PreciseFlex 3400 Collaborative Robots

Automate mundane tasks and free employees for more meaningful work

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** robots available.

Wide Range of Applications

The PreciseFlex 3400 robot is well suited for Electronics Test and Handling, Machine Feeding (load/upload), Small Parts Handling, Kitting, Storage & Retrieval, Indoor Farming and Mobile applications.

Lowest power consumption

Reduced energy usage and extended runtime in mobile applications.

Highest Workspace Density

The PreciseFlex 3400 robot has a unique configuration with horizontal articulation for the major axes and a tall Z-axis (up to 1,160 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 collaborative robots.

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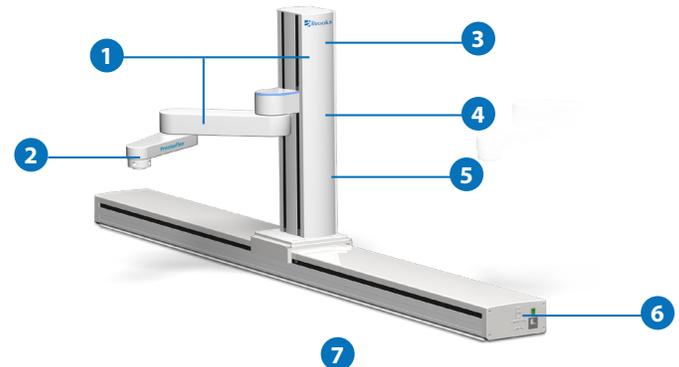
Key Benefits

- 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 and embedded controller saves valuable floor space
- Most reliable cobots with MTBF of 125,000 hours and design life of 40,000 hours
- Highest performance increases throughput
- Integrated options like IntelliGuide Vision and Collaborative Linear Rails reduce deployment time

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. Save Time and Increase Reliability
With options like IntelliGuide Vision and Servo Grippers

3. Z-Axis Range of Motion
Horizontal reach 588 mm (without gripper)
Vertical reach 400, 750, 1160 mm available

4. Highest Throughput
Low collision forces enable without sacrificing safety

5. Save Valuable Floorspace
With compact footprint and embedded controller

6. Extend Robot's Reach
With fully-integrated Collaborative Linear Rail (optional)

7. Highest Reliability
With an MTBF of 125,000 hours

PreciseFlex 3400

Technical Specifications

Performance

Payload	3 kg
Max Speed at TCP	1500 mm/sec (horizontal) 500 mm/sec in cartesian space
Max Joint Speed J1 J2 J3 J4	500 mm/sec 360°/sec 720°/sec 720°/sec
Max Acceleration	1000 mm/sec² with 0.5 kg payload
Repeatability	±0.090 mm at tool flange center

Range of Motion

Joint 1 (Z-axis)	400, 750, 1160 mm
Joint 2	±93°
Joint 3 (Elbow)	±168°
Joint 4	+100° to +470° (±960° with Servo Gripper)
Horizontal Reach	588 mm (666 mm with IntelliGuide s23)

Communications

General	100 Mb Ethernet, TCP/IP Modbus/TCP RS232, at end-of-arm
E-stop	Dual-channel E-stop
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 132 VAC and 180 to 264 VAC Auto selecting, 50-60 Hz 100-250 watts typical operation DC Power Option Available
Pneumatics	Two 3.2 mm OD (1.7 mm ID) airlines provided for end-of-arm-tooling. 4.9 bar max (71 PSI)
Operating Temp	0-50°C (32-122°F)
Relative Humidity	90% non-condensing
Controller Mounting	Embedded into robot base
Weight	25 kg (400 mm Z-axis) 30 kg (750 mm Z-axis) 35 kg (1160 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 Horizontal Compensation XY Compliance

Peripherals and Accessories

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General	IntelliGuide s23 IntelliGuide s60 IntelliGuide s23D (Dial Gripper) Remote I/O (RIO)
Linear Rail	1.0, 1.5, and 2.0M travel
Vision	IntelliGuide v23 IntelliGuide v60

Certifications

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

Robot Mounting
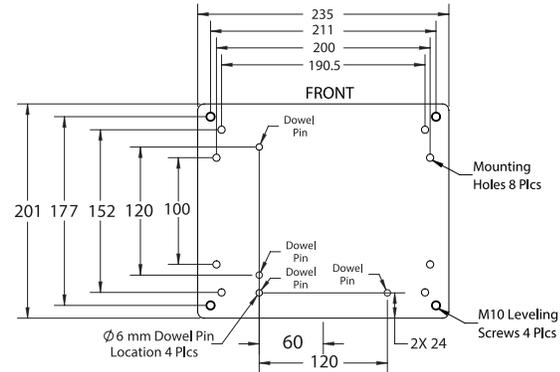
ISO Flange for End-of-Arm Tooling

- ISO-9409-1-31.5-4-M5
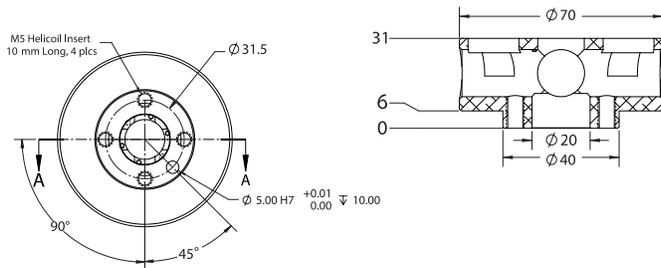
Work Envelope
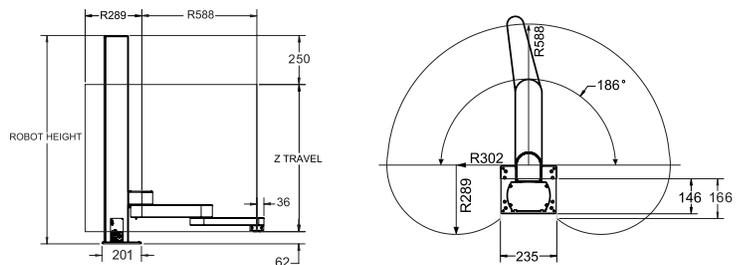
ROBOT HEIGHT	Z TRAVEL
712 mm	400 mm
1062 mm	750 mm
1472 mm	1160 mm

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