

## H-850KMLx High-Load Hexapod

### High-Precision and Repeatable Positioning



- Load capacity to 500 kg
- Minimum incremental motion 0.5  $\mu\text{m}$  in X and Y, and 0.2  $\mu\text{m}$  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

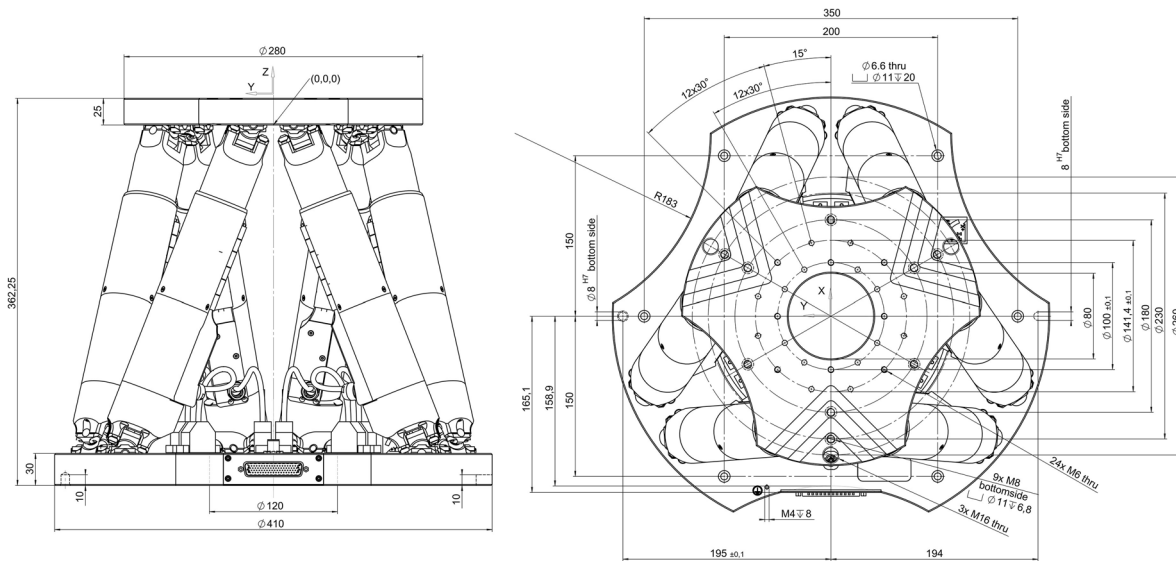
Preliminary Data	H-850KMLx	Unit	Tolerance
Active axes	X, Y, Z, $\theta_x$ , $\theta_y$ , $\theta_z$		
<b>Motion and positioning</b>			
Integrated sensor	H-850KMLA: Absolute encoder H-850KMLD: Incremental encoder		
Travel range in X, Y *	±50	mm	
Travel range in Z *	±25	mm	
Travel range in $\theta_x$ , $\theta_y$ *	±15	°	
Travel range in $\theta_z$ *	±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 $\theta_x$ , $\theta_y$	10	μrad	typ.
Backlash in $\theta_z$	20	μrad	typ.
Repeatability X, Y	±1	μm	typ.
Repeatability in Z	±0.2	μm	typ.
Repeatability in $\theta_x$ , $\theta_y$	±5	μrad	typ.
Repeatability in $\theta_z$	±9	μrad	typ.
Max. velocity in X, Y, Z	0.5	mm/s	
Max. velocity in $\theta_x$ , $\theta_y$ , $\theta_z$	6	mrads	
Typ. velocity in X, Y, Z	0.3	mm/s	
Typ. velocity in $\theta_x$ , $\theta_y$ , $\theta_z$	3	mrads	
<b>Mechanical properties</b>			
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		
<b>Miscellaneous</b>			
Operating temperature range	-10 to 50	°C	
Material	Aluminum		
Mass	23.8	kg	

Technical data specified at 20±3 °C.

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\* 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-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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