

MOTOMAN HC20SDTP

Human-**C**ollaborative Cobot
Short-arm Variant for confined Spaces



Controlled by
YRC1000

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**YRC1000
micro**

Further product information:



www.yaskawa.eu

As a shortened version of the HC20DTP cobot from the collaborative HC series, the 6-axis MOTOMAN HC20SDTP robot, with its payload capacity of 20 kg, is ideally suited to operation in confined work environments.

The MOTOMAN HC20SDTP cobot is particularly suitable for applications requiring a shorter reach and high stiffness characteristics, e.g. screw fastening or assembly. Handling and Pick&Place applications with little space and short motion distances can also be implemented with this cobot.

The Plug&Play connection of grippers is facilitated by the ISO flange as well as configuration wizards on the Smart Pendant. Thanks to the integrated torque sensors in each joint, the cobot can be used collaboratively and without a safety fence.

The MOTOMAN HC cobot series from Yaskawa has been developed to provide easy entry into the world of robotic automation. In addition to the intuitive programming philosophy with hand guiding/operating keys on the wrist joint of the cobot, online tutorials and an application builder in the web simplify the first steps in robotic automation. You are guided clearly through the individual steps with the hand-held control unit (Smart Pendant) – from programming through to the safety configuration, you always have a perfect overview of your application thanks to simple menus. Simply install the cobot, connect the controller to the manipulator and teach pendant, and you are ready to begin programming the task. Numerous compatible Plug&Play products – from Yaskawa or partners in the Yaskawa ecosystem – simplify the set-up of robot installations for a wide range of applications.

KEY BENEFITS

Simple

- Simple programming with Smart Pendant including Smart Frame and hand guiding
- Integrated programming on teach pendant
- Application-specific wizard programming
- Simple commissioning
- Pendants with 3-position enabling switch as standard
- Option of programming in the Yaskawa simulation software MotoSim EG VRC

Plug&Play

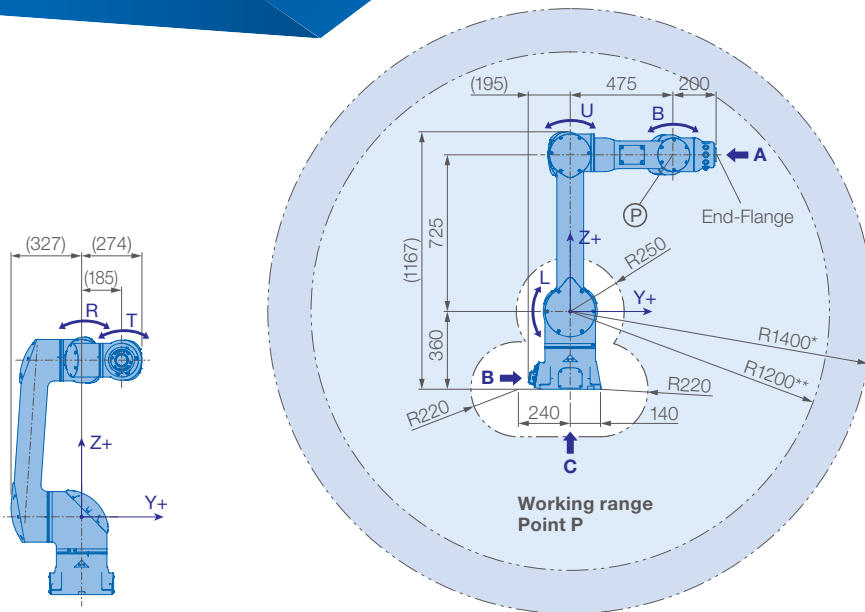
- Plug&Play products from the Yaskawa ecosystem
- ISO flange for simple connection of accessories
- Installation wizards for accessories
- Internal routing of supply lines

No safety fence required

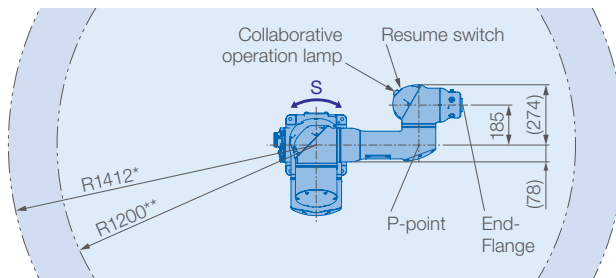
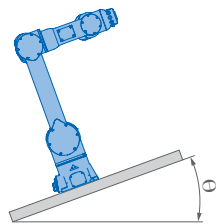
- Collaborative operation without the need for a safety fence
- 6 high-resolution torque sensors, one in each joint
- PL d certification, category 3, with 25 safety-oriented hardware and software functions
- Simple configuration of the safety controller, e.g. definition of areas, planes and precise envelope curves for manipulator and gripper
- Two return motions: Retract & Clamp Release function
- Pushback function for pushing the cobot away during operation

High quality

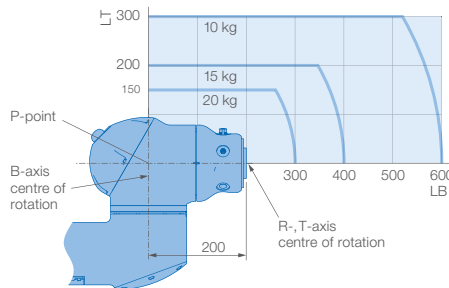
- Robust cast aluminum housing with lightweight construction
- IP67 protection rating with high-quality seals
- Food-compatible lubricating grease
- High speeds of up to 2.000 m/s
- Strong Yaskawa 200 V servomotors
- Automatic calibration
- Industrial controller options YRC1000 and YRC1000micro



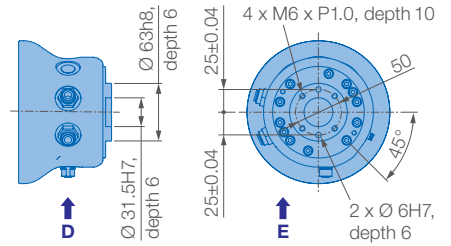
* Absolute reach: S/L-Axis center of rotation to R/T-Axis center of rotation
 ** Effective reach: S/L-Axis center of rotation to Point P



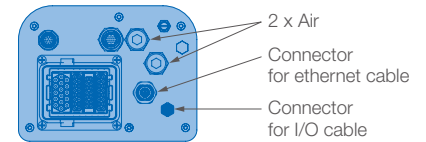
Allowable wrist load



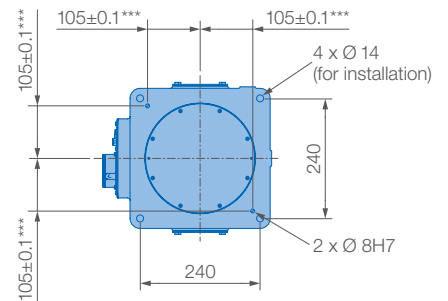
View A



View B



View C

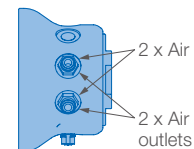


*** The tolerance applies to Ø 8H7 holes

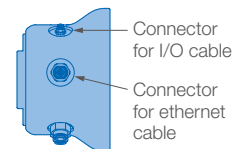
Mounting options: Floor, ceiling, wall, tilt*
 IP Protection: IP67

* S Axis motion limits – see table left side

View D



View E



Robot installation angle θ [deg.]	S-axis operating range [deg.]
$0 \leq \theta \leq 30$	within ± 180 (no limit)
$30 < \theta \leq 35$	within ± 120
$35 < \theta \leq 50$	within ± 90
$50 < \theta$	within ± 30

Specifications HC20SDTP						
Axes	Maximum motion range [°]	Maximum speed [°/s]	Allowable moment [Nm]	Allowable moment of inertia [kg · m ²]	Controlled axes	6
S	± 210	105	–	–	Max. payload [kg]	20
L	± 180	90	–	–	Repeatability [mm]	± 0.05
U	± 290	135	–	–	Max. working range R [mm]	1412*/1200**
R	± 210	130	58.8	4.0	Temperature [°C]	0 to +40
B	± 180	180	58.8	4.0	Humidity [%]	20 – 80
T	± 210	180	29.4	2.0	Weight [kg]	97
					Power supply, average [kVA]	1.5

* 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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YR-1-06VXSCP20-B00
 A-03-2023, A-No. 231017

All drawing dimensions in mm. Technical data may be subject to change without previous notice. Please request detailed drawings at robotics@yaskawa.eu.



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