

# MOTOMAN MH5F Industrial Robot

The MOTOMAN MH5F is a compact, high-speed robot that requires minimal installation space.

The MH5F features a 706 mm (27.8") reach and offers the widest work envelope in its class. Because of its small footprint, it can be floor-, wall-, or ceiling-mounted.

The MH5F offers superior performance in small part applications such as assembly, dispensing, packaging, material handling, and machine tending.

The compact design and built-in collision avoidance features with multiple robot control allow up to four robots to be used together to maximize productivity while reducing overall floor space requirements.



## Standard Features

- Compact, powerful and economical.
- MH5F model: 706 mm (27.8") reach; 0.02 mm (0.0008") repeatability. Widest work envelope in its class.
- 5 kg (11.03 lbs) payload. Improved moment ratings provide increased carrying capacity.
- Robot adjusts performance based on load. Effective for payloads less than 1 kg (2.2 lbs).
- Small footprint and minimal interference radius (179 mm) maximizes floor space utilization.
- Floor-, wall- or ceiling-mounted options. Brakes on all axes.
- Compact design and built-in collision avoidance features with multiple robot control allow up to eight robots to be used together to optimize productivity.
- Internally routed cables and hoses maximize system reliability.

## Applications (samples)

- MH5F with Machine Tending (Milling/Turning/Laser Engraver).
- MH5F with Assembly and/or Quality control.

## Specifications

### Structure

Vertical jointed- arm type

Axis Movement	Range	Maximum Speed
S-Axis (Turning/Sweep)	±170°	376°/s
L-Axis (Lower Arm)	+150°/-65°	350°/s
U-Axis: (Upper Arm)	+255°/-136°	400°/s
R-Axis: (Wrist Roll)	±190°	450°/s
B-Axis: (Bend/Pitch/Yaw)	±125°	450°/s
T-Axis: (Wrist Twist)	±360°	720°/s

### Vertical Reach

1,193 mm (47")

### Horizontal Reach

706 mm (27.8")

### Repeatability

±0.02 mm (±0.0008")

### Controlled Axes

6

### Approximate Mass

27 kg (59.5 lbs)

### Brakes

All axes

### Power Consumption

1 kVA

### Payload

5 kg (11 lbs)

### Allowable Moment

R-Axis 12 N • m

B-Axis 12 N • m

T-Axis 7 N • m

### Allowable Moment of Inertia

R-Axis 0.3 kg • m<sup>2</sup>

B-Axis 0.3 kg • m<sup>2</sup>

T-Axis 0.1 kg • m<sup>2</sup>

### Internal Electric Cable

3 BC 10 Conductors

4 BC 8 Conductors

### Internal Air Hose

2 - 1/4" PT Connections

## MOTOMAN MH5F Industrial Robot

### Robot Arm Accessories

Pneumatic Gripper with I/O Box for MH5F	00-0646-0000
1M linear slide base for MH5F	00-1026-0000
1.8M linear slide base for MH5F	00-1027-0000
Automatic Tool Changer (ATC) for MH5	ACC-MH5-ATC
Step Up Transformer for MH5 115V to 230V	ACC-MH5-TRAFO

### Programming Pendant

#### Dimensions

169 (W)×314.5 (H)×50 (D) mm

#### Mass

0.990 kg

#### Mass

Reinforced plastics

#### Operation Device

Select keys, axis keys (8 axes) numerical/application keys, Mode switch with key

#### Display

640×480 pixels color LCD, touch panel

#### IEC Protection Class

IP65

#### Cable Length

Standard: 8 m, optional: 20 m max.

### Ordering Information

#### Hardware

Motoman MH5F Robotic Arm	00-0436-0000
--------------------------	--------------

### FS100 Controller

#### Dimensions

For MPP3/MPK2F: 470 (W)×420 (D)× 200 (H) mm

#### Weight

20 kg

#### Ambient Operating Temperature

During operation: 0°C to +40°C

#### Type of Control

Software servo control

#### Communications

1 (10BASE-T/100BASE-TX)

#### Inputs

Specialized signals: 12 inputs

General signals: 16 inputs

Max. I/O (optional) : 1,024 inputs

#### Outputs

Specialized signals: 12 outputs

General signals: 16 outputs

Max. I/O (optional) : 1,024 outputs

#### Configuration

Standard: IP20 (open structure)

Option: IP54 (dustproof housing)

#### Programming Capacity

JOB: 10,000 steps, 1,000 instructions

CIO ladder: 1,500 steps

#### Drive Units

Four to six axes for robots (Varies according to model number).

Two more axes can be added as external axes. (Can be installed in the controller.)

#### Power Requirements

Single- or Three-phase 200/220 VAC (+10% to -15%), 50/60 Hz



Toll Free: 800-221-2763  
Phone: 603-413-2600  
Fax: 603-437-2137

Email:  
info@intelitek.com  
www.intelitek.com