

TRANZ-LOCK

Flexible Shaft Couplings



TRANZ-LOCK semi-elastic couplings have readily available solutions for user requirements of misalignment, installation, environmental conditions (corrosives, temperature, etc), torsional and vibration dampening, noise reduction, reaction force reduction and more.

The couplings are made of high grade cast iron. The simple three piece design permits quick and easy assembly by means of either industry standard taper fit bushes or custom bores.

TRANZ-LOCK couplings:

- Absorb shock and operate noiselessly
- Do not require lubrication or maintenance of any kind
- Have an elastomer insert which has a long life and which cannot wear or break the other components
- Can accommodate angular and parallel misalignment
- Are easy to install and line up

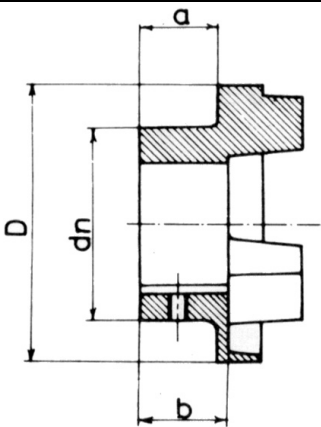
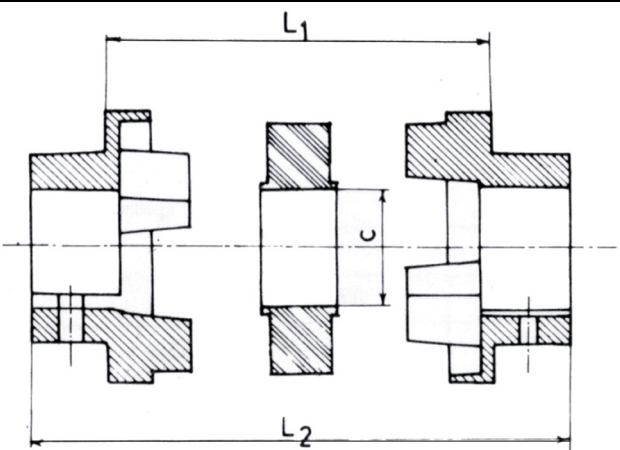
Tranz-lock Flexible Shaft Couplings - Specifications

Technical Data								
Size of Coupling	Bush Size	Torque		Max. Speed ¹⁾	Moment of inertia ²⁾		Weight of Coupling ²⁾	
		Nom.	Max.		Kgm ²		kg	
Type	Bush No.	Nm	Nm	r.p.m.	Bush Type	Std. Type	Bush Type	Std. Type
7	1008	33	73	7700	0.00085	0.00078	1.0	1.1
9	1108	84	185	6300	0.00115	0.00108	1.7	1.7
11	1610	168	370	5000	0.00400	0.00344	5.0	4.2
13	1610	331	728	4100	0.00780	0.00850	5.5	6.3
15	2012	630	1490	3600	0.01810	0.02112	7.1	9.5
18	2517	998	2300	3000	0.04340	0.04820	16.6	15.0
23	3020	2100	4800	2600	0.12068	0.14052	26.0	28.0
28	3525	3308	7000	2200	0.44653	0.5479	50.0	63.0

1) At speeds exceeding allowable max. speed, consult distributor.

2) Incl. Bush with medium bore.

Permissible misalignment tolerances in mm								
Size of coupling	7	9	11	13	15	18	23	28
Axial misalignment	+0.2	+0.5	+0.6	+0.8	+0.9	+1.1	+1.3	+1.7
Radial misalignment	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Angular misalignment	0.5	0.5	1.0	1.0	1.5	1.5	2.0	2.5

Dimensions in mm								
								
Size of coupling	Max. bore	D	dn	a	b	c	L ₁	L ₂ ¹⁾
7	32	69	55	21	25	31	25	68
9	38	85	60	20	34	32	31	91
11	48	112	80	19	44	45	45	117
13	55	130	90	18	50	50	53	136
15	65	150	104	25	58	62	60	155
18	75	180	120	35	68	77	73	184
23	95	225	150	40	85	99	86	229
28	130	275	206	51	106	119	106	286

1) Approx. total length

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Dimensions in mm, bush type										
<p>3) I-flange</p>		<p>2) U-flange</p>		<p>Total length</p>						
Size of coupling	Bush ref.	Bores		D	dn	a	b	c	L ₁	L ₂ ¹⁾
		Min.	Max.							
7	1008	9	25	69	60	21	24	31	25	65
9	1108	9	28	85	70	20	24	32	31	70
11	1610	12	42	112	100	19	27	45	45	82
13	1610	12	42	130	105	18	27	50	53	89
15	2012	14	50	150	115	24	24	62	60	107
18	2517	16	65	180	125	35	47	77	73	142
23	3020	25	75	225	155	40	53	99	86	165
28	3525	28	90	275	206	51	67	119	106	208

1) Approx. total length

2) U = Flange for external mounting of bush

3) I = Flange for internal mounting of bush

Flexible Pebax® elements									
Size of coupling	7	9	11	13	15	18	23	28	
Black Pebax® for general use	KE7	KE9	KE11	KE13	KE15	KE18	KE23	KE28	
Yellow Pebax® soft element	KE7	KE9	KE11	KE13	KE15	KE18	KE23	KE28	

Flexible element: Characteristics			
Type	Material	Temperature °C	Resistant to oil – Low absorption of liquids – Partially resistant to chemicals
Pebax®	Polyether-Block-Amides	-40 up to +85	

Coupling Selection procedure
1. Select service factor (see table)
2. Nominal power multiplied by service factor equals temporary design power K
3. Designed power K should then be multiplied by factor L (operating hours – see table) and S (start frequency – see table). K x L x S gives the design power which is used for coupling selection (size of coupling – see table)
4. Check from dimensional tables that chosen coupling can be fitted



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Service Factors				
Type of load	Driven	Driving Unit		
		Electrical motors, light turbines	Internal combustion engine >= 4 cyl.	Internal combustion engine 1-3 cyl.
Uniform No vibrations	Agitators, conveyors, centrifugal pumps and compressors, centrifugal fans, generators, machine tools	1.0	1.4	1.8
Moderate No vibrations	Agitators conveyors, hoisting equipment, bucket elevators, textile machines, mixers, printing machinery, sawmill machinery, rotary pumps	1.4	2.0	2.4
Substantial Vibrations	Hoisting equipment, calendars, crushers, dredgers, revolving furnales, printing presses, cutting presses, rotary compressors	2.0	2.4	2.8
Heavy Shocks and vibrations	Crushers, extruders, rubber mixers, reciprocating pumps and conveyors, reciprocating compressors, vibrating screens	2.4	2.8	3.2

Factor for operating hours				
>		2	8	16
<=	2	8	16	
L	0.9	1.0	1.1	1.2

Factor for starting frequency				
>		1	30	60
<=	1	30	60	
S	1.0	1.2	1.3	1.5

r.p.m	Size of coupling							
	kW							
	7	9	11	13	15	18	23	28
100	0.35	0.88	1.75	3.44	6.59	10.43	22.0	34.65
200	0.69	1.75	3.52	6.88	13.18	20.86	44.02	69.3
400	1.39	3.51	7.04	13.77	26.37	41.72	88.04	138.60
600	2.08	5.25	10.55	20.65	39.55	62.58	132.06	207.9
800	2.78	7.00	14.07	27.53	52.73	83.44	176.08	277.20
1000	3.47	8.75	17.59	34.42	65.92	104.30	220.10	346.50
1200	4.16	10.50	21.11	41.30	79.10	125.20	264.12	415.80
1400	4.86	12.25	24.62	48.18	92.28	146.02	308.13	485.10
1600	5.55	14.00	28.14	55.07	105.47	166.88	352.15	554.10
1800	6.25	15.76	31.66	61.95	118.65	187.74	396.17	623.70
2000	6.94	17.51	35.18	68.83	131.83	208.60	440.19	693.00
2200	7.64	19.26	38.69	75.72	145.01	229.46	484.21	762.30
2400	8.33	21.00	42.21	82.60	158.20	250.32	528.23	
2600	9.02	22.76	45.73	89.48	171.38	271.18	572.25	
2800	9.72	24.51	49.25	96.37	184.57	292.04		
3000	10.41	26.26	52.76	103.25	197.75	312.90		
3500	12.15	30.64	61.56	120.46	230.71			
4000	13.88	35.01	70.35	137.67				
4500	15.62	39.39	79.14					
5000	17.35	43.76	87.94					
5500	19.09	48.14						
6000	20.82	52.52						
6500	22.56							
7000	24.30							
7500	26.03							

Dynamic Balancing required.