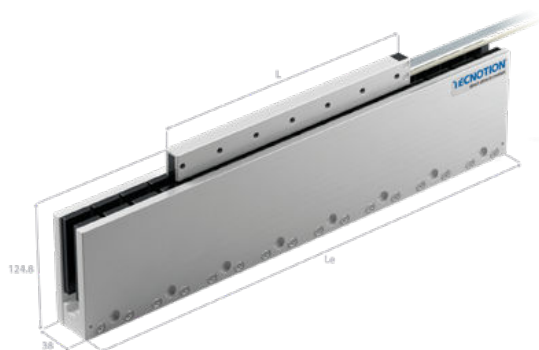




UXA6 in 456mm magnet yoke shown

UXA3S power cable (FLEX cable of 3m)

Cable type	8.5 mm (21 AWG)
Cable life ⁵	5,000,000 cycles
Bending radius static	4x cable diameter
Bending radius dynamic	10x cable diameter

⁵ Depending on bending radius, velocity and acceleration.

Magnet yoke dimensions

Le (mm)	114	171	456
M6 bolts	2	3	8
Mass (kg/m)	19		

Magnet yokes can be butted together.

Approvals



UXA series ironless

	Parameter	Remarks	Symbol	Unit	UXA3		UXA6		UXA9		UXA12		UXA18
Performance	Winding type				N	S	N	S	N	S	N	S	N
	Motor type, max voltage ph-ph	3-phase synchronous	U _{max}	V _{ac,rms} (V _{dc})	230 (325)								
	Peak force @ 20 K/s increase	magnets @ 25°C	F _p	N	615		1230		1845		2460		3690
	Continuous force ¹	coils @ 110°C	F _c	N	120		240		360		480		720
	Continuous force ^{1,3}	coils @ 105°C	F _c	N	119		239		358		477		716
	Maximum speed ²	@ U _{max} @ F _c	v _{max}	m/s	2.9	7.2	2.9	7.2	2.9	7.2	2.9	7.2	2.9
	Motor force constant	I ≤ I _c	K _f	N/A _{rms}	107	43.4	107	43.4	107	43.4	107	43.4	107
	Motor constant	coils @ 25°C	S	N ² /W	242	241	483	487	720	730	954	966	1468
Electrical	Peak current	magnets @ 25°C	I _p	A _{rms}	5.6	13.9	11.3	28	16.9	42	22.6	56	34
	Continuous current ¹	coils @ 110°C	I _c	A _{rms}	1.1	2.8	2.3	5.6	3.4	8.4	4.5	11.2	6.8
	Continuous current ^{1,3}	coils @ 105°C	I _c	A _{rms}	1.1	2.7	2.2	5.5	3.3	8.2	4.5	10.9	6.7
	Back EMF ph-ph _{peak}		K _e	V _{dc} /m/s	87	35	87	35	87	35	87	35	87
	Resistance per phase	coils @ 25°C ex. cable	R _{ph}	Ω	15.8	2.6	7.9	1.29	5.3	0.86	4.0	0.65	2.6
	Induction per phase		L _{ph}	mH	28	4.6	14	2.3	9.5	1.5	7.1	1.2	4.7
	Electrical time constant		τ _e	ms	1.8								
Thermal	Continuous power loss ¹	coils @ 110°C	P _c	W	82		165		247		330		494
	Continuous power loss ^{1,3}	coils @ 105°C	P _c	W	77		154		231		308		462
	Thermal resistance	coils to mount. sfc.	R _{th}	K/W	1.04		0.52		0.35		0.26		0.17
	Thermal time constant		τ _{th}	s	156								
	Temperature sensor				PTC 1kΩ / NTC								
Mechanical	Coil unit mass	ex. cables	m	kg	0.55		1.06		1.55		2.06		3.02
	Coil unit length	ex. cables	L	mm	134		248		362		476		704
	Motor attraction force	rms @ 0 A	F _a	N	0								
	Magnet pitch NN		τ	mm	57								
	Cable mass	all cables		kg/m	0.105								
	Cable type (power) ⁴	length 1 m	d	mm (AWG)	6.5 (18)								
	Cable type (sensor)	length 1 m	d	mm (AWG)	4.7 (26)								

All specifications ±10%

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 The maximum coil temperature for CSA certification is 105°C. The maximum coil temperature without CSA certification is 110°C.

⁴ The UXA3S is only available with a FLEX power cable.

Coil units

