# FUJITSU

Fujitsu recommends Windows 10 Pro.

# Data Sheet
## FUJITSU Workstation CELSIUS M770

## Bring Your Ideas To Life

At Fujitsu, we are proud of our engineering capabilities which allowed us to optimize the CELSIUS M770 to combat today's professional and technical challenges making it the ideal desktop workstation for computer-aided engineering area as well as demanding media & entertainment applications.

### Perfomance you can count on
Spectrum of performance due to a wide range of professional grade features
- 1st Generation Intel® Xeon® Processor W Family
- Support of Windows 10 Pro for Workstations
- Support of up to 256 GB DDR4 2,666 memory
- Fujitsu SSD PCIe card (up to 2 x 1 TB)

### Smart Access and Smart Security
Human centric innovation meets security
- Cold-plug Technology: Storage accessible via a front disk tray
- Optional security lock (side door and front access)
- Intrusion detector sensor integrated into the power supply

### Smart Usability and Smart Power Supply
Engineering excellence
- Easy serviceability: Cable-free design, green touchpoints
- Digital power supply to support IPMI FRU (data tracking)
- Rack mountable (4U)

### Made in Germany
From design to production – an "IT made in Germany" quality in which you can trust
- Comprehensive testing in certified in-house laboratories for 24/7 operation
- Intelligent tri-channel thermal management
- Whisper quiet: 20 dB(A)
- iF GOLD AWARD 2018

### We are (VR) ready
Enjoy a fully immersive and real-time Virtual Reality experience with low latency at high frame rates
- Powered by the NVIDIA® Quadro® P4000, P5000 and P6000 VR-ready graphics cards

# Components

| Processor | Intel® Xeon® processor W-2155 (10 Cores, 3.30 GHz, up to 4.5 GHz) | |
|---|---|---|
| | Intel® Xeon® processor W-2145 (8 Cores, 3.70 GHz, up to 4.5 GHz) | |
| | Intel® Xeon® processor W-2135 (6 Cores, 3.70 GHz, up to 4.5 GHz) | |
| | Intel® Xeon® processor W-2133 (6 Cores, 3.60 GHz, up to 3.9 GHz) | |
| | Intel® Xeon® processor W-2125 (4 Cores, 4.00 GHz, up to 4.5 GHz) | |
| | Intel® Xeon® processor W-2123 (4 Cores, 3.60 GHz, up to 3.9 GHz) | |
| | Intel® Xeon® processor W-2104 (4 Cores, 3.20 GHz) | |
| | Intel® Xeon® processor W-2102 (4 Cores, 2.90 GHz) | |
| | Intel® vPro™ technology | |
| **Operating systems** | | |
| Operating system pre-installed | Windows 10 Pro for Workstations<br>Windows 7 Professional (available through downgrade rights from Windows 10 Pro) | Windows 10 Pro for Workstations<br>Windows 7 Professional (available through downgrade rights from Windows 10 Pro) |
| Operating system compatible | Linux | Linux |
| Operating system notes | Certified for Red Hat© Enterprise Linux<br>Certified for SUSE Enterprise Desktop<br>Certified for SUSE Enterprise Server | Certified for Red Hat© Enterprise Linux<br>Certified for SUSE Enterprise Desktop<br>Certified for SUSE Enterprise Server |
| **Memory modules** | 8 GB (1 module(s) 8 GB) DDR4, registered, ECC, 2,666 MHz | |
| | 16 GB (1 module(s) 16 GB) DDR4, registered, ECC, 2,666 MHz | |
| | 32 GB (1 module(s) 32 GB) DDR4, registered, ECC, 2,666 MHz | |
| **Graphics** | Ultra-high-end 3D: NVIDIA® Quadro® GV100, 32 GB, PCIe x16, 4 x DisplayPort | |
| | Ultra-high-end 3D: NVIDIA® Quadro® P6000, 24 GB, PCIe x16, 1x Dual Link DVI-D, 4 x DisplayPort | |
| | Ultra-high-end 3D: NVIDIA® Quadro® P5000, 16 GB, PCIe x16, 1x Dual Link DVI-D, 4 x DisplayPort | |
| | High-end 3D: AMD Radeon™ Pro WX 7100 , 8 GB, PCIe x16, 4 x DisplayPort | |
| | High-end 3D: NVIDIA® Quadro® P4000, 8 GB, PCIe x16, 4 x DisplayPort | |
| | Midrange 3D: NVIDIA® Quadro® P2000, 5 GB, PCIe x16, 4 x DisplayPort | |
| | Midrange 3D: AMD Radeon™ Pro WX 5100, 8 GB, 320 stream processors, PCIe x16, 4 x DisplayPort | |
| | Entry 3D: NVIDIA® Quadro® P1000, 4 GB, PCIe x16, 4x miniDP | |
| | Entry 3D: AMD Radeon™ Pro WX 3100, 4 GB, 320 stream processors, PCIe x16, 1x DisplayPort, 2x miniDP | |
| | Entry 3D: NVIDIA® Quadro® P600, 2 GB, PCIe x16, 4x miniDP | |
| | Entry 3D: AMD Radeon™ Pro WX 2100, 2 GB, 320 stream processors, PCIe x16, 1x DisplayPort, 2x miniDP | |
| | Entry 3D: NVIDIA® Quadro® P620, 2 GB, PCIe x16, 4x miniDP | |
| | Entry 3D: NVIDIA® Quadro® P400 , 2 GB, PCIe x16, 3x miniDP | |
| | Remote Graphics: CELSIUS RemoteAccess Quad Card, PCIe x1, 4x miniDP, PCoIP | |
| | Remote Graphics: CELSIUS RemoteAccess Dual Card, PCIe x1, 2x miniDP, PCoIP | |

| Hard disk drives (internal) | SSD PCIe, 1000 GB U.2, 2.5-inch, business critical |
| --- | --- |
| | SSD PCIe, 500 GB U.2, 2.5-inch, business critical |
| | SSD PCIe, 1024 GB M.2 NVMe Highend module |
| | SSD PCIe, 512 GB M.2 NVMe Highend module |
| | SSD PCIe, 256 GB M.2 NVMe Highend module |
| | SSD PCIe, 2x 1024 GB M.2 NVMe Highend card |
| | SSD PCIe, 2x 512 GB M.2 NVMe Highend card |
| | SSD PCIe, 2x 256 GB M.2 NVMe Highend card |
| | SSD PCIe, 1x1024 GB M.2 NVMe Highend card |
| | SSD PCIe, 1x 512 GB M.2 NVMe Highend card |
| | SSD PCIe, 1x 256 GB M.2 NVMe Highend card |
| | SSD PCIe, 1024 GB M.2 NVMe module |
| | SSD PCIe, 512 GB M.2 NVMe module |
| | SSD PCIe, 256 GB M.2 NVMe module |
| | SSD PCIe, 2x 1024 GB M.2 NVMe card |
| | SSD PCIe, 2x 512 GB M.2 NVMe card |
| | SSD PCIe, 2x 256 GB M.2 NVMe card |
| | SSD PCIe, 1x 1024 GB M.2 NVMe card |
| | SSD PCIe, 1x 512 GB M.2 NVMe card |
| | SSD PCIe, 1x 256 GB M.2 NVMe card |
| | SSD SATA III, 960 GB High Endurance, 2.5-inch |
| | SSD SATA III, 480 GB High Endurance, 2.5-inch |
| | SSD SATA III, 240 GB High Endurance, 2.5-inch |
| | SSD SATA III, 1024 GB, 2.5-inch |
| | SSD SATA III, 512 GB, 2.5-inch |
| | SSD SATA III, 256 GB, 2.5-inch |
| | SSD SATA III, 512 GB, 2.5-inch, SED |
| | SSD SATA III, 256 GB, 2.5-inch, SED |
| | HDD SAS, 10,000 rpm, 1800 GB, 2.5-inch |
| | HDD SAS, 10,000 rpm, 1200 GB, 2.5-inch |
| | HDD SAS, 10,000 rpm, 900 GB, 2.5-inch |
| | HDD SAS, 10,000 rpm, 600 GB, 2.5-inch |
| | HDD SATA III, 7,200 rpm, 6,000 GB, 3.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 4,000 GB, 3.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 2,000 GB, 2.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 1,000 GB, 2.5-inch, business critical |
| | HDD SATA III, 7,200 rpm, 2,000 GB, 3.5-inch |
| | HDD SATA III, 7,200 rpm, 1,000 GB, 3.5-inch |
| | HDD SATA III, 7,200 rpm, 500 GB, 3.5-inch |
| Hard disk notes | One Gigabyte equals one billion bytes, when referring to hard disk drive capacity.<br>24/7 ready (Business Critical HDDs or SAS HDDs or High Endurance SSDs required)<br>Up to 20 GB of HDD space is reserved for system recovery<br>SED (Self-Encrypting Drive)<br>SSD (Solid State Disk) |
| Drives (optional) | BD Triple Writer SATA ultra slim (tray) |
| | DVD-ROM |
| | DVD Super Multi |
| | DVD Super Multi ultra slim (tray) |
| | MultiCard Reader 24in1 USB 2.0 3.5" |

| SCSI / SAS Controller | LSI RAID Ctrl SAS 1GB (D3216) RAID 5/6 Ctrl. 12 Gbit/s 8 ports int. | |
|---|---|---|
| | LSI RAID Ctrl SAS (D3327) RAID 0/1 Ctrl. 12 Gbit/s 8 ports int. | |
| | Intel VROC HW key Standard M.2 | |
| **Interface add on cards/components (optional)** | | |
| | WLAN 802.11ac (2x2) PCIe x1 FH and BT 4.1 (dedicated regions only, up to BT 4.2 depending on OS version) | |
| | WLAN 802.11ac (2x2) PCIe x1 FH (dedicated regions only) | |
| | PLAN EP X550-T2 2x10GBASE-T | |
| | Gigabit Ethernet PCIe x1, DS | |
| | Gigabit Ethernet PCIe x1 | |
| | eSATA Interface | |
| | Dual serial card PCIe x1 | |
| | | |
| Base unit | CELSIUS M770 (S26361-K1507-V115) | CELSIUS M770power (S26361-K1507-V415) |

| **Mainboard** | |
|---|---|
| Mainboard type | D3498 |
| Formfactor | extended ATX |
| Chipset | Intel® C422 |
| Processor socket | Socket R4 |
| Processor quantity maximum | 1 |
| Supported capacity RAM (max.) | 256 GB |
| Memory slots | 8 DIMM (DDR4) ECC |
| Memory frequency | 2,666 MHz |
| Memory notes | 4 memory channels supporting up to 2 DIMMs per channel. For quad channel, a minimum of 4 memory modules have to be ordered and the capacity per channel has to be the same.<br>DDR4 2,666MHz may be clocked down to 2,400 or 2,133 depending on the processor. |
| LAN | 10/100/1,000 MBit/s Intel® I219LM |
| BIOS version | AMI Aptio V |
| BIOS features | BIOS Flash EPROM update by software<br>Recovery BIOS<br>Unified Extensible Firmware Interface (UEFI) |
| Audio type | On board |
| Audio codec | Realtek ALC671 |
| Audio features | High Definition Audio |

| **I/O controller on board** | |
|---|---|
| Serial ATA total | 8 |
| thereof SATA III | 8 |
| thereof eSATA | |
| Controller functions | Serial ATA III (6 Gbit)<br>NCQ<br>AHCI<br>RAID 0/1/5/10 |

| **Interfaces** | |
|---|---|
| Audio: in (rear) | 1 |
| Audio: out (rear) | 1 |
| Audio: in | 1 |
| Audio: out | 1 |
| Internal speakers | 1 |
| USB 2.0 total | 2 optional via front panel |
| USB 3.1 Gen1 (USB 3.0) total | 6 |
| USB 3.1 Gen2 total | 2 optional via front panel |
| USB front | 2x USB 2.0; 2x USB 3.1 (Gen1); optional: 2x USB 3.1 Type-C (Gen2) instead of 2x USB 2.0 |

## Interfaces

| | |
|---|---|
| USB rear | 6 |
| USB internal | 3, thereof 1 type A |
| Ethernet (RJ-45) | 1 |
| eSATA | 1 (optional) |
| Interface Module notes | Anytime USB charge functionality |

## Input device / components

## Drive bays

| | |
|---|---|
| Drive bays total | 7 |
| 2.5-inch internal bays | 4 |
| 3.5-inch internal bays | 4 |
| 3.5-inch external bays | 1 |
| 5.25-inch external bays | 1 |
| Drive bay notes | Total 4x 3.5-inch/2.5-inch Disk Tray front accessible (with Cold-plug access) |
| M.2-2280 | 1 x on mainboard (for PCIe SSD modules) |

## Slots

| | |
|---|---|
| PCI-Express 3.0 x1 | 2 x (340 mm / 13.39 inch) Full height |
| PCI-Express 3.0 x4 | 2 x (340 mm / 13.39 inch) Full height |
| PCI-Express 3.0 x8 | 1 x (200 mm) Full height |
| PCI-Express 3.0 x16 | 2 x (340 mm / 13.39 inch) Full height |

| | |
|---|---|
| Graphics brand name | |
| Graphics notes | NVIDIA® Quadro® P6000, P5000 and P4000 support SLI |

## Electrical values

| | | |
|---|---|---|
| Power consumption note | 225 W depending on configuration | 400 W depending on configuration |
| Rated voltage range | 100 V - 240 V | 100 V - 240 V |
| Rated frequency range | 50 Hz - 60 Hz | 50 Hz - 60 Hz |
| Operating voltage range | 90 V - 264 V | 90 V - 264 V |
| Operating line frequency range | 47 Hz - 63 Hz | 47 Hz - 63 Hz |
| Max. output of single power supply | 450 W up to 90% efficiency | 800 W up to 90% efficiency |
| Power factor correction/active power | active | active |
| Power supply output | 2 graphics power rails (on Mainboard) | 2 graphics power rails (on Mainboard) |

## Noise for standard configuration (HDD, ODD)

| | | |
|---|---|---|
| Related Processors for noise | Intel® Xeon® Processor W Family W-2125 | Intel® Xeon® Processor W Family W-2125 |
| Standard noise emission | According to ISO 7779:2010, ECMA-74 | According to ISO 7779:2010, ECMA-74 |
| Standard noise notes / description | A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A)) | A-weighted sound power level Lwad (in B) / Workplace related A-weighted sound pressure level LpAm (in dB(A)) |
| Standard noise operation mode: CPU 50% load | 3.6 B / 20 dB(A) Bystander position | 3.6 B / 20 dB(A) Bystander position |
| Standard noise operation mode: CPU 90% load | 3.7 B / 20 dB(A) Bystander position | 3.7 B / 20 dB(A) Bystander position |
| Standard noise operation mode: HDD load | 3.5 B / 19 dB(A) Bystander position | 3.5 B / 19 dB(A) Bystander position |
| Standard noise operation mode: Idle mode | 3.5 B / 19 dB(A) Bystander position | 3.5 B / 19 dB(A) Bystander position |
| Standard noise operation mode: ODD load | 4.5 B / 28 dB(A) Bystander position | 4.5 B / 28 dB(A) Bystander position |
| Standard noise operation mode: Office applications 2.0 | 3.7 B / 21 dB(A) Bystander position | 3.7 B / 21 dB(A) Bystander position |

## Dimensions / Weight / Environmental

| | |
|---|---|
| Dimensions (W x D x H) | 176 x 500 x 433 mm |
| | 6.9 x 19.7 x 17.1 inch |
| Operating position | Vertical / horizontal |
| Weight | approx. 18 kg |
| Weight (lbs) | approx. 39.67 lbs |
| Weight notes | Actual weight may vary depending on configuration |
| Operating ambient temperature | 10 - 35 ℃ (50 - 95 ℉) |
| Operating relative humidity | 5 - 85 % (relative humidity) |

## Compliance

| | | |
|---|---|---|
| Product | CELSIUS M770 | CELSIUS M770power |
| Model | CM17 | |
| Germany | GS<br>depending on configuration | |
| Europe | CE | |
| USA/Canada | FCC Class B<br>cCSAus | |
| Global | RoHS (EU & China)<br>Microsoft Operating Systems (HCT / HCL entry / WHQL)<br>WEEE (Waste electrical and electronic equipment)<br>ENERGY STAR® 6.1 in progress<br>EPEAT® Silver (dedicated regions) (planned) | |
| China | CCC (planned)<br>TPM 2.0 for China (optional) | |
| Compliance notes | Product Name maybe followed by suffixes | |
| Compliance link | https://sp.ts.fujitsu.com/sites/certificates | |

## Additional Software

| | |
|---|---|
| Additional software (preinstalled) | Workplace Protect (secure authentication solution)<br>McAfee Multi Access Security (anti-virus and internet security software; 60 days trial version)<br>Microsoft Office (buy license to activate the pre-installed Microsoft Office) |
| Additional software (optional) | Recovery DVD for Windows®<br>Drivers & Utilities DVD (DUDVD)<br>CyberLink PowerDVD BD (playback software for Blu-ray Disc™)<br>CyberLink PowerDVD DVD (playback software for DVD)<br>Nero Essentials XL |

## Security

| | | |
|---|---|---|
| Physical Security | Kensington Lock support<br>Eye for padlock<br>Intrusion switch<br>Integrated cabinet lock (optional) | Kensington Lock support<br>Eye for padlock<br>Intrusion switch<br>Integrated cabinet lock (optional) |
| System and BIOS Security | Embedded security (TPM 2.0)<br>Boot sector virus protection<br>Write protect option for the Flash EPROM<br>Control of all USB interfaces<br>External USB ports can be disabled separately<br>Control of external interfaces | Embedded security (TPM 2.0)<br>Boot sector virus protection<br>Write protect option for the Flash EPROM<br>Control of all USB interfaces<br>External USB ports can be disabled separately<br>Control of external interfaces |
| User Security | User and supervisor BIOS password<br>Hard disk password<br>Access protection via external SmartCard reader (optional)<br>Access protection via internal SmartCard reader (optional)<br>Workplace Protect (secure authentication solution) | User and supervisor BIOS password<br>Hard disk password<br>Access protection via external SmartCard reader (optional)<br>Access protection via internal SmartCard reader (optional)<br>Workplace Protect (secure authentication solution) |
| Workplace Embedded Tools | Auto BIOS Update via Fujitsu Server<br>Auto BIOS Update via customer server (optional)<br>Easy PC Protection (optional) | Auto BIOS Update via Fujitsu Server<br>Auto BIOS Update via customer server (optional)<br>Easy PC Protection (optional) |

## Manageability

| | | |
|---|---|---|
| **Manageability technology** | DeskUpdate Driver management<br>iAMT 11.6 (depending on processor)<br>PXE 2.1 Boot code<br>Wake up from S5 (off mode)<br>Intrusion switch (optional)<br>WoL (Wake on LAN) | |
| **Manageability software** | DeskView Client<br>DeskView Instant BIOS Management | |
| **DeskView components** | Inventory Management<br>BIOS Management<br>Driver Management<br>Security Management<br>Alarm Management | |
| **Supported standards** | WMI (Windows Management Instrumentation)<br>PXE (Preboot Execution Environment)<br>DMI (Desktop Management Interface)<br>SMBIOS (System Management BIOS)<br>WBEM (Web Based Enterprise Management)<br>CIM (Common Information Model) | |
| **Manageability link** | http://www.fujitsu.com/fts/manageability | |

## Miscellaneous

| | | |
|---|---|---|
| | Rack mountable (4U) | Rack mountable (4U) |
| **Spare part availability** | 5 years | 5 years |

## Packaging information

| | | |
|---|---|---|
| **Packaging notes** | printed user documentation is bleached in chlorine free process | printed user documentation is bleached in chlorine free process |

## Warranty

| | |
|---|---|
| **Warranty period** | 3 years (depending on country) |
| **Warranty type** | Bring-In / Onsite Service (for countries within region EMEIA, for all other countries depending on local regulations) |
| **Warranty Terms & Conditions** | http://support.ts.fujitsu.com/warranty |

## Product Related Services - the perfect extension

| | |
|---|---|
| **Recommended Service** | X - 9x5, Onsite Response Time: Next Business Day |
| **Spare Parts availability** | 5 years after end of product life |
| **Service Weblink** | http://www.fujitsu.com/fts/services/support |

# Recommended Accessories

| | | | |
|---|---|---|---|
| **Display B24W-7 LED** | | The FUJITSU B24W-7 LED Display with excellent ergonomics makes intensive office work extremely comfortable. This highly reliable display offers superb usability and power-saving features to help reduce your labor as well as energy costs. With wide viewing angle technology, flexible connectivity, and easy manageability, the FUJITSU B24W-7 LED Display can help you improve productivity. | Order Code:<br>S26361-K1497-V141 |
| **Blue LED Mouse GL9000** | | Blue LED Mouse GL9000 comes in a slim design with proven Fujitsu engineering quality. The state-of-the-art blue LED sensor enables ultra precise switchable resolution at 1,000, 1,500 and 2,000 dpi. Blue LED Mouse GL9000 makes your life easier because it's tailor-made for right handed users. It just feels great in your hand. | Order Code:<br>S26381-K438-L100 |

| | | | |
|---|---|---|---|
| **SpaceMouse™ Pro** | | Using the SpaceMouse™ Pro 3D mouse to navigate 3D models or environments is as simple as holding them in your hand. A slight movement of the controller cap delivers easy and precise control. SpaceMouse™ Pro is a companion to the traditional mouse and is operated with the free hand. Your traditional mouse hand is free to select, create and edit. | Order Code: S26381-K459-L100 |
| **Keyboard KB900** | | The KB900 is a very flat keyboard with extra low keys and spill-resistant protection. The elegant design and top-quality construction makes the KB900 the ideal input device for any PC or Notebook user. If you accidently spill some water or coffee onto the keyboard, this special construction helps the liquid to flow away. | S26381-K560-L4** (**: Country specific variation) |

# More information

## Fujitsu products, solutions & services

In addition to the FUJITSU Workstation CELSIUS M770, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

### Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

### Computing Products

www.fujitsu.com/global/products/computing/

### Software

www.fujitsu.com/software/

## More information

Learn more about the FUJITSU Workstation CELSIUS M770, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/fts/CELSIUS

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment.
Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT. Please find further information at http://www.fujitsu.com/global/about/environment



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