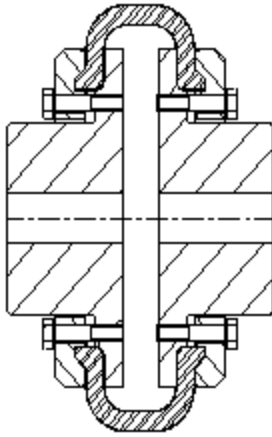
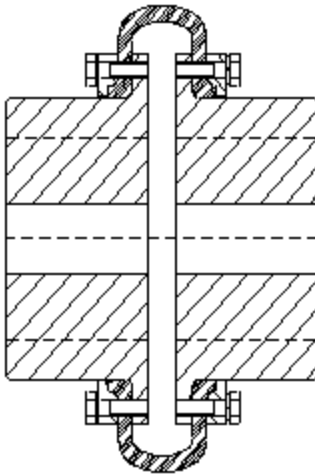


Unique Tyre Type Flexible Cushion Couplings



- Highly flexible & resilient
- Absorbs Large Misalignment
- Low Torsional Stiffness
- Dampens shock & Vibration
- Flexible element easily replaceable insitu
- Ideally suitable for Diesel Engine Drives, Fans , Mills , Compressors , Rolling Mills ,Pumps, Conveyors ,DG Sets
- Available for reputed makes of Diesel Engines & Compressors.
- Custom Design for special requirements
- Torsional Vibration Calculation on request
- No lubrication , Minimum Maintenance
- No expensive Downtime



Flexible element is made of rubber reinforced with Nylon Chords.

Available in PH,PX,TC & U Series.

PH Series has largest range. These have flexible member firmly bolted to clamping elements .There is no possibility of Tyre slipping out even in case of imperfect installation.

Available for maximum torques upto 420000 Nm. Coupling Tyre Diameter upto 1250 mm.

Couplings with Brake Drum available.

Also available with magic Grip Bushing for quick fitment and removal.

Unique Transmission (India) Pvt Ltd

Head office – 10/1D Lal Bazar Street , Kolkata 700001

Tel No – 91-33-2200366 , 2480433 , 2480231 Fax 91-33-2206593

Email – metaflex@vsnl.com ; couplings@vsnl.com

Branch office – 35/36 Nehru Place , New Delhi 110019 . Tel No 91-11-6422983

Selection Procedure Unique Tyre Coupling

Step 1- Tentatively select coupling considering driving & driven shaft dia

Step 2- A) For TC & PH Series Determine required HP/100 RPM rating as follows :

$$\text{Required HP/100 rpm} = P \cdot 100 \cdot \text{SF} / N$$

Where P is primemover Power in HP , SF is service factor ,N is operating RPM

B) For PX Series Determine required KW/100 RPM rating as follows :

$$\text{Required KW/100 rpm} = P \cdot 100 \cdot \text{SF} / N$$

Where P is primemover Power in KW , SF is service factor,N is operating RPM

Tentatively select coupling with rating > required rating.

Step 3 – Check if selected coupling by step 1 can accommodate connected shafts. If required select higher size coupling having adequate bore capacity.

Step 4 – finally check operating rpm is less than maximum permissible rpm.

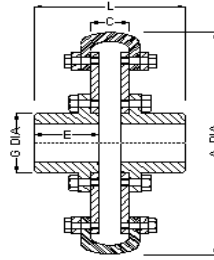
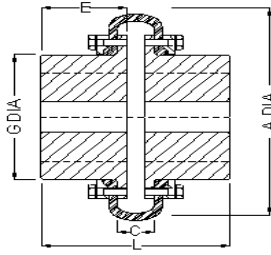
Service Factors

Duty			
Load	Driven Equipment	Motor/ turbine	Diesel drive 4 or more cyl
Uniform	Agitators , Centrifugal Pumps Conveyors-uniform load , Fans & Blowers- light duty, Exciters , Generators- uniform load, Line shafting	1.0	1.50
Light Shock	Lobe blowers , clay machinery , hoist light duty , dredge pump , Large Fans , Dough Mixer , Punch Press , Concrete mixer , Pulper, , Couch roll , Dryer , Gear Pumps , stock pumps , Winders ,Printing press , Machine tools , Textile Machinery , Roller pulveriser, Deck Machinery	1.50	2.00
Medium Shock	Lobe Compressors , 3 or more cylinder double acting compressors , Main hoist heavy duty , Cane crusher , Bucket elevators , Cooling Tower fans , Oilwell Pumps , Calender , refiner, strip mill	2.0	2.50
Heavy Shock	Rod Mill , vibrating screen, , mixing mill , plasticizer , Rec Pump 1 cylinder , Rod mill , Ball Mill , 3 cylinder Rec compressors single acting.	2.5	3.00
Extreme Shock	Chipper , 1 cylinder double acting rec compressor	3.0	3.50

For Diesel Engine drive & reciprocating compressor drive – we recommend torsional vibration analysis – this is performed by us free of cost for couplings supplied by us.

Unique Transmission (India) Pvt Ltd

Unique PH Tyre Type Automatic Flexible Cushion Couplings



UPTO SIZE 520 H

SIZE PH 600 TO PH 1250

Size	Max Bore mm	Max Speed RPM	Cont. Torque Nm	Rating HP/100 RPM	Max Torque Nm	Approximate Dimensions					Torsional MR ²		Max Misalignment			Weight Kg	
						A Dia mm	G Dia mm	E mm	C mm	L mm	Stiffness Nm/rad	KgM ²	Radial mm	Axial mm	Angular deg		
PH-76	27	6000	18	0.25	54	76	39	30	14	66	255	0.00024	1	2	4	0.84	
PH-86	34	6000	29	0.4	87	86	49	35	14	76	410	0.00055	1.5	2	4	1.35	
PH-96	36	5500	36	0.5	108	96	51	35	16	76	510	0.00086	1.5	2	4	1.5	
PH-106	38	5500	45	0.6	135	106	54	35	18	76	618	0.00135	1.5	2.5	4	1.9	
PH-116	42	5500	55	0.75	165	116	60	40	22	88	765	0.00230	1.5	2.5	4	2.75	
PH-126	48	5500	90	1.25	270	126	68	40	22	88	1275	0.00350	2	2.5	4	3.5	
PH-140	50	5500	125	1.75	375	140	72	46	26	100	1815	0.0060	2	2.5	4	4.75	
PH-160	50	5000	165	2.25	495	160	82	50	28	108	2350	0.0112	2	2.5	4	6	
PH-178	60	4500	220	3	660	178	100	60	32	128	3140	0.023	2.5	2.5	4	11	
PH-190	65	4000	285	4	855	190	105	70	30	146	4170	0.034	2.5	2.5	4	14	
PH-218	75	3500	430	6	1290	218	124	75	36	160	6380	0.065	2.5	3	4	21	
PH-250	80	3000	610	8.5	1830	250	145	90	40	192	9075	0.123	3	3.5	4	32	
PH-272S	75	2750	740	10.5	2220	272	125	80	40	173	10800	0.131	3	3.5	4	28	
PH-272H	100	2750	740	10.5	2220	272	163	96	40	205	10800	0.189	3	3.5	4	38	
PH-292S	80	2600	1070	15	3210	292	130	80	47	175	16200	0.178	3.5	4	4	30	
PH-292H	105	2600	1070	15	3210	292	168	105	47	228	16200	0.243	3.5	4	4	44	
PH-316S	90	2500	1320	18.5	3960	316	150	90	47	195	18800	0.270	3.5	4	4	40	
PH-316H	115	2500	1320	18.5	3960	316	190	115	47	245	18800	0.395	3.5	4	4	60	
PH-342S	90	2250	1870	26	5610	342	150	90	53	195	26700	0.360	4	4.5	4	45	
PH-342H	120	2250	1870	26	5610	342	198	120	53	255	26700	0.520	4	4.5	4	71	
PH-390S	100	2000	2850	40	8550	390	165	100	57	218	40700	0.717	4	5	4	70	
PH-390H	140	2000	2850	40	8550	390	230	140	57	298	40700	1.10	4	5	4	115	
PH-450S	130	1600	5000	70	15000	450	216	120	60	270	71400	1.36	4.5	6	4	110	
PH-450H	175	1600	5000	70	15000	450	286	170	60	360	71400	2.42	4.5	6	4	190	
PH-520S	150	1480	7150	100	21450	520	250	135	62	294	102000	2.60	5	6	4	170	
PH-520H	220	1480	7150	100	21450	520	324	180	62	384	102000	5.45	5.5	6	4	300	
PH-600	As required	1300	12850	180	38550	600	TO SUIT REQUIREMENTS					184000	ON REQUEST	6	8	4	ON REQUEST
PH-672		1100	19230	270	57690	672						275000					
PH-725		1000	28500	400	85500	725						407000					
PH-812		850	42740	600	128220	812						612000					
PH-1000		750	64100	900	192300	1000						918000					
PH-1100		650	85500	1200	256500	1100						1216000					
PH-1175		550	107000	1500	321000	1175						1530000					
PH-1250		500	143000	2000	429000	1250						2040000					

The Flexible element is suitable for ambient temperature upto 60 deg C. Special heat/oil resistant members available on request at extra cost

Size 272 to Size 520 can also be supplied with standard hub on one side & heavy hub on other side

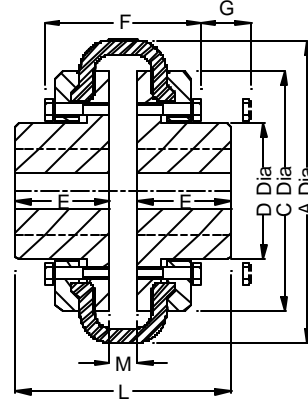
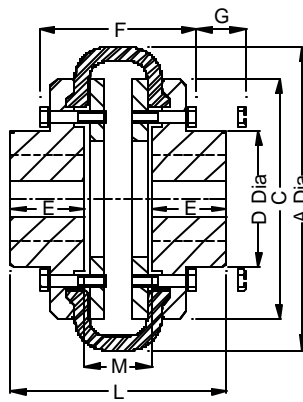
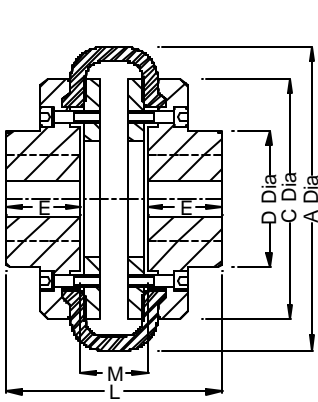
Max torque refers to infrequent torque of short duration - such as during starting

For selection - refer instruction for selection using service factors.

Weight & Inertia are with solid hubs

Unique Transmission (India) Pvt Ltd

UNIQUE PX Tyre Coupling Bored to Size



Sizes PX 40 to PX 60

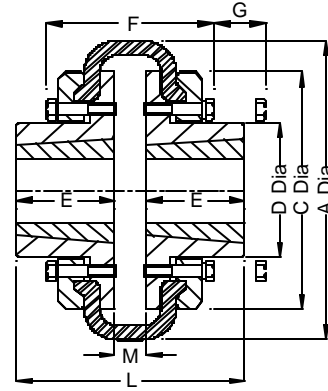
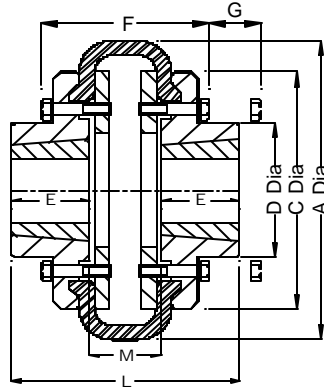
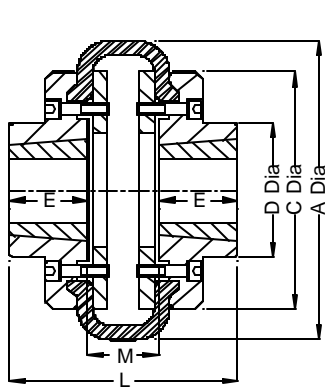
Sizes PX 70 to PX 120

Sizes PX 140 to PX 180

Size	Max Speed RPM	Rating			KW rating at common RPMs					Tor. Stiff Nm/deg	Max Misalignment		
		Torque		KW/100 rpm	585	720	970	1440	2880		Ang. deg	Para-llel mm	Axial Mm
		Cont Nm	Max Nm										
PX40	4500	21	64	0.22	1.3	1.6	2.1	3.2	6.3	5	4	1.1	1.3
PX45	4500	37	110	0.39	2.3	2.8	3.8	5.6	11	9	4	1.2	1.5
PX50	4500	53	160	0.56	3.3	4.0	5.4	8.0	16	13	4	1.3	1.7
PX60	4000	106	318	1.11	6.5	8.0	10.8	16	32	26	4	1.6	2.6
PX70	3600	162	487	1.70	10	12	16.2	24	49	41	4	1.9	2.3
PX80	3100	253	759	2.65	15	19	25.6	38	76	63	4	2.1	2.6
PX85	3000	305	915	3.20	19	23	31	46	92	76	4	2.2	2.8
PX90	2880	365	1096	3.82	22	28	38	55	110	91	4	2.4	3.0
PX100	2600	505	1517	5.29	31	38	51	76		126	4	2.6	3.3
PX110	2300	712	2137	7.46	44	54	73	107		178	4	2.9	3.7
PX120	2050	1182	3547	12.4	73	89	120	178		296	4	3.2	4.0
PX140	1800	1881	5642	19.7	115	142	191	284		470	4	3.7	4.6
PX160	1600	3113	9339	32.6	191	235	316	469		778	4	4.2	5.3
PX180	1450	5485	16455	57.5	336	410	557	827		1371	4	4.8	6.0

Size	Max Bore mm	Pilot Bore mm	A Dia mm	C Dia mm	D Dia Mm	E mm	F mm	G mm	L mm	M mm	Wt Kg	WR ² KgM ²	Bolt T T NM
PX40	30	13	104	82	-	22	-	43	66	22	1.6	0.001	15
PX45	32	13	120	94	-	25	-	43	74	24	2.0	0.002	15
PX50	38	18	133	100	79	32	-	43	89	25	2.4	0.003	15
PX60	48	18	165	125	70	38	-	43	109	33	4.0	0.010	15
PX70	55	20	197	144	76	45	101	10	130	40	6.2	0.018	24
PX80	65	26	211	167	95	51	106	10	145	43	9.6	0.037	24
PX85	70	32	222	179	103	53	106	13	150	44	11.5	0.050	32
PX90	76	32	235	188	110	57	119	13	160	46	14	0.064	32
PX100	85	32	254	216	124	60	123	13	168	48	20	0.120	32
PX110	90	32	279	233	140	66	127	14	174	44	26	0.160	32
PX120	102	32	314	264	155	76	140	14	201	49	32	0.343	35
PX140	120	40	359	311	195	89	152	14	211	24	54	0.695	35
PX160	130	50	395	345	200	104	160	16	244	30	82	1.22	90
PX180	155	60	470	398	220	116	190	16	282	46	126	2.01	90

UNIQUE PX Tyre Coupling with Magic Grip Bushing



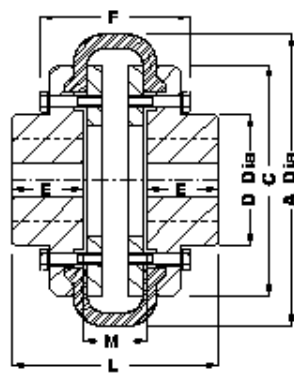
Sizes PX 40 to PX 60

Sizes PX 70 to PX 120

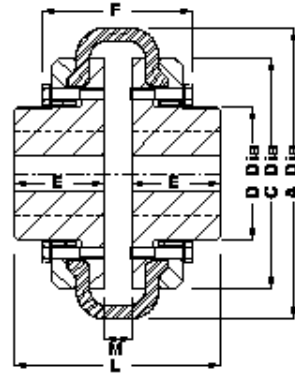
Sizes PX 140 to PX 180

Size	Max Speed RPM	Rating			KW rating at common RPMs					Tor. Stiff Nm/deg	Max Misalignment		
		Torque		KW/100 rpm	585	720	970	1440	2880		Ang. deg	Para-llel mm	Axial Mm
		Cont Nm	Max Nm										
PX40	4500	21	64	0.22	1.3	1.6	2.1	3.2	6.3	5	4	1.1	1.3
PX45	4500	37	110	0.39	2.3	2.8	3.8	5.6	11	9	4	1.2	1.5
PX50	4500	53	160	0.56	3.3	4.0	5.4	8.0	16	13	4	1.3	1.7
PX60	4000	106	318	1.11	6.5	8.0	10.8	16	32	26	4	1.6	2.6
PX70	3600	162	487	1.70	10	12	16.2	24	49	41	4	1.9	2.3
PX80	3100	253	759	2.65	15	19	25.6	38	76	63	4	2.1	2.6
PX85	3000	305	915	3.20	19	23	31	46	92	76	4	2.2	2.8
PX90	2880	365	1096	3.82	22	28	38	55	110	91	4	2.4	3.0
PX100	2600	505	1517	5.29	31	38	51	76		126	4	2.6	3.3
PX110	2300	712	2137	7.46	44	54	73	107		178	4	2.9	3.7
PX120	2050	1182	3547	12.4	73	89	120	178		296	4	3.2	4.0
PX140	1800	1881	5642	19.7	115	142	191	284		470	4	3.7	4.6
PX160	1600	3113	9339	32.6	191	235	316	469		778	4	4.2	5.3
PX180	1450	5485	16455	57.5	336	410	557	827		1371	4	4.8	6.0

Size	Max Bore mm	MG Bush No	A Dia mm	C Dia mm	D Dia mm	E mm	F mm	G mm	J Mm	L mm	M mm	Wt Kg	WR ² KgM ²	Bolt T T NM
PX40	25	1008	104	82	-	22	-	43	29	66	22	1.6	0.001	15
PX45	28	1108	120	94	-	22	-	43	29	68	24	2.0	0.002	15
PX50	32	1210	133	100	79	25	-	43	38	75	25	2.4	0.003	15
PX60	42	1610	165	125	103	25	-	43	38	83	33	4.0	0.010	15
PX70	42	1610	197	144	82	25	101	10	38	90	40	6.2	0.018	24
PX80	50	2012	211	167	95	32	106	10	42	107	43	9.6	0.037	24
PX85	50	2012	222	179	103	32	106	13	42	108	44	11.5	0.050	32
PX90	60	2517	235	188	110	45	119	13	48	136	46	14	0.064	32
PX100	60	2517	254	216	124	45	123	13	48	138	48	20	0.120	32
PX110	60	2517	279	233	134	45	127	14	48	134	44	26	0.160	32
PX120	75	3020	314	264	152	51	140	14	55	151	49	32	0.343	35
PX140	90	3535	359	311	195	89	152	14	67	211	24	54	0.695	35
PX160	100	4040	395	345	200	102	160	16	80	244	30	82	1.22	90
PX180	110	4545	470	398	220	114	190	16	90	282	46	126	2.01	90



UPTO SIZE TC/M/017



SIZE TC/L/018 AND LARGER

UNIQUE Tyre Type Automatic Flexible Cushion Couplings – TC Series

Dimensions and Technical data

Size	Max Bore	Max Speed	Cont. Rating		Max Torque	A Dia	Appx Dimensions				Torsional Stiffness	Inertia MR ²	Max Misalignment			Weight
			Torque	HP/100 rpm			L	D Dia	E	M			Radial	Axial	Ang	
TC/Z/001	9	6000		Nominal		42	54	27	19	16	60	-	1.0	2.0	3.0	0.2
TC/Z/002	11	6000		Nominal		54	68	38	24	20	150	0.0001	1.0	2.0	3.0	0.5
TC/Z/003	14	6000		Nominal		70	78	43	27	24	220	0.0003	1.0	2.0	3.0	0.7
TC/Z/004	18	6000		Nominal		93	74	30	26	22	415	0.0006	1.5	2.0	3.5	0.9
TC/Y/005	22	5500	6	0.08	18	97	74	35	25	24	520	0.0008	1.5	2.0	4.0	1.3
TC/X/006	24	5500	12	0.17	36	105	84	38	32	20	630	0.001	1.5	2.5	4.0	1.6
TC/W/007	28	5500	18	0.25	54	105	111	43	40	31	1000	0.001	1.5	2.5	4.0	1.7
TC/V/008	32	5500	24	0.34	72	120	95	51	37	21	1455	0.003	1.5	2.5	4.0	2.7
TC/U/009	38	5500	36	0.50	108	135	108	58	39	30	1890	0.005	2.0	2.5	4.0	3.4
TC/US/0095	42	5500	46	0.65	138	144	120	66	48	24	2400	0.008	2.0	2.5	4.0	5.2
TC/T/010	45	4400	54	0.75	162	160	132	71	49	34	2600	0.012	2.0	2.5	4.0	6.4
TC/S/011	48	4300	64	0.90	192	164	133	75	51	31	3200	0.016	2.5	2.5	4.0	7.7
TC/R/012	45	4200	84	1.18	282	176	147	71	53	41	4000	0.017	2.5	2.5	4.0	7.4
TC/Q/013	51	3750	132	1.85	396	188	145	80	53	39	4300	0.027	2.5	2.5	4.0	10
TC/P/014	62	3200	200	2.8	600	212	155	95	56	43	6200	0.036	2.5	3.0	4.0	12
TC/O/015	76	2750	265	3.7	795	240	173	118	62	49	8900	0.084	2.5	3.0	4.0	19
TC/N/016	90	2700	355	5.0	1065	270	181	140	68	45	9900	0.148	3.0	3.5	4.0	27
TC/M/017	95	2600	565	7.9	1695	280	215	145	76	63	13400	0.189	3.0	3.5	4.0	32
TC/L/018	100	2550	720	10.1	2160	310	195	154	90	15	14200	0.305	3.5	4.0	4.0	42
TC/K/019	105	2500	940	13.2	2820	316	202	159	96	10	35000	0.358	3.5	4.0	4.0	48
TC/J/020	130	2200	1440	20.2	4320	370	225	203	110	6	47600	0.815	4.0	4.5	4.0	79
TC/I/021	130	2000	1795	25.2	5365	370	240	203	115	10	66000	0.868	4.0	4.5	4.0	85
TC/H/022	150	1700	2870	40.3	8610	412	256	237	118	20	110000	1.49	4.0	5.0	4.0	115
TC/G/023	150	1600	4445	62.4	13335	448	280	230	125	30	188000	1.90	4.5	6.0	4.0	127
TC/F/024	200	1300	6425	90.2	19275	530	282	315	128	26	200000	4.80	5.0	6.0	4.0	218
TC/E/025	165	1250	8215	115.3	24645	546	365	280	147	71	310000	5.20	5.0	6.0	4.0	224

TC/D/026 and larger

Standard Design- Hubs of close grain cast iron , Flexible member for operation upto 60 deg C

Oprional at extra cost – Hubs of steel , Flexible member with oil & heat resistant properties , higher or lower stiffness , higher ratings

Unique Transmission (India) Pvt Ltd

Mercantile Building , 3rd Floor , 10/1D Lal Bazar Street , Calcutta 700001

Phone – 91-33-2200366 , 2480231,2480433 , Fax 91-33-2206593

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