

PORTABLE HIGH SPEED PRECISION GRINDING MACHINES

EFCO-VSA



 **EFCO-VSA-1**

High Speed Precision Grinding Machine to restore sealing surfaces of any angle, wedges, and flanges from DN 3/4" - 60" (20 - 1500 mm). Make precise repairs (especially after welding) to flat and tapered valve seats, flanges, and many other specialized applications. Exceptional rigidity for machining in any mounting position with automatic or manual feed.

VSA machines are supplied with a pneumatic drive.

An optional bore grinding attachment converts the VSA into a completely automatic cylindrical grinder, ideal for pressure seal areas. Extended sizes available by special request.

Model	Ø Range	Submerging Depth
VSA-05	(3/4 - 6") 20 - 150	(10") 250
VSA-1	(2 - 16") 50 - 400	(26") 650
VSA-2	(10 - 32") 250 - 800	(39") 1000
VSA-3	(20 - 60") 500 - 1500	(60") 1500



 **EFCO-VSA-1 with bore grinding attachment**

PORTABLE GRINDING AND LAPPING MACHINES

EFCO-VALVA



Portable Grinding and Lapping Machines for repairing globe valves with flat seats, discs, plugs, and flanges from DN 1/4 - 64" (8 - 1600 mm)

- Drive: Electric 230/110 V AC, 50/60 Hz or Pneumatic 90 psi (6 - 7 bar)
- VALVA-SV 1 specially designed for safety valves

Model	DN	Grinding	Lapping
VALVA-S05	1/4 - 2" (8 - 50)	•	
VALVA-S1	1/4 - 6" (8 - 150)	•	
VALVA-SV 1	3/4 - 6" (20 - 150)	•	
VALVA-1	1/4 - 6" (8 - 150)	•	•
VALVA-S 15	3 - 12" (80 - 300)	•	
VALVA-15	3 - 12" (80 - 300)	•	•
VALVA-2	8 - 24" (200 - 600)	•	•
VALVA-3	20 - 64" (500 - 1600)	•	•

PORTABLE SINGLE POINT BORING & FACING MACHINES

EFCO-TD



 **EFCO-TD-2**

Portable Single Point Boring & Facing Machines for precision repairs to valve seats, bores, pressure seal areas, flanges, pumps, turbine casings, and pipe ends.

- Drive:
Electric 230/110 V AC, 50/60 Hz or Pneumatic 90 psi (6 - 7 bar)

An optional Variable Axial Feed allows extremely fine finishes or machining different materials. High Speed Grinding Attachments can also be supplied.

Model	TD-1	TD-2	TD-2S
Machining diameter	0 - 16" (0 - 400)	0 - 24" (0 - 600)	0 - 36" (0 - 900)
Working depth	14" (350)	max. 21" (max. 540)	max. 32" (max. 800)
Radial stroke	1.6" (40)	2.4" (60)	4" (100)
Axial stroke	4.8" (120)	6" (150)	8" (200)



 **EFCO-TD-3 E**

EFCO-TD-3 E CNC CONTROL

Our TD-3E is the ideal solution for very large valves, pumps, turbine casings, flanges or surfaces with a complex geometry. CNC programming enables complex operations, machining elaborate contours, and accurate repeatable operations.

STATIONARY GRINDING AND LAPPING MACHINES

EFCO- MK DRILL PRESS ADAPTERS



EFCO-MK Drill Press Adapter

Tooling from EFCO's in-line valve repair equipment may be used with MK-Adapters in your column or radial drill for quick and accurate in-shop repairs of sealing surfaces on gate valves, globe valves, wedges, plugs, and flanges. Our Tilt Tables simplify set-ups and further help to lower repair costs. Tables may be adjusted and locked continuously from 0 to 12 degrees.

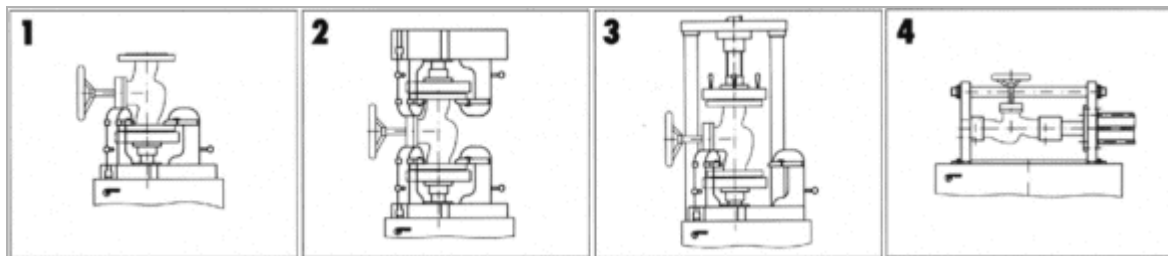
Adapter	Tilt Table	Table size	Tooling from	For DN up to
MK 2	ENT-1	12 x 12" (300 x 300)	VALVA-1 VALVA-S1	6" (150)
	ENT-2	20 x 20" (500 x 500)	VALVA-15 SL-15	12" (300) 16" (400)
MK 3	ENT-3	40 x 40" (1000 x 1000)	SL-2 VALVA-2	24" (600)
MK 5	ENT-4	60 x 60" (1500 x 1500)	SL-3 VALVA-3	48 - 63" (1200 - 1600)

WELDING EQUIPMENT

▶ VALVE TEST BENCHES

DN	PS 7,5	PS-T 10	PS 15	PS 30	PS 50	PS 100	PS 140	PS-H 250	PS-H 320
mm (")									
10 (3/8")	210	210				max. test pressure (bar)			
15 (1/2")	210	210	210						
25 (1")	210	210	210	210	210				
50 (2")	210	210	210	210	210				
100 (4")	60	70	100	210	210	210	210	210	210
150 (6")		35	55	110	180	210	210	210	210
200 (8")		20	30	65	110	210	210	210	210
250 (10")			25	45	80	160	210	210	210
400 (16")				20	30	70	90	160	210
500 (20")						40	50	100	120
600 (24")							40	70	90
800 (32")									50
Clamping configurations	1;4	1	1;3	1;3	1;3	1;2;3	2	4	4

1. Valve Clamping facilities



2. Further features of EFCO Test Benches (Each test bench is custom made)

Test Media:

water / air / nitrogen

Kind of tests:

- body test and leakage test of spindle and shaft guide
- body leakage testing under water
- sealing test
- set pressure of safety valves

Test objects:

- gate valves, globe valves, safety valves, swing check valves, ball valves, control valves and other hollow bodies

Valve ends:

- flanged, threaded and with weld-prep

3. Options

- Proportional Control (to minimize the compression stress of the valve body during the tests)
The necessary clamping force is calculated by the control unit automatically. The input values are the DN and PN of the valve tested. The clamping pressure is raised proportionally to the manually increased

testing pressure.

- Digital Gauge with pressure transducer, with peak value storage (set pressure of safety valves)
- Digital Leak Counter for automatic counting of bubbles (bubbles per minute) during seat leakage testing with air

testing with air

- Clamping forces 300 tons and more
- Clamping forces up to 1000 bar
- Adapters for fusion-welded valves
- Adapter for threaded valves
- Piping of the testing system in stainless steels
- Swivable crane on Column