

6-Axis Positioner with Controller

COST-EFFICIENT HEXAPOD



H-820

- Six degrees of freedom, travel ranges to 100 mm / 60°
- Load capacity to 20 kg
- Velocity under full load to 20 mm/s
- Repeatability up to $\pm 1 \mu\text{m}$
- MTBF 20,000 h

Standard-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

Direct drive with brushless DC motors (BLDC)

Indirect measuring principle

Rotary encoder on motor shaft

Powerful digital controller, open software architecture

User-defined, stable pivot point, software-selectable. Positions commanded in Cartesian coordinates. Macro programming. Open source LabVIEW driver set. Work space simulation software. Optional interface for PLC control

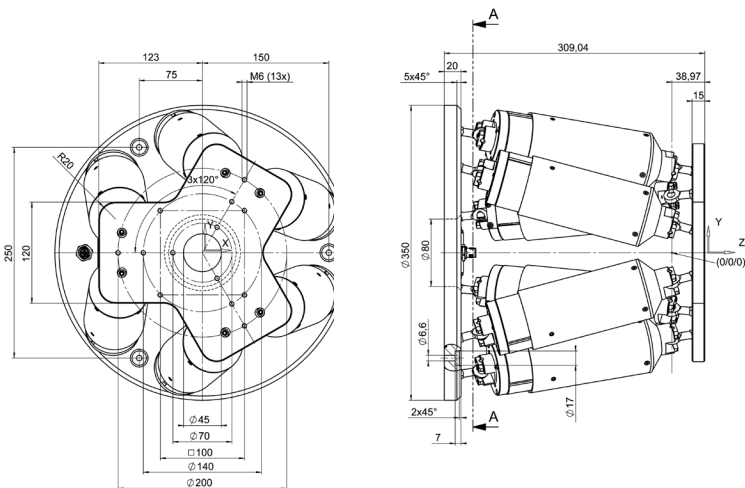
Fields of application

Research and industry. For life science, biotechnology, automation, micromachining

	H-820.D12	Unit	Tolerance
Active axes	X, Y, Z, θ_x , θ_y , θ_z		
Motion and positioning			
Travel range* X, Y	±50	mm	
Travel range* Z	±25	mm	
Travel range* θ_x , θ_y	±15	°	
Travel range* θ_z	±30	°	
Actuator drive	Torque motor, brushless (BLDC)		
Single-actuator design resolution	0.2	μm	typ.
Min. incremental motion X, Y, Z	10	μm	typ.
Min. incremental motion θ_x , θ_y , θ_z	25	μrad	typ.
Repeatability X, Y	±2	μm	typ.
Repeatability Z	±1	μm	typ.
Repeatability θ_x , θ_y	±15	μrad	typ.
Repeatability θ_z	±30	μrad	typ.
Backlash X, Y	30	μm	typ.
Backlash Z	10	μm	typ.
Backlash θ_x , θ_y	100	μrad	typ.
Backlash θ_z	300	μrad	typ.
Max. velocity X, Y, Z	20	mm/s	
Max. velocity θ_x , θ_y , θ_z	200	mrad/s	
Mechanical properties			
Load (baseplate horizontal)	20	kg	max.
Load (base plate in any orientation)	10	kg	max.
Holding force (baseplate horizontal)	200	N	max.
Holding-force (baseplate in any orientation)	100	N	max.
Miscellaneous			
Operating temperature range	0 to +50	°C	
Material	Aluminum		
Mass	15	kg	±5%
Cable length	3	m	±10 mm
Controller	C-887.21, included in delivery		
Operating voltage	100-240 VAC, 50/60 Hz		

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, where all other axes are at their zero positions. If the other linear or rotational coordinates are not zero, the available travel may be less.



H-820.D12, dimensions in mm