

# Quantum®

## QXS-3 Hybrid Storage



### > DATASHEET

### Entry-level, value-priced, seamlessly upgradable storage

The QXS™-3 hybrid storage series features next-generation host connection speeds, Q-Tools, Q-Turbo, and high-capacity drives. These models support the following host connection types: 8Gb Fibre Channel, 16Gb Fibre Channel, 12Gb SAS, 1Gb iSCSI, or 10Gb iSCSI.

QXS-3 hybrid storage arrays with data protection are ideal for IT applications such as email, file sharing, and video editing. With the fast host connections, the systems readily support server backup for small virtualized environments and small workgroup video editing.

Manageability is a cornerstone of the QXS-3 Series. Q-Tools includes:

1. Thin Provisioning
2. Automatic Pooling
3. Quick – provides an accelerated rebuild operation as only the sectors that contain actual data are rebuilt, resulting in up to five times faster restoration.
4. Q-Turbo – simultaneously writes to both controllers, increasing performance by 50%.

Other optional management tools are:

1. Q-Snap – redirect on write snapshots (pointers).
2. Q-Replication – asynchronous replication.
3. Q-Copy – snapshots.

The QXS-3 Series arrays are easy to manage with the Storage Management Console. You can manage all array functions without the need for host-based software, including the advanced Management Console that saves time with configuration and installation wizards, schedulers, and the administration of Q-Tools data protection software.

#### MODEL QXS-312 (FIBRE CHANNEL, iSCSI, SAS)

##### With Twelve 3.5" Drives

Drives per array	Up to 12 (SSD, SAS, 15K, 7K, Encrypted)
Max capacity per chassis	96TB
Expanded Capacity	384TB

##### Performance

Read	3.3GB/s
Write	2.4GB/s

##### Physical

Depth (excluding cable)	20.57in/52.25cm
Height	3.43in/8.71cm
Width	18.99in/48.24cm
Chassis weight	58.2lb/26.9kg
Chassis weight with drives	78.2lb/35.5kg

#### MODEL QXS-324 (FIBRE CHANNEL, iSCSI, SAS)

##### With Twenty-Four 2.5"

##### Drives

Drives per array	Up to 24 (SSD, SAS, 15K, 7K, Encrypted)
Max capacity per chassis	48TB
Expanded Capacity	192TB

##### Performance

Read	3.3GB/s
Write	2.4GB/s

##### Physical

Depth (excluding cable)	20.46in/51.9cm
Height	3.5in/8.9cm
Width	17.6in/44.7cm
Chassis weight	36.4lb/16.5kg
Chassis weight with drives	51.8lb/23.5kg

> LEARN MORE:  
[www.quantum.com/hybridstorage](http://www.quantum.com/hybridstorage)

# TECHNICAL SPECIFICATIONS

## HOSTS

<b>External Ports</b>	2 per controller/4 maximum
<b>Fibre Channel</b>	
Host Speed	16Gb, 8Gb Fibre Channel
Interface Type	SFP+
<b>iSCSI Models</b>	
Initiators	10Gb NIC or 1Gb, 10Gb iSCSI
Interface Type	SFP+
<b>SAS</b>	
Initiators	12Gb, 6Gb, SAS 3.0 (Serial-attached SCSI) SAS modules support 8 total host ports with an optional host port expansion cable
Interface Type	Mini-SAS HD

## EXPANSION EBODS

<b>x12ES (6Gb)</b>	(1 RAID, 3 EBOD), 48 Drives
<b>x24ES (6Gb)</b>	(1 RAID, 3 EBOD), 96 Drives

## HIGH-AVAILABILITY FEATURES

Redundant Hot-Swap Controllers  
Redundant Hot-Swap Disk, Fans, Power  
Dual Power Cords  
Hot Standby Spare  
Automatic Failover  
Multi-Path Support

## PROTOCOLS AND STANDARDS

IP (RFC, 984, 1092)	SCSI-2 and SCSI-3
OpenStack Cinder compatible	

## SUPPORT

<b>Standard Software Warranty</b>	Includes 30 days of 5x9 telephone and email software support
<b>Standard Hardware Warranty</b>	Three-year next business day parts replacement. Replacement item shipment targeted for next business day. Customer will perform the replacement and return of the failed item. Parts replacement service available 5x9 via telephone or email.

## RAID

<b>Levels Supported</b>	0,1,3,5,6,10, and 50
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## SYSTEM CONFIGURATION

<b>Cache Memory</b>	6GB per controller
<b>Virtual Disks per System</b>	32
<b>Volumes per System</b>	1024
<b>Mirrored Cache</b>	Yes – Q-Turbo
<b>Super Capacitor Cache Backup</b>	Yes
<b>Cache Backup to Flash</b>	Yes – Non-volatile

## MANAGEMENT

<b>Interface Types</b>	10/100/1000 Ethernet, Mini USB
<b>Protocols Supported</b>	SNMP, SSL, SSH, SMTP, SMI-S Provider, HTTP(s)
<b>Management Software</b>	Q-Tools
<b>Remote Diagnostics</b>	
<b>Non-Disruptive Updates</b>	
<b>Volume Expansion</b>	

## COMPLIANCE AND STANDARDS

NEBS Level3, MIL-SPEC 810G  
IP (RFC, 894, 1092), SCSI-2 and SCSI-3

## POWER REQUIREMENTS – AC INPUT

<b>Input Power Requirements</b>	100-240VAC 50/60Hz
<b>Max Input Power</b>	375W maximum continuous QXS-312 400W maximum continuous QXS-324
<b>Heat Dissipation</b>	1488BTUs/hour

## BRONZE RATE – HIGH EFFICIENCY

82 percent @ 20 percent load
86 percent @ 80 percent load
85 percent @ 100 percent load

## POWER REQUIREMENTS – DC INPUT

<b>Voltage</b>	-39 to -72DC, -48/-60V nominal
<b>Max Input Power</b>	500W maximum continuous
<b>Heat Dissipation</b>	1706 BTUs/hour

## TEMPERATURE AND HUMIDITY RANGES

<b>Operating Temperature</b>	41°F to 104°F (5°C to 40°C)
<b>Shipping Temperature</b>	-40°F to 158°F (-40°C to 70°C) Note: Derate 2°C for every km, up to 3000 meters
<b>Operating Humidity</b>	10% to 90% RH @ 104°F (40°C), non-condensing
<b>Non-Operating Humidity</b>	Up to 93% RH @ 104°F (40°C), non-condensing

## DECLARED ACOUSTIC NOISE LEVELS

<b>Sound Power</b>	LWAd=6,75 B
<b>Sound Pressure</b>	LpAm=55dB <sup>A</sup>

## SHOCK AND VIBRATION

<b>Shock, Operational</b>	3Gs for 10ms, half sine
<b>Shock, Non-Operational</b>	10Gs for 11ms, half sine
<b>Vibration, Operational</b>	5Hz to 500Hz, 0.21 Grms flat spectrum
<b>Vibration, Non-Operational</b>	3-365-3Hz, 1.22 Grms, Z-axis, 0.85 Grms, X- & Y-axis shaped spectrum

## REGULATORY

<b>Safety</b>	UL 60950-1, 2nd edition (United States) CAN/CSA-C22.2 No.60950-1 2nd edition (Canada) EN 60950-1 (European Union) IEC 60950-1 (International) EN 60950-1 (GS Mark, Germany) CCC Mark (China PRC)
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## ELECTROMAGNETIC COMPATIBILITY

<b>Emissions</b>	CFR47 Par 15 Subpart B Class A (United States) ICES-003 Class A (Canada) EN 55022 Class A (EU) EN 300 386 Class A (EU Telco) AS/NZS CISPR 22 Class A (Australia, New Zealand) VCCI Class A (Japan) GOST R 51318.22 Class A (Russia) KN 22 Class A (S. Korea) CMS 13438 Class A (Taiwan)
<b>Harmonics</b>	EN 61000-3-2 (EU)
<b>Flicker</b>	EN 61000-3-3 (EU)
<b>Immunity</b>	EN 55024 (EU) EN 300 386 (EU Telco) GOST R 51318.24 (Russia) KN 24 (S. Korea)
<b>RoHS and WEEE</b>	RoHS-6/6 Compliance, China RoHS, WEEE
<b>Country Approvals</b>	United States, Canada, European Union (EU), Australia/ New Zealand, Japan, China (PRC), Russia, Mexico, Germany, South Korea, Taiwan, India

## ABOUT QUANTUM

Quantum is a leading expert in scale-out storage, archive, and data protection, providing solutions for capturing, sharing, and preserving digital assets over the entire data lifecycle. From small businesses to major enterprises, more than 100,000 customers have trusted Quantum to address their most demanding data workflow challenges. Quantum's end-to-end, tiered storage foundation enables customers to maximize the value of their data by making it accessible whenever and wherever needed, retaining it indefinitely and reducing total cost and complexity. See how at [www.quantum.com/customerstories](http://www.quantum.com/customerstories).