

# NetApp Disk Shelves For AFF And FAS Systems

NetApp NS224, DS224C, DS212C, and DS460C are enterprise-grade disk shelves and storage media specifically designed for NetApp AFF and FAS systems. These products deliver the performance, resiliency, and flexibility your digital transformation needs. NetApp drives and disk shelves can be leveraged across the ONTAP portfolio, giving you the flexibility to choose the best solution for your needs. NetApp also offers a variety of SSD and HDD media options, so you can choose the right media to optimize your storage for performance and capacity. Additionally, NetApp disk shelves and storage media help enhance physical data security and prevent unauthorized data access.

	NS224	DS224C	DS212C	DS460C
<b>Main Specifications</b>				
Rack units	2U	2U	2U	4U
Drives per enclosure	24	24	12	60
Drives per rack unit	12	12	6	15
Drive form factor	2.5" small form factor	2.5" small form factor	3.5" large form factor	3.5" large form factor
Drive carrier	Single drive	Single drive	Single drive	Single drive
High-capacity disk drives	N/A	N/A	4TB, 8TB, 10TB, 16TB at 7.2K RPM	4TB, 8TB, 10TB, 16TB at 7.2K RPM
Performance disk drives	N/A	900GB, 1.2TB and 1.8TB at 10K RPM	N/A	N/A
Self-encrypting drives[1]	AES-256 self-encrypting (SED) NVMe SSDs - 1.9TB, 3.8TB, 7.6TB, 15.3TB AES-256 FIPS 140-2 compliant NVMe SSD 3.8TB, 15.3TB	900GB and 1.8TB at 10K RPM, 800GB and 3.8TB SSD, 800GB SSD + 1.8TB at 10K RPM AES-256, FIPS 140-2 compliant	6TB and 10TB at 7.2K RPM AES-256, FIPS 140-2 compliant	10TB at 7.2K RPM AES-256, FIPS 140-2 compliant
Solid state drives (full and mixed shelf)	1.9TB non-SED NVMe SSD, 3.8TB non-SED NVMe SSD	960GB, 3.8TB, 15.3TB, 30TB, 960GB + 1.8TB, 7.6TB	960GB + 4TB, 960GB + 8TB, 960GB + 10TB, 960GB + 16TB	960GB + 4TB, 960GB + 8TB, 960GB + 10TB, 960GB + 16TB
Controller Support	AFF A900, AFF A800, AFF A700, AFF A400, AFF A320, AFF A250, FAS500f, AFF C800, AFF C400, AFF C250	AFF A900, AFF A800, AFF A700, AFF A700s, AFF A400, AFF A300, AFF A220, AFF A250, AFF A200, AFF A150, AFF 8000 series, FAS9500, FAS9000, FAS8700, FAS8300, FAS8200, FAS8000 series, FAS2700, FAS2600	FAS9500, FAS9000, FAS8700, FAS8300, FAS8200, FAS8000 series, FAS2820, FAS2700, FAS2600	FAS9500, FAS9000, FAS8700, FAS8300, FAS8200, FAS8000 series, FAS2820, FAS2700, FAS2600
Shelf I/O modules	Dual NSM modules (Ethernet Connections)	Dual IOM12 modules	Dual IOM12 modules	Dual IOM12 modules
Optical SAS support	N/A	✓	✓	✓
Power supply/cooling fans	Dual, hot-pluggable, integrated power supply/fan assemblies	Dual, hot-pluggable, integrated power supply/fan assemblies	Dual, hot-pluggable, integrated power supply/fan assemblies	Dual, hot-pluggable power supply; independent fan assemblies
AC input power voltage (autoranging, VRMS)	100–120V or 200–240V	100–120V or 200–240V		200-240V
AC input power frequency	50–60 Hz	50–60 Hz		
DC input power	Not available	Not available		
Weight—fully loaded	62.2 lbs (28.2 kg)	53.8 lbs (24.4 kg)	60lbs (27.2 kg)	246.9 lbs (112 kg)
Dimensions	Height: 3.4 in. (8.5 cm) Width: 19 in. (48.0 cm) Depth: 19.1 in. (48.4 cm)	Height: 3.4 in. (8.5 cm) Width: 19 in. (48.0 cm) Depth: 19.1 in. (48.4 cm)	Height: 3.4 in. (8.5 cm) Width: 19 in. (48.0 cm) Depth: 19.1 in. (48.4 cm)	Height: 7 in. (17.8 cm) Width: 19 in. (48.3 cm) Depth: 36 in. (91.4 cm)
Clearance dimensions	Front—cooling: 6 in. (15.3 cm) Front—maintenance: 12 in. (30.5 cm) Rear—cooling and maintenance: 25 in. (63.5 cm)	Front—cooling: 6 in. (15.3 cm) Front—maintenance: 12 in. (30.5 cm) Rear—cooling and maintenance: 25 in. (63.5 cm)	Front—cooling: 6 in. (15.3 cm) Front—maintenance: 12 in. (30.5 cm) Rear—cooling and maintenance: 25 in. (63.5 cm)	Front—cooling: 6 in. (15.3 cm) Front—maintenance: 30 in. (76 cm) Rear—cooling: 6 in. (15.3 cm) Rear—maintenance: 20 in. (50.8 cm)
Operating acoustic noise	6.4 bels LwAd (2 PCMs)	6.9 bels LwAd (2 PCMs)	6.3 bels LwAd (2 PCMs)	7.2 bels LwAd (2 PCMs)
Temperature	Operating: 50° F to 104° F (10° C to 40° C) Nonoperating: -40° F to 158° F (-40° C to 70° C)			

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