



MACHINE INDUSTRY
CHINELATTO

TECHNICAL CATALOG
Since 1962 — Limeira (SP) - Brazil

FSG-1500

Valve Seat and Guide Milling Machine

VALVE SEAT MILLING MACHINE

 **MADE IN BRAZIL**



Mills valve seats in diesel and gasoline cylinder heads with 3-ANGLE cutting tools. Seat range 0.75–2.36 in (Ø19–60 mm), 0–350 rpm spindle, ISO 30 taper, 7.9 in (200 mm) stroke, 47 in (1,200 mm) table



Technical Specifications

GENERAL FEATURES

- Uses a 3-angle tool to bore valve seats of diesel and gasoline cylinder heads
- Can be used as a drill
- Easy positioning and operation
- Table with tilt and fine adjustment
- Headstock with tilt until 15 degrees
- With vacuum test device to check the valve seating

TECHNICAL SPECIFICATIONS

Boring diameter range	Ø0.748 in (Ø19 ~ 60 mm)
Spindle speeds	0 ~ 350 rpm
Max. length of cylinder head	47.244 in (1,200 mm)
Distance max. table to headstock	8.976 in (228 mm)
Spindle travel	7.874 in (200 mm)
Headstock swing angle	15°
Shaft cone	ISO 30
Electric motor	1.0 hp (0.74 kw)
Standard electric voltage	220v - 60hz - 3ph

DIMENSIONS AND WEIGHT

Overall dimensions (L x W x H)	84 x 35 x 91 in (2.13 x 0.90 x 2.30 m)
Packing dimensions (L x W x H)	98 x 43 x 94 in (2.50 x 1.10 x 2.40 m)
Net - gross weight	2,160 lb - 3,175 lb (980 kg - 1,440 kg)

STANDARD ACCESSORIES

Clamp for holding heads	height of 8.976 in (228 mm)
ISO 30 cone and tool head	ISO 30 cone and tool head

STANDARD ACCESSORIES (CONT.)

(3) Cutter holders	nr.2000: to bore seats Ø0.708" ~ Ø0.866" (Ø18 ~ Ø22 mm); nr.2001: to bore seats Ø0.866" ~ Ø1.574" (Ø22 ~ Ø40 mm); nr.2002: to bore seats Ø1.496" ~ Ø2.362" (Ø38 ~ Ø60 mm)
--------------------	---

(1) Bubble level and (2) tables for leveling the head

bubble level and leveling tables for machine headstock

(18) Pilots	Ø 0.255" - Ø 0.274"; Ø 0.275" - Ø 0.313" - Ø 0.314"; Ø 0.315" - Ø 0.334" - Ø 0.342" - Ø 0.343" - Ø 0.353"; Ø 0.354" - Ø 0.374" - Ø 0.393"; Ø 0.401" - Ø 0.431"; Ø 0.433" - Ø 0.472" - Ø 0.500"
-------------	--

(6) Tools for cutting valve seats

nr.315 - with 30° x 0.059"; nr.320 - with 30° x 0.078"; nr.415 - with 45° x 0.059"; nr.420 - with 45° x 0.078"; nr.L12 - with 90° to open box of seat; nr.L108 - with 45°

(1) Setting gauge

setting gauge for cutting tool opening measurement transfer

Set of service wrench and dial for measuring cutting height

service wrench set and dial indicator

Vacuum gauge with 6 plugs to measure the valve seat in its seat

vacuum gauge with 6 plugs

Tool sharpener with 0.5 hp motor, with diamond stone and tool holder device

0.5 hp motor, diamond stone, tool holder device

EXTRA ACCESSORIES

Extra pilots (parallel, higher precision than conical)

from Ø0.177" to Ø0.472" (Ø4.5 mm to Ø12.00 mm); diameter to be indicated by the buyer

3 angle tilt tools for different seats

3-angle tilt tools for different valve seats

Tools with 1 tilt angle

L12 - at 90 degrees;
L108 - at 45 degrees;
L105 - at 30 degrees;
L103 - at 20 degrees



Technical Specifications (continued)

EXTRA ACCESSORIES (CONT.)

(3) Extra Cutter holders

nr.2000: to bore seats
Ø0.708" ~ Ø0.866"
(Ø18 ~ Ø22 mm);
nr.2001: to bore seats
Ø0.866" ~ Ø1.574"
(Ø22 ~ Ø40 mm);
nr.2002: to bore seats
Ø1.496" ~ Ø2.362"
(Ø38 ~ Ø60 mm)

Kit for seat of Gol 1000

(1) tool holder nr.1021
for seats Ø0.629" ~
Ø1.181" (Ø16 ~ Ø30
mm); (1) pilot Ø0.216"
(Ø5.5 mm); (1) tool
#4511 - 45° x 0.039"
(45° x 1.0 mm); (1) tool
#4530 - 45° x 0.118"
(45° x 3.0 mm); (1) tool
#9000 at 90 degrees

ISO 30 cone and drill chuck
maximum range 5/8"

ISO 30 cone and
quick-release drill
chuck, capacity 5/8"

Device with micrometer for
measuring

measuring device
with micrometer

Device with dial to check seat
height

dial comparator
device for checking
seat height

Diamond stone for tool sharpener

extra diamond stone
for tool sharpener

Specifications subject to change without notice. Some capacities listed may require optional accessories. Confirm exact dimensions during quotation.

ACCESSORIES, FIXTURES AND DETAILS (CONT.)

02



Standard accessory — ISO 30 cone and tool head of the FSG-1500 valve seat boring machine

03



Standard accessory — Cutter holders no. 2000, 2001 and 2002 to bore valve seats from Ø0.708 to Ø2.362 in

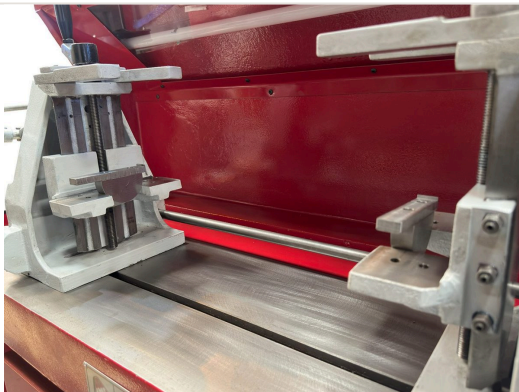
04



Standard accessory — Bubble level and leveling tables for the FSG-1500 headstock

ACCESSORIES, FIXTURES AND DETAILS

01



Standard accessory — FSG-1500 special clamp for holding cylinder heads up to 8.976 in (228 mm) high



Accessories, fixtures and details (continued)

05



Standard accessory — Set of 18 pilots from Ø0.255 to Ø0.500 in for the FSG-1500

06



Standard accessory — Service wrench set and dial indicator for measuring cutting height

07



Standard accessory — Set of 6 valve seat cutting tools with 30°, 45° and 90° angles

08



Standard accessory — Vacuum gauge with 6 plugs to check valve seating — FSG-1500 panel

09



Standard accessory — Setting gauge for cutting tool opening

10



Standard accessory — Tool sharpener with 0.5 hp motor, diamond stone and tool holder device



Accessories, fixtures and details (continued)

11



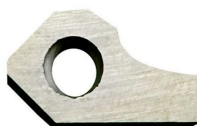
Optional accessory — Extra parallel pilot with higher precision — available from $\varnothing 0.177$ to $\varnothing 0.472$ in

12



Optional accessory — Extra cutter holders no. 2000, 2001 and 2002 for seats from $\varnothing 18$ to $\varnothing 60$ mm

13



Optional accessory — 3-angle tilt tool for different valve seats

14



Optional accessory — Kit for VW Gol 1000 seats: tool holder no. 1021, $\varnothing 5.5$ mm pilot and $45^\circ/90^\circ$ tools

15



Optional accessory — Single-angle tools: L 12 (90°), L 108 (45°), L 105 (30°) and L 103 (20°)

16

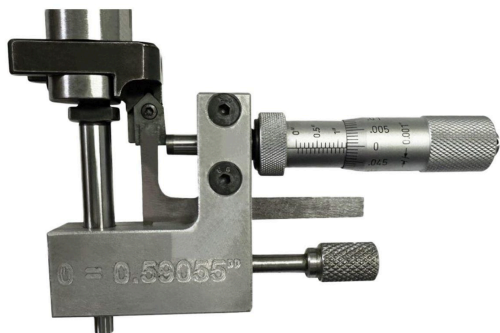


Optional accessory — ISO 30 cone with quick-action drill chuck, 5/8 in capacity



Accessories, fixtures and details (continued)

17



Optional accessory — Measuring device with micrometer

18



Optional accessory — Device with dial indicator to check valve seat height

19



Optional accessory — Extra diamond stone for the FSG-1500 tool sharpener