



PLANAR GRINDING

DIGIPREP

Plan



metken[®]
Technology behind Specimen

20
YEARS

DIGIPREP®

Plan



DIGIPREP Plan Automatic Planar Grinder is designed for first step initial planar grinding of very large specimens or a high volume of specimens in specimen holders. It is fast and efficient in providing high quality flat specimen surface thus saving time on the subsequent fine grinding and polishing steps. Specimen holders of 130 mm diameter having 6 specimens can be prepared in less than a minute with upto 5,9" (150 mm) stone cup which requires minimal dressing.

Design

DIGIPREP Plan is an automatic planar grinder for the first step plane grinding of metallographic specimens. It can easily provide enough specimens for two or three Digiprep polishing machines.

Heavy duty cast aluminium base with mechanical vertical drive provides accurate control. High-torque grinding motor rotating at 2800 rpm guarantees high material removal rate. By using different cup grinding stones ferrous as well as non-ferrous specimens can be prepared easily. DIGIPREP Plan is equipped with automatic sample feed with fine speed control. Fast advance and reverse are available. All important parameters of the grinding process like feedrate and grinding depth are preset with digital display. Different jaw chucks to secure the specimen holder, T-slotted table and other clamping devices are offered as optional accessories.

A recirculating cooling unit is strongly recommended so that a rust inhibitor can be added and the grinding swarf can be collected. The entire working area is totally enclosed. Electronic brake is integrated to the system for a rapid stop of the grinding stone. The interlocking safety device does not allow the hood to be opened before the grinding motor is stopped.

Automatic Operation

DIGIPREP PLAN has advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

Controlled Material Removal

DIGIPREP Plan allows you to preset the amount of material to be removed very accurately. The vertical movement of the grinding head is motorized with digital positioning and display on the touch screen LCD. The robust design of the column guarantees high reproducibility. The material to be removed from the specimen can be preset in increments of 10 microns



Ergonomic operation resulting in high quality planar surface, thus saving time on the next preparation steps



DIGIPREP Plan with floor cabinet



Grinding Parameters:

The preselection of the grinding feed rate is possible from the touch screen LCD. The feed rate is automatically adjusted, if needed reduced, resulting in perfect surfaces and eliminating sample and machine damage.

Multi-pass Grinding

DIGIPREP Plan can be programmed to make multi-pass plane parallel grinding operations. It is possible to set the number of passes and the grinding depth of each pass which can be stored under a program number or name.

Programmable Return Positions

DIGIPREP Plan has 3 different stop modes:

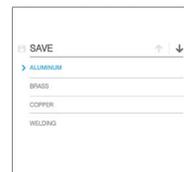
Auto stop: Stops when the specimen holder has been through.

Relative Stop: Stops when it has returned to its starting point.

Absolute Stop: Stops when the ultimate reset point in all axes has been reached.

Database

A library of 99 different grinding programs with related specimen name or number can be saved with all grinding parameters which can be recalled at anytime. Data with Metkon grinding cups is also listed for easy selection.



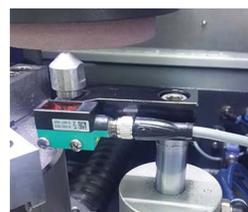
Programmable HMI touch screen controls



DIGIPREP 7 Grinding&Polishing Station

DIGIPREP 7 Grinding & Polishing Station

DIGIPREP PLAN can be combined with DIGIPREP 251/301 on a single cabinet to form the DIGIPREP 7 Grinding & Polishing Station. A typical 3 or 4 stage complete grinding & polishing process of a 6-sample specimen holder can be performed in 7 minutes on a DIGIPREP 7 Station.



Automatic dressing of the grinding stone



LEVOMAT specimen loading fixture



Recirculating coolant system

Specifications

45 06 DIGIPREP Plan

Automatic Planar Grinding Machine with Siemens PLC control unit for initial planar grinding of metallographic specimens in specimen holders, bench top compact design, Programmable with coloured 7" HMI touch screen control, closed housing, max. safety provided with interlocking switch, large working space with LED lighting, automatic sample feeding with adjustable fine speed, controlled material removal with digital setting of grinding depth with accuracy of 0,01 mm., high torque 2,2 kW grinding motor, with 2800 rpm speed to obtain optimum surfaces on different materials, all parameters on coloured LCD display, sample cooling available with cooling fluid and/or compressed air, ready for operation, without clamping devices. without cooling 400V, 3-phase, 50Hz. Includes a standard set of grinding consumables composed of: *1 pc.150 mm. Dia. AL203 Cup Grinding Stone for ferrous materials *5 lt of Metcool cooling fluid.

GR 1830 Mechanical 4-jaw chuck

GR 7599 Pneumatic Clamping Device with 2 Jaws (To be ordered simultaneously together with the machine order)

GR 1828 Automatic Sample Height Measurement System for full cyclic operation, with automatic dressing of cup grinding stone, (To be ordered simultaneously together with the machine order)

GR 1394-00 Recirculating coolant tank, stainless steel,

40 lt. capacity, with pump, level indicator, hoses etc.

GR 1802-01 Floor Cabinet for Forci Plan/DGP Plan/Spectral MM/PG/AG

45 60 LEVOMAT

Specimen Loading Fixture, to level the specimens within the central force specimen holders, without specimen loading plate.

Specimen Loading Plates

45 10 Specimen Loading Plate ø 130 mm.

45 50 Specimen Loading Plate ø 160 mm.

Specimen Holders for DIGIPREP Plan (Central Force Application)

45 81 Clamp type specimen holder, ø130mm, 6 specimens with ø25 mm.

45 82 Clamp type specimen holder, ø130mm, 6 specimens with ø30 mm.

45 83 Clamp type specimen holder, ø130mm, 4 specimens with ø40 mm.

45 84 Clamp type specimen holder, ø130mm, 6 specimens with ø1"

45 85 Clamp type specimen holder, ø130mm, 6 specimens with ø1 1/4"

45 86 Clamp type specimen holder, ø130mm, 4 specimens with ø1 1/2"

45 88 Teardrop specimen holder, ø130 mm, 6 specimen x 10 - 32 mm.

45 89 Teardrop specimen holder, ø130 mm, 4 specimen x 10 - 42 mm.

45 44 Clamp type specimen holder, ø 130 mm for 4 rectangular specimen 25 X 32 mm.

45 45 Clamp type specimen holder, ø 160 mm for 3 rectangular specimen 40 x 70 mm.

45 91 Clamp type specimen holder, ø160mm, 10 specimens with ø25mm.

45 92 Clamp type specimen holder, ø160mm, 8 specimens with ø30 mm.

45 93 Clamp type specimen holder, ø160mm, 6 specimens with ø40 mm.

45 94 Clamp type specimen holder, ø160mm, 3 specimens with ø50 mm.

45 95 Clamp type specimen holder, ø160mm, 8 specimens with ø1"

45 96 Clamp type specimen holder, ø160mm, 6 specimens with ø1 1/4"

45 97 Clamp type specimen holder, ø160mm, 6 specimens with ø1 1/2"

45 98 Clamp type specimen holder, ø160mm, 3 specimens with ø2"

* Other voltages and frequencies available upon request. Please state when ordering.

All specifications are subject to change without notice.

METKON DIGI7 PREPARATION METHOD

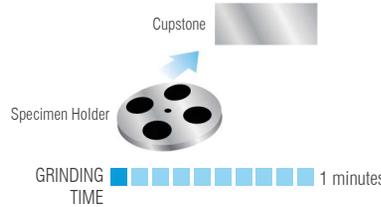
Results:

- *Highest edge sharpness
- *Mirror surface
- *Shortest preparation time in 7 minutes
- *Clean working environment
- *Cost effective preparation

STEP 1

Planar Grinding 60 grit DIGIPREP PLAN

Cup Grinding Stone

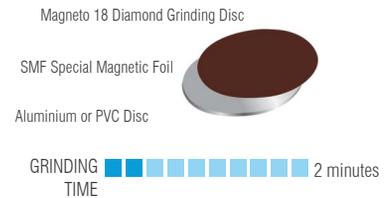


STEP 2

Fine Grinding 18 micron DIGIPREP 251/301/Accura

Magneto 18 Diamond Grinding Disc

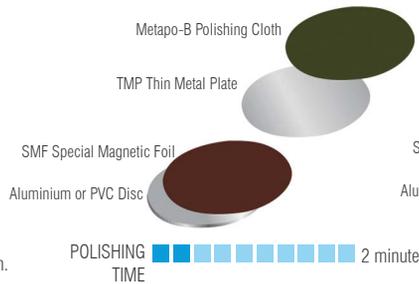
Only Water is Needed



STEP 3

Polishing DIGIPREP 251/301/Accura

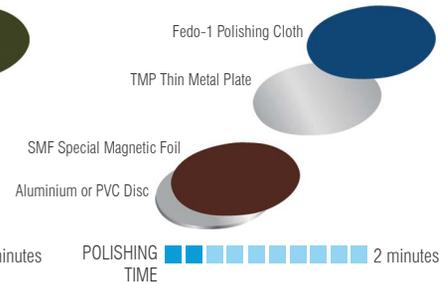
DIAPAT Diamond 3 micron



STEP 4

End Polishing 1 micron DIGIPREP 251/301/Accura

DIAPAT Diamond 1 micron



Order No

45 06

Grinding Motor Power, kW(S1)	2,2
Grinding Motor Power, kW(S3)	3
Grinding wheel Speed, (rpm)	2800
Cup wheel diameter, (mm)	ø150
Table Feedrate, (mm/s)	20-120
HMI Touch screen, (inch)	7"
Program Memory	99
Grinding Depth Accuracy, (μ)	10
Y-Axis Stroke, (mm)	160
Z-Axis Stroke, (mm)	80
Dimensions, WxDxH, (cm)	88 x 66 x 74
Dimensions, WxDxH, cm (with cabinet)	88 x 66 x 155
Weight, (kg)	185
Mains	3-phase, 400V 50Hz.AC



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