

H-850KMLx High-Load Hexapod

High-Precision and Repeatable Positioning



- Load capacity to 500 kg
- Minimum incremental motion 0.5 μm in X and Y, and 0.2 μm in Z
- Travel ranges to 100 mm, rotation range to 60°
- Large clear aperture
- Also with absolute encoder

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.

Absolute encoder

Absolute encoders supply explicit position information that enables immediate determination of the position. This means that referencing is not required during switch-on, which increases efficiency and safety during operation.

Fields of application

Industry and research. Positioning of high loads e.g., in mechanical engineering or in test systems for satellites.

Related and compatible products

Compatible controllers / drivers / amplifiers

C-887.52x Hexapod Motion Controller

C-887.53x Hexapod Motion Controller with EtherCAT

Related mechanics

H-845 High-Load Hexapod

H-850 6-Axis Hexapod

Specifications

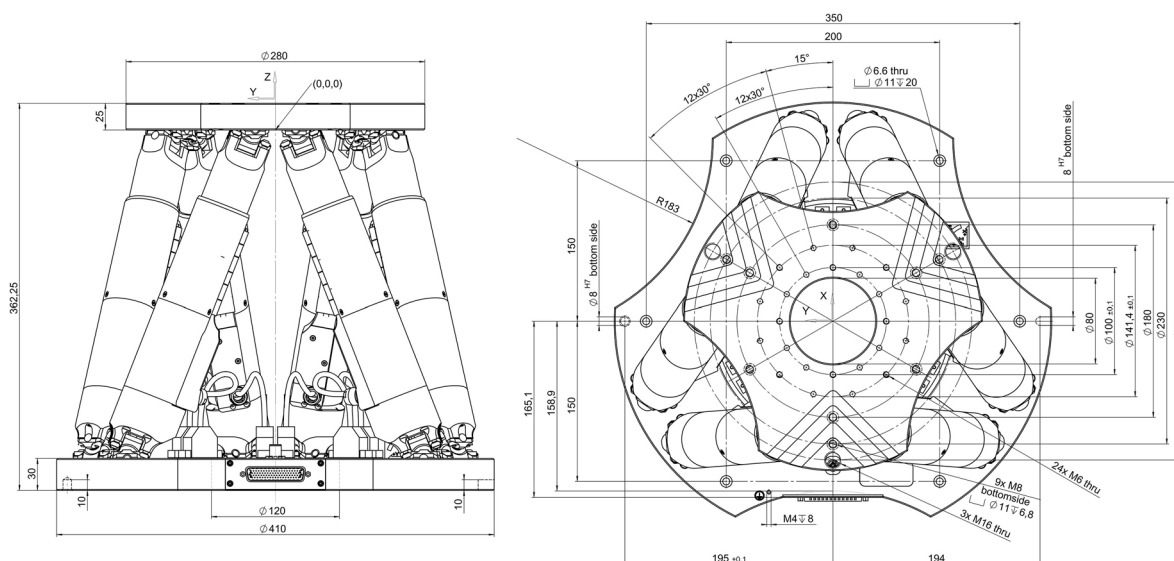
Preliminary Data	H-850KMLx	Unit	Tolerance
Active axes	X, Y, Z, θ_x , θ_y , θ_z		
Motion and positioning			
Integrated sensor	H-850KMLA: Absolute encoder H-850KMLD: Incremental encoder		
Travel range in X, Y *	±50	mm	
Travel range in Z *	±25	mm	
Travel range in θ_x , θ_y *	±15	°	
Travel range in θ_z *	±30	°	
Minimum incremental motion on X, Y	0.5	µm	typ.
Minimum incremental motion on Z	0.2	µm	typ.
Backlash in X, Y	2.5	µm	typ.
Backlash in Z	0.5	µm	typ.
Backlash in θ_x , θ_y	10	µrad	typ.
Backlash in θ_z	20	µrad	typ.
Repeatability X, Y	±1	µm	typ.
Repeatability in Z	±0.2	µm	typ.
Repeatability in θ_x , θ_y	±5	µrad	typ.
Repeatability in θ_z	±9	µrad	typ.
Max. velocity in X, Y, Z	0.5	mm/s	
Max. velocity in θ_x , θ_y , θ_z	6	mrads	
Typ. velocity in X, Y, Z	0.3	mm/s	
Typ. velocity in θ_x , θ_y , θ_z	3	mrads	
Mechanical properties			
Load (base plate horizontal / any orientation)	500 / 200	kg	max.
Holding force, de-energized (base plate horizontal / any orientation)	4000 / 2000	N	max.
Motor Type	DC gear motor		
Miscellaneous			
Operating temperature range	-10 to 50	°C	
Material	Aluminum		
Mass	23.8	kg	

Technical data specified at 20±3 °C.

Ask about custom designs!

* 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-850KMLx, dimensions in mm

Ordering Information

H-850KMLA

High-Load Hexapod Microrobot with Excellent Position Repeatability, Absolute Encoder for Fast Start-Up, DC Motor with Gearhead, 500 kg Load Capacity, incl. 3 m Cable Set

H-850KMLD

High-Load Hexapod Microrobot with Excellent Position Repeatability, 500 kg Load Capacity, DC Motor with Gearhead, incl. 3 m Cable Set

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