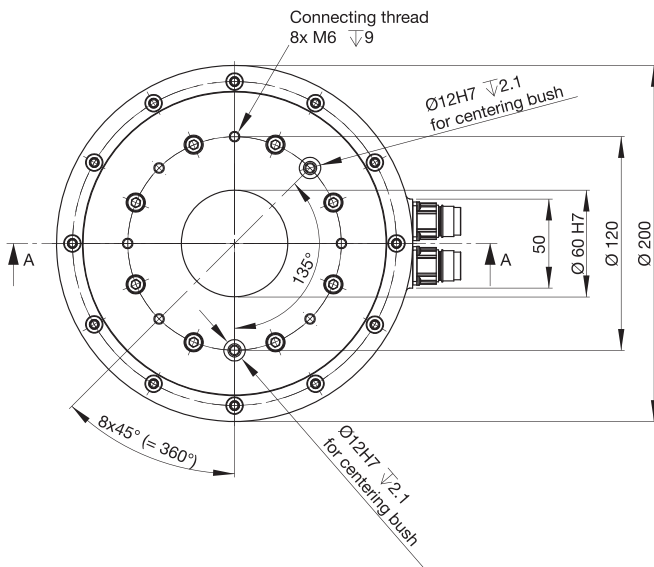
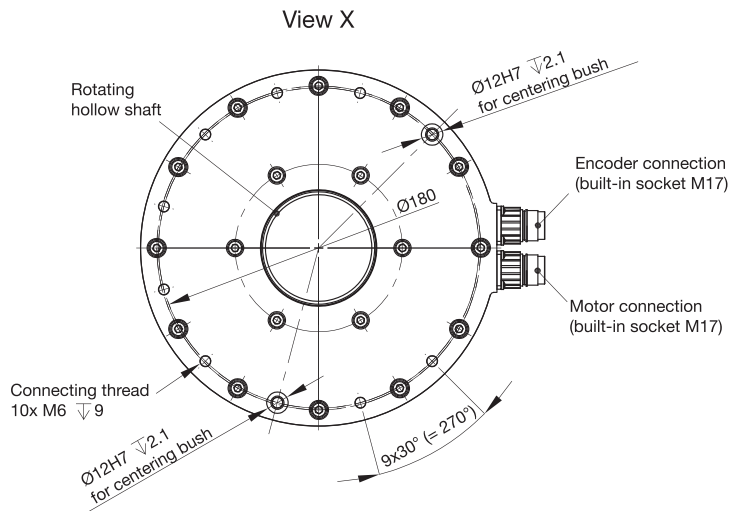
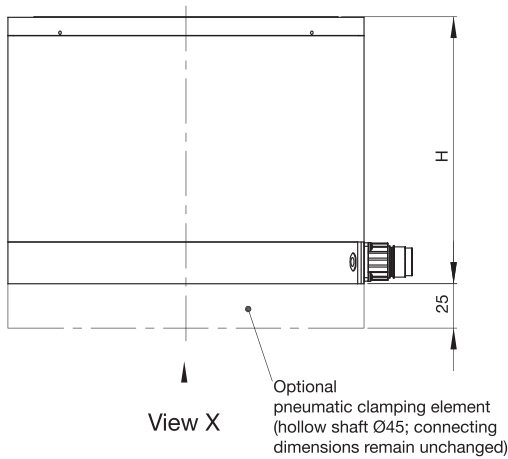


# HIWIN rotary tables

## 6. TMS3X HIWIN rotary tables

### Dimensions of the TMS3X HIWIN rotary tables

(for values, see Table 6.1)



## Positioning Systems

Table 6.1 Specifications for HIWIN TMS3X Rotary Tables

### Specifications for HIWIN Rotary Tables

	Symbol	Unit	TMS32	TMS34	TMS34L	TMS38	TMS38L	TMS3C	TMS3CL
<b>Peak torque for 1 second</b>	$T_p$	Nm	25	50	50	100	100	150	150
<b>Continuous torque</b> (coil temp. 80°C)	$T_c$	Nm	10	20	20	40	40	60	60
<b>Stall torque</b> (coil temp. 80°C)	$T_s$	Nm	7	14	14	28	28	42	42
<b>Moment of inertia of rotating parts</b>	$J$	kgm <sup>2</sup>	0.014	0.020	0.020	0.026	0.026	0.035	0.035
<b>Mass</b>	$M_m$	kg	15	21	21	26	26	32	32
<b>Max. axial load</b>	$F_a$	N	15 000	15 000	15 000	15 000	15 000	15 000	15 000
<b>Max. radial load</b>	$F_r$	N	12 000	12 000	12 000	11 000	11 000	10 000	10 000
<b>Max. speed</b> (at 400 V <sub>AC</sub> ) for 1 sec.	$n_{max}$	rpm	1500	1100	1500	600	1100	400	700
<b>Nominal speed</b> (at 400 V <sub>AC</sub> and 30% DR)		rpm	700	700	700	500	700	300	600
<b>Accuracy</b>		arc sec	50	50	50	50	50	50	50
<b>Repeatability</b>		arc sec	± 2	± 2	± 2	± 2	± 2	± 2	± 2
<b>Radial run-out</b>		mm	0.05	0.05	0.05	0.05	0.05	0.05	0.05
<b>Axial run-out</b>		mm	0.05	0.05	0.05	0.05	0.05	0.05	0.05
<b>Height</b>	$H$	mm	130	150	150	190	190	230	230
<b>Protection class</b>			IP40; optionally IP65						

### Motor Specifications

	Symbol	Unit	TMS32	TMS34	TMS34L	TMS38	TMS38L	TMS3C	TMS3CL
<b>Peak current for 1 second</b>	$I_p$	$A_{eff}$	7.5	7.5	15.0	7.5	15.0	7.5	15.0
<b>Continuous current</b> (coil temp. 80°C)	$I_c$	$A_{eff}$	3.0	3.0	6.0	3.0	6.0	3.0	6.0
<b>Motor constant</b> (coil temp. 25°C)	$K_m$	Nm/ $\sqrt{W}$	1.0	2.1	2.1	3.4	3.4	4.2	4.2
<b>Coil resistance</b> (coil temp. 25°C) <sup>1)</sup>	$R_{25}$	$\Omega$	2.9	4.3	1.1	7.2	1.8	10.1	2.6
<b>Coil resistance</b> (coil temp. 100°C) <sup>1)</sup>	$R_{100}$	$\Omega$	3.7	5.1	1.3	8.5	2.2	12	3
<b>Motor inductance</b> <sup>2)</sup>	$L$	mH	10	16	4	27	6.8	37	9.3
<b>Electric time constant</b>	$T_e$	ms	3.9	3.9	3.9	3.9	3.9	3.9	3.9
<b>Torque constant</b>	$K_t$	Nm/ $A_{eff}$	3.5	7.0	3.5	14.0	7.0	21.0	11.5
<b>Voltage constant</b>	$K_v$	$V_{rms}/(rad/s)$	1.6	3.2	1.8	6.4	3.7	9.6	5.5
<b>Number of poles</b>	$2p$	—	22	22	22	22	22	22	22
<b>Thermal resistance</b>	$R_{th}$	K/W	0.7	0.58	0.58	0.41	0.41	0.29	0.29
<b>Thermal circuit breaker</b>			PTC; switching point at 100°C						
<b>Max. intermediate circuit voltage</b>		V	750	750	750	750	750	750	750

<sup>1)</sup> Line resistance

<sup>2)</sup> Line inductance

### Encoder specifications (optical, incremental)

- 3600 lines/cycle
- Index mark
- Signal output sin/cos 1 V<sub>SS</sub>

### Specifications for pneumatic clamping element (optional)

- Clamping torque 110 Nm at 6 bar
- Clamping torque with additional air: 200 Nm at 6 bar
- Suitable for emergency stop due to spring preload