

# Adept Viper s650



The Adept Viper™ s650 robot is part of a high-performance line of 6-axis robots designed for applications such as assembly, material handling, packaging, machine tending, and operations that require fast and precise automation. The Adept Viper s650 6-axis robot is available in standard, Cleanroom, and IP-54/65 versions.

## Product Features and Benefits

- Adept ACE™ software to deploy your applications through a user-friendly interface
- High-resolution, absolute encoders to provide high accuracy, superior slow-speed following, and easy calibration
- High-efficiency, low-inertia Harmonic Drives™ and a lightweight arm to deliver maximum acceleration
- 4 kHz servo update rate to improve path following and control
- Diagnostics display enables faster trouble shooting
- Ethernet TCP/IP capability to control the robot through a PC, PLC, or controller
- Complete interchangeability between robots and controllers



The Adept Viper s650 robot comes with the high-performance Adept SmartController™ motion controller, which is based on the Adept SmartServo architecture. It has a small footprint of 329w x 187d x 86h mm.

## Specifications

Reach	653 mm
Payload	Rated 2.5 kg Max. 5 kg
Joint Ranges	
Joint 1	± 170°
Joint 2	- 190° , +45°
Joint 3	- 29° , +256°
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>
Joint Speeds	
Joint 1	328°/sec
Joint 2	300°/sec
Joint 3	375°/sec
Joint 4	375°/sec
Joint 5	375°/sec
Joint 6	600°/sec
Repeatability	
XYZ	± 0.02 mm
Pass-Through Connections (routed from robot base to link four)	
Electrical	10
Pneumatic	6 mm (x1) 4 mm (x6)
Brakes	Joints 2 - 6
Mounting	Floor, Table, & Ceiling
Weight	28 kg
Environmental Requirements	
Ambient Temperature	5 - 40 °C
Humidity Range	5 - 90 % (non-condensing)
Power Requirements for SmartController	
	24 VDC : 5 A
Power Requirements for MotionBlox-6OR	
	24 VDC : 6 A
	200 - 240 VAC : 10 A, single-phase
CE Compliant (cULus option)	

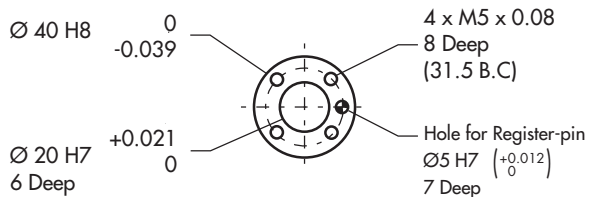
# ADEPT VIPER s650

## Dimensions Adept Viper s650

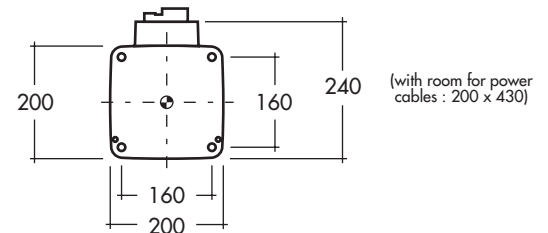


- Working Space:  
Radius 650 mm
- Internal Limit:  
Radius 159 mm  
Based on the Wrist

## Dimensions: Flange (mm)



## Dimensions: Footprint (mm)



## The Adept Viper s650 system includes the following:

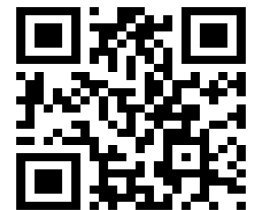
- Adept Viper s650 robot
- Adept SmartController motion controller
- MotionBlox-60R servo controller
- Front panel with E-Stop
- Adept ACE software
- User documentation

## Options and Peripherals:

- AdeptSight™ vision guidance and inspection system (requires a PC—Adept recommends using the Adept SmartVision™ EX)
- T2 manual control pendant
- Dual robot configuration option
- Conveyor-tracking option
- sMI6 SmartMotion™ interface
- sDIO I/O expansion (32 digital input and 32 digital output channels)
- IO Blox I/O module (8 digital input and output channels each)
- High-resolution Joint 4 option
- Solenoid valve kit
- Cleanroom ISO4 (class 10) option
- Adjustable Hardstop Kit

## Downloads:

Download CAD files for the Adept Viper s650 robot from <http://www.adept.com/support/downloads/file-search> using the following download ID: 500500



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