

# MOTOMAN HC10DTFP

**H**uman-**C**ollaborative Robot for sensitive Environments

**6 integrated Sensors**

with internal Cable Routing



The MOTOMAN HC10DTFP is the ideal cobot for use in special environmental conditions in the food and pharmaceutical industries. The special surface coating allows the manipulator to be cleaned and disinfected with common cleaners, while the food-grade gear grease meets high food industry requirements. The robot arm is waterproof and dustproof (IP67 – DIN EN 60529). With 10 kg payload and 1,379 mm max. reach, this cobot covers a very wide range of applications and achieves excellent repeatability. Adapting tools like grippers is easy due to the common ISO tool flange design and configuration wizard software apps. Thanks to the integrated torque sensors in each joint, the robot can be used in human-robot collaboration without any protection fence.

The MOTOMAN HC robot series from Yaskawa was developed for easy entry into robotic automation. In addition to the simple programming philosophy with hand guidance/operator buttons on the robot's wrist, online tutorials and application builders on the web make it easier to take the first steps in robot automation. The convenient tablet-based Smart Pendant guides you intuitively through the individual steps – from programming to safety configuration, simple menus provide the perfect overview of your application. Simply set up the cobot, after connecting the robot and all components, you're ready to start programming the task. Many compatible accessories – supplied either by Yaskawa or ecosystem partners – make it easy to set up robot installations for many applications.

## KEY BENEFITS

### Easy-to-use

- Simple programming with Smart Pendant incl. Smart Frame and hand guiding
- Complex programming with Teach Pendant
- Pendants with standard 3-position enabling switch
- Wizard programming for applications and accessories
- Ecosystem of Plug & Play partner products
- ISO flange for easy connection of accessories
- Yaskawa simulation software MotoSim EG VRC

### Smart safety

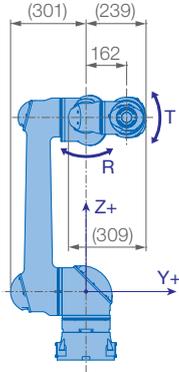
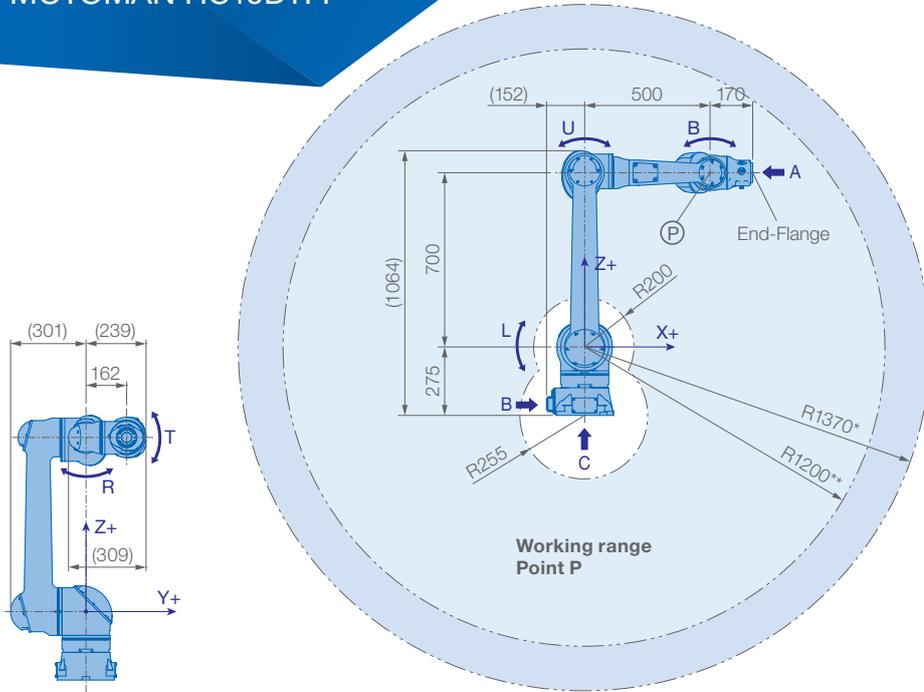
- PL d Cat. 3 certification with 25 safety-related hardware and software functions
- High-resolution torque sensors in each joint
- Easy configuration of the safety unit, such as definition of ranges, plains and precise envelopes for manipulator and gripper
- Two retract movements: Retract & Clamp Release function
- Pushback function for pushing the robot away during operation

### Industrial design for hybrid operation

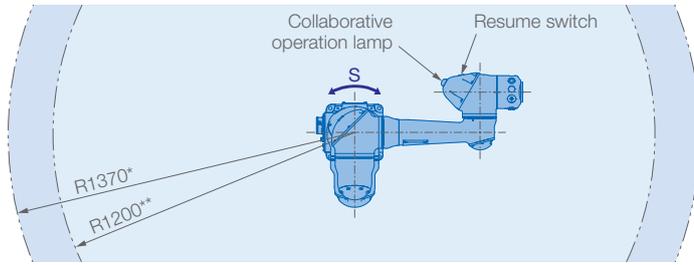
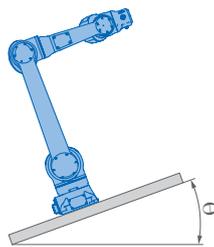
- Powder coating for cleaning in sensitive working environments
- Food grade grease
- IP67 protection class with high-quality seals
- Robust aluminium cast in lightweight design
- Powerful Yaskawa 200 V servo drives
- Internal media routing
- Automatic calibration
- Fast axis speeds
- Industrial control options YRC1000 and YRC1000micro

Controlled by  
**YRC1000**

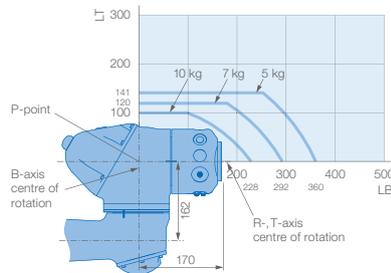
Controlled by  
**YRC1000  
micro**



\* Absolute reach: S/L-Axis center of rotation to R/T-Axis center of rotation  
 \*\* Effective reach: S/L-Axis center of rotation to Point P

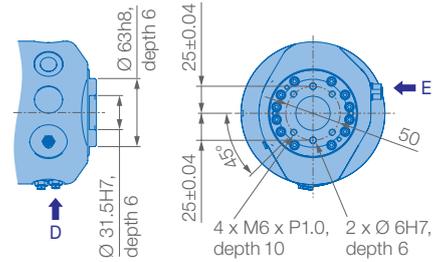


### Allowable wrist load

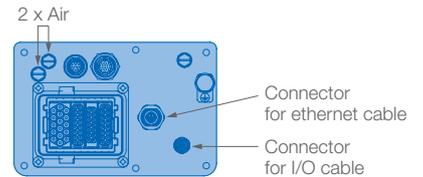


Robot installation angle $\theta$ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 25$	no limit
$25 < \theta \leq 30$	$\pm 60$ max.
$30 < \theta \leq 40$	$\pm 45$ max.
$40 < \theta$	$\pm 30$ max.

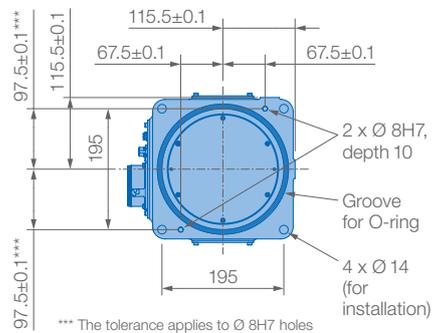
### View A



### View B



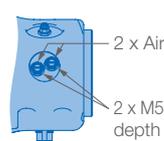
### View C



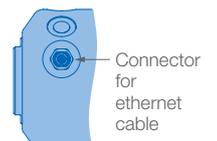
Mounting options: Floor, ceiling, wall, tilt\*  
 IP Protection: IP67

\* S Axis motion limits – see table left side

### View D



### View E



Specifications HC10DTFP					
Axes	Maximum motion range [°]	Maximum speed [°/s]	Allowable moment [Nm]	Allowable moment of inertia [kg · m <sup>2</sup> ]	Controlled axes
S	$\pm 210$	130	–	–	6
L	$\pm 180$	130	–	–	Max. payload (on U-axis) [kg]
U	$\pm 290$	180	–	–	Repeatability [mm]
R	$\pm 210$	180	27.4	0.78	Max. working range R [mm]
B	$\pm 180$	250	27.4	0.78	Temperature [°C]
T	$\pm 210$	250	9.8	0.1	Humidity [%]
					Weight [kg]
					Power supply, average [kVA]

\* Absolute reach: S/L-Axis center of rotation to R/T-Axis center of rotation \*\* Effective reach: S/L-Axis center of rotation to Point P

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