

	Parameter	Remarks	Symbol	Unit	UF3	UF6
Performance	Motortype, max voltage ph-ph				3-phase synchronous ironless, 45V <sub>ac rms</sub> (60V <sub>dc</sub> )	
	Peak Force @ 20°C/s increase	magnet @ 25°C	F <sub>p</sub>	N	42.5	85
	Continuous Force*	coils @ 110°C	F <sub>c</sub>	N	19.5	39
	Maximum Speed**	@ 60 V	v <sub>max</sub>	m/s	5.1	5.1
	Motor Force Constant	mount. sfc. @ 20°C	K	N/A <sub>rms</sub>	12.3	12.3
	Motor Constant	coils @ 25°C	S	N <sup>2</sup> /W	14.6	29.2
Electrical	Peak Current	magnet @ 25°C	I <sub>p</sub>	A <sub>rms</sub>	3.5	6.9
	Maximum Continuous Current	coils @ 110°C	I <sub>c</sub>	A <sub>rms</sub>	1.58	3.17
	Back EMF Phase-Phase <sub>peak</sub>		B <sub>emf</sub>	V/m/s	10.1	10.1
	Resistance per Phase*	coils @ 25°C ex. cable	R <sub>ph</sub>	Ω	3.5	1.8
	Induction per Phase	I < 0.6 I <sub>p</sub>	L <sub>ph</sub>	mH	1.24	0.62
	Electrical Time Constant*	coils @ 25°C	τ <sub>e</sub>	ms	0.36	0.36
Thermal	Maximum Continuous Power Loss	all coils	P <sub>c</sub>	W	35	70
	Thermal Resistance	coils to mount. sfc.	R <sub>th</sub>	°C/W	2.4	1.2
	Thermal Time Constant*	up to 63% max. coiltemp.	τ <sub>th</sub>	s	34	34
	Temperature Sensor				NTC	NTC
Mechanical	Coil Unit Weight	ex. cables	W	kg	0.045	0.087
	Coil Unit Length	ex. cables	L	mm	49	97
	Motor Attraction Force		F <sub>a</sub>	N	0	0
	Magnet Pitch NN		τ	mm	24	24
	Cable Mass		m	kg/m	0.07	0.07
	Cable Type (Power and Sensor)	length 1 m	d	mm (AWG)	4.3 (24)	
	Cable Life (FLEX)***	minimum			15,000,000 cycles	
	Bending Radius Static	minimum			5x cable diameter	
	Bending Radius Dynamic	minimum			8x cable diameter	



UF6 in 120mm magnet yoke shown

Approvals



### Magnet yoke dimensions

Le (mm)	72	120
M4 bolts	2	3
Mass (kg/m)	3.2	
Magnet yokes can be butted together.		

All specifications ±10%

\* 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.

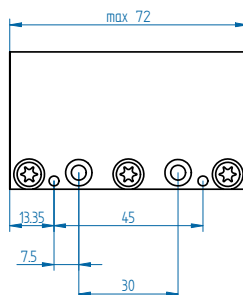
\*\* Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

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

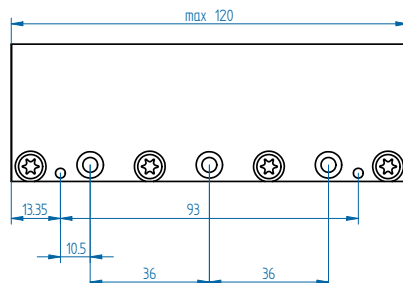
Mounting instructions and flatness or parallelism requirements can be found in the Ironless installation manual. CAD files and 3D models can be downloaded from our website.

## MAGNET YOKES

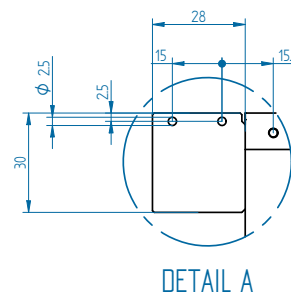
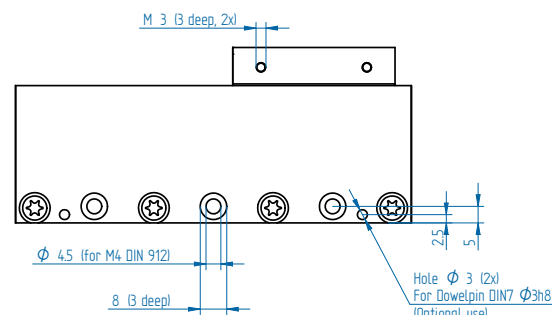
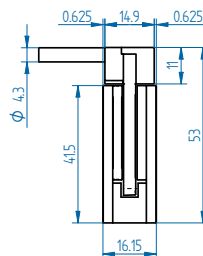
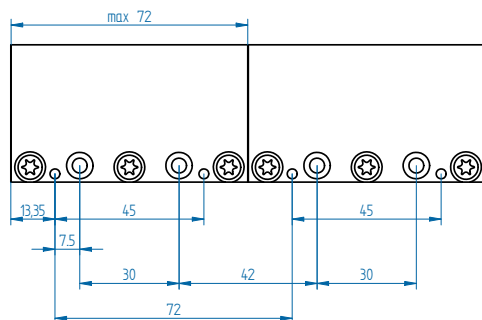
UF 72mm



UF 120mm

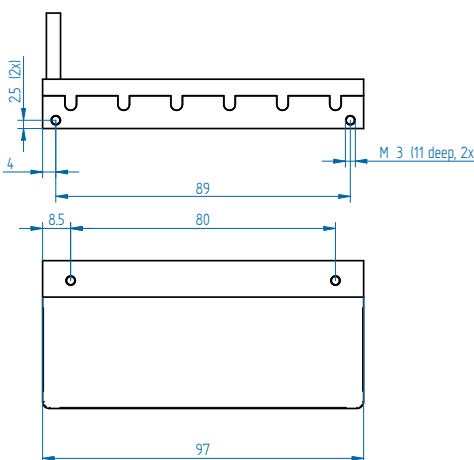
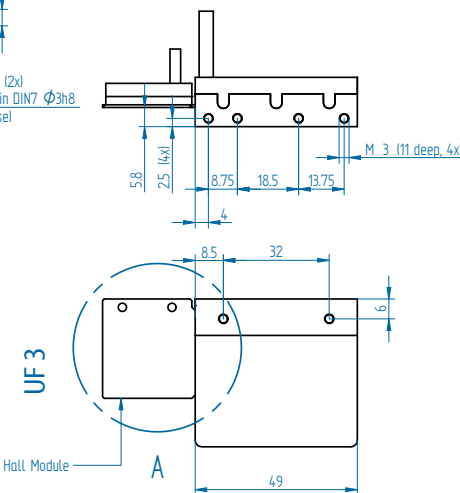


2x UF 72mm



Hole  $\Phi$  3 (2x)  
For Dowelpin DIN7  $\Phi$  3x8  
(Optional use)

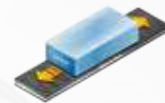
## COIL UNITS



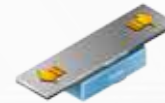
### [ DIRECT DRIVE ADVANTAGES ]

The direct drive technology of linear motors is a perfect way to enhance productivity, accuracy, and dynamic performance. Linear motors eliminate the need for mechanical transmissions like rack and pinion, belts and speed reducers. Between coil unit and magnets there is no contact, this means no mechanical wear. The technology makes designs slimmer, modular and reduces costs.

**Modular system.** All motors can be used in various configurations:



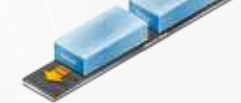
1. single moving coil



2. moving magnet



3. parallel coupled coil



4. in-line on a single track



5. crosstable or gantry

#### High force density

More force in a smaller packing means lowering footprint and fits better in smal(ler) spaces.

#### Low cogging

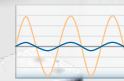
Optimized iron core motor design, for smooth motion and position accuracy in your application.

#### Approved for CSA and CE, ROHS

Iron core motors are approved for CE, CSA and ROHS.

#### Aluminium housed design

Housed design with integrated water cooling for TBW- and TL series.



#### High acceleration and dynamics

The outstanding force to mass ratio of the ironless coils enables unmatched system dynamics.

#### No cogging, extremely low force ripple

Ironless motors have no cogging effects. Offering smooth motion and position accuracy in your application.

#### Approved for CE and ROHS

Ironless motors are CE and RoHS approved.

#### Low thermal resistance

Allowing good heat transfer, achieving an extremely high continuous force for all motors when using a descent size heatsink or active cooling.