	Parameter	Remarks	Symbol	Unit	UM3		UM6		UM9		UM12	
Performance	Winding type				N	S	N	S	N	S	N	S
	Motortype, max voltage ph-ph				3-phase synchronous Ironless, 230$V_{ac\ rms}$ (300V_{dc})							
	Peak Force @ 20°C/s increase	magnet @ 25°C	F_p	N	100		200		300		400	
	Continuous Force*	coils @ 110°C	F_c	N	29		58		87		116	
	Maximum Speed**	@ 300 V	v_{max}	m/s	10	18	10	18	10	17	10	16
	Motor Force Constant	mount. sfc. @ 20°C	K	N/A_{rms}	36.3	19.9	36.3	19.9	36.3	19.9	36.3	19.9
	Motor Constant	coils @ 25°C	S	N^2/W	24		48		71		95	
Electrical	Peak Current	magnet @ 25°C	I_p	A_{rms}	2.8	5.0	5.5	10.0	8.3	15.0	11.0	20.0
	Maximum Continuous Current	coils @ 110°C	I_c	A_{rms}	0.8	1.5	1.6	2.9	2.4	4.4	3.2	5.8
	Back EMF Phase-$Phase_{peak}$		B_{emf}	V/m/s	30	16	30	16	30	16	30	16
	Resistance per Phase*	coils @ 25°C ex. cable	R_{ph}	Ω	18.5	5.5	9.3	2.8	6.2	1.8	4.6	1.4
	Induction per Phase	I < 0.6 Ip	L_{ph}	mH	6	1.8	3	0.9	2	0.6	1.5	0.4
	Electrical Time Constant*	coils @ 25°C	τ_e	ms	0.35		0.35		0.35		0.35	
Thermal	Maximum Continuous Power Loss	all coils	P_c	W	47		95		142		190	
	Thermal Resistance	coils to mount. sfc.	R_{th}	°C/W	1.8		0.9		0.6		0.45	
	Thermal Time Constant*	up to 63% max. coiltemp.	τ_{th}	s	36		36		36		36	
	Temperature Cut-off / Sensor				PTC 1kΩ / NTC							
Mechanical	Coil Unit Weight	ex. cables	W	kg	0.084		0.162		0.240		0.318	
	Coil Unit Length	ex. cables	L	mm	78		138		198		258	
	Motor Attraction Force		F_a	N	0		0		0		0	
	Magnet Pitch NN		τ	mm	30		30		30		30	
	Cable Mass		m	kg/m	0.08		0.08		0.08		0.08	
	Cable Type (Power)	length 1 m	d	mm (AWG)	5.3 (22)							
	Cable Type (Sensor)	length 1 m	d	mm (AWG)	3.2 (26)							

All specifications ±10%

UM3 in 150mm magnet yoke shown

Approvals

CE RoHS

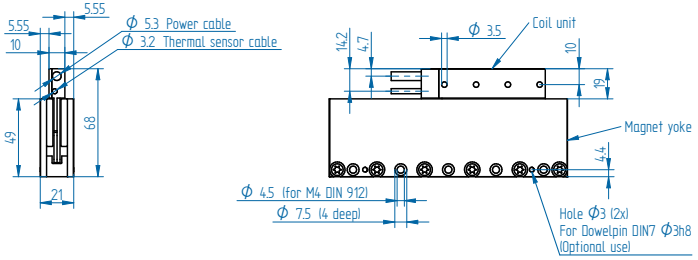
Magnet yoke dimensions				
Le (mm)	90	120	150	390
M4 bolts	3	4	6	13
Mass (kg/m)	4.8			
Magnet yokes can be butted together.				

** 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.*

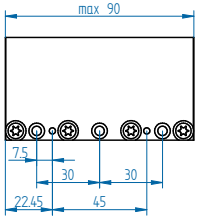
*** Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.*

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

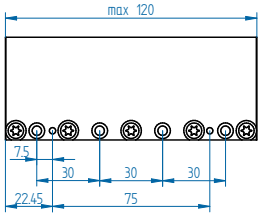
MAGNET YOKES



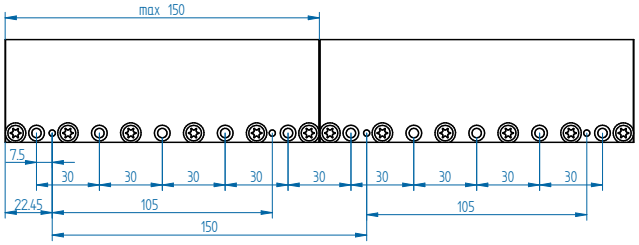
UM 90mm



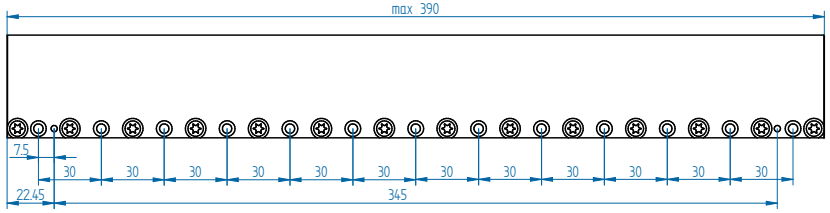
UM 120mm



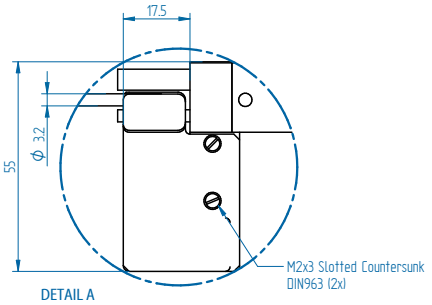
2x UM 150mm



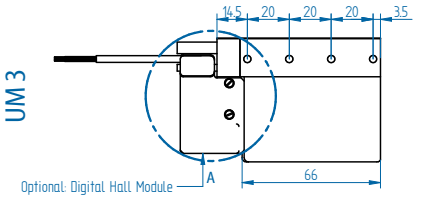
UM 390mm



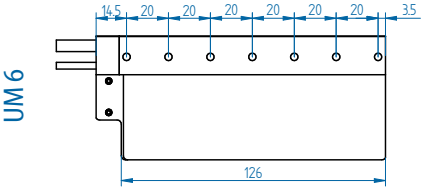
COIL UNITS



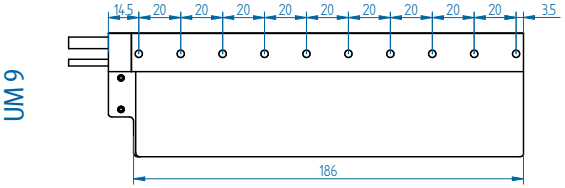
UM 3



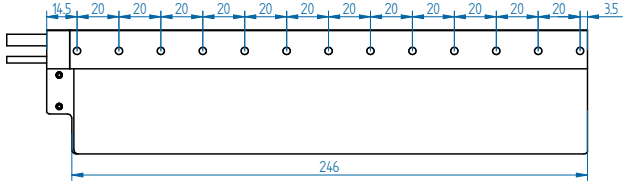
UM 6



UM 9



UM 12



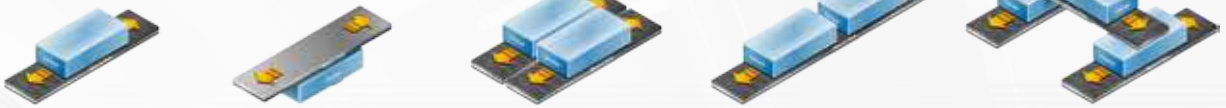
Features

Tecnotion's linear motor performances advantages

[DIRECT DRIVE ADVANTAGES]

The direct drive technology of linear motors is a perfect way to enhance productivity, accuracy, and dynamic performance. Linear motors eliminate the need for mechanical transmissions like rack and pinion, belts and speed reducers. Between coil unit and magnets there is no contact, this means no mechanical wear. The technology makes designs slimmer, modular and reduces costs.

Modular system. All motors can be used in various configurations:



1. single moving coil *2. moving magnet* *3. parallel coupled coil* *4. in-line on a single track* *5. crosstable or gantry*

High force density

More force in a smaller packing means lowering footprint and fits better in smal(ler) spaces.

Low cogging

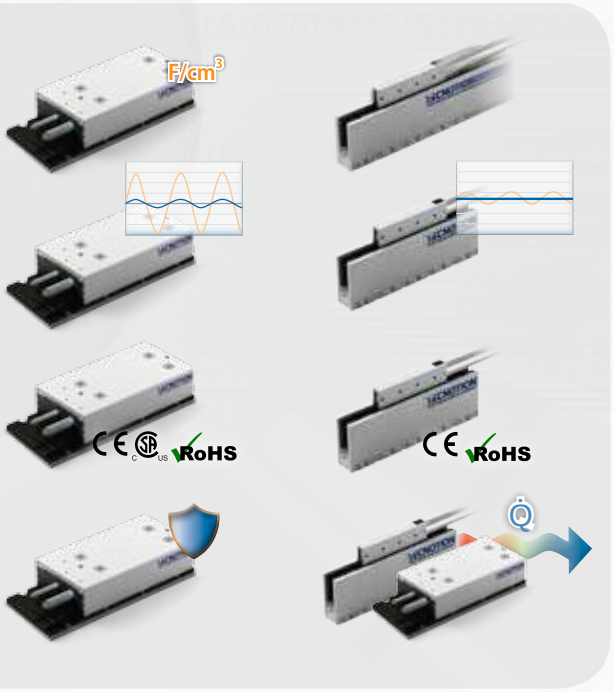
Optimized iron core motor design, for smooth motion and position accuracy in your application.

Approved for CSA and CE, ROHS

Iron core motors are approved for CE, CSA and ROHS.

Aluminium housed design

Housed design with integrated water cooling for TBW- and TL series.



High acceleration and dynamics

The outstanding force to mass ratio of the ironless coils enables unmatched system dynamics.

No cogging, extremely low force ripple

Ironless motors have no cogging effects. Offering smooth motion and position accuracy in your application.

Approved for CE and ROHS

Ironless motors are CE and RoHS approved.

Low thermal resistance

Allowing good heat transfer, achieving an extremely high continuous force for all motors when using a descent size heatsink or active cooling.