

## CELSIUS® M420 Get more power

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CELSIUS workstations are equipped with the very latest technology and system components to deliver high-end performance. They are the ideal hardware choice for business segments like computer aided design and engineering, mechanical design, simulation, virtual reality, visualization, digital content creation, and finance. CELSIUS are certified for a huge variety of software applications, guaranteeing optimum performance whatever your preferred software solution.

If you need more power and more expandability than an entry-level workstation can offer, opt for the mid-range workstation CELSIUS M420.

### Performance

- Latest processor technology,
- Intel® Pentium® 4 Processor with HT Technology 3.40 GHz Max. 4.0 GB DDR-SDRAM for memory demanding applications
- AGP 8x Pro 50 to deliver enough energy to accommodate even the most powerful graphics subsystems
- Optional SCSI controller with 10k and 15k rpm hard disk drives for high speed storage access
- RAID (0) support for SCSI disks to enhance high speed storage

### Reliability

- Developed and manufactured in Germany guaranteeing high quality, reliability and stability
- Features to enhance reliability, like ECC memory and RAID (1) for your mission critical applications
- Your choice of supply for on-time and tailored delivery: value4you, made4you
- Warranty, service, and spare part supply to suit your individual needs
- Certification of all relevant workstation applications to ensure ISV support

### Security

- Secure access and protection for your business critical data
- Integrated SmartCard reader optional
- SecureIT: software suite for easy integration into your IT environment

### Manageability

- Easy and remote administration with DeskView client management
- Microsoft Windows XP Professional optionally preinstalled
- Certification for Linux (RedHat, SuSE) on request

### Ergonomics

- Convenient front access to USB, audio, and SmartCard reader
- Optimized cooling to ensure lowest possible noise emission
- Specially tuned graphics driver for best image quality and performance
- Status display for your information
- Reduced downtime with service-friendly cabinet and easy component access (EasyChange and FlexyBay)
- Blue Angel Award for low energy consumption and recyclability

### Environment

- Design guidelines for eco-friendly products in respect to material and recycling
- Environmentally friendly product and ISO14001 certified manufacturing:  
no dangerous waste during production, lead-free printed circuit board (PCB) and soldering process, significant reduction of lead and halogens to a minimum



<b>System</b>	CELSIUS M420
<b>Operating Systems</b>	
Windows XP Professional optional	
<b>Fujitsu Siemens Computers recommends Microsoft® Windows® XP Professional for business.</b>	
<b>Mainboard D1688:</b>	
Microprocessor	Intel® Pentium® 4 Processor with HT Technology 3.40 GHz
Front Side Bus (FSB)	800 MHz
Second-level cache	512 KB / 1 MB
Memory	max. 4 GB <sup>1)</sup> , DDR-SDRAM, ECC, DDR333 / DDR400, dual-channel
DIMM slots	4
Chipset	Intel 875P
Flash EEPROM	BIOS update by software
<b>Interfaces</b>	
Serial	1 x 9-pin, RS232
Parallel	1 x 25 pin, EPP and ECP
Keyboard, mouse	2 x PS/2
USB 2.0	4 x rear, 1 x front
LAN	1 x RJ45
IEEE1394	1 x rear
Front audio	1 x headphone out, 1 x mic in
Rear audio	1 x line in, 1 x line out, 1 x mic in, 1 x S/PDIF
<b>I/O controller</b>	
Fast IDE / Ultra DMA-100	on board for 2 x 2 drives
Serial ATA interfaces	on board for 2 HDDs,
SCSI controller	29320-R, optional Host RAID 0 / 1 support
<b>LAN</b>	Intel 82547, 10/100/1000 Mbit/s, ASF 2.0
<b>Audio</b>	Analog devices AD1980
<b>Graphics subsystems</b>	
<b>Professional 2D:</b>	
Nvidia GeForce FX 5200	64 MB, AGP 8x, 2 x DVI-I
<b>Multi monitor 2D:</b>	
Matrox Millennium G450	32 MB, AGP 4x, 2 x VGA or 1 x DVI-I
Matrox Millennium G450	32 MB, PCI, 1 x VGA and 1 x DVI-I
<b>Entry-level 3D:</b>	
Nvidia Quadro4 580 XGL	64 MB, AGP 8x, 2 x VGA or 2 x DVI-D
<b>Mid-range 3D:</b>	
Nvidia Quadro4 980 XGL	128 MB, AGP 8x, stereo, 2 x DVI-I
Nvidia Quadro FX 1100	128 MB, AGP 8x, stereo, 2 x DVI-I
<b>High-End 3D:</b>	
Nvidia Quadro FX 3000	256 MB, AGP 8x, stereo, 2 x DVI-I



<b>Floppy disk drive</b>	3.5-inch, 1.44 MB
<b>Hard disk drives</b>	
Ultra DMA 100	40 GB – 160 GB <sup>2)</sup> , 7200 rpm
Serial ATA	80 GB – 160 GB <sup>2)</sup> , 7200 rpm
SCSI U320	36 GB – 147 GB <sup>2)</sup> , 10000 rpm
	36 GB – 73 GB <sup>2)</sup> , 15000 rpm
<b>Optical drives</b>	
ATAPI DVD	16/48-speed
ATAPI CD RW / DVD combo	48/16/48/16-speed
ATAPI DVD+R/+RW	4/4/10/16/12/40-speed
<b>Mouse</b>	
Optional	wheel mouse optical wheel mouse, SpaceMouse
<b>Slots</b>	
	7 (max. 312 mm) 1 AGP 8x 6 x PCI, 32-bit / 33 MHz
<b>Drive bays</b>	
Internal	4 x 3.5 inch (HDD)
External	1 x 3.5 inch (FDD) 3 x 5.25 inch (ODD)
<b>Electrical values</b>	
Power supply	300 W, 100-240 V, 50-60 Hz
Typical power consumption	100 W <sup>3)</sup>
<b>Temperature/noise/dimensions/weight</b>	
Ambient temperature	15-35° C acc. to IEC 721
Relative humidity	20-80% acc. to IEC 721
Noise emission values according to ISO 9296 (LpAm at bystander position)	
	23 dB, standby mode 23 dB, idle mode 27 dB, full operation mode
Dimensions (H x W x D)	385 x 205 x 504 mm
Weight	16 kg <sup>3)</sup>
<b>Compliance with standards</b>	
Product safety	IEC60950, EN60950, UL1950, CSA22.2 No.950
Ergonomics	ISO9241 (GS marks)
Electromagnetic compatibility	EN55022/B, EN50082-1, FCC class B
CE mark	89/336/EEC (EMI), 73/23/EEC (product safety)
<b>Security features</b>	
Cabinet security features	cabinet lock, seal option, antitheft function, Kensington lock support, intrusion detection, SmartCard reader optional
BIOS security features:	write protect for EEPROM, boot protection for FDD, system and setup password, password and disabling functions for many system components
<b>Software</b>	
Linux (RedHat, SuSE)	certification on request
Drivers and Utility CD (DUCD)	included
DeskView Edition	on DUCD
F-Secure virus scanner	on DUCD

<sup>1)</sup> In 4 GB configurations the visible memory may be reduced down to 3.5 GB (depending on system configuration).

<sup>2)</sup> 1 GB equals one billion bytes, when referring to hard disk drive capacity; accessible capacity may vary, also depending on used software and tools.

<sup>3)</sup> Depending on configuration