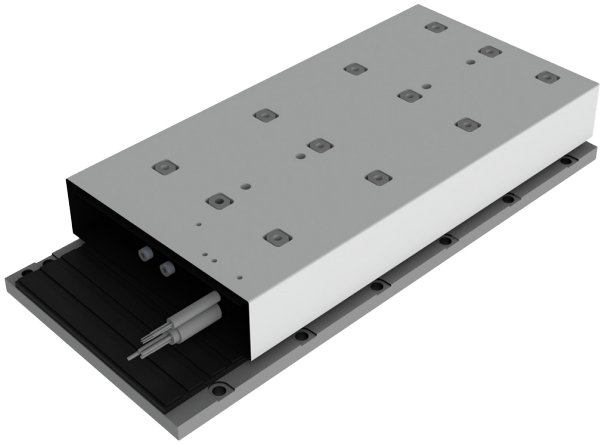
KMC77S SERIES - IRON CORE LINEAR MOTOR
DIMENSIONS AND SPECIFICATIONS

Magnet plate dimensions		
Code	**KMM770192**	**KMM770288**
Le (mm)	192	288
M5 bolts	8	12
Mass (kg/m)	10.5	
Magnet plates can be butted together.		



	Parameter	Remarks	Sym	Unit	KMC77S											
	Winding type				II18N	II18H	II22N	II22H	II28N	II28H	II38N	II38H	II47N	II47H	II71N	II71H
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 400 $V_{ac\ rms}$ (max. 900 V_{dc})											
Performance	**Ultimate force @ 10°C/s increase**	Magnet @ 25ºC	F_u	N	1900		2375		2850		3800		4750		7125	
Performance	**Peak force @ 6°C/s increase**	Magnet @ 25ºC	F_p	N	1680		2100		2520		3360		4200		6300	
Performance	**Continuous force***	Coils @ 100ºC	F_c	N	760		950		1200		1600		2000		3000	
Performance	**Maximum speed****	@ 560 V_{dc}	V_{max}	m/s	3	6	2.5	6	3	6	3	6	3	6	3	6
Performance	**Motor force constant**	Mount. sfc. @ 20ºC	K	N/A_{rms}	186	93	225	93	186	89.9	186	93	224.5	93	224.5	93
Performance	**Motor constant**	Coils @ 25ºC	S	N^2/W	1750		2150		2640		3520		4400		6600	
Electrical	**Ultimate current**	Magnet @ 25ºC	I_u	A_{rms}	13.0	26	13.5	33	21	43	28	56	29	69	43	104
Electrical	**Peak current**	Magnet @ 25ºC	i_p	A_{rms}	10	20	10	25	16	33	21	42	22	53	33	79
Electrical	**Maximum continuous current***	Coils @ 100ºC	I_c	A_{rms}	4.1	8.2	4.2	10.2	6	13	9	18	9	22	13	32
Electrical	**Back EMF Phase-Phase$_{peak}$**		B_{emf}	V/m/s	152	76	183	76	152	73	152	76	183	76	183	76
Electrical	**Resistance per phase**	Coils @ 25ºC ex. cable	R_{ph}	Ω	6.3	1.6	7.6	1.3	4.24	1.02	3.2	0.8	3.78	0.64	253	0.43
Electrical	**Induction per phase**	I < 0.6 Ip	I_{ph}	mH	51	13	60	10	34	8	25.4	6.4	30	5	20	3
Electrical	**Electrical time constant**	Coils @ 25ºC	T_e	ms	8											
Thermal	**Max. continuous power loss**	All coils	P_c	W	430		530		731		853		1218		1827	
Thermal	**Thermal resistance**	Coils to mount. sfc.	R_{th}	ºC/W	0.15		0.12		0.11		0.08		0.07		0.04	
Thermal	**Thermal time constant***	up to 63% max. coiltemp.	T_{th}	s	90											
Thermal	**Temperature cut-off / sensor**				PTC 1kΩ / KTY 83-122											
Mechanical	**Coil unit weight**	ex. cables	W	kg	4.9		5.9		6.5		9		11		16.5	
Mechanical	**Coil unit length**	ex. cables	L	mm	248		290		336		468		562		834	
Mechanical	**Motor attraction force**	rms @ 0 A	F_a	N	3400		4150		4900		6800		8300		12450	
Mechanical	**Magnet pitch NN**		t	mm	24											
Mechanical	**Cable Type (power FLEX)********	Length 3 m	d	mm (AWG)	8.4 (16)						10.1 (14)				12.1 (6)	
Mechanical	**Cable Type (sensor)**	Length 3 m	d	mm (AWG)	4.3 (26)											
Mechanical	**Cable Life Time (power FLEX)*****	Minimum		Cycles	5.000.000 cycles											3.5m
Mechanical	**Bending Radius Static**	Minimum		mm	4x cable diameter											4x
Mechanical	**Bending Radius Dynamic**	Minimum		mm	7.5x cable diameter											10x

** 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.*

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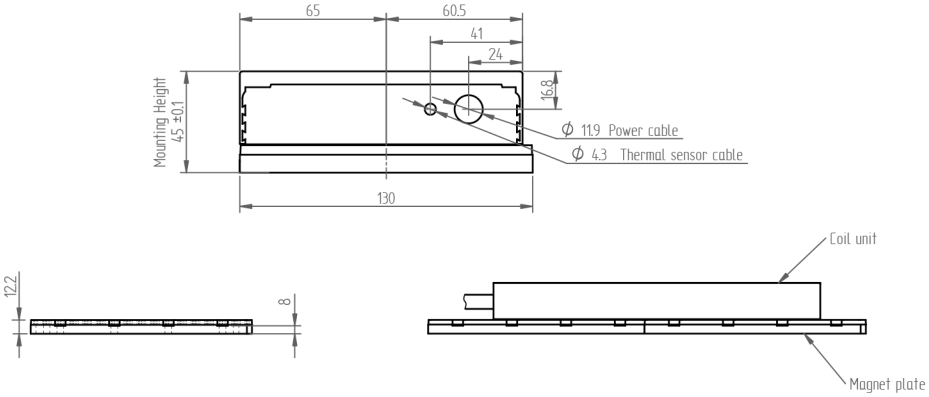
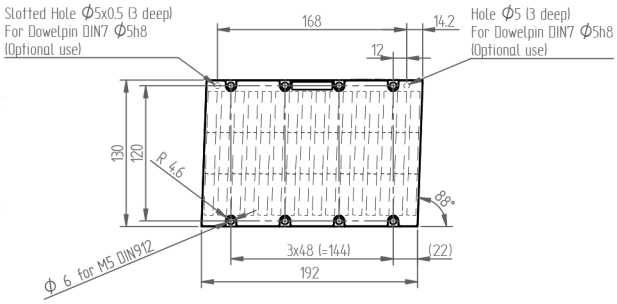
DIMENSIONS AND SPECIFICATIONS

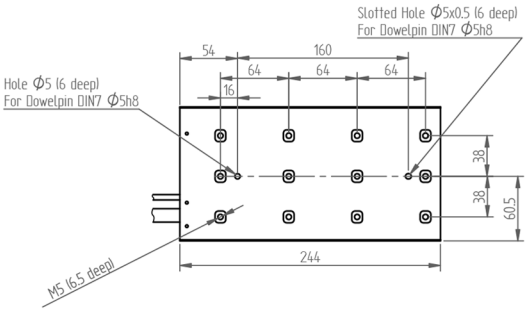
MAGNET PLATES



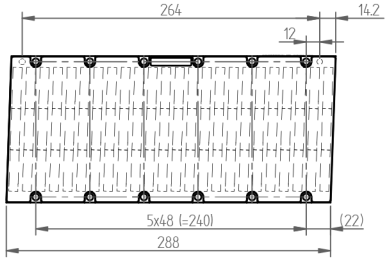
KMM770192



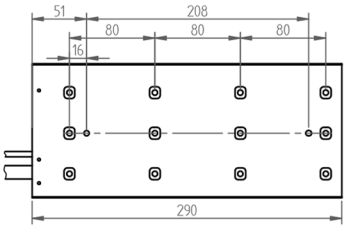
KMC77S-II18N / II18H



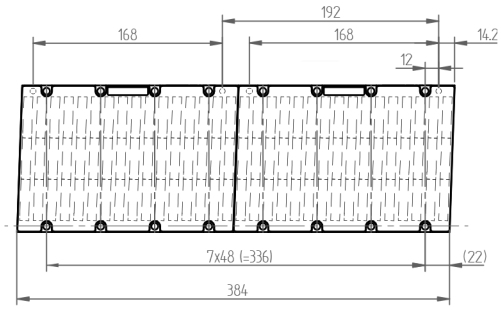
KMM770288



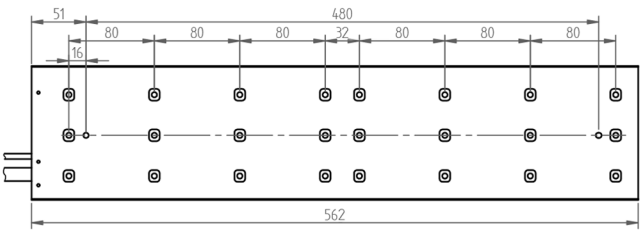
KMC77S-II22N / II22H



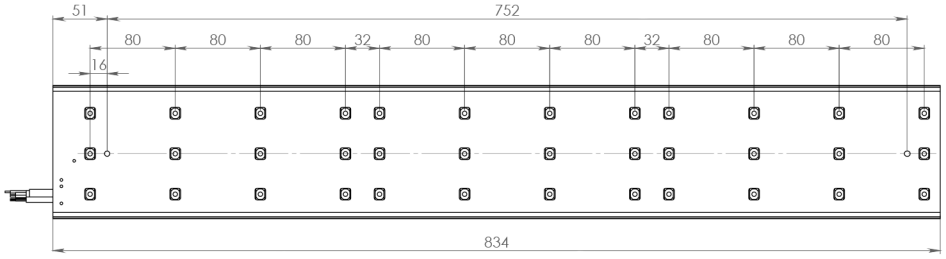
KMM770192 x 2



KMC77S-II45N / II45H



KMC77S-II71N / II71H



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*