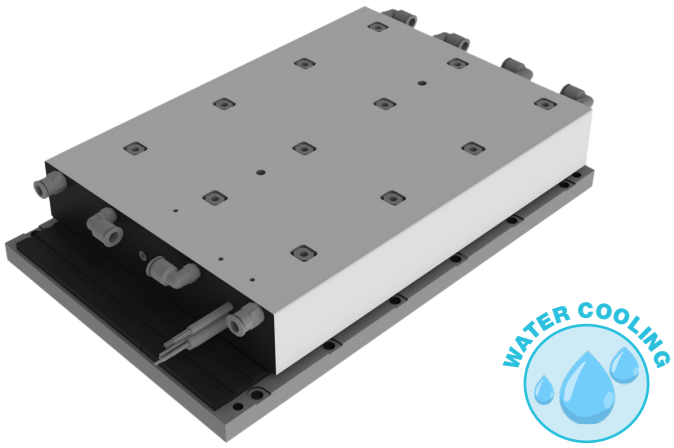
KMC79S SERIES - IRON CORE LINEAR MOTOR
DIMENSIONS AND SPECIFICATIONS

Magnet plate dimensions		
Code	**KMM790192**	**KMM790288**
Le (mm)	192	288
M5 bolts	8	12
Mass (kg/m)	12	
Magnet plates can be butted together.		

Water cooling

All KMC79S motors feature integrated cooling channels that allow for the easy setup of a liquid cooled system, at no additional cost.



	Parameter	Remarks	Sym	Unit	KMC79S											
Performance	**Winding type**				II27N	II27H	II34N	II34H	II41N	II41H	II54N	II54H	II68N	II68H	II10N	II10H
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 380 $V_{ac\ rms}$ (600V_{dc})											
	Ultimate force @ 10°C/s increase	Magnet @ 25°C	F_u	N	2700		3375		4050		5400		6750		10125	
	Peak force @ 6°C/s increase	Magnet @ 25°C	F_p	N	2400		3000		3600		4800		6000		9000	
	Continuous force watercooled**	Coils @ 110°C	F_{cw}	N	1500		1950		2340		3000		3900		5850	
	Continuous force aircooled*	Coils @ 110°C	F_c	N	1200		1500		1800		2400		3000		4500	
	Maximum speed**	@ 600V	V_{max}	m/s	2	4	1.5	4	2	4	2	4	1.5	4	1.5	4
	Motor force constant	Mount. sfc. @ 20°C	K	N/A_{rms}	279	139.5	336	139.5	279	135	279	13.5	336	139.5	336	139.5
	Motor constant	Coils @ 25°C	S	N^2/W	2864		3580		4296		5728		7160		10740	
Electrical	**Ultimate current**	Magnet @ 25°C	i_u	A_{rms}	13.1	26	13.5	33	20	41	27	52	28	66	41	98
	Peak current	Magnet @ 25°C	I_p	A_{rms}	10	20	11	25	15	31	20	40	21	50	31	75
	Continuous current water cooled	Coils @ 110°C	I_{cw}	A_{rms}	5.5	11	6	14	8	17	11	22	12	29	18	42
	Continuous current air cooled	Coils @ 110°C	I_c	A_{rms}	4.3	9	4.3	11	6.5	13.4	9	18	9	22	13.4	32
	Back EMF Phase-Phase$_{peak}$	Phase-Phase peak	B_{emf}	V/m/s	228	114	274	114	228	110	228	114	274	114	274	114
	Resistance per phase	Coils @ 25°C	R_{ph}	Ω	9.1	2.27	10.8	1.82	6.06	1.45	4.54	1.14	5.4	0.91	3.61	0.61
	Induction per phase	I < 0.63 Ip	L_{ph}	mH	77.35	19	92	15	52	12	39	10	46	8	31	5
	Electrical time constant	Coils @ 25°C	t_e	ms	8.5											
Thermal	**Max. continuous power loss**	All coils	P_c	W	713		891		1011		1347		1684		2527	
	Thermal resistance	Coils to mount. sfc.	R_{th}	°C/W	0.13		0.12		0.11		0.09		0.07		0.03	
	Watercooling flow	for ΔT=3K	Ow	l/min	3.1		4		4.8		6.2		8		12	
	Temperature cut-off / sensor				PTC 1kΩ / KTY 83-122											
Mechanical	**Coil unit weight**	ex. cables	M	kg	7		9		12		16		18		27	
	Coil unit length	ex. cables	L	mm	248		296		336		440		568		840	
	Motor attraction force	rms @ 0 A	F_a	N	5100		6225		7350		6800		12450		18675	
	Magnet pitch NN		t	mm	24											
	Cable type (power)	Length 3 m	d	mm(AWG)	10.1 (14)									12.1 (11)		14.7(9)
	Cable Type (sensor)	Length 3 m	d	mm (AWG)	4,9 (26)											
	Cable life	Minimum	d	Cycles	5.000.000 cycles									3-5millions cycles		
	Bending radius static	Minimum		mm	4x cable diameter									5x cable diameter		
	Bending radius dynamic	Minimum		mm	7,5x cable diameter									10x 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.*

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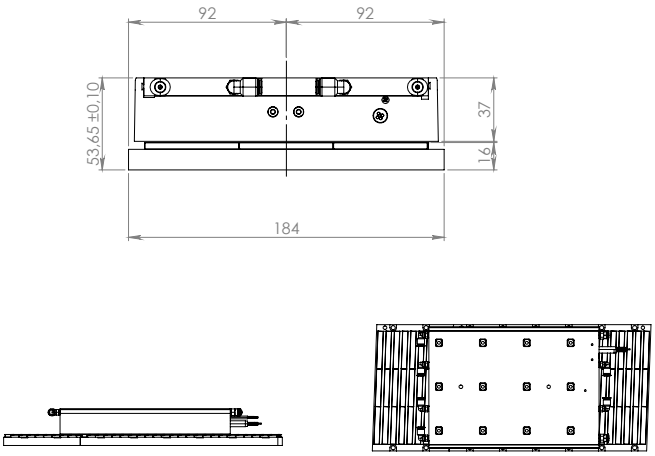
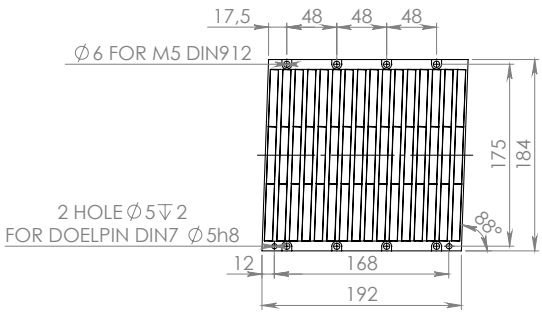
DIMENSIONS AND SPECIFICATIONS

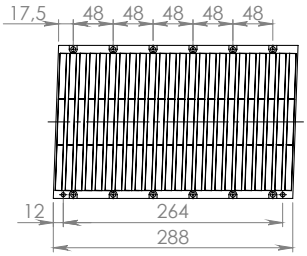
MAGNET PLATES



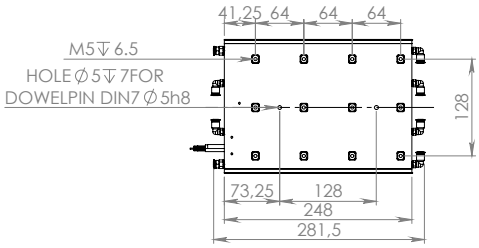
KMM790192



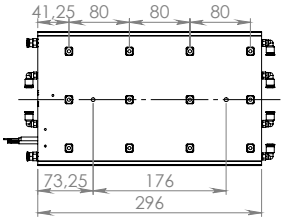
KMM790288



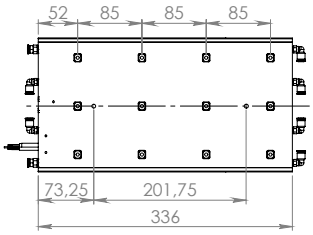
KMC79S-II27N / II27H



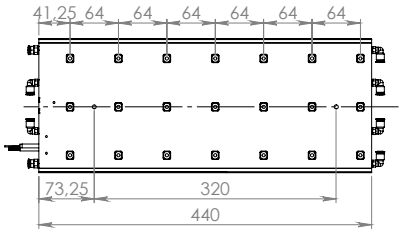
KMC79S-II34N / II34H



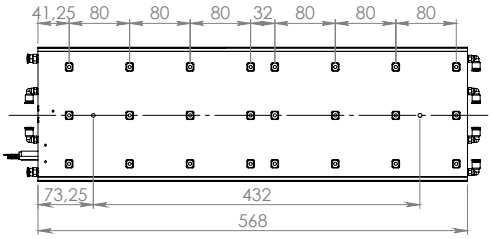
KMC79S-II41N / II41H



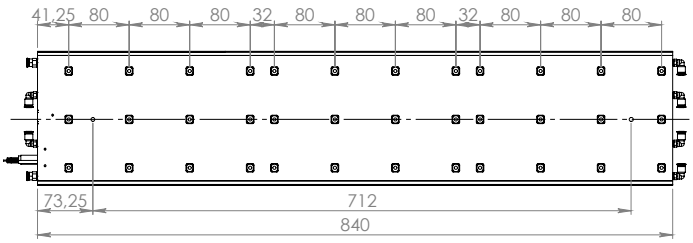
KMC79S-II54N / II54H



KMC79S-II68N / II68H



KMC79S-II10N / II10H



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*