



GRINDING & POLISHING

DIGIPREP

Accura



metkon[®]
Technology behind Specimen

20
YEARS

DIGIPREP®

Accura



DIGIPREP Accura Advanced high end grinding and polishing system, robust construction on dual columns for applications requiring extremely flat specimen surfaces. Suitable for both 250mm and 300 mm applications. Motorized positioning of the Head in vertical (Z) and horizontal (X) axes with memory function. Precise control of the force applied. Combined Z axis material removal control system. Ability to store and recall preparation programs on the LCD screen. Efficient control of consumable consumption by integrated Peristaltic Dispensing Unit. Transparent cover for improved safety and working area.

Design

DIGIPREP Accura can accommodate 250 mm diameter wheel as well as 300 mm diameter wheels. The robust construction on dual columns ensures extreme flat surfaces. The working wheel is powered by a high torque 1,5 HP electric motor. The state of the art frequency converter allows smooth speed variation (50-600 rpm) of the grinding wheel with soft start and soft stop. The specimen holder is equipped with variable speed 50-150 rpm as well.

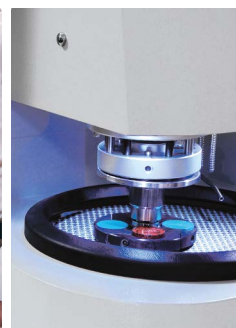
The stylish and functional ABS housing is corrosion free and easy to clean. Molded wheel bowls and drains eliminate leaks and the build-up of residue is prevented by constant flushing of the bowl. The drive elements are fixed on heavy duty aluminum alloy casting. The wheels are mounted on ball bearings allowing the application of high pressures to prepare even large specimens. Ball bearings used provide quiet and vibration free operation. When required, the base unit can be operated in manual mode, as well.

DIGIPREP Accura has advanced techniques and software with programmable coloured HMI touch screen controls increasing the productivity, sample consistency and operator comfort. It is used to prepare high volumes of metallographic, ceramic and mineralogical specimens with consistent reproducible quality. Both "Central" and /or "Individual" forces can be applied and single samples as well as multi – samples can be accommodated. Thus, offering a perfect solution for all levels of sample throughput requirements. The specimen mover head has motorized positioning in horizontal and vertical directions with memory function. The force on the specimen "individual" or "central" is pneumatically controlled by a pressure transducer. A built-in encoder allows you to measure the amount of material removed from the surface. The desired grinding depth can be set to grind different type of samples and also for applications that need special accuracy.

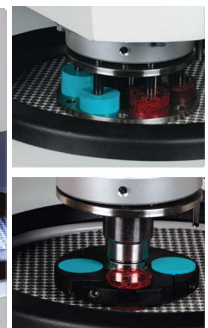
The "soft start and stop" feature automatically starts the sequence with a low initial force which is then increased to the preset. Towards the end of the cycle the force is automatically reduced to 75 % of the setting to prevent scratching. A variety of sample Holders for individual or central force applications are available for different sample sizes. The whole system is enclosed in an ABS housing.



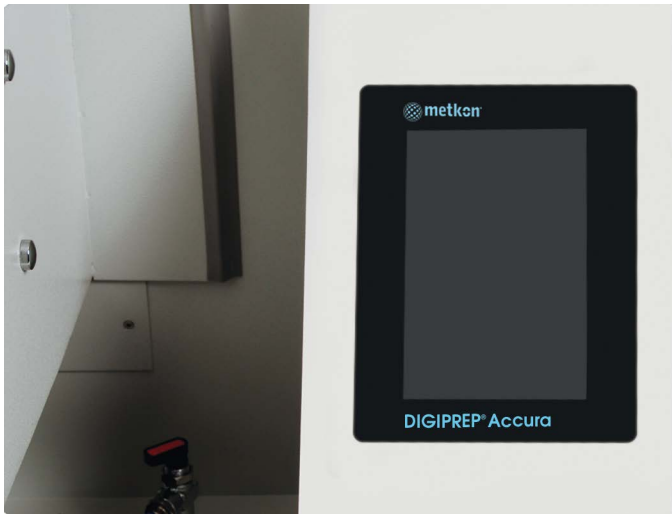
Ergonomic operation



LED lighting to illuminate the dispenser and working area



Central and Individual Force Application

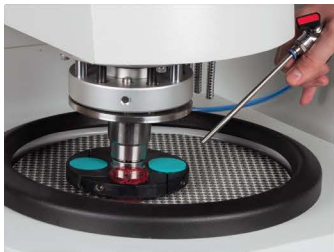


Programmable HMI touch screen controls

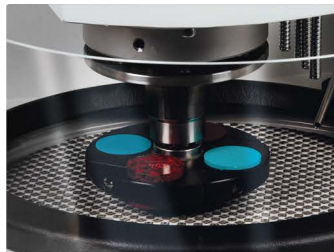
All preparation parameters can be stored in memory under a specific program number. Each program can be saved for a material specific name such as "Cast Iron, Bronze, A-Si Alloy, etc." The parameters which can be saved are; Force, Cycle time, Wheel speed and direction, Mode of operation (individual or central pressure). Dispensing frequency can also be saved. These parameters are entered and stored in memory and displayed on the LCD screen as preset values. All the operator needs to do is to select the mode of operation (individual or central pressure), call up a specific program and press the "Start" key.



Upon completion of the cycle, an acoustic signal lets the operator know that the cycle is over and the samples are ready for the next step. When required, it is also possible to intervene in the program and change the parameters without stopping the instrument



Retractable water hose for easy cleaning



Special plexyglass protection unit



Simple exchange of working discs



Enviro recirculating filtering unit (1 micron)

Peristaltic Dispenser

Optional Peristaltic Dispenser is located just behind the automatic head which allows you to save space. The optional automatic fluid dispenser used in combination to obtain consistent specimens and to save time and consumables. Both diamond suspensions / lubricants and aluminum oxide suspensions can be fed. Dispensing parameters like; frequency, fluid selection etc. are controlled through the programme memory of the Digiprep Accura. High quality peristaltic pumps guarantee exactly the same dosing every time.



Automatic Fluid Dispenser

2 Different dosing system is available for Digiprep Accura with 4 peristaltic pumps (3 for diamond suspensions/lubricant and 1 for aluminum oxide suspensions) or with 6 peristaltic pumps (5 for diamond suspensions/lubricant and 1 for aluminum oxide suspensions).

ENVIRO Recirculating Filtering System

Enviro Filter Unit is a closed loop recirculating filter system which is optionally available. It has a 20 lt reservoir capacity with 1 micron filter entering the grinder / polisher intake. Enviro can also be coupled with line water and 80 micron filtering system for disposal.

Special Plexyglass Protection Unit

Optional Special Plexyglass Protection Unit encloses the complete preparation area for improved safety. The operator cannot contact to the rotating parts during operation. The Digiprep Accura will not get started unless the protection unit is closed. Also the Digiprep Accura will immediately stop as soon as the protection unit is opened.

Specifications

45 05 DIGIPREP Accura

Powerful Preparation System with solid frame design on two columns, suitable for 250 mm as well as 300 mm dia. applications, programmable sample preparation with coloured 7" HMI touch screen control, with Siemens PLC control unit.

Base Unit with large 1,5HP Motor, Variable wheel speed 50-600 rpm, Quite belt drive, Complementary or Contra rotational direction, Soft Start /Stop, Retractable water hose, water supply and drain tubes. Motorised positioning of the Head Unit in Z and X axis, central and/or individual force application, with variable specimen holder speed 50-150 rpm, 100 Watt DC motor, LED lighting, Z-axis material removal with depth control, audible warning signal, with holding chuck. Air supply tubes, Complete and ready for operation. Without Specimen Holders. 230 V, 1-phase, 50 Hz.

Dosing Modules for Digiprep Accura

GR 0875 Automatic Fluid Dispenser, with 4 micro peristaltic pumps (3 for diamond suspensions/lubricant and 1 for alumina suspensions) (To be ordered simultaneously together with the machine order)

GR 0876 Automatic Fluid Dispenser, with 6 micro peristaltic pumps (5 for diamond suspensions/lubricant and 1 for alumina suspensions) (To be ordered simultaneously together with the machine order)

Accessories for Digiprep Accura

GR 0801 Working kit consisting of 250mm alu.wheel, 250mm splash guard and including the following standard set of consumables;

*Special Magnetic Foil, Ø 250 mm.

*Thin Metal Plate(1 pcs), Ø 250 mm

*Magneto grinding disc 18 mic., 250 mm dia.

*An assortment of 5 polishing cloths 250 mm dia.

*Diamond suspensions one of each of 6 mic. and 1 mic., plus lubricant

GR 0802 Working kit consisting of 300mm alu.wheel, 300mm splash guard and including the following standard set of consumables;

*Special Magnetic Foil, Ø 300 mm.

*Thin Metal Plate(1 pcs), Ø 300 mm

*Magneto grinding disc 18 mic., 300 mm dia.

*An assortment of 5 polishing cloths 300 mm dia.

*Diamond suspensions one of each of 6 mic. and 1 mic., plus lubricant

GR 0770 Cabinet for DIGIPREP Accura

GR 0440 Air filtering and lubricating unit.

31 12 Special Protection Cover, to be used with DIGIPREP Accura (To be ordered simultaneously together with the machine order)

Additional Wheels for Digiprep Accura

31 42 Aluminium wheel, 250 mm for DIGIPREP Accura/Velox

31 64 Splash guard, 250 mm for DIGIPREP Accura

31 52 Aluminium wheel, 300 mm for DIGIPREP Accura/Velox

31 73 Splash guard, 300 mm for DIGIPREP 301/ Accura

GR 0865 ENVIRO Recirculating Filtering System,

Closed loop 1 micron filtering system with 20 lt. recirculating water tank, suitable to operate with line water on 80 micron filter as well. Requires 4 bar compressed air. Ready for operation with all Metkon Grinder/Polishers

Accessories for Specimen Loading

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 Accura (Central Force Application)

45 81 Clamp type specimen holder, Ø130 mm, 6 specimens with Ø25 mm.

45 82 Clamp type specimen holder, Ø130 mm, 6 specimens with Ø30 mm.

45 83 Clamp type specimen holder, Ø130 mm, 4 specimens with Ø40 mm.

45 84 Clamp type specimen holder, Ø130 mm, 6 specimens with Ø1"

45 85 Clamp type specimen holder, Ø130 mm, 6 specimens with Ø1 1/4"

45 86 Clamp type specimen holder, Ø130 mm, 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 Ø25 mm.

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"

45 39 Clamp type specimen holder, Ø220mm, 3 specimens for irregular shaped samples (Specimen holders with Ø160mm can only be used with DIGIPREP 301 instrument.)

"Specimen Holders for DIGIPREP Accura (Individual Force Application)"

33 21 DIGIPREP specimen holder, Ø145mm, for 6 x Ø25 mm specimens.

33 22 DIGIPREP specimen holder, Ø145mm, for 6 x Ø30 mm specimens.

33 23 DIGIPREP specimen holder, Ø145mm, for 6 x Ø40 mm specimens.

33 24 DIGIPREP specimen holder, Ø145mm, for 3 x Ø50 mm specimens.

33 25 DIGIPREP specimen holder, Ø145mm, for 6 x Ø1" specimens.

33 26 DIGIPREP specimen holder, Ø145mm, for 6 x Ø1 1/4" specimens.

33 27 DIGIPREP specimen holder, Ø145mm, for 6 x Ø1 1/2" specimens.

33 28 DIGIPREP specimen holder, Ø145mm, for 3 x Ø2" specimens.

33 29 DIGIPREP specimen holder, Ø145mm, Blank.



DIGIPREP Accura

Order No	45 05
Application of Force	Individual + Central
Individual Force, (N)	5-100
Central Force, (N)	30-500
Head Motor, W	100
Motor Power, HP	1,5
Wheel Diameter, (mm)	250/300
Head Rotation Direction	CW/CCW
Wheel Rotation Direction	CW/CCW
HMI Touch Screen, (inch)	7"
Program Memory	30
Peristaltic Dispenser	Yes
"Grinding Depth Measurement (Z Axis)"	Yes
"Grinding Depth Measurement Accuracy (µ)"	10
Horizontal Positioning	Yes
Horizontal Positioning, mm	50
Dimensions, W x D x H, mm	660x750x700
Weight, (kgs)	170

* Other voltages and frequencies available upon request.

Please state when ordering.

All specifications are subject to change without notice.



Metkon Instruments Inc.

Demirtas Dumlupinar Organize San. Bölgesi Ali Osman Sönmez Cd. No:14 Bursa / TURKEY

Tel: +90.224.261 18 40 Fax: +90.224.261 18 44

e-mail: metkonsales@metkon.com Web: www.metkon.com

Distributor:

