

GP180-120

EXTENDED-REACH, HIGH PAYLOAD ROBOT

KEY BENEFITS

Payload, moment and inertia ratings allow for a wide variety of applications

Engineered for easy installation, operation and maintenance

Single robot-to-controller cable connection enables fast setup

Slim profile design for high density spacing and for reaching into confined spaces

SPECIFICATIONS

120 kg payload

3,058 mm horizontal reach

4,105 mm vertical reach

0.05 mm repeatability

APPLICATION

Machine Tending

Material Handling

Press Tending

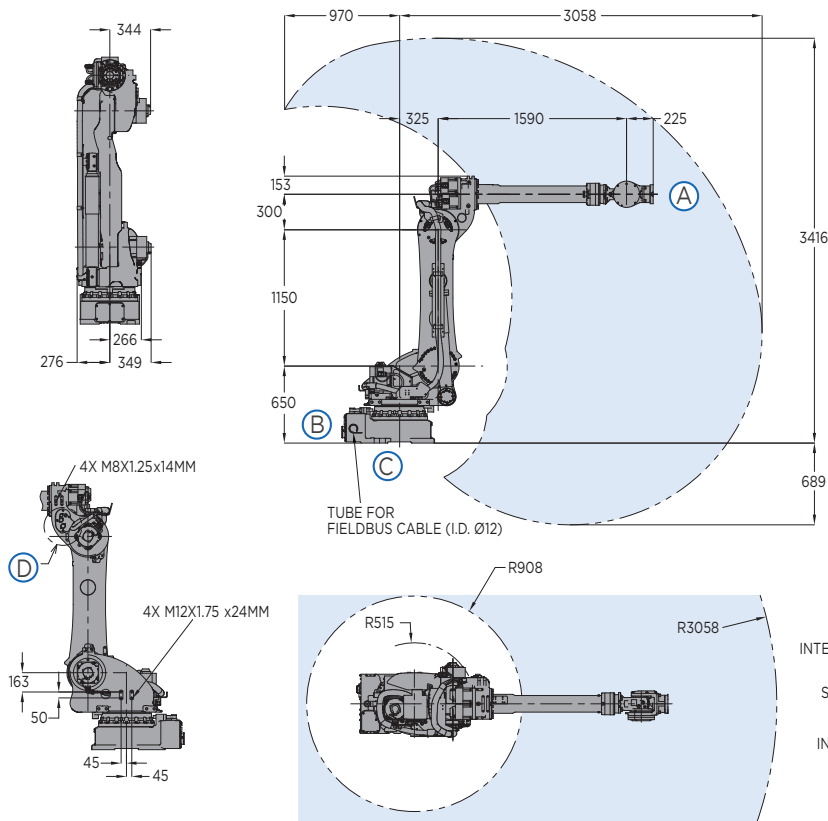
CONTROLLER

YRC1000

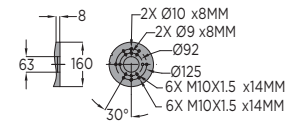


- Increase productivity with the powerful and efficient extended-reach GP180-120 robot.
- Ideal for processing large parts, the GP180-120 can eliminate the need for a linear track, reducing system cost and simplifying programming.
- High payload, moment and inertia ratings allow handling of larger and heavier payloads.
- Wide wrist motion range eliminates interference and improves application flexibility.
- Exceptionally fast axis speeds and acceleration capabilities reduce cycle time and increase production output.
- Streamlined upper arm allows easy access to parts in tight spots and avoids potential interference with fixtures, improving application flexibility.
- Reduced interference design allows close proximity placement of robots for high-density workcells.
- Robot base design is free from counterbalance, reducing the mass of the arm and enabling higher acceleration, deceleration and speed.
- Cables and air lines are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.
- Cable installation tube facilitates fieldbus routing through the S-axis.
- Single power and control cable reduces wiring time and increases work efficiency.
- Modular robot harness design for improved diagnostics and maintenance.
- Home position data can be saved without battery connection for easy maintenance.
- The GP180-120 has an IP67-rated wrist and an IP54 body standard. An XP (eXtra Protection) package that increases the body protection rating to IP65 is available.
- The GP180-120 can be floor-mounted. Brakes are included on all axes.
- Pre-wired for servo gripper which allows a wider range of product handling.
- Compact YRC controller utilizes the lightweight standard teach pendant with intuitive programming.

GP180-120 ROBOT



VIEW A



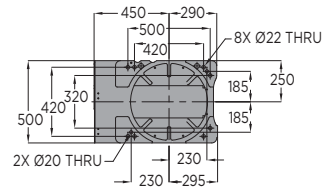
VIEW B

INTERNAL USER AIR LINES 3/8"
PIPE TAP CONNECTION
(WITH PLUG)



INTERNAL USER I/O CONNECTOR
JL05-2A24-28PC (WITH CAP)
MATING CONNECTOR IS NOT
SUPPLIED BUT COMPLETE CABLES
ARE AVAILABLE AS AN OPTION

VIEW C



VIEW D

INTERNAL USER WIRING CONNECTOR
JL05-2A18-ISC (WITH CAP)
MATING CONNECTOR IS NOT
SUPPLIED BUT COMPLETE CABLES
ARE AVAILABLE AS AN OPTION



INTERNAL USER AIR LINES 3/8"
PIPE TAP CONNECTION
(WITH PLUG)

INTERNAL USER WIRING CONNECTOR
JL05-2A20-29SC (WITH CAP)
MATING CONNECTOR IS NOT
SUPPLIED BUT COMPLETE CABLES
ARE AVAILABLE AS AN OPTION

INTERNAL USER WIRING CONNECTOR
JL05-2A24-28SC (WITH CAP)
MATING CONNECTOR IS NOT
SUPPLIED BUT COMPLETE CABLES
ARE AVAILABLE AS AN OPTION

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·m ²
S	±180	125	-	-
L	+76/-60	115	-	-
U	+90/-86	125	-	-
R	±360	182	883	79
B	±130	175	883	79
T	±360	265	520	40

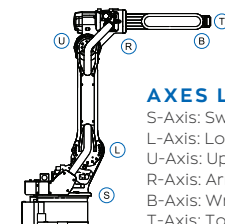
Specifications for GP180-120 with XP package may be different.
Mounting Options: Floor

* 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.

Item	Unit	GP180-120
Controlled axes		6
Maximum payload	kg	120
Repeatability	mm	0.05
Horizontal reach	mm	3,058
Vertical reach	mm	4,105
Weight	kg	1,090
Internal user I/O cable		24 conductors w/ ground
Internal user air line		(1) 3/8" connection
Power requirements		380-480 VAC
Power rating	kVA	5

OPTIONS

- Robot risers and base plates
- Extended length manipulator cables
- Wide variety of fieldbus cards
- External axes
- PLC integration via MLX300 software option*
- Functional Safety Unit (FSU)
- MotoSight™ 2D and 3D vision



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

YASKAWA

YASKAWA AMERICA, INC. 100 Automation Way | Miamisburg, OH 45342
937.847.6200 | motoman.com

Technical specifications subject to change without notice. | Motoman is a registered trademark.
All other marks are the trademarks and registered trademarks of Yaskawa America, Inc.
DS-882 ©2021 Yaskawa America, Inc. JANUARY 2021