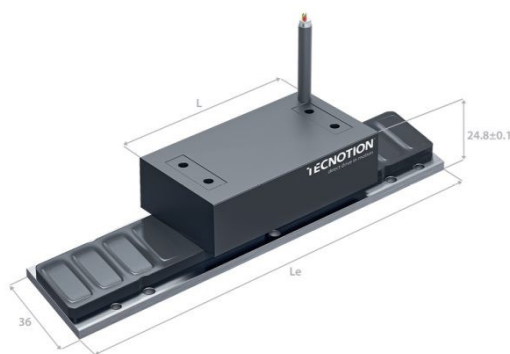




TD36-3 on TD36-144mm magnet plate

Magnet plate dimensions

Le (mm)	96	144	288
M3 bolts	4	6	12
Mass (kg/m) ⁴	1.3		

Magnet plates can be butted together.

⁴ Low weight magnet plate available

Approvals



Parameter	Remarks	Symbol	Unit	TD36-3	TD36-6
Winding type				S	N
Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac,rms} (V_{dc})$	230 (325)	
Ultimate force @ 10 K/s increase	magnets @ 25°C	F_u	N	89	177
Peak force @ 6 K/s increase	magnets @ 25°C	F_p	N	75	149
Continuous force ¹	coils @ 105°C	F_c	N	40	72
Maximum speed ²	@ U_{max} @ F_c	v_{max}	m/s	16.0	7.6
Motor force constant	$I \leq I_c$	K_f	N/A _{rms}	19.2	38.2
Motor constant	coils @ 25°C	S	N ² /W	39.8	79.2
Ultimate current	magnets @ 25°C	I_u	A _{rms}	5.9	
Peak current	magnets @ 25°C	I_p	A _{rms}	4.5	
Continuous current ¹	coils @ 100°C	I_c	A _{rms}	2.1	1.9
Back EMF ph-ph _{peak}		K_e	V _{dc} /m/s	15.7	31.2
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	3.1	6.1
Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	8.0	16.0
Electrical time constant		τ_e	ms	2.6	
Continuous power loss ¹	coils @ 105°C	P_c	W	52	81
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	1.63	0.99
Thermal time constant		τ_{th}	s	43	52
Temperature sensor				Pt1000	
Coil unit mass	ex. cables	m	kg	0.24	0.41
Coil unit length	ex. cables	L	mm	65	113
Motor attraction force	rms @ 0 A	F_a	N	154	308
Magnet pitch NN		τ	mm	24	
Cable mass	all cables		kg/m	0.07	
Cable type (power and sensor)	length 1 m	d	mm (AWG)	4.3 (3x24+2x32)	
Cable life (FLEX) ³	minimum		cycles	15,000,000	
Bending radius static	minimum			5x cable diameter	
Bending radius dynamic	minimum			8x cable diameter	

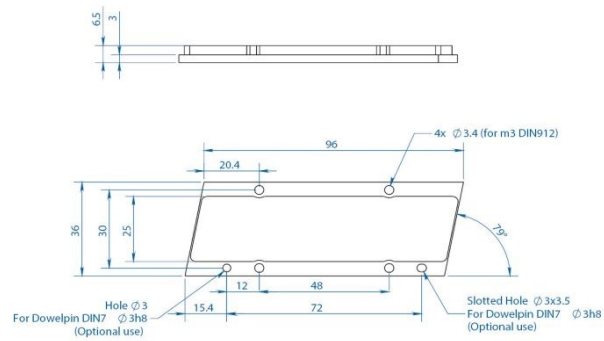
¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

² Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

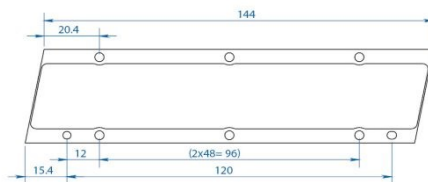
³ Depending on bending radius, velocity and acceleration.

Magnet plates

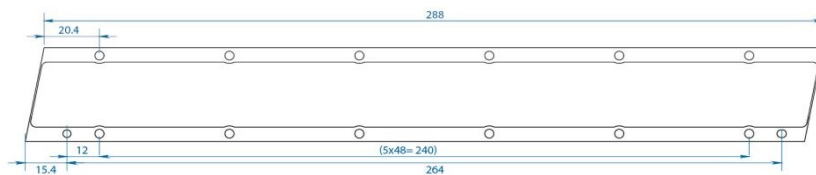
TD36 96 mm



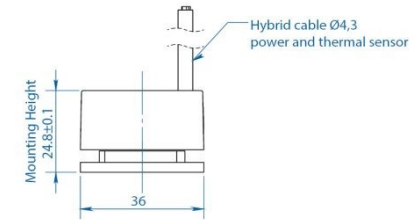
TD36 144 mm



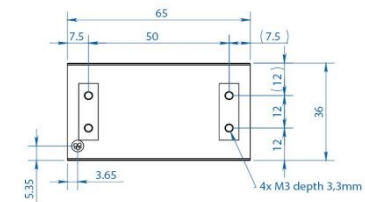
TD36 288 mm



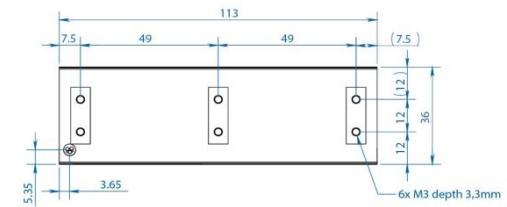
Coil units

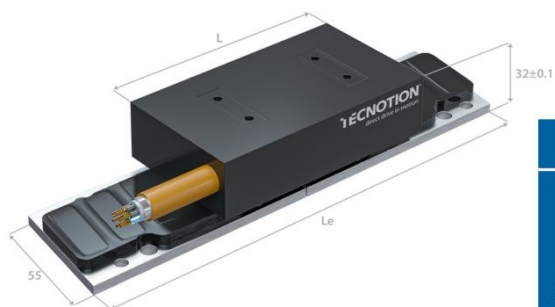


TD36-3



TD36-6





TD55-3 on 2xTD55-96 mm magnet plates

Magnet plate dimensions

Le (mm)	96	384
M5 bolts	4	10
Mass (kg/m) ³	2.24	

Magnet plates can be butted together.

³ Low weight magnet plate available

Approvals



Parameter		Remarks	Symbol	Unit	TD55-3	TD55-6	TD55-9	TD55-12
Performance	Winding type				N	N	N	N
	Motor type, max voltage ph-ph	3-phase synchronous	U_{max}	$V_{ac,rms}$ (V_{dc})	480 (680)			
	Ultimate force @ 10 K/s increase	magnets @ 25°C	F_u	N	211	422	634	845
	Peak force @ 6 K/s increase	magnets @ 25°C	F_p	N	161	323	484	645
	Continuous force ¹	coils @ 105°C	F_c	N	106	213	319	426
	Maximum speed ²	@ U_{max} @ F_c	v_{max}	m/s	19.8	9.6	6.1	4.3
	Motor force constant	$I \leq I_c$	K_f	N/A _{rms}	34.4	68.8	103.2	137.5
	Motor constant	coils @ 25°C	S	N ² /W	140	280	421	561
Electrical	Ultimate current	magnets @ 25°C	I_u	A_{rms}	6.9			
	Peak current	magnets @ 25°C	I_p	A_{rms}	5.0			
	Continuous current ¹	coils @ 105°C	I_c	A_{rms}	3.1			
	Back EMF ph-ph _{peak}		K_e	$V_{dc}/m/s$	28.1	56.1	84.2	112.3
	Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	2.8	5.6	8.4	11.2
	Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	13.7	27.4	41.1	54.8
Thermal	Electrical time constant		τ_e	ms	4.9			
	Continuous power loss ¹	coils @ 105°C	P_c	W	107	213	320	427
	Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.75	0.37	0.25	0.19
	Thermal time constant		τ_{th}	s	42			
Mechanical	Temperature sensor				Pt1000 / PTC 1k Ω (2x)			
	Coil unit mass	ex. cables	m	kg	0.53	0.89	1.3	1.6
	Coil unit length	ex. cables	L	mm	95	159	223	287
	Motor attraction force	rms @ 0 A	F_a	N	384	768	1152	1536
	Magnet pitch NN		τ	mm	32			
	Cable mass	all cables		kg/m	0.17			
Cable type		length 1 m	d	mm (AWG)	10.6 (4x19+2x22+2x26)			

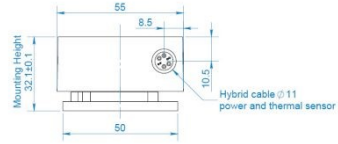
¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

² Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

Magnet plates	Coil units
1. Magnet plates are used to hold the coils in place. 2. They are made of a non-magnetic material, such as plastic or wood. 3. The magnet plates are placed on the top and bottom of the coil units. 4. They are held in place by the magnetic force of the coils.	1. Coil units are used to generate the magnetic field. 2. They are made of a conductive material, such as copper or aluminum. 3. The coil units are placed on the top and bottom of the magnet plates. 4. They are connected to a power source, which provides the current needed to generate the magnetic field.

Magnet plates	Coil units
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TD55 384 mm

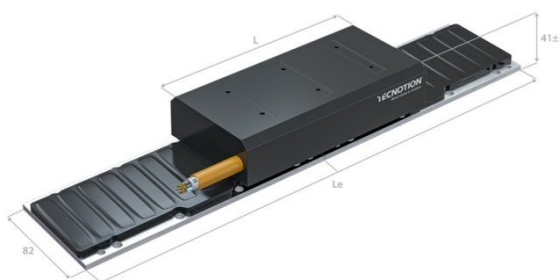


TD55 -6



TD55 -12





TD82-6 on 2xTD82-192 mm magnet plates

Magnet plate dimensions

Le (mm) 192 288

M5 bolts 8 12

Mass (kg/m) 3.73

Magnet plates can be butted together.

Approvals



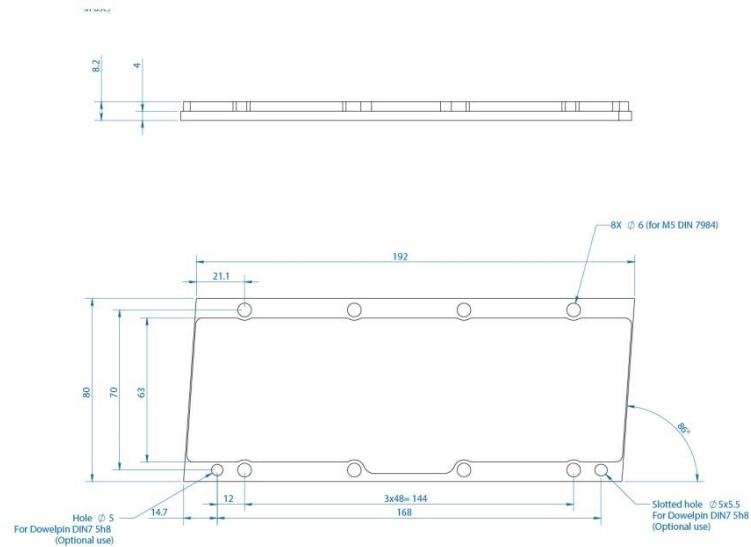
	Parameter	Remarks	Symbol	Unit	TD82-3	TD82-6	TD82-9	TD82-12
Performance	Winding type				N	N	N	N
	Motor type, max voltage ph-ph	3-phase synchronous	$U_{\max}$	$V_{ac,rms} (V_{dc})$	480 (680)			
	Ultimate force @ 10 K/s increase	magnets @ 25°C	F_u	N	453	905	1358	1811
	Peak force @ 6 K/s increase	magnets @ 25°C	F_p	N	403	805	1208	1611
	Continuous force ¹	coils @ 105°C	F_c	N	262	524	786	1048
	Maximum speed ²	@ $U_{\max}$ @ F_c	$v_{\max}$	m/s	6.4			
	Motor force constant	$I \leq I_c$	K_f	N/A _{rms}	93.6			
	Motor constant	coils @ 25°C	S	N ² /W	498	996	1495	1993
Electrical	Ultimate current	magnets @ 25°C	I_u	A _{rms}	6.5	13.1	19.6	26.1
	Peak current	magnets @ 25°C	I_p	A _{rms}	5.0	10.0	15.0	20.0
	Continuous current ¹	coils @ 105°C	I_{cw}	A _{rms}	2.8	5.6	8.4	11.2
	Back EMF ph-ph _{peak}		K_e	V_{dc} /m/s	76.5			
	Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	5.9	2.9	1.96	1.47
	Induction per phase	$I < 0.6 I_p$	L_{ph}	mH	54.6	27.3	18.2	13.6
	Electrical time constant		τ_e	ms	9.3			
Thermal	Continuous power loss ¹	coils @ 105°C	P_c	W	182	364	545	727
	Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.44	0.22	0.15	0.11
	Thermal time constant		τ_{th}	s	36			
	Temperature sensor				Pt1000 / PTC 1kΩ (2x)			
Mechanical	Coil unit mass	ex. cables	m	kg	1.20	2.13	3.1	4.0
	Coil unit length	ex. cables	L	mm	95	159	223	287
	Motor attraction force	rms @ 0 A	F_a	N	704	1408	2112	2816
	Magnet pitch NN		τ	mm	32			
	Cable mass	all cables		kg/m	0.17			
	Cable type	length 1 m	d	mm (AWG)	10.6 (4x19+2x22+2x26)			

¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

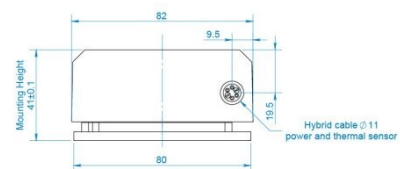
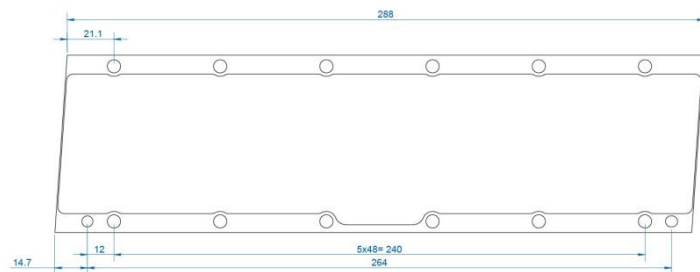
² Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

Magnet plates

TD82 192 mm

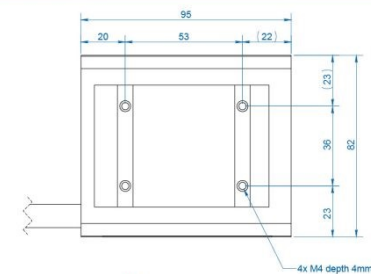


TD82 288 mm

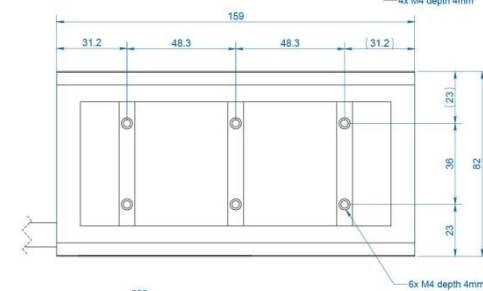


Coil units

TD82-3

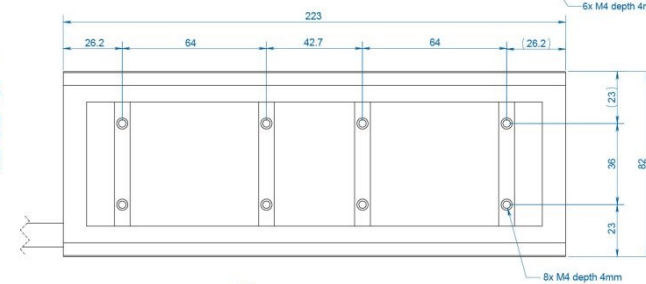


TD82 -6



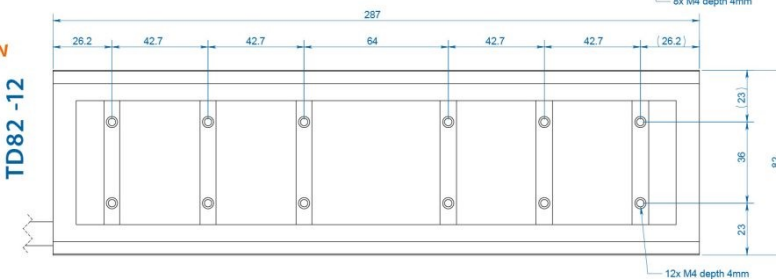
New

TD82 -9



New

TD82 -12



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

* All sizes are in mm