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## **Product Datasheet**

# **HP StorageWorks MSL5026SL Tape Library**

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### MODELS

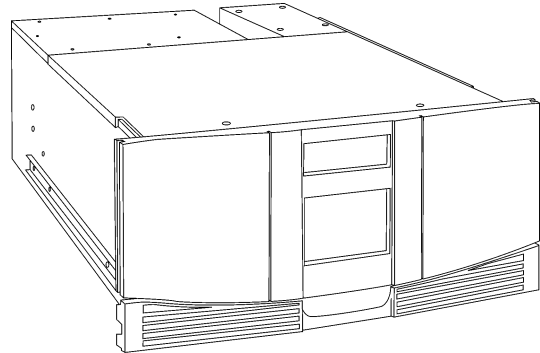
The HP StorageWorks MSL5026SL Tape Library comes with 26 media slots (including one mail slot) and one or two HP SDLT 110/220 tape drives (number of drives determined by SKU chosen).

293472-B21	MSL5026SL, 0 DRV, RM Graphite Library
302511-B21	MSL5026SL, 1 DRV, SDLT 110/220, TT Graphite Library
302511-B22	MSL5026SL, 2 DRV, SDLT 110/220, TT Graphite Library
302512-B21	MSL5026SL, 1 DRV, SDLT 110/220, RM Graphite Library
302512-B22	MSL5026SL, 2 DRV, SDLT 110/220, RM Graphite Library
231823-B22	MSL5000 Field Upgrade SDLT 110/220 Drive, LVD

Each library installation will require, (1) library system, (1) geographically specific power cord, (1) SCSI cable for each SDLT drive pair, and up to 26 pieces of SDLT media with bar code labels for each MSL5026SL. Multiple configurations will require additional passthrough kits.

The minimum orderable configuration consists of a single library system (for instances where customer already has the necessary SCSI cables, power cord, and media).

Installation services may also be ordered for customers who want to have a certified Hewlett-Packard engineer perform an onsite library installation.



### OVERVIEW

- The HP StorageWorks MSL5026SL Tape Library starts HP's mid-range family of tape automation products for the mainstream automation segment. It is the first to offer high availability features in this segment with hot plug drives.
- It offers 5.72 TB (2:1 compression) of storage, providing the highest capacity in its class in a compact 5U form factor, in tabletop or rackmount configurations.
- It is scalable to up to seven units in a rackmount configuration to provide a maximum of 40.04 TB (2:1 compression) of data backup capacity.

#### MSL5026SL Library Customer benefits include:

- High availability feature for minimum downtime
- Reliable, cost effective backup, restoration and archival solution that fits a growing companies storage needs
- High storage capacity to backup large amounts of data in a small backup window.
- Easy to operate which equates to lower cost of ownership
- Compressed form factor only taking 5U of rack space with a single module
- Removable magazines for off-site backup storage
- Multi-unit scalability for future growth and investment protection
- Compatible with a wide variety of operating systems, software applications, and server platforms



## KEY FEATURES

- Hot plug drives for online repair and capacity expansion, without interrupting library operations for minimum downtime
- One or two SDLT 110/220 drives, with a throughput of 11 MB/s (native) per drive for a backup performance of up to 79.2 GB/hr for a single unit
- Ultra2 LVD SCSI interface
- Twenty-six data slots for a native capacity of 2.86 TB, giving the highest density in a 5U form factor in the mainstream segment (including one mail slot for quick load/unload and removable magazine)
- Two cPCI slots for added functionality through add-on cards in future
- GUI based touch screen panel for easy library operation
- Available as either a rackmount or tabletop configuration
- Multi-unit modular scalability, up to seven units, for future growth and investment protection

## PRODUCT HIGHLIGHTS

### High Availability and Hot Pluggable Drives

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As data becomes more mission critical, and downtime becomes more costly, customers are requiring high availability features on tape automation devices. The MSL5026SL uses hot pluggable SDLT drive carriers, allowing drive replacement without interrupting backup and restore functions. These hot pluggable drive trays allow for easy scalability of performance, as well as provide an easy upgrade path towards future SDLT drive technologies.

**NOTE:** The MSL5026SL accepts only library ready drives specifically modified for use in the MSL5026SL library.

### Proven Reliability

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Using SDLT tape drives, and proven library robotics with a rating of 2,000,000 robot load/unload cycles, the MSL5026SL provides the necessary high reliability for today's demanding environment.

### DLT/SDLT Technology

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Digital Linear Tape uses a proven linear recording technology, a highly accurate tape guide system, and a read after write correction system to provide high-capacity, high reliability data backup and restoration. DLT has fast become the industry-standard secondary storage tape format for departmental and enterprise backup. The new generations of SDLT tape drives, in addition to enhanced capacity and backup performance, provide several new features such as Laser Guided Magnetic Recording (LGMR™) technology, Pivoting Optical Servo (POS), Magneto-Resistive Cluster Heads (MRC), Partial Response Maximum Likelihood (PRML) channel technology and backward-read compatibility with earlier generation of DLT drives, to be able to read media written in DLT IV format.

### Manageability

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The MSL5026SL library configurations are fully supported through Hewlett-Packard Insight Manager 7.0, providing information to administrators for robotic status, tape status changes and fault status. Hewlett-Packard TSMC (tape storage management console) software provides diagnostics and easy firmware upgrade capabilities.

### Multi-unit modular Scalability

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The MSL5026SL has the capability for multi-unit scalability, up to seven libraries can be scaled together in a virtual library. The first two modules are linked using passthrough mechanism, which has the elevator mechanism for tape movement. Additions of subsequent modules require the passthrough extender (one for each additional module).

## PRODUCT HIGHLIGHTS *(continued)*

### ISV-O/S Support

Device/ISV/OS MSL SDLT110/220 Models Under SCSI, Direct-attach Fibre and SAN	Windows® NT® 4.0 SP6a	Windows 2000 SP2	Tru64 UNIX 4.0g 5.1a	HP-UX* 11i, 11.0, 10.2,	NetWare® 5.1 SP3	NetWare 6.0	Linux® Red Hat® 7.1, 7.2 Linux SuSe® 7.3	Sun™ Solaris™ 2.6, 2.7, 2.8	AIX 4.3.3
HP Omniback 4.x	✓	✓		✓	✓			✓	✓
HP Data Protector	✓	✓		✓	✓			✓	✓
VERITAS NetBackup 4.5	✓	✓	✓	✓				✓	✓
VERITAS NetBackup 3.4.3	✓	✓	✓	✓				✓	✓
Legato NetWorker 6.1.2	✓	✓	✓	✓			✓	✓	✓
VERITAS Backup Exec 8.6	✓	✓			✓	✓			
VERITAS Backup Exec 9.0					✓				
CA BrightStor ARCserve 2000	✓	✓							
CA BrightStor ARCserve 7					SCSI only	SCSI only			

\* HP-UX commands fbackup/frecover and backups launched using HP-UX Site Area Manager are not supported

### Server Support

#### Enterprise ProLiant Servers

ProLiant DL760  
ProLiant ML750

#### Departmental ProLiant Servers

ProLiant DL580 G2  
ProLiant ML570 G2  
ProLiant ML530 G2

#### Workgroup ProLiant Servers

ProLiant DL380 G2  
ProLiant ML370  
ProLiant ML350  
ProLiant DL360  
ProLiant DL320

#### AlphaServer Systems

AlphaServer GS320, GS160, GS 80  
AlphaServer ES40  
AlphaServer 4X00  
AlphaServer DS20E  
AlphaServer 1200  
AlphaServer DS10/DS10L

#### HP-UX servers

Superdome  
rp8400  
rp7400 (N class)  
rp5400 series (L Class)  
rp2450/2470 (A class)  
K class  
D Class  
B-class workstations  
C-class workstations  
J-class workstations

#### HP Netserver

HP Ixr8500  
HP lh6000  
HP lh6000r  
HP lt6000r  
HP tc4100  
HP tc3100  
HP lh3000  
HP lc2000r  
HP lp2000r  
HP lp1000r  
HP e200  
HP e800

#### Non-HP systems

Dell PowerEdge  
IBM Netfinity  
IBM RS6000  
Sun Sparc

## PRODUCT HIGHLIGHTS *(continued)*

### Application Support

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#### Automation and Network Utilities

Media Robot Utility (MRU) v1.4  
StorageWorks Tape Storage Management Console v2.3  
Insight Manager v7.0

For the latest updated compatibility matrix for ISV backup software supported go to  
<http://www.compaq.com/products/storageworks/ebs/EBScompatmatrix.html>

**Media Partitioning Support:** Media partitioning is the capability to create logical pools or partitions in a tape library. The MSL5026SL tape library supports media partitioning capability to support multiple drives types within a single library or in a multi-unit stack. Currently this capability supports Hewlett-Packard DLT 40/80 GB and SDLT 110/220 GB drives. Media partitioning capability is available via the ISV backup application software being used to perform backup and restores. The following applications support media partitioning capability

- Computer Associates Arcserve 2000 Build 15 for Windows NT/2000
- VERITAS Backup Exec 8.6 for Windows NT/2000 Build 8.6.3808 and later
- VERITAS NetBackup 3.4 or 3.4.1 with patch NB\_3.4.1\_1 for Windows NT/2000 and patch NB\_3.4\_1 for UNIX
- Legato NetWorker 6.1.1 with Legato Smart Media 1.5

### Software Components

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**SmartStart:** Server configuration and software integration tool from Hewlett-Packard.

## SPECIFICATIONS

<b>Control Panel</b>	Library and drive status Move tape cartridges Load/unload tape drives Maintenance (diagnostics) Library configuration Statistics Inventory check Security level set: operator, user, service Mail slot access Offline/online status Magazine removal/replacement							
<b>SCSI Interface</b>	Ultra 2 LVD SCSI, VHDCI interconnect							
<b>Form Factor</b>	5U Rackmount Tabletop							
<b>Shipping Dimensions</b>	Height [inches]	Height [cm]	Width [inches]	Width [cm]	Depth [inches]	Depth [cm]	Weight [lb]	Weight [kg]
<b>Product Only</b>								
MSL5026SL 0 Drive, RM	8.75	22.2	17.00	43.2	30.00	76.2	43.0	19.5
MSL5026SL 1 Drive, RM	8.75	22.2	17.00	43.2	31.50	80.0	52.0	23.6
MSL5026SL 2 Drive, RM	8.75	22.2	17.00	43.2	31.50	80.0	61.0	27.7
MSL5026SL 1 Drive, TT	10.00	25.4	19.00	48.3	31.50	80.0	61.0	27.2
MSL5026SL 2 Drive, TT	10.00	25.4	19.00	48.3	31.50	80.0	69.0	31.3
<b>Packaged</b>								
MSL5026SL 0 Drive, RM	15.25	38.7	23.00	58.4	38.25	97.2	75.0	34.0
MSL5026SL 1 Drive, RM	15.25	38.7	23.00	58.4	38.25	97.2	84.0	38.1
MSL5026SL 2 Drive, RM	15.25	38.7	23.00	58.4	38.25	97.2	93.0	42.2
MSL5026SL 1 Drive, TT	15.75	40.0	25.25	64.1	40.00	101.6	90.0	40.8
MSL5026SL 2 Drive, TT	15.75	40.0	25.25	64.1	40.00	101.6	99.0	44.9
<b>Capacity (native)</b>	MSL5026SL base unit		2.86 TB					
<b>Performance (native)</b>	15 MB/s per drive							
	MSL5026SL base unit		Supports 1 or 2 SDLT 110/220 drives for native transfer rates up to 79.2 GB/hr					
	Maximum configuration (7 modules with multi-unit scalability)		Supports up to 14 SDLT 110/220 drives for native transfer rates up to 554.4 GB/hr					
<b>Storage Capacity (compressed @ 2:1)</b>	200 GB per cartridge							
	MSL5026SL base unit		26 slots (including one mail slot), for native capacity up to 2.86 TB					
	Maximum configuration (7 modules with multi-unit scalability)		7 * 26 slots, for native capacity up to 20.02 TB					
<b>Power Consumption</b>	MSL5026SL base unit		90 to 140V AC @ 47 to 63Hz 176 to 259V AC @ 47 to 63Hz					
	Power requirement		180 Watts (typical) 200 Watts (maximum)					
	Heat dissipation		612 BTU's/hour (typical) 671 BTU's/hour (maximum)					
<b>Acoustic Noise</b>	Noise power emission level		8 bels, maximum					
	Avg. sound pressure level		52 dBA					
<b>Robotics Performance</b>	Initialization time		100 sec					
	Inventory time		60 sec					
	Cartridge swap (drive to slot)		15 sec average					

### SPECIFICATIONS *(continued)*

Reliability	MTBF	250,000 hours (100% duty cycle) (excludes drives)
	MSBF	2,000,000 robot load/unload cycles
Product Safety Requirements and Approvals	EN60950 (IEC 950), UL1950, CSA C22.2 950, VDE 0805/11.92 (TUV), EMKO-TSE 207/94 (NEMKO, FIMKO, DEMKO, SEMKO), SCFI-1993, KONKAR, MEEI, EVPU, SIQ, VCCI Class 1, C-Tick (Class A) SMA AZ/NZS 3548 Class A, BCIO, CE Marking Directive (93/68/EEC) (Class A), EMC Directive [89/336/EEC], Low Voltage Directive [73/23/EEC] (some in process)	

### Warranty

One -year warranty, on-site next day response.

Additional warranty protection can be purchased for all MSL5026SL SDLT library products.

**NOTE:** Certain restrictions and exclusions apply. Consult the Hewlett-Packard Customer Support Center for details.

### HEWLETT-PACKARD INSTALLATION AND CAREPAQS

Hewlett-Packard Services provides warranty support for the MSL5026SL via Hewlett-Packard Services and a worldwide network of authorized service providers. Toll-free 7 x 24 hardware technical phone support is provided for the duration of the product warranty. In addition, available service offerings include a full range of CarePaqs packaged hardware and software services:

- Installation and start up
- Extended coverage hours and enhanced response times
- System management and performance services

#### Hewlett-Packard Service and Warranty Support

Additional warranty protection and/or Hewlett-Packard Installation packages can be purchased for the MSL5026SL library products:

#### Software Product Services

- Stand-alone telephone support
- Rights to a new license
- Media and documentation updates

#### Hardware Product Services

- Installation services
- On-site Maintenance (includes warranty support)
- Response time upgrades during the warranty period
- Post-warranty coverage

For additional hardware installation and maintenance information please refer to the URLs listed below:

[http://www.compaq.com/services/CarePaq/us/hardware/cp\\_storage.html](http://www.compaq.com/services/CarePaq/us/hardware/cp_storage.html)

[http://www.compaq.com/services/CarePaq/us/install/cp\\_storage.html](http://www.compaq.com/services/CarePaq/us/install/cp_storage.html)

#### Warranty Upgrade Options

- Response - Upgrade on-site response from next business day to same day 4-hours
- Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours
- Duration - Select duration of coverage for a period of 1, 3, or 5 years

#### NA CarePaq Information

Sample part numbers:

FM-TLXHW-36	1 year, upgrade to 5x9, next day response
FM-TL4HR-36	1 year, upgrade to 5x9, 4hr response
FM-TL724-36	1 year, upgrade to 7x24, 4hr response

- CarePaq is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- CarePaq is not available for less than the products warranty duration.
- CarePaq is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the warranty start date (delivery date to end user customer). Proof of purchase may be required.
- CarePaq services are prepaid.

For additional CarePaq (hardware & software) information, as well as, orderable part numbers please refer to the URL listed below:

<http://www.compaq.com/services/CarePaq/index.html>

## HEWLETT-PACKARD INSTALLATION AND CAREPAQS *(continued)*

### EMEA CarePaq Information

Additional CarePaq services are being developed to cover a broader range of StorageWorks Hardware and Software. Existing CarePaqs are available today for MSL Libraries.

Ask your local CarePaq Business Manager for the latest details.

### CarePaq Priority Services (PS) Information for EMEA

- CarePaq Priority Services brings a totally new approach that removes the complexity from evaluating, planning and purchasing services on Hewlett-Packard Alpha and Storage platforms.
- CarePaq Priority Services are easy to purchase and easy to use and cover all external storage products not covered under server-based CarePaq services.

### Standard Offerings

- CarePaq Priority Services provide an integrated hardware and software support that ensure consistent coverage across storage configurations.
- CarePaq Priority Service offers a rapid four-hour response with guaranteed work-through to completion for three years.
- CarePaq Priority Services have a standard call window of Monday to Friday 08:00 - 17:00 with uplifts to full 24x7 over three years with four-hour response time and work through to completion.
- CarePaq Priority Services also provide software support, with a two-hour response time for telephone access to highly trained support personnel.

For more information on how to order CarePaq Priority Services in EMEA please contact your local Certified Integration Partner or Authorized Reseller. Customized Installation Services (including installation of vendor backup software) and contract based support services are available by contacting your local Services department.

## RELATED OPTIONS

Part Number	Part Description	UPC Code
<b>MSL5026SL – graphite Library System</b>		
293472-B21	MSL5026, 0 DRV, RM Library	613326517987
302511-B21	MSL5026, 1 DRV, SDLT 110/220, TT Graphite Library	613326578636
302511-B22	MSL5026, 2 DRV, SDLT 110/220, TT Graphite Library	613326578612
302512-B21	MSL5026, 1 DRV, SDLT 110/220, RM Graphite Library	613326578490
302512-B22	MSL5026, 2 DRV, SDLT 110/220, RM Graphite Library	613326578476

### Supplied with each Library Unit:

- Library Unit (pre-configured with drives)
- Documentation Kit
  - EFIJS Translation CD
  - Users Guide
  - Diagnostic diskette/Software Guide
  - Warranty Card
  - Safety Card
  - Driver CD
- (1) SDLT 110/220 data Cartridge
- Bar Code Labels
- SCSI Terminators (1 per drive)
- SCSI Jumper Cable VHDCI
- Diagnostic Cable (for PC attach)
- Software: Tape Storage Management Console Media Robot Utility

### Supplied with each library:

Power Cord US/Canada

## RELATED OPTIONS *(continued)*

### Power Cord (one required\*)

227099-001	Power Cord, US/Canada/Mexico (shipped with all units)	720591673581
227098-011	Power Cord, (Australia/China/New Zealand)	720591673567
157220-AR1	Power Cord, (South East Asia/India)	
157215-021	Power Cord, (Central Europe)	
157216-031	Power Cord, (United Kingdom/Hong Kong)	720591547288
157219-111	Power Cord, (Switzerland)	743172633156
157217-061	Power Cord, (Italy)	
157218-081	Power Cord, (Denmark)	
139867-006	Power Cord, (Japan)	

\*NOTE: US/Canada/Mexico power cord is shipped with all units. Order geographically specific power cord as needed.

### Drive, capacity, and memory upgrade kits

231823-B22	MSL5000 Field Upgrade SDLT 110/220 DR, LVD	720591730017
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### Media and Bar Code Labels

232136-B21	MSL5000 dual magazine pack DLT/SDLT (2x 13 slot magazines, left and right)	720591739829
188527-B21	SDLT Media 5-pack	720591390273
188527-B22	SDLT Media 10- pack	720591390587
188527-B26	SDLT Media 20- pack	720591433208
158398-001	DLT Bar Code Labels 100 pieces	720591244507

- Additional media
- Additional magazines
- Bar Code Labels

### SCSI Cables

341174-B21	SCSI Cable, VHDCI/VHDCI, 6 feet	743172660817
341175-B21	SCSI Cable, VHDCI/VHDCI, 12 feet	743172660824
341176-B21	SCSI Cable, VHDCI/Wide, 6 feet	743172660831
341177-B21	SCSI Cable, VHDCI/Wide, 12 feet	743172660848
201160-B21	SCSI Cable, VHDCI/Wide, 10 meter	720591469108

Check the cable-adaptor matrix for tape libraries on:

<ftp://ftp.compaq.com/pub/products/storageworks/tape-and-optical-storage/adaptor-cable-matrix.pdf>

### RELATED OPTIONS *(continued)*

#### SCSI Host Bus Adapter/Hewlett-Packard Fibre Channel to SCSI Router (optional)

	Host bus adapter for SCSI connectivity from server to tape library in direct SCSI environment	
	Network Storage Router, embedded FC Network Storage Router to connect SCSI libraries to Fibre Channel hub/switch	
	<b>ProLiant Controllers</b>	
129803-B21	64-bit/66 MHz PCI Dual Channel Wide Ultra3 SCSI adapter	743172876379
	<b>Alpha Controllers</b>	
3X-KZPCA-AA	Single Channel Ultra LVD Controller	
	<b>Network Storage Router (required for SAN configuration)</b>	
262653-B21	Network Storage Router m2402 (2FC X 4 LVD SCSI)	613326254516
262672-B21	MSL5000 Embedded Fibre option e1200 – Graphite (Configured in the Compact PCI slot within the MSL5000 library)	613326254417

#### Fibre Channel Host Bus Adapter

A6684A	HSC-eff Tachlite Fibre Channel Adapter
A6685A	HSC Tachlite Fibre Channel Adapter
A6795A	PCI 4X 2Gbps single port Fibre Channel Adapter

#### Passthrough Mechanism

231824-B21	MSL5000, universal passthrough mechanism (includes elevator mechanism and router, required to connect first two units in a stack)	720591730055
231824-B22	MSL5000, 5U passthrough extender (required one for each unit connected to the stack, for third and additional units)	720591730079

#### Rack mounting Kits

304826-B21	MSL5000 system RM kit (HP racks)	613326628423
231894-B22	MSL5026SL TT-RM KIT, ProLiant Rack	720591734336
231894-B21	MSL5026SL TT-RM KIT, Alpha Rack	720591734312
254795-001	Alpha Rail Kit	720591166243

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