

# HC10DTP

## DIRECT TEACH, PLUG AND PLAY HUMAN-COLLABORATIVE ROBOT

### KEY BENEFITS

Enables humans to safely work with robots

Industry leading IP67 rating and cast aluminum construction for industrial durability

Advanced pinchless geometry avoids pinch points, increasing safety

Direct teaching for quick implementation

Thru-arm Category 6 Ethernet cable and dual 2.5 mm ID air lines eliminate external utilities while offering fast, safe and easy setup of a wide variety of communication and tool options

EN ISO-9409-1 tool mounting flange and electrical connections provide quick and easy deployment

### SPECIFICATIONS

10 kg payload

1,379 mm maximum reach

1,200 mm effective reach

0.05 mm repeatability

### APPLICATIONS

Assembly

Dispensing

Machine Tending

Material Handling

Packaging

### CONTROLLER

YRC1000

YRC1000micro



- 6-axis robot designed for a wide variety of collaborative applications.
- Hand-guided teaching without a teach pendant enables easy programming for fast changeovers.
- Plug and play tool flange quickly connects a wide variety of end-of-arm tooling for fast and simple deployment.
- Power and force limiting technology is used to protect the worker from potentially harmful contact situations.
- Depending on risk assessment, the HC10DTP can operate without additional protective measures such as a safety fence, resulting in reduced cost and space requirements.
- Safety standards
  - Functional safety validated to Cat3 PLd
  - Machine safety validated to Cat3 PLe
  - Certified compliance with EN ISO 10218-1 (YRC1000micro)
  - Certified compliance with ISO/TS 15066 (YRC1000micro)
- Ideal for use in sanitary environments where wipe/wash is required. Includes IP67 rating as well as NSF H1 certified food-grade grease for food or consumer product packaging environments.\*
- Available with Smart Pendant featuring Smart Frame technology.

### THE CASE FOR COLLABORATION

#### CAPABLE – improves production rate

- Industrial-grade payload and speed for a wide variety of applications
- Easily integrated into factory automation systems using discrete I/O or fieldbus networks such as EtherNet/IP
- Built on Yaskawa legacy of quality and reliability

#### AFFORDABLE – quickly achieves ROI

- Reduced physical guarding\*\*
- Simplified, built-in networked safety I/O
- Integrated thru-arm utilities

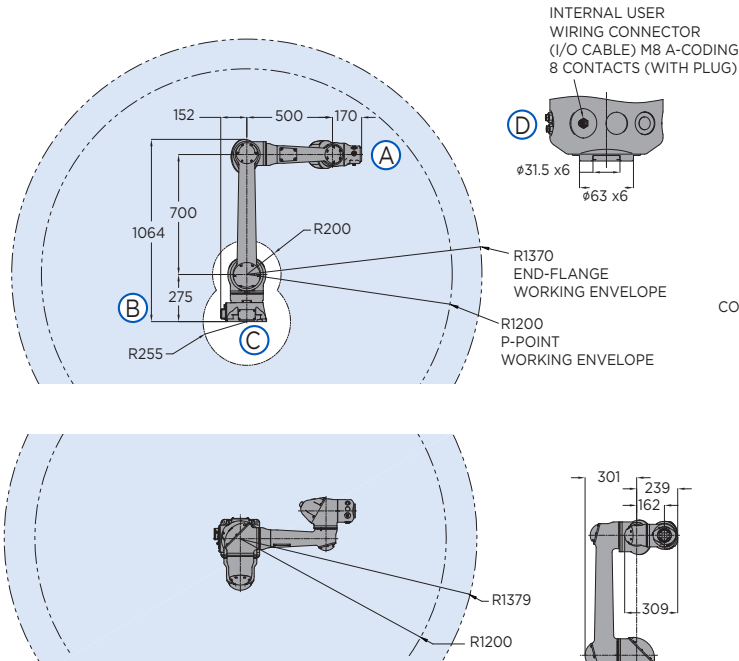
#### SAFE – reduces risk

- Advanced pinchless geometry
- Configurable power and force limiting (PFL) of all six axes of motion
- Powerful and flexible Functional Safety Unit for speed and position limiting

#### EASY – empowers employees

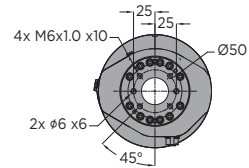
- Teach by hand guiding
- Quick fault recovery
- Simplifies basic training needs

# HC10DTP ROBOT

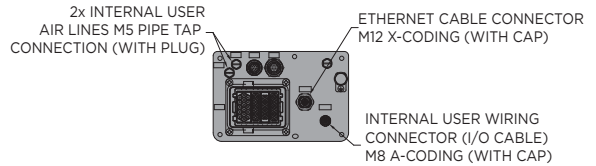


1,379 mm maximum reach. 1,200 mm effective reach.  
All dimensions are metric (mm) and for reference only.  
Request detailed drawings for all design/engineering requirements.

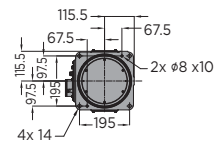
VIEW A



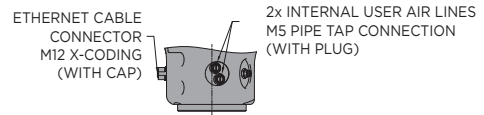
VIEW B



VIEW C



VIEW D



## SPECIFICATIONS

Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N·m	kg·m <sup>2</sup>
S	±210	130	-	-
L	±180	130	-	-
U	±290	180	-	-
R	±210	180	27.4	0.78
B	±180	250	27.4	0.78
T	±210	250	9.8	0.1

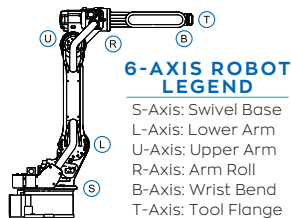
Mounting Options: Floor, Wall, Tilt or Ceiling

\* The MLX300 software option is not available for use with arc or spot welding applications. MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

Safety Compliance And Validation	
Safety Standard	Third Party
Functional safety validated to Cat3 PLd. EN ISO 13849:2008	TUVRheinland
Machine safety validated to Cat3 PLe. EN ISO 13849:2008	TUVRheinland
Certified compliance with EN ISO 10218-1:2011 and ISO/TS 15066-2016 (YRC1000micro)	TUVRheinland

## OPTIONS

- Third-party function-specific collaborative tooling and accessories
- PLC integration via MLX300 software option\*



Item	Unit	HC10DTP
Controlled axes		6
Maximum payload	kg	10
Repeatability	mm	0.05
Maximum reach	mm	1,379
Effective reach	mm	1,200
I/O Expansion		Ethernet/IP, DeviceNet, Profibus, Profinet, CC-Link and other networks available
Air Lines		2 hoses; Internal diameter: 2.5 mm Maximum pressure: 490kPa (5 kgf/cm <sup>2</sup> or less)
Tool Center Point (maximum linear speed)		Non-collaborative mode: 2,000 mm/s ** Collaborative mode: 1,000 mm/s ***
Internal user I/O cable		0.1 mm <sup>2</sup> x 8 conductors; Maximum allowable current is 1.5 A or less for each conductor
Ethernet Cable		Cat. 6
Power requirements YRC1000 YRC1000micro		Three-phase 380-480VAC 50/60Hz Single-phase 200-230VAC 50/60Hz Three-phase 200-220VAC 50/60Hz
Power rating	kVA	1
Weight	kg	58
Effective Mass	kg	47.4
IP classification		IP67 (all axes)
Temperature Range		0° C to 40° C
Relative Humidity		20% to 80% non-condensing

\*\* Non-collaborative mode maximum speed is based on payload

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

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