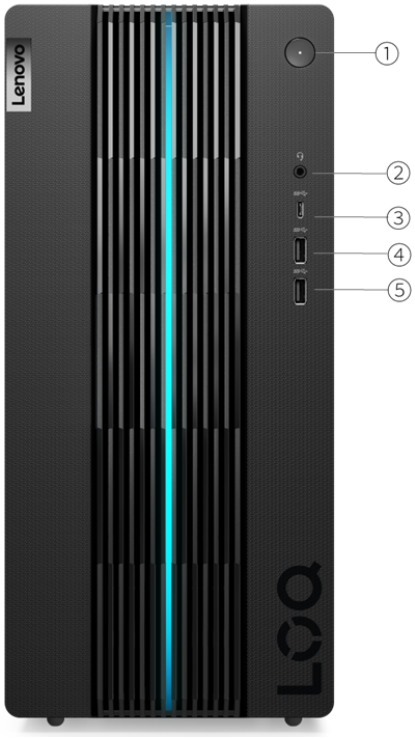
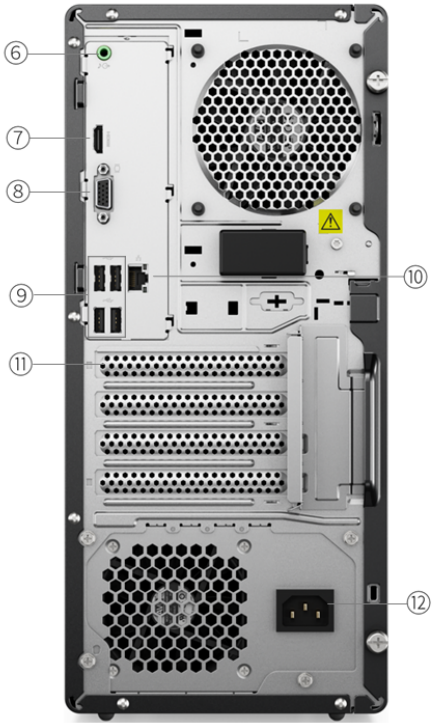
OVERVIEW





1. Power button	7. HDMI 1.4b
2. Headphone / microphone combo jack (3.5mm)	8. VGA
3. USB-C 3.2 Gen 1	9. 4x USB 2.0
4. USB 3.2 Gen 1	10. Ethernet (2.5GbE RJ-45)
5. USB 3.2 Gen 2	11. Optional ports on expansion cards
6. Audio line-out (3.5mm)	12. Power connector

Notes:

- Items with * are only available on selected models
- The onboard video ports VGA and HDMI are disabled on the models with discrete graphics

PERFORMANCE

Processor

Processor Family

13th Generation Intel® Core™ i5 / i7 Processor

Processor**[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Core i5-13400	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	9.5MB L2 Cache / 20MB Intel® Smart Cache	DDR4-3200	Intel® UHD Graphics 730
Core i5-13400F	10 (6 P-core + 4 E-core)	16	P-core 2.5GHz / E-core 1.8GHz	P-core 4.6GHz / E-core 3.3GHz	9.5MB L2 Cache / 20MB Intel® Smart Cache	DDR4-3200	-
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	24MB L2 Cache / 30MB Intel® Smart Cache	DDR4-3200	Intel® UHD Graphics 770
Core i7-13700F	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	24MB L2 Cache / 30MB Intel® Smart Cache	DDR4-3200	-

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
- No preload operating system

Graphics

Graphics**[1]

Graphics	Type	Memory	Max Resolution	Connector	Key Features
Intel® UHD graphics 730	Integrated	Shared	2048x1536@50Hz(VGA), 1920x1080@60Hz(HDMI®)	1x VGA, 1x HDMI® 1.4b	DirectX® 12
NVIDIA® GeForce GTX 1650 SUPER	Discrete	4GB GDDR5	4096x2160@60Hz(HDMI®), 5120x3200@60Hz(DP)	1x HDMI® 2.0b, 2x DP 1.4	DirectX® 12
NVIDIA® GeForce GTX 1660 SUPER	Discrete	6GB GDDR6	4096x2160@60Hz(HDMI®), 5120x3200@60Hz (DP)	1x HDMI® 2.0, 2x DP 1.4	DirectX® 12
NVIDIA® GeForce RTX™ 3050	Discrete	8GB GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)[2]	1x HDMI® 2.1 FRL, 3x DP 1.4	DirectX® 12
NVIDIA® GeForce RTX™ 3060	Discrete	12G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)[3]	3x DP 1.4a, 1x HDMI® 2.1 FRL	DirectX® 12
NVIDIA® GeForce RTX™ 3060 Ti	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@120Hz(DP)[4]	3x DP 1.4a, 1x HDMI® 2.1 FRL	DirectX® 12
NVIDIA® GeForce RTX™ 4060	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1a FRL, 3x DP 1.4a	DirectX® 12
NVIDIA® GeForce RTX™ 4060 Ti	Discrete	8G GDDR6	7680x4320@60Hz(HDMI®), 7680x4320@60Hz(DP)	1x HDMI® 2.1a FRL, 3x DP 1.4a	DirectX® 12

Notes:

[1] The information of integrated graphics are not applicable for the models with processor which has no integrated graphics inside (for the details, please refer to processor section).
[2], [3], [4] Requires two DisplayPort™ 1.4a links and DSC compression.

Monitor Support

Monitor Support

Supports up to 2 independent displays via onboard ports (VGA and HDMI®), more displays support via discrete graphics

Chipset

Chipset

Intel® B760 chipset

Memory

Max Memory[1]

Up to 32GB DDR4-3200

Memory Slots

Two DDR4 UDIMM slots, dual-channel capable

Memory Type

DDR4-3200

Memory Protection

Non-ECC

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

Storage

Max Storage Support[1]

Up to three drives, 2x 3.5" HDD + 1x M.2 SSD
• 3.5" HDD up to 2TB
• M.2 SSD up to 1TB

Storage Type**

Disk Type	Interface	RPM
3.5" SATA HDD	SATA 6Gb/s	7.2K
M.2 2280 SSD	PCIe® NVMe®, PCIe® 4.0 x4	-

RAID

No support

Notes:

[1] The max capacity of each disk type is based on the test results with current Lenovo® storage offerings.

Removable Storage

Optical

None

Card Reader

No card reader

Multi-Media

Audio Chip

- High Definition (HD) Audio, Realtek® ALC623-CG codec
- 24-bit DAC supports 44.1K/48K/96K sample rate, 4 channel DAC supports 16/20/24-bit PCM format for independent two stereo channel or 2.1 audio playback
- 24-bit ADC supports 44.1K/48K/96K sample rate, 4 channel ADC supports 16/20/24-bit PCM format for independent two stereo channel audio inputs

Speakers

No speakers

Power Supply

Power Supply**

Power	Type	Efficiency	Key Features
300W	Fixed	85%	100-240V, 50-60Hz
310W	Fixed	92%	100-240V, 50-60Hz
380W	Fixed	92%	100-240V, 50-60Hz
500W	Fixed	92%	100-240V, 50-60Hz

DESIGN

Input Device

Keyboard

- Lenovo® Calliope Keyboard (USB connector), black
- No keyboard

Mouse

- Lenovo® Calliope Mouse (USB connector), black
- No mouse

Mechanical

Form Factor

Tower (17L)

Dimensions (WxDxH)[1]

170 x 304 x 376 mm (6.69 x 11.97 x 14.8 inches)

Packaging Dimensions (WxDxH)

270 x 525 x 395 mm (10.62 x 20.66 x 15.55 inches)

Weight[2]

8.4 kg (18.52 lbs)

Packaging Weight

All models: Around 11.1 kg (24.47 lbs)

Case Color

Raven black

Bays

2x 3.5″ disk bay

Expansion Slots

- One PCIe® 4.0 x16, full height
- One PCIe® 3.0 x1, full height
- Two M.2 slots (one for WLAN, one for SSD)

Cooling System (Fan & Cooler)**

- 1x front system fan, 1x rear system fan
- 1x rear system fan
- (Optional) 1x side system fan[3]

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] Only for 3060 Ti graphics.

CONNECTIVITY

Network

WLAN + Bluetooth®*[1]

- Wi-Fi® 6, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- Wi-Fi® 6E, 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.1, M.2 card
- No WLAN and Bluetooth®

Onboard Ethernet

Gigabit Ethernet, 1x RJ-45

Notes:

[1] Wi-Fi® operation (including Wi-Fi® 6, Wi-Fi® 6E, Wi-Fi® 7, etc.) is subject to the regulatory requirements of each country. Bluetooth® may operate at a lower version than hardware design depending on the factors such as operating system, driver, etc.

Ports[1]

Front Ports

- 1x USB-C® 3.2 Gen 1
- 1x USB 3.2 Gen 1
- 1x USB 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

Rear Ports[2]

- 1x HDMI® 1.4b
- 1x VGA
- 1x Ethernet (2.5GbE RJ-45)
- 1x audio-out (3.5mm)
- 4x USB 2.0

Notes:

[1] The transfer speed of following 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 theoretical speed.
USB 2.0: 480 Mbit/s;
USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;
Thunderbolt™ 3/4: 40 Gbit/s.
Thunderbolt™ 5: 80 Gbit/s (bidirectional), up to 120 Gbit/s in bandwidth boost mode for video-intensive applications.
[2] For video ports on discrete graphics, please see graphics section

SECURITY & PRIVACY

Security

Security Chip

Firmware TPM 2.0 integrated in chipset

BIOS Security

- Administrator password
- Hard disk password
- Power-on password
- More BIOS security features, please visit BIOS Simulator[1]

Notes:

[1] The BIOS simulator is just for reference. Default settings and some options may vary depending on the hardware, operating system and BIOS version.

MANAGEABILITY

System Management

System Management

None

SERVICE

Warranty[1]

Base Warranty**

- 1-year mail-in service
- 1-year courier or carry-in service
- 1-year limited onsite service
- 2-year courier or carry-in service
- 3-year courier or carry-in service

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://support.lenovo.com/warrantylookup/warrantypolicy.

OPERATING REQUIREMENTS

Operating Environment

Temperature

- Operating: 0°C (32°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

Relative Humidity

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

Altitude

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

CERTIFICATIONS

Green Certifications[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- ErP Lot 3
- RoHS compliant

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit https://compliance.lenovo.com.

- Feature with ** means that only one option listed under the feature can be configured on selected models. Please refer to the model configuration for specific information.
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