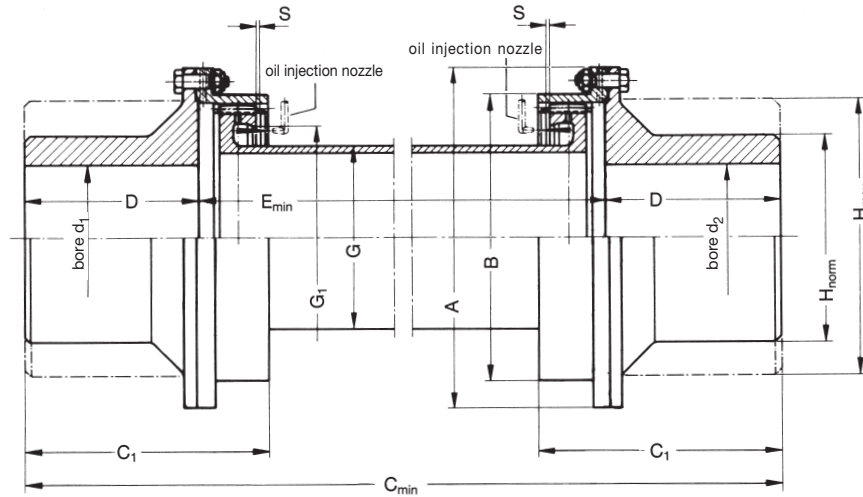


Curved Tooth Couplings High-Speed Series TF



Hardened gear teeth

Dimension table No. 243 114/1



For coupling selection and size determination, please see page 5.

The couplings of the series TF can also be supplied with two Z-shaped retaining rings for end float limitation. These coupling types are denominated with TFR.

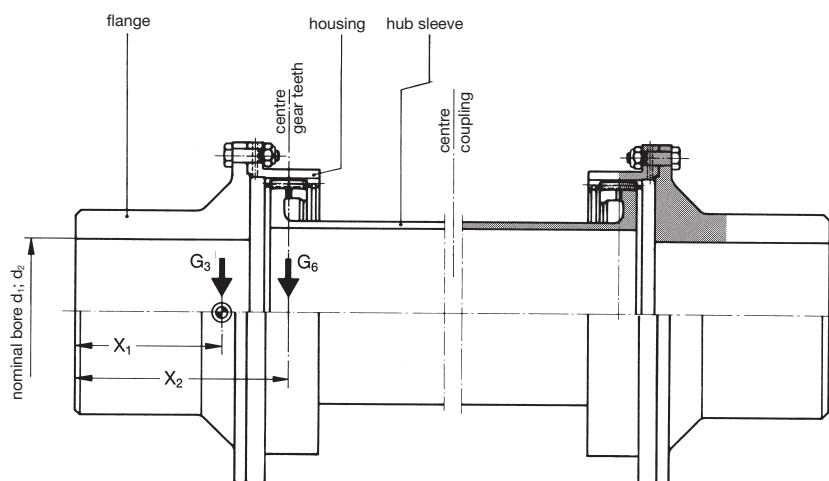
1) Value of the complete coupling, series TF, with $E = E_{min}$, H_{norm} and bore d_1 ; $d_{2\ nom}$.

Larger sizes on request.

Coupling Type TF	Normal operation $\frac{P_{KN}}{n}$	Speed n_{max}	Dimensions														Oil injection nozzles per half Quantity and size	Total oil requirement per min at 1.5 bar pressure	Mass moment of inertia J_1	per 10 mm tube length, if $E > E_{min}$	Weight ¹⁾
			bore $d_1; d_2$			A	B	C_{min}	C_1	D	E_{min}	G	G_1	H_{norm}	H_{max}	S					
			min	nom	max																
30	0,089	25.000	12	50	55	120	85	200	79	50	100	46	53	80	85	1,5	1xØ2	4,5	0,0108	0,000023	6,5
40	0,161	22.500	22	55	65	145	105	232	95	60	112	60	72	90	105	1,5	1xØ2	4,5	0,024	0,000065	10,6
50	0,287	20.000	22	60	75	165	125	265	107	70	125	70	88	100	125	1,5	1xØ2	4,5	0,045	0,000098	15
60	0,560	18.000	28	70	90	200	145	300	122	80	140	86	105	112	148	1,5	1xØ2,5	7	0,108	0,00024	25
70	0,893	16.000	28	80	100	215	168	340	138	90	160	100	120	125	168	2	1xØ2,5	7	0,150	0,00046	31
80	1,278	14.000	32	90	115	235	185	380	151	100	180	115	135	140	185	2	1xØ3	10	0,235	0,00072	40
90	1,803	12.500	32	100	125	270	210	420	167	110	200	130	155	160	210	2	1xØ3	10	0,393	0,0013	61
100	2,240	11.200	55	110	140	275	224	465	177	120	225	145	170	180	224	2	1xØ3,5	13	0,525	0,0015	69
110	3,238	10.000	65	125	160	305	245	510	190	130	250	158	185	200	245	2,5	1xØ3,5	13	0,975	0,0022	95
125	4,498	9.000	75	140	180	335	268	580	220	150	280	185	205	225	272	3	1xØ3,5	13	1,59	0,0040	127
140	6,370	8.000	85	160	200	380	305	645	241	165	315	200	235	250	305	3	2xØ3	20	2,83	0,0059	180
160	10,063	7.100	120	180	225	430	347	735	279	190	355	225	265	280	348	4	2xØ3	20	5,43	0,0086	265
180	14,368	6.300	140	200	250	470	392	840	318	220	400	250	300	315	392	4	2xØ3,5	26	8,75	0,013	360
200	20,125	5.600	160	220	280	545	437	940	357	245	450	280	340	350	445	4	2xØ3,5	26	16,60	0,022	525

Subject to change due to technical improvement.

Centres of Gravity, Torsional Spring Rates



Determination of the centres of gravity

Details for determining the centres of gravity

X_1 = Distance to centre of gravity, G_3

X_2 = Distance to weight take-up, G_6

G_1 = Weight of flange

G_2 = Weight of housing

$G_3 = G_1 + G_2$

G_4 = Weight of hub sleeve if $E = E_{min}$

G_5 = Extra weight of hub sleeve per 1 mm length, if $E > E_{min}$

Determination of the torsional spring rates

Details for determining the torsional spring rates

C_{T1} = torsional spring rate of the complete coupling, if $E = E_{min}$

C_{T2} = torsional spring rate of hub sleeve per 1 mm length,
if $E > E_{min}$

C_{T3} = torsional spring rate of the complete coupling, if $E > E_{min}$

2) Details based on H_{norm} and bore d_1 ; d_2_{nom}

$$G_6 = \frac{1}{2} \cdot G_4 \quad \text{if } E = E_{min}$$

or

$$G_6 = \frac{1}{2} \cdot G_4 + \frac{1}{2} \cdot (E - E_{min}) \cdot G_5 \quad \text{if } E > E_{min}$$

$$C_{T3} = \frac{1}{\frac{1}{C_{T1}} + \frac{E - E_{min}}{C_{T2}}}$$

Coupling Type TF Size	Weights and Centre of Gravity Distances ²⁾									Torsional Spring Rates ²⁾		
	bore d_1 ; d_2 nom mm	X_1 mm	X_2 mm	G_1 kg	G_2 kg	G_3 kg	G_4 kg	G_5 kg/mm	G_6 kg	C_{T1} MNm/rad	C_{T2} MNm-mm/rad	C_{T3} MNm/rad
30	50	41,4	65	1,7	1,1	2,8	0,89	0,005		0,28	23,2	
40	55	49	76	2,8	1,6	4,4	1,5	0,009		0,68	66,2	
50	60	56,5	88	4,3	2,2	6,5	2,6	0,01		0,94	99	
60	70	69,7	100,5	6	3,6	9,6	4,5	0,015		1,92	239	
70	80	73,3	112,5	9	4,1	13,1	6	0,022		3,06	460,9	
80	90	78,9	124	11,7	4,6	16,3	9,1	0,026		4,37	729	
90	100	87,1	139,5	17	7,3	24,3	12,8	0,036		7,14	1280	
100	110	89,4	148,5	22	7,4	29,4	13,4	0,033		7,49	1544	
110	125	97,5	161	27,5	9,0	36,5	18,6	0,041		9,95	2270	
125	140	110,1	186	39	10,8	49,8	24,8	0,053		15,34	4025	
140	160	122,1	204	51	17,5	68,5	38	0,068		20,34	5966	
160	180	143	235,5	78	27	105	54	0,078		27,01	8714	
180	200	154,6	268	114	33	147	77	0,092		34,97	12854	
200	220	174,7	301	164	51	215	114	0,13		54,53	22068	

Subject to change due to technical improvement.