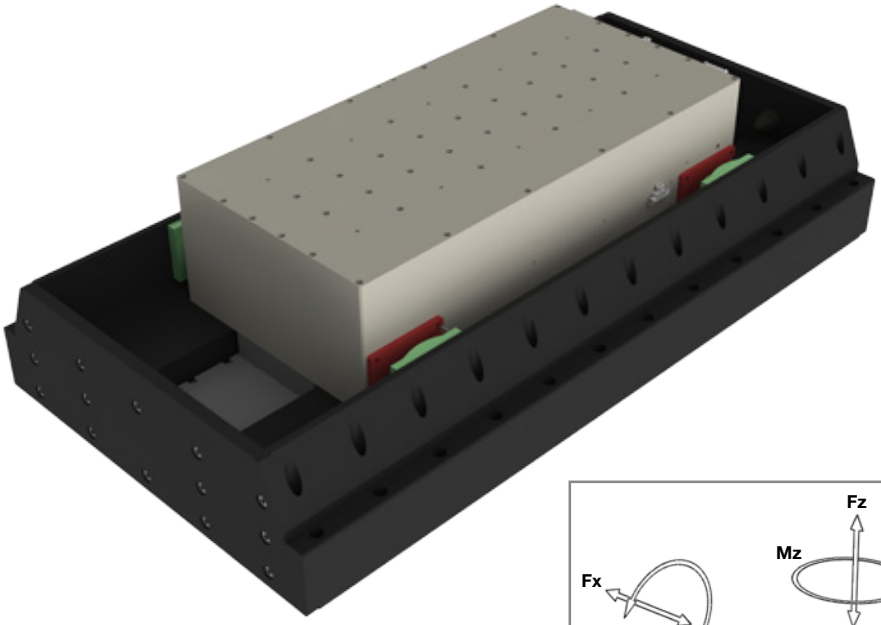
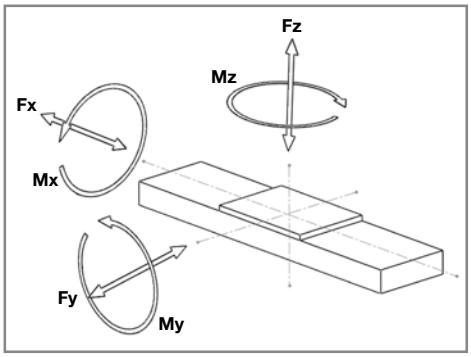
MPL Air bearing linear unit with direct drive

Technical Description





Repeatability of measuring system: ± 1 µm
Repeatability of linear unit: ± 5 µm
Maximum speed: 9 m/s
Maximum acceleration: 80 m/s^2
Operating voltage: 600Vdc
Max. Operating voltage: 900Vdc

Mechanical specifications

Linear motor stage		**MPL 74000**
Carriage type		**N**
Linear motor features		
Maximum speed [1]	m/s	-
Continuous force aircooled [2]	N	1000
Peak force	N	4000
Nominal current	A	8,5
Peak current	A	20
Guidance features		
Fy	N	1000
Fz	N	1000
Mx	Nm	1500
My	Nm	5000
Mz	Nm	5000

For the sum of all forces and moments: $\frac{Fye}{Fy} + \frac{Fze}{Fz} + \frac{Mxe}{Mx} + \frac{Mye}{My} + \frac{Mze}{Mz} < 1$ (Xxe = calculated value) (Xx = max. catalogue value)

Air bearings may only be supplied with de-oiled and filtered air. The filter control valve removes dirt and condensation, the micro-filter removes small particles and oil. The required compressed air is 5 bar.

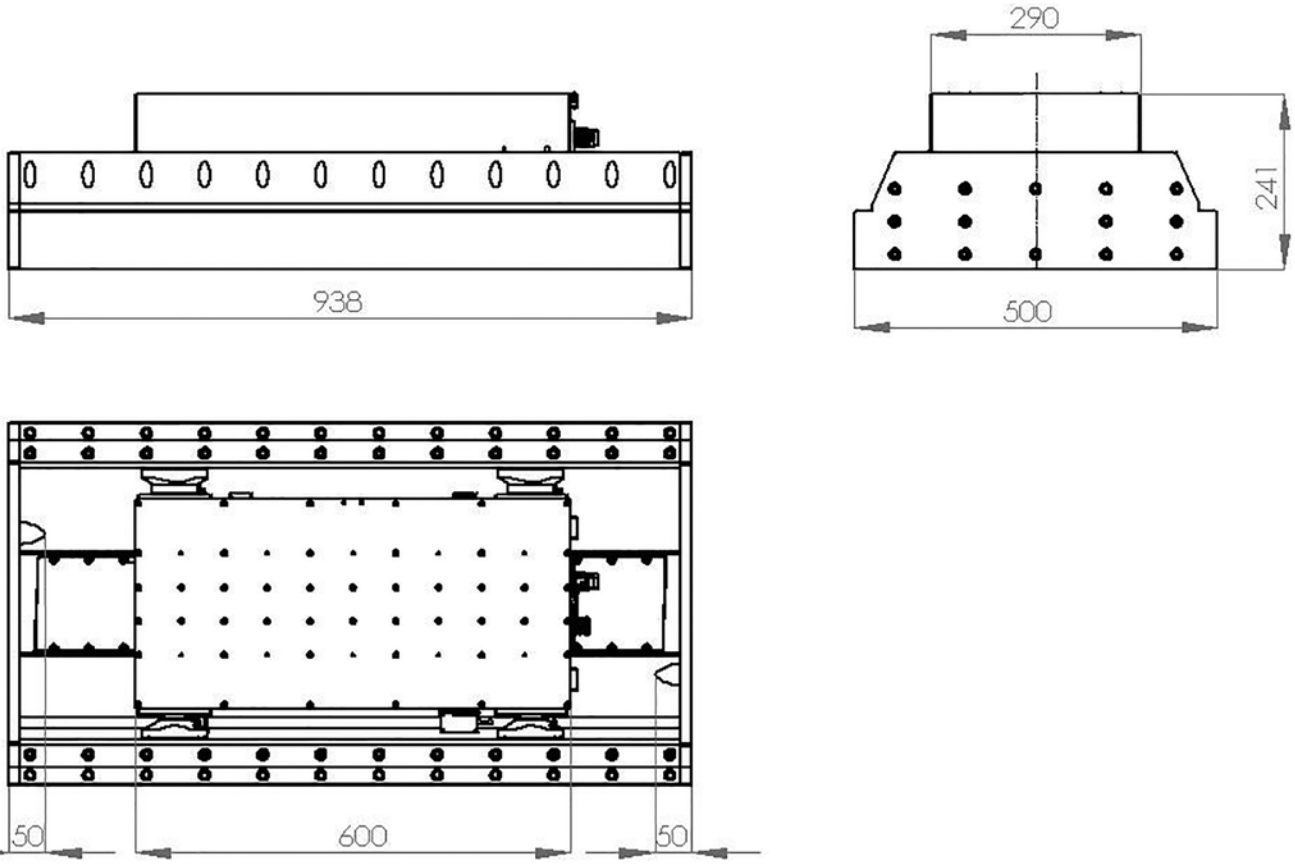
Demanded compressed air quality according to DIN ISO 8573-1:

Residual oil content	*< 0,01 mg/m^3*	*(= Class 1)*
Residual dust-size	*< 0,1 µm*	*(= Class 1)*
Residual dust content	*< 0,1 mg/m^3*	*(= Class 1)*
Residual water DTP	*+ 3 °C*	*(= Cass 4)*
Residual water content	*< 6 g/m^3*	*(= Class 4)*

Weight		
Weight of carriage	kg	49
Weight carriage housing	kg	295

[1] *for a lifetime > 30.000 Km*
[2] *depending on the application and ambient temperature*

Dimensions MPL



Drawing for reference only. Please ask for ready 3D files.

Short-stroke applications: up to ± 0,0005 mm
(Test systems, endurance test, collisiontest)

High frequency applications: up to 40 Hz

High precision applications: flatness ±5 µm / 300mm