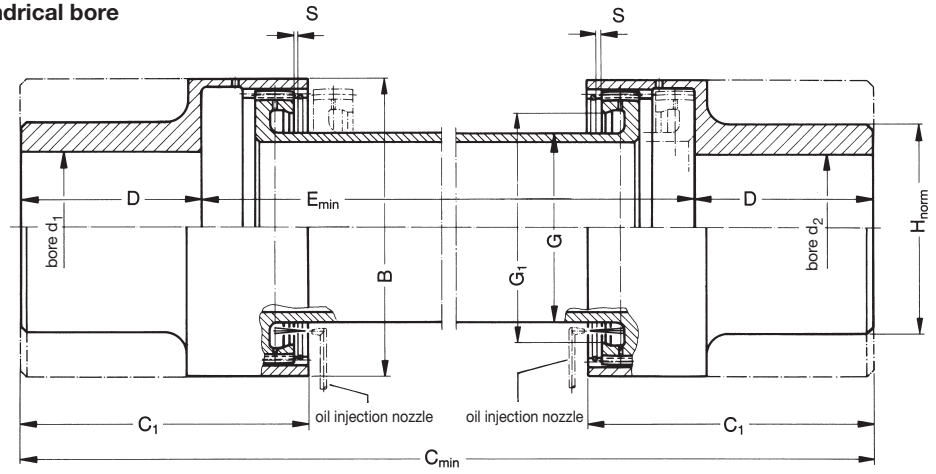
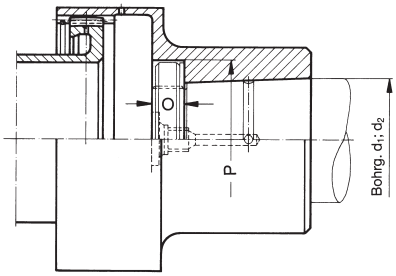
Curved Tooth Couplings
High-Speed Series ZTA and ZTAK

Hardened and ground gear teeth
Dimension table No. 243 112/1

Series ZTA with cylindrical bore

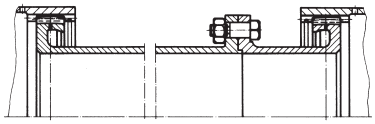


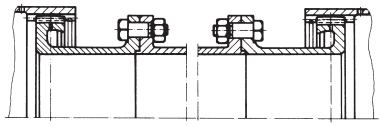
Series ZTAK with tapered bore



For technical reasons, hydraulic fits require the supply of the pressure oil through the shaft.

In the case of difficult installation conditions, the use of a coupling with split hub sleeve is recommended. Two options are available: Series ZTAF and ZTAKF with split hub sleeve for easy disconnection of the machines and simple installation, even if the equipment has already been aligned, and Series ZTAH and ZTAKH with split hub sleeve and spacer to accommodate larger shaft distances.





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

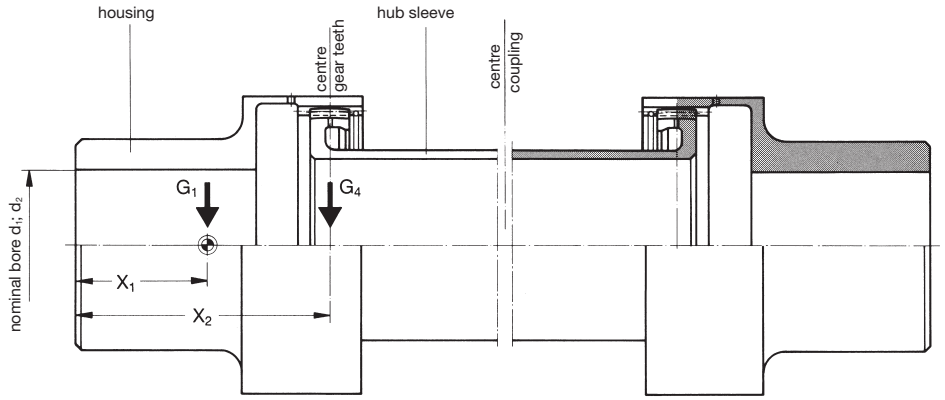
1) Values of the complete coupling, series ZTA with $E = E_{min}$, H_{norm} and bore d_1; $d_{2\,nom}$

Larger sizes on request.

Coupling Type ZTA + ZTAK Size		Normal cont. operation P_{KN}/n	Speed n_{max}	Dimensions bore d_1; d_2															Oil injection nozzles per half Quantity and size	Total oil requirement per min at 1.5 bar pressure	Mass moment of inertia J [1]		Weight [1]
new	old	kW·min	rpm	min	nom	max	B	C_{min}	C_1	D	E_{min}	G	G_1	H_{norm}	O	P	S				per 10 mm sleeve length, if $L > L_{min}$	
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		litre	kgm^2	kgm^2	kg
35	–	0,11	40.000	18	35	55	82	318	105	45	228	50	60	50	10	42	1,5	1xØ2	4,5	0,0025	0,000022	2,6
40	–	0,14	37.500	20	40	60	88	328	111	50	228	56	66	56	10	48	1,5	1xØ2	4,5	0,0034	0,000031	3,1
45	10	0,19	32.000	35	45	71	104	340	117	55	230	55	73	65	10	58	2,5	1xØ2	4,5	0,0073	0,000033	5,0
55	20	0,32	28.000	40	55	80	120	363	129	65	233	70	87	77	10	70	2,5	1xØ2	4,5	0,014	0,000071	7,0
63	30	0,51	25.000	45	63	90	135	402	142	75	252	80	101	88	10	80	2,5	1xØ2,5	7	0,023	0,00012	9,1
73	40	0,79	22.000	50	73	110	155	439	161	90	259	90	118	102	15	90	3	1xØ2,5	7	0,045	0,00022	14,1
85	50	1,23	20.000	55	85	120	174	488	179	105	278	100	133	120	15	106	3	1xØ3	10	0,086	0,00042	22,0
100	60	1,92	18.000	65	100	130	198	554	198	120	314	120	156	140	15	126	3	1xØ3	10	0,15	0,00080	29,8
115	70	3,15	16.000	75	115	155	224	626	221	135	356	140	178	160	15	144	4	1xØ3,5	13	0,30	0,0016	47
130	80	4,40	13.500	85	130	170	256	704	247	155	394	165	200	182	20	166	4	1xØ3,5	13	0,58	0,0026	67
150	90	7,00	11.500	100	150	200	288	799	289	180	439	190	230	210	25	192	4	2xØ3	20	1,1	0,0046	99
175	100	10,5	10.000	115	175	220	330	926	332	210	506	215	265	245	30	227	5	2xØ3	20	2,2	0,0080	155
205	110	15,8	9.000	135	205	270	390	1094	379	245	604	255	315	290	35	270	5	2xØ3,5	26	4,9	0,014	245

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_1

X_2 = Distance to weight take-up, G_4

G_1 = Weight of housing

G_2 = Weight of hub sleeve, if $E = E_{min}$

G_3 = 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 per 1 mm hub sleeve length, if $E > E_{min}$

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

$$G_4 = \frac{1}{2} \cdot G_2 \quad \text{if } E = E_{min}$$

or

$$G_4 = \frac{1}{2} \cdot G_2 + \frac{1}{2} \cdot (E - E_{min}) \cdot G_3 \quad \text{if } E > E_{min}$$

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

[2]) Details based on H_{norm} and bore d_1; $d_{2\ nom}$

Coupling Type ZTA + ZTAK		Weights and Centre of Gravity Distances [2])									Torsional Spring Rates [2])		
Size new	Size old	bore d_1; d_2 nom mm	X_1 ZTA mm	X_1 ZTAK mm	X_2 kg	G_1 ZTA kg	G_1 ZTAK kg	G_2 kg	G_3 kg/mm	G_4 kg	C_{T1} MNm/rad	C_{T2} MNm·mm/rad	C_{T3} MNm/rad
35	–	35	51,9	52,2	93,5	0,92	0,89	0,78	0,0040		0,11	22	
40	–	40	53,8	54	99	1,1	1,06	0,90	0,0045		0,16	32	
45	10	45	58	58,6	104,5	1,9	1,82	1,18	0,0050		0,19	33	
55	20	55	64,1	64,3	115,5	2,7	2,58	1,60	0,0065		0,37	72	
63	30	63	69,1	69,1	127,5	3,4	3,3	2,32	0,0084		0,56	121	
73	40	73	76,5	76,2	144	5,2	4,9	3,56	0,0124		0,87	223	
85	50	85	84,8	84,2	161	8	7,6	5,75	0,0202		1,54	427	
100	60	100	91,3	90,2	178	10,5	10	8,56	0,0259		2,3	806	
115	70	115	101,8	100,6	196,5	16	15	14,4	0,0379		3,7	1584	
130	80	130	115,1	113,4	219,5	24	23	19,7	0,0435		5,7	2610	
150	90	150	129,4	126,8	258	35	33	29	0,0588		8,6	4660	
175	100	175	147,2	143,5	296	54	50	46,2	0,0808		13,2	8110	
205	110	205	165,9	160,8	340	87	80	70,8	0,0970		19,9	14037	

Calculation acc. to above equation

Subject to change due to technical improvement.