

PRECISION IN  
ALL DIMENSIONS

The machine shown includes options



# E-SERIES

Precision Lathes with  
Automated Cycles

 **WEILER**

[www.weiler.de](http://www.weiler.de)

# MACHINE TOOLS FOR THE ENTIRE WORLD



# QUALITY STARTS IN OUR OWN FACTORY



The company history of WEILER Werkzeugmaschinen GmbH goes back to 1938. From the very beginning, precision lathes named WEILER have earned themselves an excellent reputation amongst craftsmen as well as in industry. In 1990, VOEST-Alpine Steinel Werkzeugmaschinen GmbH acquired the company. Under the guidance of Friedrich K. Eisler, who took over the management of the company in 1991, WEILER became established in international markets. The VOEST Alpine product portfolio was included in the WEILER product range, and the company was restructured and moved to Emskirchen, near Nuremberg, Germany.

### New start in family ownership

Since 1995 WEILER became a family-owned company, again with Friedrich K. Eisler as the sole managing shareholder. The entry to the management board of his two sons, Mr Alexander and Michael Eisler, MBA, in 2002 signalled the next step in setting the course for the long-term development of the company. With this new orientation WEILER has become one of Europe's largest and best known manufacturers in its field. A company that can quickly and flexibly respond to individual customer needs.

### A fascinating range

Conventional precision lathes and powerful CNC turning centres complete the extensive WEILER product range.

It is one of the most varied on the market: no other lathe manufacturer can offer such variety from a single source. WEILER machines set the standard in vocational training facilities as well as in demanding industrial production environments.

### A strong team ...

WEILER has its own apprenticeship program and currently employs 500 people. We develop and produce innovative and high quality WEILER lathes, ensure a high standard of service and provide an almost limitless supply of spare parts. A world wide installed machine base exceeding 150,000 units is proof of the outstanding acceptance of the machines built in Emskirchen.

### ... and a strong location

WEILER machines are developed and built in Germany. The high level of domestic content underlines our commitment to Germany as a manufacturing base. No other lathe manufacturer has such strong representation in Germany. An efficient and highly cost-effective production facility for large components in the Czech Republic completes WEILER's strategic manufacturing infrastructure.



Grinding a machine bed



Gear wheel production/hobbing



Grinding the dovetail guides



Measuring the headstock housing

# THE E-SERIES – MAXIMISES PRODUCTIVITY AND SUCCESS



The machine shown includes options

## WEILER E-Series machines are masters of efficiency.

Their ergonomics, user-friendliness and long-term precision are the basis for fast and faultless results. The unsurpassed and easy-to-use WEILER developed graphical user interface (GUI) makes them unique. This allows a number of cycles that are stored in the controller to be called at the touch of a button. These can then be run either individually or as part of an automated sequence. The returns for the user are shorter programming times and extremely efficient one-off and small batch production.

## Typical E-Series: up to 3 x more efficient!

Each E-series machine can replace up to three conventional machines. There is also maximum efficiency in power consumption – through effective use of the latest energy saving drives.

## Demand the original!

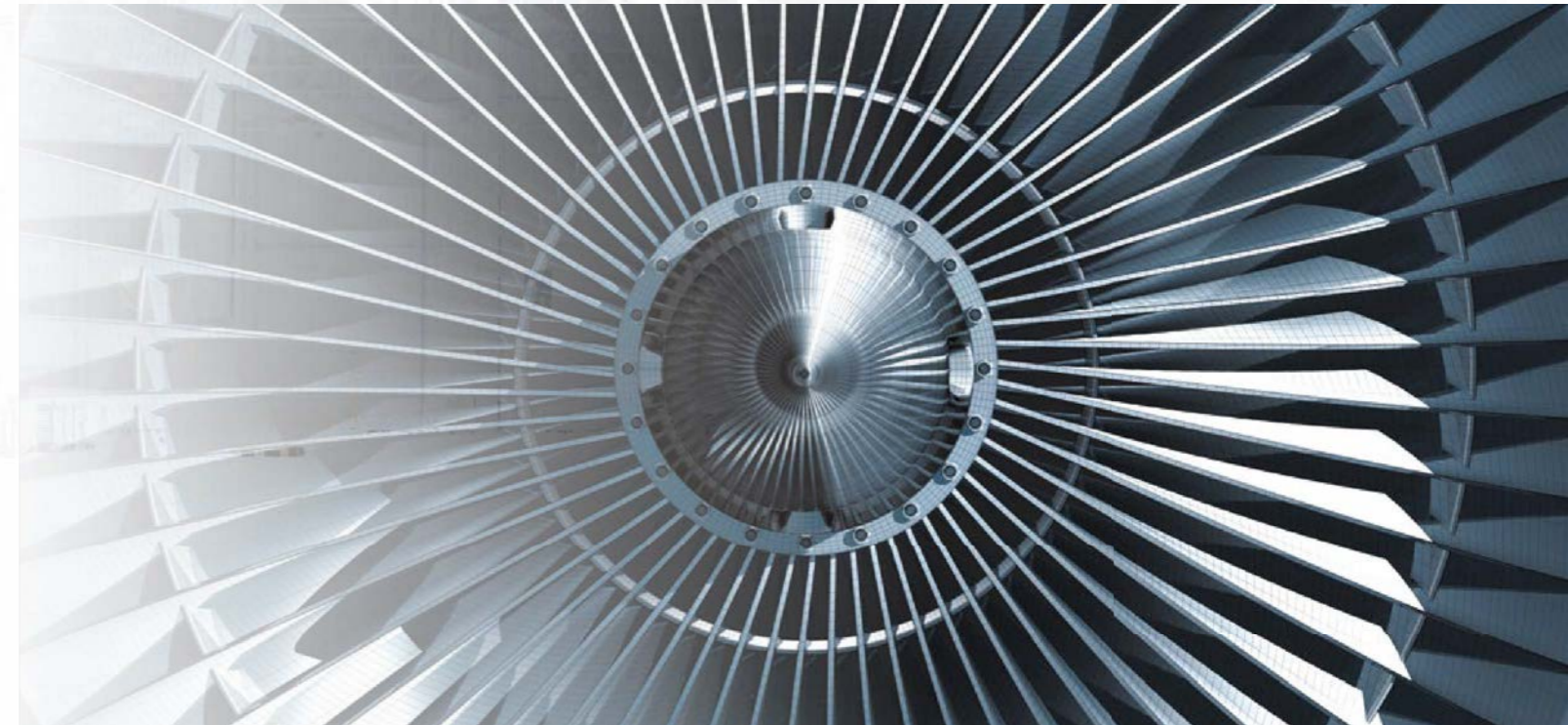
WEILER invented the first cycle-controlled lathe. Our experience, quality consciousness and software expertise translates to increased productivity and profitability for your business.

## Energy efficiency – a WEILER priority

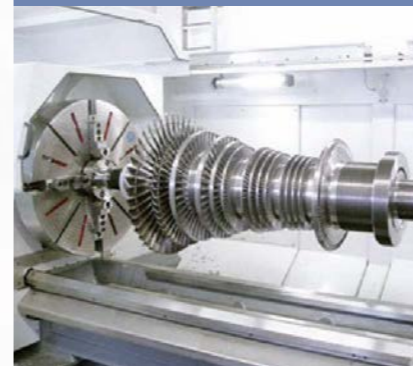
WEILER E-series lathes are energy smart. Our lathes effectively manage power consumption when in use and automatically go to standby mode when idle. This is achieved through our **TIM** software.

Energy efficiency with **TIM** means:

- T**imer Controlled Emergency Stop Operation – power save and standby modes when idle for a predetermined amount of time. You set the parameters.
- I**ntelligent drive management with energy recovery manages the draw and return of energy when braking. Instead of pointlessly converting excess braking energy to heat, it is fed back into the supply network.
- M**achine status determines energy consumption of ancillary components. Only the ancillary components required for active machining are powered up, all others remain off.



Important applications for E-Series machines are the energy sector and oil industry. In addition, there is almost no other technical field that does not employ a WEILER E-Series lathe.



Left: Impressively sized components are machined with the highest precision

Right: Final assembly of the E90/E110/E120 range

# THE WEILER E-SERIES USER INTERFACE

**Simple and fast communication between man and machine. Get there quickly without prior knowledge – thanks to the WEILER SL2 control**

The 3 basic principles for working with all E-series machines:

1. Simple workpieces are processed in the same way as with a conventional machine, only more efficiently.
2. Elaborate parts are processed in the same way as with a conventional machine, only faster.
3. Complex parts are processed in the same way as with a CNC machine, only easier.

Clear user interface with 22"-Touchscreen and keyboard with short-stroke keys



Even without prior programming knowledge, the smart WEILER software guides the operator through the programme. Using automated cycles, you can control the E-Series like a “manually operated” machine. Or you can completely program the workpiece contour with the assistance of the geometry processor that can even automatically calculate the points of intersection. For further information, please refer to the separate WEILER control brochure.

## Manual turning

- Constant cutting speed, oriented “spindle stop”
- Turning against the stop on all axes
- Taper turning at any angle
- Radius turning
- Storable simple cycles

## Cutting cycle

- Powerful contour calculator for the calculation of non-dimensioned points of intersection
- Simple modification of existing workpiece contours
- Free definition of raw contours for forged and cast parts
- Monitoring of the tool angle

## Threading cycle

- Pitches: metric, inch, modular, DP
- Infeed types: flank infeed, API mode for oil-tight and gas-tight threads, trapezoidal threads
- Thread re-cutting: input through “teach-in” or also manual re-cutting

## Data transfer interfaces

- USB
- Network compatible

## DXF file import (optional)

- Workpiece contour extracted from fully imported drawings in the DXF format from a wide variety of CAD systems
- Free selection of layers and contour elements
- Mirroring and scaling of the workpiece contour

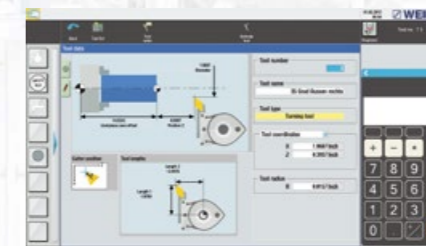
## DIN-ISO programming

Creation, editing and processing of DIN-ISO programs



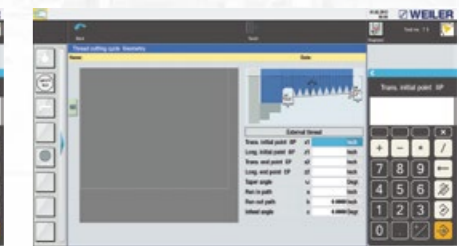
## Straightforward input and display of machine data

Machine and processing data are entered according to practical requirements and are clearly displayed.



## Tool management

Simple, menu-controlled input and management of tool data with the capability of setting-up a user-specific technology database.



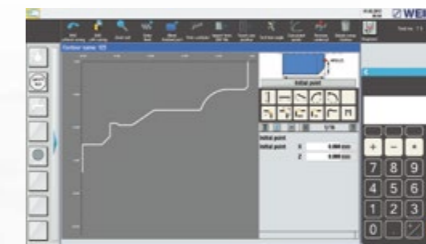
## Thread cutting cycle

Only small data volumes are required for the input of the thread geometry.



## Cutting cycle technology

Cutting is possible longitudinally and crosswise with any desired technology.



## Cutting cycle geometry

The contour is generated by stringing together simple contour elements. The points of intersections are calculated automatically.



## Simulation

The machining of the workpiece can be simulated through wire models or solid models.

## Grooving cycle

- Wide variety of machining technologies
  - » Standard grooving
  - » Step grooving
  - » Turn cutting
  - » Finishing of existing grooves
- Grooves on tapers or diminishing diameters
- Fast contour description without need for calculation

## Bolt hole drilling cycle (optional)

To produce bore holes and threads, the drilling axis in X or Z can be selected.

## Graphic display

Wire model simulation, solid model simulation

## Thread cutting cycle

- Picking up existing threads with stationary or turning workpiece
- Cutting of multiplex threads without starting point offset
- Cutting of almost all types of thread, e.g. API, degressive, progressive pitches
- Spindle rpm changes during machining possible

## Drilling/milling cycle (optional)

- Face milling (e. g. squares)
- Outer surface milling (e. g. parallel keyway)
- Hole pattern
- Engraving

## Raw part contour definition

Simple input of the contour of precast workpieces enables efficient machining.

## E30: COMPACT GUARANTOR OF SUCCESS



E30 x 750

The machine shown includes options

## E40: ERGONOMIC POWER PACK



E40 x 1000

The machine shown includes options

Even the smallest E-Series machines already offer digital drive technology as well as the latest CNC controls and user-oriented WEILER software.

### The machine

- Enables workpiece production with the utmost accuracy
- Offers high spindle speeds and very smooth running for extremely fine workpiece surfaces
- Enables high precision handling for manual turning operations through the operating panel with hand-wheels that moves together with the bed slides
- Ensures ergonomic machining through good accessibility
- Enables fatigue-free programming through a pivoted screen unit
- Offers a number of housing versions that are specific to demands

Technical Data		E30	E40
Distance between centres	inch	29	39
Swing over bed	inch	13.0	17.1
Swing over cross slide	inch	6.2	7.8
Cross slide travel	inch	7.1	10.2
Width of bed	inch	9.4	13
Drive power at 60%/100% duty cycle	hp	14.7/12	27.5/22.8
Max. torque at spindle	ft lb	100	330
Spindle nose size acc. to DIN ISO 702-3 (DIN 55027)	size	5	6
Spindle bore	inch	1.69	2.5
Spindle diameter in front bearing	inch	2.76	4.3
Speed range	rpm	1-4,500	1-3,500
Feed force longitudinal	N	1,350	2,250
Rapid traverse rate Z/X	inch/min	315/157	315/157.5
Feed range	inch/rev	0.00004-2	0.00004-2
Thread cutting range	TPI	112-1/64	112-1/64
Tailstock quill diameter	inch	2	2.6
Tailstock quill taper	MT	3	4
Weight approx.	lb	3,500	7,500
Acceptance accuracy	DIN	8605	8605



8 station disk turret with/without tool drive

A particularly impressive feature of the WEILER E40 cycle controlled lathe is its tremendous cutting performance. This is enabled by the main drive with a power output of 20 kW and the newly conceived headstock with a spindle bore of 66 mm and heavy-duty bed with a width of 330 mm. The WEILER E40 combines this performance with excellent ergonomics: the controller can be swivelled as desired into any position; the working area and operating elements are "cleanly" separated from each other. Three sliding cover versions are available to provide a perfect match with the range of parts that are to be produced.

## E50HD: POWER AND PRECISION IN PERFECTION



E50HD x 2000

The machine shown includes options



The E50HD is the right choice when a machine for high-performance turning is needed. The E50HD combines power and precision and impresses even the most demanding of users through its small footprint, low energy consumption, excellent serviceability and an innovative, extremely user-friendly design.



WEILER

## E60: STRONG CONCEPT AND PURE POWER



E60 x 1000

The machine shown includes options

The E60 impresses through a balanced machine concept with high cutting performance. This is achieved through a main drive with 25 kW power output in conjunction with a two-stage ZF gearbox.

The robust headstock, the strong main spindle with precision bearings and 83 mm spindle bore as well as the strongly ribbed bed with a width of 380 mm ensure optimum working results with respect to surface quality and precision.

The pivoted screen unit enhances ease of use for data input.

Technical Data		E50HD	E60
Distance between centres	inch	39/79	39/79
Swing over bed	inch	22.4	25.6
Swing over cross slide	inch	13.3	15.9
Cross slide travel	inch	13.4	15.0
Width of bed	inch	13.8	15.0
Drive power at 60%/100% duty cycle	hp	27.5/22.8	27.5/22.8
Max. torque at spindle	ft lb	740 (920/660)	1,030
Spindle nose size acc. to DIN ISO 702-3 (DIN 55027)	size	8 (11/11*)	8
Spindle bore	inch	3.2 (5.0/6.4)	3.2
Spindle diameter in front bearing	inch	4.7 (7.1/9.4)	4.7
Speed range	rpm	1–2,500 (1–2,000/1–1,200)	1–2,500
Feed force longitudinal	N	2,700	2,700
Rapid traverse rate Z/X	inch/min	394/197	394/197
Feed range	inch/rev	0.00004–2	0.00004–2
Thread cutting range	TPI	112–1/64	112–1/64
Tailstock quill diameter	inch	3.1	3.9
Tailstock quill taper	MT	5	5
Weight approx.	lb	8,400–10,300	11,400/14,100
Acceptance accuracy	DIN	8605	8605

\* DIN ISO 702-1 (DIN 55026)

# E70HD AND E80HD: USER-FRIENDLY GIANTS



E70HD x 3000

The machine shown includes options

As with the smaller machines, the machine sizes E70HD and E80HD feature good accessibility and usability.

## The machines of the E70HD and E80HD Series

- Are equipped with high output drives and mechanical headstock gearboxes to maximise torque
- Offer large spindle bores: 128 mm, 165 mm and 216 mm
- Even at this size have a high acceptance test accuracy (tool makers accuracy according to DIN 8605)
- Can be upgraded through a number of proven tool systems and optional features to further increase productivity

Technical Data		E70HD	E80HD
Distance between centres	inch	39-236	39-236
Swing over bed	inch	28.3	31.5
Swing over cross slide	inch	16.9	20.0
Cross slide travel	inch	18.1	18.1
Width of bed	inch	18.9	18.9
Drive power at 60%/100% duty cycle	hp	50.3/40	50.3/40
Max. torque at spindle	ft lb	2,070 (3,020/3,020)	2,070 (3,020/3,020)
Spindle nose size acc. to DIN ISO 702-3 (DIN 55027)	size	11 (15*/15**)	11 (15*/15**)
Spindle bore	inch	5 (6.4/8.5)	5 (6.4/8.5)
Spindle diameter in front bearing	inch	7.1 (9.4/11)	7.1 (9.4/11)
Speed range	rpm	1-1,800 (1-1,400/1-1,200)	1-1,800 (1-1,400/1-1,200)
Feed force longitudinal	N	5,620	5,620
Rapid traverse rate Z/X	inch/min	394/197	394/197
Feed range	inch/rev	0.00004-2	0.00004-2
Thread cutting range	TPI	112-1/64	112-1/64
Tailstock quill diameter	inch	4.5	4.5 (5.5)
Tailstock quill taper	MT	6	6
Weight approx.	lb	14,500-20,700	15,700-21,800
Acceptance accuracy	DIN	8605	8605

\* DIN ISO 702-3 (DIN 55027)/DIN ISO 702-1 (DIN 55026) \*\* DIN ISO 702-1 (DIN 55026)



Design with full cladding

8 station disk turret with driven tools, 40 mm shank diameter



Tool holder head for turning, drilling and milling

Pivoted C-axis



Tailstock with hydraulically actuated quill

Heavy duty boring bar holder with additional support



Self-centring follower rest, hydraulically actuated

Steady rest, hydraulically actuated

# E90/E110/E120: HEAVY-WEIGHT PRECISION



The machine shown includes options

E90 x 4500

These series of models makes up the heavy-weight class – all of the machines are capable of machining workpieces weighing up to 10,000 kg. Excellent accessibility and ease of operation are also key features of these models.

## The machines of the 90 to 120 Series

- Are available for turning lengths of 2,000 mm to 15,000 mm and more
- Can be equipped with spindle bores of 128 mm, 165 mm, 262 mm and 362 mm
- Are equipped with high power drives and mechanical headstock gearboxes to maximise torque
- Can be upgraded through a number of proven tool systems and optional features to further increase productivity
- Have a high acceptance test accuracy for their size (accuracy according to DIN 8606)

Technical Data		E90	E110	E120
Distance between centres	inch	79–590	79–590	79–590
Swing over bed	inch	35.4	43.3	47.2
Swing over cross slide	inch	20.9	28.7	32.7
Cross slide travel	inch	23.2	23.2	23.2
Width of bed	inch	23.6	23.6	23.6
Drive power at 60 %/ 100 % duty cycle	hp	60/49.6	60/49.6	60/49.6
Max. torque at spindle	ft lb	3,910 (6,120/6,120/8,410)	3,910 (6,120/6,120/8,410)	3,910 (6,120/6,120/8,410)
Spindle nose size acc. to DIN ISO 702-3 (DIN 55027)	size	11 (15/20*/20*)	11 (15/20*/20*)	11 (15/20*/20*)
Spindle bore	inch	5 (6.4/10.3/14.2)	5 (6.4/10.3/14.2)	5 (6.4/10.3/14.2)
Spindle diameter in front bearing	inch	7 (9.3/13/17.6)	7 (9.3/13/17.6)	7 (9.3/13/17.6)
Speed range	rpm	1–1,120 (1–900/ 1–700/1–500)	1–1,120 (1–900/ 1–700/1–500)	1–1,120 (1–900/ 1–700/1–500)
Feed force longitudinal	N	4,500	4,500	4,500
Rapid traverse rate Z/X	inch/ min	394/197	394/197	394/197
Feed range	inch/rev	0.00004–2	0.00004–2	0.00004–2
Thread cutting range	TPI	112–1/64	112–1/64	112–1/64
Tailstock quill diameter	inch	5,5	5,5 (7.1)	5,5 (7.1)
Tailstock quill taper	MT	6	6 (metr. 100)	6 (metr. 100)
Weight approx.	lb	18,750–39,700	20,950–41,900	22,100–44,100
Acceptance accuracy	DIN	8606	8606	8606

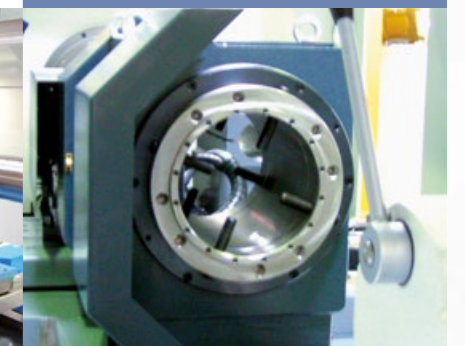
\* DIN ISO 702-1 (DIN 55026)



Tailstock with automated clamping and dedicated drive



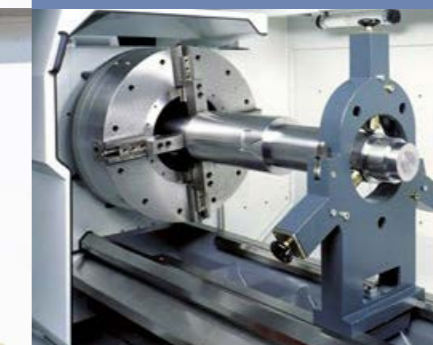
Heavy-duty boring bar holder with additional support and 160 mm bore



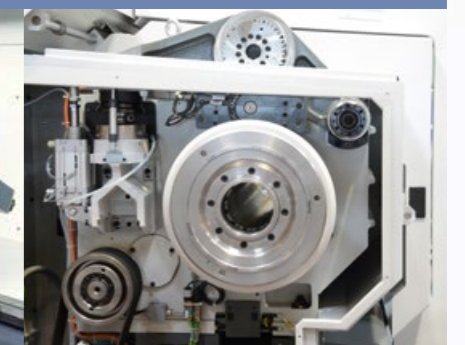
Ring steady rest with 270 mm diameter



200 mm stroke Y-axis (only with E110/E120)



Pneumatically actuated front-end chuck with steady rest



Retractable C-axis



# E150/E175/E200: RECORD HOLDER IN SIZE AND PRECISION



E175 x 8000

The machine shown includes options

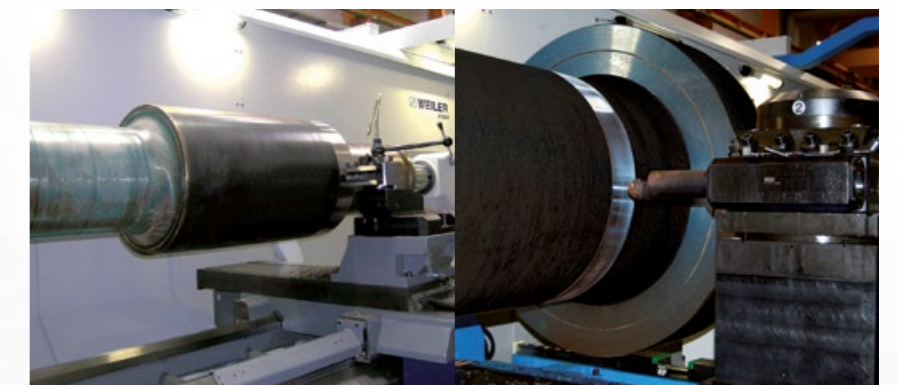
The largest WEILER E-Series machines are absolute top class players when it comes to their weight as well as the dimensions of the workpieces that they can machine. They are also based on the proven Weipert concept that has been an essential part of the WEILER design for decades. Providing dedicated customer-specific solutions is one of our specialist areas.

## The machines of the 150 to 200 Series

- Are available for turning lengths of 2,000 mm to 15,000 mm and longer
- Can be equipped with spindle bores: 165, 262, 362 and 450 mm
- Are equipped with high output drives and mechanical headstock gearboxes with automatic shift to maximize torque
- Despite their size provide good accessibility and optimum chip and splash protection through various sliding guard solutions
- Can be upgraded with a number of proven tool systems and optional features to further increase productivity

Technical Data		E150	E175	E200
Distance between centres	inch	79–630	79–630	79–630
Swing over bed	inch	59.1	68.9	78.7
Swing over cross slide	inch	40.6	50.4	60.2
Cross slide travel	inch	31.1	31.1	31.1
Width of bed	inch	32.7	32.7	32.7
Drive power at 60%/100% duty cycle	hp	87/68.3	87/68.3	87/68.3
Max. torque at spindle	ft lb	10,030 (10,030/ 13,720/13,720)	10,030 (10,030/ 13,720/13,720)	10,030 (10,030/ 13,720/13,720)
Spindle nose size acc. to DIN ISO 702-3 (DIN 55027)	size	15 (20*/20*/28*)	15 (20*/20*/28*)	15 (20*/20*/28*)
Spindle bore	inch	6.4 (10.3/14.2/17.7)	6.4 (10.3/14.2/17.7)	6.4 (10.3/14.2/17.7)
Spindle diameter in front bearing	inch	9.3 (13/17.6/21.3)	9.3 (13/17.6/21.3)	9.3 (13/17.6/21.3)
Speed range	rpm	1–900 (1–700/ 1–500/1–450)	1–900 (1–700/ 1–500/1–450)	1–900 (1–700/ 1–500/1–450)
Feed force longitudinal	N	6,740	6,740	6,740
Rapid traverse rate Z/X	inch/min	394/197	394/197	394/197
Feed range	inch/rev	0.00004–2	0.00004–2	0.00004–2
Thread cutting range	TPI	112–1/64	112–1/64	112–1/64
Tailstock quill diameter	inch	7.1	7.1	7.1
Tailstock quill taper	MT	100	100	100
Weight approx.	lb	35,300–87,100	39,700–91,500	44,100–96,000
Acceptance accuracy	DIN	8607	8607	8607

\* DIN ISO 702-1 (DIN 55026)



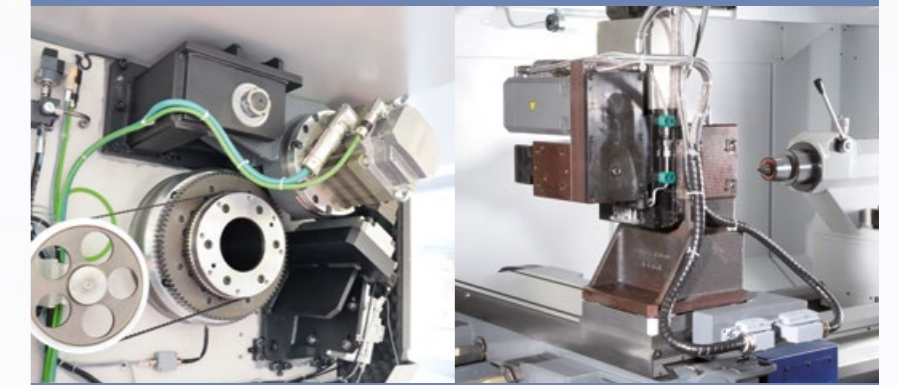
Machining of rolls

Cylinder machining



Steady rests for diameters up to 1,500 mm

Tool holder head for driven tools, Capto C8 holding fixture



Retractable C-axis

Y-axis with 200 mm travel

## THE BEST SERVICE FOR THE BEST MACHINES



### What can we do to help you?

A number of things. WEILER Service is ready at all times to provide optimum advice, support and service for your machine.

Every WEILER lathe is designed to provide quality and efficiency right from the start and throughout decades of operation – regardless of whether in vocational training, manufacturing, production, maintenance and repair, prototyping – or any other field. A WEILER is never cheap but always worth a lot more than it costs.

### That is why service pays off

To make sure that a WEILER keeps and increases its value, we have developed an extensive service concept that covers the complete life-cycle of the machine from acquisition through to recycling.

### Managing values

“Something will only be as good as the way it is looked after” – this motto sums up the way that we view each WEILER that leaves our factory. We want our machines to give you their best, to work with absolute WEILER precision from the first day to the last.

That is why the service lifetime, high precision operation and profitability of our machines exceeds that of most other lathes – good service maintains the value of your WEILER.

## WEILER 5 POINT SERVICE PLAN

### 1. Pre-sales technical consultancy

Which machine with which options is best for your needs? Is it better to buy a new WEILER or can your old WEILER be overhauled and brought up to date? Whatever is best for you – we will give you our objective advice.

### 2. Extended warranty

Freely definable service and maintenance agreements ensure that your machine is available when you need it, minimise the risk of unscheduled downtime and keep maintenance costs under control.

### 3. Almost limitless service and spare parts supply

WEILER develops and produces in Germany. That is why we have complete control over all original equipment and spare parts for WEILER lathes. The exemplary availability of spare parts ensures that even after decades of service, a WEILER machine can maintain its pleasingly high value.

### 4. Second life on demand

On request, we can overhaul your WEILER machine down to the last screw and make it as good as new. This service starts with the exact measurement of the machine and ends with an acceptance test according to DIN standards.

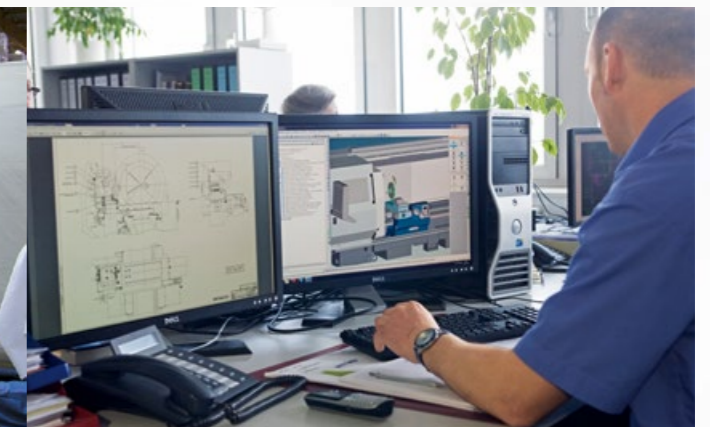
### 5. The WEILER precision check

Regardless of how long your WEILER has been in service: a precision check is always worth its while. We measure and analyse your machine and provide an objective statement regarding the current status as well as a free quotation of what is needed to restore the precision of your machine according to applicable DIN standards.

We don't perform cosmetic repairs!



Individual and objective advice from WEILER lathe specialists



WEILER stands for expertise: from the initial design to spare part supply



When after many years of hard use in production your WEILER looks like this ...

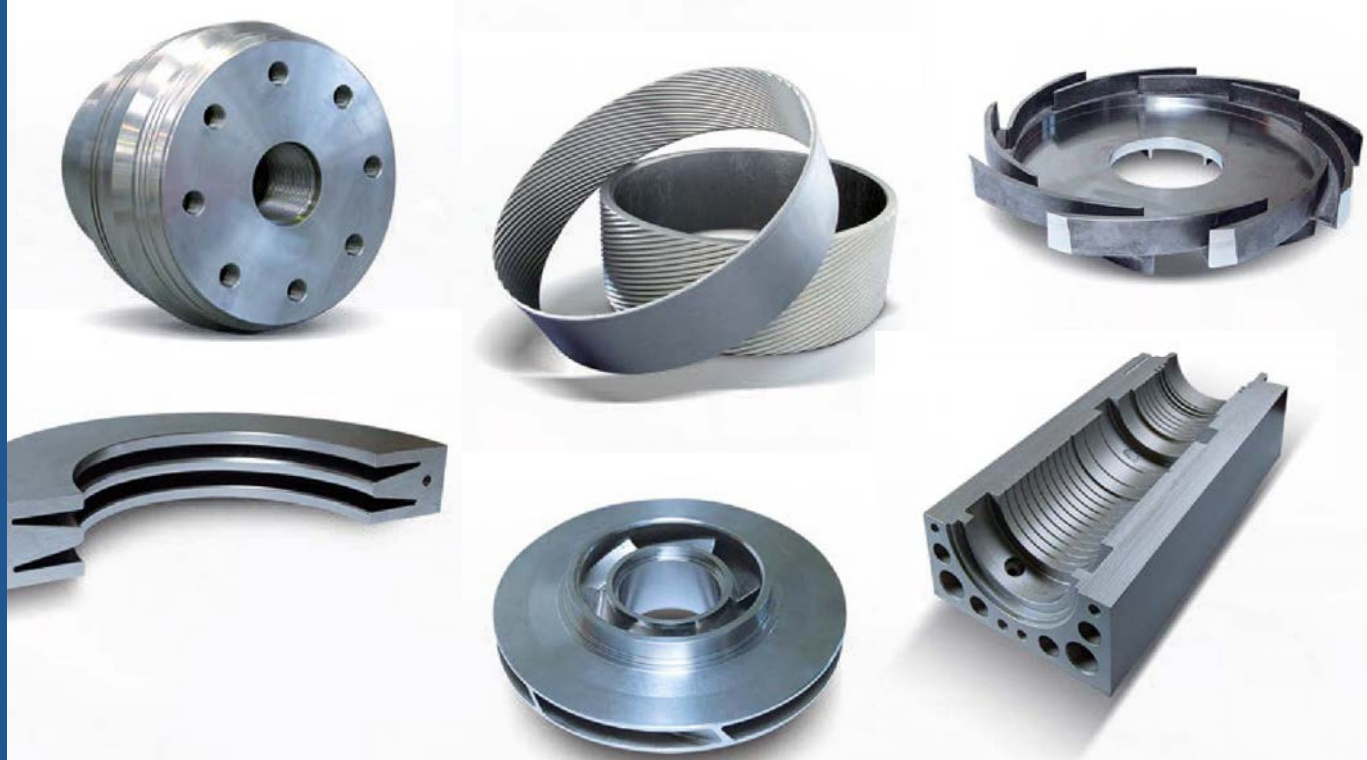


... we can turn it into this: as good as new!

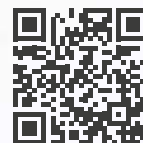
# TECHNICAL DATA

		E30	E40	E50HD	E60	E70HD	E80HD	E90	E110	E120	E150	E175	E200
Distance between centres	inch	29	39	39/79	39/79	39-236	39-236	79-590	79-590	79-590	79-630	79-630	79-630
Swing over bed	inch	13.0	17.1	22.4	25.6	28.3	31.5	35.4	43.3	47.2	59.1	68.9	78.7
Swing over cross slide	inch	6.2	7.8	13.3	15.9	16.9	20.0	20.9	28.7	32.7	40.6	50.4	60.2
Drive power at 60 %/ 100 % duty cycle	hp	14.7/ 12	27.5/ 22.8	27.5/ 22.8	27.5/ 22.8	50.3/ 40	50.3/ 40	60/ 49.6	60/ 49.6	60/ 49.6	87/ 68.3	87/ 68.3	87/ 68.3
Max. torque at the spindle	ft lb	120	330	960	1,250	3,020	3,020	7,350	7,350	7,350	8,850	8,850	8,850
Spindle bore	inch	1.69	2.5	3.2-6.4	3.2	5-8.5	5-8.5	5-14.2	5-14.2	5-14.2	6.4-17.7	6.4-17.7	6.4-17.7
Speed range	rpm	1-4,500	1-3,500	1-2,500	1-2,500	1-1,800	1-1,800	1-1,120	1-1,120	1-1,120	1-900	1-900	1-900
Feed force longitudinal	lb	1,350	2,250	2,700	2,700	5,620	5,620	4,500	4,500	4,500	6,740	6,740	6,740
Tailstock quill diameter	inch	2	2.6	3.1	3.9	4.5	4.5 (5.5)	5.5	5.5 (7.1)	5.5 (7.1)	7.1	7.1	7.1
Tailstock quill taper	MT	3	4	5	5	6	6	6	6	6	metr. 100	metr. 100	metr. 100

We reserve the right to make technical changes | 10/23 - 5.0915.06.90.02.09



User videos are available on the WEILER Channel at



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