

High-Load 6-Axis Hexapod

Flexible and Precise Positioning of Loads up to 500 kg



H-855

- Holding force up to 5000 N
- Travel ranges to ± 100 mm, rotation ranges to $\pm 40^\circ$
- Absolute encoder for position measurement
- Flexible adaptation to requirements

The H-855 high-load hexapod series offers high-precision positioning in six degrees of freedom for loads of up to 500 kg. The construction is self-locking even when fully loaded so that brakes are not necessary.

The construction is modular, which allows a flexible adaptation to various different application requirements. The standard version is displayed in the data table.

Possible extreme values for customer-specific variants:

- Optimizing for higher velocity: Up to 20 mm/s
- Optimizing for low construction height: 300 mm in zero position
- Optimizing for maximum travel ranges: X/Y ± 160 mm; Z $+75$ mm; θ_X/θ_Y $\pm 27^\circ$; θ_Z $\pm 60^\circ$

Contact us!

Absolute Encoder

Absolute encoders supply explicit position information that enables immediate determination of the position. Therefore, no referencing is necessary when switching on and this increases efficiency and safety during operation.

Application fields

Industry and research. Industrial automation, precision assembly, astronomy, aerospace.

Motion	Unit		H-855.H2A
Active axes			X, Y, Z, θ X, θ Y, θ Z
Travel range in X	mm		± 100
Travel range in Y	mm		± 100
Travel range in Z	mm		± 50
Rotation range in θ X	$^{\circ}$		± 25
Rotation range in θ Y	$^{\circ}$		± 25
Rotation range in θ Z	$^{\circ}$		± 40
Maximum velocity in X	mm/s		4.5
Maximum velocity in Y	mm/s		4.5
Maximum velocity in Z	mm/s		4.5
Maximum angular velocity in θ X	mrads		37
Maximum angular velocity in θ Y	mrads		37
Maximum angular velocity in θ Z	mrads		37
Typical velocity in X	mm/s		4
Typical velocity in Y	mm/s		4
Typical velocity in Z	mm/s		4
Typical angular velocity in θ X	mrads		35
Typical angular velocity in θ Y	mrads		35
Typical angular velocity in θ Z	mrads		35

Positioning	Unit	Tolerance	H-855.H2A
Integrated sensor			Absolute rotary encoder, multi-turn
Unidirectional repeatability in X	μ m	Typ.	± 0.4
Unidirectional repeatability in Y	μ m	Typ.	± 0.4
Unidirectional repeatability in Z	μ m	Typ.	± 0.15
Minimum incremental motion in X	μ m	Typ.	0.3
Minimum incremental motion in Y	μ m	Typ.	0.3
Minimum incremental motion in Z	μ m	Typ.	0.15
Minimum incremental motion in θ X	μ rad	Typ.	2
Minimum incremental motion in θ Y	μ rad	Typ.	2
Minimum incremental motion in θ Z	μ rad	Typ.	3
Backlash in X	μ m	Typ.	1
Backlash in Y	μ m	Typ.	1
Backlash in Z	μ m	Typ.	0.2
Backlash in θ X	μ rad	Typ.	2.5
Backlash in θ Y	μ rad	Typ.	2.5
Backlash in θ Z	μ rad	Typ.	6

Drive Properties			H-855.H2A
Drive type			Brushless DC gear motor

Mechanical Properties	Unit	H-855.H2A
Maximum holding force, base plate in any orientation	N	2000
Maximum holding force, base plate horizontal	N	5000
Maximum load capacity, base plate in any orientation	kg	200
Maximum load capacity, base plate horizontal	kg	500
Overall mass	kg	45
Material		Aluminum

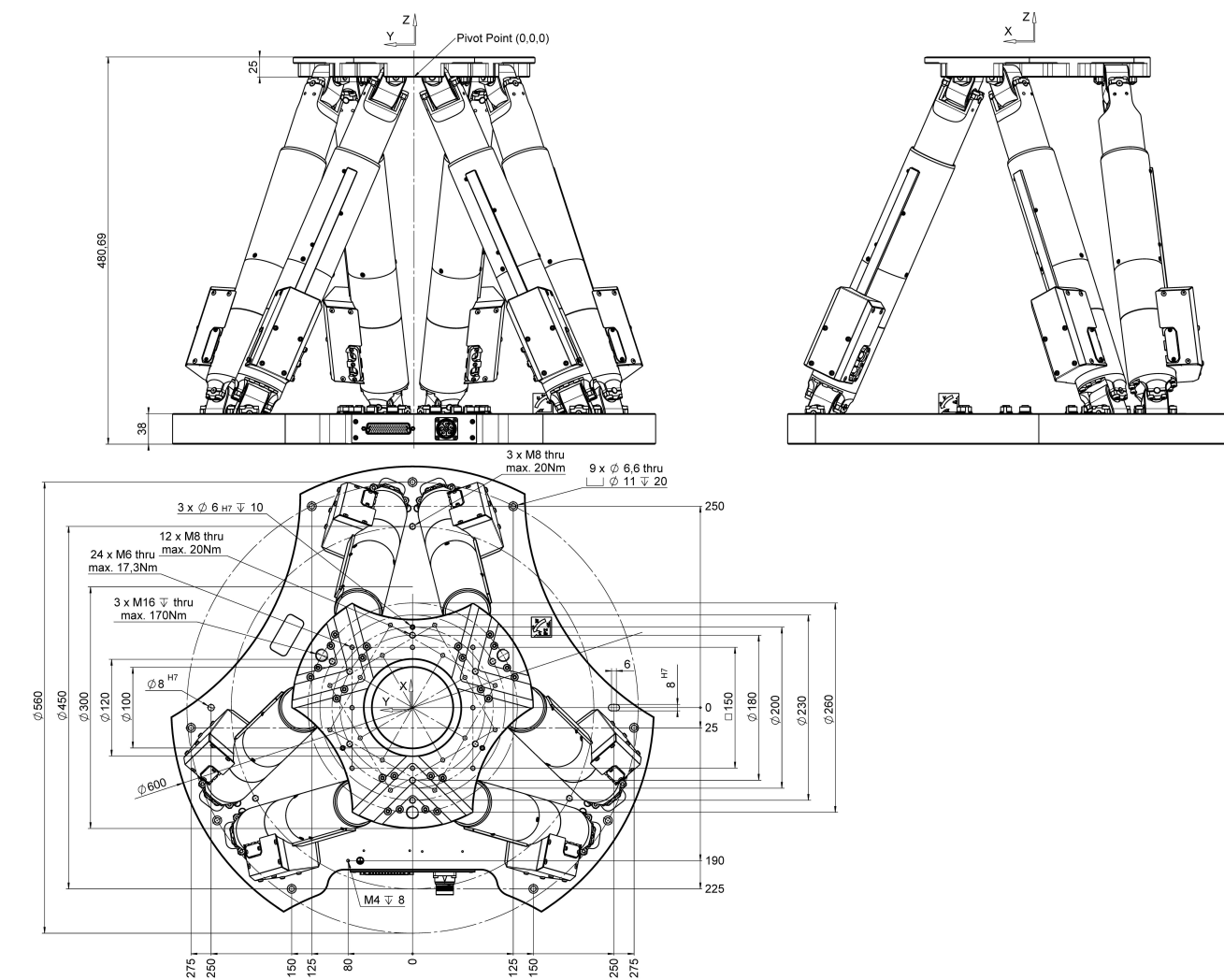
Miscellaneous	Unit	H-855.H2A
Recommended controllers / drivers		C-887
Cable length	m	3
Operating temperature range	°C	-10 to +50

Technical data specified at 22±3 °C.

The maximum travel ranges of the individual coordinates (X, Y, Z, θX, θY, θZ) are interdependent. The data for each axis shows its maximum travel range when all other axes are in the zero position of the nominal travel range and the default coordinate system is in use, or rather when the pivot point is set to 0,0,0.

Ask about customized versions.

Drawings / Images



H-855.H2A, dimensions in mm, at zero position of nominal travel range

Order Information

H-855.H2A

High-load 6-axis hexapod, brushless DC gear motor, absolute encoder, 500 kg load capacity, 4.5 mm/s max. velocity, 3 m cable set.