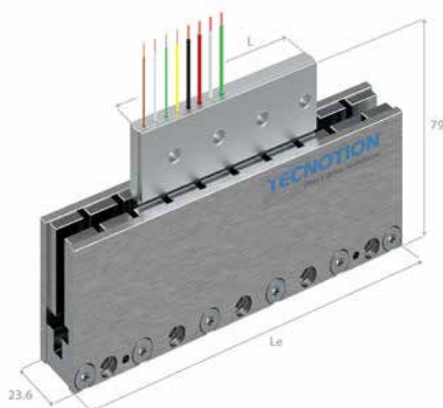




UMV3 G2 coil unit in 150mm magnet yoke

UMV Magnet yoke dimensions

Le (mm) 150 390

M4 bolts 5 13

Mass (kg/m) 6.7

Magnet yokes can be butted together.

Approvals



UMV - G2 ironless vacuum series

	Parameter	Remarks	Symbol	Unit	UMV3 G2	UMV6 G2	UMV12 G2	
Performance	Winding type				S	S	N	S
	Motor type, max voltage ph-ph	3-phase synchronous		V _{ac rms} (V _{dc})	230 (325)			
	Peak force @ 20 K/s increase	magnets @ 25°C	F _p	N	100	200	400	401
	Continuous force passive cooled ¹	@ T _{max}	F _c	N	5.9	10.8	20	20
	Continuous force active cooled ²	@ T _{max}	F _c	N	22	44	86	87
	Maximum speed ³	@ 325 V	V _{max}	m/s	18.5	18.5	7.0	18.5
	Motor force constant	coils @ 25°C	K _f	N/A _{rms}	20.0	20.0	47.8	20.0
	Motor constant	coils @ 25°C	S	N ² /W	23	46	89	93
Electrical	Peak current	magnets @ 25°C	I _p	A _{rms}	5.0	10.0	8.4	20.1
	Continuous current passive cooled ¹	coils @ T _{max}	I _c	A _{rms}	0.30	0.54	0.42	1.02
	Continuous current active cooled ²	coils @ T _{max}	I _c	A _{rms}	1.09	2.18	1.79	4.36
	Back EMF ph-ph _{peak}		K _e	V _{dc} / m/s	16	16	39	16
	Resistance per phase	coils @ 25°C ex. cable	R _{ph}	Ω	5.8	2.9	8.5	1.4
	Induction per phase		L _{ph}	mH	1.9	1.0	2.8	0.5
	Electrical time constant		τ _e	ms	0.3	0.3	0.3	0.3
Thermal	Continuous power loss	coils @ T _{max}	P _c	W	25	50	100	
	Maximum coil temperature		T _{max}	°C	80			
	Thermal resistance	coils to mount. sfc.	R _{th}	K/W	2.4	1.2	0.60	
	Thermal time constant		τ _{th}	s	47			
	Temperature sensor				3xPTC + 1xNTC			
Mechanical	Coil unit mass	ex. cables	m	kg	0.19	0.33	0.61	
	Coil unit length	ex. cables	L	mm	81	141	261	
	Motor attraction force		F _a	N	0			
	Magnet pitch NN		τ	mm	30			
	Lead wire mass	all wires		g	41			
	Lead wire type (power, 4x)	length 1 m	d	mm (AWG)	1.5 (20)			
	Lead wire type (sensor, 4x)	length 1 m	d	mm (AWG)	0.8 (26)			

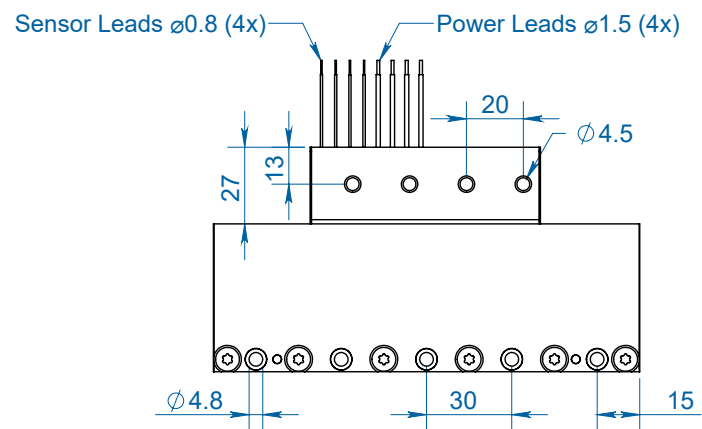
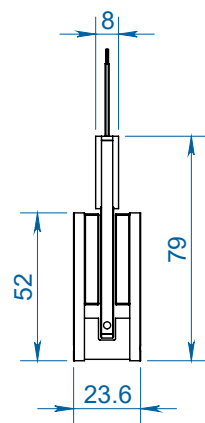
All specifications ±10%

¹ Depends on environmental conditions in the application. Continuous force noted has been determined with a typical thermal resistance value for passive cooling, and a vacuum chamber wall of 40°C.

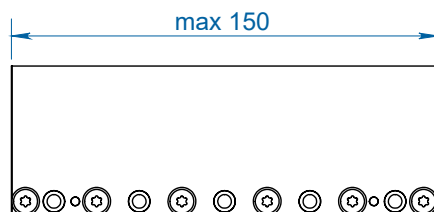
² Depends on environmental conditions in the application. Continuous force noted has been determined with a thermal resistance of 0.02 K/W and a mounting surface of 20°C when the motor is driven at continuous current.

³ Actual values depend on bus voltage.

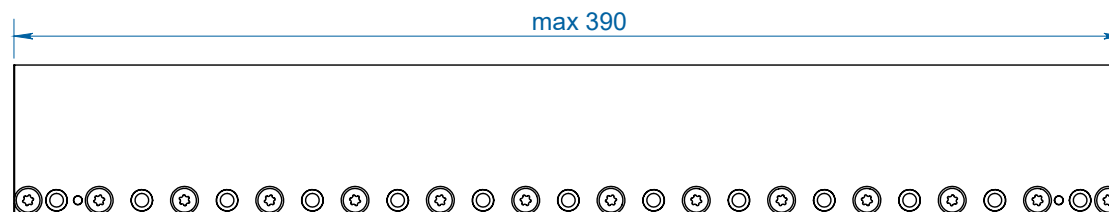
Motor



Magnet yokes

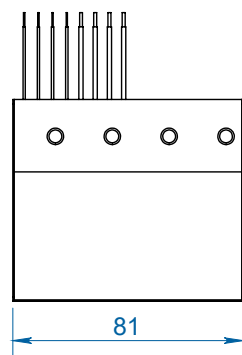


MAGNET YOKE UMV 150mm G2

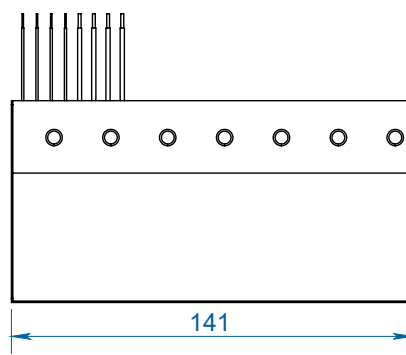


MAGNET YOKE UMV 390mm G2

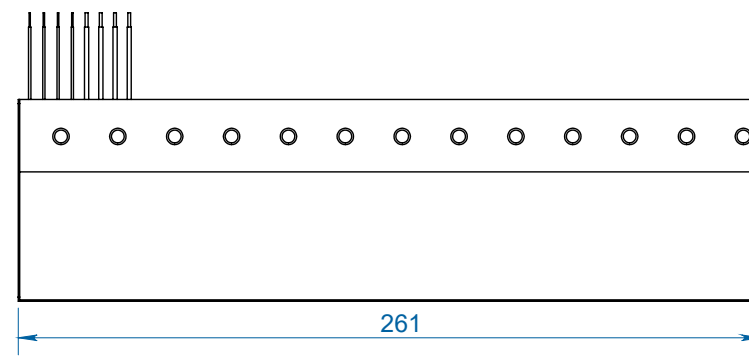
Coil units



COIL UNIT UMV3 G2



COIL UNIT UMV6 G2



COIL UNIT UMV12 G2