

Dell EMC PowerScale

PowerScale is the next evolution of OneFS – the operating system powering the industry’s leading scale-out NAS platform that enables you to innovate with your data. The PowerScale family includes Dell EMC PowerScale platforms and the Dell EMC Isilon platforms configured with the PowerScale OneFS operating system. OneFS provides the intelligence behind the highly scalable, high-performance modular storage solution that can grow with your business. A OneFS powered cluster is composed of a flexible choice of storage platforms including all-flash, hybrid and archive nodes. These solutions provide the performance, choice, efficiency, flexibility, scalability, security and protection for you to store massive amounts of unstructured data within a cluster. The PowerScale all-flash platforms co-exist seamlessly in the same cluster with your existing Isilon nodes to drive your traditional and modern applications.

All-Flash Nodes



PowerScale F900



PowerScale F200



PowerScale F600



Isilon F800 and F810

The PowerScale all-flash storage platforms - powered by the PowerScale OneFS operating system - provide a powerful yet simple scale-out storage architecture to speed up access to massive amounts of unstructured data while dramatically reducing cost and complexity. Powered by the new OneFS 9.2 operating system, the platforms are available in several product lines:

- **PowerScale F900:** Provides the maximum performance of all-NVMe storage in a cost-effective configuration to address the needs of a demanding of workloads. Each node is 2U in height and hosts 24 NVMe SSDs. It allows you to scale raw storage capacity from 46 TB to 368 TB per node and up to 93 PB of raw capacity per cluster. The F900 includes in-line compression and deduplication. The minimum number of PowerScale nodes per cluster is three while the maximum cluster size is 252 nodes. The

F900 is best suited for Media and Entertainment 8K, genomics, algorithmic trading, artificial intelligence, machine learning and HPC workloads

- PowerScale F600:** With new NVMe drives, the F600 provides larger capacity with massive performance in a cost-effective compact form factor to power the most demanding workloads. Each node allows you to scale raw storage capacity from 15.36 TB to 122.8 TB per node and up to 30.96 PB of raw storage per cluster. The F600 includes inline software data compression and deduplication. The minimum number of nodes per cluster is three while the maximum cluster size is 252 nodes. The F600 is best suited for M&E studios, hospitals and financials that need performance and capacity for demanding workloads
- PowerScale F200:** Provides the performance of flash storage in a cost-effective form factor to address the needs of a wide variety of workloads. Each node allows you to scale raw storage capacity from 3.84 TB to 30.72 TB per node and up to 7.7 PB of raw capacity per cluster. The F200 includes in-line compression and deduplication. The minimum number of PowerScale nodes per cluster is three while the maximum cluster size is 252 nodes. The F200 is best suited for remote offices, small M&E workloads, small hospitals, retail outlets, IoT, factory floor and other similar deployment scenarios.
- Isilon F800:** Provides massive performance and capacity. It delivers up to 250,000 IOPS and up to 15 GB/s aggregate throughput in a single chassis configuration and up to 15.75M IOPS and up to 945 GB/s of aggregate throughput in a 252 node cluster. Each chassis houses 60 SSDs with a capacity choice of 1.6 TB, 3.2 TB, 3.84 TB, 7.68 TB or 15.36 TB per drive. This allows you to scale raw storage capacity¹ from 96 TB to 924 TB in a single 4U chassis and up to 58 PB raw storage in a single cluster.
- Isilon F810:** Provides massive performance and capacity along with inline data compression and deduplication capabilities to deliver extreme efficiency. The F810 delivers up to 250,000 IOPS and up to 15 GB/sec aggregate throughput in a single chassis configuration and up to 15.75M IOPS and up to 945 GB/s of aggregate throughput in a 252 node cluster. Each F810 chassis houses 60 SSDs with a capacity choice of 3.84 TB, 7.68 TB or 15.36 TB per drive. This allows you to scale raw storage capacity from 230 TB to 924 TB in a 4U chassis and up to 58 PB of raw storage in a single cluster.

PowerScale F900 All-NVMe Specifications

F900 ATTRIBUTES & OPTIONS	1.92 TB NVMe SSD	3.84 TB NVMe SSD	7.68 TB NVMe SSD	15.36 TB NVMe SSD
Raw node capacity	46 TB	92 TB	184.3 TB	368.6 TB
NVMe SSD Non-SED drives (2.5") per node	24			
Operating system	PowerScale OneFS 9.2 or later			
CPU type (per node)	Dual socket Intel® Cascade Lake Processor			
ECC memory (per node)	736 GB			
Front-end networking (per node)	Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28) Dual port 100G NIC supporting 40G or 100G connections			
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28)			
Max Power Consumption @ 200~240V (per node) ¹	859 Watts (@25°C)			
Typical thermal rating	2931 BTU/hr			

¹Values at <25° C are reflective of more steady state maximum values during normal operation

PowerScale F200 All-Flash Specifications

F200 ATTRIBUTES & OPTIONS	960 GB SSD	1.92 TB SSD	3.84 TB SSD	7.68 TB SSD
Raw node capacity	3.84 TB	7.68 TB	15.36 TB	30.72 TB
SSD Non-SED drives (2.5") per node	4			
Operating system	PowerScale OneFS 9.0 or later			
CPU type (per node)	Single socket Intel® Processor			
ECC memory (per node)	48 GB or 96 GB			
Front-end networking (per node)	Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28)			
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28)			
Max Power Consumption @ 200~240V (per node) ¹	239 Watts (@25°C)			
Typical thermal rating	815.5 BTU/hr			

¹Values at <25° C are reflective of more steady state maximum values during normal operation

PowerScale F600 All-Flash Specifications

F600 ATTRIBUTES & OPTIONS	1.92 TB SSD	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
Raw node capacity	15.36 TB	30.72 TB	61.44 TB	122.88 TB
NVMe SSD Non-SED drives (2.5") per node	8			
Operating system	PowerScale OneFS 9.0 or later			
CPU type (per node)	Dual Socket Intel® Processor			
ECC memory (per node)	128, 192 or 384 GB			
Front-end networking (per node)	Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28) or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28)			
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28)			
Max Power Consumption @ 200~240V (per node) ¹	467 Watts (@25°C)			
Typical thermal rating	1593.5 BTU/hour			

¹Values at <25° C are reflective of more steady state maximum values during normal operation

CLUSTER ATTRIBUTES	F200	F600	F900
Number of nodes	3 to 252	3 to 252	3 to 252
Raw cluster capacity	11.4TB to 7.7 PB	46TB to 30.96 PB	138 TB to 93 PB
Rack units	3 to 252	3 to 252	6 to 504

Isilon F800 All-Flash Specifications

F800 ATTRIBUTES & OPTIONS	1.6 TB SSD	3.2 TB SSD	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
Raw chassis capacity	96 TB	192 TB	230 TB	460 TB	924 TB
SSD drives (2.5") per chassis	60				
Self-Encrypting drive (SED SSD) FIPS 140-2 compliant option	Yes				
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later				
Number of nodes per chassis	4				
CPU type (per node)	Intel® Xeon® Processor E5-2697A v4				
ECC memory (per node)	256 GB				
Front-End networking (per node)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)				
Infrastructure networking (per node)	2 InfiniBand connections supporting QDR links or 2 x 40GbE (QSFP+)				
Max Power Consumption @ 200~240V (per chassis) ¹	1300 Watts (@25°C)				
Typical thermal rating	4,440 BTU/hr				

¹Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon F810 All-Flash Specifications

F810 ATTRIBUTES & OPTIONS	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
Raw chassis capacity	230 TB	460 TB	924 TB
SSD drives (2.5") per chassis	60		
Self-Encrypting drive (SED SSD) FIPS 140-2 compliant option	Yes		
Operating system	OneFS 8.1.3 or later		
Number of nodes per chassis	4		
CPU type (per node)	Intel® Xeon® Processor E5-2697A v4		

F810 ATTRIBUTES & OPTIONS	3.84 TB SSD	7.68 TB SSD	15.36 TB SSD
ECC memory (per node)	256 GB		
Front-End networking (per node)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)		
Infrastructure networking (per node)	2 X 40GbE (QSFP+)		
Max Power Consumption @ 200~240V (per chassis) ¹	1300 Watts (@25°C)		
Typical thermal rating	4,440 BTU/hour		

¹Values at <25° C are reflective of more steady state maximum values during normal operation

CLUSTER ATTRIBUTES	F800	F810
Number of chassis	1 to 63	
Number of nodes	4 to 252	
Raw cluster capacity	96 TB to 58 PB	230 TB to 58 PB

Isilon Hybrid Nodes



Isilon H400, H500, H5600 and H600

Isilon hybrid storage platforms powered by the OneFS operating system uses a versatile yet simple scale-out architecture to speed access to massive amounts of data. The hybrid platforms are highly flexible and strikes the balance between large capacity and high-performance storage to provide support for a broad range of enterprise file workloads. The hybrid storage platforms are available in four product lines:

- **Isilon H400:** Provides a balance of performance, capacity and value to support a wide range of file workloads. The H400 delivers up to three GB/s bandwidth per chassis and provides capacity options ranging from 120 TB to 960 TB per chassis.
- **Isilon H500:** This versatile hybrid platform delivers up to five GB/s bandwidth per chassis with a capacity ranging from 120 TB to 960 TB per chassis. The H500 is an ideal choice for organizations looking to consolidate and support a broad range of file workloads on a single platform.
- **Isilon H5600:** Combines massive scalability – 1.28 PB (raw) per chassis – and up to eight GB/s bandwidth – in an efficient, highly dense, deep 4U chassis. The H5600 also includes inline compression and deduplication capabilities. The H5600 is designed to support a wide range of demanding, large-scale file applications and workloads.
- **Isilon H600:** Designed to provide high performance at value, delivers up to 120,000 IOPS and up to 12 GB/s bandwidth per chassis. The H600 is ideal for HPC workloads that don't require the extreme performance of all-flash.

Isilon H400 Hybrid Specifications

H400 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	120 TB	240 TB	480 TB	720 TB	960 TB
HDD drives (3.5" 4kn SATA) per chassis	60				
Self-encrypting drive (SED HDD) FIPS140-2 compliant option	Yes				
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later.				
Number of nodes per chassis	4				
CPU type (per node)	Intel® Xeon® Processor D-1527				
ECC memory (per node)	64 GB				

Cache (per Node) solid state drives (SSD) (800 GB, 1.6 TB, or 3.2 TB)	1 or 2
Self-Encrypting drive (SED SSD) option	Yes
Front-end networking (per node)	2 x 10GE (SFP+) or 2 x 25GbE (SFP28)
Infrastructure (back-end) networking (per node)	2 InfiniBand connections with QDR links or 2 x 10 GbE (SFP+)
Max Power Consumption @ 200~240v (per chassis) ¹	1120 Watts (@25°C)
Typical thermal rating	3800 BTU/hr

¹Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon H500 Hybrid Specifications

H500 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	120 TB	240 TB	480 TB	720 TB	960 TB
HDD drives (3.5" 4kn SATA) per chassis	60				
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes				
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later.				
number of nodes per chassis	4				
CPU type (per node)	Intel® Xeon® Processor E5-2630 v4				
ECC memory (per node)	128 GB				
Cache (per node) Solid state drives (SSD) (1.6 TB or 3.2 TB)	1 or 2				
Self-Encrypting drive (SED SSD) option	Yes				
Front-end networking (per node)	2 x 10GE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)				

Infrastructure (back-end) networking (per node)

2 InfiniBand connections with QDR links or 2 x 40GbE (QSFP+)

Max Power Consumption @ 200~240v (per chassis) ¹	1330 Watts (@25°C)
Typical thermal rating	4,540 BTU/hr

¹Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon H5600 Hybrid Specifications

H5600 ATTRIBUTES & OPTIONS	10 TB HDD	12 TB HDD	16 TB HDD
Raw chassis capacity	800 TB	960 TB	1.28 PB
HDD drives (3.5" 4kn SATA) per chassis	80		
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes		
Operating system	OneFS 8.2.2 or later.		
Number of nodes per chassis	4		
CPU type (per node)	Intel® Xeon® Processor E5-2680 v4		
ECC memory (per node)	256 GB		
Cache (per node) solid state drives (SSD) (3.2 TB only)	1 or 2	2	
Self-Encrypting drive (SED SSD) option	Yes	No	
Front-end networking (per node)	2 x 10GE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)		
Infrastructure (Back-End) networking (per node)	2 InfiniBand connections with QDR links or 2 x 40GbE (QSFP+)		
Max Power Consumption @ 200~240v (per chassis) ¹	1668 Watts (@25°C)		
Typical thermal rating	5628 BTU/hr		

¹Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon H600 Hybrid Specifications

H600 ATTRIBUTES & OPTIONS	600 GB SAS	1.2 TB SAS
Chassis capacity	72 TB	144 TB

H600 ATTRIBUTES & OPTIONS	600 GB SAS	1.2 TB SAS
SAS drives (2.5" 512n) per chassis		120
Self-encrypting drive (SED (SAS) FIPS 140-2 compliant option)		Yes
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later	
Number of nodes per chassis		4
CPU type (per node)	Intel® Xeon® Processor E5-2680 v4	
ECC memory (per node)		256 GB
Cache (per node) solid state drives (SSD) (1.6 TB or 3.2 TB)		1 or 2
Self-Encrypting drive (SED SSD) option		Yes
Front-end networking (per node)	2 x 10GE (SFP+) or 2 x 25GbE (SFP28) or 2 x 40GbE (QSFP+)	
Infrastructure (back-end) networking (per node)	2 InfiniBand connections with QDR links or 2 x 40GbE (QSFP+)	
Max Power Consumption @ 200~240v (per chassis) ¹		1700 Watts (@25°C)
Typical thermal rating		5840 BTU/hr

¹Values at <25° C are reflective of more steady state maximum values during normal operation

CLUSTER ATTRIBUTES	H400	H500	H5600	H600
Number of chassis			1 to 63	
Number of nodes			4 to 252	
Raw cluster capacity	120 TB to 60.4 PB	120 TB to 60.4 PB	800 TB to 80.64 PB	72 TB to 9.0 PB
Rack units			4 to 252	

Isilon Archive Nodes



Isilon A200 and A2000

Isilon offers two highly efficient and massively scalable archive storage solutions. Both nodes use a modular architecture while dramatically reducing cost and complexity and both platforms utilize a dense hardware design that provides four nodes within a single 4U chassis

- **Isilon A200:** is an ideal active archive storage solution that combines near-primary accessibility, value, and ease of use. The A200 provides between 120 TB to 960 TB per chassis and scales to 60 PB in a single cluster.
- **Isilon A2000:** A2000 is an ideal solution for high density, deep archive storage that safeguards data efficiently for long-term retention. The A2000 stores up to 1280 TB per chassis and scales to over 80 PB in a single cluster.

Isilon A200 Archive Specifications

A200 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	120 TB	240 TB	480 TB	720 TB	960 TB
HDD drives (3.5" SATA) per chassis	60				
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes				
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later.				
Number of nodes per chassis	4				
CPU type (per node)	Intel® Pentium® Processor D1508				
ECC memory (per node)	16 GB or 64 GB				
Cache (per node) solid state drives (400 GB SSD for 2, 4 and 8 TB HDD and 800 GB SSD for 12 TB HDD)	1 or 2				

A200 ATTRIBUTES & OPTIONS	2 TB HDD	4 TB HDD	8 TB HDD	12 TB HDD	16 TB HDD
Self-encrypting drive (SED HDD) option					Yes
Front-end networking (per node)	2 x 10GbE (SFP) or 2 x 25GbE (SFP28)				
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or 2 X 10GbE (SFP)				
Max Power Consumption @ 200~240v (per chassis) ¹	1060 Watts (@25°C)				
Typical thermal rating	3600 BTU/hr				

¹Values at <25° C are reflective of more steady state maximum values during normal operation

Isilon A2000 Archive Specifications

A2000 ATTRIBUTES & OPTIONS	10 TB HDD	12 TB HDD	16 TB HDD
Chassis capacity	800 TB	960	1.28 PB
HDD drives (3.5" SATA) per chassis	80		
Self-encrypting drive (SED HDD) FIPS 140-2 compliant option	Yes		
Operating system	OneFS 8.1 or later except for self-encrypting drive options which require OneFS 8.1.0.1 or later.		
Number of nodes per chassis	4		
CPU type (per node)	Intel® Pentium® Processor D1508		
ECC memory (per node)	16 GB or 64 GB		
Cache (per node) solid state drives (400 GB SSD for 2, 4 and 8 TB HDD and 800 GB SSD for 12 TB HDD)	1 or 2		
Self-encrypting drive (SED SSD) option	Yes		
Front-end networking (per node)	2 x 10GbE (SFP+) or 2 x 25GbE (SFP28)		

A2000 ATTRIBUTES & OPTIONS	10 TB HDD	12 TB HDD	16 TB HDD
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Infrastructure networking (per node) 2 InfiniBand connections with QDR links or 2 X 10GbE (SFP+)

Max Power Consumption @ 200~240v (per chassis) ¹	1120 Watts (@25°C)
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Typical thermal rating	3800 BTU/hr
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¹Values at <25° C are reflective of more steady state maximum values during normal operation

CLUSTER ATTRIBUTES	A200	A2000
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Number of chassis	1 to 63	
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Number of nodes	4 to 252	
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Cluster capacity	120 TB to 60 PB	800 TB to 80 PB
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Rack units	4 to 252	
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PowerScale Attributes

PRODUCT ATTRIBUTES

Scale-out architecture Distributed fully symmetric clustered architecture that combines modular storage with OneFS operating system in a single volume, single namespace and single filesystem

Modular design Four self-contained Isilon nodes include server, software, HDDs and SSDs in a 4U rack-mountable chassis. 1U or 2U Rack-mountable PowerScale node that integrates into existing PowerScale and Isilon clusters with backend Ethernet or InfiniBand connectivity

Operating system PowerScale OneFS distributed file system creates a cluster with a single file system and single global namespace. It is fully journaled, fully distributed, and has a globally coherent write/read cache

High availability No-single-point-of-failure. Self-healing design protects against disk or node failure; includes back-end intra-cluster failover

Scalability A cluster can scale up to 252 Isilon nodes. Minimum number of Isilon nodes per cluster is four. Minimum number of PowerScale nodes per cluster is three. Add nodes to scale performance and capacity

Data protection FlexProtect file-level striping with support for N+1 through N+4 and mirroring data protection schemes

PRODUCT ATTRIBUTES

2-way NDMP

Supports two ports of Fibre Channel (8G) that allows for two-way NDMP connections and two ports of standard 10GbE connectivity

Data retention

SmartLock policy-based retention and protection against accidental deletion

Security

File system audit capability to improve security and control of your storage infrastructure and address regulatory compliance requirements

Efficiency

SmartDedupe data deduplication option, which can reduce storage requirements by up to 35 percent. Inline data reduction and compression available on F200, F600, F900, F810 and H5600

Automated storage tiering

Policy-based automated tiering options including SmartPools and CloudPools software to optimize storage resources and lower costs

Network protocol support

NFSv3, NFSv4, NFS Kerberized sessions (UDP or TCP), SMB1 (CIFS), SMB2, SMB3, SMB3-CA, Multichannel, HTTP, FTP, NDMP, SNMP, LDAP, HDFS, S3, ADS, NIS reads/writes

Data replication

SyncIQ fast and flexible one-to-many file-based asynchronous replication between clusters

ENVIRONMENTAL SPECIFICATIONS – POWER

Power factor is a measure of how effectively you are using electricity. The power factor of an AC electrical power system is defined as the ratio of the real power absorbed by the load to the apparent power flowing in the circuit and is a dimensionless number in the closed interval of -1 to 1. A power factor of less than one indicates the voltage and current are not in phase, reducing the instantaneous product of the two.

For max power consumption information during unexpected environmental conditions, please refer to the “Site Preparation and Planning Guide”.

POWER SUPPLY: key Specifications and Efficiency for **F200, F600 and F900**

Attribute	F200 and F600	F900
Class	Platinum	Platinum
Heat dissipation (maximum)	2902 BTU/hr	4100 BTU/hr
Frequency	50/60 Hz	50/60 Hz
Voltage	100-240V, 10 A – 5 A	100-240V, 12 A – 6.5 A

Operating Environment: 10°C to 35°C (50°F to 95°F) with no direct sunlight on the equipment

For additional information about environmental measurements for specific system configurations, see Dell.com/environmental_datasheets

POWER SUPPLY: **F800 and F810:** Dual-redundant, hot-swappable 1450W power supplies with power factor correction (PFC); rated for input voltage 180 – 265 VAC (optional rack mount step-up transformer for 90-130 VAC input regions)

Power factor and efficiency rate for **F800 and F810** PSU

System Load	Efficiency	PF
10%	89.74%	0.933
20%	94.28%	0.982
30%	95.02%	0.990

40%	95.19%	0.994
50%	95.11%	0.996
60%	94.77%	0.997
70%	94.50%	0.998
80%	94.13%	0.998
90%	93.66%	0.998
100%	92.93%	0.998

CFM – Volume of airflow; cubic feet/minute
 F800 and F810: each node 70CFM, total chassis 280CFM (max)

H400 and H500: Dual-redundant, hot-swappable 1050W (low line) 1100W (high line) power supplies with power factor correction (PFC); rated for input voltages 90 - 130 VAC (low line) and 180-264 VAC (high line)

Power factor and efficiency rate for **H400 and H500**

System Load	Efficiency	PF
10%	86.00%	0.918
20%	92.95%	0.967
30%	93.93%	0.970
40%	94.41%	0.972
50%	94.49%	0.981
60%	94.11%	0.986
70%	94.04%	0.990
80%	93.86%	0.992
90%	93.63%	0.995
100%	93.25	0.996

H5600 and H600: Dual-redundant, hot-swappable 1450W power supplies with power factor correction (PFC); rated for input voltage 180 – 265 VAC (optional rack mount step-up transformer for 90-130 VAC input regions)

Power factor and efficiency rate for **H5600 and H600**

System Load	Efficiency	PF
10%	89.74%	0.933
20%	94.28%	0.982
30%	95.02%	0.990
40%	95.19%	0.994
50%	95.11%	0.996
60%	94.77%	0.997
70%	94.50%	0.998
80%	94.13%	0.998
90%	93.66%	0.998
100%	92.93%	0.998

CFM – Volume of airflow; cubic feet/minute
 H5600: each Node 60CFM, total chassis 240CFM (max.)
 H400, H500, H600: each Node 70CFM, total chassis 280CFM (max)

A200 and A2000: Dual-redundant, hot-swappable 1050W (low line) 1100W (high line) power supplies with power factor correction (PFC); rated for input voltages 90 - 130 VAC (low line) and 180-264 VAC (high line)

Power factor and efficiency rate for **A200 and A2000**

System Load	Efficiency	PF
10%	86.00%	0.918
20%	92.95%	0.967
30%	93.93%	0.970
40%	94.41%	0.972
50%	94.49%	0.981
60%	94.11%	0.986
70%	94.04%	0.990
80%	93.86%	0.992
90%	93.63%	0.995
100%	93.25	0.996

CFM – Volume of airflow; cubic feet/minute
A2000: each Node 60CFM, total chassis 240CFM (max.)
A200: each Node 70CFM, total chassis 280CFM (max)

OPERATING ENVIRONMENT

Compliant with ASHRAE A3 data center environment guidelines

DIMENSIONS / WEIGHT:

The following specifications apply to **F900**:

- Height: 86.8mm (3.42")
- Width: 434mm (17.08")
- Depth: 737.5mm (29.04") (end of the power supply latches)

The following specifications apply to **F200** and **F600**

- Height: 42.8mm (1.68")
- Width: 434mm (17.08")
- Depth: 808.5mm (31.83") (end of the power supply latches)

The following specifications apply to **F800** and **F810**:

- Height: 7" (17.8 cm)
- Width: 17.6" (44.8 cm);
- Depth (front NEMA rail to rear 2.5" SSD cover ejector): 35.8" (91.0 cm);
- Depth (front of bezel to rear 2.5" SSD cover ejector): 37.6" (95.5 cm)

The following specifications apply to **H400**, **H500**, **H5600**, **H600**:

- H400, H500, H600: Height: 7" (17.8 cm); Width: 17.6" (44.8 cm);
- Depth (front NEMA rail to rear 2.5" SSD cover ejector): 35.8" (91.0 cm);
- Depth (front of bezel to rear 2.5" SSD cover ejector): 37.6" (95.5 cm)
- H5600: Height: 7" (17.8 cm); Width: 17.6" (44.8 cm);
- Depth: (front NEMA rail to rear 2.5" SSD cover ejector): 40.4" (102.6 cm);
- Depth: (front of bezel to rear 2.5" SSD cover ejector): 42.2" (107.1 cm);

The following specifications apply to **A200** and **A2000**:

- A200: Height: 7" (17.8 cm); Width: 17.6" (44.8 cm);
- Depth: (front NEMA rail to rear 2.5" SSD cover ejector): 35.8" (91.0 cm);
- Depth: (front of bezel to rear 2.5" SSD cover ejector): 37.6" (95.5 cm);
- A2000: Height: 7" (17.8 cm); Width: 17.6" (44.8 cm);
- Depth: (front NEMA rail to rear 2.5" SSD cover ejector): 40.4" (102.6 cm);
- Depth: (front of bezel to rear 2.5" SSD cover ejector): 42.2" (107.1 cm);

The following max weights per Chassis/node:

- F900: 61.95 lbs. (28.1 kg)
- F200, F600: 48.28 lbs (21.9 kg)
- F800, F810: 170 lbs. (77.1 kgs)
- H400: 245 lbs. (111.1 kg)
- H500: 250 lbs. (113.4 kg)
- H5600: 285 lbs. (129.3 kg)
- H600: 215 lbs. (97.5 kg)
- A200: 240 lbs. (108.9 kg)
- A2000: 285 lbs. (129.3 kg)

MINIMUM SERVICE CLEARANCES

Front: 40" (88.9 cm), rear: 42" (106.7 cm)

Safety and EMI Compliance

Statement of Compliance

This Information Technology Equipment is compliant with the electromagnetic compatibility (EMC) and product safety regulations/standards required by the countries in which the product is sold. EMC compliance is based on FCC part 15, CISPR22/CISPR24 and EN55022/EN55024 standards, including applicable international variations. EMC compliant Class A products are marketed for use in business, industrial, and commercial environments. Product Safety compliance is based on IEC 60950-1 and EN 60951-1 standards, including applicable national deviations.

This Information Technology Equipment is in compliance with EU RoHS Directive 2011/65/EU.

The individual devices used in this product are approved under a unique regulatory model identifier that is affixed to each individual device rating label, which may differ from any marketing or product family name in this datasheet.

For additional information see <http://support.dell EMC.com> under the Safety & EMI Compliance Information tab.

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