

HC30PL

DIRECT TEACH, PLUG AND PLAY COLLABORATIVE PALLETIZING ROBOT

KEY BENEFITS

Dynamic payload and motion range optimization, with slipsheet mode for maximum flexibility and palletizing mode for reduced singularities

Enables humans to safely work with robots

IP67-rated cast aluminum construction for industrial durability

Thru-arm Category 6 Ethernet cable and dual 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

30 kg payload

1,700 mm maximum reach

0.05 mm repeatability

APPLICATIONS

Material Handling

Packaging

Palletizing

CONTROLLER

YRC1000

YRC1000micro



- 6-axis robot designed for collaborative palletizing 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 solutions.
- Depending on risk assessment, the HC30PL can operate without 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.*
- The HC30PL is compatible with either the standard teach pendant (with PalletSolver) or the Smart Pendant (with Smart Pattern extension).

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

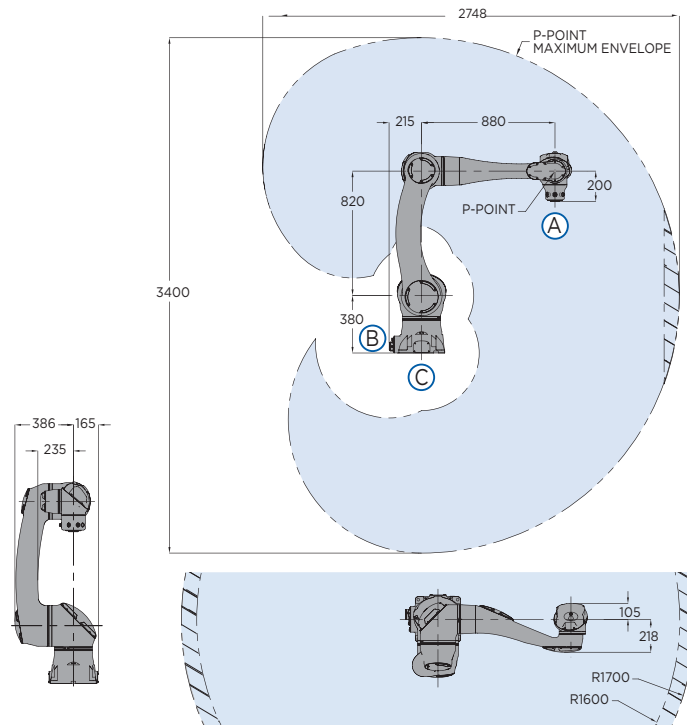
- Advanced pinchless geometry
- Configurable power and force limiting (PFL) of all six axes of motion
- Powerful and flexible Functional Safety Unit for speed and position limiting

EASY – empowers employees

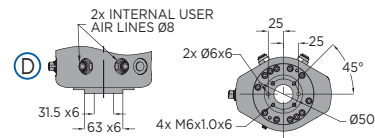
- Teach by hand guiding
- Quick fault recovery
- Simplifies basic training needs

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

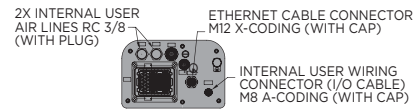
HC30PL ROBOT



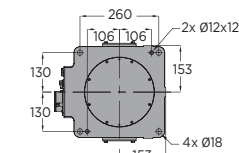
VIEW A



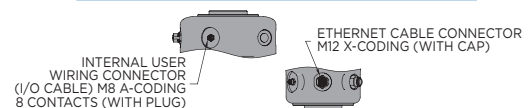
VIEW B



VIEW C



VIEW D



Maximum reach: <27 kg Payload = 1,700 mm; >27 kg Payload = 1,600 mm
All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS

Axes	Below 20kg				Above 20kg			
	Maximum Motion Range	Maximum Speed	Allowable Moment	Allowable Moment of Inertia	Maximum Motion Range	Maximum Speed	Allowable Moment	Allowable Moment of Inertia
	degrees	°/sec	N·m	kg·m ²	degrees	°/sec	N·m	kg·m ²
S	±210	80	—	—	±210	80	—	—
L	±180	80	—	—	±180/-154	80	—	—
U	+247/-67	120	—	—	+247/-67	120	—	—
R	-210/+210	130	58.8	4.0	±15	112	—	—
B	-90/+270	180	58.8	4.0	±15	132	—	—
T	±210	180	29.4	2	±210	180	—	2

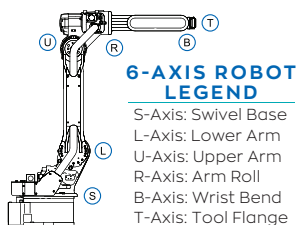
Mounting Options: Floor

* 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	TUV Rheinland
Machine safety validated to Cat3 PLc. EN ISO 13849:2008	TUV Rheinland
Certified compliance with EN ISO 10218-1:2011 and ISO/TS 15066-2016 (YRC1000micro)	TUV Rheinland

OPTIONS

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



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

Item	Unit	HC30PL
Controlled axes		6
Maximum payload	kg	Slip Sheet Mode <20kg Palletizing Mode <30kg
Repeatability	mm	0.05
Maximum reach	mm	<27 kg payload = 1,700 >27 kg payload = 1,600
I/O Expansion		Ethernet/IP, DeviceNet, Profibus, Profinet, CC-Link and other networks available
Air Lines		2 hoses; Internal diameter: 5 mm Maximum pressure: 400kPa (4 kgf/cm ² 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 ² 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 or three-phase 200-230VAC 50/60Hz
Power rating	kVA	1.5
Weight	kg	140
Effective Mass	kg	116.7
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

YASKAWA

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