

### Overview

### HPE Hard Disk Drives

HPE Hard Disk Drives (HDDs) are engineered to deliver optimum performance, reliability, compatibility, and data security across HPE server and storage platforms making them the preferred choice for workloads ranging from small businesses to large enterprise.

#### Performance

- HPE HDDs are tuned and tested with on-going quality monitoring throughout their lifecycle
- HPE optimizes HDD firmware for predictable and consistent HDD performance
- Full portfolio of high-performance Mission Critical and high-capacity Business Critical drive solutions

#### Reliability

- Hewlett Packard Enterprise’s industry-leading rigorous testing and qualification program, backed by 2.4 million test hours
- Pre-failure Alerts with HPE Smart Array Controller, Systems Insight Manager, and HPE Smart firmware
- 3x faster firmware and software updates with HPE Service Pack for ProLiant (HPE SPP)
- Best-in-class supply assurance program reduces downtime due to product delays

#### Compatibility

- Simplify HDD planning and standardize HDDs across HPE server and storage solutions
- Common HDD carriers mean re-purposing drives in other servers is a snap

#### Security

- HPE Digitally Signed Firmware helps prevent against malicious attacks
- HPE Smart Array SR Secure Encryption is a FIPS 140-2 Level 1 validated enterprise class controller-based encryption solution for data-at-rest on all SAS/SATA drives
- HPE Smart Carriers report drive activity and health
- Self-Encrypting Drives (SEDs) provide hardware-based data encryption. All data that is committed to the media is encrypted with either a 128-bit or 256-bit key.

HPE HDDs are available for three types of workloads: Enterprise high-performance (Mission Critical), Midline high-capacity (Business Critical) and Entry-level storage solutions.

HPE HDD portfolio: Proven performance for every workload				
Class	Mission Critical (Enterprise)		Business Critical (Midline)	Entry*
Workload	High		Medium	Low
Usage	<b>Mission-critical, high I/O:</b> Email, enterprise resource planning (ERP), customer relationship management (CRM)		<b>Business Critical, High capacity, high availability storage:</b> Backup, archive, reference	<b>Low I/O:</b> Boot and backup
Interface	SAS 12Gb		SAS 12Gb SATA 6Gb	SATA 6Gb
RPM	15000	10000	7200	7200
Form factor	SFF & LFF	SFF	SFF & LFF	LFF
Capacities	Up to 900GB	Up to 2.4TB	Up to 20TB	Up to 4TB
Warranty	3 years	3 years	1 year	1 year
<b>Notes:</b> * Supported on select HPE ProLiant servers only.				

## Overview

### What's New

- Introduced largest capacity 20TB and largest air-filled 10TB HDD in Business Critical 7.2K LFF Smart Carrier and Low-Profile Carrier Portfolio.

P53552-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD
P53553-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD
P53554-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD
P53555-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD

**Notes:** A -B21 suffix may be replaced with -H21 and -K21 to support across different server family lines. Please refer to the appropriate Server QuickSpecs for full compatibility details

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### Firmware Updates

Digitally Signed Firmware – Prevent unauthorized access to your data with the expansion of integrated HPE Digitally Signed Firmware (DS) on new drives; providing the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks.

For advanced data protection and encryption, customers should consider HPE Smart Array Controllers with HPE Smart Array Secure SR Encryption. It is a controller-based data encryption solution for HPE servers that protect data-at-rest on any bulk attached storage. This solution meets stringent compliance regulations such as HIPAA and Sarbanes-Oxley.

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## Standard Features

### Models

Category	Interface	Form Factor	Format	Capacity	HDD Carrier			
					Smart Carrier SKU	Low Profile SKU	Basic Carrier SKU	
Mission Critical (15K rpm)		SFF		300GB	870753-B21		P28028-B21	
				600GB	870757-B21		P53560-B21	
				900GB	870759-B21		P40432-B21	
Mission Critical (10K rpm)		512n		300GB	872475-B21		P40430-B21	
				600GB	872477-B21		P53561-B21	
				1.2TB	872479-B21		P28586-B21	
		SFF	512e		1.8TB		872481-B21	P53562-B21
					2.4TB		881457-B21	P28352-B21
Mission Critical (10K rpm) Self-Encrypting Drives (SED)		SFF	512n	1.2TB			P28622-B21	
		SFF	512e	2.4TB		P28618-B21		

Category	Interface	Form Factor	Format	Capacity	HDD Carrier			
					Smart Carrier SKU	Low Profile SKU	Basic Carrier SKU	
Business Critical (7.2K rpm)	SAS 12G	LFF	512n	2TB	872485-B21	833926-B21		
				4TB	872487-B21	833928-B21		
		LFF	512e	6TB	861754-B21	861746-B21		
					8TB	819201-B21		834031-B21
				12TB	881779-B21 <sup>He</sup>	881781-B21 <sup>He</sup>		
					14TB	P09153-B21 <sup>He</sup>		P09155-B21 <sup>He</sup>
				16TB	P23863-B21 <sup>He</sup>	P23608-B21 <sup>He</sup>		
				20TB	P53552-B21 <sup>He</sup>	P53553-B21 <sup>He</sup>		
		SATA 6G	LFF	512n	1TB	861691-B21		861686-B21
					2TB	872489-B21		861681-B21
	4TB				872491-B21	861683-B21		
	512e			6TB	861750-B21	861742-B21		
		8TB	819203-B21	834028-B21				
	12TB	881785-B21 <sup>He</sup>	881787-B21 <sup>He</sup>					
16TB		P23857-B21 <sup>He</sup>	P23449-B21 <sup>He</sup>					
20TB	P53555-B21 <sup>He</sup>	P53554-B21 <sup>He</sup>						



## Standard Features

Category	Interface	Form Factor	Format	Capacity	HDD Carrier
Entry (7.2K)	SATA 6G				<b>Non Hot Plug Carrier SKU</b>
			512n	1TB	801882-B21
				4TB	801888-B21

### Notes:

- <sup>He</sup> Helium Drive.
- A -B21 suffix may be replaced with -H21 and -K21 to support across different server family lines. Please refer to the appropriate Server QuickSpecs for full compatibility details.

## What is HPE Hard disk drive?

Hewlett Packard Enterprise drives are tuned to deliver optimum performance for HPE Servers. They undergo an intense qualification process to eliminate firmware and O/S incompatibilities. HPE drive firmware is designed to maximize both functionality and compatibility with HPE ProLiant Rack and Tower Servers, Apollo family, Blade and Synergy Platforms.

## Drive Quality and Performance

While selecting the drives in our HPE portfolio, only those drives with a performance level suitable for an enterprise environment are selected through the Hewlett Packard Enterprise qualification process and are labeled "best-in-class."



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## Standard Features

### Pre-Failure Alert

When used in conjunction with a SMART Array Controller and Systems Insight Manager, the SMART capable firmware in HPE hard drives enables extensive fault prediction capabilities. If potential problems develop in one of the drives, the Smart Array Controller, Systems Insight Manager and/or SMART hard disk drive lets you know in advance so you can have the drive replaced, before it fails, under warranty

**Notes:** All drives are protected by a Pre-Failure Alert when used with a HPE Smart Array controller and Systems Insight Manager, allowing hard drives to be replaced before failure under warranty. In addition, all drives are covered by a one or three-year limited on-site warranty period for the system in which they are installed. The drive warranty is automatically uplifted when used in a server or MSA for which a HPE Services service contract is purchased. Please see the Support Services section below for additional services.

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### Smart Carriers

HPE Hard Drives with smart carriers are designed to provide an interface to communicate critical status and management information. System status LED icons and a spinning activity ring reflecting the data-writing process notify users of the current system status. A blue LED located behind the handle can be activated remotely to guide users to a specific drive tray, while a do-not-remove icon positioned on the tray's eject button lights up to warn users when the removal of the drive would cause data loss.

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### Helium Drives

Although hard drives are sealed, they have air inside. Air can create turbulence-induced risk vibrations which can limit the storage density of HDDs. Newer helium-filled drives virtually eliminate turbulence because helium is 1/7th as dense as air. This lower density allows the read/write mechanism to spin more easily and precisely, with less drag. Less internal turbulence means the drive platters can be closer together, allowing more platters and increasing the capacity potential in the same space. Less turbulence also means helium drives tend to use less power, and run cooler and quieter.

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### Support Matrix

Please see the following URL for the latest list of supported servers and enclosures:

<https://www.hpe.com/us/en/servers/server-options.html>

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### Warranty

Enterprise hard drives have a 3 year limited warranty regardless of the warranty period for the system in which they are installed. Midline hard drives have a 1 year limited warranty regardless of the warranty period for the system in which they are installed.

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## Service and Support

### HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

<https://www.hpe.com/services>

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### Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

<https://www.hpe.com/services/consulting>

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### HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

[HPE Managed Services | HPE](#)

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### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

<https://www.hpe.com/services/operational>

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### HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

<https://www.hpe.com/services/complecare>

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### HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/services/techcare>

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## Service and Support

### HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

**Notes:** To review the list of Lifecycle Services available for your product go to:

<https://www.hpe.com/services/lifecycle>

For a list of the most frequently purchased services using service credits, see the [HPE Service Credits Menu](#)

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### Other Related Services from HPE Services:

#### HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

<https://www.hpe.com/services/training>

#### Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

#### Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

#### How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at <https://ssc.hpe.com/portal/site/ssc/>



## Service and Support

### AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpesc/public/home/signin>

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### Consume IT On Your Terms

**HPE GreenLake** edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"

<https://www.hpe.com/us/en/contact-hpe.html>

For more information

<http://www.hpe.com/services>

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## Technical Specifications

### HDD Specifications

Mission Critical (15K rpm)									
<b>Form Factor</b>		SFF (2.5")		<b>Carrier</b>		Smart Carrier (SC)			
<b>Rotational Speed</b>		15000 rpm		<b>Dimensions</b>					
<b>Interface</b>		SAS		<b>Height</b>		0.62 in (15.6 mm)			
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec		<b>Width</b>		2.98 in (75.7 mm)			
<b>Bytes/Sector</b>		512		<b>Depth</b>		4.67 in (118.7 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)							
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
870753-B21	HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	2.6	3.6	6.8	3.9
870757-B21	HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	7.1	7.2	6.5
870759-B21	HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.8	7.8	7.7	7.2

Mission Critical (15K rpm)									
<b>Form Factor</b>		SFF (2.5")		<b>Carrier</b>		Basic Carrier (BC)			
<b>Rotational Speed</b>		15000 rpm		<b>Dimensions</b>					
<b>Interface</b>		SAS		<b>Height</b>		0.62 in (15.6 mm)			
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec		<b>Width</b>		2.98 in (75.7 mm)			
<b>Bytes/Sector</b>		512		<b>Depth</b>		4.67 in (118.7 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)							
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
P28028-B21	HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	2.6	3.6	4.4	3.9



## Technical Specifications

P53560-B21	HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	6.1	6.3	6.4
P40432-B21	HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	6.1	6.3	6.3

### Mission Critical (10K rpm)

<b>Form Factor</b>	SFF (2.5")	<b>Carrier</b>	Smart Carrier (SC)							
<b>Rotational Speed</b>	10000 rpm	<b>Dimensions</b>								
<b>Interface</b>	SAS	<b>Height</b>	0.62 in (15.6 mm)							
<b>Transfer Rate Synchronous (Max)</b>	12Gb/sec	<b>Width</b>	2.98 in (75.7 mm)							
<b>Bytes/Sector</b>	512	<b>Depth</b>	4.67 in (118.7 mm)							
<b>Operating Temperature</b>	50° to 95° F (10° to 35°C)									
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
872475-B21	HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	180	180	180	3.8	5.8	5.9	5.0	
872477-B21	HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.7	6.1	6.3	6.4	
872479-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.0	7.5	6.5	5.9	
872481-B21	HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	230	165	170	185	4.6	6.9	6.0	5.8	
881457-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	255	160	180	195	4.8	6.0	7.8	6.6	



## Technical Specifications

Mission Critical (10K rpm)									
<b>Form Factor</b>		SFF (2.5")		<b>Carrier</b>		Basic Carrier (BC)			
<b>Rotational Speed</b>		10000 rpm		<b>Dimensions</b>					
<b>Interface</b>		SAS		<b>Height</b>		0.62 in (15.6 mm)			
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec		<b>Width</b>		2.98 in (75.7 mm)			
<b>Bytes/Sector</b>		512		<b>Depth</b>		4.67 in (118.7 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)							
<b>SKU</b>	<b>SKU Description</b>	<b>OD Media Rate, Max Sequential Throughput (MiB/s)</b>	<b>128Kib Random Rd (IOPs)</b>	<b>128Kib Random 70% RD/ 30% WT (IOPs)</b>	<b>128Kib Random 50% RD/ 50% WT (IOPs)</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>
P40430-B21	HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	195	180	180	180	3.8	6.9	6.1	5.3
P53561-B21	HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	200	165	165	165	4.7	6.1	6.3	6.4
P28586-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.1	7.5	6.5	6.1
P53562-B21	HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	260	165	180	190	2.6	3.6	4.4	3.9
P28352-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	255	160	180	190	4.8	6	7.8	6.6



## Technical Specifications

Mission Critical (10K rpm) Self-Encrypting Drives (SED)										
<b>Form Factor</b>		SFF (2.5")			<b>Carrier</b>		Basic Carrier (BC)			
<b>Rotational Speed</b>		10000 rpm			<b>Dimensions</b>					
<b>Interface</b>		SAS			<b>Height</b>		0.62 in (15.6 mm)			
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec			<b>Width</b>		2.98 in (75.7 mm)			
<b>Bytes/Sector</b>		512			<b>Depth</b>		4.67 in (118.7 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)								
<b>SKU</b>	<b>SKU Description</b>	<b>OD Media Rate, Max Sequential Throughput (MiB/s)</b>	<b>128Kib Random Rd (IOPs)</b>	<b>128Kib Random 70% RD/ 30% WT (IOPs)</b>	<b>128Kib Random 50% RD/ 50% WT (IOPs)</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>	
P28622-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Self-encrypting HDD	250	170	170	170	2.6	3.6	4.4	3.9	
P28618-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Self-encrypting HDD	255	160	180	195	4.8	6.0	7.8	6.6	



## Technical Specifications

<b>Business Critical (7.2K rpm)</b>										
<b>Form Factor</b>		LFF (3.5")		<b>Carrier</b>		Smart Carrier (SC)				
<b>Rotational Speed</b>		7200 rpm		<b>Dimensions</b>						
<b>Interface</b>		SAS		<b>Height</b>		1.06 in (26.8 mm)				
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec		<b>Width</b>		4.16 in (105.8 mm)				
<b>Bytes/Sector</b>		512		<b>Depth</b>		6.69 in (170.0 mm)				
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)								
<b>SKU</b>	<b>SKU Description</b>	<b>OD Media Rate, Max Sequential Throughput</b>	<b>128Kib Random Rd (IOPs)</b>	<b>128Kib Random 70% RD/ 30% WT</b>	<b>128Kib Random 50% RD/ 50% WT</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>	
872485-B21	HPE 2TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2	10.8	10.5	
872487-B21	HPE 4TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2	10.8	10.5	
861754-B21	HPE 6TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	200	100	105	110	8.8	12.2	10.8	10.5	
819201-B21	HPE 8TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	8.3	11.3	10.6	10.2	
881779-B21	HPE 12TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.7	7.6	7.3	
P09153-B21	HPE 14TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	6.1	9.2	8.2	7.8	
P23863-B21	HPE 16TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	250	105	115	125	5.7	9.6	8.2	8.2	
P53552-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	6.1	9.9	8.6	8.8	
<b>Business Critical (7.2K rpm)</b>										
<b>Form Factor</b>		LFF (3.5")		<b>Carrier</b>		Low Profile (LP)				
<b>Rotational Speed</b>		7200 rpm		<b>Dimensions</b>						



## Technical Specifications

<b>Interface</b>		SAS		<b>Height</b>		1.028 in (26.1 mm)				
<b>Transfer Rate Synchronous (Max)</b>		12Gb/sec		<b>Width</b>		4.15 in (105.5 mm)				
<b>Bytes/Sector</b>		512		<b>Depth</b>		6.16 in (156.58 mm)				
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)								
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
833926-B21	HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12.2	10.8	10.5	
833928-B21	HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12.2	10.8	10.5	
861746-B21	HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	215	100	110	110	8.8	12.2	10.8	10.5	
834031-B21	HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	8.3	11.3	10.6	10.2	
881781-B21	HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.7	7.5	7.3	
P09155-B21	HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	6.1	9.2	8.2	7.8	
P23608-B21	HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	250	105	115	125	5.7	9.6	8.2	8.2	
P53553-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	6.1	9.9	8.6	8.8	
<b>Business Critical (7.2K rpm)</b>										
<b>Form Factor</b>		LFF (3.5")		<b>Carrier</b>		Smart Carrier (SC)				
<b>Rotational Speed</b>		7200 rpm		<b>Dimensions</b>						
<b>Interface</b>		SATA		<b>Height</b>		1.06 in (26.8 mm)				
<b>Transfer Rate Synchronous (Max)</b>		6Gb/sec		<b>Width</b>		4.16 in (105.8 mm)				
<b>Bytes/Sector</b>		512		<b>Depth</b>		6.69 in (170.0 mm)				
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)								



## Technical Specifications

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
861691-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2	10.8	10.5
872489-B21	HPE 2TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2	10.8	10.5
872491-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2	10.8	10.5
861750-B21	HPE 6TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	215	100	100	105	8.8	12.2	10.8	10.5
819203-B21	HPE 8TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	7.2	10.8	10.1	9.8
881785-B21	HPE 12TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.5	8.2	7.7
P23857-B21	HPE 16TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	105	115	125	5.5	9.1	7.8	8.2
P53555-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	5.8	9.3	8.1	8.2



## Technical Specifications

<b>Business Critical (7.2K rpm)</b>									
<b>Form Factor</b>		LFF (3.5")		<b>Carrier</b>		Low Profile (LP)			
<b>Rotational Speed</b>		7200 rpm		<b>Dimensions</b>					
<b>Interface</b>		SATA		<b>Height</b>		1.028 in (26.1 mm)			
<b>Transfer Rate Synchronous (Max)</b>		6Gb/sec		<b>Width</b>		4.15 in (105.5 mm)			
<b>Bytes/Sector</b>		512		<b>Depth</b>		6.16 in (156.58 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)							
<b>SKU</b>	<b>SKU Description</b>	<b>OD Media Rate, Max Sequential Throughput (MiB/s)</b>	<b>128Kib Random Rd (IOPs)</b>	<b>128Kib Random 70% RD/ 30% WT (IOPs)</b>	<b>128Kib Random 50% RD/ 50% WT (IOPs)</b>	<b>Power Idle Time (Watts)</b>	<b>Power Random R/W (Watts)</b>	<b>Power Sequential Read (Watts)</b>	<b>Power Sequential Write (Watts)</b>
861686-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2	10.8	10.5
861681-B21	HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2	10.8	10.5
861683-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12.2	10.8	10.5
861742-B21	HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	215	100	100	105	8.8	12.2	10.8	10.5
834028-B21	HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	7.2	10.8	10.1	9.8
881787-B21	HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.5	7.4	7.7
P23449-B21	HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	105	115	125	5.5	9.1	7.8	8.2
P53554-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	5.8	9.3	8.1	8.2





## Technical Specifications

Entry										
<b>Form Factor</b>		LFF (3.5")			<b>Carrier</b>		Non Hot Plug Carrier (RW)			
<b>Rotational Speed</b>		7200 rpm			<b>Dimensions</b>					
<b>Interface</b>		SATA			<b>Height</b>		1.028 in (26.1 mm)			
<b>Transfer Rate Synchronous (Max)</b>		6Gb/sec			<b>Width</b>		4.00 in (101.6 mm)			
<b>Bytes/Sector</b>		512			<b>Depth</b>		5.75 in (146.0 mm)			
<b>Operating Temperature</b>		50° to 95° F (10° to 35°C)								
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
801882-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	160	95	95	95	8.8	12.2	10.8	10.5	
801888-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	160	95	95	95	8.8	12.2	10.8	10.5	

### Carrier Decoder

HPE Hard Disk Drives (HDDs) utilize a wide variety of carriers, which houses the HDD and also enables a specific chassis fit to support a broad range of HPE server and storage products. The table below summarizes the various form factors, plug types, and carrier attributes.



## Technical Specifications

Server Family	Server Model	Generation	SFF Carriers		LFF Carriers		
			Smart Carrier (SC)	Basic Carrier (BC)	Smart Carrier (SCK)	Low Profile (LP)	Raw Carrier(RW)/(AKA NPH)
HPE ProLiant	<b>HPE ProLiant DL</b>						
	HPE ProLiant DL20 Gen10 Plus Server	Gen10 Plus		Yes		Yes	Yes
	HPE ProLiant DL160 Gen10 Server	Gen10	Yes			Yes	
	HPE ProLiant DL180 Gen10 Server	Gen10	Yes			Yes	
	HPE ProLiant DL320 Gen11	Gen11		Yes		Yes	
	HPE ProLiant DL325 Gen10 Plus Server	Gen10 Plus	Yes			Yes	
	HPE ProLiant DL325 Gen10 Plus V2 Server	Gen10 Plus V2		Yes		Yes	
	HPE ProLiant DL325 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL345 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL345 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL360 Gen10 Server	Gen10	Yes		Yes		
	HPE ProLiant DL360 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL360 Gen11	Gen11		Yes		Yes	
	HPE ProLiant DL365 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL365 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL380 Gen10 Server	Gen10	Yes		Yes		
	HPE ProLiant DL380 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL380 Gen11	Gen11		Yes		Yes	
	HPE ProLiant DL385 Gen10 Plus Server	Gen10 Plus	Yes			Yes	
	HPE ProLiant DL385 Gen10 Plus V2 Server	Gen10 Plus V2		Yes		Yes	
	HPE ProLiant DL385 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL 560 Gen10 Server	Gen10	Yes				
	HPE ProLiant DL 580 Gen10 Server	Gen10	Yes				
	<b>HPE ProLiant ML</b>						
	HPE ProLiant MicroServer Gen10 Plus	Gen10 Plus					Yes
	HPE ProLiant ML30 Gen10 Plus Server	Gen10 Plus		Yes		Yes	Yes
	HPE ProLiant ML110 Gen10 Server	Gen10	Yes			Yes	Yes
	HPE ProLiant ML350 Gen10 Server	Gen10	Yes			Yes	Yes
	HPE ProLiant ML350 Gen11 Server	Gen11	Yes			Yes	



## Technical Specifications

<b>HPE Synergy</b>	<b>HPE Synergy</b>			
	HPE Synergy 480 Gen10 Compute Module	Gen10	Yes	
	HPE Synergy 480 Gen10 Compute Module	Gen10 Plus	Yes	
	HPE Synergy 660 Gen10 Compute Module	Gen10	Yes	
	HPE Synergy D3940 Storage Module		Yes	

## HDD SKU Description Decoder

### Long Name

**HPE** **20TB** **SAS** **12G** **Business Critical 7.2K** **LFF** **LP** **1-year Warranty** **Helium 512e ISE** **Multi Vendor** **HDD**

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Size	Carriers	Warranty	Special Features	Drive Type
HPE	300 -900GB 1-20TB	SATA/SAS 6G/12G	Mission Critical15/10K MC 15/10K Business Critical 7.2K BC 7.2K)	SFF LFF	BC LP LPC QR RW SC SCC ST STC	1yr Wty 1-year Warranty 3yr Wty 3-year Warranty	MV SPL PVT FIPS ISE 512e (no descriptor) He  Multi Vendor Special Private Self-encrypting FIPS Instant Secure Erase 512e Emulation 512n Helium  <i>In priority order</i>	HDD

## Environment friendly Products and Approach End-of life Management and Recycling

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## Summary of Changes

Date	Version History	Action	Description of Change
22-Jan-2024	Version 34	Changed	Models Section was updated
04-Dec-2023	Version 33	Changed	Service and Support Section was updated
15-May-2023	Version 32	Changed	Technical Specifications Sections was updated
07-Nov-2022	Version 31	Changed	SKUs Names were updated
01-Aug-2022	Version 30	Changed	Tables were fixed, Overview and Technical Specifications Sections were updated
06-Jun-2022	Version 29	Changed	Technical Specifications Section was updated
17-Jan-2022	Version 28	Changed	Technical Specifications Section was updated
06-Dec-2021	Version 27	Changed	Technical Specifications Section was updated
15-Nov-2021	Version 26	Changed	Service and Support Section was updated
04-Oct-2021	Version 25	Changed	SKUs Names were updated
12-Jul-2021	Version 23	Changed	Technical Specifications Section was updated
06-Jul-2021	Version 22	Changed	Overview and Technical Specifications Sections were updated
06-Apr-2021	Version 21	Changed	Tables were fixed, Overview and Technical Specifications Sections were updated
01-Feb-2021	Version 20	Changed	Overview and Technical Specifications Sections were updated
20-Jul-2020	Version 19	Changed	Overview and Technical Specifications Sections were updated
01-Jun-2020	Version 18	Changed	SKUs were Added in Overview Section
03-Feb-2020	Version 17	Changed	Overview Section was updated
09-Dec-2020	Version 16	Changed	Added new HPE 16TB Midline 7.2K LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models.
02-Dec-2019	Version 15	Changed	Technical Specifications and Overview Sections were updated
03-Jun-2019	Version 14	Changed	Technical Specifications and Overview Sections were updated
04-Feb-2019	Version 13	Changed	Technical Specifications and Overview Sections were updated
15-Oct-2018	Version 12	Changed	Technical Specifications was revised.
01-Oct-2018	Version 11	Changed	Overview, Standard Features, Service and Support, and Technical Specifications were revised.
04-Sep-2018	Version 10	Changed	Technical Specifications Section was updated
04-Jun-2018	Version 9	Changed	<p>P04695-B21 HPE 600GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD</p> <p>P04693-B21 HPE 300GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD</p> <p>Power specs for all drives</p> <p>Seek time specs to IOPs</p> <p>From Recommended to Extended: 861590-B21, 861594-B21, 861596-B21</p> <p>From Extended to Recommended: 801882-B21, 881787-X21</p>
05-Mar-2018	Version 8	Changed	Overview, Service and Support, and Technical Specifications were revised.
05-Feb-2018	Version 7	Changed	<p>Added new HPE 12TB Midline 7.2K SAS LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models: 881779-B21, 881781-X21, 881783-B21</p> <p>Change format to breakout recommended and extended portfolios.</p> <p>Obsolete SKUs</p>
04-Dec-2017	Version 6	Changed	<p>Added new HPE 12TB Midline 7.2K LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models.</p> <p>Overview, Service and Support, and Technical Specifications were revised.</p> <p>Obsolete SKUs were removed from the QuickSpecs.</p>
23-Oct-2017	Version 5	Changed	<p>Part number 881458-B21 was changed to 881457-X21.</p> <p>Care Pack references changed to HPE Services operational services.</p>



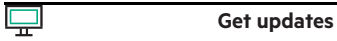
## Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
25-Sep-2017	Version 4	Changed	Added 881458-B21 HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD Overview, Standard Features, Service and Support, and Technical Specifications were revised.
12-Jun-2017	Version 3	Changed	Overview and Technical Specifications were revised.
27-Mar-2017	Version 2	Changed	Added new HDD offering.
13-Feb-2017	Version 1	New	New QuickSpecs



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

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