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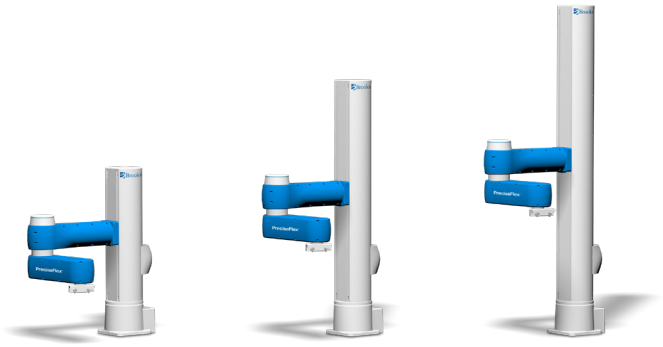
PreciseFlex™

PreciseFlex c10 Collaborative Robot

Energy Efficiency while Maximizing Workspace

Collaborative robots working alongside people make automation accessible for a wide range of applications. However, accessibility has often come at the cost of reduced speed, reduced precision, higher prices for special sensors, and, in some cases substandard reliability.

PreciseFlex collaborative robots provide an unmatched return on investment (ROI) with the **highest throughput, highest workspace density** and the **most reliable, most energy efficient** cobots available.



Wide Range of Applications

The PreciseFlex c10 is well suited for machine feeding (load/upload), small parts handling, kitting, storage and retrieval, sample handling, and mobile applications.

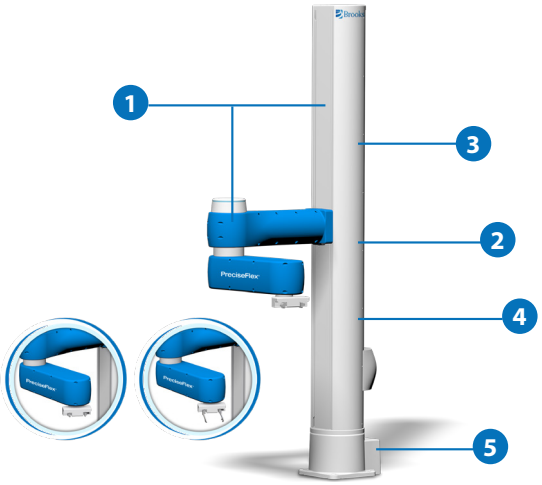
Lowest power consumption

Reduced energy usage and extended runtime in mobile applications.

Highest Workspace Density

The PreciseFlex c10 has a unique configuration with horizontal articulation for the major axes, and a tall Z-axis (up to 1,420 mm). The vertical column work envelope enables the robot to reach into racks, shelves, or stacked machines. The vertical column work envelope is much more efficient than the spherical work envelope used by most traditional cobots.

With the cylindrical column work envelope and embedded controls, PreciseFlex cobots offer the highest workspace density, saving valuable floorspace.



Key Benefits

- Fast and easy deployment unlocks the best ROI
- Augments workforce and overcomes labor shortages
- Reduces repetitive stress injuries and frees employees for more meaningful work
- Highest workspace density saves valuable floor space
- Most reliable cobots with an MTBF of 125,000 hours and design life of 100,000 hours
- Highest performance increases throughput
- Low maintenance

Always perform a risk assessment before putting any robot into production.

1. **Highest Workspace Density**
   Reach into machines and shelves with tall Z-axis and slim arm design
2. **Highest Reliability**
   With an MTBF of 125,000 hours
3. **Range of Motion**
   Z-Axis: 500, 1000, and 1420 mm
   (Horizontal Reach) 896 mm
4. **Highest Throughput**
   Low collision forces enable without sacrificing safety
5. **Save Valuable Floorspace**
   With compact footprint and embedded controller

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Technical Specifications

Performance

Payload	10 kg
Max Cartesian Speed	500 mm/sec in horizontal plane 600 mm/sec in z-direction
Max Joint Speed **J1** **J2** **J3** **J4**	 200°/sec 600 mm/sec 360°/sec 540°/sec
Max Acceleration	5000 mm/sec² with 6 kg payload
Repeatability	±0.020 mm at tool flange center

Range of Motion

Joint 1 (Base)	±168°
Joint 2 (Z-Axis)	500, 1000, 1420 mm
Joint 3 (Elbow)	+12° to +348°
Joint 4	±240°
Horizontal Reach	896 mm

Communications

General	100 Mb Ethernet, TCP/IP Modbus/TCP RS232, at end-of-arm
Operator Interface	Web-based operator interface
Digital I/O	12 inputs, 8 outputs at base of robot optically isolated, 24V @ 100mA 2 in, 4 out for end-of-arm-tooling Remote I/O available

Facilities

Power	90 to to 264 VAC Auto selecting, 50-60 Hz 100-250 watts typical operation
Pneumatics	Two 3.2 mm OD (1.7 mm ID) airlines provided for end-of-arm-tooling. 4.9 bar max (71 PSI)
E-Stop	Dual Channel
Controller Mounting	Embedded into robot base
Weight	44 kg (500 mm Z-axis) 53 kg (1000 mm Z-axis) 63 kg (1420 mm Z-axis)
Noise Level	< 50 dB(A)

Software

Programming	Programming via Guidance Development Studio (GDS) Guidance Programming Language (GPL) TCS API
Enhanced Functions	Hand-Guided Teaching XY Compliance (optional) Z-Height Detection (optional)

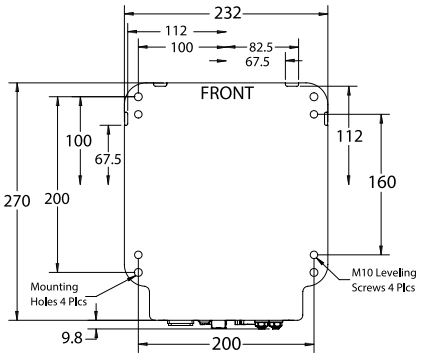
Peripherals and Accessories

General	IntelliGuide s23 gripper IntelliGuide s60 gripper IntelliGuide s23D gripper (Dual) Remote I/O (RIO)
Vision	IntelliGuide v23 IntelliGuide v60

Certifications

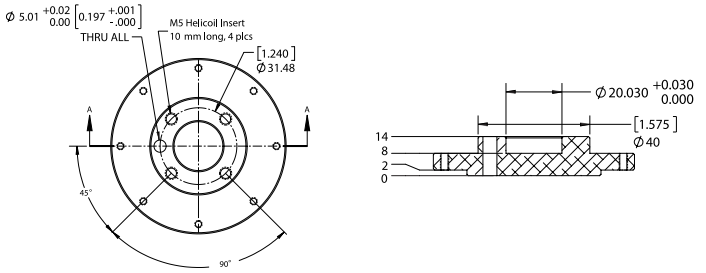
- ISO 10218, ISO/TS 15066, EN 61326-1, CE

Robot Mounting

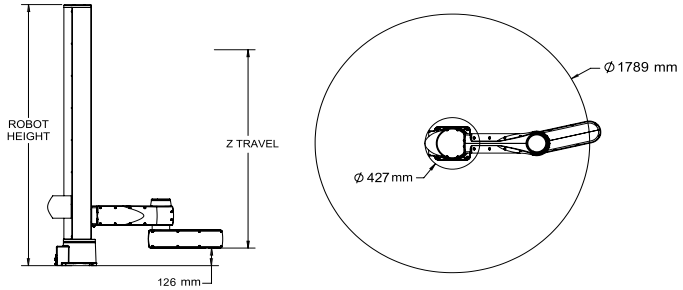


ISO Flange for End-of-Arm Tooling

- ISO-9409-1-31.5-4-M5



Work Envelope



ROBOT HEIGHT	Z TRAVEL
949 mm	500 mm
1449 mm	1000 mm
1869 mm	1420 mm

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