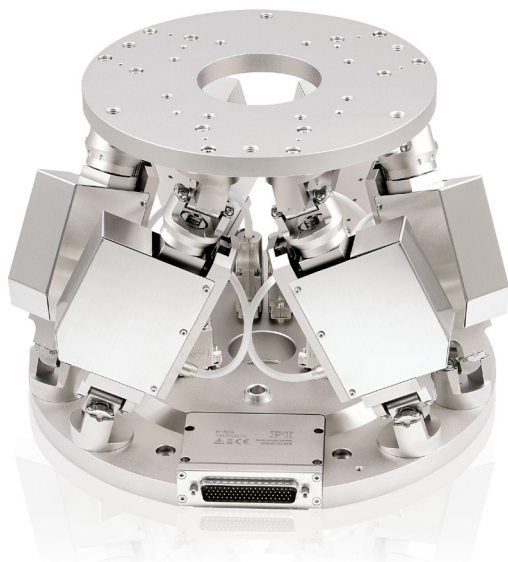


H-825KLL 6-Axis Hexapod

Compact and Powerful



- Load capacity to 35 kg, self-locking
- Travel ranges to 45 mm, rotation range to 25°
- Actuator resolution to 7 nm
- Minimum incremental motion to 0.3 µm in X, Y, and Z
- Repeatability to ±0.1 µm / ±2.5 µrad
- Vacuum-compatible versions on request

Reference-class 6-axis positioning system

Parallel-kinematic design for six degrees of freedom making it significantly more compact and stiff than serial-kinematic systems, higher dynamic range, no moved cables: Higher reliability, reduced friction. Versions for use in high vacuum to 10^{-6} hPa on request.

Fields of application

Industry and research, also in vacuum environment. For micromanipulation, biotechnology, semiconductor manufacturing

Related and compatible products

Compatible controllers / drivers / amplifiers

C-887.52x Hexapod Motion Controller

C-887.53x Hexapod Motion Controller with EtherCAT

Compatible accessories

C-887.MC Manual control unit for hexapods, USB connection, 3 m Cable

C-887.VM1 PIVerIMove hexapod software for Collision Check

Related mechanics

H-206 6-Axis Precision Alignment System

H-810 6-Axis Miniature Hexapod

H-811.D2 6-Axis Miniature Hexapod
H-820 6-Axis Positioner with Controller
H-824 6-Axis Hexapod
H-840 6-Axis Hexapod
H-850 6-Axis Hexapod

Specifications

Preliminary Data	H-825KLL	Unit	Tolerance
Active axes	X, Y, Z, θ_x , θ_y , θ_z		
Motion and positioning			
Travel range in X, Y *	±22,5	mm	
Travel range in Z *	±12,5	mm	
Travel range in θ_x , θ_y *	±7,5	°	
Travel range in θ_z *	±12,5	°	
Single-actuator design resolution	0.007	μm	
Minimum incremental motion in X, Y, Z	0.3	μm	typ.
Backlash in X, Y	3	μm	typ.
Backlash in Z	1	μm	typ.
Backlash in θ_x , θ_y	20	μrad	typ.
Backlash in θ_z	25	μrad	typ.
Repeatability X, Y	±0.5	μm	typ.
Repeatability in Z	±0.1	μm	typ.
Repeatability in θ_x , θ_y	±2	μrad	typ.
Repeatability in θ_z	±2.5	μrad	typ.
Max. velocity in X, Y, Z	1	mm/s	
Max. velocity in θ_x , θ_y , θ_z	11	mrads	
Typ. velocity on X, Y, Z	0.5	mm/s	
Typ. velocity on θ_x , θ_y , θ_z	5.5	mrads	
Mechanical properties			
Stiffness in X, Y	1.7	N/μm	
Stiffness in Z	7	N/μm	
Load capacity (base plate horizontal / any orientation)	35 / 18	kg	max.

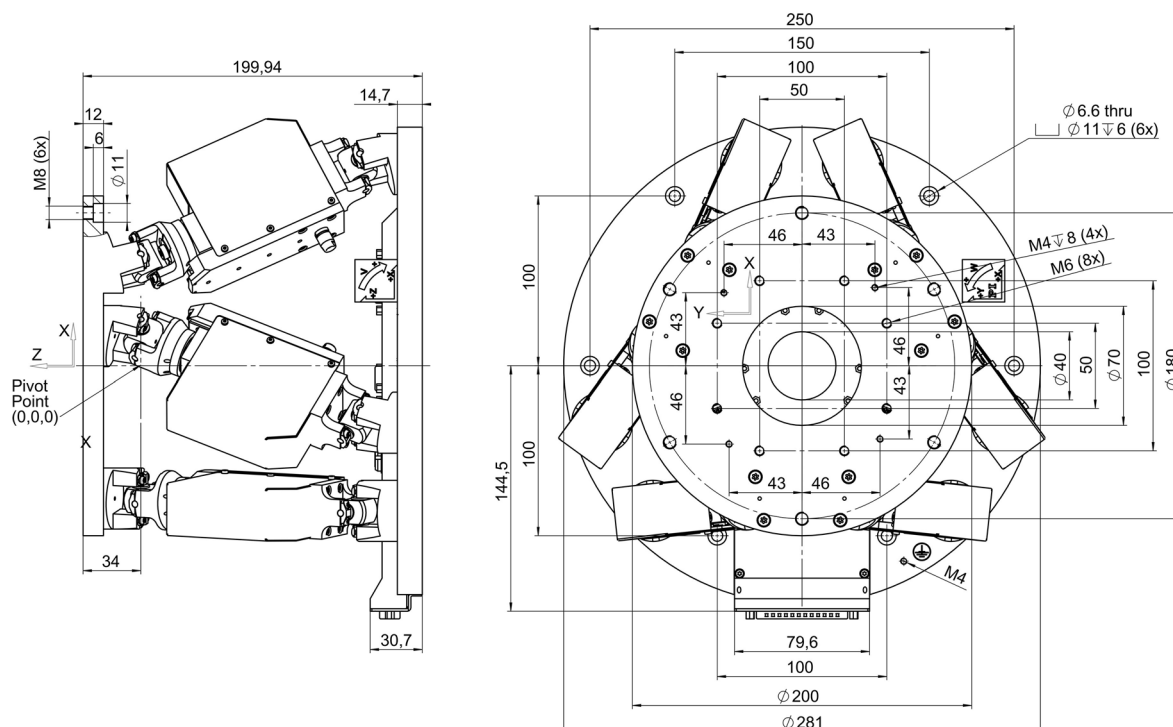
Preliminary Data	H-825KLL	Unit	Tolerance
Holding force, de-energized (base plate horizontal / any orientation)	350 / 180	N	max.
Motor Type	DC gear motor		
Miscellaneous			
Operating temperature range	-10 to 50	°C	
Material	Aluminum		
Mass	7.5	kg	±10 %
Cable length	3	m	±10 mm

Technical data specified at 20±3 °C.

Ask about custom designs! Specifications for vacuum versions can differ.

* The travel ranges of the individual coordinates (X, Y, Z, θ_x , θ_y , θ_z) are interdependent. The data for each axis in this table shows its maximum travel range, where all other axes and the pivot point are at the reference position.

Drawings and images



H-825KLL, dimensions in mm

Ordering information

H-825KLL

Compact Hexapod Microrobot, Low Overall Height, Load Capacity to 35 kg, DC Motor with Gearhead,
incl. 3 m Cable Set

Ask about custom designs!