# 6-Axis Alignment System

**Ideal for Fiber Alignment**


## H-206

- High-precision due to flexures
- Integrated scan routines for fiber optic alignment
- Repeatability 0.3 µm
- Velocity to 8 mm/s
- Freely programmable virtual pivot point
- Removable magnetic plate

Parallel-kinematic design for six degrees of freedom making it significantly more compact and stiff than serial-kinematic systems, guidance errors of individual axes do not add up. Higher dynamics, higher reliability.
With DC gear motors

### Flexure joints and hexapod design with passive struts

Positioning with highest precision and repeatability

### Fields of application

Research and industry. For fiber alignment, micromanipulation systems, optical test equipment.

17.05.2018

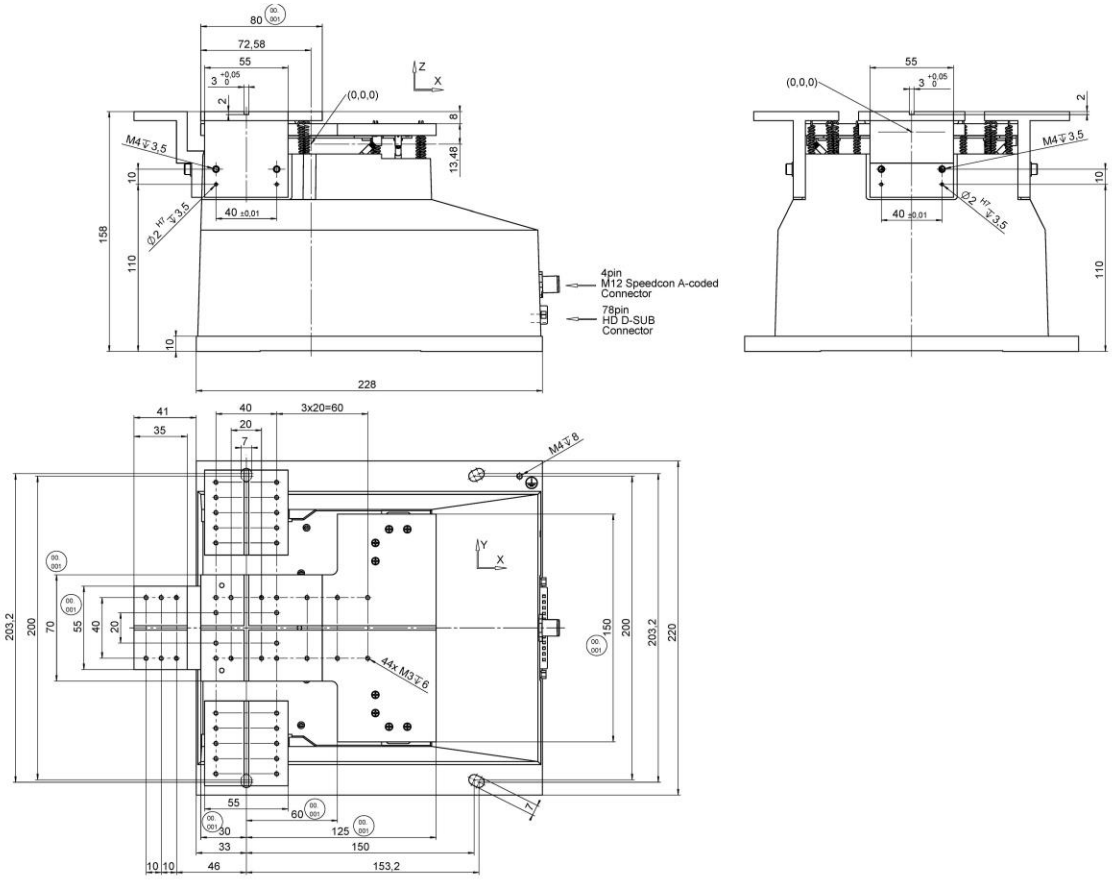
## Specifications

| Motion and positioning | H-206.F2 | Unit | Tolerance |
|---|---|---|---|
| Active axes | X, Y, Z, $\theta_X$, $\theta_Y$, $\theta_Z$ | | |
| Travel range* X | -8 to 5.7 | mm | |
| Travel range* Y | ±5.7 | mm | |
| Travel range* Z | ±6.7 | mm | |
| Travel range* $\theta_X$ | ±5.7 | ° | |
| Travel range* $\theta_Y$ | ±6.6 | ° | |
| Travel range* $\theta_Z$ | ±5.5 | ° | |
| Actuator design resolution | 33 | nm | |
| Minimum incremental motion X, Y, Z | 0.5 | µm | typ. |
| Minimum incremental motion $\theta_X$, $\theta_Y$, $\theta_Z$ | 2 (0.4") | µrad | typ. |
| Repeatability X, Y, Z | 0.3 | µm | typ. |
| Repeatability $\theta_X$, $\theta_Y$, $\theta_Z$ | 6 | µrad | typ. |
| Velocity X, Y, Z | 8 | mm/s | max. |
| Velocity X, Y, Z | 2 | mm/s | typ. |
| Load capacity (horizontal base plate) | 1.5 | kg | max. |

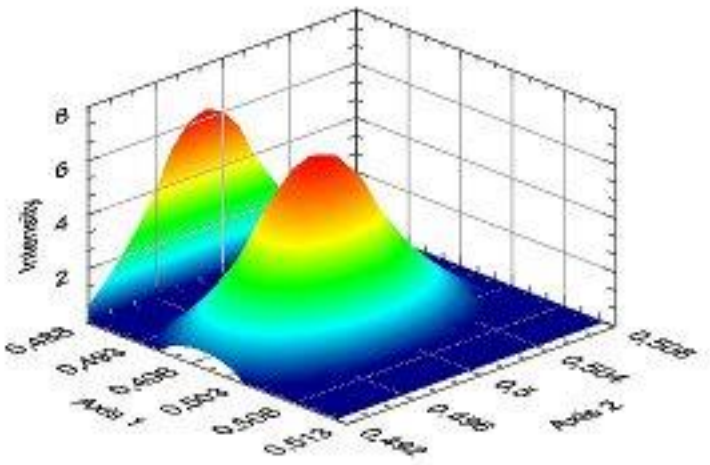
| Miscellaneous | H-206.F2 | Unit | Tolerance |
|---|---|---|---|
| Operating temperature range | 5 to 35 | °C | |
| Material | Aluminum | | |
| Mass | 5.8 | kg | ±5 % |
| Cable length | 3 | m | ±10 mm |
| Recommended controller | C-887.5x | | |

Technical data specified at 20±3 °C.
* 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.
Ask about customized versions.

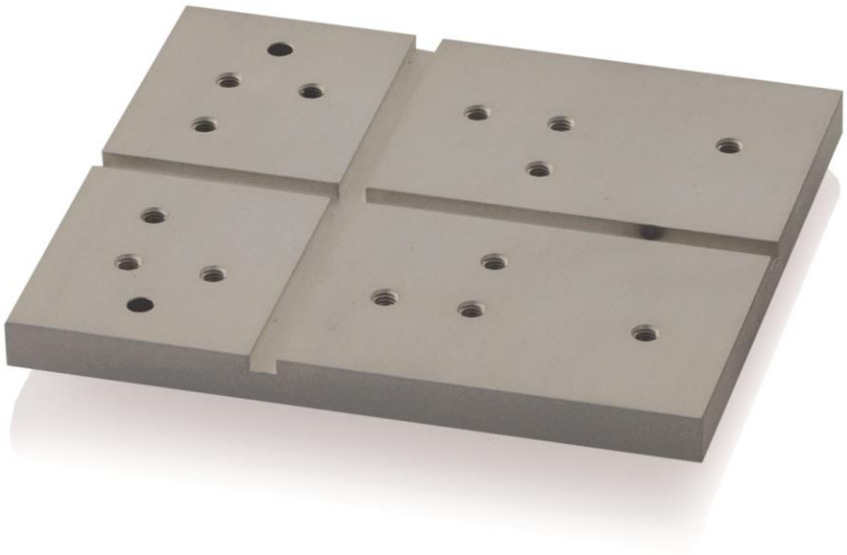
## Drawings / Images




*H-206.F2, dimensions in mm*




*The H-206 includes rapid automatic scan routines for fast multi-axis alignment. The graphic shows 2-D optical signal intensity of a fiber optic component. Complete device scan ensures detection of the global peak and prevents locking on to a local maximum.*



*F-206.TMU, removable plate available as accessory*

## Ordering Information

### H-206.F2

Hexapod microrobot for optical alignment, removable magnetic plate, DC motor, 1.5 kg load capacity, 8 mm/s velocity, including 3 m cable

### Accessories

### F-206.TMU

Additional removable magnetic plate, for fast replacement of different assemblies