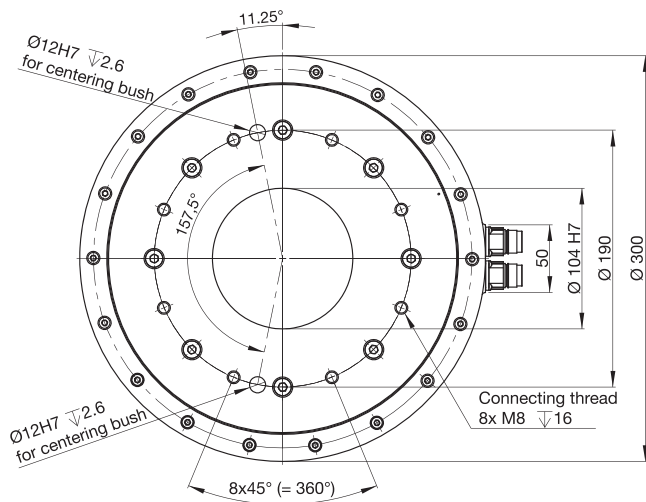
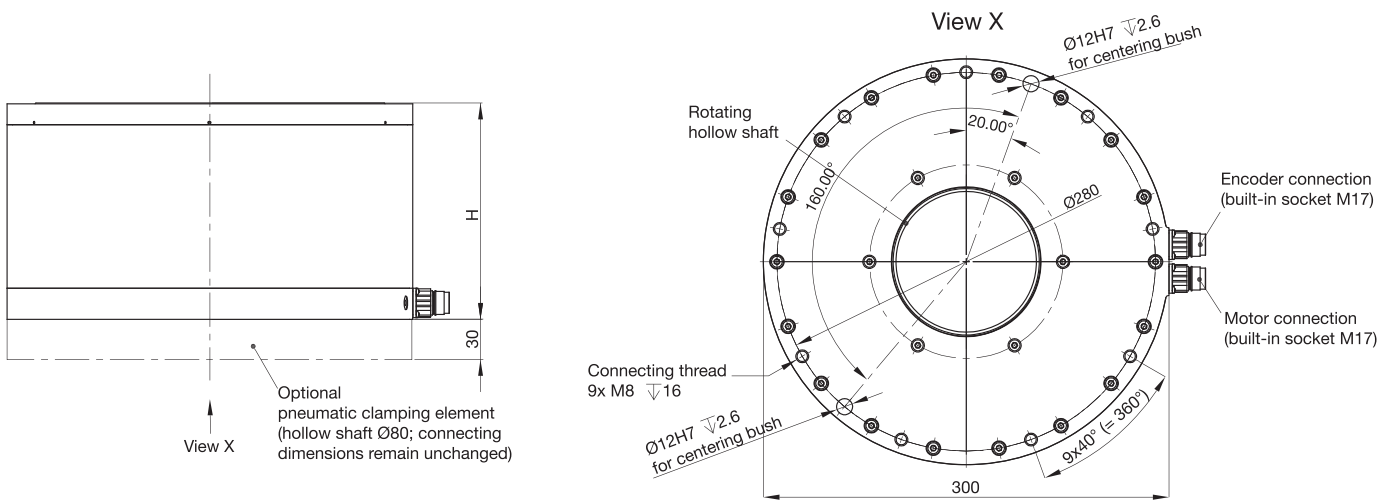


HIWIN rotary tables

7. TMS7X HIWIN rotary tables

Dimensions of the TMS7X HIWIN rotary table
 (for values, see Table 7.1)



Positioning Systems

Table 7.1 Specifications for HIWIN TMS7X Rotary Tables

Specifications for HIWIN Rotary Tables

	Symbol	Unit	TMS74	TMS74L	TMS76	TMS76L	TMS7C	TMS7CL
Peak torque for 1 second	T_p	Nm	130	130	190	190	380	380
Continuous torque (coil temp. 80°C)	T_c	Nm	50	50	75	75	150	150
Stall torque (coil temp. 80°C)	T_s	Nm	35	35	53	53	106	106
Moment of inertia of rotating parts	J	kgm ²	0.152	0.152	0.174	0.174	0.241	0.241
Mass	M_m	kg	39	39	44.5	44.5	61.5	61.5
Max. axial load	F_a	N	25000	25000	25000	25000	25000	25000
Max. radial load	F_r	N	20000	20000	20000	20000	18000	18000
Max. speed (at 400 V _{AC}) for 1 second	n_{max}	rpm	500	900	350	600	170	300
Nominal speed (at 400 V _{AC} and 30% DR)		rpm	400	500	280	500	120	200
Accuracy		arc sec	60	60	60	60	60	60
Repeatability		arc sec	± 7	± 7	± 7	± 7	± 7	± 7
Radial run-out		mm	0.05	0.05	0.05	0.05	0.05	0.05
Axial run-out		mm	0.05	0.05	0.05	0.05	0.05	0.05
Height	H	mm	160	160	180	180	240	240
Protection class			IP40; optionally IP65					

Motor Specifications

	Symbol	Unit	TMS74	TMS74L	TMS76	TMS76L	TMS7C	TMS7CL
Peak current for 1 second	I_p	A_{eff}	8	16	8	16	8	16
Continuous current (coil temp. 80°C)	I_c	A_{eff}	3.0	6.0	3.0	6.0	3.0	6.0
Motor constant (coil temp. 25°C)	K_m	Nm/√ W	3.4	3.4	4.5	4.5	8.5	8.5
Coil resistance (coil temp. 25°C) ¹⁾	R_{25}	Ω	8.0	2	10.4	2.6	20.2	5.1
Coil resistance (coil temp. 100°C) ¹⁾	R_{100}	Ω	9.5	2.4	12.4	3.1	25.0	6.3
Motor inductance ²⁾	L	mH	32	8	42	10.5	84	21
Electric time constant	T_e	ms	4	4	4	4	4	4
Torque constant	K_t	Nm/A _{eff}	16.9	8.5	25.4	12.7	50.1	25.05
Voltage constant	K_v	V _{rms} /(rad/s)	7.2	3.6	10.8	5.4	21.6	10.8
Number of poles	$2p$	—	44	44	44	44	44	44
Thermal resistance	R_{th}	K/W	0.31	0.31	0.25	0.25	0.18	0.18
Thermal circuit breaker			PTC; switching point at 100 °C					
Max. intermediate circuit voltage		V	750	750	750	750	750	750

¹⁾ Line resistance

²⁾ Line inductance

Encoder specifications (optical, incremental)

- 5400 lines/cycle
- Index mark
- Signal output sin/cos 1 V_{ss}

Specifications for pneumatic clamping element (optional)

- Clamping torque 330 Nm at 6 bar
- Clamping torque with additional air: 580 Nm at 6 bar
- Suited for emergency stop due to spring preload