

LONG-TERM PRECISION AND
OUTSTANDING EASE-OF-USE



Photograph shows option

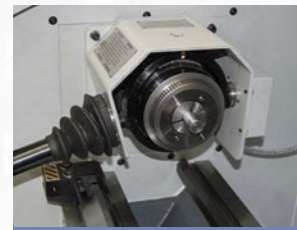


Precision Engine Lathe
PRAKTIKANT VCD

 **WEILER**

www.weiler.de

CONVENTIONAL PRECISION LATHE PRAKTIKANT VCD



Quick-action lever chuck for pressure chucks



Tailstock slanting turret head for centering, drilling, countersinking and thread cutting

Photograph shows option



Quick-action lever clamping device for collets



Mobile chip guard with viewing window

The Praktikant VCD 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"

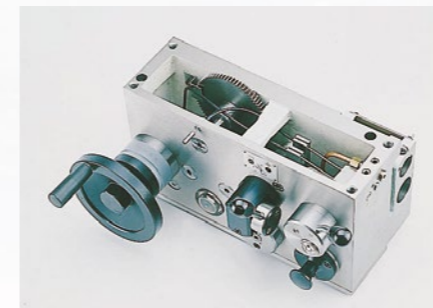


Weiler VCD digital readout

- Large, easy-to-read 9" 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

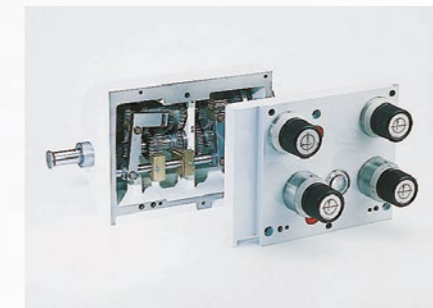
- Oriented spindle stop
- Electronic limit switch unit for thread cutting
- Remaining path display for the thread length
- Tool technology memory for turning speed or cutting speed of 99 tools
- Power display in percent (graphically) and kW
- Electronic operating hour counter for Machine "On" and Spindle "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



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.

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.

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. slipfree utilization of the motor driving power

- Stepless speed selection via safety potentiometer
- Extreme accuracy through precision angular contact ball bearings in an O-arrangement
- Lifetime lubrication
- Main spindle made of case-hardened and ground steel

TECHNICAL DATA

Standard equipment

- Magnetic brake for main drive
- LED machine light in rear chip dash panel
- Taper sleeve ME50/MT3
- Male center MT3
- Quick-change tool post Multi Suisse size A incl. 1 off turning tool holder AD 2090
- Chuck splash guard movable with limit switch monitoring
- Chip protection rear panel
- Pull-out chip tray
- Single bed stop
- Central lubrication
- Set of operating keys incl. 5 spare shear pins
- Operating manual with spare parts catalogue on paper and on data carrier
- Machine card

Special options

- Multi Suisse size B quick-change steel holder
- Increased main spindle speed (5,000)
- WEILER VCD screen display
- Three- and four-jaw chuck
- Face plates
- Clamping devices for tension and compression collets
- Electrically monitored safety device for working with pull-type collets with direct mounting in the main spindle and open chuck guard
- Hollow spindle stops
- Travelling steady rest with sliding jaws
- Fixed steady rests with roller or sliding jaws
- Travelling centre point
- Lever drilling device for tailstock
- Tailstock inclined turret
- Tailstock with position indicator for tailstock quill stroke
- Coolant device
- Movable chip guard with viewing window
- Additional machine lights
- Special voltages via ballast transformer
- 230 V socket
- Further accessories on request

Electrical equipment

- Operating voltage 3 x AC 400 Volt/50 Hz N/PE (special voltage via ballast transformer)
- Control voltage 24 Volt DC
- Contactor control and frequency converter in lockable switch cabinet in the substructure
- All safety-relevant components are electrically interlocked
- Restart protection in the event of power failure or EMERGENCY STOP
- EMERGENCY STOP integrated in the substructure and headstock panelling
- Safety circuit for main spindle left and right rotation
- Operating elements integrated in the centre right of the sheet steel substructure
- 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 the authorised spindle speed via key switch

Working Range		
Distance between centres	mm	650
Centre height	mm	160
Swing over bed	mm	320
Swing over cross slide	mm	190
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
Inner taper of main spindle	metr.	50
Main Drive		
Drive power 100 % duty cycle	kW	6
Speed range	rpm	30–4,000 (5,000)
Number of gears		1
Number of speeds		stepless
Feed drive		
Number of feeds		24
longitudinal	mm/rev	0.02–0.63
transverse	mm/rev	0.006–0.2
Thread Cutting Range		
Metric threads*	mm	0.25–8
Inch threads*	TPI	80–2
Tailstock		
Quill diameter	mm	85
Quill travel	mm	40
Inside taper of quill DIN 228	MT	3
Dimensions		
Length	mm	1,720
Width	mm	890
Height	mm	1,700
Weights	kg	1,150

*Inch threads and metric thread pitches 0.45; 0.75; 4.5 and 5.5 are only possible with additional change gears.

User videos are available on the WEILER Channel at



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