

# HC10

## Human-Collaborative Robot

### Key Benefits

Enables humans to safely work with robots

Through arm utilities eliminate external cables and associated risks, and simplify end-of-arm tooling installation

Cast aluminum construction for industrial durability

Designed to avoid pinch points, increasing worker safety

Easy teaching for quick implementation



### Specifications

10 kg payload

1,200 mm maximum reach

±0.1 mm repeatability

### Applications

Assembly

Machine Tending

Material Handling

Packaging

- 6-axis collaborative robot designed for a wide variety of applications.
- Power and force limiting technology is used to protect the worker from potentially harmful contact situations.
- Depending on risk assessment, the HC10 can operate without additional protective measures such as a safety fence, resulting in reduced cost and space requirements.
- Simple and easy to program, enabling the operator to quickly perform changeovers.
- Meets established safety standards including:
  - ISO 13849-1: Safety functions industrial robot controller, Category 3 PLd (TUV-certified)
- Controlled by Yaskawa's new high-performance YRC1000 controller that is built to a global standard and does not require a transformer for input voltages ranging from 380VAC to 480VAC.
- Operator can program through hand guiding; robot positions and gripper operation can be easily registered. The HC10 can also be programmed via the YRC1000 teach pendant.

### The CASE for HC10 Collaboration

#### **CAPABLE – improves production rate**

- Industrial-grade payload and speed for real world applications
- Can be used in a wide variety of handling and assembly applications
- Easily integrated in to factory automation systems using discrete I/O or fieldbus networks such as Ethernet/IP

#### **AFFORDABLE – quickly achieves ROI**

- Reduced physical guarding
- Simplified, built-in networked safety I/O
- Built on Yaskawa legacy of quality and reliability

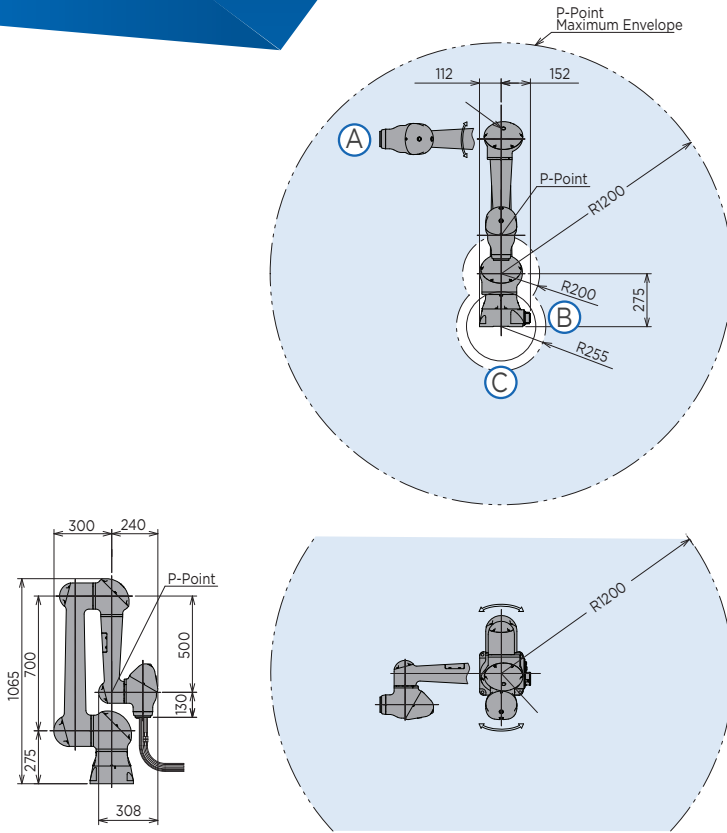
#### **SAFE – reduces risk**

- Advanced pinchless geometry
- Innovative thru-arm utilities
- Power and force limiting with FSU (Functional Safety Unit)

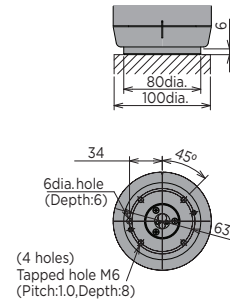
#### **EASY – empowers employees**

- Teach by hand guiding
- Quick fault recovery
- Simplifies basic training needs

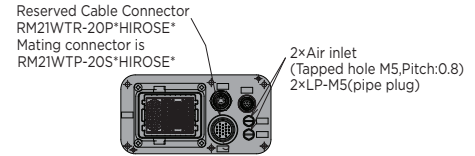
# HC10 Robot



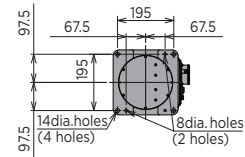
## VIEW A



## VIEW B



## VIEW C



All dimensions are metric (mm) and for reference only.  
Request detailed drawings for all design/engineering requirements.

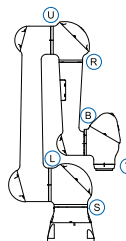
## SPECIFICATIONS

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m <sup>2</sup> ]
S	±180	130	-	-
L	±180	130	-	-
U	+355/-5	180	-	-
R	±180	180	27.4	0.78
B	±180	250	27.4	0.78
T	±180	250	9.8	0.1

Mounting Options: Floor, Wall, Ceiling, Tilt

## Options

- Third-party function-specific collaborative tooling and accessories



### AXES LEGEND

S-Axis: Swivel Base  
L-Axis: Lower Arm  
U-Axis: Upper Arm  
R-Axis: Arm Roll  
B-Axis: Wrist Bend  
T-Axis: Tool Flange

Item	HC10
Controlled axes	6
Maximum payload [kg]	10
Repeatability [mm]	±0.1
Maximum reach [mm]	1,200
I/O Expansion	Ethernet/IP, DeviceNet, Profibus - DP, Remote I/O, Discrete I/O, Analog I/O and other networks available
Tool Center Point (TCP)	Non-collaborative mode: 1000 mm/s Collaborative mode: 250 mm/s* (factory default)
Internal user I/O cable	8 X 0.2 mm <sup>2</sup> and 8 X 0.3 mm <sup>2</sup> wires
Internal user air lines	2 x 4 mm OD
Power requirements	380-480 VAC, 3Ø, 50/60Hz
Power rating [kVA]	1.0
Weight [kg]	47
IP classification	IP20
Safety certification	TUV Rheinland
Designed to meet	Functional Safety, Cat. 3 PLd, Safety Functions, EN ISO 13849:2008 PLd

\* Collaborative mode speed is user-defined based on safety assessment

## Yaskawa America, Inc. | Motoman Robotics Division

100 Automation Way  
Miamisburg, OH 45342  
Tel: 937.847.6200 | motoman.com

Motoman is a registered trademark. All other marks are the trademarks and registered trademarks of Yaskawa America, Inc.  
Technical specifications subject to change without notice. DS-708 ©2018 Yaskawa America, Inc. JANUARY 2018

# YASKAWA