Innovation Matrix

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Innovation™ Matrix

Bridging the Pacific with Automation Technology

AdeptOne-XL Direct Drive Robot

AdeptOne-XL
The AdeptOne-XL direct drive robot is designed for medium sized payloads. This SCARA robot has been optimized for high speed performance while incorporating maintainability, and serviceability features. The AdeptOne-XL's precision, speed, and strength capabilities combine to deliver unmatched performance.

The AdeptOne-XL is derived from it's predecessor, the AdeptOne robot which is represented in more than 5000 application installations worldwide. No other SCARA robot can claim such a wide-ranging installed base. The AdeptOne-XL achieves 0.025 mm repeatability combined with a 12 Kg. payload capability and high Joint 4 inertia performance. In addition, the AdeptOne-XL's Quill length of either 203 mm or 356 mm allows it to handle large grippers for increased production cycle throughput with ease.

Direct Drive design permits the AdeptOne-XL to deliver superior performance consistently for a design life in excess of 50,000 hours or 120 million production cycles.

Utilizing the benefits of direct drive, the AdeptOne-XL offers proven cycle time and reliability advantages over traditional gear driven robot mechanisms. Because there are no gears to wear out, maintenance time and costs are reduced while productivity is maintained.

Adept's powerful AWC controller and V+ software allows system integrators to maximize robot and workcell performance with minimal software effort. Adept's control architecture and language provide seamless integration of options such as vision guidance and force sensing.

The Adept HyperDrive option is available for the AdeptOne-XL. Adept Hyper-Drive is a hardware and software package that increases the robot's speed and acceleration; yielding significant improvement in production throughput.

The AdeptOne-XL is the ideal robot for medium-payload or large work envelope applications that require the dexterity and speed commonly associated only with smaller robots. The AdeptOne-XL continues the tradition of quality and excellence established by the Adept robot family over the last decade.

Specifications:

• Payload:	Burst: (HyperDrive)	Burst: (Non-HyperDrive)	Sustained*:
0kg	0.54sec	0.60sec	0.64sec
5kg	0.60sec	0.67sec	0.73sec
9kg	0.64sec	0.72sec	0.80sec
12kg	0.69sec	0.77sec	0.85sec

**Sustained cycle times based on thermal duty cycle limits*

- Reach: 800mm
- Payload: 12kg (26.5lbs.)
- Joint 4 Inertia (Max): 3181 kg-cm^2
- Downward Force: 45.5kg (100lbs.)
- Robot Brakes: Joints 1, 2, 3, 4: Pneumatic brakes (4.8-7.6 Bar required)
- Repeatability:
  - (x,y): ±0.025 mm (±0.001")
  - (z): ±0.038 mm (±0.0015")
  - Theta: ±0.05˚
- Joint Range:
  - Joint 1: ±150˚
  - Joint 2: ±140˚
  - Joint 3:
    - -Standard: 203 mm
    - -Extended Stroke: 356 mm
  - Joint 4: ±270˚
- Maximum Joint Speed:
  - Joint 1: 650˚/sec
  - Joint 2: 920˚/sec
  - Joint 3: 1,200mm/sec
  - Joint 4: 3300˚/sec
- Available Controllers : 540; 1060; 1060+
- Power Consumption: 3.4 kW sustained mode 1kW robot only
- Design Life: 120 Million Production Cycles
- Options:
  - Adept HyperDrive
  - AdeptForce
  - AdeptVision AVI
  - Solenoid valve kit (4)
  - Robot-mounted camera bracket
  - Extended length cables (8 m & 15 m)
  - Cleanroom Class 10 Upgrade Package
  - IP-54 Sealing Package
- User Connections
  - Electrical:
    - -Group one-7 pair
    - -Group two-4 pair
  - Fieldbus: 2 pair w/MircoDIN
  - Pneumatic: 2 @ 6 mm
- Robot/Controller cables: 5 m (16.4') is standard

Specifications subject to change without notice. 12/11/01

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