

# Technical Data

## Standard equipment

- Braking device for the main drive
- Tube light
- Taper sleeve ME50 / MT3
- Male centre MT3
- Quick-change tool post Multi Suisse size A incl. 1 off tool holder AD 2090
- Movable chuck guard monitored via a limit switch
- Rear chip guard
- Removable chip tray
- Single bed stop
- Central lubrication
- Set of operating keys incl. 5 reserve shearing pins
- Instruction manual with spare parts catalog as hardcopy and on data storage device
- Machine record card

## Optional accessories

- Increased main spindle speed (5,000)
- WEILER VCD digital readout
- Three and four jaw chucks
- Independent four jaw chucks
- Collet clamping devices for draw-in and stationary collets
- Hollow spindle stops
- Follower rest with sliding jaws
- Steady rest with roller or sliding jaws
- Live centres
- Lever-operated drilling unit for tailstock
- Angular-tailstock turret head
- Coolant device
- Movable chip and splash guard with inspection window
- Additional machine lights
- Special voltages via transformer
- 230 V socket
- Other accessories on request

## Electrical equipment

- Operating voltage 3 x AC 400 Volt / 50 Hz N/PE (special voltages through transformer)
- Control voltage 24 Volt DC
- Contactor control and frequency converter in lockable switch cabinet in machine base
- All safety-relevant components are electrically interlocked
- Restart protection in case of power cut or EMERGENCY STOP
- EMERGENCY STOP integrated in machine base and head stock housing
- Safety monitoring device for cw/ccw main spindle rotation
- Main-operating elements easily accessible at top right corner of machine base
- Main spindle speed display and speed potentiometer for infinitely variable speed adjustment
- Input of the permissible main spindle speed after switching on the machine
- Additional monitoring and preselection of permissible spindle speed via key switches

Technical Data		Primus VC <sup>P</sup>
Working Range		
▶ Distance between centres	mm	500
▶ Centre height	mm	140
▶ Swing over bed	mm	280
▶ Swing over cross slide	mm	150
Main Spindle		
▶ Spindle nose acc. to DIN 55027 (DIN ISO 702-3)	Size	5
▶ Spindle diameter in front bearing	mm	70
▶ Spindle bore	mm	43
▶ Inside taper similar to DIN 228	metr.	50
Main Drive		
▶ Drive power 100 % duty cycle	kW	5
▶ Speed range	min <sup>-1</sup>	30-4,000 (5,000)
▶ Number of gears		1
▶ Number of speeds		stepless
Feed Range		
▶ Number of feeds		24
▶ Longitudinal	mm/turn	0.02-0.63
▶ Transverse	mm/turn	0.006-0.2
Thread Cutting Range		
▶ Metric threads	mm	0.25-8
▶ Inch threads	turns/inch	80-2
Tailstock		
▶ Quill travel	mm	85
▶ Quill diameter	mm	40
▶ Inside taper acc. to DIN 228	MK	3
Weight		kg 850

The right of technical modifications is reserved · 06/13 · 5.0915.01.16.00.02

Photographs may deviate from the standard version.

 **WEILER**

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Long-Term Precision and Outstanding Ease-of-Use



Photograph shows optional features

## Conventional Precision Lathe Primus **VC<sup>D</sup>**

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Service

Radial Drilling Machines

CNC Lathes

Cycle-Controlled Lathes

Conventional/Servo-Conv. Lathes



Photograph shows optional features

## The Primus VC<sup>D</sup> features

- ▶ Optimum performance results (accuracy, surface quality) through vibration-absorbing, robust machine construction
- ▶ Inspection Values significantly better than DIN 8605 (toolmaker's accuracy) requirements
- ▶ Extremely smooth running
- ▶ Large spindle bore
- ▶ Sliding chuck guard with customized end settings for optimum protection chips
- ▶ Easy chip removal via removable chip tray
- ▶ Cost-effective production
- ▶ Long-term accuracy and quality
- ▶ Reliability

- ▶ Increased safety through main spindle speed monitoring, automatic handwheel disengagement, lead screw and feed rod cover, minimization of pinch points etc.
- ▶ Space-saving design, the machine can be placed directly against a wall

### Bed and base

The bed is manufactured from high-quality grey cast iron. Rugged cross ribbing and continuous guideways ensure high flexural strength and torsional rigidity. The separate flat and external prismatic guideways for the carriage and tailstock are flame hardened and ground. Bonding the bed with the generously dimensioned steel plated base significantly increases the damping properties of the complete structure.

The base contains the drives, electronics, the optionally coolant device assembly as well as a large lockable compartment for the storage of collets and accessories. The main operating elements are located within easy reach at top right corner of the machine base.

### Tailstock

To enable thin tapers to be turned, the top part of the tailstock can be shifted on a guide rail in front of and behind the turning centre. The hardened and ground tailstock quill is provided with a depth scale which enables exact infeed through a graduated collar. Clamping to the bed is carried out with an eccentric clamping lever.

# High precision and ease of operation through cutting edge mechanical engineering "Made in Germany"

## WEILER VCD digital readout (option)



- ▶ Large, easy-to-read 8" colour screen
- ▶ 3 axes, for bed, cross and top slides (Z and Zo offset with each other or separable)
- ▶ Constant cutting speed with speed limitation
- ▶ Oriented spindle stop
- ▶ Electronic limit switch unit for thread cutting
- ▶ Remaining path display for the thread length
- ▶ Tool technology memory for turning speed or cutting speed of 99 tools
- ▶ Power display in percent (graphically) and kW
- ▶ Electronic operating hour counter for Machine "On" and Spindle "On"
- ▶ Automatic indication of the maintenance intervals
- ▶ Pocket calculator function
- ▶ Masking of the axis positions possible
- ▶ Radius / diameter switch
- ▶ Metric / inch switch
- ▶ Zero offset
- ▶ Timer-controlled standby mode
- ▶ Context-sensitive help supply menu
- ▶ The scales and lines in the working area are extremely well protected by covers and a cable channel

## Examples of other options



**Lever-operated collet chuck**  
for stationary collets



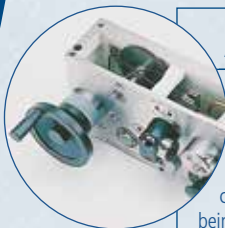
**Lever-operated collet attachment**  
for draw-in collets



**Tailstock turret heads**  
for centering, drilling, counter-sinking and thread cutting

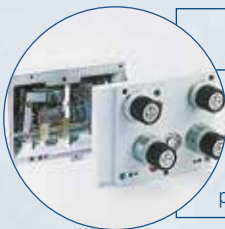


**Chip and splash guard**  
movable with inspection window



### Apron

The apron is fully enclosed and, at the same time, serves as the central lubrication reservoir for the carriage and lead screw nut. The feed transmission from the feed rod through the worm gear is interrupted when turning against the stop by an intermediate ball slip clutch. A pushbutton is provided to prevent the lead screw nut from being unintentionally engaged.



### Feed gearbox

The casing of the gearbox is fully enclosed and provided with oil-bath lubrication for the sets of gears. Depending on the demands of use, the gear wheels are case-hardened and ground or nitrided. Three knobs enable the selection of 24 feed rates or 21 metric thread pitches, in particular standardized threads, without needing to change the gears.

### Drive / headstock

The main spindle is directly driven without a gearbox through low-noise synchronous belts. The feed gearbox is also directly driven by the main spindle through synchronous belts.

#### Advantages:

- Complete speed range of 30-4,000 (5,000) 1/min is available without needing to change gears
- Higher efficiency of the synchronous belt drive and max. slip-free utilization of the motor driving power
- Stepless speed selection via safety potentiometer
- Extreme accuracy through precision angular contact ball bearings in an O-arrangement at the front and precision cylindrical roller bearing at the rear
- Lifetime lubrication
- Main spindle made of case-hardened and ground steel

### Support

The bed guideways for the carriage are plastic coated. The key advantages of this design concept are smooth movement, stick-slip-free start-up and high surface quality of the workpieces. The cross and top slides have dovetail guideways that enable the play to be adjusted through taper gibs.

The hardened crossfeed screw with its adjustable bronze nut as well as the guideways of the carriage and cross slide are centrally supplied with oil by the pump in the apron.