YASKAWA

HC10DTP

DIRECT TEACH, HUMAN-COLLABORATIVE WELDING ROBOT

KEY BENEFITS

Enables humans to safely work with robots

Easily adds robotic welding capacity to your production

Supplements manual welding

Industry leading IP67 rating and cast aluminum construction for industrial durability

Advanced pinchless geometry avoids pinch points, increasing safety

Direct teaching for quick implementation

Common ISO 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

Welding

CONTROLLER

YRC1000

- 6-axis robot designed for a wide variety of collaborative applications.
- Hand-guided teaching without a teach pendant enables easy programming for fast changeovers.
- Portable robot can be easily relocated depending on production needs.
- 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
  - Complies with ISO TS15066
- Universal Weldcom Interface (UWI) enables full control of any power source brand.
- Easy-to-clean surface for use in harsh environments.
- I/O jog controls robot arm quickly with an intuitive hardware remote – used to program entire jobs or touch up points (option).

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

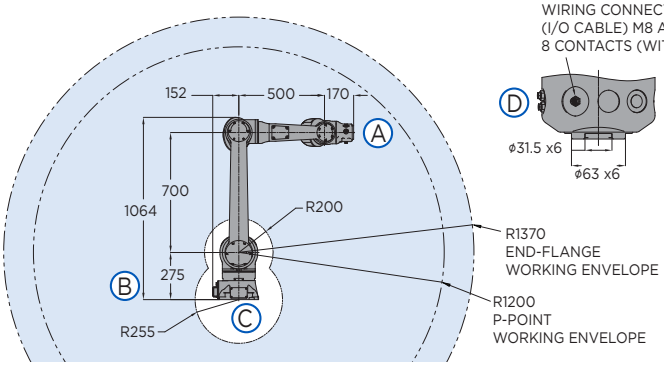
- Advanced pinchless geometry
- Configurable power and force limiting (PFL) of all six axes of motion
- Powerful and flexible Functional Safety Unit for speed and position limiting

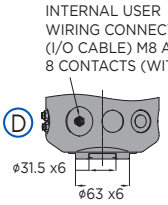
EASY – empowers employees

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

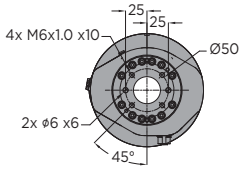
* Contact your Yaskawa representative for details and conditions.
** Based on risk assessment.

HC10DTP WELDING ROBOT





VIEW A



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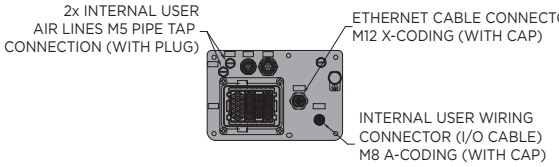

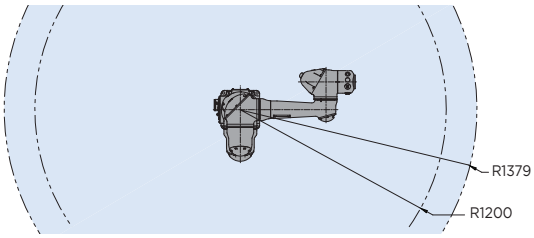

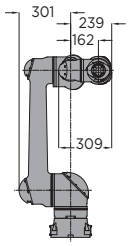

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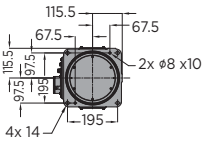

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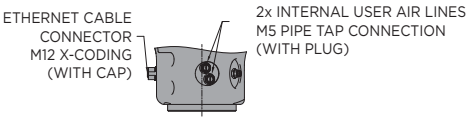


1,379 mm maximum reach. 1,200 mm effective reach.
All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS

Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N•m	kg•m²
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

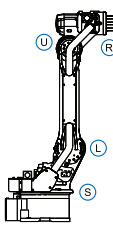
Safety Compliance And Validation	
Safety Standard	Third Party
Functional safety validated to Cat3 PLd. EN ISO 13849:2008	TUVRheinland
Machine safety validated to Cat3 PLe. EN ISO 13849:2008	TUVRheinland

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/cm² 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 mm² x 8 conductors; Maximum allowable current is 1.5 A or less for each conductor
Ethernet Cable		Cat. 6
Power requirements YRC1000		Three-phase 380-480VAC 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

OPTIONS

- Third-party function-specific collaborative tooling and accessories



6-AXIS ROBOT 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

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