

Site Requirements Guide

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Safety Information (Sicherheitshinweise)

Safety rules

All products are Class 1 laser devices, except the NVRAM5 cluster media converter, which is Class 1M. You must follow these safety rules when working with this equipment:

WARNING

Failure to follow these directions could result in bodily harm or death.

- ◆ **When using an NVRAM5 cluster media converter, the storage system** must be installed in a restricted access location.
- ◆ **Switzerland only—for FAS900, GF900, R200, and C6200 systems:** This equipment relies on fuses/circuit breakers in the building installation for overcurrent protection. Each power supply must receive power from a separately dedicated outlet with a 10A fuse/circuit breaker.
- ◆ When installing disk shelves and a storage system into a movable cabinet or rack, install from the bottom up for best stability.
- ◆ DC-based systems must be installed in a restricted access location and the two input power terminals for the DC power supply must be connected to separate isolated branch circuits.
- ◆ To reduce the risk of personal injury or equipment damage, allow internal components time to cool before touching them and ensure that the equipment is properly supported or braced when installing options.
- ◆ This equipment is designed for connection to a grounded outlet. The grounding type plug is an important safety feature. To avoid the risk of electrical shock or damage to the equipment, do not disable this feature.
- ◆ This equipment has one or more replaceable batteries. There is danger of explosion if the battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

For units with multiple power cords



If your storage system or disk shelf has multiple power cords and you need to turn the unit off, heed the following warning:

WARNING

This unit has more than one power supply cord. To reduce the risk of electrical shock, disconnect all power supply cords before servicing.

Sicherheitsvorgaben

Alle Produkte sind Lasergeräte der Klasse 1, mit Ausnahme des NVRAM5 Cluster-Medienkonverters, der in Klasse 1M fällt. Beim Einsatz dieser Geräte sind die Sicherheitsvorschriften zu beachten:

Vorsicht

Nichtbeachtung dieser Vorschriften kann zu Verletzungen oder Tod führen.

- ◆ Bei der Verwendung eines NVRAM5 Cluster-Medienkonverters muss das Speichersystem an einem Standort mit beschränktem Zugriff installiert werden.
- ◆ **Nur für die Schweiz - Systeme FAS900, GF900, R200 und C6200:**
Diese Geräte erfordern den Festeinbau von Sicherungen zum Überstromschutz. Jeder Netzanschluss muss mit Strom aus getrennten, speziell für diesen Zweck vorgesehenen Steckdosen versorgt werden, die jeweils mit einer 10A-Sicherung geschützt sind.
- ◆ Werden die Plattenregale und das Speichersystem in einen beweglichen Schrank oder Turm eingebaut, ist wegen der höheren Stabilität der Einbau von unten nach oben vorzunehmen.
- ◆ Gleichstrom-Systeme müssen an Betriebsstätte mit beschränktem Zutritt installiert sein und die beiden Eingangsstromklemmen für das Gleichstrom-Netzteil müssen an separate und isolierte Abzweigleitungen angeschlossen sein.
- ◆ Zum Schutz vor Körperverletzung oder Sachschäden am Gerät lassen Sie die inneren Bauteile stets vor dem Berühren abkühlen. Sorgen Sie dafür, dass das Gerät richtig abgestützt ist oder fest aufrecht steht, bevor Sie neues Zubehör einbauen.
- ◆ Dieses Gerät ist für die Einspeisung aus einer geerdeten Netzverbindung ausgelegt. Der Netzstecker mit Erdungsvorrichtung ist ein wichtiger Sicherheitsschutz. Zum Schutz vor elektrischem Schlag oder Sachschäden am Gerät die Erdung nicht abschalten.
- ◆ Das Gerät ist mit einer oder mehreren auswechselbaren Batterien ausgestattet. Bei unsachgemäßem Auswechseln der Batterie besteht Explosionsgefahr. Batterien nur mit dem vom Hersteller empfohlenen Typ oder entsprechenden Typen ersetzen. Gebrauchte Batterien sind gemäß den Anweisungen des Herstellers zu entsorgen.

Für Geräte mit mehrfachen Netzanschlussleitungen



Wenn Ihr Speichersystem oder Plattenregal über mehrere Stromkabel verfügt und Sie die Einheit ausschalten müssen, folgenden Warnhinweis beachten:

ACHTUNG

Gerät besitzt zwei Netzanschlussleitungen. Vor Wartung alle Anschlüsse vom Netz trennen.

About this chapter This chapter describes the tools you need and the system connection, circuit breaker, and outlet requirements for your site.

Topics in this chapter This chapter discusses the following topics:

- ◆ “[Required tools and equipment](#)” on page 2
- ◆ “[System connectivity requirements](#)” on page 4
- ◆ “[Circuit breaker and power outlet requirements](#)” on page 8

Required tools and equipment

Required tools and equipment

Prior to receiving your Network Appliance™ hardware, make sure that you have the appropriate tools and equipment assembled and ready to use:

- ◆ Pallet jack or forklift, if you ordered a filer, FAS system, or NetCache™ appliance and nine or more disk shelves, or a NearStore® system; or a hand truck or cart, if you ordered just a filer, FAS appliance, gFiler™ gateway, NetCache appliance, or individual disk shelves
- ◆ #1 and #2 Phillips head screwdrivers and a flathead screwdriver for cable adapters and LRC screws
- ◆ ASCII terminal (also referred to as an ANSI terminal)
- ◆ Serial console
- ◆ Null modem cable (optional)

Note

If the DB-9 to DB-9 straight-through serial cable for an ASCII terminal connection provided with your system is not compatible with your terminal connector, you need a null modem cable.

WARNING

Three people are required to install FAS900 series appliances, GF900 series gateways, C6200 NetCache appliances, and NearStore R150 and R200 storage engines when both power supplies are installed. Two people are required to install all other storage appliances and disk shelves safely into a rack or NetApp® System Cabinet.

**Additional tools
necessary for -48V
DC power
connections**

If you ordered a -48V DC version of your appliance, you need the following -48V DC power supply cable tools and equipment to fabricate the three-way cables required for DC power connections:

- ◆ Wire-stripper
- ◆ Soldering tool
- ◆ Pliers
- ◆ 12 AWG (2 mm diameter) x 3C copper wire (Wire length is determined by your environment.)

Caution

Do not mix different AC power supplies with DC power supplies in your appliance.

System connectivity requirements

Types of connectivity

Your system requires the following types of connections:

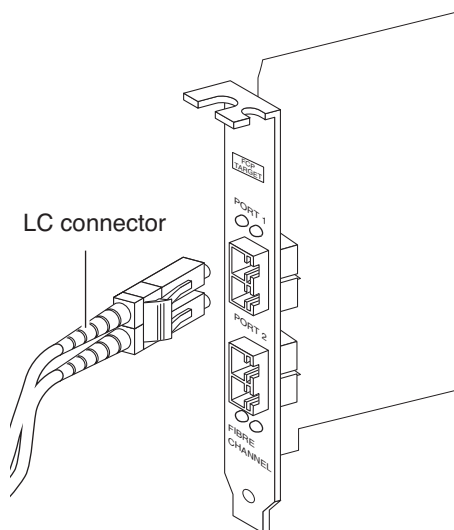
- ◆ Fibre Channel—Connects your appliance to disk shelves, Fibre Channel switches, tape backup devices, and to other storage devices.
- ◆ Ethernet—Connects your appliance to an Ethernet network through the following media:
 - ❖ Copper
 - ❖ Fiber

Note

For ATM and DAFS network connectivity, see your platform hardware guide.

Fibre Channel connectivity

Your appliance connects to disk shelves, Fibre Channel switches, tape backup devices, and other storage through onboard ports or Fibre Channel adapters (also referred to as Host Bus Adapters [HBAs]). The following figure shows an FCP target HBA, which is a variant of the Fibre Channel HBA.



Type: Dual

Connector type: LC

Cable type: 50 micron or 62.5 micron multimode fiber optic

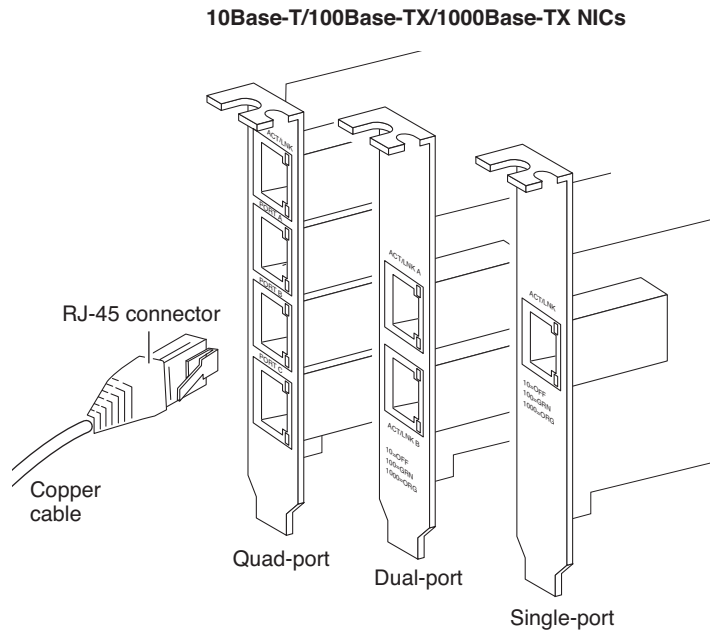
Maximum distance:

- ◆ 550m for 50 micron—500 MHz BW with 850 nm MM laser
- ◆ 300m for 62.5 micron—200 MHz BW with 850 nm MM laser

Ethernet connectivity

Your appliance connects to a GbE network through either onboard ports or GbE NICs, which support either copper or fiber cabling.

Copper GbE cabling and NICs: The cabling and network requirements are for GbE networks using copper cabling.



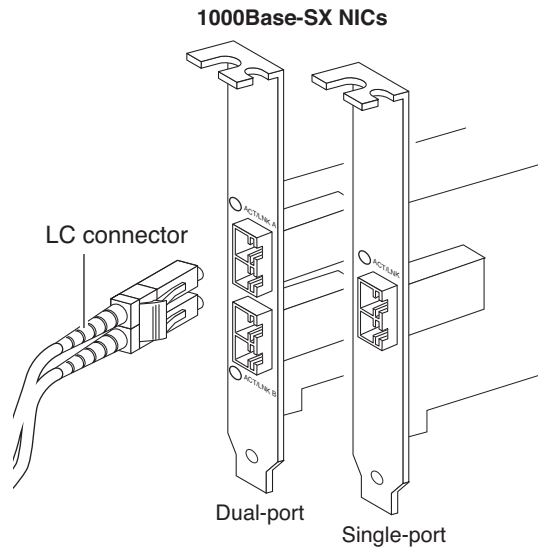
Types: Single-port, dual-port, quad-port

Connector type: RJ-45 for all

Cable type: Category 5 unshielded four-pair cable

Maximum distance: 100m

Fiber GbE cabling and NICs: The following cabling and network requirements are for GbE networks using optical cabling.



Types: Single-port and dual-port

Connector type: LC connector

Cable types:

- ◆ 50 micron multimode fiber optic
- ◆ 62.5 micron multimode fiber optic

Maximum distance:

- ◆ 550m for 50 micron—500 MHz BW with 850 nm MM laser
- ◆ 220m for 62.5 micron—160 MHz BW with 850 nm MM laser
- ◆ 275m for 62.5 micron—200 MHz BW with 850 nm MM laser

Note

Some earlier versions of fiber NICs have SC connectors.

Circuit breaker and power outlet requirements

About the requirements

If your equipment is mounted in a rack, the total number of circuit breakers required for your equipment is based on the current draw.

Caution

The circuit breakers you are using should be connected only to NetApp equipment. Overloading circuit breakers can lead to tripped breakers or power brownouts that can cause system errors.

Typical AC power breaker requirements

The following illustration displays the redundant power configuration of four DS14 disk shelves and one filer. In this example, two 20A circuits at 115V AC (four disk shelves and one filer per circuit) are required.

The conditions stated in the following illustration might not meet the requirements of your site. Use this manual to determine the requirements for your hardware.

Note

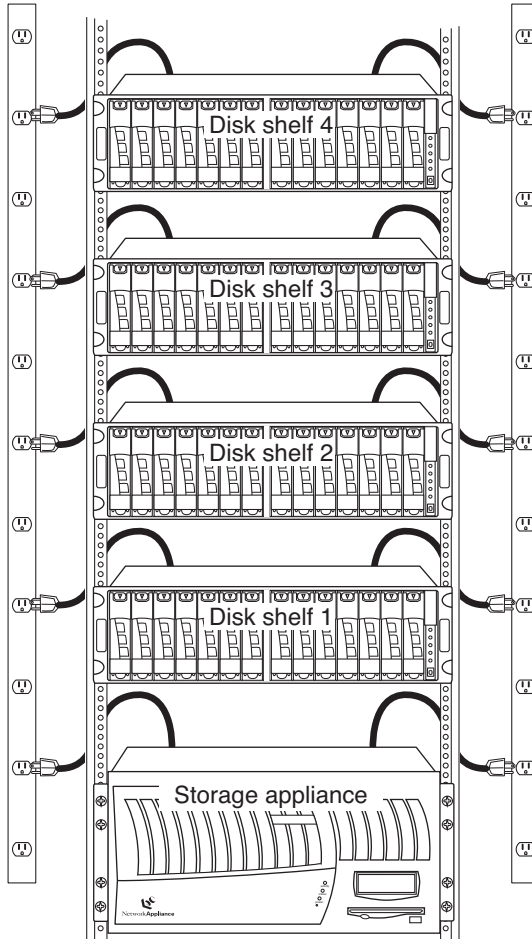
Each storage appliance and disk shelf must have both a primary power supply and a redundant power supply.

Caution

The total current draw *should not* exceed 80 percent of the circuit breaker's rated service value (that is, 16A RMS for a 20A circuit breaker and 24A RMS for a 30A circuit breaker).

Power strip for
primary power

Power strip for
redundant power



About NetApp hardware characteristics

This chapter tabulates hardware characteristics for the following types of NetApp hardware:

- ◆ “[Filers, FAS systems, and gFiler gateways](#)” on page 12
- ◆ “[NearStore systems](#)” on page 30
- ◆ “[NetCache appliances](#)” on page 42
- ◆ “[Disk shelves](#)” on page 55

Note

NearStore disk shelf information is provided in the sections discussing NearStore systems, not in the “Disk Shelves” section.

- ◆ “[System cabinets](#)” on page 65

Filers, FAS systems, and gFiler gateways

About this section

This section lists tabulated descriptions of the hardware characteristics, clearance requirements, environmental requirements, and electrical requirements for filers, FAS systems, and gFiler gateways.

For detailed information

For details about specific models of filers, FAS systems, and gFiler gateways, see the following topics:

- ◆ [“F85 filers”](#) on page 13
- ◆ [“F87 filers”](#) on page 15
- ◆ [“F700 series filers”](#) on page 17
- ◆ [“F800 series filers and GF825 gateways”](#) on page 19
- ◆ [“F880 filers”](#) on page 21
- ◆ [“FAS250 systems”](#) on page 23
- ◆ [“FAS270 systems and GF270c gateways”](#) on page 26
- ◆ [“FAS900 series systems and GF900 series gateways”](#) on page 28

F85 filers

F85 characteristics The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight		55 lbs (25 kg)
	Rack units		6U
	Height	Rack-mount	10.5 in. (26.7 cm)
		Tower	17.5 in. (44.5 cm)
	Width	Rack-mount	17.5 in. (44.5 cm)
		Tower	10.5 in. (26.7 cm)
	Depth	Rack-mount	23.5 in. (59.7 cm)
		Tower	23.5 in. (59.7 cm)
Clearance dimensions			
	Front—cooling	All versions	9 in. (22.9 cm)
	Rear—cooling	Tower	12 in. (30.5 cm)
		Two-post rack	19 in. (48.3 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Tower	12 in. (30.5 cm)
		Two-post rack	45 in. (114.3 cm)
		Four-post rack	32 in. (81.3 cm)
	Rear—maintenance	Tower	12 in. (30.5 cm)
		Two-post rack	19 in. (48.3 cm)
		Four-post rack	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 95° F (10° C to 35° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	8 to 80% noncondensing
	Acoustic level	56 dBA @ 23° C
Electrical requirements		
	Input voltage, V	115/230
	Input current rating, A	6/3
	Input current actual, A	2.81/1.18
	Input power actual, W	253
	Thermal dissipation, BTU/hr	863
	Inrush current, A @ V	35 @ 115 70 @ 264

F87 filers

F87 characteristics The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight		90 lbs (40.8 kg)
	Rack units		5U
	Height	Rack-mount	8.6 in. (21.8 cm)
		Tower	17.9 in. (45.5 cm)
	Width	Rack-mount	17.9 in. (45.5 cm)
		Tower	9.1 in. (23 cm)
	Depth	Rack-mount	24.5 in. (62.2 cm)
		Tower	24.5 in. (62.2 cm)
Clearance dimensions			
	Front—cooling	All versions	6 in. (15.2 cm)
	Rear—cooling	Tower	12 in. (30.5 cm)
		Two-post rack	19 in. (48.3 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Tower	12 in. (30.5 cm)
		Two-post rack	45 in. (114.3 cm)
		Four-post rack	32 in. (81.3 cm)
	Rear—maintenance	Tower	12 in. (30.5 cm)
		Two-post rack	19 in. (48.3 cm)
		Four-post rack	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 95° F (10° C to 35° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	45 dBA @ 23° C 5.9 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–240
	Input current rating, A	6.5
	Input current actual, A	2.72–1.5
	Input power actual, W	256
	Thermal dissipation, BTU/hr	874
	Inrush current, A @ V	57 @ 115 66 @ 264

F700 series filers

F700 characteristics The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	64 lbs (29.1 kg)
	Rack units	5U
	Height	8.75 in. (22.4 cm)
	Width	17 in. (43.2 cm)
	Depth	25.25 in. (64.3 cm)
Clearance dimensions		
	Front	9 in. (22.9 cm)
	Rear—cooling	30 in. (76.2 cm)
	Bezel	1 in. (2.5 cm)
	Rear—maintenance	24 in. (61 cm)
	Vertical rack space	10.5 in. (26.7 cm)

Environmental requirements			
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)	
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)	
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)	
	Relative humidity	10 to 90% noncondensing	
	Acoustic level	50 dBA @ 23° C	
Electrical requirements			
	Input voltage, V	AC	100–240
		DC	-40 to -60
	Input current rating, A	AC	5
		DC	7.1
	Input current actual, A	AC	2.23–1.15
		DC	3
	Input power actual, W	AC	215
		DC	215
	Thermal dissipation, BTU/hr	AC	733
		DC	733
	Inrush current, A @ V	AC	40 @ 115 50 @ 220
		DC	No greater than 25 @ -40 to -70

F800 series filers and GF825 gateways

F800 series and GF825 characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	66 lbs (30 kg)
	Rack units	5U
	Height	8.8 in. (22.4 cm)
	Width	17 in. (43.2 cm)
	Depth	25.3 in. (64.3 cm)
Clearance dimensions		
	Front	9 in. (22.9 cm)
	Rear—cooling	30 in. (76.2 cm)
	Bezel	1 in. (2.5 cm)
	Rear—maintenance	24 in. (61 cm)
	Vertical rack space	10.5 in. (26.7 cm)
Environmental requirements		
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	50 dBA @ 23° C

Electrical requirements			
	Input voltage, V	AC	100–240
		DC	-40 to -60
	Input current rating, A	AC	5
		DC	5
	Input current actual, A	AC	2.05–1.0
		DC	3
	Input power actual, W	AC	170
		DC	217
	Thermal dissipation, BTU/hr	AC	580
		DC	741
	Inrush Current, A @ V	AC	50 @ 220 30 @ 115
		DC	No greater than 25 @ -40 to -70

F880 filers

F880 characteristics The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	66 lbs (30 kg)
	Rack units	5 U
	Height	8.8 in. (22.4 cm)
	Width	17 in. (43.2 cm)
	Depth	25.3 in. (64.3 cm)
Clearance dimensions		
	Front	9 in. (22.9 cm)
	Rear—cooling	30 in. (76.2 cm)
	Bezel	1 in. (2.5 cm)
	Rear—maintenance	24 in. (61 cm)
	Vertical rack space	10.5 in. (26.7 cm)

Environmental requirements			
	Operating temperature maximum range		50° F to 104° F (10° C to 40° C)
	Operating temperature recommended range		68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range		-4° F to 149° F (-20° C to 65° C)
	Relative humidity		10 to 90% noncondensing
	Acoustic level		50 dBA @ 23° C
Electrical requirements			
	Input voltage, V	AC	100–240V
		DC	-40 to -60V
	Input current rating, A	AC	5
		DC	5
	Input current actual, A	AC	2.05–1.21
		DC	3
	Input power actual, W	AC	185
		DC	200
	Thermal dissipation, BTU/hr	AC	631
		DC	683
	Inrush current, A @ V	AC	50 @ 220 30 @ 115
		DC	No greater than 25 @ -40 to -70V

**FAS250
characteristics**

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	With disk drives	77 lbs (35 kg)
		Empty	50.6 lbs (23 kg)
	Rack units		3U
	Height	Rack-mount	5.25 in. (13.3 cm)
		Tower	20.3 in. (51.6 cm)
	Width	Rack-mount	17.6 in. (44.7 cm)
		Tower	10.4 in. (26.4 cm)
	Depth	Rack-mount	20 in. (50.8 cm)
		Tower	20 in. (50.8 cm)

Clearance dimensions			
	Front—cooling	All versions	6 in. (15.3 cm)
	Rear—cooling	Tower	12 in. (30.5 cm)
		Two-post rack	19 in. (48.3 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Tower	25 in. (63.5 cm)
		Two-post rack	25 in. (63.5 cm)
		Four-post rack	25 in. (63.5 cm)
	Rear—maintenance	Tower	12 in. (30.5 cm)
		Two-post rack	12 in. (30.5 cm)
		Four-post rack	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature maximum range	32° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-40° F to 149° F (-40° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	48.7 dBA@ 23° C 5.64 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–127/200-240
	Input current rating, A	7/3.5
	Input current actual, A	3.95/1.9
	Input power actual, W	356
	Thermal dissipation, BTU/hr	1,215
	Inrush Current, A @ V	20 @ 220

FAS270 systems and GF270c gateways

FAS270 and GF270c characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	With disk drives	77 lbs (35 kg)
		Empty	50.6 lbs (23 kg)
	Rack units		3U
	Height		5.25 in. (13.3 cm)
	Width		17.6 in. (44.8 cm)
	Depth		20 in. (50.9 cm)
Clearance dimensions			
	Front—cooling	All versions	6 in. (15.3 cm)
	Rear—cooling	Two-post rack	12 in. (30.5cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Two-post rack	25 in. (63.5 cm)
		Four-post rack	25 in. (63.5 cm)
	Rear—maintenance	Two-post rack	12 in. (30.5 cm)
		Four-post rack	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature maximum range	32° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-40° F to 149° F (-40° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	48.7 dBA@ 23° C 5.64 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–127/200-240
	Input current rating, A	7/3.5
	Input current actual, A	3.95/1.9
	Input power actual, W	356
	Thermal dissipation, BTU/hr	1,215
	Inrush Current, A @ V	20 @ 220

FAS900 series systems and GF900 series gateways

FAS900 series and GF900 series characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight		105 lbs (47.7 kg)
	Rack units		6U
	Height		10.3 in. (26.2 cm)
	Width		17 in. (43.2 cm)
	Depth		22 in. (55.9 cm)
Clearance dimensions			
	Front—cooling	All versions	6 in. (15.2 cm)
	Rear—cooling	Two-post rack	12 in. (30.5 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Two-post rack	25 in. (63.5 cm)
		Four-post rack	25 in. (63.5 cm)
	Rear—maintenance	Two-post rack	40 in. (101.6 cm)
		Four-post rack	40 in. (101.6 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	49.5 dBA @ 23° C
Electrical requirements		
	Input voltage, V	100–240
	Input current rating, A	12–6
	Input current actual, A	3.8–1.95
	Input power actual, W	330
	Thermal Dissipation, BTU/hr	1,126
	Inrush Current, A @ V	30 @ 264

NearStore systems

About this section	This section lists tabulated descriptions of the hardware characteristics, clearance requirements, environmental requirements, and electrical requirements for NearStore systems.
For detailed information	For details about specific models of NearStore systems, see the following topics: ◆ “R100 system” on page 31 ◆ “R150 system” on page 35 ◆ “R200 system” on page 39

NearStore systems

R100 system

R100
characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	Storage engine	66 lbs (30 kg)
		Disk shelf	55 lbs (25 kg)
		Fully loaded in system cabinet	768.30 lbs (349.22 kg)
	Rack units	Storage engine	5U
		Disk shelf	4U
	Height	Storage engine	8.8 in. (22.4 cm)
		Disk shelf	7 in. (17.8 cm)
	Width	Storage engine	17 in. (43.2 cm)
		Disk shelf	17 in. (43.2 cm)
	Depth	Storage engine	25.3 in. (64.3 cm)
		Disk shelf	22 in. (55.9 cm)

Clearance dimensions			
	Front	Storage engine and disk shelf	9 in. (22.9 cm)
	Rear—cooling	Storage engine and disk shelf	30 in. (76.2 cm)
	Bezel	Storage engine and disk shelf	1 in. (2.5 cm)
	Rear—maintenance	Storage engine and disk shelf	24 in. (61 cm)
	Vertical rack space	Storage engine and disk shelf	10.5 in. (26.7 cm)
	Vertical rack space between storage engine and disk shelf	Storage engine and disk shelf	1.5 in. (3.8 cm)

Environmental requirements			
	Operating temperature maximum range	Storage engine	50° F to 104° F (10° C to 40° C)
		Disk shelf	41° F to 104° F (5° C to 40° C)
	Operating temperature recommended range	Storage engine	68° F to 77° F (20° C to 25° C)
		Disk shelf	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	Storage engine and disk shelf	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	Storage engine	10 to 90% noncondensing
		Disk shelf	5 to 90% noncondensing
	Acoustic level	Storage engine	50 dBA @ 23° C
		Disk shelf	55 dBA @ 23° C 5.5 bels @ 23° C

Electrical requirements			
	Input voltage, V	Storage engine	100–240
		Disk shelf	100–240
	Input current rating, A	Storage engine	5
		Disk shelf	2.2
	Input current actual, A	Storage engine	2.05–1.21
		Disk shelf	0.7
	Input power actual, W	Storage engine	185
		Disk shelf	133
	Thermal dissipation, BTU/hr	Storage engine	631
		Disk shelf	453
	Inrush current, A @ V	Storage engine and disk shelf	50 @ 220

NearStore systems

R150 system

R150
characteristics

The following table lists the characteristics and requirements for your hardware.

Note_____

The R150 system also supports the DS14mk2 AT. See “[R200 system](#)” on page 39 for details about DS14mk2 AT.

Physical characteristics			
	Weight	Storage engine	105 lbs (47.7 kg)
		Disk shelf	55 lbs (25 kg)
		Fully loaded in system cabinet	875 lbs (398 kg)
	Rack units	Storage engine	6U
		Disk shelf	4U
	Height	Storage engine	10.3 in. (26.2 cm)
		Disk shelf	7 in. (17.8 cm)
	Width	Storage engine	17 in. (43.2 cm)
		Disk shelf	17 in. (43.2 cm)
	Depth	Storage engine	22 in. (55.9 cm)
		Disk shelf	25.3 in. (64.3 cm)

Clearance dimensions			
	Front	Storage engine and disk shelf	25 in. (63.5 cm)
	Rear—cooling	Storage engine and disk shelf	30 in. (76.2 cm)
	Bezel	Storage engine and disk shelf	1.5 in. (3.8 cm)
	Rear—maintenance	Storage engine and disk shelf	40 in. (101.6 cm)
	Vertical rack space	Storage engine and disk shelf	10.5 in. (26.7 cm)
	Vertical rack space between storage engine and disk shelf	Storage engine and disk shelf	1.5 in. (3.8 cm)

Environmental requirements			
	Operating temperature maximum range	Storage engine	50° F to 104° F (10° C to 40° C)
		Disk shelf	41° F to 104° F (5° C to 40° C)
	Operating temperature recommended range	Storage engine	68° F to 77° F (20° C to 25° C)
		Disk shelf	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	Storage engine and disk shelf	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	Storage engine	10 to 90% noncondensing
		Disk shelf	5 to 90% noncondensing
	Acoustic level	Storage engine	49.5 dBA @ 23° C
		Disk shelf	55 dBA at 25° C 5.5 bels at 25° C

Electrical requirements			
	Input voltage, V	Storage engine	100–240
		Disk shelf	100–240
	Input current rating, A	Storage engine	12–6
		Disk shelf	2.2
	Input current actual, A	Storage engine	3.8–1.95
		Disk shelf	0.7
	Input power actual, W	Storage engine	330
		Disk shelf	133
	Thermal dissipation, BTU/hr	Storage engine	1,126
		Disk shelf	453
	Inrush current, A @ V	Storage engine and disk shelf	30 @ 264

NearStore systems

R200 system

R200
characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	Storage engine	105 lbs (47.7 kg)
		DS14mk2 AT	77 lbs (35 kg)
		Fully loaded in system cabinet	50.06 lbs (23 kg)
	Rack units	Storage engine	6U
		DS14mk2 AT	3U
	Height	Storage engine	10.3 in. (26.2 cm)
		DS14mk2 AT	5.25 in. (13.3 cm)
	Width	Storage engine	17 in. (43.2 cm)
		DS14mk2 AT	17.6 in. (44.8 cm)
	Depth	Storage engine	22 in. (55.9 cm)
		DS14mk2 AT	21.75 in. (55.2 cm)

Clearance dimensions			
	Front	Storage engine and DS14mk2 AT	25 in. (63.5 cm)
	Rear—cooling	Storage engine and DS14mk2 AT	12 in. (30.5 cm)
	Bezel	Storage engine and DS14mk2 AT	1.5 in. (3.8 cm)
	Rear—maintenance	Storage engine and DS14mk2 AT	40 in. (101.6 cm)
	Vertical rack space	Storage engine and DS14mk2 AT	10.5 in. (26.7 cm)
	Vertical rack space between storage engine and disk shelf	Storage engine and DS14mk2 AT	1.5 in. (3.8 cm)
Environmental requirements			
	Operating temperature maximum range	Storage engine	50° F to 104° F (10° C to 40° C)
		DS14mk2 AT	32° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	Storage engine and DS14mk2 AT	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	Storage engine and DS14mk2 AT	-4° F to 149° F (-40° C to 65° C)
	Relative humidity	Storage engine	10 to 90% noncondensing
		DS14mk2 AT	5 to 90% noncondensing
	Acoustic level	Storage engine	49.5 dBA @ 23° C
		DS14mk2 AT	48.7 dBA at 25° C 5.64 bels at 25° C

Electrical requirements			
	Input voltage, V	Storage engine	100–240
		DS14mk2 AT	100–127/200–240
	Input current rating, A	Storage engine	12–6
		DS14mk2 AT	7/3.5
	Input current actual, A	Storage engine	3.8–1.95
		DS14mk2 AT	3.95/1.9
	Input power actual, W	Storage engine	330
		DS14mk2 AT	356
	Thermal dissipation, BTU/hr	Storage engine	1,126
		DS14mk2 AT	1,215
	Inrush current, A @ V	Storage engine	30 @ 264
		DS14mk2 AT	20 @ 220

NetCache appliances

About this section

This section lists tabulated descriptions of the hardware characteristics, clearance requirements, environmental requirements, and electrical requirements for NetCache appliances.

Note

This section also includes the information for the SC100 service console.

For detailed information

For details about specific models of NetCache appliances, see the following topics:

- ◆ [“C700 series NetCache appliances”](#) on page 43
- ◆ [“C1100 series NetCache appliances”](#) on page 45
- ◆ [“C1200 NetCache appliances/SC100 service consoles”](#) on page 47
- ◆ [“C2100 NetCache appliances”](#) on page 49
- ◆ [“C3100 and C6100 NetCache appliances”](#) on page 51
- ◆ [“C6200 NetCache appliance”](#) on page 53

NetCache appliances

C700 series NetCache appliances

Platform characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	64 lbs (29.1 kg)
	Rack units	5U
	Height	8.8 in. (22.4 cm)
	Width	17 in. (43.2 cm)
	Depth	25.3 in. (64.3 cm)
Clearance dimensions		
	Front	9 in. (22.9 cm)
	Rear—cooling	30 in. (76.2 cm)
	Bezel	1 in. (2.5 cm)
	Rear—maintenance	24 in. (61 cm)
	Vertical rack space	10.5 in. (26.7 cm)

Environmental requirements			
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)	
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)	
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)	
	Relative humidity	10 to 90% noncondensing	
	Acoustic level	50 dBA @ 23° C	
Electrical requirements			
	Input voltage, V	AC	100–240
		DC	-40 to -60
	Input current rating, A	AC	5
		DC	7.1
	Input current actual, A	AC	2.64–1.28
		DC	3
	Input power actual, W	AC	234
		DC	215
	Thermal dissipation, BTU/hr	AC	799
		DC	799
	Inrush current, A @ V	AC	40 @ 115 50 @ 220
		DC	No greater than 25 @ -40 to -70

NetCache appliances

C1100 series NetCache appliances

C1100
characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	23 lbs (10.5 kg)
	Rack units	1U
	Height	1.7 in. (4.3 cm)
	Width	16.8 in. (42.7 cm)
	Depth	22 in. (55.9 cm)
Clearance dimensions		
	Front	9 in. (22.9 cm)
	Rear	30 in. (76.2 cm)
	Bezel	1.5 in. (3.8 cm)
	Work space for maintenance	24 in. (61 cm)
	Vertical rack space	1.75 in. (4.45 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 95° F (10° C to 35° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	45 dBA @ 23° C
Electrical requirements		
	Input voltage, V	100–240
	Input current rating, A	2–1
	Input current actual, A	1.05–.62
	Input power actual, W	94
	Thermal dissipation, BTU/hr	321
	Inrush current, A @ V	45 @ 264

C1200 NetCache appliances/SC100 service consoles

C1200/SC100 characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	29 lbs (13.2 kg)
	Rack units	1U
	Height	1.75 in. (4.4 cm)
	Width	16.9 in. (43 cm)
	Depth	25.5 in. (64.8 cm)
Clearance dimensions		
	Front—cooling	1 in. (2.5 cm)
	Front—maintenance	30 in. (25.4 cm)
	Rear—cooling	6 in. (15.2 cm)
	Rear—maintenance	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature Maximum range	50° F to 95° F (10° C to 35° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	46.4 dBA @ 23° C 6.05 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–127/200–240
	Input current rating, A	3.6/1.8
	Input current actual, A	1.32/.68
	Input power actual, W	118
	Thermal dissipation, BTU/hr	403
	Inrush current, A @ V	19 @ 264

NetCache appliances

C2100 NetCache appliances

C2100
characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	47 lbs (21.4 kg)
	Rack units	2U
	Height	3.5 in. (8.9 cm)
	Width	16.9 in. (42.9 cm)
	Depth	25.2 in. (64 cm)
Clearance dimensions		
	Front—cooling	1 in. (2.5 cm)
	Front—maintenance	30 in. (25.4 cm)
	Rear—cooling	6 in. (15.2 cm)
	Rear—maintenance	12 in. (30.5 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 95° F (10° C to 35° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	53.3 dBA @ 23° C 6.5 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–127/200–240
	Input current rating, A	5/2.5
	Input current actual, A	3.1/1.42
	Input power actual, W	307
	Thermal dissipation, BTU/hr	1,048
	Inrush current, A @ V	16 @ 264

C3100 and C6100 NetCache appliances

C3100 and C6100 characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics		
	Weight	66 lbs (30 kg)
	Rack units	5 U
	Height	8.8 in. (22.4 cm)
	Width	17 in. (43.2 cm)
	Depth	25.3 in. (64.3 cm)
Clearance dimensions		
	Front—cooling	9 in. (22.9 cm)
	Rear—cooling	30 in. (76.2 cm)
	Bezel	1 in. (2.5 cm)
	Front and rear—maintenance	24 in. (61 cm)
	Vertical rack space	10.5 in. (26.7 cm)
Environmental requirements		
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	50 dBA @ 23° C

Electrical requirements			
	Input voltage, V	AC	100–240
		DC	-40 to -60
	Input current rating, A	AC	5
		DC	5
	Input current actual, A	AC	2.05–1.0
		DC	3
	Input power actual, W	AC	170
		DC	217
	Thermal dissipation, BTU/hr	AC	580
		DC	741
	Inrush current, A @ V	AC	30 @ 115 50 @ 220
		DC	No greater than 25 @ -40 to -70

NetCache appliances

C6200 NetCache appliance

C6200
characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	105 lbs (47.7 kg)	
	Rack units	6U	
	Height	10.3 in. (26.2 cm)	
	Width	17 in. (43.2 cm)	
	Depth	22 in. (55.9 cm)	
Clearance dimensions			
	Front—cooling	All versions	6 in. (15.2 cm)
	Rear—cooling	Two-post rack	12 in. (30.5 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Two-post rack	25 in. (63.5 cm)
		Four-post rack	25 in. (63.5 cm)
	Rear—maintenance	Two-post rack	40 in. (101.6 cm)
		Four-post rack	40 in. (101.6 cm)

Environmental requirements		
	Operating temperature maximum range	50° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-4° F to 149° F (-20° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	49.5 dBA @ 23° C
Electrical requirements		
	Input voltage, V	100–240
	Input current rating, A	12–6
	Input current actual, A	3.8–1.95
	Input power actual, W	330
	Thermal Dissipation, BTU/hr	1,126
	Inrush Current, A @ V	30 @ 264

Disk shelves

About this section

This section lists tabulated descriptions of the hardware characteristics, clearance requirements, environmental requirements, and electrical requirements for NetApp disk shelves.

Note

NearStore system disk shelf information is listed in the section “[NearStore systems](#)” on page 30.

For detailed information

For details about specific models of disk shelves, see the following topics:

- ◆ “[DS14 series disk shelves](#)” on page 56
- ◆ “[FC9 disk shelves](#)” on page 59
- ◆ “[FC7 and FC8 disk shelves](#)” on page 61
- ◆ “[SDS12 SCSI disk shelves](#)” on page 63

Disk shelves

DS14 series disk shelves

DS14 series characteristics

The following table lists the characteristics and requirements for your hardware.

Note—
The DS14 series includes the DS14, DS14mk2 FC, and DS14mk2 FC with an ESH or ESH2 (references to ESH include ESH 2).

Physical characteristics			
	Weight	With disk drives	77 lbs (35 kg)
		Empty	50.06 lbs (23 kg)
	Rack units		3U
	Height		5.25 in. (13.3 cm)
	Width		17.6 in. (44.7 cm)
	Depth		20 in. (50.8 cm)
Clearance dimensions			
	Front—cooling	All versions	6 in. (15.3 cm)
	Rear—cooling	Two-post rack	12 in. (30.5 cm)
		Four-post rack	12 in. (30.5 cm)
	Front—maintenance	Two-post rack	25 in. (63.5 cm)
		Four-post rack	25 in. (63.5 cm)
	Rear—maintenance	Two-post rack	12 in. (30.5 cm)
Four-post rack		12 in. (30.5 cm)	

Environmental requirements		
	Operating temperature maximum range	32° F to 104° F (10° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-40° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	48.7 dBA @ 23° C 5.64 bels @ 23° C

Electrical requirements			
	Input voltage, V	DS14 and DS14mk2 FC	100–127/200–240
		DS14mk2 FC with an ESH	100–127/200–240
	Input current rating, A	DS14 and DS14mk2 FC	7/3.5
		DS1mk2 FC with an ESH	7/3.5
	Input current actual, A	DS14 and DS14mk2 FC	3.95–1.9
		DS14mk2 FC with an ESH	4.4–2.3
	Input power actual, W	DS14 and DS14mk2 FC	356
		DS1 mk2 FC with an ESH	440
	Thermal dissipation, BTU/hr	DS14 and DS14mk2 FC	1,215
		DS14mk2 FC with an ESH	1,502
	Inrush current, A @ V	DS14 and DS14mk2 FC	40 @ 120
			50 @ 220
		DS14mk2 FC with an ESH	40 @ 120 50 @ 220

Disk shelves

FC9 disk shelves

FC9 characteristics The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	With disk drives	62 lbs (34 kg)
		Empty	32 lbs (14.5 kg)
	Rack units		2.9U
	Height		5.1 in. (13 cm)
	Width		17.5 in. (44.5 cm)
	Depth		16 in. (40.6 cm)
Clearance dimensions			
	Front—cooling		6 in. (15.3 cm)
	Rear—cooling		19 in. (48.3 cm)
	Front—maintenance		45 in. (114.3 cm)
	Rear—maintenance		19 in. (48.3 cm)

Environmental requirements		
	Operating temperature maximum range	32° F to 104° F (0° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-40° F to 149° F (-40° C to 65° C)
	Relative humidity	5 to 80% noncondensing
	Acoustic level	48.7 dBA @ 23° C 5.64 bels @ 23° C
Electrical requirements		
	Input voltage, V	100–127/200–240
	Input current rating, A	5.5/3.5
	Input current actual, A	3.05/2.08
	Input power actual, W	200
	Thermal dissipation, BTU/hr	683
	Inrush current, A @ V	30 @ 220 22 @ 115

Disk shelves

FC7 and FC8 disk shelves

**FC7 and FC8
characteristics**

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	With disk drives	43.7 lbs (19.9 kg)
		Empty	15.1 lbs (6.9 kg)
	Rack units		3U
	Height		5.1 in. (13 cm)
	Width		17.5 in. (44.5 cm)
	Depth		16 in. (40.6 cm)
Clearance dimensions			
	Front—cooling		6 in. (15.3 cm)
	Rear—cooling		19 in. (48.3 cm)
	Front—maintenance		45 in. (114.3 cm)
	Rear—maintenance		19 in. (48.3 cm)

Environmental requirements		
	Operating temperature maximum range	32° F to 104° F (0° C to 40° C)
	Operating temperature recommended range	68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range	-40° F to 149° F (-40° C to 65° C)
	Relative humidity	10 to 90% noncondensing
	Acoustic level	48.7 dBA @ 23° C 5.64 bels @ 23° C
Electrical requirements		
	Input voltage, V	110/220
	Input current rating, A	5.5/3.5
	Input current actual, A	3.05/2.08
	Input power actual, W	200
	Thermal dissipation, BTU/hr	683
	Inrush current, A @ V	22 @ 115 30 @ 220

SDS12 SCSI disk shelves

SDS12 characteristics

The following table lists the various characteristics and requirements for your hardware.

Physical characteristics			
	Weight	With disk drives	75 lbs (34 kg)
		Empty	35.4 lbs (16 kg)
	Rack units		3U
	Height		5.3 in. (13.5 cm)
	Width		17.6 in. (44.7 cm)
	Depth		17 in. (43.2 cm)
Clearance dimensions			
	Front—cooling		6 in. (15.3 cm)
	Rear—cooling		19 in. (48.3 cm)
	Front—maintenance		45 in. (114.3 cm)
	Rear—maintenance		19 in. (48.3 cm)
Environmental requirements			
	Operating temperature maximum range		32° F to 104° F (0° C to 40° C)
	Operating temperature recommended range		68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range		-40° F to 149° F (-40° C to 65° C)
	Relative humidity		8 to 80% noncondensing
	Acoustic level		56 dBA @ 23° C

Electrical requirements		
	Input voltage, V	115/230
	Input current rating, A	6/3
	Input current actual, A	3.8/1.9
	Input power actual, W	392/380
	Thermal dissipation, BTU/hr	1,338/1,297
	Inrush current, A @ V	20 @ 115 40 @ 220

System cabinets

About this section	This section lists tabulated descriptions of the hardware characteristics, clearance requirements, environmental requirements, and electrical requirements for NetApp System Cabinets.
Power connectors for the cabinets for 36-U cabinets	NetApp System Cabinets use one of three types of power connectors, depending on your location in the world. The most current power connectors are the NEMA (North America), the IEC 309 (Europe and elsewhere), and the AS/NZS3123 (Australia and New Zealand).
System cabinet power cord length	The length of a system cabinet power cord is 15 feet (4.57m).
For detailed information	For details about specific models of system cabinet, see the following topics: ◆ “36-unit cabinets” on page 66 ◆ “42-unit cabinets” on page 68

System cabinets

36-unit cabinets

Cabinet characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	Loaded	Up to 1,110 lbs (505.5 kg)
		Empty	312.4 lbs (142 kg)
	Height	Cabinet	73 in. (185.4 cm)
		Crate	79 in. (200.7 cm)
	Width	Cabinet	24 in. (61.0 cm)
		Crate	42 in. (106.7 cm)
	Depth	Cabinet	36 in. (91.4 cm)
		Crate	44.6 in. (113.3 cm)
Clearance dimensions			
	Front		25 in. (63.5 cm)
	Rear		25 in. (63.5 cm)
Environmental requirements			
	Operating temperature maximum range		32° F to 104° F (0° C to 40° C)
	Operating temperature recommended range		68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range		-40° F to 149° F (-40° C to 65° C)
	Relative humidity		10 to 90% noncondensing

Electrical requirements			
	Input voltage, V		200–240
	Input current rating, A		24
	Input current actual, A		17.3
	Input power actual, W		3,000
	Thermal dissipation, BTU/hr		10,239
Outlet requirements			
	Plug type	NEMA L6-30 North America	30A rated service
			24A derated service (rms)
		IEC309-32 International	30A rated service
			24A derated service (rms)
	Note _____		
	For complete power redundancy, the power distribution units (PDUs) must be connected to two separate AC circuits.		

System cabinets

42-unit cabinets

Cabinet characteristics

The following table lists the characteristics and requirements for your hardware.

Physical characteristics			
	Weight	Loaded	Up to 1,500 lbs (Up to 680 kg)
		Empty	275 lbs (124.7 kg)
	Height	Cabinet	78.7 in. (200 cm)
		Crate	85.8 in. (218 cm)
	Width	Cabinet	23.6 in. (60 cm)
		Crate	29.8 in. (75.7 cm)
	Depth	Cabinet	37.4 in. (95 cm)
		Crate	48 in. (121.9 cm)
Clearance dimensions			
	Front a		30 in. (76.3 cm)
	Rear		30 in. (76.3 cm)
	Top		12 in. (30 cm)
Environmental requirements			
	Operating temperature maximum range		32° F to 104° F (0° C to 40° C)
	Operating temperature recommended range		68° F to 77° F (20° C to 25° C)
	Nonoperating temperature range		-40° F to 149° F (-40° C to 65° C)
	Relative humidity		10 to 90% noncondensing

Electrical requirements			
	Note — The system cabinet offers with two PDU options: you can order the cabinet with either two 30A PDUs or four 20A PDUs. The 20A PDU is derated at 16A, and the 30A PDU is derated at 24A. The following values refer to fully configured cabinets, unless specified otherwise.		
	Input voltage, V	20A PDU	200–240
		30A PDU	200–240
	Input current rating, A	20A PDU	16 per PDU
		30A PDU	24 per PDU
	Input current actual, A	20A PDU	11.5 per PDU*
		30A PDU	17.3 per PDU
	Input power actual, W	20A PDU	4,300 total
		30A PDU	3,000 total
	Thermal dissipation, BTU/hr	20A PDU	14,776 total
		30A PDU	10,3239 total
* Because there are two PDUs per side instead of one, the capacity is double this amount, although the PDUs must be connected to separate 20A branch circuits.			
For details, see your <i>System Cabinet Guide</i> .			

Outlet requirements			
	Plug type for 20A PDU	4 x NEMA L6-20 North America	4 x 20A rated service
			4 x 16A derated service (rms)
		International 4 x IEC309-20	4 x 20A rated service
			4 x 16A derated service (rms)
		Australia 4 x AS/NZS3123-20	4 x 20A rated service
			4 x 16A derated service (rms)
	Plug type for 30A PDU	NEMA L6-30 North America	30A rated service
			24A derated service (rms)
		IEC309-32 International	30A rated service
			24A derated service (rms)
Note _____			
For complete power redundancy, the power distribution units (PDUs) must be connected to four separate AC circuits for the 20A PDU and two separate AC circuits for the 30A PDU.			

Topics in this chapter

This chapter discusses the following topics:

- ◆ “[Stand-alone system setup worksheet and boot instructions](#)” on page 72.
- ◆ “[Cluster system setup worksheet and boot instructions](#)” on page 73.

Stand-alone system setup worksheet and boot instructions

Stand-alone systems

This worksheet is a planning aid for setting up stand-alone systems.

Host name:		
Do you want to configure Ethernet virtual interfaces?	The default is set to No for most installations.	
Network configuration:	<i>First interface</i>	<i>Second interface</i>
IP address:		
Netmask:		
Media type/speed (100tx-fd, 100tx, auto [100/1000]):		
Flow control (none, receive, send, full):		
Enable jumbo frames?		
IP address or name of default gateway:		
Would you like to continue setup through Web interface?	(Yes means you want to use a Web interface)	
(You do this through the Setup Wizard.)		
IP address or name of administration host:	(Leave blank to allow root user access to /etc from any NFS client)	
Where is filer located? (Text string)		
Do you want to run DNS resolver?		
Do you want to run NIS client?		

Cluster system setup worksheet and boot instructions

Cluster system setup

This worksheet is a planning aid for setting up clustered systems.

Setup parameters	Node A	Node B
Host name:		
Network configuration information		
Virtual interfaces:		
IP address—first interface, e0a:		
IP address—second interface, e0b:		
Netmask—first interface, e0a:		
Netmask—second interface, e0b:		
Media type/speed (100tx-fd, 100tx, auto [100/1000])—first interface, e0a:		
Media type/speed (100tx-fd, 100tx, auto [100/1000])—second interface, e0b:		
Flow control (none, receive, send, full)—e0a:		
Flow control (none, receive, send, full)—e0b:		
Enable jumbo frames?—first interface, e0a:		
Enable jumbo frames?—second interface, e0b:		
IP address or name of default gateway:		
IP address or name of administration host: (Leave blank for root access to /etc from any NFS client)		
Where is the NetApp system located? (Text string)		
Do you want to run DNS resolver?		
Do you want to run NIS client?		

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