

# PreciseFlex DD 4-Axis Cobots

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,** and **most energy-efficient** cobots available.

## Wide Range of Applications

The PreciseFlex DD 4-axis cobot 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 DD 4-axis cobot 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 vertical column work envelope and

# PreciseFlex DD 4-Axis Specifications

## Performance

Payload	8 kg
Max Cartesian Speed	X/Y Direction, 500 mm/sec Z Direction, 600 mm/sec
Max Joint Speed	
J1	200°/sec
J2	600 mm/sec
J3	360°/sec
J4	540°/sec
Max Acceleration	5000 mm/sec <sup>2</sup> 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 EtherNet/IP RS232 Modbus/TCP
Operator Interface	Web-based operator interface
Digital I/O	12 inputs, 8 outputs at base of robot optically isolated, 24V @ 100ma Remote I/O available

## Facilities

Power	90 to 264 VAC, auto selecting, 50-60 Hz 70-175 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)
E-Stop	Dual Channel
Controller Mounting	Embedded into robot base
Air Lines	Two, 3.2 mm OD, 1.6 mm ID Max pressure 500 kpa (75 PSI)
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	Guidance Motion (web interface) Guidance Programming Language (GPL) TCP Command Server (TCS)
Enhanced Functions	Hand Guiding (standard)

## Peripherals and Accessories

General	23N Servo Gripper Dual 23N Servo Gripper 60N Servo Gripper Remote I/O (RIO)
Vision	PreciseVision Gripper, 23N PreciseVision Gripper, 60N

## Certifications

## Robot Mounting

## ISO Flange for End-of-Arm Tooling

## Work Envelope

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