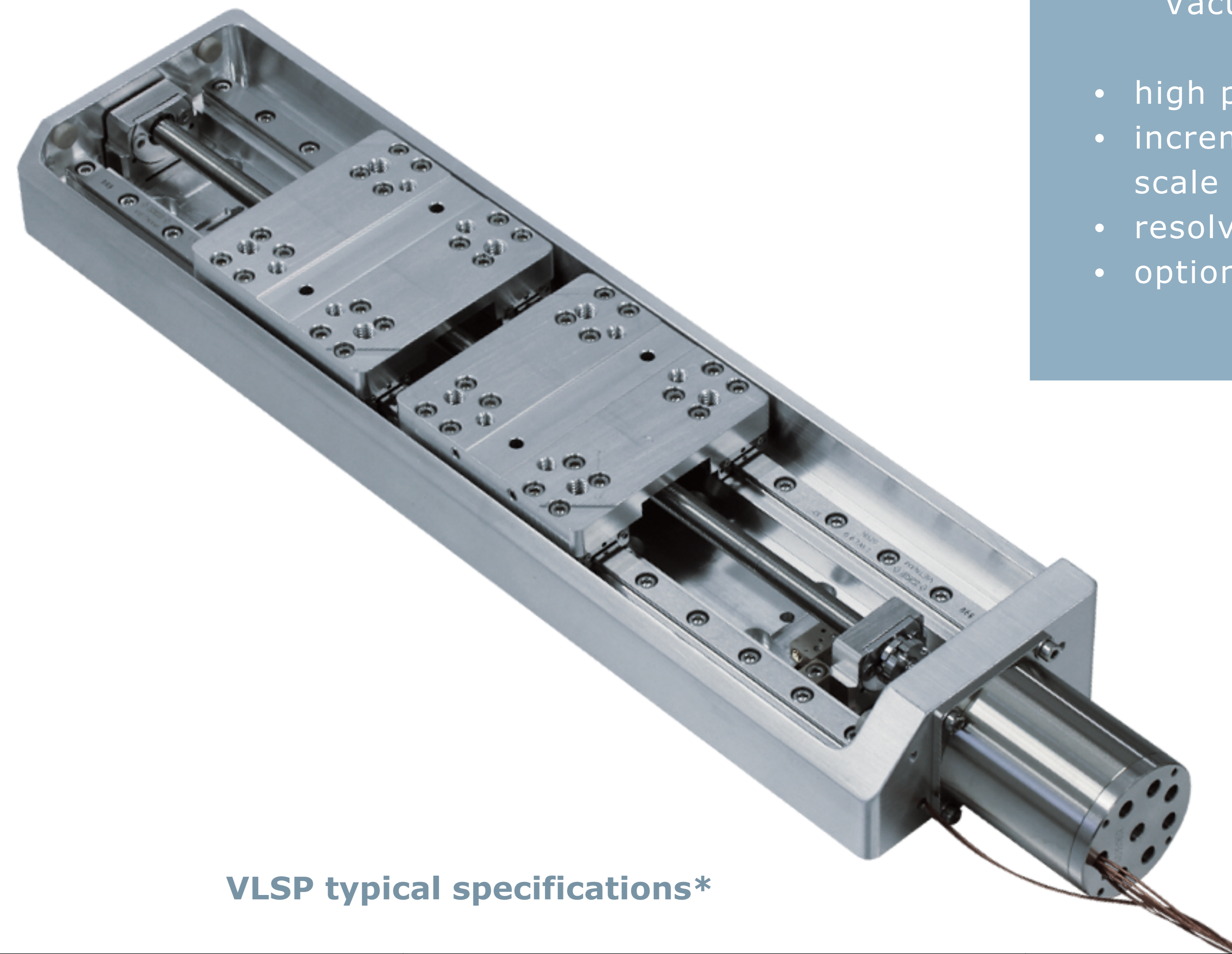


VLSP

Vacuum Linear Stage Plus

VLSP is the hi-end micro positioning stage thought to deliver the highest performances in a compact shape. A solid body, machined by a block of aluminium alloy, integrates high precision stainless steel recirculating ball bearings. A stainless steel lead-screw with a pre-loaded PEEK nut is driven by a VSS Phytron motor, PEEK micro-switches are integrated in the mechanics for end of run and homing function. The optional second carrier is offered to increase load capacity and pitch/yaw/roll stiffness as well as moment capacity of the stage: this is very helpful for multi-axes assembly in XY or YZ configurations. For no-compromise in accuracy, VLSP stages can be accessorized with a direct measurement system either incremental or absolute. The VSS motor can be also integrated with a resolver as well as temperature sensors. These mechanics can be lubricated with UHV grease or dry lubrication for more demanding applications. UHV and UHVG versions can also be operated in Rad-Hard environments.



VLSP Vacuum Linear Stage Plus

- high precision/high load
- incremental or absolute linear scale
- resolver
- optional dry lubrication

VLSP typical specifications*

Motor	VSS43.200.1,2 200 step/revolution	+ resolver option with 1024 point per revolution	+ direct incremental or absolute linear scale
Lead / screw pitch	0,5mm		
Resolution	2,5um full step	0,5um per count	0,05um per count
Minimum incremental motion	0,25um (microstep/open loop)		0,05um (microstep/C-loop)
Repeatability	<1um	<1um	+/-0,05um
Travel range	50-250mm (-100 with 2nd carrier)		
Max speed	3mm/s recommended: limited by duty cycle in vacuum		
Axial force	100 N		
Load capacity	150 N with single carrier - 300 N with double carrier		
Moment	Please contact us for a proper calculation		
*Note	100% of the stages are singularly tested and measured with the interferometer and documents with actual data		

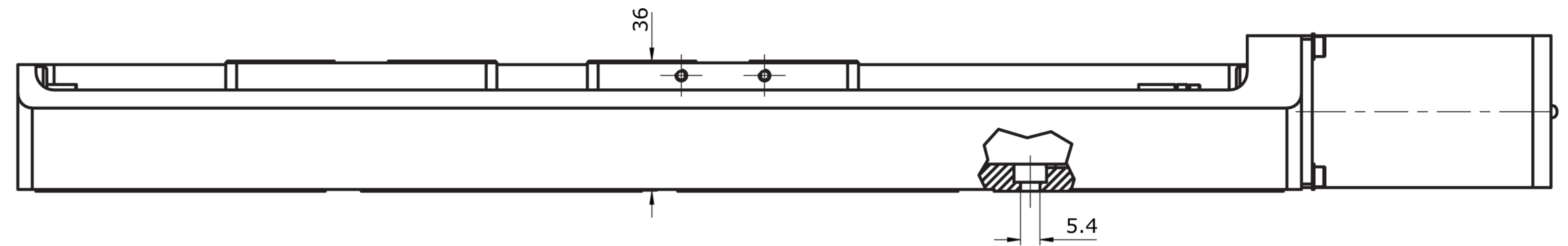
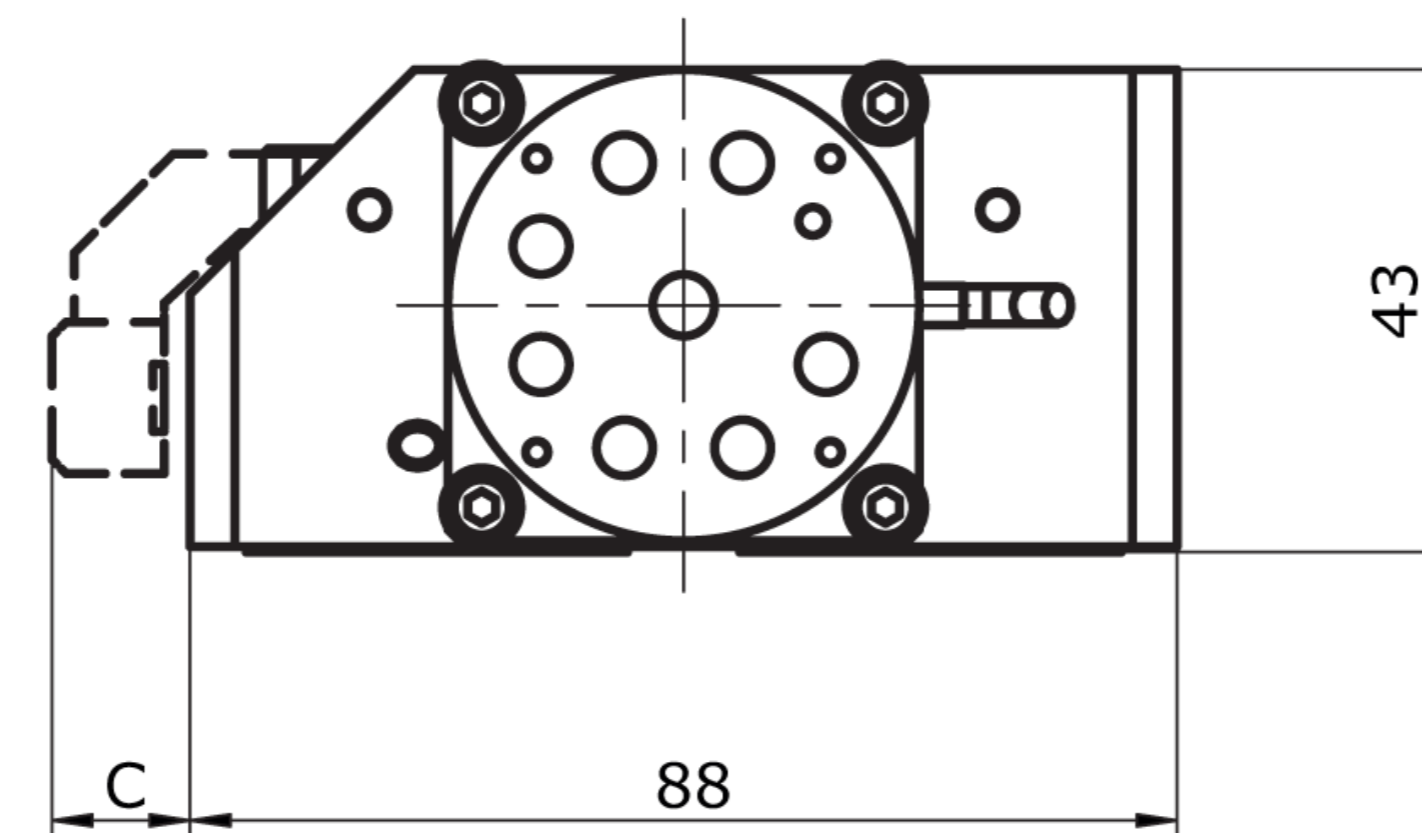


VLSP

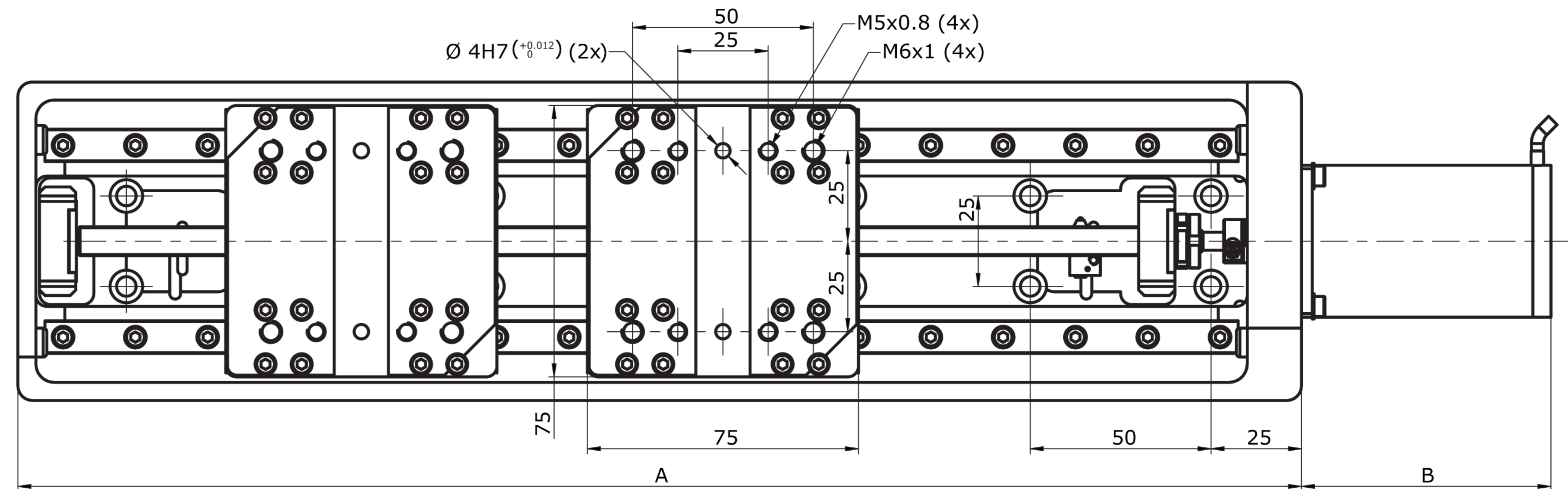
Vacuum Linear Stage Plus



Measurement systems	B	C
Open-Loop	69	-
ILS	-	12,3
ALS	-	19,7
RS	89	-



- select travel range, vacuum environment and the optional sensor in the table above to define the code number;
- for multi-axes assemblies, overall system specifications, duty-cycle analysis or any special requirements, please contact us;
- be aware of the duty cycle limitations of motor in vacuum especially with dry lubrication, please check this data-sheet: https://www.phytron.eu/fileadmin/user_upload/produkte/motoren_aktuatoren/pdf/ds-vacuum-en.pdf;
- we can deliver a turn-key solution from the vacuum stage through the electrical connection in vacuum and air to the control electronics, let us know your requirements.



Ordering Information

Travel	A
50	155
100	205
150	255
200	305
250	355

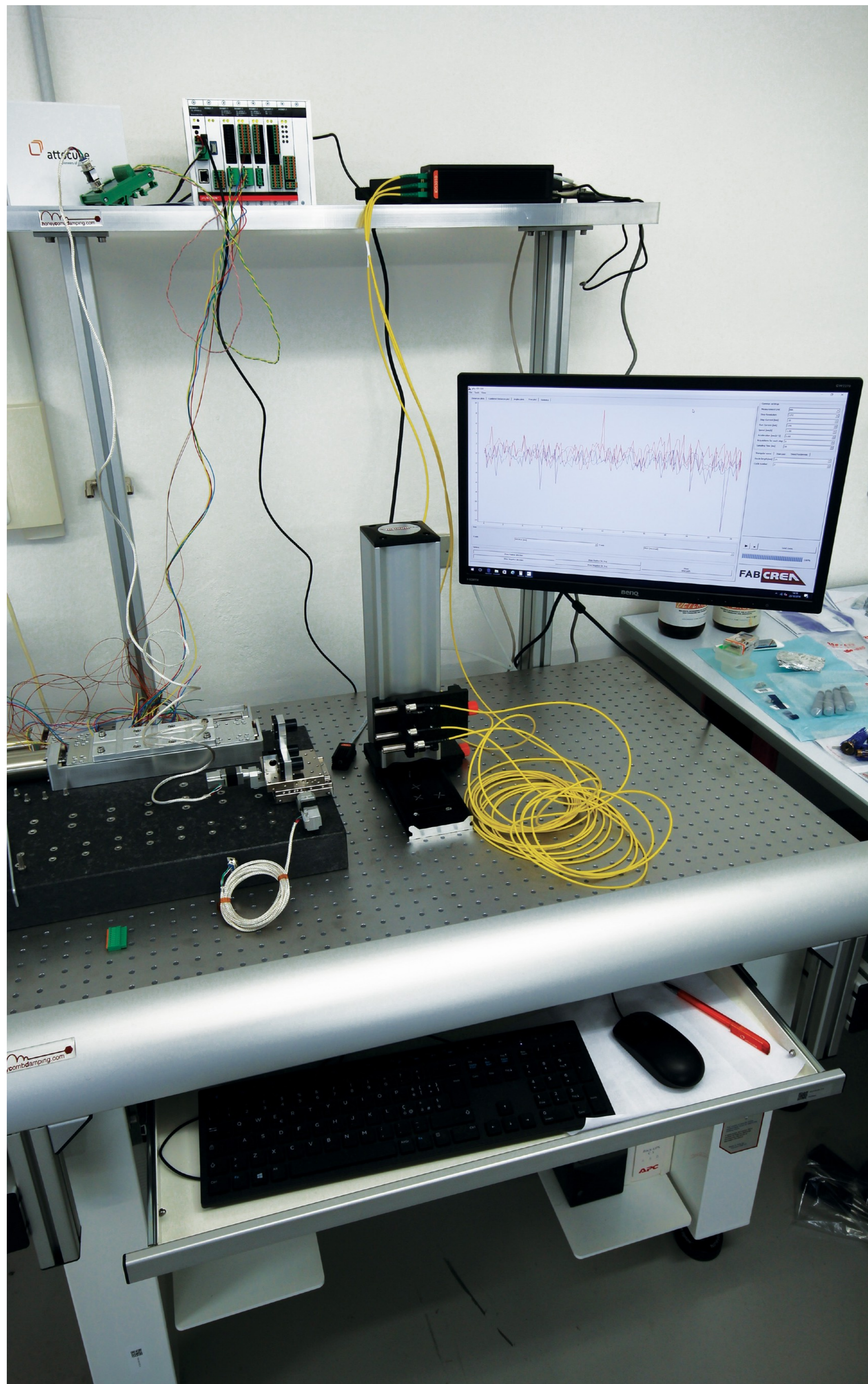
Part Number	Travel range	Carriers	Micro SW	Vacuum preparation	Temperature sensors	Measurement system	Cable length
VLSP	50	1	1	FV (fine vacuum)	K type	ILS (incremental linear scale)	1000
	100			HV (high vacuum)		ALS (absolute linear scale)	
	150	2	2	UHVG (ultra high vacuum grease)	PT100	RS (resolver)	custom
	200						
	250						

e.g.: VLSP-150-2-2-UHV-RS-1500-K = 50mm travel range, UHV environment with dry lubrication, resolver integrated in the motor, K type thermocouple integrated in the motor winding, 1500mm vacuum leads



VLSP

Vacuum Linear Stage Plus



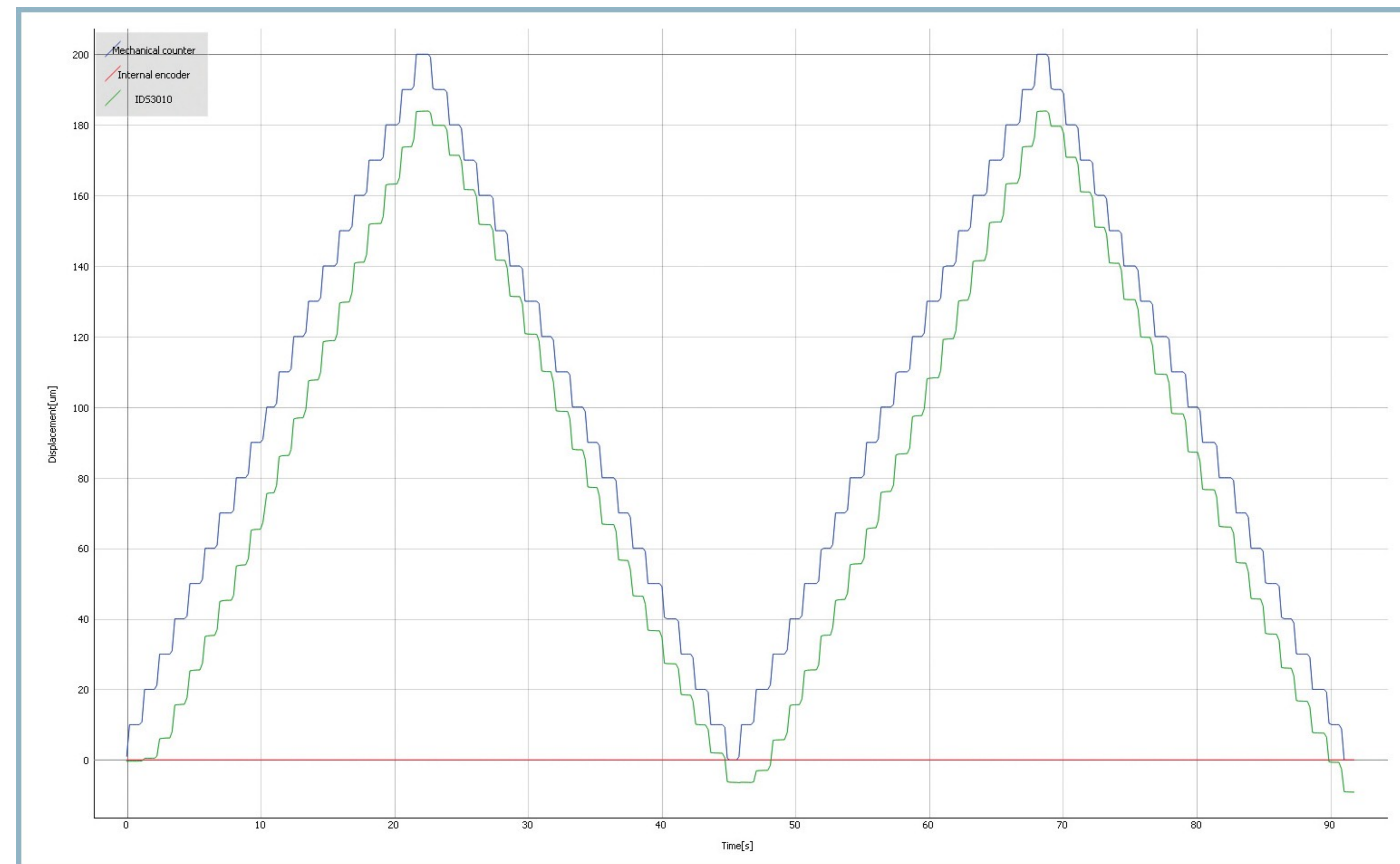
All of our vacuum stages are designed with special care for HV or UHV use: the mechanic design, the material choice and the mounting procedures guarantee minimum outgassing and long durability.

Optionally we can provide an RGA chart. After an accurate washing and drying process of the components, stages are mounted in a clean environment.

A three axes Fabry-Perot interferometer is used to optimize the precision mounting as well as doing a calibration and measurement of the mechanics. All stages have to pass a stress test before the measurement and are finally delivered with an ID including s/n, calibration parameters, and main measured specifications. Optionally we can perform multi-axes systems measurements in requested conditions such as load, moment... Optionally we can also do measurements in vacuum by using a fiber optic feed-through. Special packaging saves the vacuum preparation for the final installation in the vacuum chamber.

Quality and precision

- 100% measured
- 100% stress tested
- clean UHV handling
- product ID



Questionnaire

Fill in this questionnaire and mail it to ufficiovendite@vacuumfab.it to get our consultancy for the positioning system design, free of charges:

Name, surname:
Phone Number:

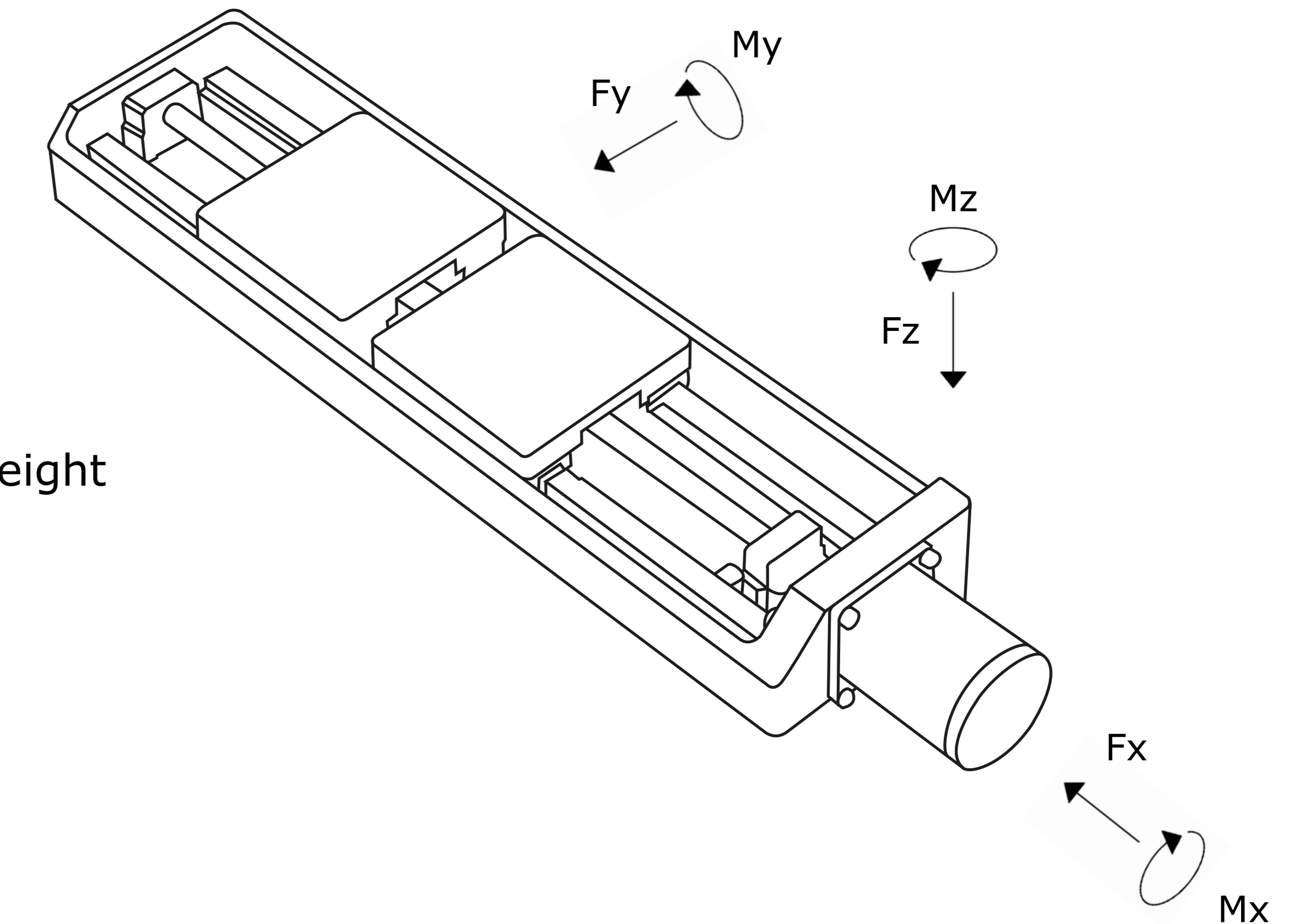
CUSTOMER'S REFERENCE

Institute/company:
Email:

Dimensions (mm):
Shape: (description or better attach drawing)
Weight (g):
Center of gravity coordinates from the center of the carrier (mm):
Notes:

WEIGHT/SPECIMEN INFORMATION

length	width	height
X	Y	Z



POSITIONING REQUIREMENT

Travel range required (mm):
Positioning resolution required (μm):
Repeatability required (μm):
Applied force (N):
Applied Moment (Nm):
Speed required (mm/s):
Acceleration required (mm/s^2):
Duty Cycle:
Other degrees of freedom required: please specify and possibly add a sketch and a description of the application

<input type="checkbox"/> uni-directional	<input type="checkbox"/> bi-directional	
Fx	Fy	Fz
Mx	My	Mz

WIRING REQUIREMENT

Cable length in air from the mechanics to the controller (m):

CONTROLLER REQUIREMENT

Motion control type:
Positioning application type:
Computer connection port:
Software compatibility:

<input type="checkbox"/> point to point	<input type="checkbox"/> linear interpolation	<input type="checkbox"/> contouring
<input type="checkbox"/> high resolution	<input type="checkbox"/> high repeatability	
<input type="checkbox"/> Ethernet	<input type="checkbox"/> USB	<input type="checkbox"/> other (specify)
<input type="checkbox"/> DLL	<input type="checkbox"/> LabVIEW	<input type="checkbox"/> EPICS
		<input type="checkbox"/> TANGO

Notes:

Date and signature: