

# AdeptViper™ s850



The AdeptViper 6-axis robot family is a high-performance line of robots designed specifically for assembly applications. The speed and precision of the AdeptViper robots also make them ideal for material handling, packaging, machine tending, and many other operations requiring fast and precise automation. The AdeptViper robot family is being introduced with the AdeptViper s650 and AdeptViper s850 robots.

## Robot Specifications

Reach	854 mm
Payload	2.5 kg (rated) 5 kg (max)
Joint Range	
Joint 1	±170°
Joint 2	-190°, +45°
Joint 3	-29°, +259°
Joint 4	±190°
Joint 5	±120°
Joint 6	±360°
Inertia Moment (max)	
Joint 4	0.295 kgm <sup>2</sup>
Joint 5	0.295 kgm <sup>2</sup>
Joint 6	0.045 kgm <sup>2</sup>
Composite Speed (max)	7,600 mm/sec
Joint Speeds	
Joint 1	250°/sec
Joint 2	250°/sec
Joint 3	250°/sec
Joint 4	375°/sec
Joint 5	375°/sec
Joint 6	600°/sec
Repeatability (XYZ)	±0.030 mm
Pass-Through User Connections (routed from robot base to outer link)	
Electrical	10
Pneumatic	1
Brakes	Joints 2 - 6
Internal Solenoids	Three 2-position solenoids (connected to controller by user)
Ingress Protection	IP40 (IP54/65 optional)
Mounting	Floor/Table and Ceiling
Weight	(approx) 29 kg

## Performance

- Absolute encoders make for easy calibration
- Complete interchangeability between robots and controllers
- High-resolution encoders provide high-precision and superior slow-speed following
- High-efficiency motors deliver high performance with more torque per amp
- 8 kHz servo update rate for improved path following and control

## Reliability and Maintenance

- Proven design offers high reliability and low MTTR
- Diagnostics display enables faster troubleshooting

## System Includes

The AdeptViper s850 system includes the following:

- AdeptViper 850 Robot
- Adept SmartController CX (with software installed)
- PA-4 Amplifier Chassis with servo controller and amplifiers
- Front Panel with E-Stop
- 4 Meter Robot Cable
- AdeptWindows Software
- Network File Server (NFS) software
- Ethernet TCP/IP capability
- User Documentation

## User Supplied Items

The user must supply the following items:

- Power to SmartController and PA-4 Amplifier Chassis (see power requirements)
- Cell-based emergency stop wiring
- Windows™-based PC (not required at run-time)

# Adept Viper™ s850

## ADEPT PA-4 AMPLIFIER CHASSIS

### Adept SmartController CX Specifications

SmartServo ports	2
IEEE 1394 (FireWire) ports	2
Ethernet ports (100 baseT)	1
DeviceNet ports	1
RS-232 ports	3
RS-422/485 ports	1
Digital I/O	
Inputs	12 (4 fast)
Outputs	8
Encoder Latching	8 edges (rise/fall)
Conveyor Tracking Support	Requires V+ Extension License
Belt Encoder ports	2

### Environmental Requirements

Ambient temperature	5°C to 40°C
Humidity range (non-conducting)	5 to 90%
Altitude	Up to 2,000 m
See user's documentation for controller enclosure recommendations.	

### Power Requirements for SmartController

24VDC (+/- 10%), 120W (5A), User-Supplied

### Power Requirements for PA-4 Amplifier Chassis

200V to 240V AC, 1-phase, 50/60Hz, User-Supplied	
200V to 240V AC, 3-phase, 50/60Hz, User-Supplied	
380V to 415V AC, 3-phase, 50/60Hz, User-Supplied	
Typical current requirements:	8.5A
Typical power consumption:	1.65 kW

### Downloads

Download CAD files from [www.adept.com](http://www.adept.com) using the following download ID's:

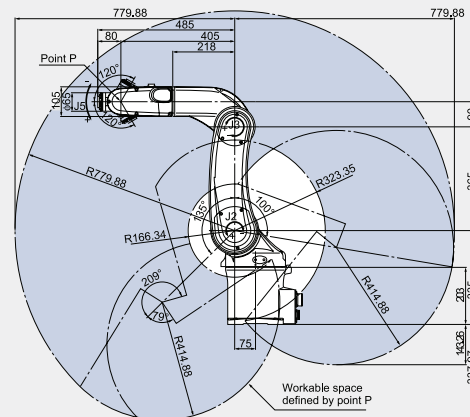
AdeptViper s850 Robot	500501
SmartController CX	136358
Front Panel	135905

### For More Information

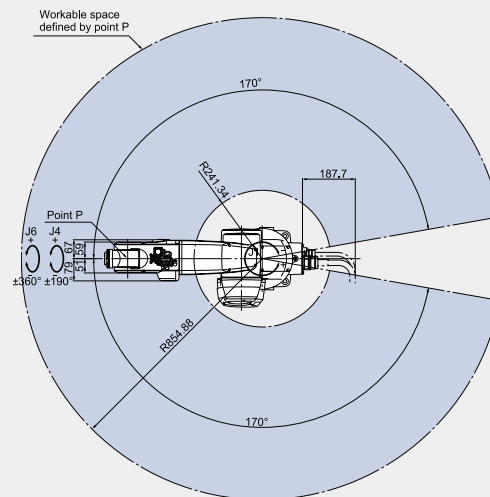
Call (763) 682-9548 or (800) 226-6385. The AdeptViper s850 robot is available by ordering part number 05265-000.



ADEPT SMARTCONTROLLER



Side Dimensions and Work Envelope



Top Dimensions and Work Envelope



Adept Technology, Inc. 3011 Triad Drive, Livermore, CA 94551  
Tel: 925-245-3400 Fax: 925-960-0452 Email: [info@adept.com](mailto:info@adept.com) [www.adept.com](http://www.adept.com)

Specifications subject to change without notice.

©2005 Adept Technology, Inc. All rights reserved. Adept and the Adept logo are registered trademarks, and Adept Viper is a trademark of Adept Technology, Inc. All other trademarks are the property of their respective holders. 05265-000 10052500