

# PreciseFlex™ c5 Robots

## A New Standard for Lab Automation and Beyond

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.

### Handles a Wide Range of Applications

The PreciseFlex c5 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 consumption provides a reduced product carbon footprint (CFP) and extended runtime in mobile applications.

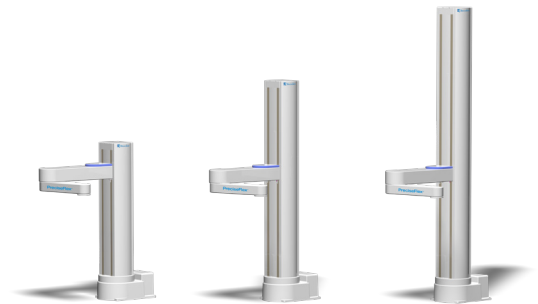
### Highest Workspace Density

The PreciseFlex c5 robot, with rotary base, 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.

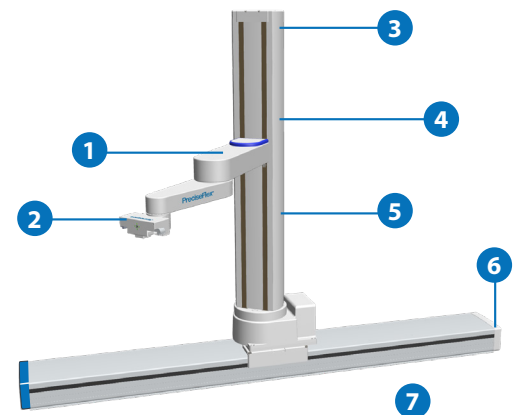
With the cylindrical column work envelope and embedded controls, PreciseFlex cobots offer the highest workspace density, saving valuable floorspace.

### Even Better Reliability

With patented direct-drive motor technology on all horizontal axes, the PreciseFlex c5 robot has even better reliability.



PreciseFlex c5



### 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 Gripper (optional)

For handling SBS Plates, Tubes and Vials

#### 3. Range of Motion

Vertical Reach: 400, 750, 1160 mm

Horizontal: 721.20 mm at TCP, 789.77 mm with IntelliGuide s23

#### 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™ c5 Robots

## Technical Specifications



## Performance

|                             |                                                                |
|-----------------------------|----------------------------------------------------------------|
| <b>Payload</b>              | Max 5.0 kg (without gripper)<br>Rated 3.0 kg (without gripper) |
| <b>Max Speed at TCP</b>     | Horizontal: 1500 mm/sec<br>Vertical: 600 mm/sec                |
| <b>Typical Speed at TCP</b> | Horizontal: 750 - 1000 mm/sec                                  |
| <b>Max Acceleration</b>     | 1,500 mm/sec²                                                  |
| <b>Repeatability</b>        | ±0.050 mm                                                      |

## Range of Motion

|                         |                                                                             |
|-------------------------|-----------------------------------------------------------------------------|
| <b>Joint 1</b>          | ±168°                                                                       |
| <b>Joint 2 (Z-Axis)</b> | 400, 750, 1160 mm                                                           |
| <b>Joint 3</b>          | 10.5° to 349.5°                                                             |
| <b>Joint 4</b>          | ±962°                                                                       |
| <b>Horizontal Reach</b> | 721.20 mm to Tool Center Point (TCP)<br>(IntelliGuide grippers add 68.7 mm) |

## Communications

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

## Facilities

|                      |                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------|
| Controller Mounting  | Embedded into robot base                                                                                   |
| Power                | 100 to 264 VAC<br>Auto selecting, 50-60 Hz<br>100-250 watts typical operation<br>DC Power option available |
| Weight (w/o gripper) | 400 mm Z-axis: 28.8 kg<br>750 mm Z-axis: 34.5 kg<br>1160 mm Z-axis: 41.9 kg                                |

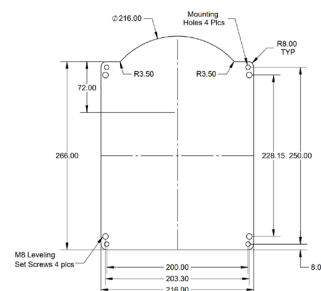
## Peripherals and Accessories

|             |                                                                                        |
|-------------|----------------------------------------------------------------------------------------|
| General     | IntelliGuide s23 gripper<br>IntelliGuide s60 gripper<br>IntelliGuide s23D dual gripper |
| Linear Rail | 1.0, 1.5, 2.0M travel                                                                  |
| Vision      | IntelliGuide v23<br>IntelliGuide v60                                                   |

## Certifications

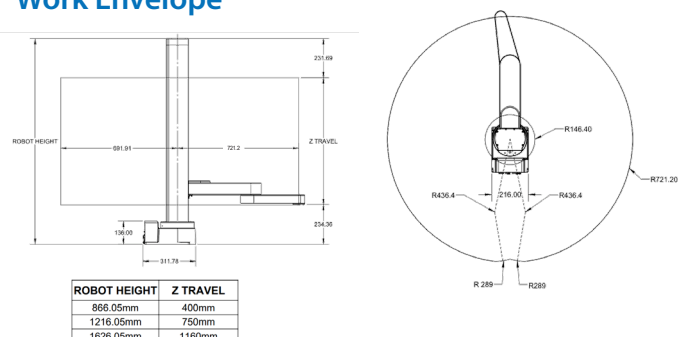
- ISO 10218, ISO/TS 15066, EN 61326-1, CE

## Robot Mounting



Mounting screws: M6 or 1/4" Socket Head Cap Screws

## Work Envelope



### IntelliGuide s23 Gripper (optional)

