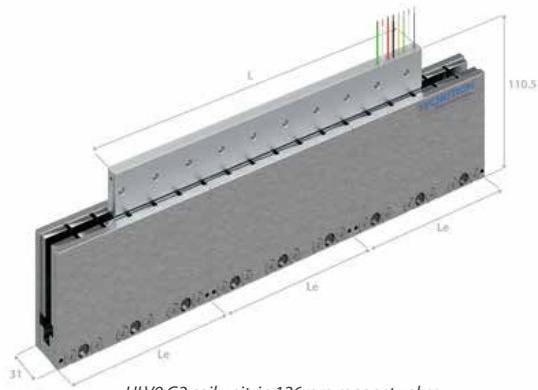


ULV - G2 ironless vacuum series



ULV9 G2 coil unit in 126mm magnet yokes

ULV Magnet yoke dimensions

Le (mm)	126	420
M5 bolts	3	10
Mass (kg/m)	12.3	
Magnet yokes can be butted together		

Approvals



Parameter	Remarks	Symbol	Unit	ULV9 G2	ULV9 G2
Winding type				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	720	719
Continuous force passive cooled ¹	@ T_{max}	F_c	N	41	41
Continuous force active cooled ²	@ T_{max}	F_c	N	164	165
Maximum speed ³	@ 325 V	V_{max}	m/s	5.0	13.6
Motor force constant	coils @ 20°C	K_f	N/A _{rms}	68.0	27.3
Motor constant	coils @ 25°C	S	N ² /W	275	278
Peak current	magnets @ 25°C	I_p	A _{rms}	10.6	26.3
Continuous current passive cooled ¹	coils @ T_{max}	I_c	A _{rms}	0.61	1.52
Continuous current active cooled ²	coils @ T_{max}	I_c	A _{rms}	2.42	6.05
Back EMF ph-ph _{peak}		K_e	V _{dc} / m/s	56	22
Resistance per phase	coils @ 25°C ex. cable	R_{ph}	Ω	5.6	0.9
Induction per phase		L_{ph}	mH	4.4	0.7
Electrical time constant		τ_e	ms	0.8	
Continuous power loss	coils @ T_{max}	P_c	W	120	
Maximum coil temperature		T_{max}	°C	80	
Thermal resistance	coils to mount. sfc.	R_{th}	K/W	0.50	
Thermal time constant		τ_{th}	s	88	
Temperature sensor				3xPTC + 1xNTC	
Coil unit mass	ex. cables	m	kg	1.10	
Coil unit length	ex. cables	L	mm	273	
Motor attraction force		F_a	N	0	
Magnet pitch NN		τ	mm	42	
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)	

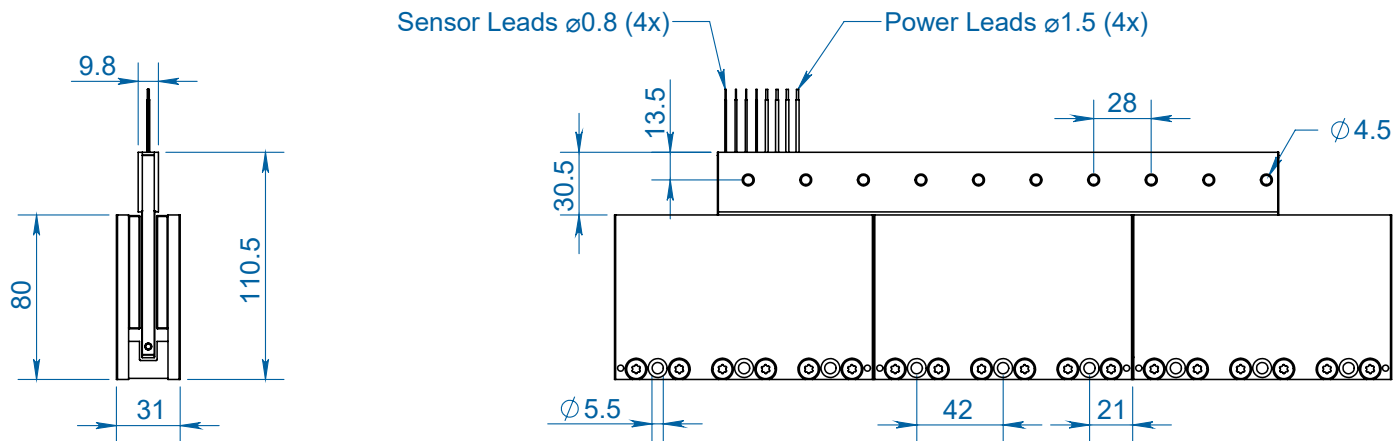
All specifications ±10%

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.

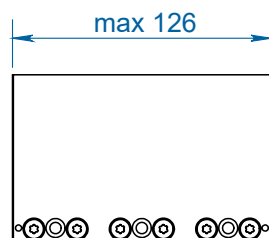
² Depends on environmental conditions in the application. Continuous force noted has been determined with a thermal resistance of 0.02 K/W and a mounting surface of 20°C when the motor is driven at continuous current.

³ Actual values depend on bus voltage.

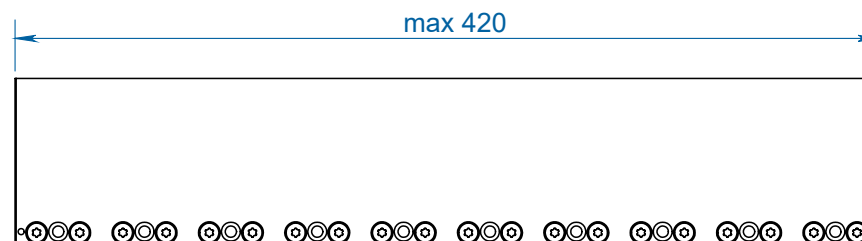
Motor



Magnet yokes

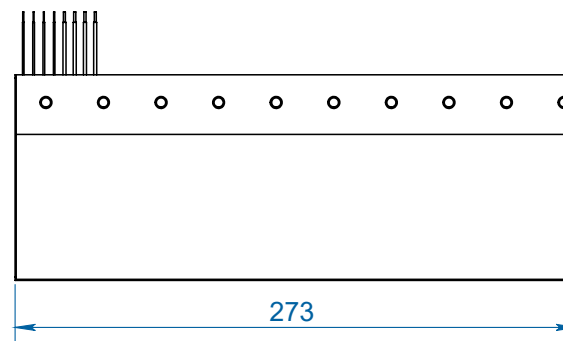


MAGNET YOKE ULV 126mm G2



MAGNET YOKE ULV 420mm G2

Coil unit



COIL UNIT ULV9 G2