

Installation Manual

TRUMPF CAD/CAM products System requirements

Version 2.74

Installation manual

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System requirements

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C332en

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1. General requirements

Versions The system prerequisites described in this document apply to the following TruTops products and versions:

TruTops product	From Version	Minimum version required for update
TruTops (CAD, Nest, Laser, Punch, Tube, Bend)	12.0	TruTops 3.0
Oseon	3.0	TruTopsFab 10.0
WebCalculate	18.0	-
TruTops Cell	8.3	Alle Versionen
TruTops Cell (SW48)	1.0	1.0
TruTops Calculate	16.1	13.0
3-D-Rohrkonstruktion ¹	10.0	Alle Versionen
TruTops Boost	16.0	2.0
TecZone Bend Standalone	22.02	-
TruTops Weld ²	7.0	7.0
Programming Tube	1.0	1.0
TRUMPF License Expert	1.10.0	-

Valid versions

Table 1

Knowledge The installation of a TruTops product requires basic knowledge of the operating system and the network structure used.

User rights Local administrator rights are required for installation.

Restart It may be necessary to restart the computer during installation. Make sure that after restart the same user is logged in as when installation started.

For an installation on a production server, the necessary arrangements need to be made before the server is restarted.

¹ Can only be used together with a full version of TruTops.

² See special requirements: 0



Installation medium TruTops products are supplied on a DVD-ROM or USB drive as standard and can be installed directly from this.

TruTops Cell (SW48) is downloaded by default via an Online Update Portal. An Internet connection is required for installation and online update. The installation starts after the download is complete.

Optionally, the content can be copied to a local drive or network drive and installed from there.

In the case of a network installation, the following points must be observed:

- The copied data must be accessed via a connected network drive (not via a UNC path).
- If a new network drive is connected to for installation, make sure that, even after performing a restart, the drive retains the same drive letter assigned to it when installation was started.
- The network path must not contain any blanks.

2. Installation environment

Virus scanner The use of a virus scanner can lead to a loss in performance during the installation and operation of TruTops products. We therefore recommend to disable the virus scanner during the installation and set it in such a way that live operation of TruTops products is affected as little as possible (specification of exceptions, full scan outside utilization time, etc.).

It is recommended, to add the following exceptions:

On the server	On the Client-PCs
C:\Program Files\TRUMPF\TruTops	C:\Program Files\TRUMPF\TruTops\Client
C:\Program Files (x86)\TRUMPF\TruTops\Server	C:\Program Files\TRUMPF\Installation
C:\Program Files (x86)\Microsoft SQL Server	C:\Program Files (x86)\TRUMPF\TruTops\Client
C:\ProgramData\TRUMPF	

Personal fire walls In order to guarantee trouble-free operation of TruTops products, the processes will need free access via the fire wall settings. More specific information regarding files and processes to be enabled will be displayed during the installation and can also be seen in the installation manual.

Network When operating TruTops (classic) in PDM mode or when using TruTops Boost/Fab/Oseon/TRUMPF License Expert, the network must meet the following requirements:

- Active TCP/IP protocol
- Functional name resolution (DNS)
- Transmission rate at least 100 Mbit/s
- Latency < 1ms
- Access Points have to support "Seamless Roaming"
- Good W-LAN coverage area

If the computer is not being run on the network (e.g. Notebook), the so-called "Microsoft Loopback Adapter"

must be installed (see "Installation manual for TruTops, Part 2: Installation and backup of data").

Dedicated Runtime Environment

It is strongly recommended to use a dedicated system (physical or virtual) for the installation of the TRUMPF software products. During installation, third-party products are also installed which are necessary for the operation of the TRUMPF software but may interfere with other software products on the same system. Likewise, other software products may affect the functionality of the TRUMPF software.

3. Operating system

3.1 General notes

- Server operating system**
- Client applications should not be run on a server operating system.
 - For a client/server operation with more than 4 clients, a server operating system should be installed on the server computer.
- Service packs** All TruTops products are tested with the current service packs of the respective operating systems prior to release (see Table 2, p. 12). If another service pack is published after printing this document, it will promptly be released. Operability cannot be guaranteed until release.
- PDM data storage** The following specifications apply for the data storage of PDM data:
- If possible, the data should be stored on the PDM server PC.
 - The hard drive of the data storage must be formatted in the "NTFS" file system otherwise losses in performance could occur.
 - PDM data cannot be accessed via SAMBA.
 - TruTops Boost and TecZone Bend Standalone doesn't support the PDM mode.
- Use via terminal server** In current versions, TruTops products can be used via Terminal Server.³
- Domain controller** It is not possible to install TruTops Server, Oseon Server or TruTops Boost Server on a domain controller.
- The installation on a Windows Server 2008 R2 as ReadOnlyDomainController (RODC) is not possible.
- Computer names** Computer names may only consist of characters from the standard character set.

³ with the exception of TruTops Boost, Oseon and TecZone Bend Standalone

3.2 Supported operating systems

Note

The operability of TruTops products is only guaranteed for the versions, editions and service packs listed below. The installation of TruTops products on non-listed and non-approved systems, as well as the installation of non-approved service packs on existing TruTops installations, is at the user's own risk.

	Windows 10 (1607-1803) ⁴	Windows 10 (1809 and up)	Windows 11	Windows Server		
				2016 ⁵	2019 ⁵	2022 ⁵
Edition	Pro Enterprise	Pro Enterprise	Pro Enterprise	Standard Datacenter Foundation	Standard Datacenter Foundation	Standard Datacenter
Bit-Version	64bit	64bit		64bit	64bit	
TruTops Client	X	X	X	X	X	X
TruTops Server	∅	∅	∅	X	X	X
Oseon Client	X	X	X	∅	∅	∅
Oseon Server	O	O	O	∅	X	X
WebCalculate	-	-		∅	X	
TruTops Cell Client	X	X	X	-	-	-
TruTops Cell Server	X	X	X	-	-	-
TruTops Cell (SW48)	X	X	X	-	-	-
TruTops Calculate Client	X	X	X	∅	∅	X
TruTops Calculate Server	X	X	X	X	X	X
Tube Design Client	X	X	X	-	-	-
Tube Design Server	X	X	X	X	X	X
TecZone Bend Standalone	X	X	X	-	-	
TruTops Weld	X	X		-	-	
Programming Tube Client	X	X	X	-	-	-
Programming Tube Server	X	X	X	X	X	X
TRUMPF License Expert	X	X	X	X	X	X

Supported operating systems

Table 2

- Key**
- X = Installation possible and enabled
 - O = Installation possible but not enabled
 - ∅ = Installation possible but not recommended
 - - = Installation not possible

⁴ In Windows 10 the EHT converter must be executed with administrator rights when started for the first time.

⁵ The ".NET Framework" server feature must be activated before installation in the server manager. Installation on RODC is not possible.

TruTops Boost

Operating system (64 bit only)	Service pack	Editions	TruTops Boost Client	TruTops Boost Server
Windows 10		Pro / Enterprise	X	O
Windows 10 (1809 and up)		Pro / Enterprise	X	X
Windows 11		Pro / Enterprise	X	X
Windows Server 2016 ⁶		Standard / Datacenter / Foundation	∅	X
Windows Server 2019 ⁶		Standard / Datacenter / Foundation	∅	X
Windows Server 2022 ⁶		Standard / Datacenter	∅	X

Operating systems supported by TruTops Boost

Table 3

- Legend**
- X = Installation possible and released
 - O = Installation possible but not released
 - ∅ = Installation possible but not recommended
 - - = Installation not possible

⁶ The ".NET Framework" server feature must be activated before installation in the server manager. Installation on RODC is not possible.

3.3 Installation on virtual systems

TruTops products can also be operated in a virtual environment⁷ (e.g. VMware Workstation/ESX). However, due to the numerous variants and basic requirements for virtual systems, operability cannot be guaranteed.

Support TRUMPF also deals with support requests relating to TruTops products installed in a virtual system environment.

Please note:

- TRUMPF is not obliged to provide solutions for problems arising from the operation in a virtual system environment.
- If problems arise during operation in a virtual system environment, the customer must prove that the problem has **not** arisen due to operation in the virtual system environment.
- The TruBend Cell 7000 machine cannot be programmed in a virtual system environment.
- TruTops Boost Client is not released for operation in a virtual system environment.
- TruTops Cell (SW48) is not approved for operation in a virtual system environment.

Licensing Licenses must not be activated on virtual systems. We recommend instead,

- to use a real physical computer as license server
- or, if the license server is to be run in a virtual environment, to use the additional "CmDongle" (hardware dongle) which can be ordered from our sales department.

⁷ TecZone Bend Standalone cannot be operated in a virtual environment.

4. Database

4.1 Microsoft SQL Server

Compatibility A version of "Microsoft SQL Server Express Edition" is also installed when the server installation of a TruTops product takes place. Which version

During installation on the server PC, the following points must be observed:

- The tools of an earlier Microsoft SQL Server edition cannot be installed in parallel with the corresponding tools of a newer version.⁸
- If Microsoft Visual Studio is installed on the computer, it has to be updated with a specified Service Pack level before the MS SQL Server Express Edition can be installed.¹⁰

New instance The Microsoft SQL Server Express Edition is installed in its own instance. This ensures that existing SQL Server instances are not affected.

If there is already a TRUMPF product installed on the computer which uses the Microsoft SQL Server 2000/2005/2008R2, the corresponding SQL Server instance ("TRUMPF" or TRUMPFSQL1) remains installed and running. It can be turned off or uninstalled at any time as long as it is no longer needed by a product.

Microsoft SQL Server 2019 Express Edition is limited to the use of 1,4 GB RAM maximum.

If an SQL Server 2019 already exists, it can also be used for TruTops. However, in this case it is also necessary to install a separate TRUMPFSQL1 (or TRUMPFSQL2) instance. For more information please contact TRUMPF CAD/CAM Support.

VirtualMachines Configuration Microsoft SQL Server Express Edition uses a maximum of 4 cores on one socket, so it is recommended to configure virtual machines accordingly. Fixing the processors can bring additional performance gain.

Recommendation: 1 socket with 8 processors

⁸ This is checked before the installation of the Microsoft SQL Server.





Installed SQL Server	Microsoft SQL Server 2014 Express Edition with Advanced Services
SQL Instance	TRUMPFSQL2
Depended version of Visual Studio	Visual Studio 2010
Special system requirements	64bit
Installed with the following products:	TruTops Cell

Table 4

Installed SQL Server	Microsoft SQL Server 2019 Express Edition
SQL Instance	TRUMPFSQL2
Special system requirements	64bit
Installed with the following products:	TruTops Oseon TruTops Boost TruTops Calculate

Table 5

4.2 Backup of data

Note

The user alone is responsible for the backup of data, databases, users and the backup of the complete system. When selecting a data backup software, please bear in mind, that it will need to support the data backup of SQL databases (MS SQL Server).

Oseon Server The Oseon Server backs up its data in a background service.

Further information The installation manual of the TruTops product contains detailed information on backing up data.

TRUMPF also recommends protecting hardware against power failure by using an uninterruptible power supply (UPS).



5. Hardware requirements

- Oseon Module Logistics** Slightly different requirements apply in the case of Oseon Module Logistics (see section 0, p.22).
- TruBend Cell 7000** For using the TruBend Cell 7000, the minimum requirements for processor and memory are specified in “Recommended”.
- TruTops Boost** For TruTops Boost apply special hardware requirements. See section 5.10.

5.1 Processor

A powerful processor of the current generation is recommended for all TruTops products, regardless of the operating mode.

	Required	Recommended
Client	Intel® / AMD quad-core with 2.4 GHz per core	Intel®/ AMD quad-core with 3.0 GHz per core
Server	Intel®/AMD min. eight-core with 2.1 GHz per core	Intel® / AMD min. twelve-core with 3.2 GHz per core

Processors

Table 6

5.2 Internal memory

	Required	Recommended
Client (single application) ^{9 10}	8 GB RAM	16 GB RAM
Client (multiple applications) ¹¹	8 GB RAM	16 GB RAM
TruTops Server (without client)	8 GB RAM	16 GB RAM
TruTops Boost Client	TruTops Boost Client	TruTops Boost Client
TruTops Boost Server (without Client)	32 GB RAM	64 GB RAM
Oseon Server (without Client) ¹²	32 GB RAM	64 - 128 GB RAM
Oseon Server + TruTops Server ¹²		
Oseon Server only for modules <ul style="list-style-type: none"> • Oseon Logistics warehouse management for automatic compact store OR <ul style="list-style-type: none"> • Oseon Logistics warehouse management for automatic large-scale store OR <ul style="list-style-type: none"> • Oseon Analytics 	16 GB RAM	64 GB RAM
TecZone Bend Standalone	4 GB RAM	8 GB RAM

Internal memory

Table 7

Notes

- If multiple technology modules are used simultaneously in TruTops, the recommended memory capacity should be used.

5.3 Screen

	Required	Recommended
Client	1280x1024	1600 x 1200, 1920x1080 or higher
Server	1280x1024, 1920x1080 or higher	

Screen/Resolution

Table 8

⁹ e.g. only TruTops Laser

¹⁰ Oseon Clients can already be operated with 4 GB RAM.

¹¹ e.g. TruTops Laser + TruTops Punch

¹² Recommended amount of memory depends on the number of clients and SQL Server version.

5.4 Graphics card

Open GL Some TruTops products (see Table 9, p. 21) require hardware-based Open GL support via the graphics card (a software emulation is not sufficient). Check if the graphics card supports this mode. Compatible chip sets can be found on the SolidWorks website (www.solidworks.com).

Client PC

	Required	Recommended
TruTops Cell TruTops Bend TruTops Unfold Tube Design	1 GB Open GL, 3D modes, hardware-supported	2 GB Open GL, 3D modes, hardware-supported
TecZone Bend Standalone	Open GL 4.0	Open GL 4.0
Other products	128 MB	1 GB

Graphics card/graphics memory

Table 9

Server PC

	Required
Oseon	Minimum resolution 1280x1024
Other products	No special requirements.

Graphics card

Table 10

5.5 Special system requirements for Oseon Module Logistics

Only the differences of Oseon Module Logistics to the requirements of other TruTops products are listed here. For the remaining points, the requirements of the TruTops products apply.

- Server**
- In the special case of the server being serially linked to the storage control system, a serial interface (RS-232) is required for each automatically connected storage system.

- Virtualization**
- The following basic requirements apply when using a virtual server:
- The customer is responsible for virtual server software support and administration.
 - The pre-installation of Oseon software with Module Logistics on the virtual server is carried out by TRUMPF via remote diagnostics. Additional assistance at the customer's premises could result in additional costs.
 - The virtual server must be accessible in the network via a fixed IP address.
 - Within the network, the virtual server must be integrated into the domain like a computer.
 - The virtual Oseon server must be connected to the storage control system via a TCP/IP network connection.

5.6 System requirements for connecting the bar code reader

The bar code reader can be connected via a serial interface (RS-232) or via a USB interface at the Oseon Client. If you want to use a USB interface, a USB-COM driver must be available for the bar code reader.

The following devices have been tested successfully by TRUMPF:

- Bar code reader**
- Datalogic:
- Heron D130
 - Gryphon GD4100
 - Gryphon GD4400
 - PM 9500
- Honeywell:
- Voyager 9540
 - Hyperion 1300g

5.7 Special system requirements for Oseon in connection with Oseon App

Only the differences of Oseon in connection with Oseon App to the requirements of other TruTops products are listed here. For the remaining points, the requirements of the TruTops products apply.

- Oseon**
 - Oseon Server
 - Modules Preparation / Fabrication.
 - Optional: Module Transaction customer order management for customer view.
 - Optional: public (valid) SSL/TLS certificate for the access to the web service on the Microsoft IIS.

- Mobile devices**
 - Apple iPad (9th Generation or higher), iPhone, iPod touch with iOS 8 or higher.
 - WiFi-Scanner: Skorpion X3 (with Microsoft Windows Embedded Handheld 6.5 and WiFi), Skorpion X4 (with Windows CE and WiFi).

- Wireless network**
 - Connection to web server (Microsoft IIS in the customer network). A VPN-Connection is required for accessing the web server via internet.
 - Min. 1MBit bit/s download/upload data transfer rate

- Others**
 - Network camera with motion JPEG (MJPEG) support (optional, the manufacturer AXIS is recommended).
A VPN-Connection is required for accessing the camera via internet. Alternatively the camera must use the same IP-Address configuration for WLAN and internet.
 - Machine control with RCI 1.4 or higher.

- Remote Control**

To use the "Remote Control" (machine option „MobileControl App“) function of the machine, the following requirements must be fulfilled:

 - The "MobileControl App" option must be enabled on the machine (not available on all machines).
 - The machine must be accessible via "Teleservice via internet"
(internet connection via customer network required).



-
- A VPN-Connection is required for accessing from outside the company network.

5.8 Special system requirements for WebCalculate

Only the differences of WebCalculate to the requirements of other TruTops products are listed here. For the remaining points, the requirements of the TruTops products apply.

- Oseon server** • Version 10.0 or higher.
- Web server** • Microsoft IIS (will be installed automatically)
 - Can be installed on the Oseon server.
- Internet connection** • Min. 512K bit/s download/upload data transfer rate
- e-mail transmission** • see 5.9: special system requirements TTFMessageService.

5.9 Special system requirements for Oseon Client

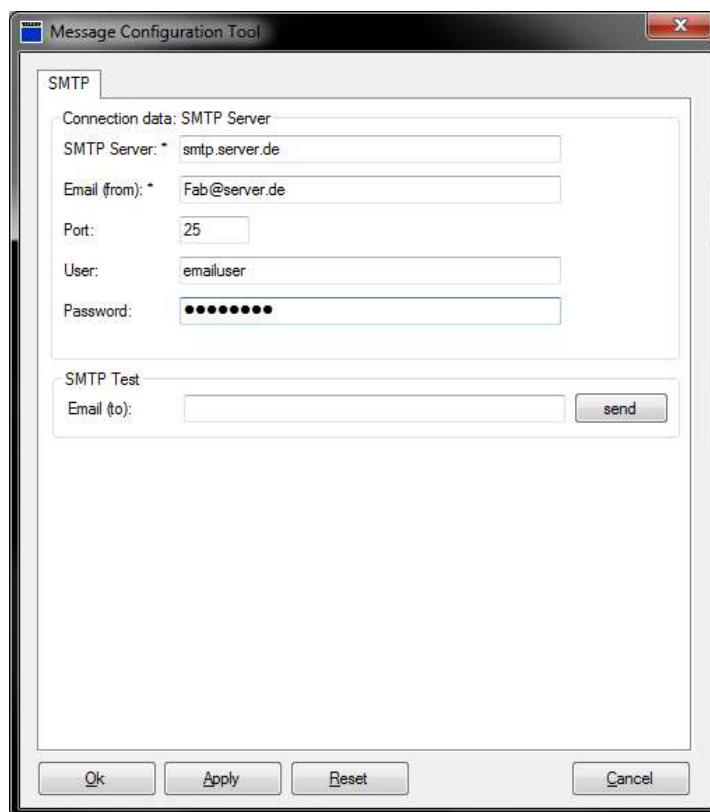
Only the differences of Oseon Client to the requirements of other TruTops products are listed here. For the remaining points, the requirements of the TruTops products apply.

- Web Browser** The Oseon Client (Webclient) requires Google Chrome version 98.0 or higher.

5.10 Special system requirements for TTFMessageService

We will only list the differences between the TTFMessageService and the requirements of the other TruTops products. In all other cases, the requirements of the TruTops products apply.

The TTFMessageService sends e-mails via an SMTP server. After the TTFMessageService has been installed on a server, you will only need to maintain the SMTP connection data by means of the TTFMessageConfTool.



In addition, the required file share will be installed. You will only need to specify the path for the file share (TTFOutbox) on the Fab server. You can find the settings in CellPM.Nachrichtendienst.Postausgang.

If the SMTP server is not in the internal network (e.g. hosting by provider), the server on which the TTFMessageService is installed, must have access to the internet.

Fab/Oseon Server Version 10.x or newer.

Internet access Min. 512 Kbit/s download/upload speed

Network share Will be created automatically.

5.11 Special system requirements TruTops Boost

		Required	Recommended
Processor	Client	2 GHz, Dual Core, supporting AVX instructions	3 GHz, Quad Core, supporting AVX instructions
	Server	Dual Core	Quad Core
RAM	Client	16 GB	32 GB
	Server ¹³	16 GB	32 - 64 GB
Resolution	Client ¹⁴	1280x1024, 32-bit color depth	1920x1080, 32-bit color depth
	Server	no special requirements	no special requirements
Graphic card	Client	512MB, DirectX 11, Shader 5.0, Open GL 4.5	1 GB, DirectX 11, Shader 5.0, Open GL 4.5 Nvidia discrete GPU
	Server	no special requirements	no special requirements
Hard disk	Client	15 GB free memory	25 GB free memory
	Server	20 GB free memory	25 GB free memory
Mouse	Client	Mouse with mouse wheel	Mouse with mouse wheel optional SpaceMouse
	Server	no special requirements	no special requirements

TruTops Boost hardware requirements

Table 11

Internet connection An Internet connection is required to display the online help.

User names User names may only contain ASCII characters, otherwise the program may not run correctly.

5.12 Special system requirements TecZone Bend Standalone

	Required	Recommended
Operating System	Windows 10	Windows 10
RAM	4 GB	8 GB
Resolution	1024x768	1920x1080
Graphic card	Open GL 4.0 Support	Open GL 4.0 Support

¹³ Recommended amount of memory depends on the number of clients

¹⁴ limited HiDPI support



	Required	Recommended
Mouse	Mouse with mouse wheel	Mouse with mouse wheel optional SpaceMouse

5.13 Special system requirements TecZone Cut stand-alone

Required	Client	Server
Operating System	Windows 10 x64	Windows Server 2012 Windows Server 2012 R2 Windows Server 2016 Windows Server 2019
Supported database servers		SQL Server 2008 R2 Express SQL Server 2008 R2 Standard SQL Server 2012 Express SQL Server 2012 Standard SQL Server 2014 Express SQL Server 2014 Standard SQL Server 2016 Express SQL Server 2016 Standard SQL Server 2017 Express SQL Server 2017 Standard SQL Server 2019 Express SQL Server 2019 Standard
Processor	Intel Core i5 / i7 3 GHz or higher or AMD Phenom II X6 3.3 GHz or higher	Intel Xeon® quad-core 3 GHz or higher or AMD Opteron eight core 2.3 GHz or higher
RAM	8 GB	8 GB
Hard Drive	7 GB	50 GB The space in the hard disk may be bigger depending on the quantity of content to be stored
Resolution	1280x1024	
Graphic card	a 512 MB DirectX or OpenGL capable graphic card is recommended	

5.14 Special system requirements TruTops Weld

	Required	Recommended
Operating System (64-bit for all)	Windows 10 version 1607, 1703, and up	
Processor	64-bit Intel or AMD, 2.4 GHz or faster	Intel Core-i7 or Xeon, 3.2 GHz or faster
RAM	8 GB	32 GB and over
Hard Drive	250 GB HDD, 20 GB free	250 GB SSD, 20 GB free
Resolution	1920x1080	1920x1080
Graphic card	Open GL 3.2 Support, with 1 GB graphics memory. Note: No RADEON cards	NVIDIA Quadro graphics card with 2 GB dedicated graphics memory (or higher)

5.15 Special system requirements Programming Tube

	Erforderlich	Empfohlen
Operating system (64-Bit for all)	Windows 10 Version 1607, 1703 oder höher.	
Server operating system	Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022	
RAM	8 GB	32 GB
Hard drive	10 GB free	SSD, 20 GB free
Resolution	1920x1080	1920x1080
Graphic card	1 GB, 3D-Modi hardware-supported, DirectX 11	2 GB, 3D-Modi hardware-supported, DirectX 11

5.16 Special system requirements for TruTops Cell (SW48)

TruTops Cell (SW48) TruTops Cell (SW48) is not supported on virtual platforms. The following Hardware requirements apply to TruTops Cell (SW48).

	Required	Recommended
Processor	Dual Core, Support AVX Command Set	Quad Core, Support AVX Command Set
Memory	8 GB	>=16 GB
Resolution	1280x1024, 32 bit color depth	1920x1080, 32 Bit Color Depth
Graphics card	512MB, DirectX 9c, Shader 3.0, Open GL 4.0, Dedicated graphics card (no On-Board-GPU)	1 GB, DirectX 11, Shader 3.0, Open GL 4.0, Dedicated graphics card (no On-Board-GPU)
Hard drive	8 GB of free space	over 15 GB of free space
Mouse	Mouse with 2 buttons and mouse wheel	Mouse with 2 buttons and mouse wheel optional SpaceMouse

5.17 Special system requirements for TRUMPF License Expert

TRUMPF License Expert The following Hardware requirements apply to TRUMPF License Expert.

	Erforderlich	Empfohlen
Processor	1 GHz, Unterstützung von SSE3- command set	Dual Core, Unterstützung von SSE3- command set
Memory	2 GB	>=4 GB
Graphics card	1024x768	1280x1024
Hard drive	250 MB of free space	250 MB of free space

Personal Firewalls If the installation is used as a license server, TCP port 22350 must be accessible.

Virtuelle Systeme If the license server is to be operated on a virtual system, the "CmDongle" (hardware dongle) must also be used. This can be ordered via the sales department.

6. Required Hard Drive Space

The required hard drive space depends on the product installed, the type of installation (client, server), the operating mode (PDM, file system) and the customer data accrued.

Space required for installation

The values listed below show the minimum amount of memory required during installation.

	Server	Client
TruTops	15 GB	5 GB
Oseon	36 GB	1 GB
TruTops Cell	6,5 GB	9 GB
TruTops Cell (SW48)	-	8 GB
TruTops Calculate	15 GB	2 GB
Tube Design	1 GB	10 GB
TruTops Boost	20 GB	15 GB
TecZone Bend Standalone	-	1 GB
TruTops Weld	20 GB	20 GB
Programming Tube	2 GB	2 GB

Required hard drive space

Table 12

Notes

- The memory capacity requirements for database backups¹⁵ have already been taken into account.
- When installing client and server or several products on a computer, add the values together.
- "MS SQL Server" is always installed on the boot drive and requires approx. 1.5 GB memory. If a server is not installed on the boot drive, the 1.5 GB can be subtracted from the values given in the table. 1.5 GB must, however, be available on the boot drive.

Space required for productive use

During productive use, in addition to installation files, space is required for user data (e.g. drawings, NC programs, sheet layouts) as well as for the PDM database which increases in size parallel to the user data.

The space requirements depend greatly on the type of saved files. For example, files from 3D models (TruTops Unfold or

¹⁵ The requirements are based on empirical values. The space requirements for large archives may be greater.



TruTops Cell) require considerably more space than simple GEO files.

For a typical file storage it can be assumed that 100,000 files will require approx. 15 GB memory as a rough average, whereby large deviations above or below this value cannot be ruled out in individual cases.

TruTops Boost will require approximately 75 GB for 100000 3D parts.

7. Version Compatibility

7.1 Oseon

TruTops products The following table shows which Fab/Oseon version can be used with which TruTops products and versions.

		Oseon 2.0	Oseon 1.0	22.0.0	21.0.0	20.0.0	19.0.0	18.0.0	17.0.0	16.0.0	15.0.0
TruTops Version	PDM Version										
11.0.0	17.0	x	x	x	x	x	x	x	x	x	x
10.0.0	16.0	x	x	x	x	x	x	x	x	x	x
9.0.0	15.0	x	x	x	x	x	x	x	x	x ¹⁶	x
8.0.0	14.0	x	x	x	x	x	x	x	x	x	x
7.2.0	13.0	x	x	x	x	x	x	x	x	x	x
TruTops Calculate											
23.0.0		x	x	-	-	-	-	-	-	-	-
22.0.0		x	x	-	-	-	-	-	-	-	-
21.0.0		-	-	x	x	-	-	-	-	-	-
20.0.0		-	-	-	x	x	-	-	-	-	-
19.0.0		-	-	-	-	x	x	-	-	-	-
18.0.0		-	-	-	-	-	x	x	-	-	-
17.0.0		-	-	-	-	-	-	x	x	-	-
16.0.0		-	-	-	-	-	-	-	x	x	-
15.0.0		-	-	-	-	-	-	-	x	x	x
14.0.0		-	-	-	-	-	-	-	x	x	x
TruTops Boost											
15.0.0		x	-	-	-	-	-	-	-	-	-
14.0.0		-	x	-	-	-	-	-	-	-	-
13.0.0		-	-	x	-	-	-	-	-	-	-
12.0.0		-	-	-	x	-	-	-	-	-	-
11.0.0		-	-	-	-	x	-	-	-	-	-
10.0.0		-	-	-	-	-	x	-	-	-	-
9.0.0		-	-	-	-	-	-	x	-	-	-
8.0.0		-	-	-	-	-	-	-	x	-	-
7.0.0		-	-	-	-	-	-	-	-	x	-

Oseon/TruTops compatibility

Table 13

¹⁶ Unterstützung TruTops Tube ab TruTops Fab V16.0.0, Oseon 1.0.0, TruTops V9.0.0

7.2 3D Tube Construction

As of version V11.0.0 3D tube construction does not need any prior installations. Previous versions needed TruTops to be completely installed.

The following version dependencies applied:

3D tube construction	TruTops version
1.0.0	1.2.0 / 1.2.1 / 1.2.2 / 1.2.3 / 1.2.10
1.1.0	1.2.11 / 2.0.0
1.1.1	2.0.1 / 2.0.2
1.2.0	2.1.0
1.2.1	2.1.1
1.3.0	2.2.0 - 2.9.0
2.0.0	3.x.0
3.0.1	4.0.0
4.0.0	4.7.0
5.0.0	5.0.0
6.0.0	6.11.0 / 7.0.0
7.0.0	6.11.0 / 7.0.0 / 8.0.0
8.0.0	7.0.0 / 8.0.0
9.0.0	8.0.0 / 9.0.0
10.0.0	8.0.0 / 9.0.0 / 10.0.0
10.0.1	8.0.0 / 9.0.0 / 10.0.0 / 11.0.0

Version dependencies for 3D tube construction

Table 14

7.3 Job Order Interface

Job Order Interface is compatible with the following TruTops versions.

TruTops version	Job Order Interface
7.10	9.3.0 / 16.0.0 / 17.0.0 / 18.0.0 / 19.0.0 / 20.0.0 / 21.0.0 / 22.0.0
9.1.0	16.0.0 / 17.0.0 / 18.0.0 / 19.0.0 / 20.0.0 / 21.0.0 / 22.0.0

For newer versions please see [7.1 Oseon](#)

7.4 TecZone Bend Standalone

TruTops Boost and TecZone Bend Standalone can be operated in parallel.



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