



## 102-Bay Hybrid Storage Platform

### The Next Generation Hybrid Platform for Software-Defined Storage

#### Designed for High Density and Flexibility

The Ultrastar Data102 is a key element of next-generation disaggregated storage and software-defined storage (SDS) systems, delivering high density and the flexibility to balance performance with cost. The Ultrastar Data102 provides up to 1.4PB<sup>1</sup> of raw storage in a compact and efficient form factor. Western Digital HelioSeal® drives ensure cool running, quiet operation and high reliability. A high performance data tier can be set up for demanding applications by using SSDs in up to 24 of the drive slots.

#### Features

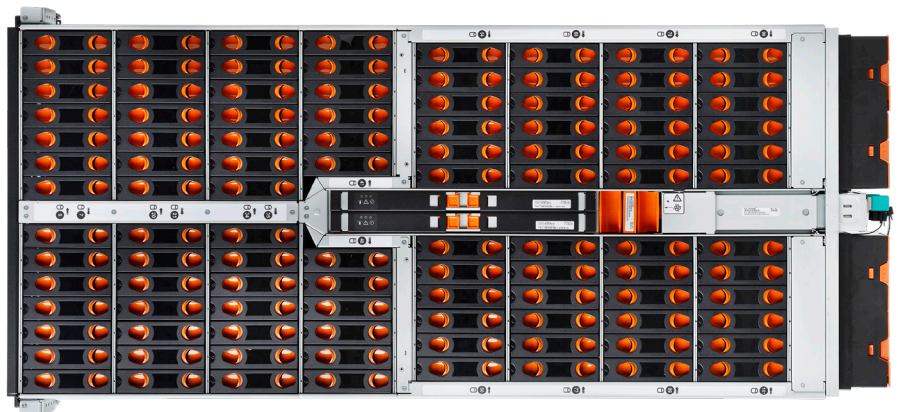
- Up to 102 Ultrastar HDDs (SAS or SATA)
- Hybrid support with up to 24 SSDs (SAS or SATA) for a data acceleration tier
- Up to 1.4PB of raw storage in 4U
- Choose dual-port SAS for high availability or single-port SATA for low cost
- 4 rack units, 1047mm depth
- Up to 12 × 12Gb/s SAS-3 host connections
- Innovative IsoVibe technology ensures maximum performance even in heavy workloads
- Enterprise-grade redundant and hot-swappable PSUs, IO Modules and fans
- Improved cooling from innovative ArcticFlow technology
- Rack-mounted top cover for quick and easy service

#### Building on 50+ years of Storage Design Experience

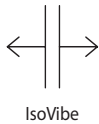
Conventional dense disk shelves frequently suffer from performance degradation due to induced vibration from adjacent drives. Traditional platforms also have cooling challenges as the cooling air passes over successive rows of drives, losing effectiveness as it gets heated up along the airflow path. Developing storage devices and platforms side-by-side, we address these challenges through Silicon to Systems Design, a set of technologies developed based on a holistic view of devices, platform, and their interactions. The first two of these innovative technologies are IsoVibe™ and ArcticFlow™. IsoVibe reduces vibration-induced performance degradation, while ArcticFlow overcomes the cooling issues by introducing cool air into the middle of the platform. Both these technologies contribute to long-term reliability, enabling our five-year limited warranty on the entire platform.

#### Designed for the Enterprise and the Cloud

This new platform addresses the demanding storage needs of large enterprise customers, storage OEMs, cloud service providers and resellers/integrators that require dense, shared HDD or hybrid storage. The Ultrastar Data102 provides the flexibility to specify the HDD and SSD combinations to balance capacity, performance and cost.



<sup>1</sup>One MB is equal to one million bytes, one GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes) when referring to storage capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the drives, the operating system and other factors.



IsoVibe

## IsoVibe Vibration Isolation Technology

Precise cuts in the baseboard provide a suspension for the drives in the chassis, isolating them from transmitted vibration. The result is that consistent performance is maintained, even when all the drives are working hard.



ArcticFlow

## ArcticFlow Thermal Zone Cooling Technology

By introducing cool air into the center of the chassis, drives operate at lower and more consistent temperatures than conventional systems. This results in lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.

<b>Max. Drives</b>	<ul style="list-style-type: none"> <li>• 102 × 3.5" drive bays</li> <li>• Up to 24 can be SAS or SATA SSD</li> </ul>
<b>Drive Interface</b>	<ul style="list-style-type: none"> <li>• 12Gb/s SAS</li> <li>• 6Gb/s SATA</li> </ul>
<b>Available Drive Capacities</b>	<ul style="list-style-type: none"> <li>• HDD up to 14TB</li> <li>• SSD up to 15.36TB</li> </ul>
<b>Host Interface</b>	<ul style="list-style-type: none"> <li>• Dual redundant I/O Modules (IOM)</li> <li>• 6 Mini-SAS HD ports per IOM</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>• Product without drives: 31.8kg (70lbs)</li> <li>• Product with 102 HDDs: 118.8kg (262lbs)</li> </ul>
<b>LED Indicators</b>	<ul style="list-style-type: none"> <li>• Front/Rear: Power, ID, Fault</li> <li>• Drive: Activity, Fault</li> </ul>
<b>Physical Dimensions</b>	<ul style="list-style-type: none"> <li>• Height: 175mm (6.89")</li> <li>• Width: 447mm (17.61")</li> <li>• Depth: 1047mm (41.25")</li> <li>• Depth in Rack: Max of 1197mm (47.13") w/ dual CMA—includes 2 SAS cables</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• SCSI Enclosure Services</li> <li>• Redfish (out of band, via RJ45)</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>• Dual 1600W, 80+ Platinum</li> <li>• 200–240V AC input, auto ranging, 50–60Hz</li> </ul>
<b>Cooling</b>	<ul style="list-style-type: none"> <li>• 4 main enclosure fans, front-to-rear system cooling with zero-loss backflow prevention</li> <li>• 1 IO module fan</li> <li>• Dual PSUs with built-in fans</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Operating Temperature: 5°C to 35°C</li> <li>• Non-op Temperature: -40°C to 70°C</li> <li>• Humidity: 5 to 85% relative humidity</li> <li>• Operating Altitude: 40°C @ 3,000ft</li> <li>• Sound Power: &lt; 7.2Bels @ 23±2°C</li> </ul>
<b>Serviceability</b>	<ul style="list-style-type: none"> <li>• Cable-free hot-swappable IOM, power supply, fans and drives</li> </ul>

## Western Digital.

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