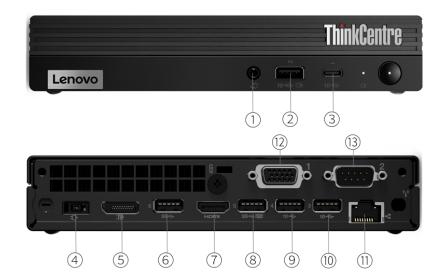
# **OVERVIEW**



1. Headphone / microphone combo jack (3.5mm)	8. USB 3.2 Gen 1
2. USB 3.2 Gen 2	9. USB 3.2 Gen 2
3. USB-C 3.2 Gen 2	10. USB 3.2 Gen 2
4. Power connector	11. Ethernet (RJ-45)
5. DisplayPort	12. Optional port 1 (VGA is shown) *
6. USB 3.2 Gen 1	13. Optional port 2 (serial is shown) *
7. HDMI	

Notes:

• Ports with \* are only available on selected models

# ThinkCentre M90q Gen 2

# PERFORMANCE

## **Processor**

### **Processor Family**

Intel<sup>®</sup> Celeron<sup>®</sup>, Intel Pentium<sup>®</sup>, 10th Generation Intel Core<sup>™</sup> i3, or 11th Generation Intel Core i5 / i7 / i9 Processor **Processor**<sup>\*\*</sup>

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support	Processor Graphics
Celeron G5905T	2	2	3.3GHz	-	4MB	DDR4-2666	Intel UHD Graphics 610
Celeron G5925	2	2	3.6GHz	-	4MB	DDR4-2666	Intel UHD Graphics 610
Pentium Gold G6505T	2	4	3.6GHz	-	4MB	DDR4-2666	Intel UHD Graphics 630
Pentium Gold G6605	2	4	4.3GHz	-	4MB	DDR4-2666	Intel UHD Graphics 630
Core i3-10105	4	8	3.7GHz	4.4GHz	6MB	DDR4-2666	Intel UHD Graphics 630
Core i3-10105T	4	8	3.0GHz	3.9GHz	6MB	DDR4-2666	Intel UHD Graphics 630
Core i3-10305	4	8	3.8GHz	4.5GHz	8MB	DDR4-2666	Intel UHD Graphics 630
Core i3-10305T	4	8	3.0GHz	4.0GHz	8MB	DDR4-2666	Intel UHD Graphics 630
Core i3-10325	4	8	3.9GHz	4.7GHz	8MB	DDR4-2666	Intel UHD Graphics 630
Core i5-11400	6	12	2.6GHz	4.4GHz	12MB	DDR4-3200	Intel UHD Graphics 730
Core i5-11400T	6	12	1.3GHz	3.7GHz	12MB	DDR4-3200	Intel UHD Graphics 730
Core i5-11500	6	12	2.7GHz	4.6GHz	12MB	DDR4-3200	Intel UHD Graphics 750
Core i5-11500T	6	12	1.5GHz	3.9GHz	12MB	DDR4-3200	Intel UHD Graphics 750
Core i5-11600	6	12	2.8GHz	4.8GHz	12MB	DDR4-3200	Intel UHD Graphics 750
Core i5-11600T	6	12	1.7GHz	4.1GHz	12MB	DDR4-3200	Intel UHD Graphics 750
Core i7-11700	8	16	2.5GHz	4.9GHz	16MB	DDR4-3200	Intel UHD Graphics 750
Core i7-11700T	8	16	1.4GHz	4.6GHz	16MB	DDR4-3200	Intel UHD Graphics 750
Core i9-11900	8	16	2.5GHz	5.2GHz	16MB	DDR4-3200	Intel UHD Graphics 750
Core i9-11900T	8	16	1.5GHz	4.9GHz	16MB	DDR4-3200	Intel UHD Graphics 750

# **Operating System**

### **Operating System**\*\*

- Windows<sup>®</sup> 10 Pro 64
- Windows 10 Home 64
- Windows 10 IoT Enterprise
- Ubuntu Linux
- No operating system

# Graphics

## Graphics\*\*[1]

Graphics	Туре	Memory	Connector	Max Resolution	Key Features	Remark
Intel UHD graphics 610	Integrated	Shared	1x HDMI®, 1x DP, 1x optional video port (2nd HDMI / VGA / 2nd DP / USB-C /	4096x2160@24Hz(onboard HDMI), 4096x2304@60Hz(DP), 3840x2160@60Hz(Dual DP, MST mode), 2048x1536@50Hz(VGA),	DirectX® 12	-

# ThinkCentre M90q Gen 2

			dual DP)	4096x2304@60Hz(USB-C)		
Intel UHD graphics 630	Integrated	Shared	1x HDMI, 1x DP, 1x optional video port (2nd HDMI / VGA / 2nd DP / USB-C / dual DP)	4096x2160@24Hz(onboard HDMI), 4096x2304@60Hz(DP), 3840x2160@60Hz(Dual DP, MST mode), 2048x1536@50Hz(VGA), 4096x2304@60Hz(USB-C)	DirectX 12	-
Intel UHD Graphics 730	Integrated	Shared	1x HDMI, 1x DP, 1x optional video port (2nd HDMI / VGA / 2nd DP / USB-C / dual DP)	4096x2160@24Hz(onboard HDMI), 4096x2304@60Hz(DP), 3840x2160@60Hz(Dual DP, MST mode), 2048x1536@50Hz(VGA), 4096x2304@60Hz(USB-C)	DirectX 12	-
Intel UHD Graphics 750	Integrated	Shared	1x HDMI, 1x DP, 1x optional video port (2nd HDMI / VGA / 2nd DP / USB-C / dual DP)	4096x2160@24Hz(onboard HDMI), 4096x2304@60Hz(DP), 3840x2160@60Hz(Dual DP, MST mode), 2048x1536@50Hz(VGA), 4096x2304@60Hz(USB-C)	DirectX 12	-

Notes:

1. The information of integrated graphics are not applicable for the models without integrated graphics (for the details, please refer to processor section)

## **Monitor Support**

#### **Monitor Support**

Supports up to 3 independent displays via (onboard DP, onboard HDMI, and one optional port [VGA / 2nd DP / 2nd HDMI / USB-C]) or (one onboard port [DP / HDMI] and optional dual DP [MST mode])

# Chipset

#### Chipset

Intel Q570 Chipset

## Memory

#### Max Memory<sup>[1]</sup>

- Up to 64GB DDR4-2666
- Up to 64GB DDR4-2933
- Up to 64GB DDR4-3200

#### Memory Slots

Two DDR4 SO-DIMM slots, dual-channel capable

#### Memory Type\*\*[2]

- DDR4-2666
- DDR4-2933
- DDR4-3200

Notes:

- 1. The max memory is based on the test results with current Lenovo® memory offerings. The system may support more memory as the technology develops.
- 2. Installed memory is actually 3200MHz, but may run at 2666MHz, 2933 MHz or 3200MHz depending on the memory support capability of processor

### Storage

#### Storage Support<sup>[1]</sup>

Up to three drives, 1x 2.5" HDD + 2x M.2 SSD

- 2.5" HDD up to 1TB
- M.2 SSD up to 2TB each

#### Storage Type\*\*\*

Disk Type	Interface	RPM	Offering	Security
2.5" SATA HDD	SATA 6Gb/s	7.2K	-	-
M.2 2242 SSD	PCIe <sup>®</sup> NVMe <sup>®</sup>	-	-	-

M.2 2280 SSD PCIe NVMe Opal	D PCIe NVMe Opal	0 SSD	M.2 2280 SSD
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### RAID

No support

Notes:

1. The storage capacity supported is based on the test results with current Lenovo storage offerings. The system may support larger storage as the technology develops.

# **Removable Storage**

#### **Optical**\*\*

- DVD-ROM, slim (9.0mm), via USB external ODD box
- DVD burner (DVD±RW), slim (9.0mm), via USB external ODD box
- None

#### Card Reader

No card reader

## **Multi-Media**

#### **Audio Chip**

High Definition (HD) Audio, Realtek® ALC233VB codec

#### Speakers

Single speaker, 1.5W x1

# **Power Supply**

#### Power Supply\*\*

Power	Туре	Efficiency	Key Features
65W	Adapter	89%	Autosensing
90W	Adapter	89%	Autosensing
135W	Adapter	89%	Autosensing
230W	Adapter	89%	Autosensing
No power supply	-	-	-

# DESIGN

# Input Device

#### Keyboard\*\*

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

#### Mouse\*\*

- Lenovo Calliope Mouse (USB connector), black
- Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
- Lenovo Fingerprint Mouse (USB connector), black
- No mouse

# **Mechanical**

## Form Factor

Tiny (1L)

#### Dimensions (WxDxH)

Models	Dimensions
Tiny only	179 x 182.9 x 36.5 mm with rubber feet (7.05 x 7.2 x 1.44 inches with rubber f

#### Packaging Dimensions (WxDxH)

feet)

• With VESA mount & ODD box: 166 x 268 x 490 mm (6.54x 10.55 x 19.29 inches)

#### Weight

Models	Weight
Tiny only	1.25 kg (2.76 lbs)
With VESA mount & ODD box	1.74 kg (3.84 lbs)

#### Packaging Weight

- Tiny only: 2.848 kg (6.28 lbs)
- With VESA mount & ODD box: 3.575 kg (7.88 lbs)

#### Case Color

Black

#### Bays

1x 2.5" disk bay

#### Expansion Slots

Three M.2 slots (one for WLAN, two for SSD)

#### EOU

- (Optional) toolless chassis open (toolless chassis screw required) and toolless M.2 SSD, HDD, memory assembly / removal
- No support

#### Stand

- Vertical stand
- No stand

#### Mounting

- VESA mount bracket kit, supports VESA mount 75mm and 100mm
- None

#### Others

- (Optional) Dust filter
- (Optional) Power adapter cage

# CONNECTIVITY

## Network

**Onboard Ethernet** 

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

#### Optional Ethernet<sup>[1]</sup>

- Gigabit Ethernet, Intel Ethernet Server Adapter 1350-T4, 4x RJ-45, PCIe x4
- No optional Ethernet

#### WLAN + Bluetooth®\*\*[2]

- Realtek RTL8822CE, 802.11ac Dual Band 2x2 Wi-Fi® + Bluetooth 5.0, M.2 card
- Intel Wireless-AC 9560, 802.11ac Dual Band 2x2 Wi-Fi + Bluetooth 5.1, M.2 card
- Intel Wi-Fi 6 AX201, 802.11ax 2x2 Wi-Fi + Bluetooth 5.2, M.2 Card
- No WLAN and Bluetooth

#### Notes:

- 1. Intel Ethernet Server Adapter I350-T4 is not available in EMEA
- 2. Bluetooth 5.2 is hardware ready but may run at lower version due to OS limitation

# **Ports**<sup>D</sup>

## Front Ports

- 1x USB 3.2 Gen 2 (Always On and fast charge)
- 1x USB-C 3.2 Gen 2
- 1x headphone / microphone combo jack (3.5mm)

## **Optional Front Ports**

Lenovo

#### None

#### **Rear Ports**<sup>[2]</sup>

- 2x USB 3.2 Gen 1
- 2x USB 3.2 Gen 2
- 1x HDMI
- 1x DisplayPort™
- 1x Ethernet (RJ-45)

#### **Optional Rear Ports**\*\*\*

- 2x USB 3.2 Gen 1 ports (share one USB 3.2 Gen 1 bandwidth, occupy optional port 1 and 2)
- 4x USB 3.2 Gen 1 ports (share one USB 3.2 Gen 1 bandwidth, occupy optional port 1 and 2)
- 2x DisplayPort ports (occupy Optional port 1 and 2)
- Optional port 1 (one of VGA / 2nd DisplayPort / 2nd HDMI / serial / USB-C 3.2 Gen 1 with DisplayPort function)
- Optional port 2 (serial)
- I/O Box

#### 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;
  - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
- Thunderbolt™ 3/4: 40 Gbit/s;
- FireWire 400: 400 Mbit/s;
- FireWire 800: 800 Mbit/s 2. For video ports on discrete graphics, please see graphics section

# **Monitor Cable**

#### Monitor Cable\*\*\*

- DP to DVI-D dongle
- DP to HDMI 1.4 dongle
- DP to VGA dongle
- HDMI to HDMI cable (1.5m)
- HDMI to VGA dongle
- No monitor cable

# **SECURITY & PRIVACY**

## **Security**

**Security Chip** 

Discrete TPM 2.0, TCG certified

Physical Locks

Kensington® Security Slot

**Chassis Intrusion Switch** 

Chassis intrusion switch

#### **Fingerprint Reader**

- Touch style fingerprint reader on mouse
- No fingerprint reader

#### **BIOS Security**

- Administrator password
- Power-on password
- Hard disk password
- Boot sequence control
- Boot without keyboard and mouse
- Smart USB protection (allows keyboard / mouse only, blocks all storage devices)
- Individual USB port disablement

# MANAGEABILITY

# System Management

#### System Management<sup>[1]</sup>

- Intel vPro
- Non-vPro

Notes:

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

# SERVICE

# Warranty

#### Base Warranty\*\*

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

Notes:

1. More information of warranty policy, please access https://pcsupport.lenovo.com/warranty

# **ENVIRONMENTAL**

# **Operating Environment**

#### Temperature

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

#### Humidity

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

#### Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: -15.2 m (-50 ft) to 10668 m (35,000 ft)

# CERTIFICATIONS

# **Green Certifications**

#### **Green Certifications**

- EPEAT<sup>™</sup> Gold
- ENERGY STAR<sup>®</sup> 8.0
- RoHS compliant

## **Other Certifications**

### Other Certifications

(Optional) Windows 10 Secured-core PCs

Mil-Spec Test

MIL-STD-810H military test passed

- 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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