

# Brick Storage Enclosures

## Pillar Axiom Storage System



### Brick Benefits:

- Allow any-to-any relationships between Slammer Storage Controllers and Bricks through connection to the high-speed switched interconnect Storage System Fabric
- Efficiently manage I/O read operations and ensure faster response to the Slammer I/O requests with dual RAID controllers with 256MB cache/RAM on each node used for read ahead cache.
- Active/active redundant RAID controllers
- High redundancy in case of connection failure through multiple Fibre Channel routes to the Slammer Storage Controllers
- Isolated drive rebuilds to provide industry leading rebuild times and minimal performance impact.

Brick Storage Enclosures provide the highly available distributed RAID storage pool for a Pillar Axiom® storage system. Bricks are available with multiple drive types including SATA, Fibre Channel or Solid State Drive (SSD) to meet your budget and performance demands. With Pillar's unique Application-Aware Quality of Service (QoS) you are able to tune storage resources to meet the needs of applications to optimize performance and improve overall efficiencies.

## SATA Brick Storage Enclosures

Serial ATA (SATA) Bricks provide high capacity storage for the SAN, NAS or the common SAN/NAS storage pool.

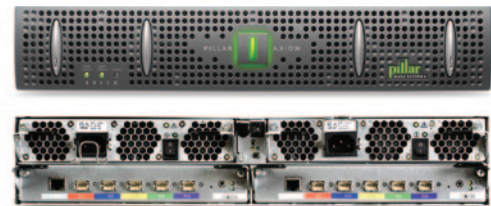
- Each Brick contains two RAID adapters that manage 12 drives as two RAID Groups with 6 drives each. These can be used for multiple RAID-5 or RAID-10 sets.
- The thirteenth drive is a shared hot spare that may be accessed by either controller in case of drive failure



## Fibre Channel Brick Storage Enclosures

Fibre Channel Bricks deliver highly capacity, high-performance storage for SAN, NAS or the common SAN/NAS storage pool.

- Each Fibre Channel Brick may be cascaded to three additional Fibre Channel Bricks, scaling capacity and IOPS and reducing acquisition costs
- Configurable with Port Bypass Controller that cascades off Fibre Channel Bricks with the RAID Controller
- Two RAID adapters manage 12 drives as a single array of 10+P+S RAID 5 or manages 11 drives as a single array of distributed RAID 10

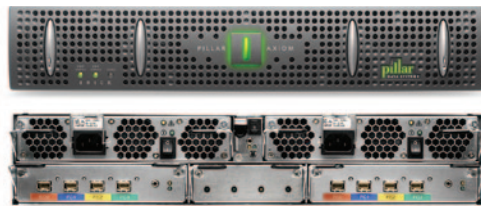


<b>Storage Enclosure</b>	<b>Interface to Slammer or Cascaded Bricks</b> Four Fibre Channel interfaces per controller			<b>Interface to Slammer or Cascaded Bricks</b> Four Fibre Channel interfaces per controller		
<b>Features and Specifications</b>	Automatic, transparent failover Two RAID 5 5+P arrays Distributed RAID 10			Automatic, transparent failover One RAID 5 10+P+S array Distributed RAID 10		
	<b>Redundant and Hot-Swappable Components</b> 13 drives; includes one hot spare Two RAID controllers (active-active) Two load-balancing power supplies Enclosure Services Module			<b>Redundant and Hot-Swappable Components</b> 12 drives (one hot spare) Two RAID controllers (active-active) Two load-balancing power supplies Enclosure Services Module		
	<b>Height</b>	3.5 in	8.89 cm (2U)	<b>Height</b>	3.5 in	8.9 cm (2U)
	<b>Width</b>	17.7 in	45 cm	<b>Width</b>	17.7 in	45 cm
	<b>Depth</b>	22 in	55.5 cm	<b>Depth</b>	22 in	55.5 cm
	<b>Weight</b>	59 lbs	26 kg	<b>Weight</b>	70 lbs	32 kg
<b>Drive Information</b>	<b>Capacity</b>	500GB, 1TB, 2TB	2TB	<b>Capacity</b>	300GB, 450GB	
	<b>Rotational Velocity Standard</b>	7,200 RPM SATA II	5,400 RPM SATA II	<b>Rotational Velocity Standard</b>	15,000 RPM FC	
<b>Power Requirements</b>	<b>Power Frequency</b>	50 – 60 Hz	50 – 60 Hz	<b>Power Frequency</b>	50 – 60 Hz	
	<b>AC Voltage</b>	90 – 264 VAC	0 – 264 VAC	<b>AC Voltage</b>	90 – 264 VAC	
	<b>Max Power Consumption</b>	257 VA	221 VA	<b>Max Power Consumption</b>	400 VA	
	<b>Max Heat Dissipation</b>	877 BTU/hr	877 BTU/hr	<b>Max Heat Dissipation</b>	1,370 BTU/hr	
	<b>AC Plug Type</b>	2 IEC 320 C13 connections		<b>AC Plug Type</b>	2 IEC 320 C13 connections	
<b>Environmental – Operating</b>	<b>Temperature</b>	10 – 40 degrees C		<b>Temperature</b>	10 – 40 degrees C	
	<b>Temperature Gradient</b>	10 degrees C/hr		<b>Temperature Gradient</b>	20 degrees C/hr	
	<b>Relative Humidity</b>	10 – 85 percent non-condensing		<b>Relative Humidity</b>	10 – 85 percent non-condensing	
	<b>Humidity Gradient</b>	10 percent/hr non-condensing		<b>Humidity Gradient</b>	10 percent/hr non-condensing	
<b>Environmental – Non-Operating</b>	<b>Temperature</b>	-40 – 70 degrees C		<b>Temperature</b>	-40 – 70 degrees C	
	<b>Temperature Gradient</b>	30 degrees C/hr		<b>Temperature Gradient</b>	30 degrees C/hr	
	<b>Relative Humidity</b>	5 – 95 percent non-condensing		<b>Relative Humidity</b>	5 – 95 percent non-condensing	
	<b>Humidity Gradient</b>	10 percent/hr non-condensing		<b>Humidity Gradient</b>	10 percent/hr non-condensing	

## SSD Brick Storage Enclosures

SSD Bricks deliver the highest performance, high capacity storage for SAN, NAS or the common SAN/NAS storage pool.

- Each Brick contains two RAID adapters that manage 12 drives as two RAID Groups with 6 drives each. These can be used for multiple RAID-5 sets.
- The thirteenth drive is a shared hot spare that may be accessed by either controller in case of drive failure
- 85% reduction in power and cooling costs as compared to FC drives.



<b>Storage Enclosure</b>	<b>Interface to Slammer or Cascaded Bricks</b> Four Fibre Channel interfaces per controller	
<b>Features and Specifications</b>	Automatic, transparent failover Two RAID 5 5+P arrays	
	<b>Redundant and Hot-Swappable Components</b> 13 drives (one hot spare) Two RAID controllers (active-active) Two load-balancing power supplies Enclosure Services Module	
	<b>Height</b>	3.5 in      8.9 cm (2U)
	<b>Width</b>	17.7 in      45 cm
	<b>Depth</b>	22 in      55.5 cm
	<b>Weight</b>	51 lbs      23.13 kg
<b>Drive Information</b>	<b>Capacity Standard</b>	50GB, 200GB SSD
<b>Power Requirements</b>	<b>Power Frequency</b>	50 – 60 Hz
	<b>AC Voltage</b>	90 – 264 VAC
	<b>Max Power Consumption</b>	175 VA RMS
	<b>Max Heat Dissipation</b>	425 BTU/hr
	<b>AC Plug Type</b>	2 IEC 320 C13 connections
<b>Environmental – Operating</b>	<b>Temperature</b>	10 – 40 degrees C
	<b>Temperature Gradient</b>	20 degrees C/hr
	<b>Relative Humidity</b>	10 – 85 percent non-condensing
	<b>Humidity Gradient</b>	10 percent/hr non-condensing
<b>Environmental – Non-Operating</b>	<b>Temperature</b>	-40 – 70 degrees C
	<b>Temperature Gradient</b>	30 degrees C/hr
	<b>Relative Humidity</b>	5 – 95 percent non-condensing
	<b>Humidity Gradient</b>	10 percent/hr non-condensing



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