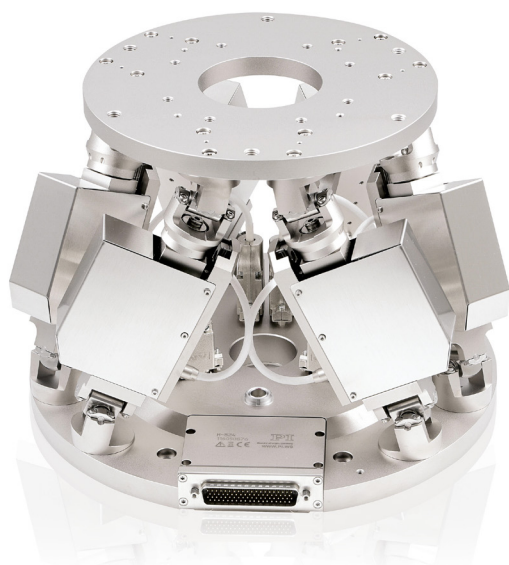


## H-825KLL 6-Axis Hexapod

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  $\mu\text{m}$  in X, Y, and Z
- Repeatability to  $\pm 0.1 \mu\text{m}$  /  $\pm 2.5 \mu\text{rad}$
- 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, $\theta_x$ , $\theta_y$ , $\theta_z$		
<b>Motion and positioning</b>			
Travel range in X, Y *	±22,5	mm	
Travel range in Z *	±12,5	mm	
Travel range in $\theta_x$ , $\theta_y$ *	±7,5	°	
Travel range in $\theta_z$ *	±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 $\theta_x$ , $\theta_y$	20	μrad	typ.
Backlash in $\theta_z$	25	μrad	typ.
Repeatability X, Y	±0.5	μm	typ.
Repeatability in Z	±0.1	μm	typ.
Repeatability in $\theta_x$ , $\theta_y$	±2	μrad	typ.
Repeatability in $\theta_z$	±2.5	μrad	typ.
Max. velocity in X, Y, Z	1	mm/s	
Max. velocity in $\theta_x$ , $\theta_y$ , $\theta_z$	11	mrad/s	
Typ. velocity on X, Y, Z	0.5	mm/s	
Typ. velocity on $\theta_x$ , $\theta_y$ , $\theta_z$	5.5	mrad/s	
<b>Mechanical properties</b>			
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.

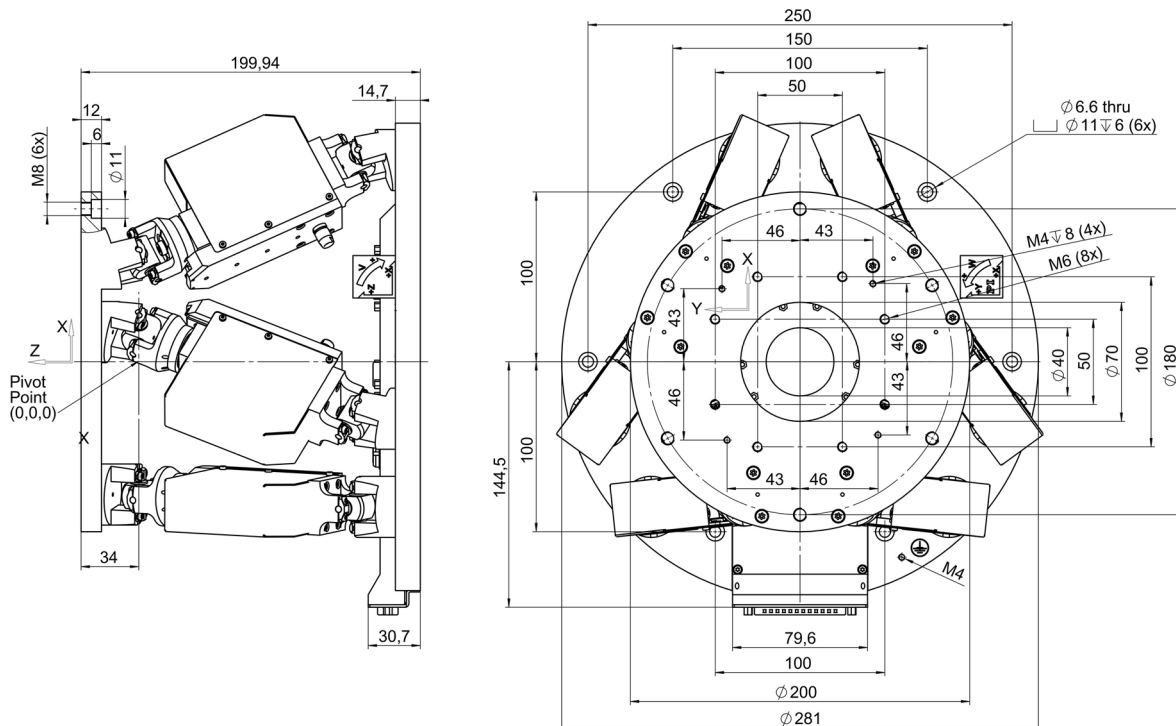
Preliminary Data	H-825KLL	Unit	Tolerance
Holding force, de-energized (base plate horizontal / any orientation)	350 / 180	N	max.
Motor Type	DC gear motor		
<b>Miscellaneous</b>			
Operating temperature range	-10 to 50	°C	
Material	Aluminum		
Mass	7.5	kg	±10 %
Cable length	3	m	±10 mm

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,  $\theta_x$ ,  $\theta_y$ ,  $\theta_z$ ) 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!