusible plug blow of temperature 130°C as standard optional 160°C
- Oil to be used hydraulic Oil ISOVG32.

Technical Specification and Dimension Table For ALFA P, PD & PDX

"Coupling Model ALFA P / PD / PDX"	PCD		ØD	ØA	B			Ød1 Max	ℓ1	Dry Wt. in KG.			Max. Oil Filling in Liters			Threads "M" BSW
	D3	D4			P	PD	PDX			P	PD	PDX	P	PD	PDX	
3	175	120	65	342	289	351	390	42	110	24	27	28	2.8	3.2	3.2	3/4"
4	175	120	75	367	293	361	390	50	110	30	34	35	3.8	4.2	4.2	3/4"
5	215	140	90	406	356	413	463	65	142	40	44	45	4.9	5.4	5.4	1"
6	255	162	100	435	395	456	526	65	142	55	59	61	5.6	7.1	7.1	1"
7	255	162	110	471	405	464	534	75	142	66	71	73	8.3	8.8	8.8	1 1/2"

ALFA-P



"Coupling Model ALFA P / PD / PDX"	Locating Dia. For Pulley		Pulley Mounting PCD		'R'			*N	*J	*M On Coupling
	Type-1,2 & 3 D5	Type-4 D6	D3	D4	Type 1 & 2	Type-3	Type-4			
3	145	207	175	120	4	5	5	8	10	M10
4	145	207	175	120	4	5	5	8	10	M10
5	180	255	215	140	5	7	5	8	10	M10
6	220	295	255	162	5	7	5	8	10	M10
7	220	295	255	162	5	7	5	8	10	M10

* 'N'- Number, 'J' - DIA DRILLED HOLES FPR 'M' - TAPPED HOLE IN COUPLING.

PULLEY TYPE - 1					
MODEL	SEC	"D" PCD		NO. OFF GROVE	K1
		MIN Ø	MAX Ø		
ALFA P/PD/PDX 3 & 4	B	Ø115	Ø145	4	7.3
	C	Ø120	Ø140	3	5
	SPA	Ø115	Ø145	5	8.5
	SPB	Ø120	Ø145	4	7.3
	SPC	Ø130	Ø140	3	5
ALFA P/PD/PDX 5	B	Ø130	Ø180	6	10.6
	C	Ø140	Ø180	4	20.9
	SPA	Ø130	Ø180	7	19
	SPB	Ø135	Ø180	6	10.6
	SPC	Ø145	Ø180	4	20.9
ALFA P/PD/PDX 6 & 7	B	Ø150	Ø220	7	16.3
	C	Ø160	Ø220	5	20.6
	SPA	Ø150	Ø220	9	14.5
	SPB	Ø160	Ø220	7	16.3
	SPC	Ø170	Ø220	5	20.6

PULLEY TYPE - 2						
MODEL	SEC	"D" PCD		NO. OFF GROVE	K1	K2
		MIN Ø	MAX Ø			
ALFA P/PD/PDX 3 & 4	B	Ø145	Ø172	2	15	33.5
	C	Ø140	Ø180	2	1	33.5
	SPA	Ø145	Ø172	3	9	33.5
	SPB	Ø140	Ø180	2	15	33.5
	SPC	Ø140	Ø140	2	1	33.5
ALFA P/PD/PDX 5	B	Ø180	Ø200	4	18	39.0
	C	Ø180	Ø210	3	16.5	39.0
	SPA	Ø180	Ø200	5	4.5	39.0
	SPB	Ø180	Ø210	4	18	39.0
	SPC	Ø180	Ø220	3	16.5	39.0
ALFA P/PD/PDX 6 & 7	B	-	-	-	-	-
	C	-	-	-	-	-
	SPA	-	-	-	-	-
	SPB	-	-	-	-	-
	SPC	-	-	-	-	-

PULLEY TYPE - 3					
MODEL	SEC	"D" PCD		NO. OFF GROVE	K1
		MIN Ø	MAX Ø		
ALFA P/PD/PDX 3 & 4	B	Ø172	Ø230	4	17.3
	C	Ø180	Ø235	3	15
	SPA	Ø172	Ø230	5	18.5
	SPB	Ø180	Ø235	4	17.3
	SPC	Ø190	Ø245	3	15
ALFA P/PD/PDX 5	B	Ø200	Ø270	7	5
	C	Ø210	Ø270	5	9.3
	SPA	Ø200	Ø270	8	18
	SPB	Ø210	Ø270	7	5
	SPC	Ø220	Ø270	5	9.3
ALFA P/PD/PDX 6 & 7	B	Ø225	Ø320	8	11.3
	C	Ø225	Ø320	6	9.15
	SPA	Ø225	Ø320	10	13.5
	SPB	Ø225	Ø320	8	11.3
	SPC	Ø235	Ø400	6	9.15

PULLEY TYPE - 4					
MODEL	SEC	"D" PCD		NO. OFF GROVE	K1
		MIN Ø	MAX Ø		
ALFA P/PD/PDX 3 & 4	B	Ø235	Ø320	4	22
	C	Ø240	Ø320	3	20.6
	SPA	Ø235	Ø320	5	23.5
	SPB	Ø240	Ø320	4	22
	SPC	Ø250	Ø320	3	20.6
ALFA P/PD/PDX 5	B	Ø275	Ø350	7	10
	C	Ø285	Ø350	5	14.3
	SPA	Ø280	Ø350	8	23.3
	SPB	Ø285	Ø350	7	10
	SPC	Ø295	Ø350	5	14.3
ALFA P/PD/PDX 6 & 7	B	Ø325	Ø400	8	14.3
	C	Ø325	Ø400	6	16.3
	SPA	Ø325	Ø400	10	14.15
	SPB	Ø325	Ø400	8	16.3
	SPC	Ø335	Ø400	6	14.3



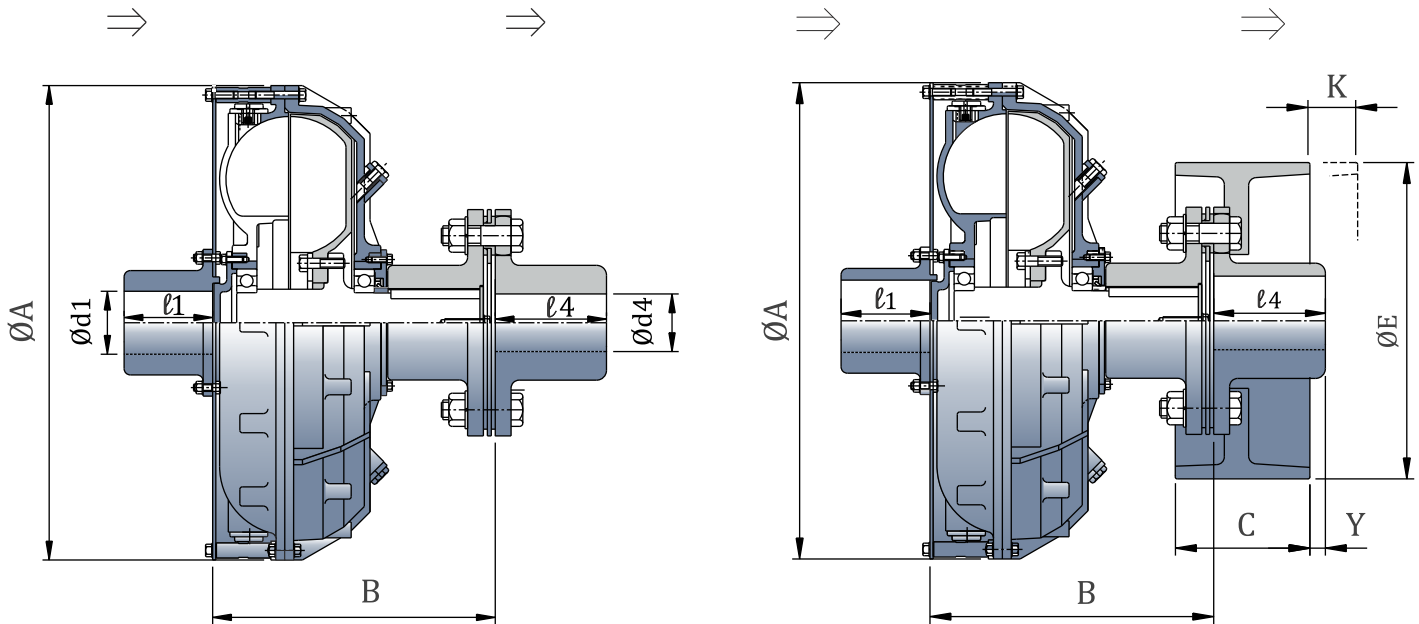
- Starting torque adjustable in the range of 180-275%.
- Normal operating slip is 2 to 5% depending on coupling size and starting torque value.
- Suitable for two consecutive starts from hot and three from cold.
- Fusible plug blow off temperature is 130°C standard. Optional: 160°C.
- These couplings are radially displaceable.

Rating Table

COUPLING MODEL T12-	KW ratings of couplings at different input speeds (RPM)		
	730 RPM	970 RPM	1470 RPM
01	0.6	1.4	5.0
02	0.9	2.1	7.5
03	1.1	2.6	9.3
04	1.8	4.3	15.0
05A	3.3	7.5	27.0
05	4.6	11.0	37.5
06	7.3	17.4	60.0
07	9.8	23.2	80.0
08	19.0	45.0	153.0
08B	28.3	65.0	228.0
09	37.0	90.0	265.0
10A	64.0	150.0	373.0
010	90.0	209.0	485.0
011	148.0	348.0	-
012	260.0	610.0	-
013	500.0	850.0*	-
014	850.0	1000.0*	-

* Coupling for these rating should be selected only after our approval is obtained.

T-12



Technical Specification and Dimension Table For T12

Model T-12	A	B	$\varnothing d1$ Maximum	$\ell 1$	$\varnothing d4$ Maximum	$\ell 4$	Dry Weight KG.	Maximum Oil Filling In Litres	Connected Flexible Coupling Model
01	280	167	35	50	55	70	17	1.5	FXC-I
02	310	181	35	50	55	70	20	3	FXC-I
03	330	199	50	80	55	70	26	2.9	FXC-I
04	350	216	50	80	60	70	31	3.7	FXC-II
05A	395	237	50	80	60	70	48	5.1	FXC-II
05	420	276	75	110	75	95	67	5.9	FXC-III A
06	465	290	75	110	75	95	75	8.4	FXC-III A
07	510	314	75	110	90	95	85	11	FXC-III
08	570	347	110	140	90	110	138	15	FXC-III
08B	615	353	110	140	110	125	176	18.6	FXC-IV A
09	650	371	110	140	110	125	183	22.2	FXC-IV A
010A	700	368	110	140	110	125	198	26.3	FXC-IV A
010	750	414	110	140	115	125	234	33	FXC-IV
011	860	488	125	210	145	200	395	50	FXC-V
012	970	568	150	210	145	200	480	75	FXC-V
013	1104	594	150	210	195	200	598	108	FXC-VI
014	1230	655	175	210	195	200	995	160	FXC-VI

Type T12 With Brake Drum

Flexible Coupling Model	Metallic disc Coupling			
	$\varnothing E$	C	Y	K* Min
FXC-I	160	75	21	26
	200	75	21	26
FXC-II	200	75	19	26
	250	95	10	35
FXC-III A	250	95	35	35
	300	118	32	55
	315	118	32	55
FXC-III	250	95	48	35
	300	118	30	55
	315	118	30	55
	400	150	18	73
FXC-IV A	300	118	52	55
	315	118	52	55
	400	150	40	65
	500	190	05	70
FXC-IV	400	150	40	65
	500	190	05	70
	600	236	(-)31	80
	630	236	(-)31	80
FXC-V	500	190	70	70
	600	236	34	70
	630	236	34	70
	710	265	25	90

*For radial displacement of Fluid Coupling the Brake drum shall need to be shifted by dimension 'K' As shown. The Machine/G.B. shaft length /space should be adequate for this shift of B.D.

The Steel Body Constant Fill Fluid Couplings



Type SF: are steel body constant fill Traction Coupling with a thin driving plate on motor side and metallic disc coupling on machine side. These couplings are radially displaceable. Starting torque adjustable in range of 180% to 270%.

Type CBSF: are steel body constant fill fluid couplings with hollow shaft execution on one end and flexible coupling on the other end for respective shaft connections. They are available with delayfil chamber type CBSF DF & CBSF DX and without delayfil type CBSF. Also available in Radially Displaceable execution CBSF-HF having metallic disc flexible coupling on both ends.

They are suitable for operation with:

- Water – Oil emulsion as per HFB classification of European Mines safety commission.
- Mineral oil as operating fluid.
- Maximum starting torque transmitting capacity is adjustable between 180% to 270 % for CBSF and 150 to 270% CBSF DF delayfil couplings & 130% to 270% for CBSF DX Couplings with extended delayfil chamber.



Type WF: are steel body constant fill fluid couplings with hollow shaft execution on one end and flexible coupling on the other end for respective shaft connection. They are available with delayfil chamber type WFDF & WFDX with extended delayfil chamber and without delayfil type WF. Also available in Radially Displaceable execution having metallic disc flexible coupling on both ends.

They are suitable for operation with:

- Water (aqua)
- Water oil emulsion as per HFB classification of European Mines Safety Commission.
- Mineral Oil
- Maximum torque transmitting capacity is adjustable between 200% to 270% for type WF and 180% to 270% for WF DF & 130% to 270% of WFDX couplings.



These steel body fluid couplings are of extremely robust construction. They are ideal for use in underground or opencast mines or other sites where use of aluminum is prohibited or where robust construction is necessary with simplicity of construction.

They offer all the advantages and performance characteristics of any other aluminium body Fluidomat Fluid Couplings

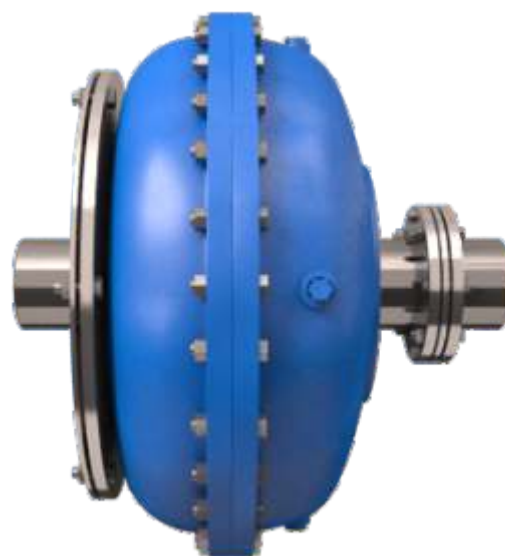
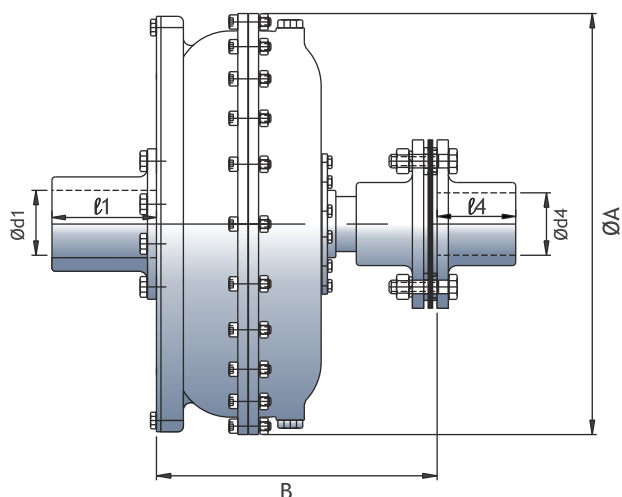
- Virtually no load start and run up of motor and utilization of motor peak torque for load acceleration.
- Smooth and controlled acceleration of driven machine.
- Quick decay of motor starting current kick.
- Adjustable starting characteristics.
- Dampening of shock loads, torsional fluctuations and vibrations.

SF, CBSF & WF

Rating Table

WF/WFHF and their D & DX Execution	SF/CBSF/ CBSFHF & their D & DX Execution							
Model	Model	600	750	900	1000	1200	1500	1800
WF 4	4	1	1.8	3	4	8	15	22
WF 360	6	2.6	5	9	12	20	40	60
WF 5	7	4	7.5	13	18	31	60	80
WF 6	8	5.6	11	19	26	45	80	114
WF 7	9	10	19	33	45	78	152	197
WF 8	10	14.4	28	48	66	115	224	290
WF 566	566	20	40	68	93	161	315	375
WF 9	11*	33	64	111	152	262	373	500

* Models not offered in type SF



Technical Specification and Dimension Table for coupling type SF

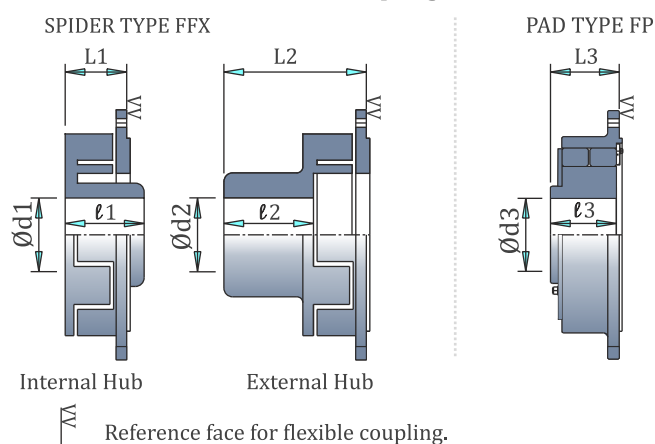
Fluid Coupling Model SF	ØA	B	Ød 1 MAX	l1	Ød 4 MAX	l4	Flex. Coupling Model FXC	Dry Wt. Kg	Max filling liters
4	375	250	50	80	55	70	II	55	4.8
6	418	267	75	110	90	95	IIIA	82	7.8
7	470	300	75	110	90	95	III	98	10.0
8	508	310	75	110	90	95	III	106	13.5
9	570	330	110	140	110	110	III	190	18.75
10	620	345	110	140	110	125	IV	205	27

Technical Specification and Dimension Table For CBSF, CBSF-DF, CBSF-DX

Model	ØA	B	Ø d4 max	L4	Threads 'M' BSW	Flexible Coupling Model
WF-4, CBSF-4	375	154	42	74	1"	FFX-1
WF-360, CBSF-6	418	220	55	112	1"	FFX-3
WFDF-360, CBSFDF-6	418	316	55	112	1"	FFX-3
WF-5, CBSF-7	470	250	80	135	1½"	FFX-3
WFDF-5, CBSFDF-7	470	320	80	135	1½"	FFX-3
WF-6, CBSF-8	512	253	85	140	1½"	FFX-4
WFDF-6, CBSFDF-8	512	328	85	140	1½"	FFX-4
WFDF-6, CBSFDF-8	512	373	85	140	1½"	FFX-4
WF-7	570	277	95	155	1½"	FFX-4
WFDF-7	570	355	95	155	1½"	FFX-4
WFDF-7	570	377	95	155	1½"	FFX-4
CBSF-9	570	237	95	155	1½"	FFX-4
CBSFDF-9	570	315	95	155	1½"	FFX-4
CBSFDF-9	570	355	95	155	1½"	FFX-4
WF-8, CBSF-10	620	291	95	170	1½"	FP-1
WFDF-8, CBSFDF-10	620	370	95	170	1½"	FP-1
WFDF-8, CBSFDF-10	620	451	95	170	1½"	FP-1
WF-566, CBSF-566	644	313	110	172	1½"	FP-1
WFDF-566, CBSFDF-566	644	392	110	172	1½"	FP-1
WFDF-566, CBSFDF-566	644	473	110	172	1½"	FP-1
WF-9, CBSF-11	715	367	110	200	Ø50-8P *	FP-2A
WFDF-9, CBSFDF-11	715	425	110	200	Ø50-8P *	FP-2A
WFDF-9, CBSFDF-11	715	508	110	200	Ø50-8P *	FP-2A

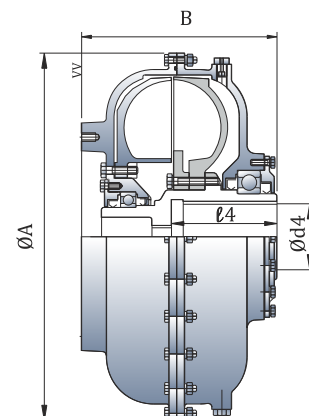
* Square Thread

Flexible Coupling

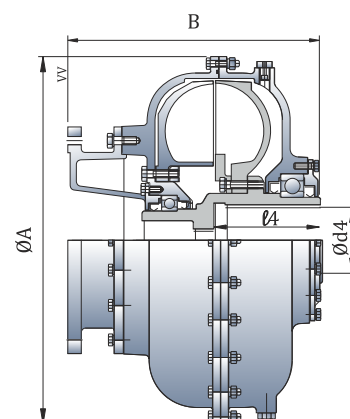


Flexible Coupling Model	Internal Hub			External Hub			Pad type coupling		
	Ø d1 max	l1	L1	Ø d2 max	l2	L2	Ø d3 max	l3	L3
FFX-1	42	67	67	60	75	130	--	--	--
FFX-3	80	92	72	90	110	170	--	--	--
FFX-4	90	102	87	100	120	195	--	--	--
FP-1	--	--	--	--	--	--	100	110	120
FP-2	--	--	--	--	--	--	120	140	151

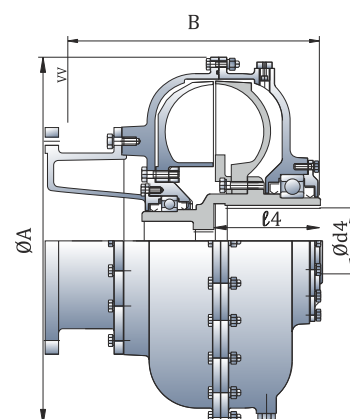
TYPE:- WF, CBSF



TYPE:-WFDF, CBSF DF



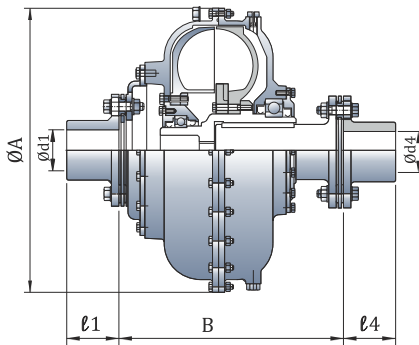
TYPE:-WFDFX, CBSF DX



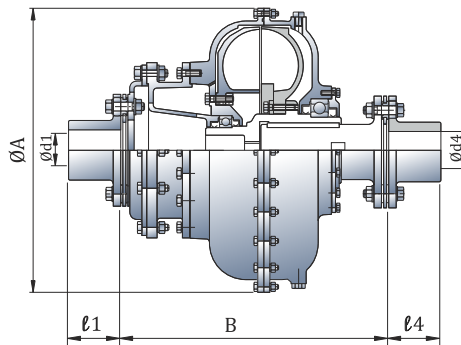
SF, CBSF & WF

Type WF HF & CBSF HF are radially displaceable fluid couplings with metallic disc flexible coupling on both input and output ends. These metallic disc couplings do not require any lubrication and require least maintenance. The weight of fluid coupling is shared by motor and driven machine shaft thus reducing weight reaction on gear box shafts which are of small diameters in modern designs.

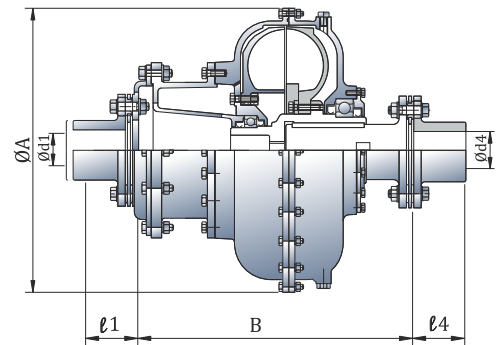
TYPE : WF HF, CBSF HF



TYPE : WF HFD, CBSF HFD



TYPE : WF HFDX, CBSF HFDX



Technical Specification and Dimension Table For WFHF & CBSFHF

Fluid Coupling Model	Ø A	B	Ø d 1 max	l 1	Ø d 4 max	l 4	Flex Coupling Model FXC
WFHF-4, CBSFHF-4	380	278	55	70	55	70	FXC-II
WFHFD-4, CBSFHFD-4	380	364	55	70	55	70	FXC-II
WFHF-360, CBSFHF-6	436	350	75	95	75	95	FXC-IIIA
WFHFD-360, CBSFHFD-6	436	446	75	95	75	95	FXC-IIIA
WFHF-5, CBSFHF-7	470	380	75	95	75	95	FXC-IIIA
WFHFD-5, CBSFHFD-7	470	500	75	95	75	95	FXC-IIIA
WFHF-6, CBSFHF-8	512	384	90	110	90	110	FXC-III
WFHFD-6, CBSFHFD-8	512	458	90	110	90	110	FXC-III
WFHFDX-6, CBSFHFDX-8	512	504	90	110	90	110	FXC-III
WFHF-7, CBSFHF-9	570	402	90	110	90	110	FXC-III
WFHFD-7, CBSFHFD-9	570	480	90	110	90	110	FXC-III
WFHFDX-7, CBSFHFDX-9	570	502	90	110	90	110	FXC-III
WFHF-8, CBSFHF-10	620	470	110	125	110	125	FXC-IVA
WFHFD-8, CBSFHFD-10	620	550	110	125	110	125	FXC-IVA
WFHFDX-8, CBSFHFDX-10	620	630	110	125	110	125	FXC-IVA
WFHF-566, CBSFHF-566	644	500	110	125	110	125	FXC-IVA
WFHFD-566, CBSFHFD-566	644	578	110	125	110	125	FXC-IVA
WFHFDX-566, CBSFHFDX-566	644	659	110	125	110	125	FXC-IVA
WFHF-9, CBSF HF-11	715	528	110	125	110	125	FXC-IVA
WFHFD-9, CBSF HFD-11	715	586	110	125	110	125	FXC-IVA
WFHFDX-9, CBSF HFDX-11	715	669	110	125	110	125	FXC-IVA

Recommended Oil For Constant Fill Fluid Couplings.

For Oil Filled Couplings

AS PER ISOVG - 32 HLP Grade

VISCOSITY : 32 @ 40°C

FLASH POINT $\geq$ 190°C

For Water Filled Couplings

VISCOSITY (at 40° C) : 40 - 44 cst

FIRE POINT $\geq$ 368° C

FLASH POINT $\geq$ 254° C

Fire Resistance Hydraulic Fluids.

Shell Turbo DR46/Fuchs

Phosphocent 246

Anvol PE 46 XC/Equivalent.

Equivalent Oil Grades and Brands as per ISOVG 32

Brand	Viscosity C.St @ 40°c	Viscosity Index (In°c)	Flash Point (In °c)	Pour Point (Min) (In °c)
HP ENCLO 32	32	95	190	(-) 3
HP-ENCLO VT 32	32	109	224	(-) 37
IOC- SERVOSYSTEM 32	29-33	95	190	(-) 6
IOC- SERVOSYSTEM HLP 32	29-33	100	200	(-) 21
SHELL TELLUS 32	32	99	209	(-) 30
CASTROL HYSAPH-AWH 32	32	95	180	(-) 3
BPL HYDROIL HLP 32	29-35	95	185	(-) 18

Other Equivalent Brands

Brand	Designation	Flash Point (In °c)
BP	BP- Energol HLP-32	216
CASTROL	Hyspin 32	220
CHEVRON	Mechanism LPS-32	200
ESSO	Esso Torque Fluid	220
MOBIL	Mobil Fluid 32	225
SHELL	Tegula Oil 32	196
AGIP	AGIP Oso 32	204
FUCHS	Renolin MR10	210

MASS MOMENT OF INERTIA J

Oil in KG M²

Model	Outer wheel	Inner wheel
SM-3	0.22	0.04
SM-4	0.33	0.06
SM-5	0.68	0.21
SM-6	0.89	0.24
SM-7	1.32	0.34
SM-8	1.72	0.37
SM8-B	2.40	0.64
SM-9	2.82	0.75
SM-9B	4.65	1.53
SM-10	5.01	1.72
SM-10B	10.15	2.90
SM-11	11.66	3.41
SM-12	18.30	5.56
SM-13	35.74	12.22
SM-14	61.55	21.70
SM-15	93.13	33.70

Model	Outer wheel	Inner Wheel
SMD-3	0.23	0.04
SMD-4	0.35	0.06
SMD-5	0.71	0.21
SMD-6	0.97	0.24
SMD-7	1.47	0.34
SMD-8	1.85	0.39
SMD-8B	2.61	0.67
SMD-9	3.06	0.78
SMD-9B	5.09	1.58
SMD-10	6.07	1.79
SMD-10B	11.30	3.00
SMD-11	12.97	3.55
SMD-12	20.33	5.86
SMD-13	39.82	12.75
SMD-14	68.04	22.56
SMD-15	102.70	35.07
SMD-16	162.00	54.10

Model	Outer wheel	Inner Wheel
SMDX-3	0.24	0.04
SMDX-4	0.36	0.06
SMDX-5	0.74	0.21
SMDX-6	1.04	0.24
SMDX-7	1.59	0.34
SMDX-8	1.96	0.39
SMDX-8B	2.76	0.67
SMDX-9	3.24	0.78
SMDX-9B	5.55	1.58
SMDX-10	7.04	1.79
SMDX-10B	12.30	3.00
SMDX-11	14.07	3.55
SMDX-12	21.93	5.86
SMDX-13	43.02	12.75
SMDX-14	73.14	22.56
SMDX-15	110.70	35.07

Model	* Outer wheel	Inner Wheel
SMP-1	0.11	0.02
2	0.15	0.03
3	0.28	0.04
4	0.37	0.05
5	0.76	0.12
6	0.96	0.25
7	1.43	0.34
8	1.88	0.47
9	2.89	0.65
10	5.37	2.11
11	11.98	3.43

Model	Outer Wheel	Inner Wheel
HF-3	0.25	0.05
HF-4	0.39	0.07
HF-5	0.66	0.23
HF-6	0.69	0.29
HF-7	1.32	0.35
HF-8	1.72	0.49
HF-8B	2.40	0.64
HF-9	2.82	0.76
HF-9B	4.65	1.91
HF-10	5.01	2.11
HF-10B	10.15	3.34
HF-11	11.66	3.93
HF-12	18.30	7.31
HF-13	35.74	14.25
HF-14	61.46	24.10
HF-15	93.13	37.24

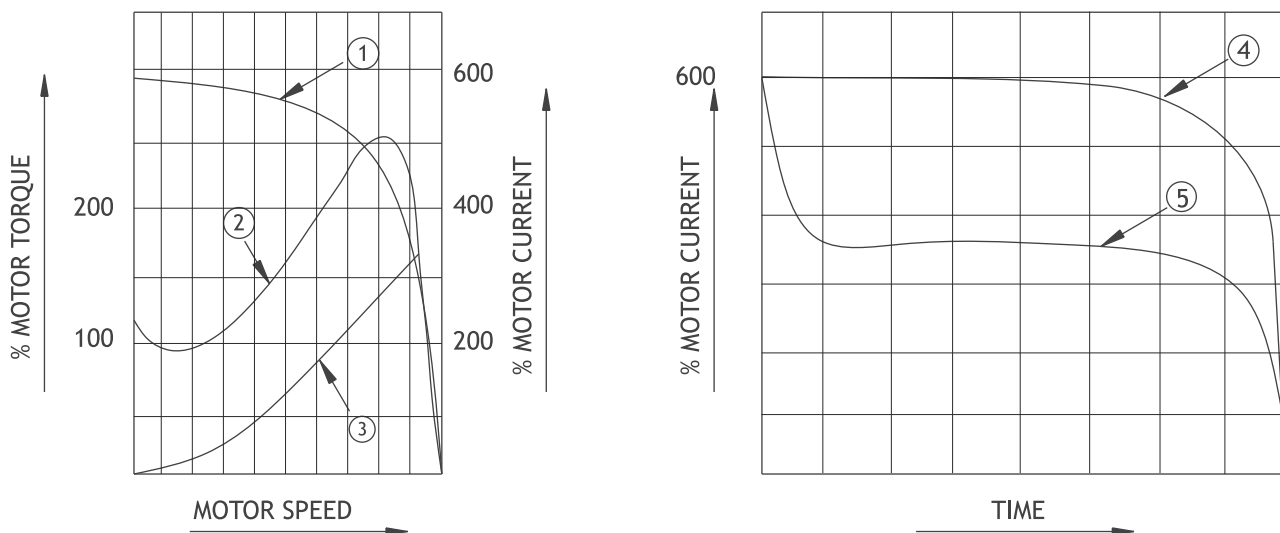
Model	Outer Wheel	Inner Wheel
HFD-3	0.26	0.05
HFD-4	0.41	0.07
HFD-5	0.71	0.24
HFD-6	0.97	0.30
HFD-7	1.46	0.40
HFD-8	1.85	0.51
HFD-8B	2.61	0.72
HFD-9	3.06	0.93
HFD-9B	5.09	1.96
HFD-10	6.07	2.18
HFD-10B	11.30	3.44
HFD-11	12.97	4.07
HFD-12	20.33	7.61
HFD-13	39.82	14.78
HFD-14	68.04	24.98
HFD-15	102.70	38.61
HFD-16	-	-

Model	Outer wheel	Inner wheel
HFDX-3	0.27	0.05
HFDX-4	0.42	0.07
HFDX-5	0.74	0.24
HFDX-6	1.04	0.30
HFDX-7	1.59	0.40
HFDX-8	1.96	0.51
HFDX-8B	2.76	0.72
HFDX-9	3.24	0.93
HFDX-9B	5.55	1.96
HFDX-10	7.04	2.18
HFDX-10B	12.30	3.44
HFDX-11	14.07	4.07
HFDX-12	21.93	7.61
HFDX-13	43.02	14.78
HFDX-14	73.14	24.98
HFDX-15	-	-

Model	Outer wheel	Inner wheel
T12-01	0.11	0.02
02	0.15	0.03
03	0.19	0.04
04	0.27	0.05
05A	0.57	0.12
05	0.78	0.25
06	1.32	0.34
07	1.72	0.47
08	2.44	0.65
08B	4.11	1.69
09	5.01	2.11
10A	8.57	2.82
10	10.18	3.43
11	20.95	8.37
12	35.74	14.25
13	61.35	24.10
14	93.13	37.24

* Values for maximum size of direct mounting pulley.

QUICK DECAY OF MOTOR CURRENT WITH FLUID COUPLING



(TYPICAL)

- 1 MOTOR CURRENT
- 2 MOTOR TORQUE
- 3 FLUID COUPLING TORQUE AT 100% SLIP
- 4 MOTOR CURRENT WITHOUT FLUID COUPLING
- 5 MOTOR CURRENT WITH FLUID COUPLING

All Dimension in this catalogue are in mm unless specified otherwise.

Note: Due to continuous improvements the specifications may change without notice.



THERMAL PROTECTION

MTP SYSTEM

The operating temperature of MTP is as under:

MTP SETTING	FUSIBLE PLUG MELTING TEMPERATURE
<110 °c	130 °c ± 5 °c
<140 °c	160 °c ± 5 °c

1. FUSIBLE PLUG: In case of over heating of the coupling, the fusible plug provided on the coupling melts and oil filled in the coupling is drained off and thus power transmission through the coupling is stopped.

Coupling should not be run more than 60 seconds after fusible plug has melted and oil is drained. Suitable guard must be provided so that the hot oil spray is restricted within the guard.

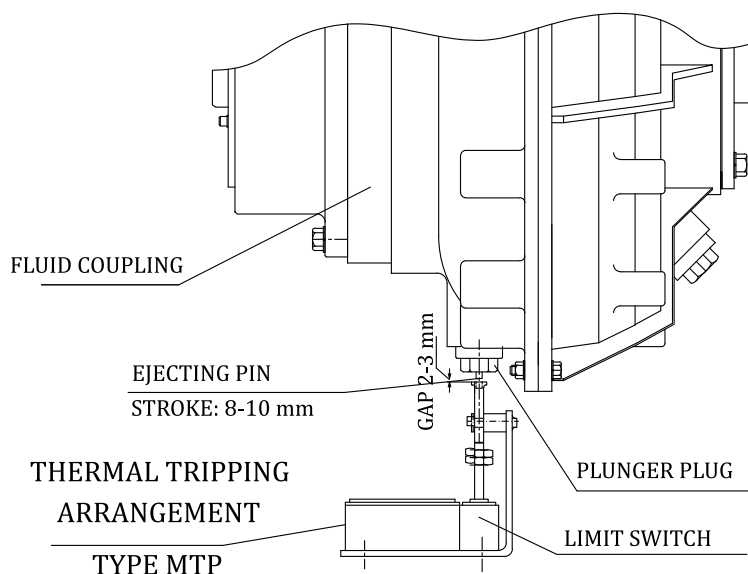
2. THERMAL TRIPPING ARRANGEMENT: MTP is a mechanical Thermal Switch. In order to avoid loss of operating fluid due to over heating of fluid coupling the mechanical Thermal Switch MTP can be added. However fusible plug with higher response temperature remains on the fluid coupling.

MTP consist of a plunger plug screwed on the fluid coupling body. A cam with limit switch are mounted on stationary base frame.

On exceeding the set temperature, the plunger plug ejects out a pin which hits the cam and operates the limit switch contact (make or break). Depending on the circuit selected the limit switch signal can be used to switch off the drive motor or activate audio/visual alarm.

The plunger plug has to be replaced after activation.

MTP system provides valuable safety and environment protection by avoiding spillage and loss of expensive operating fluid. Spillage of operating fluid can be expensive fire and accident hazard due to slippery floors and injury to workmen.



NON CONTACT ONLINE TEMPERATURE MONITOR WITH DISPLAY AND RELAY OUTPUT

TYPE-IRNC:

The IRNC operates on Infrared pyrometer and consists of stationery infrared non-contact pyrometer and a precision temperature controller. The non-contact infrared sensor is placed in any direction within 50 mm from body of fluid couplings.

The heat emitted by the body is sensed by sensor and gives a voltage output which is processed in the base unit and gives relay output on exceeding preset temperature values.

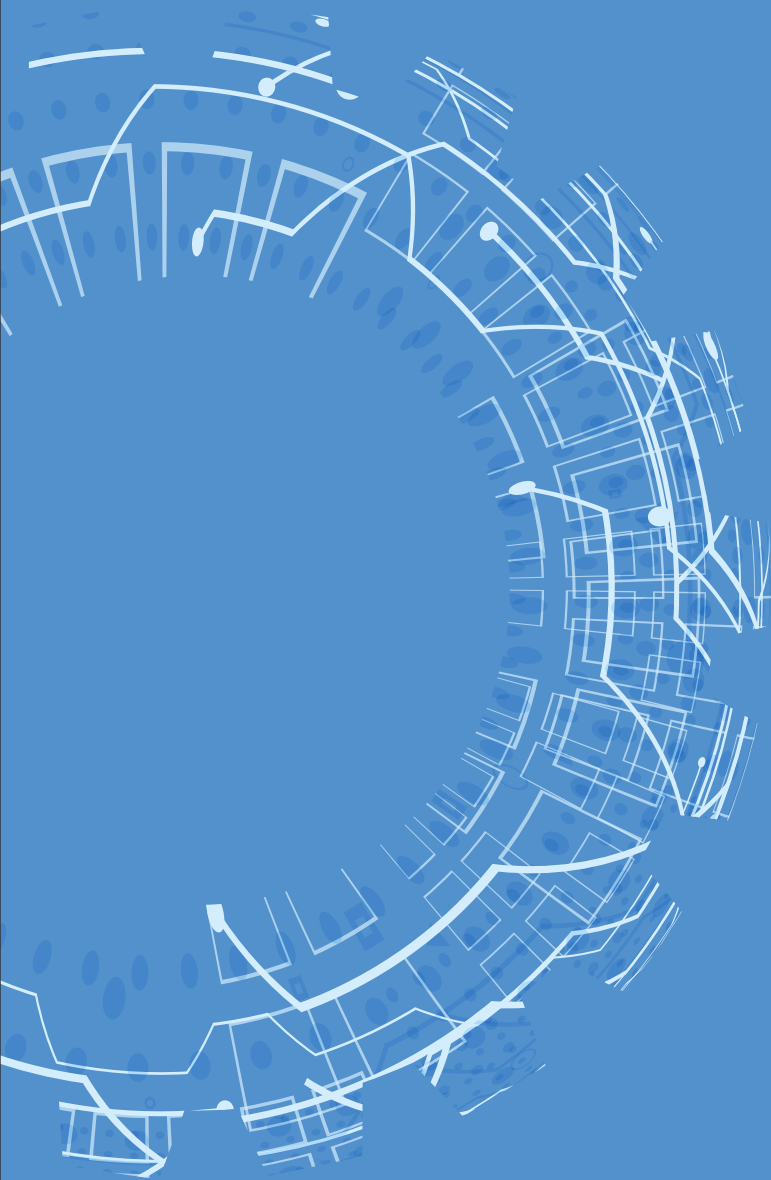
IRNC systems provide valuable safety and environment protection by avoiding spillage and loss of expensive operating fluid and fire hazardous due to hot oil spray.

Suggested temperature settings an IRNC system:
IRNC Setting

Set Point	Fusible Plug Melting Temp
<105 °c	130 °c ± 5 °c
<135 °c	160 °c ± 5 °c

Fusible plug must be used along with the system as a backup protection.





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