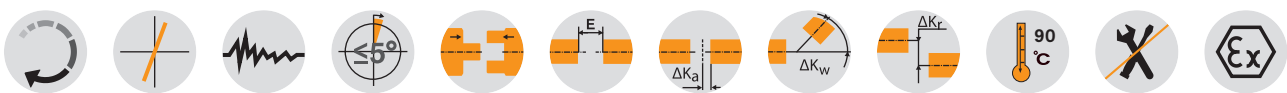


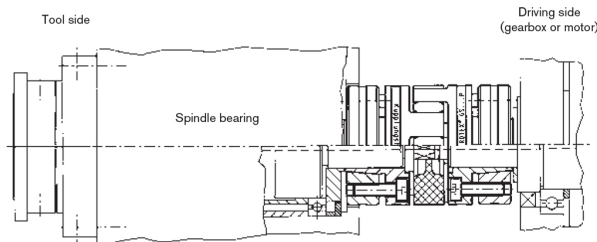
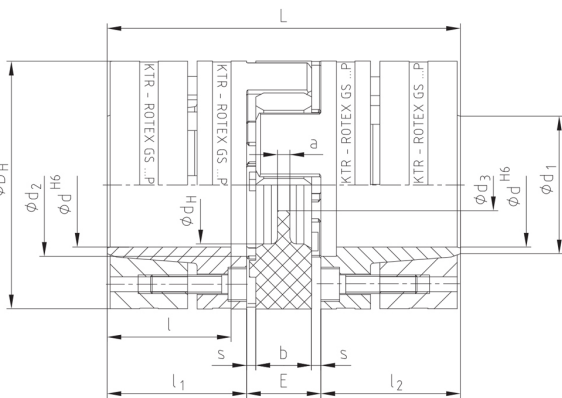
# Highly accurate type P according to DIN 69002



## Components

Tack thread M1 between clamping screws

ROTEX® GS type P with central coolant supply for stub spindles and multiple spindle heads



## ROTEX® GS type P material of hub/clamping ring steel

Size	Spider torque T <sub>KN</sub> [Nm] <sup>1)</sup>		Dimensions [mm]											Tightening torque of clamping screws T <sub>A</sub> [Nm]	Weight per hub with bore Ød standard [kg]	Mass moment of inertia with bore Ø d standard [kgm <sup>2</sup> ]
	98 Sh-A	64 Sh-D	maximum d	D <sub>H</sub> <sup>2)</sup>	d <sub>H</sub>	L	l <sub>1</sub> :l <sub>2</sub>	l	E	b	s	a	d <sub>3</sub>			
14 P	12,5	16	15	32	10,5	50	18,5	15,5	13	10	1,5	2	—	1,89	0,08	0,011 x 10 <sup>-3</sup>
19 P	21	26	20	40	18	66	25	21	16	12	2	3	—	3,05	0,19	0,046 x 10 <sup>-3</sup>
24 P	60	75	28	55	27	78	30	25	18	14	2	3	—	8,5	0,44	0,201 x 10 <sup>-3</sup>
28 P	160	200	38	65	30	90	35	30	20	15	2,5	4	—	8,5	0,64	0,438 x 10 <sup>-3</sup>
38 P	325	405	48	80	38	114	45	40	24	18	3	4	—	14	1,32	1,325 x 10 <sup>-3</sup>
42 P	450	560	51	95	46	126	50	45	26	20	3	4	18,5	35	2,23	3,003 x 10 <sup>-3</sup>
48 P	525	655	55	105	51	140	56	50	28	21	3,5	4	20,5	69	3,09	5,043 x 10 <sup>-3</sup>
55 P	685	825	70	120	60	160	65	58	30	22	4	4,5	22,5	69	4,74	10,02 x 10 <sup>-3</sup>
65 P	940	1175	70	135	68	185	75	55	35	26	4,5	4,5	30	120	6,70	191,0 x 10 <sup>-4</sup>
75 P	1920	2400	80	160	80	210	85	63	40	30	5,0	5,0	40	120	9,90	396,8 x 10 <sup>-4</sup>
90 P	3600	4500	105	200	104	245	100	75	45	34	5,5	6,5	50	295	17,7	1136 x 10 <sup>-4</sup>

<sup>1)</sup> Other spiders/selection see page 18 et seqq.

<sup>2)</sup> Ø D<sub>H</sub> + 2 mm with high speeds for expansion of spider

For the stiffness calculation of the shaft/hollow shaft see KTR standard 45510 on our homepage [www.ktr.com](http://www.ktr.com)

## Review of shaft-hub-connection: Friction torques for hub type 6.0P steel

Size		Ø10	Ø11	Ø14	Ø15	Ø16	Ø19	Ø20	Ø24	Ø25	Ø28	Ø30	Ø32	Ø35	Ø38	Ø40	Ø42	Ø45	Ø48	Ø50	Ø55*	Ø60*	Ø65*	Ø70*	Ø80*	Ø90*	Ø95*	Ø100*	Ø105*	
14	H6/k6	11	13	29																										
19	H6/k6	34	41	75	90	68	104	119																						
24	H6/k6			79	95	70	110	126	134	149	201																			
28	H6/k6				128	150	225	177	278	307	341	403	366	461	528															
38	H6/k6							247	386	426	475	560	511	641	644	733	828	825												
42	H6/k6									389	433	512	464	585	586	669	631	753	888	906										
48	H6/k6										672	762	945	957	1082	1033	1219	1423	1296	1606										
55	H6/k6													920	929	1055	1002	1190	1198	1325	1388	1743	1722	2088						
65	H6/k6															1532	1465	1731	1750	1931	2034	2534	2521	3038						
75	H6/k6																1835	2161	2190	2413	2551	3161	3158	3789	4421					
90	H6/k6																				4046	4503	5057	6079	6181	7324	8398	9530	9892	11084

\*From Ø55 G6/m6.

With bigger clearance the torque is reduced. For the stiffness calculation of the shaft/hollow shaft see KTR standard 45510 at our homepage at [www.ktr.com](http://www.ktr.com).

## Selection for stub spindles according to DIN 69002

Spindle drive	ROTEX® GS P size	Dimensions to DIN 69002										Transmittable torque T <sub>R</sub> with Ød [Nm] <sup>3)</sup>	Weight per hub with bore Ød standard [kg] <sup>3)</sup>	Mass moment of inertia with bore Ø d standard [kgm <sup>2</sup> ] <sup>3)</sup>															
		Standard spindle shaft diameter d	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	D <sub>H</sub>	l <sub>1</sub> :l <sub>2</sub>	L	E																				
25 x 20	14 P	14	17	17	8,5	32	18,5	50	13	25	66	16	60	0,16	0,037 x 10 <sup>-3</sup>														
32k x 25	19 P37,5	16	20	19	9,5	37,5	25	66	16	60	66	16	71	0,19	0,046 x 10 <sup>-3</sup>														
32g x 30	19 P	19	23	22	9,5	40	25	66	16	71	66	16	108	0,331	0,136 x 10 <sup>-3</sup>														
40 x 35	24 P50	24	28	29	12,5	50	30	78	18	108	78	18	170	0,44	0,201 x 10 <sup>-3</sup>														
50 x 45	24 P	25	30	30	12,5	55	30	78	18	170	78	18	506	0,64	0,438 x 10 <sup>-3</sup>														
63 x 55	28 P	35	40	40	14,5	65	35	90	20	506	90	20	821	1,32	1,325 x 10 <sup>-3</sup>														
80 x 75	38 P	40	46	46	16,5	80	45	114	24	821	114	24																	

<sup>3)</sup> Standard spindle shaft diameters

## Ordering example:

ROTEX® GS 24	P	98 Sh-A-GS	6.0 - Ø25	6.0 - Ø25
Coupling size	Type	Spider hardness	Hub type	Finish bore