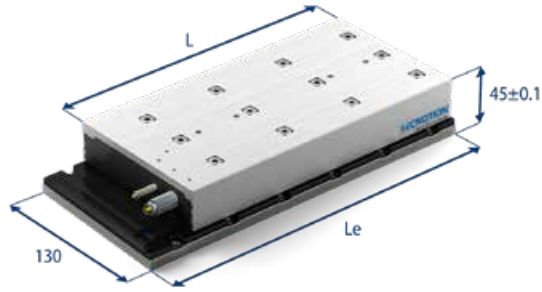


# TB Series Iron Core



TB12 on 288mm magnet plate shown

## Magnet plate dimensions

Le (mm)	192	288
M5 bolts	8	12
Mass (kg/m)	10.5	
Magnet plates can be butted together.		

Approvals



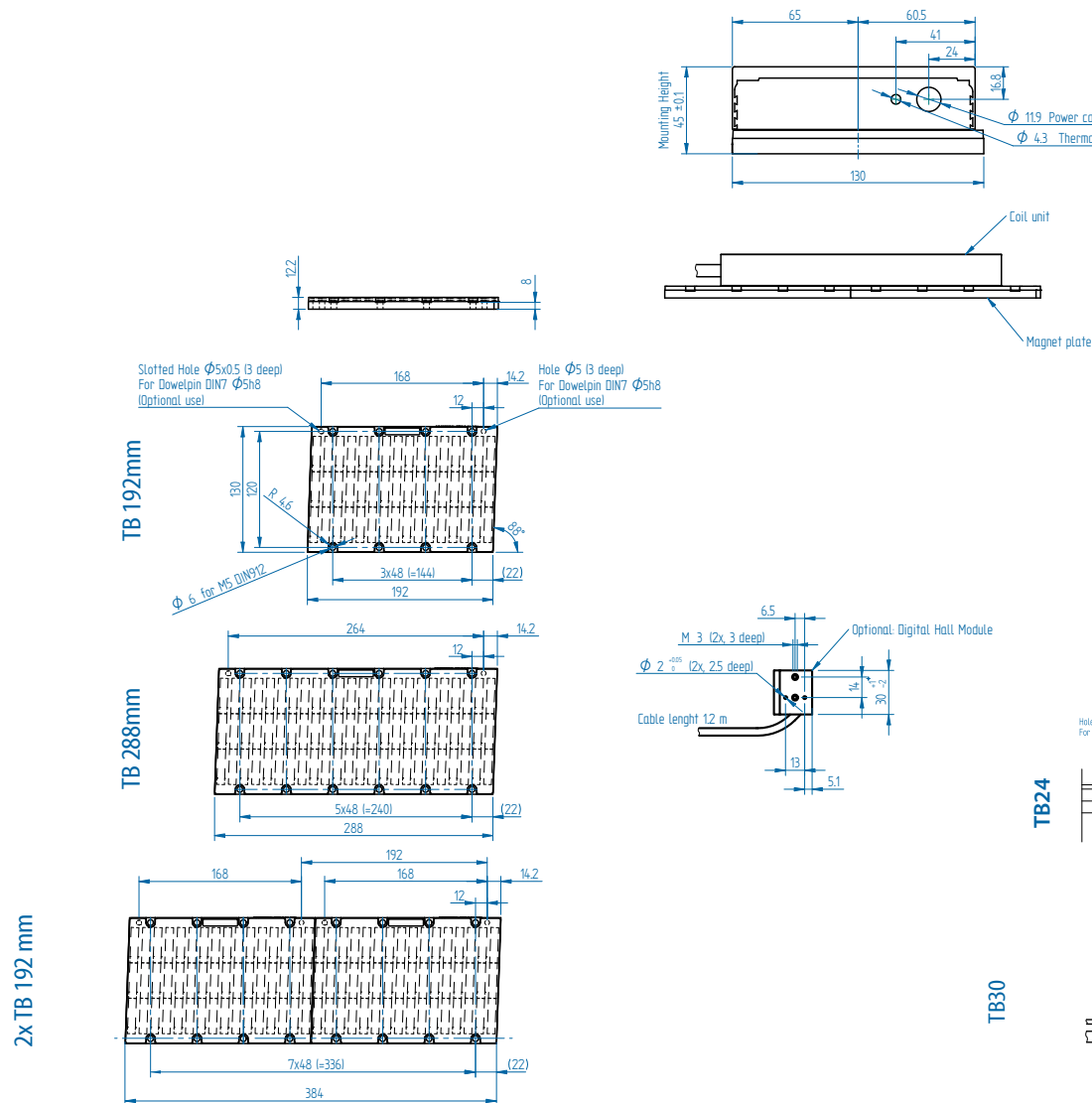
Parameter	Remarks	Symbol	Unit	TB12		TB15		TB18		TB24		TB30	
				N	S	N	S	N	N	N	S	N	S
Winding type				3-phase synchronous Iron core, 400V <sub>ac rms</sub> (565 V <sub>dc</sub> )									
Motor type, max voltage ph-ph				3-phase synchronous Iron core, 400V <sub>ac rms</sub> (565 V <sub>dc</sub> )									
Ultimate force @ 10°C/s increase	magnet @ 25°C	F <sub>u</sub>	N	1800		2250		2700		3600		4500	
Peak force @ 6°C/s increase	magnet @ 25°C	F <sub>p</sub>	N	1600		2000		2400		3200		4000	
Continuous force*	coils @ 100°C	F <sub>c</sub>	N	760		950		1140		1520		1900	
Maximum speed**	@ 560 V	V <sub>max</sub>	m/s	3	6	2.5	6	3	2.5	2.5	6		
Motor force constant	mount. sfc. @ 20°C	K	N/A <sub>rms</sub>	186	93	225	93	186	232	225	93		
Motor constant	coils @ 25°C	S	N <sup>2</sup> /W	1750		2150		2640		3520		4300	
Ultimate current	magnet @ 25°C	I <sub>u</sub>	A <sub>rms</sub>	13.0	26	13.5	33	20	21	27	66		
Peak current	magnet @ 25°C	I <sub>p</sub>	A <sub>rms</sub>	10.0	20	10.0	25	15.0	16.0	20	50		
Maximum continuous current	coils @ 100°C	I <sub>c</sub>	A <sub>rms</sub>	4.1	8.2	4.2	10.2	6.1	6.6	8.5	20.5		
Back EMF phase-phase <sub>peak</sub>		B <sub>emf</sub>	V/m/s	152	76	183	76	152	189	183	76		
Resistance per phase*	coils @ 25°C ex. cable	R <sub>ph</sub>	Ω	6.3	1.6	7.6	1.3	4.2	5.0	3.8	0.65		
Induction per phase	I < 0.6 I <sub>p</sub>	L <sub>ph</sub>	mH	51	13	60	10	34	40	30	5		
Electrical time constant*	coils @ 25°C	τ <sub>e</sub>	ms	8		8		8	8	8			
Maximum continuous power loss	all coils	P <sub>c</sub>	W	430		530		640	853	1060			
Thermal resistance	coils to mount. sfc.	R <sub>th</sub>	°C/W	0.15		0.12		0.11	0.08	0.06			
Thermal Time constant*	up to 63% max. coiltemp.	τ <sub>th</sub>	s	90		90		90	90	90			
Temperature cut-off / sensor				PTC 1kΩ / KTY 83-122									
Coil unit weight	ex. cables	W	kg	4.9		5.9		6.9	9.4	11.6			
Coil unit length	ex. cables	L	mm	244		290		336	434	562			
Motor attraction force	rms @ 0 A	F <sub>a</sub>	N	3400		4150		4900	6800	8300			
Magnet pitch NN		τ	mm	24		24		24	24	24			
Cable mass		m	kg/m	0.3		0.3		0.3	0.3	0.3			
Cable type (power)	length 1 m	d	mm (AWG)	11.9 (14)									
Cable type (sensor)	length 1 m	d	mm (AWG)	4.3 (26)									

All specifications ±10%

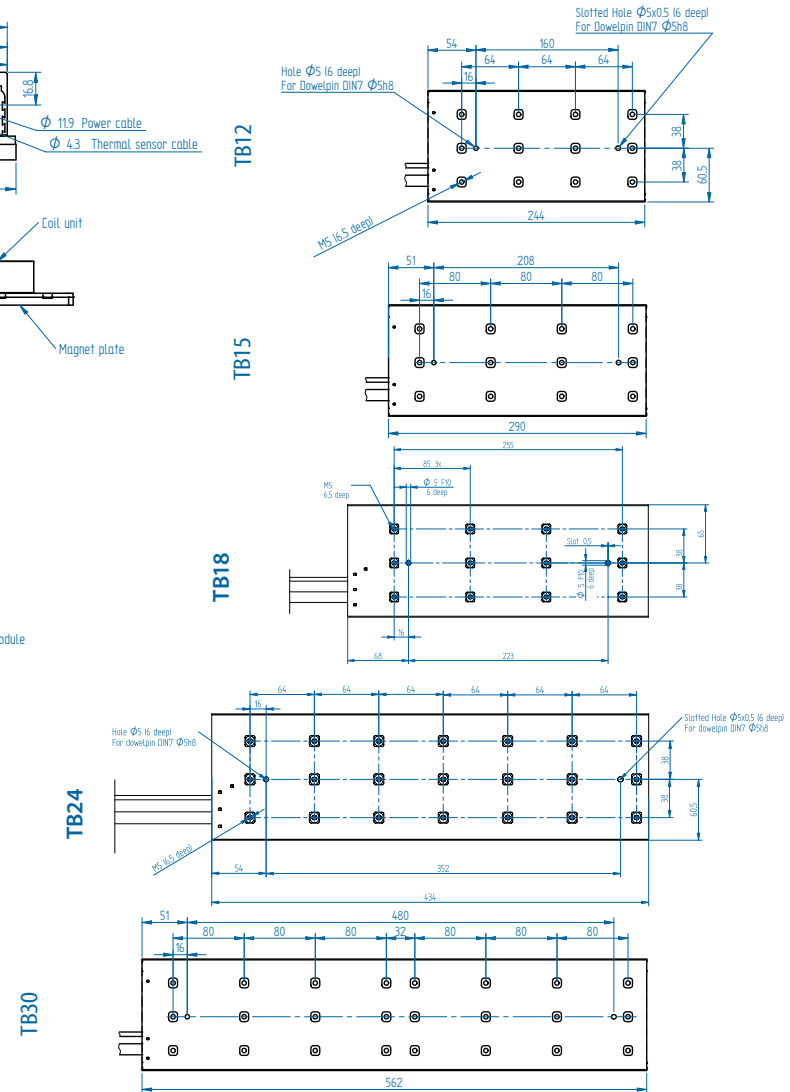
\* These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool.

\*\* Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

## Magnet plates



## Coil units



Mounting instructions and flatness or parallelism requirements can be found in the iron core installation manual. CAD files, 3D models and the manual can be downloaded from our website.

\* All sizes are in mm