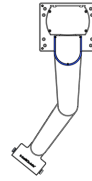**Brooks**

PreciseFlex™

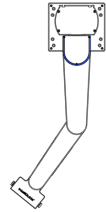# PreciseFlex™ c3 and c3X Robots

Coming Soon

A New Standard for Lab Automation

Whether in Drug Discovery, Genomics, Crop Science, Veterinary, or Bio Banking, Brooks has automation solutions to meet the application. PreciseFlex collaborative robots are the robot of choice for laboratory automation.

The PreciseFlex c3 robot was developed specifically for bench-top applications where throughput, work volume, ease of use, and safety are critical. It has been adopted by nearly every major life science / laboratory automation company and is designed into a wide range of OEM systems.

PreciseFlex c3
(standard horizontal reach)

PreciseFlex c3X
(extended horizontal reach)

Handles a Wide Range of Applications
The PreciseFlex c3 robot is designed to handle SBS plates, tubes, vials. SBS plates can be picked in landscape and portrait orientation.

Easy Control of the LIMS
An extensive library of functions is available to direct the robot via our standard TCS API.

Lowest Power Consumption
Reduced energy usage and extended runtime in mobile applications.
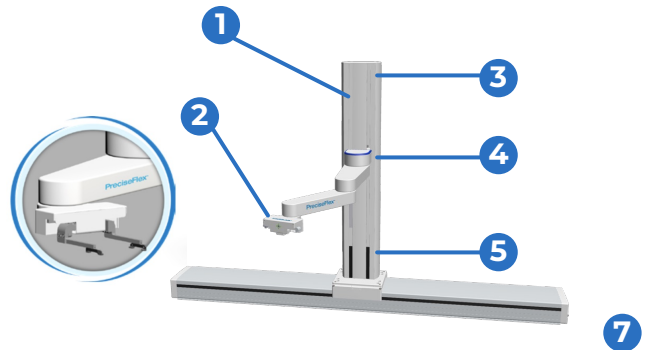
Highest Workspace Density
The PreciseFlex c3 robot has a unique configuration with horizontal articulation for the major axes, and a tall Z-axis (up to 1,160 mm). The Vertical Column work envelope enables the sample handler to reach into racks, hotels, and stacked instruments.

With the vertical column work envelope and embedded controls, PreciseFlex sample handlers offer the highest workspace density, saving valuable floorspace.

Even Better Reliability
With patented direct-drive motor technology on all horizontal axes, the PreciseFlex c3 robot has even better reliability.

Key Benefits
- Fast and easy deployment unlocks the best ROI
- Augments workforce and overcomes labor shortages
- Automates complex workflows and assays, freeing lab technicians for more meaningful work
- Increases lab throughput while improving quality
- Highest workspace density saves valuable floor space
- Most reliable sample handler with MTBF of 125,000 hours and design life of 100,000 hours

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

1. Highest Instrument Density
Reach into instruments, hotels, and nests with tall Z-axis and slim arm design

2. IntelliGuide Servo and Vision Gripper (Optional)
For handling SBS Plates, Tubes, and Vials

3. Range of Motion
Vertical reach: 400, 750, 1160 mm
PreciseFlex c3: 579 mm with IntelliGuide s23 gripper
PreciseFlex c3X: 734 mm with IntelliGuide s23 gripper

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 MTBF of 125,000 hours

PreciseFlex™ c3 and c3X Robots

Technical Specifications

Performance

Max Payload	3.0 kg
Rated Payload	1.2 kg (without gripper)
Max Speed at TCP	500 mm/sec in cartesian space
Max Horizontal Speed	1,500 mm/sec
Max Vertical Speed	500 mm/sec
Max Acceleration	2,500 mm/sec^2
Repeatability	±0.050 mm

Range of Motion

Joint 1 (Z-axis)	400, 750, 1160 mm
Joint 2	±93°
Joint 3	±168°
Joint 4	±960°
Horizontal Reach	PreciseFlex c3: 432.6 mm shoulder to TCP
	PreciseFlex c3X: 587.8 mm shoulder to TCP
	(IntelliGuide grippers add 68.7 mm)

Communications

General	100 Mb Ethernet, TCP/IP
	EtherNet-IP
	Modbus/TCP
	RS232, at end-of-arm
Digital I/O	12 inputs, 8 outputs at base of robot
	optically isolated, 24V @ 100mA
	Remote I/O available

Facilities

Controller Mounting	Embedded into robot base
Power	90 to 264 VAC
	Auto selecting, 50-60 Hz
	100-250 watts typical operation
Weight (w/o gripper)	PreciseFlex c3 / PreciseFlex c3X
	400 mm Z-axis: 22 kg / 27 kg
	750 mm Z-axis: 27 kg / 32 kg
	1160 mm Z-axis: 32 kg / 37 kg

Peripherals and Accessories

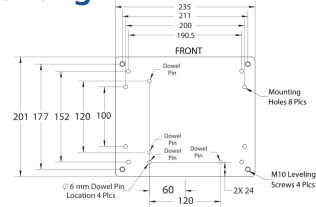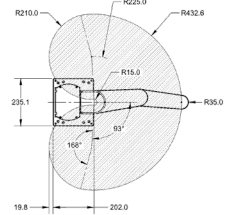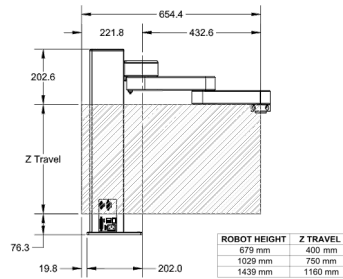|	
General	IntelliGuide s23
	IntelliGuide s60
	IntelliGuide s23D (Dial Gripper)
	Remote I/O (RIO)
Collaborative Rail	1.0, 1.5, and 2.0M travel
Vision	IntelliGuide v23
	IntelliGuide v60

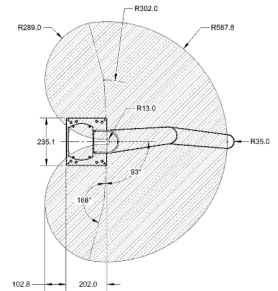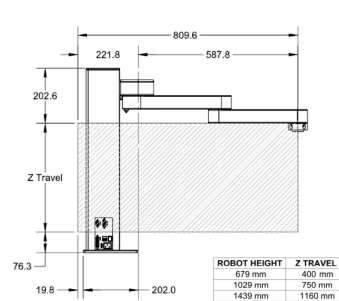### Certifications

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

Robot Mounting

PreciseFlex c3 Work Envelope

ROBOT HEIGHT	Z TRAVEL
679 mm	400 mm
1029 mm	750 mm
1439 mm	1160 mm

PreciseFlex c3X Work Envelope

ROBOT HEIGHT	Z TRAVEL
679 mm	400 mm
1029 mm	750 mm
1439 mm	1160 mm

IntelliGuide s23 Gripper (optional)