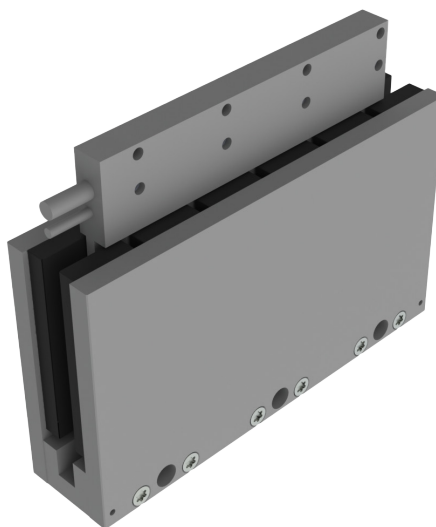


## KMC98S SERIES - IRONLESS LINEAR MOTOR

### DIMENSIONS AND SPECIFICATIONS



Magnet plate dimensions

Code	KMM980140	KMM980210	KMM980420
Le (mm)	140	210	420
M5 bolts	2	3	6
Mass (kg/m)	32		

Magnet plates can be butted together.

Parameter		Remarks	Sym	Unit	KMC98S								
Performance	Winding type				IU10N	IU10H	IU20N	IU20H	IU30N	IU30H	IU40N	IU40H	IU50N
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 230V <sub>ac rms</sub> (320V <sub>dc</sub> )								
	Peak force @ 20°C/s increase	Magnet @ 25°C	F <sub>p</sub>	N	1000		2000		3000		4000		5000
	Continuous force*	Coils @ 110°C	F <sub>c</sub>	N	250		500		750		1000		1250
	Maximum speed**	@ 300 V	V <sub>max</sub>	m/s	1,6	3,2	1,6	3,2	1,6	3,2	1,6	3,2	1,6
	Motor force constant	Mount. sfc. @ 20°C	K	N/A <sub>rms</sub>	177	84	177	84	177	84	177	84	177
Electrical	Motor constant	Coils @ 25°C	S	N <sup>2</sup> /W	913		1826		2739		3652		4565
	Peak current	Magnet @ 25°C	I <sub>p</sub>	A <sub>rms</sub>	5,6	11,9	11,3	23,8	16,9	35,7	22,6	47,6	28,2
	Maximum continuous current	Coils @ 110°C	I <sub>c</sub>	A <sub>rms</sub>	1,5	3,0	3,0	6,0	4,5	6,0	12,0	7,0	-
	Back EMF Phase-Phase <sub>peak</sub>		B <sub>emf</sub>	V/m/s	145	69	126	60	145	69	126	60	145
	Resistance per phase	Coils @ 25°C ex. cable	R <sub>ph</sub>	Ω	11,5	2,84	5,75	1,45	3,8	0,95	2,9	0,75	2,3
	Induction per phase		L <sub>ph</sub>	mH	34,5	8,5	17,3	4,4	11,4	2,9	8,7	2,3	6,9
Thermal	Electrical time constant*	Coils @ 25°C	t <sub>e</sub>	ms	3								
	Max. continuous power loss	All coils	P <sub>c</sub>	W	92		183		2(18)5		367		459
	Thermal resistance	Coils to mount. sfc.	R <sub>th</sub>	°C/W	0,8		0,4		0,3		0,2		0,15
	Temperature cut-off / sensor				PTC 1kΩ / NTC								
Mechanical	Coil unit weight	ex. cables	W	kg	0,9		1,8		2,7		3,6		4,5
	Coil unit length	ex. cables	L	mm	163		302,5		442		581,5		721
	Motor attraction force		F <sub>a</sub>	N	0		0		0		0		0
	Magnet pitch NN		t	mm	70								
	Cable Type (power)	Length 3 m	d	mm (AWG)	7.4(18)								
	Cable Type (sensor)	Length 3 m	d	mm (AWG)	4.9(26)								
	Cable Life Time	Minimum			5,000,000 cycles								
Bending Radius Static	Minimum			4x cable diameter									
Bending Radius Dynamic	Minimum			7,5x cable diameter									

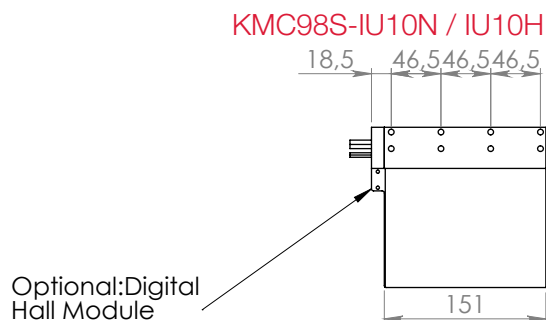
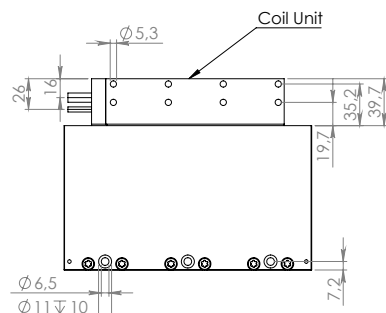
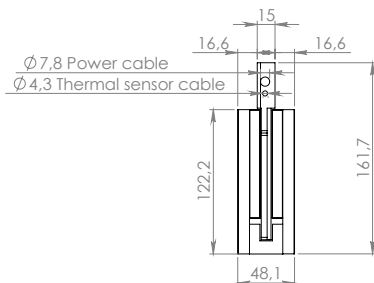
\* These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool.

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

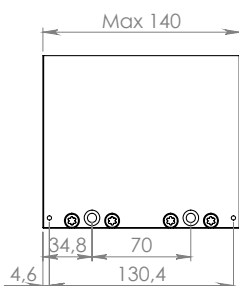
\*\*\* Depending on bending radius, velocity and acceleration.

## KMC98S SERIES - IRONLESS LINEAR MOTOR DIMENSIONS AND SPECIFICATIONS

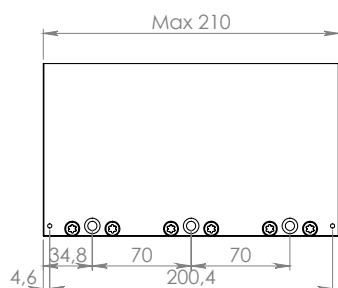
### MAGNET PLATES



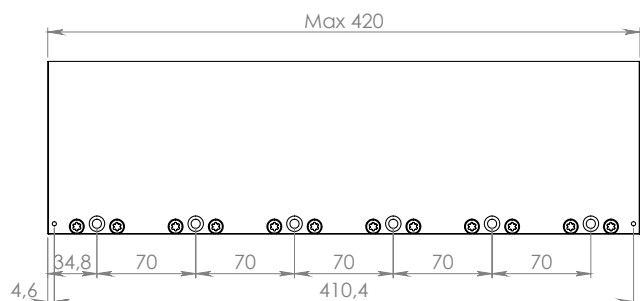
KMM980140



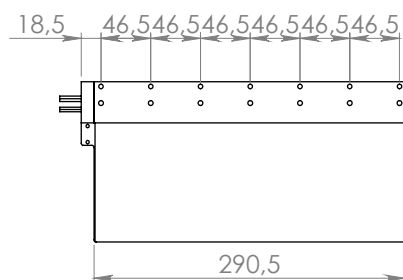
KMM980210



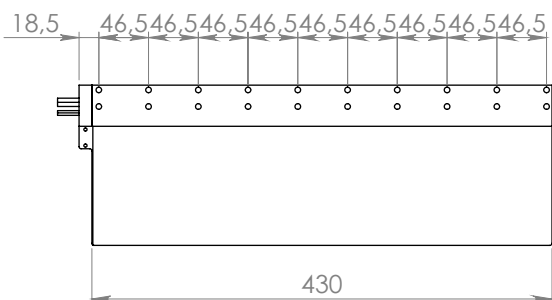
KMM980420



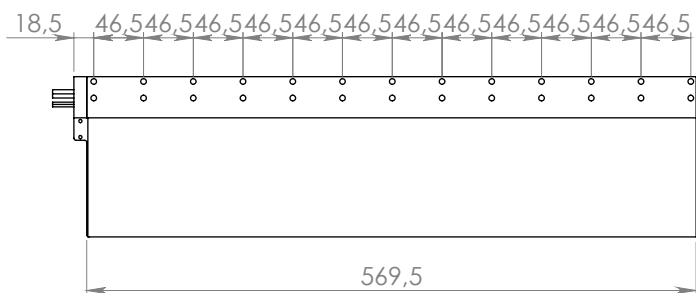
KMC98S-IU20N / IU20H



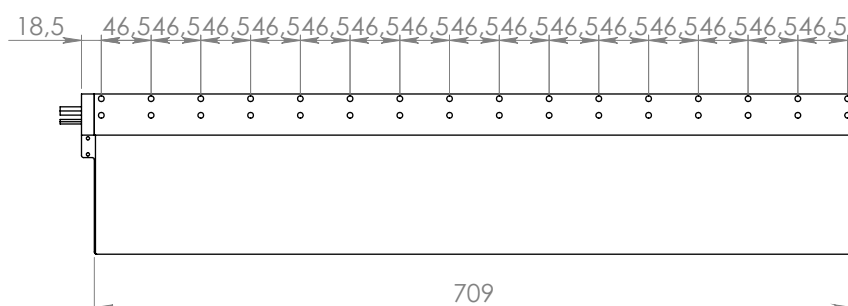
KMC98S-IU30N / IU30H



KMC98S-IU40N / IU40H



KMC98S-IU50N



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

\* All sizes are in mm