



# **EFCO MASCHINENBAU GMBH**

VALVE REPAIR AND TESTING EQUIPMENT

## WHO WE ARE

---

Wherever fittings, valves, and pumps are used for safe transport and efficient processing of volatile or liquid substances, EFCO equipment is also needed to rework, repair and test seals, shut-off bodies and housings. You will find our products in industries such as:

- Process industry
- Valve service
- Valve manufacturing
- Power generation
- Motor construction
- Shipbuilding
- wagon construction and many more.

Designing and manufacturing machines and devices for the machining, repair and testing of valves, flanges, and pipelines of all kinds is EFCO's core competence.

Our product range includes:

- Portable and stationary machining and repair equipment for valves, flanges and pipelines
- Surface grinding and lapping machines
- Valve test benches
- Workshops, mobile and stationary
- Planning of workshops
- Consumables and much more

If you have any questions or would like to arrange a demonstration, please feel free to reach out to us directly or get in touch with one of our sales partners worldwide. We look forward to presenting our EFCO products to you in Düren or, if possible, at your premises.

You can also visit us on the internet at [www.efco-dueren.com](http://www.efco-dueren.com).

## OUR REGIONAL OFFICES

---

**EFCO Maschinenbau GmbH**  
**Otto-Brenner-Strasse 5-7**  
**52353 Dueren, GERMANY**

Phone: +49-2421-989-0  
Fax: +49-2421-86260  
eMail: [sales@efco-dueren.de](mailto:sales@efco-dueren.de) web: [www.efco-dueren.com](http://www.efco-dueren.com)

**EFCO USA, INC**  
**P.O. Box 38839**  
**Charlotte, NC 28278-1014, USA**

Phone: +1-800-332-6872  
+1-800-EFCO-USA  
Fax: +1-888-332-6872  
+1-888-EFCO-USA  
eMail: [sales@efcousa.com](mailto:sales@efcousa.com) web: [www.efcousa.com](http://www.efcousa.com)

**EFCO (BEIJING) TECHNOLOGY CO., LTD.**  
**RM1507, #6 BLOCK**  
**E BUILDING, Triumph City**  
**No.170 Beiyuan Road**  
**Chaoyang District**  
**Beijing 100101, P.R. China**

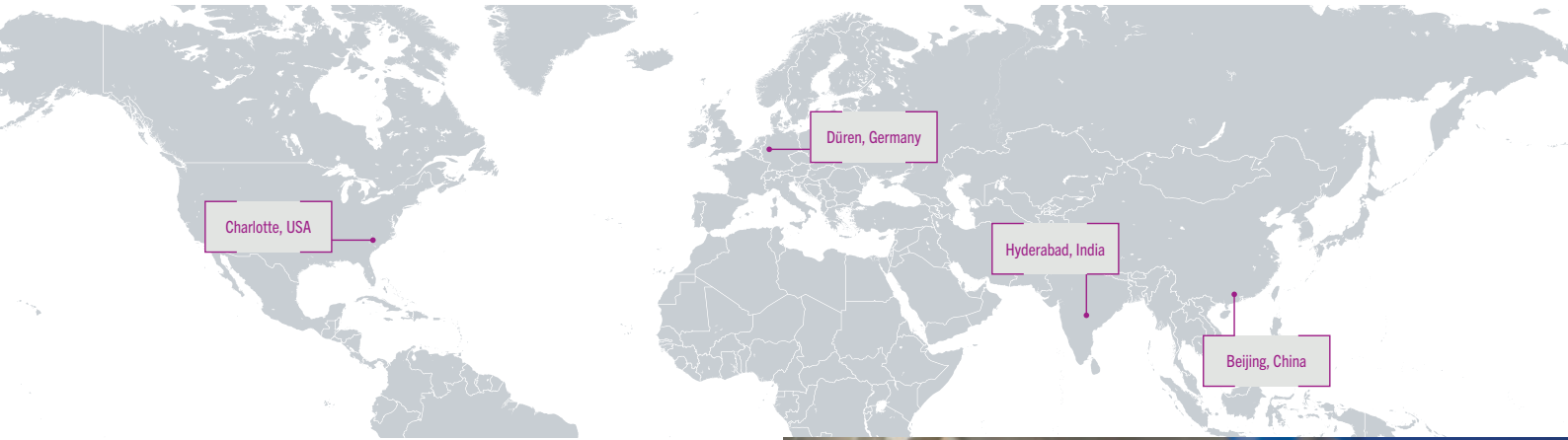
Phone: +86-10-58236630  
Fax: +86-10-58235600  
eMail: [office@efco-beijing.com](mailto:office@efco-beijing.com) web: [www.efco-beijing.com](http://www.efco-beijing.com)

**EFCO MASCHINENBAU INDIA PVT. LTD.**  
**# 55/A, Annaram Village,**  
**Jinnaram Mandal, Medak District,**  
**Telangana - 502 313, INDIA**

Phone: +91-8458-275-906  
Phone: +91-8458-275-907  
Phone: +91-8458-275-908  
Phone: +91-8458-275-101  
eMail: [sales@efcoindia.com](mailto:sales@efcoindia.com) web: [www.efcoindia.com](http://www.efcoindia.com)

You can find further agencies and trading partners in many countries on our website by scanning the code on the left or visiting us on [www.efco-dueren.com](http://www.efco-dueren.com).





GRINDING AND LAPPING EQUIPMENT  
4-11



TURNING EQUIPMENT  
12-15



TESTING EQUIPMENT  
16-19



OTHER PRODUCTS AND SERVICES  
20-22





VALVA-S1

## VALVA SERIES

Portable machine for grinding and lapping of flat sealing surfaces on valves, valve disks and flanges from DN 8-1600 mm (1/4"-64").

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi),  
battery drive available for VALVA-S1

The VALVA series: an impressive concept = simple, easy, one-man operation, wear-resistant tools, good price/performance ratio, high profitability and efficiency.

Type	DN	Grinding	Lapping
VALVA-S1	8-150 (1/4"-6")	•	
VALVA-1	8-150 (1/4"-6")	•	•
VALVA-S15	80-300 (3"-12")	•	
VALVA-15	80-300 (3"-12")	•	•
VALVA-2	200-700 (8"-28")	•	•
VALVA-3	500-1600 (20"-64")	•	•

Dimensions in mm (inch)

## VSK SERIES

Portable machine for the grinding of conical sealing surfaces in:

- High-pressure, shut-off, control and globe valves of DN 8-300 mm (1/4"-12")
- Standard seat angles of 30° (2x15°), 40° (2x20°), 60° (2x30°), 75° (2x37,5°), 90° (2x45°) (other angles and dimensions on request)

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi),  
battery drive available for VSK-1, -2, -3, -4 and -6

VSK*	1	2	3	4	5
DN	8-50 (1/4"-2")	8-65 (1/4"-2 1/2")	8-100 (1/4"-4")	80-150 (3"-6")	80-300 (3"-12")
VSK*	6	7			
DN	8-150 (1/4"-6")	8-300 (1/4"-12")			

Dimensions in mm (inch)

\*Please state seat angle in enquiries.

## LS-SERIES (without illustration)

Portable machine for grinding flanged pipe ends with metallic lenticular gas-kets 140° as per BASF- and DIN 2696 standard from DN 6-200 mm (1/4"-8").

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar, battery drive

LS	1	2
DN	6-90 (1/4"-3 1/2")	6-200 (1/4"-8")

Dimensions in mm (inch)

VSK





VSA-2



## VSA SERIES

High-speed precision grinding machine for the machining of build-up welding, sealing surfaces, conical surfaces and bores in valves, cylinders, pump housings and flanges of DN 20-1500 mm (¾"-59").

Drive: pneumatic 6-7 bar (87-100 psi)

Type	Working range	Immersion depth
VSA-05	DN 20-150 (¾"-6")	250 (9.8")
VSA-1	DN 50-400 (2"-16")	650 (25.6")
VSA-2	DN 250-800 (10"-32")	1000 (39.4")
VSA-3	DN 500-1500 (20"-59")	1500 (59")

Dimensions in mm (inch)

A bore grinding unit and a manhole grinding unit can be supplied as accessories.

## BATTERY-POWERED MACHINES

Battery drives offer the user added ergonomics and safety. EFCO is constantly expanding our range of battery-powered grinding machines.

Optimized 18 V HighPower battery drives with Li-Ion battery feature high torque for effective grinding results and brushless motors for long service life. State-of-the-art battery technology protects the battery and machine from overload, overheating and deep discharge. The drive comes with two batteries and a quick charger as standard.

Valve type to be machined	Available with battery drive
Flat Seats	VALVA-S1
Conical Seats	VSK-1, -2, -3, -4 and -6
Lenticular Seats	LS-1, LS-2
Gate Valves and Check Valves	SL-1.02, SL-15.02, HSL-15

Battery drive also available for preceding models SL-1 and SL-15.

### Advantages of EFCO cordless machines:

- High efficiency thanks to batteries with a long service life and short charging cycles
- High removal rates due to powerful high-torque drives
- Long service life thanks to high-quality brushless motors with dust and splash water protection
- Optimum safety due to auto-stop function in case of blockage

### Optional equipment depending on machine and application:

- Electronic speed control
- Continuous operation
- Additional handle



BATTERY-POWERED  
SL-15.02

BATTERY-POWERED  
VALVA-S1



**NEW**



## SL SERIES

Portable grinding and lapping machine for the repair of sealing surfaces in gate valves and non-return valves and on wedges and flanges of DN 20-2000 mm (¾" - 80").

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi),  
battery drive available for SL-1.02 and SL-15.02

	SL-05	SL-1.02	SL-15.02	SL-2	SL-3
DN					
Standard	20-65 (¾"-2½")	32-150 (1¼"-6")	40-300 (1½"-12")	200-700 (8"-28")	500-1200 (20"-48")
Special up to	80 (3")	200 (8")	450 (18")	900 (36")	2000 (80")
Immersion depth					
Standard	250 (9.8")	400 (15.7")	600 (23.6")	1000 (39.4")	1200 (47.2")
Special up to	400 (15.7")	600 (23.6")	1200 (47.2")	1600 (62.9")	2200 (86.6")
Minimum distance between the sealing surfaces					
	15 (0.59")	28 (1.1")	41 (1.6")	69 (2.7")	102 (4")

Dimensions in mm (inch)

Other immersion depths can be supplied on request.

### Options:

- Digital rocker (for the exact reproduction of the set contact pressure)
- Swing-check-adapter (for machining the sealing surfaces in non-return valve housings with large inclination)
- VB device: additional arm for grinding and lapping flat sealing surfaces in valve housings
- SLA (see below)

SL-2



AS-3



## SLA SERIES

Planetary gears with driven high-speed spindles for the machining of hard sealing surfaces ( $\geq 35\text{HRC}$ ) for SL-15(.02) and SL-2 machines (patented).

Time saving up to 90%.

Available as option for new machines and for retrofitting to existing SL machines.

### Driven planetary gears

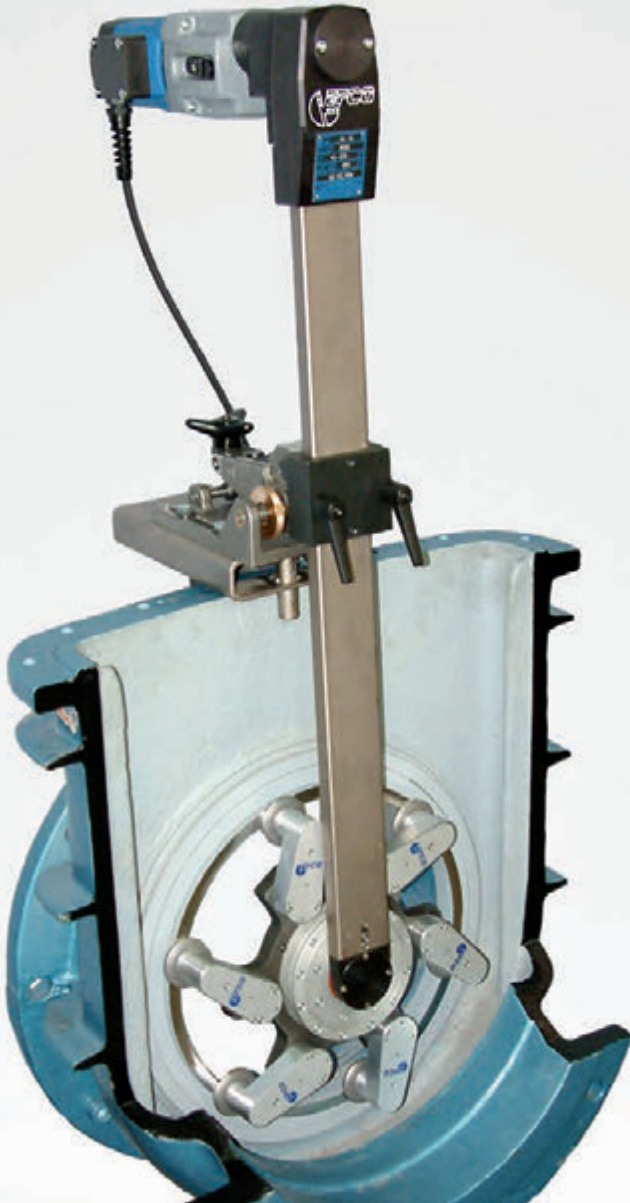
	SLA-15*	SLA-2**
AS-1	DN 125-175 (5"-7") (Optional)	
AS-2	DN 175-225 (7"-9")	DN 200-225 (8"-9") (Optional)
AS-3	DN 225-400 (9"-16")	DN 225-400 (9"-16")
AS-4		DN 400-600 (16"-24")

Dimensions in mm (inch)

\* for SL-15(.02) machines \*\* for SL-2 machines



HSL-15.02



## HSL SERIES

Portable machine for high-speed grinding of hard sealing surfaces ( $\geq 35\text{HRC}$ ) in high-pressure gate valves and wedges of various design.

Fitted with SLA series planetary gears for use with driven GSS grinding spindles.

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi),  
battery drive available for HSL-15.02

	HSL-15.02	HSL-2
Working range	DN 175-400 (7"-16")	DN 225-600 (9"-24")
Dimensions in mm (inch)		

- Grinding speed up to 21 m/s (826.8"/s)
- Very high material removal of up to 2 mm/h / 0.08"/h  
(for Stellite 6/21 dia. 350/300 (13.8"/11.8"))
- Time saving up to 90%!



## EFCO GSS

Our EFCO-GSS grinding tools, coated with cubic-crystalline boron nitride (CBN) with a grain size of B252 in an electroplated bond, are the perfect choice for the precise machining of long-chipping materials such as tool steels, HSS and high-alloy steels from a hardness of 35 HRC.

- Temperature resistant  
Up to approx. 600°C.
- Resistant to chemicals  
Resistant to aggressive media such as chemicals and vapour.
- High performance  
Aggressive grinding of stellite, steel, cast iron and bronze;  
Ideal for scale removal.
- Efficient  
Constant removal rate throughout the entire service life.
- Versatile  
Also suitable for hard-faced sealing surfaces.

GSS



## KS SERIES

Grinding table for face grinding wedges, valve disks and other machine components.

Drive: electric 230/120 V, 50/60Hz

	KS-6.02	KS-10
Grinding disk diameter	600 (23.6")	1000 (39.4")
Max. workpiece weight	50 kg (110 lbs.)	200 kg (441 lbs.)
Drive	230/120 V	380-480 V
	50/60Hz	50/60Hz

Dimensions in mm (inch)

KS-6.02



FLM-400.02



## FLM-SERIES

Stationary surface lapping machines, particularly suitable for the lapping of valve disks, axial face seals and wedges etc.

The machines of the FLM series are characterised by their simple and intuitive operation. The application of water- or oil-based diamond paste is also possible.

Type	Max. Workpiece Ø	Controls	Drive
FLM-400.02	138 (5.4")	Touch-Panel	230/120 V, 50/60Hz
FLM-600.02	248 (9.8")	Touch-Panel	230/120 V, 50/60Hz
FLM-1000.02	406 (16")	Automated	400 V, 50/60Hz
FLM-1200.02	480 (18.9")	Automated	400 V, 50/60Hz
FLM-1500.02	600 (23.6)	Automated	400 V, 50/60Hz

Dimensions in mm (inch)

The preceding models FLM-900, FLM-1200 and FLM-1500 are still available upon request.

## EFCOBOR

Lapping with lapping paste is a high-precision manufacturing process employing a fine abrasive compound in an oily base to achieve a smooth and shiny surface finish.

EFCOBOR lapping compound is based on boron carbide and is characterised by:

- extreme hardness
- low wear
- high grinding performance
- good heat resistance
- chemical stability
- fine and even surface finish
- versatility

These special qualities make boron carbide a favoured lapping medium in industries that require high precision and efficiency, especially when processing hard and challenging materials.

EFCOBOR is available in a range of grit sizes from F80 to F1500 (FEPA) and in various packaging units.

EFCOBOR





# NEW

ROTAGO 12



## ROTAGO SERIES

To create an exact surface shape between the sealing parts of the ball valve, the ball and both sealing seats have to be match lapped together.

The ROTAGO automates this process and ensures consistently excellent quality and reproducible lapping results.

	ROTAGO 8	ROTAGO 12	ROTAGO 16	ROTAGO 24
DN-range	32-200 (1 1/4"-8")	32-300 (1 1/4"-12")	150-400 (6"-16")	200-600 (8"-24")
Ball-Ø	50-300 (2"-12")	50-450 (2"-18")	200-600 (8"-24")	300-900 (12"-36")
Max ball weight	100 kg (221 lbs.)	200 kg (441 lbs.)	700 kg (1543 lbs.)	1500 kg (3207 lbs.)
Drive	electric 230/120V 50/60 Hz	electric 400V 50/60 Hz	electric 400V 50/60 Hz	electric 400V 50/60 Hz
	pneumatic 6-7 bar (87-100 psi)			

Dimensions in mm (inch)

You can verify the lapping results achieved with the ROTAGO with our special testing device for ball valves on page 18.



ROTAGO 16





## SM-550 SERIES

Stationary grinding and lapping machine for the machining of sealing surfaces in shut-off valves, wedges, safety valves, etc.

The machine can be supplied optionally with one or two tables in various configurations.

Drive: electric 230/120 V, 50/60 Hz

	Inclined table	Rotary Table
Size	550 x 550 (21.7" x 21.7")	Ø 550 (21.7")
Adjusting distance*	-	0-20 (0-0.78")
Inclination	± 12°	-
Max. valve diameter	900 (36")	900 (36")
Max. valve height	800 (32")	830 (33")
Max. valve weight	450 kg (992 lbs.)	450 kg (992 lbs.)

Dimensions in mm (inch)

\*The movement of the turntable and the superposition of the rotating movements (work spindle to turntable) produce an optimum sealing surface on safety valves.



SM-750

SM-550-DN



## SM-750 SERIES

Stationary grinding and lapping machine for the machining of sealing surfaces in shut-off valves, wedges, safety valves, etc.

The machine can be supplied with centre or eccentric spindle and one or two inclined tables. In eccentric machines, the grinding movement is overlaid by an additional eccentric movement. This results in a cross-hatch finish and absolutely flat sealing surface.

Drive: electric 380-480 V, 50/60 Hz

	SM-750	SM-750 EXZ
Spindle	centred	eccentric 0-20 (0-0.78")
Size inclined table	750 x 750 (29.5" x 29.5")	750 x 750 (29.5" x 29.5")
Inclination	± 12°	± 12°
Max. valve diameter	950 (38")	950 (38")
Max. valve height	1000 (40")	1000 (40")
Max. valve weight	2500 kg (5512 lbs.)	2500 kg (5512 lbs.)

Dimensions in mm (inch)



TSV-300.02

## TSV SERIES

**Portable grinding and lapping machine with eccentricity for the machining of sealing surfaces/nozzles of in safety valves of DN 15-300 mm (1/2"-12").**

The TSV series of machines integrates an additional eccentric motion into the process, creating a crosshatched grinding pattern and ensuring an absolutely flat surface. Suitable for use on-site and in the workshop.

	TSV-150.02	TSV-300.02
DN range	15-150 (1/2"-6")	25-300 (1"-12")
Max. immersion depth	350 (14")	350 (14")
Clamping range of chuck	85-450 (3.4"-17.7")	85-450 (3.4"-17.7")
Max. spindle speed	max. 555 min-1	max. 460 (690*) min-1
Max. eccentric speed	max. 255 min-1	max. 300 (450*) min-1
Eccentricity	3 (0.12")	3 (0.12")
Drive	pneumatic 6-7 bar (87-100 psi)	230/120V, 50/60 Hz or pneumatic 6-7 bar (87-100 psi)

Dimensions in mm (inch)



TSV-300.02 ENT-2 / MK



## MK AND ENT SERIES

The pillar or radial drilling machine with MK-ADAPTER makes it possible to use the EFCO tools of the Valva and SL series for stationary machining of sealing surfaces in and on valves and wedges.

We recommend the appropriate inclined tables (0°-12°) for fast alignment of valve housings and wedges.

Adapter	Inclined table	EFCO machines	up to DN
MK 2	ENT-1 300 x 300 (11.8" x 11.8")	Valva-1, Valva-S1	150 (6")
	ENT-2 500 x 500 (19.7" x 19.7")	Valva-15	300 (12")
MK 3	ENT-3 1000 x 1000 (39.4" x 39.4")	SL-15 400 (16")	600 (24")
		SL-2, Valva-2	
MK 5	ENT-4 1500 x 1500 (59" x 59")	SL-3, Valva-3	1200-1600 (48"-64")

Dimensions in mm (inch)

ENT-2 / MK





TD-05

## TD SERIES

Portable boring and facing machine for on-site machining on valves, flanges, pumps, turbine housings, etc.

Particularly suitable for turning cylindrical and conical sealing surfaces, conical surfaces and bores in valves, cylinders, pump housings, flanges and high-pressure valves.

The TD series is now complemented by the TD-05, which is perfect for use, even in hard-to-reach areas, due to its compact design and low dead weight.

	TD-03	TD-05	TD-1.02	TD-2.02
Machining diameter	0-150 (0-5.9")	0-200 (0-8")	0-400 (0-15.7")	0-800 (0-31.5")
Working depth	250 (9.8")	250 (10")	450 (17.7")	600 (23.6")
Axial stroke	100 (3.94")	180 (7")	200 (7.87")	250 (9.8")
Radial stroke	20 (0.79")	30 (1.18")	40 (1.57")	60 (2.36")
Drive	230/120V (electric) 50/60 Hz	230/120V (electric) 50/60 Hz	230/120V (electric) 50/60 Hz	380/400V (electric) 50/60 Hz
	6-7 bar (87-100 psi)	6-7 bar (87-100 psi)	-	6-7 bar (87-100 psi)

Dimensions in mm (inch)

Optional units for high-speed grinding or axial cutting can be supplied (TD-1.02, TD-2.02).



TD-2.02

## ASM SERIES

The ASM is a portable turning machine for cutting out welded seat rings in valves, distinguished by its robust construction, user-friendliness, and precision.

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi)

	ASM-1	ASM-2
Cutting range	70-300 (2.8-11.8")	100-500 (3.9-19.7")
Working depth	1000 (39.4")	1000 (39.4")
Max. groove depth	35 (1.4")	35 (1.4")
Centring diameter	90-436 (3.5"-17.2")	136-684 (5.4"-26.9")
Clamping diameter	120-530 (4.7"-20.9")	210-1000 (8.3"-39.4")

Dimensions in mm (inch)

ASM-2





## PORTABLE CNC-TURNING MACHINES

The portable CNC boring and facing machines are revolutionising the surface finishing of industrial valves with their versatility and precise machining results.

With more than 10 pre-defined standard programmes, they allow immediate and easy operation even for those not trained in programming. Thanks to the advanced SIEMENS CNC control system, these machines offer a wide range of machining options that have not previously been available in portable turning technology. For the first time, users are able to create almost any contour that is physically possible within the parameters of the machine. This makes the EFCO CNC boring and facing machines essential tools in industrial production.

Drive: electric 380-480 V, 50/60 Hz

### TDF-CNC SERIES

Portable, externally clamped flange facer with CNC system.

	TDF-1 CNC	TDF-2 CNC
Machining diameter	0-600 (0"-23.6")	500-1700 (19.7"-67")
Mounting diameter	400-1100 (15.8"-43.3")	1200-2600 (47.2"-102.4")
Axial stroke	100 (3.9")	80 (3.2")
Radial stroke	120 (4.7")	400 (15.8")

Dimensions in mm (inch)

Other dimensions on request

### TD-CNC SERIES

Portable CNC boring and facing machine, well-suited for the precision machining of boreholes and valve seats, even at substantial immersion depths.

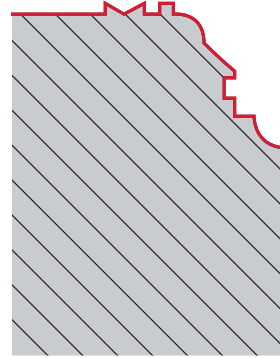
	TD-1.02 CNC	TD-2.02 CNC
Machining diameter	0-400 (0-15.7")	0-800 (0-31.5")
Mounting diameter	350-750 (13.8"-29.5")	400-1100 (15.8"-43.3")
Working depth*	450 (17.7") (Standard)	600 (23.6") (Standard)
Axial stroke	200 (7.9")	250 (9.8")
Radial stroke	40 (1.6")	60 (2.4")

	TD-3.02 CNC
Machining diameter	150-1450 (5.9"-57.1")
Mounting diameter	780-1780 (30.7"-70.1")
Working depth*	1000 (39.4") (Standard)
Axial stroke	600 (23.6")
Radial stroke	130 (5.1")

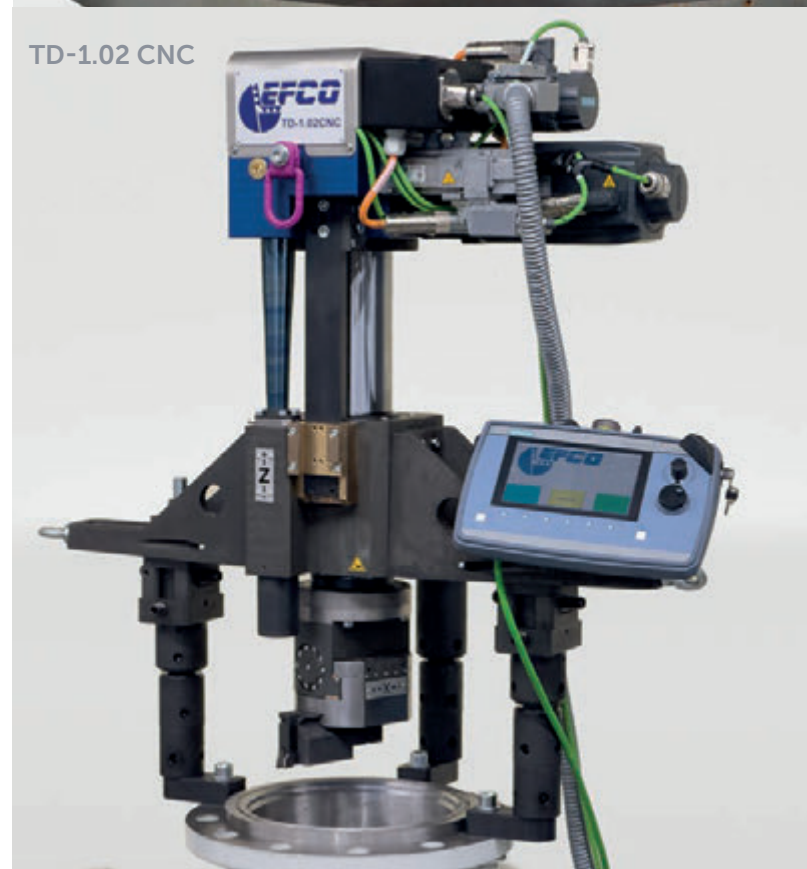
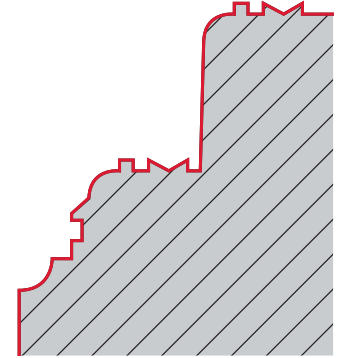
Dimensions in mm (inch) / Other dimensions on request

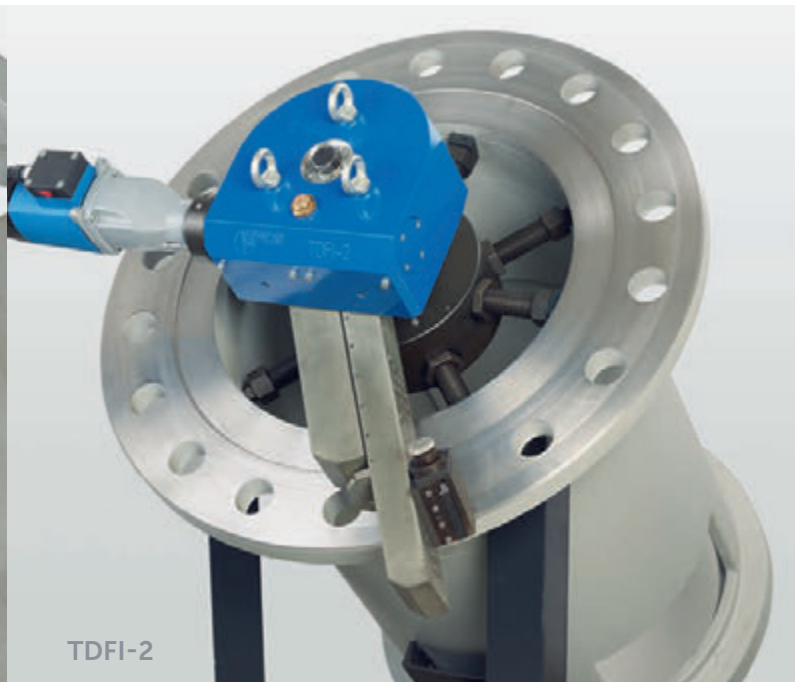
\*Working depths of more than 1500 mm (59") possible

TDF-CNC



TD-CNC





TDFI-2

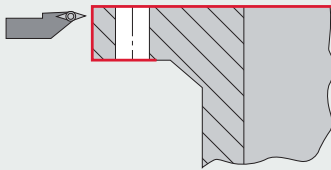
## FLANGE FACERS

Portable flange facers with internal or external clamping for on-site machining on flanges, valves, pumps, turbine housings and heat exchangers.

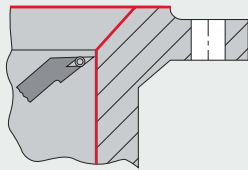
Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi) (TDFI-1, TDFI-2, TDFI-2.5) pneumatic 6-7 bar (87-100 psi) or hydraulic (TDFI-3, TDFI-4)

Numerous machining options:

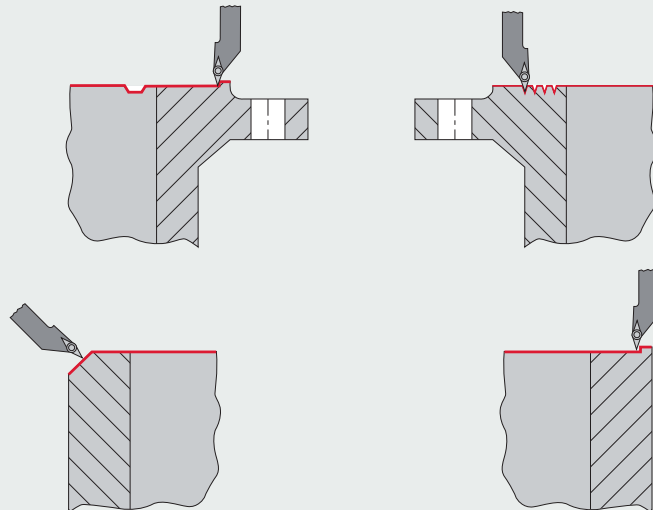
TDFI Series only:



TDF Series only:



TDFI Series and TDF Series:



## TDFI SERIES

- Internal clamping (ID mounting)
- Machining diameter 150-4400 mm (5.9"-173.2")
- Easy handling due to separate installation of clamping device and machine unit
- Precise alignment of the clamping device within a short time thanks to the user-friendly designed adjustment system

	TDFI-1	TDFI-2	TDFI-2.5
Machining diameter	150-630 (5.9"-24.8")	400-1200 (15.8"-47.2")	760-2040 (29.9"-80.3")
Mounting diameter	150-460 (5.9"-18.1")	400-1000 (15.8"-39.4")	760-1840 (29.9"-72.4")
Machine height	315 (12.4")	350 (14")	500 (20")
	TDFI-3	TDFI-4	
Machining diameter	1300-3300 (51.2"-129.9")	1700-4400 (66.9"-173.2")	
Mounting diameter	1300-3000 (51.2"-118.1")	1650-3800 (65"-149.6")	
Machine height	500 (20")	500 (20")	

Dimensions in mm (inch)





TDF-05A

## TDF SERIES

- External clamping (OD mounting)
- Machining diameter 0-3500 mm (0"-137.8")

Drive: electric 230/120 V, 50/60Hz or pneumatic 6-7 bar (87-100 psi)

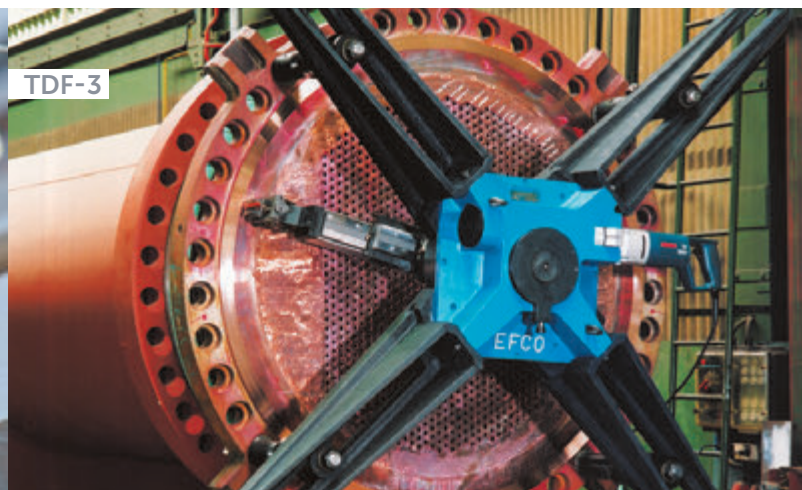
	TDF-05	TDF-05A	TDF-1	TDF-1A
Machining diameter	0-250 (0-9.8")	0-250 (0-9.8")	0-500 (0-19.7")	0-400 (0-15.7")
Mounting diameter	250-400 (9.8"-15.7")	250-400 (9.8"-15.7")	260-600 (10.2"-23.6")	260-600 (10.2"-23.6")
Machine height	265 (10.4")	310 (12.2")	265 (10.4")	310 (12.2")
Axial stroke	—	30 (1.2")	—	30 (1.2")
Axial stroke with angular head (optional)	60 (2.36")	60 (2.36")	60 (2.36")	60 (2.36")
Radial stroke	80 (3.15")	80 (3.15")	80 (3.15")	80 (3.15")

Dimensions in mm (inch)

	TDF-2	TDF-3	TDF-4
Machining diameter	300-1200 (11.8"-47.2")	500-2200 (19.7"-86.6")	1500-3500 (59"-137.8")
Mounting diameter	485-1345 (19.1"-53")	660-2710 (26"-106.7")	1500-3700 (59"-145.7")
Machine height	350 (13.8")	480 (18.9")	760 (29.9")
Axial stroke	—	—	—
Axial stroke with angular head (optional)	80 (3.15")	80 (3.15")	80 (3.15")
Radial stroke	100 (3.9")	150 (5.9")	200 (7.9")

Dimensions in mm (inch)

Other dimensions on request



TDF-3



## EFCO TEST BENCHES

We are open to your enquiries, whether for standard or special applications.

Our focus is on test benches for pressure testing of valves. In addition, we have experience in the design and construction of a wide range of different types of test equipment. Our test benches are h2-ready, making them suitable for testing hydrogen systems.

The basic components of an EFCO test bench are the clamping unit and the control panel. The clamping unit is used to hold and seal the test specimen. Depending on the nature of the test specimen, it can be clamped in a vertical or horizontal position. The control panel houses the displays and all the components for performing and measuring the compression test, in addition to the controls.

All our test benches can be extended with EFCO's VALVE-DOC documentation software.

### Construction of valve test benches

- Stationary / portable (available up to about 10 t clamping force)
- Manual / automatic
- Horizontal/vertical/tilting

### For the testing of

- Gate valves
- Control valves
- Check valves
- Ball valves
- Safety valves
- Hollow bodies (motor housings, pipe fittings, tanks, etc.)

### Design of test piece ends (inlet/outlet)

- Flange
- Thread
- Welding socket pieces
- Flangeless ("sandwich" / "wafer")

### Test medium

- Water
- Air
- Nitrogen / forming gas
- Special test media (e.g. oil, kerosene)

### Test types

- Leakage test of shut-off device (seat leakage test)
- Set pressure and closing pressure of safety valves
- Shell/body tests
- Leakage test of spindle gland

### Test pressure

- Water up to 1380 bar (20000 psi) (higher on request)
- Air / nitrogen / forming gas up to 300 bar (4350 psi) (higher on request)
- Vacuum testing

**H<sub>2</sub> READY**

Optional connection of hydrogen leak detectors

## STANDARD TESTING EQUIPMENT

Standard modular test benches for the testing of shut-off valves and safety valves.

### Vertical clamping

Type	DN	Clamping force (t)
PS-T/SV5	10-80 (3/8"-3")	5
PS-T10.03	10-200 (3/8"-8")	10
PS-15M	15-250 (1/2"-10")	15
PS-SV15M	15-250 (1/2"-10")	15
PS-30/50/75M	25-400 (1"-16")	30/50/75
PS-SV30/50/75M	25-400 (1"-16")	30/50/75
PS-100	50-500 (2"-20")	100
PS-150	50-500 (2"-20")	150

### Horizontal Clamping

Type	DN	Clamping force (t)
PS-H15M	15-250 (1/2"-10")	15
PS-H30/50/75M	25-400 (1"-16")	30/50/75
PS-H200M-PS-H550M	50-600 (2"-24")	200-550*
PS-H200M-PS-H550M	100-800 (4"-32")	200-550*
PS-H200M-PS-H550M	100-1000 (4"-40")	200-550*

Dimensions in mm (inch)

\*Graduation in 50 t steps

On pages 18 and 19 you can see examples of our customised test benches, perfectly tailored to your individual needs.

PS-15M





PS-T/SV5



VALVE-DOC



## EFCO VALVE-DOC

Documentation and administration system for valve tests.

- Mobile or stationary device for the acquisition, analysis and documentation of valve tests
- Suitable for all test benches on the market
- User friendly
- Available in several languages
- Preconfigured and ready to use

## VALVE-DOC LIGHT

Smart and lightweight documentation software\* for valve tests in connection with a USB pressure transmitter (included) for all valve test benches with G 1/2" reference connection.

There are two test options: Body test (shut-off valves) and set pressure test (safety valves).

PS-T10.03



VALVE-DOC LIGHT\*



\*Computer not included



## CUSTOMISED TESTING EQUIPMENT

Individually adapted testing equipment, coordinated to your particular specifications and needs. Our particular strength lies in creating a product for you that meets your requirements exactly. You benefit from our many years of experience in implementing customer-specific projects.

Here is a small selection of a wide range of options:

- Nominal test specimen widths (DN 10/ 3/8") up to (DN 1000/ 40") and larger
- Manual, semi-automatic or automatic operation
- Repeated test cycles (endurance testing)
- Underwater testing
- Vacuum testing
- Testing of 2-way / 3-way / multi-way test specimens
- Individual or multiple clamping
- Recording of test specimen ID using handheld scanner
- Output of test result data via defined interface

## SELECTED SAMPLES

### PS-H7,5UW

- Fully automatic testing of ball valves
- Air testing under water
- Torque measurement when closing
- Horizontal clamping

### PS-30A (without illustration)

- Automatic air and water testing of 2 and 3-way control valves
- Actuator for closing and opening the test specimen
- Proportional clamping to protect housing



K-TEST

### K-TEST

- For verifying sealing tightness between ball and sealing seat in ball valves
- Time-saving ball testing prior to assembly
- Flexible use during production or incoming goods inspection



PS-H7.5UW

### PS-H90A

- Fully automatic air and water testing of gate valves and butterfly valves DN 40-600 (1½"-24")
- Torque measurement when closing
- Horizontal clamping
- Test specimen ID recorded using hand scanner
- Transfer of test result data to network interface
- Proportional clamping to protect housing

PS-H90A





## EFCO-BOOSTER

Water pressure generation with appropriate high-pressure pumps is integrated in every EFCO valve test bench intended for a water test.

The air/nitrogen test pressure required for testing is provided either via a high-pressure bottle pre-filled by the customer or via an EFCO Booster.

The EFCO Booster compresses air or nitrogen to 300 bar (4350 psi) (higher pressures are possible on request).

### BOOSTER



## PS ACCESSORIES

All EFCO valve test benches are equipped with standard accessories and their function can be extended with optional accessories.

The following are some of the accessories available:

- O-ring sealing plates
- Polyurethane sealing plates (Vulkollan)
- Safety plugs (specially for safety valves)
- Threaded adapters (for the testing of test pieces with threaded end)
- Accumulators
- and many more

### PS ACCESSORIES



## PS-H1500

- For testing valves up to DN 1000 (40")
- Water testing up to 1380 bar (20.000 psi)
- Housing-protecting horizontal clamping with self-sealing test tables

### PS-H1500





# WHEN THE TIME IS NOW!



## EFCO RENTAL

**You need the machine now, but don't have the necessary investment scope or the time?**

We offer you a flexible and reliable machine rental service for a variety of EFCO products. You choose the right machine for your needs. Whether you need the machine for a day, a week, or a month, we have the right solution for you.

**Renting from EFCO gets you:**

- **Short-term availability**  
Request a machine from us at any time and receive it quickly and easily.
- **Flexibility in case of additional demand**  
If you need more machines than planned, you can simply reorder. We will deliver the additional machines to you as quickly as possible.
- **Proven EFCO quality**  
Our machines are high quality, powerful and easy to use. They meet all safety and environmental standards.
- **No investment costs**  
You only pay for the time you use the machine. You save the purchase and maintenance costs of your own machine.

A wide range of EFCO machines and testing equipment are available for rental. For specialized guidance, please don't hesitate to contact us.



SCAN CODE FOR MORE INFORMATION





**NEW**

## EFCO REMOTE CARE FOR PORTABLE AND STATIONARY CNC-MACHINES

Remote Access Unit for portable and stationary EFCO CNC machines, revolutionizing the way you handle software and programming issues.

Embrace the future of CNC machine support with our Remote Support Service. Streamline your operations, maximize uptime, and benefit from the expertise of our support team all from the comfort of your facility.

### Instant Troubleshooting

Rapid issue resolution without on-site delays.

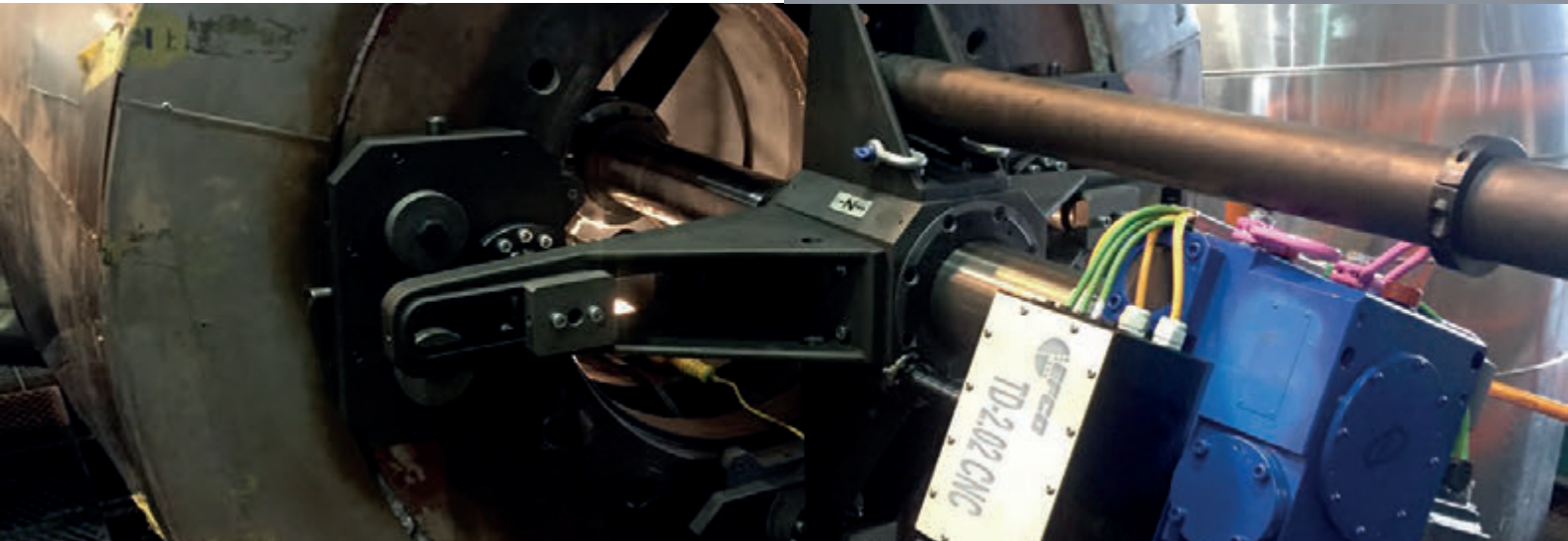
- **Minimized Downtime**  
Keep operations on track with swift solutions.
- **Expertise at Your Fingertips**  
Seasoned support staff and programmers virtually by your side.
- **Cost-Efficiency**  
Say goodbye to travel expenses and logistical hassles.
- **Enhanced Security**  
Your machine's data stays confidential and protected.
- **Seamless Collaboration**  
Empower your team through guided diagnostics.



# REMOTE SUPPORT



MADE IN GERMANY





## CW-1000

Circular welding machine for automatic overlay welding of bores, circular, and conical surfaces (MIG/MAG Welding) on and in valves with a diameter of  $\varnothing$  30-1000 mm (1 1/4"-40").

Drive: electric 230/120 V, 50/60Hz

The machine is equipped with automatic feeds and an integrated water cooling system.

Type	CW-1000
Axial stroke	175 (6.89")
Radial stroke	90 (3.54")
Axial feed /rev.	3 (0.12")
Radial feed /rev. (adjustable)	3 / 3.8 / 4.6 (0.12" / 0.15" / 0.18")
Speed range	0.1- 5.0 min <sup>-1</sup>
Adjustment angle of the head	0-90° (manual)

Dimensions in mm (inch)



## MOBILE WORKSHOPS

Available as a fixed truck body or in an ISO container.

Fast reaction times and flexibility are required for on-site valve service. EFCO can provide you with a mobile workshop equipped to your requirements. It is equipped with EFCO turning, grinding and lapping equipment and can also be fitted with a lathe, drilling machine, valve test bench and everything else you require.

## EFCO ABRASIVES

The EFCO abrasives are perfectly formulated and matched to EFCO machines through extensive testing. We supply coated abrasives in various grit sizes and formulations optimised for the application.

Abrasive backing:

- Paper
- Cloth
- Film

Grain types:

- Aluminium oxide (Al<sub>2</sub>O<sub>3</sub>)
- Silicon carbide (SiC)
- Zirconium corundum (ZrO<sub>2</sub>+ Al<sub>2</sub>O<sub>3</sub>)

Grit size:

- Standard grit sizes: P80-P1800 (other grit sizes on request)





SCAN CODE TO FIND YOUR LOCAL EFCO PARTNER



[EFCO-DUEREN.COM](http://EFCO-DUEREN.COM)



EFCO Maschinenbau GmbH  
Otto-Brenner-Str. 5-7  
52353 Dueren | Germany

+49(0)2421-989-0  
[www.efco-dueren.com](http://www.efco-dueren.com)  
[sales@efco-dueren.de](mailto:sales@efco-dueren.de)



Management  
System  
ISO 9001:2015  
[www.tuv.com](http://www.tuv.com)  
ID: 0001006435

We reserve the right to make changes contributing to technical progress without prior notification.

01/2025 - 04 EN