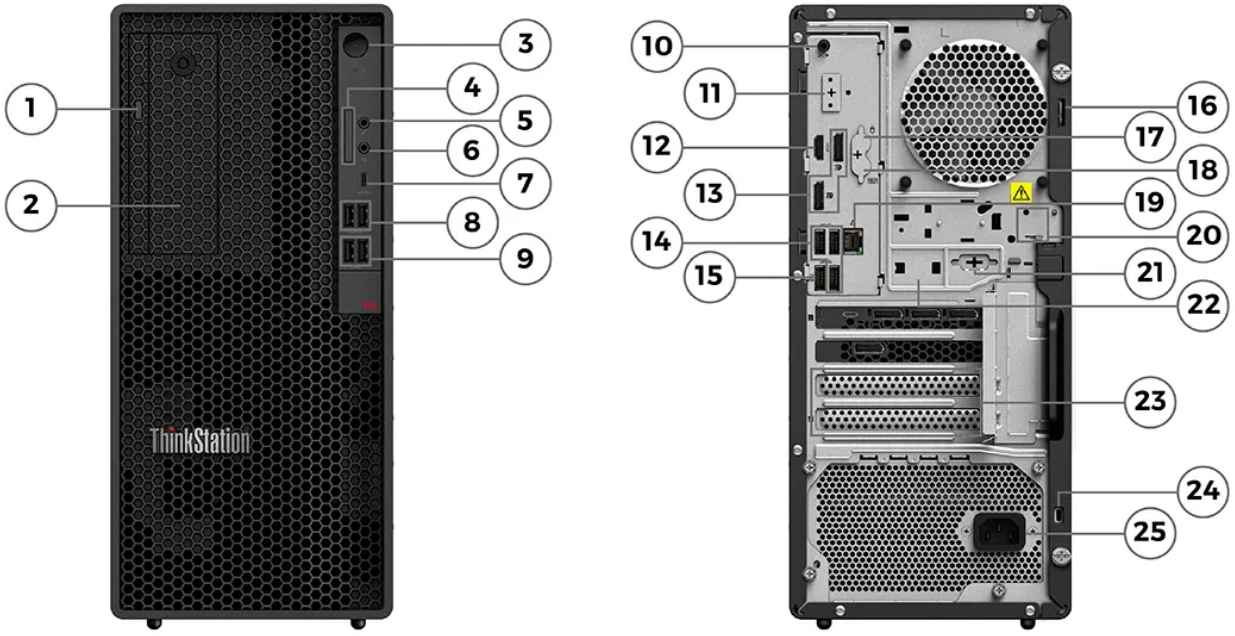
OVERVIEW



1. Optical drive *	14. 3x USB-A (USB 5Gbps)
2. Front access storage bay or 2nd HDD bay *	15. USB-A (USB 5Gbps), with Smart Power On
3. Power button	16. Padlock loop
4. SD card reader *	17. PS/2 port (mouse) *
5. Microphone (3.5mm)	18. PS/2 port (keyboard) *
6. Headphone / microphone combo jack (3.5mm)	19. Ethernet (GbE RJ-45)
7. USB-C (USB 10Gbps), data transfer only	20. E-lock slot *
8. 2x USB-A (USB 5Gbps)	21. Serial (9-pin) *
9. 2x USB-A (USB 10Gbps)	22. Smart cable clip slots
10. Audio line-out (3.5mm)	23. Optional ports on expansion cards *
11. Flex IO *	24. Kensington Security Slot
12. HDMI	25. Power-in
13. 2x DisplayPort	

Notes:

- Items with * are only available on selected models

PERFORMANCE

Processor

Processor Family

Up to one Intel® Core™ i5 / i7 / i9 (12th Gen), Intel® Core™ i3 / i5 / i7 / i9 (13th Gen), or Intel® Core™ i5 / i7 / i9 (14th Gen) processor; supports up to 24 cores; up to 6GHz.

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core™ i5-12500	6 (6 P-core + 0 E-core)	12	P-core 3.0GHz	P-core 4.6GHz	18MB	DDR5-4800	Intel® UHD Graphics 770
Core™ i7-12700	12 (8 P-core + 4 E-core)	20	P-core 2.1GHz / E-core 1.6GHz	Max Turbo up to 4.9GHz / P-core 4.8GHz / E-core 3.6GHz	25MB	DDR5-4800	Intel® UHD Graphics 770
Core™ i9-12900K	16 (8 P-core + 8 E-core)	24	P-core 3.2GHz / E-core 2.4GHz	Max Turbo up to 5.2GHz / P-core 5.1GHz / E-core 3.9GHz	30MB	DDR5-4800	Intel® UHD Graphics 770
Core™ i3-13100	4 (4 P-core + 0 E-core)	8	P-core 3.4GHz	P-core 4.5GHz	12MB	DDR5-4800	Intel® UHD Graphics 730
Core™ i5-13500	14 (6 P-core + 8 E-core)	20	P-core 2.5GHz / E-core 1.8GHz	P-core 4.8GHz / E-core 3.5GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core™ i7-13700	16 (8 P-core + 8 E-core)	24	P-core 2.1GHz / E-core 1.5GHz	Max Turbo up to 5.2GHz / P-core 5.1GHz / E-core 4.1GHz	30MB	DDR5-5600	Intel® UHD Graphics 770
Core™ i9-13900K	24 (8 P-core + 16 E-core)	32	P-core 3.0GHz / E-core 2.2GHz	Max Turbo up to 5.8GHz / P-core 5.4GHz / E-core 4.3GHz	36MB	DDR5-5600	Intel® UHD Graphics 770
Core™ i5-14500	14 (6 P-core + 8 E-core)	20	P-core 2.6GHz / E-core 1.9GHz	P-core 5.0GHz / E-core 3.7GHz	24MB	DDR5-4800	Intel® UHD Graphics 770
Core™ i7-14700	20 (8 P-core + 12 E-core)	28	P-core 2.1GHz / E-core 1.5GHz	Max Turbo up to 5.4GHz / P-core 5.3GHz / E-core 4.2GHz	33MB	DDR5-5600	Intel® UHD Graphics 770
Core™ i7-14700K	20 (8 P-core + 12 E-core)	28	P-core 3.4GHz / E-core 2.5GHz	Max Turbo up to 5.6GHz / P-core 5.5GHz / E-core 4.3GHz	33MB	DDR5-5600	Intel® UHD Graphics 770
Core™ i9-14900K	24 (8 P-core + 16 E-core)	32	P-core 3.2GHz / E-core 2.4GHz	Max Turbo up to 6.0GHz / P-core 5.6GHz / E-core 4.4GHz	36MB	DDR5-5600	Intel® UHD Graphics 770

Processor Sockets

1x FCLGA1700

Notes:

[1] Intel® Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see http://www.intel.com/technology/turboboost/ for more information.

Operating System

Operating System

- Windows® 11 Pro
- Windows® 11 Home
- Windows® 11 Home Single Language
- Red Hat Enterprise Linux 9.3 (certified only, for detailed and latest information, please visit Red Hat Certified Hardware)[1]
- Ubuntu Linux LTS
- No preload operating system

Notes:

[1] Red Hat Enterprise Linux 9.3 certification will be available after May 2024.

Graphics

Integrated Graphics**

- Intel® UHD Graphics 730
- Intel® UHD Graphics 770

Discrete Graphics Support[1]

Supports up to two NVIDIA® RTX A2000 12GB

Discrete Graphics Offering

Graphics	Memory	Power	Connector	Form Factor	SLI / NVLink
NVIDIA® T400 4GB	4GB GDDR6	40W	3x miniDP 1.4	Single slot	None
NVIDIA® T1000	4GB GDDR6	50W	4x miniDP 1.4	Single slot	None
NVIDIA® T1000 8GB	8GB GDDR6	50W	4x miniDP 1.4	Single slot	None
NVIDIA® RTX A2000 12GB	12GB GDDR6	70W	4x miniDP 1.4a	Dual slot	None

Notes:

[1] Discrete graphics support may vary by configurations such as processor selection or power supply wattage.

Monitor Support

Monitor Support

Onboard graphics supports up to 4 independent displays via onboard two DP, one HDMI® and one optional USB-C®; the number of maximum monitors also depends on the discrete graphic card in use

Chipset

Chipset

Intel® W680 chipset

Memory

Max Memory[1]

Up to 128GB (4x 32GB DDR5 UDIMM)

Memory Type**[2]

- DDR5-4400 UDIMM ECC
- DDR5-4400 UDIMM non-ECC

Memory Slots

Four DDR5 UDIMM slots, dual-channel capable

Memory Protection

ECC on models with ECC DIMMs and ECC capable processor

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.
[2] Memory operating speed varies depending on memory configuration:
1x 8GB / 2x 8GB / 1x 16GB / 2x 16GB / 2x 32GB configurations run at DDR5-4400;
4x 8GB / 4x 16GB configurations run at DDR5-4000;
4x 32GB configuration runs at DDR5-3600.

Storage

Storage Support[1][2]

Up to 2x 3.5" SATA HDD; also supports up to 3x M.2 SSD (two by onboard, one by M.2 to PCIe® adapter)
• 3.5" HDD up to 4TB each
• Onboard M.2 SSD up to 4TB each
• M.2 SSD by M.2 to PCIe® adapter up to 2TB

Storage Type

Disk Type	Interface	RPM	Offering	Security

3.5" SATA HDD	SATA 6Gb/s	7.2K	1TB / 2TB / 4TB	-
M.2 2280 SSD for Onboard M.2 slots	PCIe® NVMe®, PCIe® 4.0 x4	-	256GB / 512GB / 1TB	Opal 2.0
M.2 2280 SSD for Onboard M.2 slots	PCIe® NVMe®, PCIe® 4.0 x4 Performance	-	512GB / 1TB / 2TB / 4TB	Opal 2.0
M.2 2280 SSD for single M.2 to PCIe® adapter	PCIe® NVMe®, PCIe® 4.0 x4[3]	-	256GB / 512GB / 1TB / 2TB	Opal 2.0

Storage Controllers***

Storage Controller	Type	Interface	RAID	Cache
Integrated SATA controller	Standard	SATA 6.0Gb/s	0/1	None
Integrated NVMe® controller	Standard	PCIe® NVMe®	0/1	None

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings.
[2] For detailed storage bays infomation and how to upgrade optional drives for ThinkStation® products, please visit ThinkStation® Storage Upgrade Guide
[3] M.2 2280 SSD is PCIe® 4.0 x4, and the M.2 slot on single M.2 to PCIe® adapter are PCIe® 3.0 x4. See M.2 Slots section for more information.

Removable Storage

Optical Support

Optional one 9.0mm optical drive, DVD-ROM, DVD±RW, and Blu-ray

Card Reader

- SD card reader
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC897Q-CG codec

Speakers

Single speaker, 2W x1

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
500W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified
750W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified

DESIGN

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)[1]

170 x 315.35 x 376 mm (6.7 x 12.4 x 14.8 inches, with feet)

Weight[2]

9.67 kg (21.32 lbs, maximum configuration)

Bays

Three internal disk bays, up to two 3.5" bays plus one 2.5" bay:
• Bay 1 supports one 3.5" HDD, standard; or one 2.5" HDD / SSD, optional
• Bay 2 supports one 3.5" HDD or 2.5" HDD / SSD, optional
• Bay 3 supports one 2.5" HDD / SSD, optional

• Front Access HDD Bay supports one 3.5″ HDD or 2.5″ HDD / SSD, optional, occupies Bay 2 location[3]

M.2 Slots

- Up to 3x M.2 SSD:
  - 2 via onboard slots, PCIe® 4.0 x4
  - 1 via Single M.2 to PCIe® adapter, PCIe® 3.0 x4
- One M.2 slot (for WLAN)

Expansion Slots

Supports four PCIe® slots with two PCIe® 4.0 x16 and two PCIe® 3.0 x1.
• Slot 1: PCIe® 4.0 x16, full height, full length, 75W, double-width
• Slot 2: PCIe® 3.0 x1, full height, half length, 25W
• Slot 3: PCIe® 4.0 x16 (x4 lanes), full height, half length, 25W
• Slot 4: PCIe® 3.0 x1, full height, half length, 25W

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo® lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

[3] 3.5″ bay and Front Access HDD Bay need optional 3.5″ to 2.5″ HDD bracket kit. 2.5″ drive is for customer-own configuration. None of configurable 2.5″ drive options are provided.

CONNECTIVITY

Network

Onboard Ethernet

Gigabit Ethernet, Intel® Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet

Up to two additional PCIe® x1 Ethernet adapters; or one PCIe® x4 plus one PCIe® x1 Ethernet adapter, up to five additional GbE ports
• Gigabit Ethernet, Intel® I210-T1, 1x RJ-45, PCIe® x1
• Gigabit Ethernet, Intel® I350-T2, 2x RJ-45, PCIe® x4
• Gigabit Ethernet, Intel® I350-T4, 4x RJ-45, PCIe® x4
• Gigabit Ethernet, Realtek® RTL8168H, 1x RJ-45, PCIe® x1

WLAN + Bluetooth®

- Intel® Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3, Intel® vPro® technology support
- No WLAN and Bluetooth®

Ports[1]

Front Ports

- 1x USB-C® (USB 10Gbps / USB 3.2 Gen 2), data transfer only
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1)
- 2x USB-A (USB 10Gbps / USB 3.2 Gen 2)
- 1x headphone / microphone combo jack (3.5mm)
- 1x microphone (3.5mm)

Rear Ports[2]

- 1x HDMI® 2.1 TMDS
- 2x DisplayPort™ 1.4
- 1x Ethernet (RJ-45)
- 1x line-out (3.5mm)
- 4x USB-A (USB 5Gbps / USB 3.2 Gen 1), one supports Smart Power On

Optional Rear Ports

- 1x HDMI® 2.1 TMDS (Flex IO)
- 1x DP 1.2 (Flex IO)
- 1x VGA (Flex IO)
- 1x parallel (via cable and PCIe® bracket)
- 1x USB-C® (USB 20Gbps / USB 3.2 Gen 2x2), support data transfer, via USB-C® PCIe® x4 card
- 1x USB-C® (USB 5Gbps / USB 3.2 Gen 1), with DisplayPort™ 2.1 (Flex IO)
- 2x USB-A (USB 5Gbps / USB 3.2 Gen 1), via additional PCIe® adapter
- 2x USB-A (Hi-Speed USB / USB 2.0), via cable and PCIe® bracket

- 1x serial (via cable)
- 4x serial (via 4-port serial expansion card, PCIe® x1)
- 2x PS/2 (via cable)

Notes:

[1] The transfer speed of the ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes, and other factors related to system configuration and your operating environment, will be slower than the theoretical speed.

[2] For video ports on discrete graphics, please see graphics section.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified, FIPS 140-2 certified

Physical Locks

- (Optional) E-lock
- Kensington® Security Slot™, 3 x 7 mm
- Padlock Loop

Chassis Intrusion Switch

- Chassis intrusion switch
- No chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password
- Self-healing BIOS

MANAGEABILITY

System Management

System Management[1]

- Intel® vPro® Enterprise with Intel® AMT 16
- Non-vPro®

Notes:

[1] Intel® vPro® offers a superset of DASH's defined capabilities.

SERVICE

Warranty[1]

Base Warranty**

- 1-year limited onsite service
- 2-year limited onsite service
- 3-year limited onsite service
- No base warranty

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to https://smartfind.lenovo.com/. To learn more details of warranty policy, please access https://pcsupport.lenovo.com/warranty.

ENVIRONMENTAL

Operating Environment

Temperature

- Operating: 10°C (50°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: 0 m (0 ft) to 12192 m (40,000 ft)

Relative Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

CERTIFICATIONS

Green Certifications[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- ErP Lot 3
- RoHS compliant
- TCO Certified 9.0

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

ISV Certifications

ISV Certifications

Please visit ISV certifications for Lenovo® Workstations

- Feature with ** means that only one offering listed under the feature is configured on selected models.
- Feature with *** means that one or more offerings listed under the feature could be configured on selected models.
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