

Three Station Precision Lapping-, Polishing- and CMP-Machines

The IBS IB 400 series

is a versatile lapping and polishing system capable of preparing the most demanding of specimens in Research and Industry.

Designed for research and pilot scale production applications, the machine allows up to three work stations to be used along with many methods of sample holding - this versatility is resulting from the wide range of accessories and plates to be used.

The system's exceptional build quality, incorporating heavy duty castings and flexible belt drives, ensures minimum vibration and work pattering, and thus makes possible the highest precision in all sample preparations.

The Sweep Control (optional) allows maintenance of surface parallelism and flatness. When a sample is lapped or polished, the shape of its surface will match that of the plate being used. Heavy annular conditioning rings are provided; these run at the work stations and can be positioned such that any deviation from flatness of the plate is corrected.

The Sweep Control Feature allows the sample to move laterally across the plate as it rotates. Sweep and Plate Rotation Speed controls are independent of each other.

To ease the achievement of surface flatness and parallelism, the half circle roller bar work stations as well as the reciprocating work station can be (optional) equipped with a specimen drive speed control.

All parts which may come into contact with polishing media are produced from stainless steel or heavy duty plastic and are quickly detachable for ease of cleaning and avoiding cross contamination.

Depending on the demand, this machine series is capable of operating and will be provided with 300mm dia., 350mm dia.(-A) and 400mm dia.(-B) plates.

The central bearing is capable of taking loads up to 60kg.

Easy to operate, due to turn knob settings.

Configurations recommended:

Standard Package A 300 / A 350 / A 400

- Basic machine with process timer
- Plate speed control with display 0 - 100 r.p.m.
- Sample rotation control with 0 - 100% display
- Three fixing points for half circle roller bar workstations prewired for the use of up to 3 half circle roller bar workstations, each with one active driven roller
- 3 off half circle roller bar workstations with one active driven roller each, *IB 101R*
- Conditioning ring: Cast iron *IB 103 (-A,-B)*
- Lapping- polishing plates: Cast iron *IB 310 (-A,-B)*
 Aluminium *IB 320 (-A,-B)*
 Stainless steel *IB 330 (-A,-B)*

Medium Package B 300 / B 350 / B 400

- Basic machine with process timer
- Plate speed control with display 0 - 100 r.p.m.
- Sample rotation control with 0 - 100% display
- Three fixing points for half circle roller bar workstations
- One half circle roller bar workstation with one active driven roller, *IB 101R*
- Sweep-mode half circle roller bar with one active driven roller, motordriven stroke adjustment, settable oscillation frequency, *IB 102R*
- Conditioning ring: Cast iron *IB 103 (A,B)*
- Lapping- polishing plates: Cast iron *IB 310 (A,B)*
Aluminium *IB 320 (A,B)*
Stainless steel *IB 330 (A,B)*

Premium Package C 300 / C 350 / C 400

- Basic machine with process timer
- Plate speed control with display 0 - 100 r.p.m.
- Sample rotation control with 0 - 100% display
- Three fixing points for half circle roller bar workstations
- Half circle roller bar workstation with one active driven roller, *IB 101R*
- Sweep mode half circle roller bar with one active driven roller, motordriven stroke adjustment, settable oscillation frequency, *IB 102R*
- Jig *Preci IB 112* (without tilt facility)
- Conditioning ring: Cast iron *IB 103 (-A,-B)*
- Lapping- polishing plates: Cast iron *IB 310 (-A,-B)*
Aluminium *IB 320 (-A,-B)*
Stainless steel *IB 330 (-A,-B)*

Premium II Package D 300 / D 350 / D 400

- Basic Machine with process timer
- Plate Speed Control with display 0 - 100 r.p.m.
- Sample Rotation Control with 0 - 100% display
- Three Fixing points for half circle roller bar workstations
- Half Circle Roller Bar workstation with one active driven roller, *IB 101R*
- Sweep Mode half circle roller bar with one active driven roller, motordriven stroke adjustment, settable oscillation frequency, *IB 102R*
- *Preci Polishing Jig 112K*, with tilt facility
- Autokollimator *IB O 01*
- Slurry Autofeed System *IB 700*, or *IB 701* with Etchpumping System
- Plastic Hood *IB 800*
- Conditioning ring: Cast iron *IB 103 (-A,-B)*
- Lapping- polishing plates: Cast iron *IB 310 (-A,-B)*
Aluminium *IB 320 (-A,-B)*
Stainless steel *IB 330 (-A,-B)*

Ordering Information *IBS IB 400* Lapping- Polishing and CMP Machines

1. Basic IBS IB 400 Lapping- and Polishing Machine, build up in heavy duty casting, incl. process timer, speed adjustment and display, mounting fixtures for up to 3 Half Circle Roller Bar workstations, prepared to add active rotation drive
Common Rotation Speed Adjustment for up to 3 rollers with display 0 - 100%.
Prepared for adding the Sweep Mode Feature
Slurry outlets to customers choice (to the back, into a drawer or down through the base)
The housing fits into standard fume cabinets
Prepared for the use of up to 400mm dia. Lapping- and Polishing Plates
Control panel layout in English or in any language of your choice

B. Add on features for the *IBS IB 400* Precision Lapping- and Polishing Machines

- IB 101 - Half circle roller bar workstation without active drive
- IB 101R - Half circle roller bar workstation with one motordriven roller
- IB 102 - Sweep Mode half circle roller bar, incl. motordriven stroke adjustment and adjustable oscillation frequency
- IB 102R - Sweep Mode half circle roller bar, incl. motordriven stroke adjustment and adjustable oscillation frequency plus motordriven rotation of one of the two rollers
- IB 112 - Polishing Jig Preci, 102mm dia. mounting plate and 12mm stroke
- IB 112-K - Polishing Jig *IB 112* with tilt facility +/- 5°
- IB 112-1 - Spare carrierplate in stainless steel 102mm dia. for Jigs *IB 112/112K*
- IB 112-2 - Vacuum mounting kit. with ceramic carrier plate
- IB 112-3 - Ceramic mounting plate 102 mm dia. with parallel and polished surface
- IB 112-4 - Load kit for both Jigs rated 1kg and 2 kg (max. 5 kg recommended)
- IB 112-5 - Gaugeholder for Jig 112/112K, modified weight kit 1kg and 2 kg
- IB O 01 - Autokollimator for adjusting Jig *IB 112K*
- IB 700 - Slurry autofeed system with one rotating drum
- IB 700-D - Detector for slurry feed
- IB 700-1 - Additional feeding drum for slurry
- IB 701 - Console with one pump for etching fluids, 2. pump can be added
- IB 701 **CMP** - Console with two pumps for etching and polishing fluids
- IB 800 - Hinged transparent plastic hood (requires item *IB 700* or *IB 701*)

3. Accessories for IBS PT 400 Polishing machines

IB 310	- Lapping plate, cast iron	300mm o.d., surfaces: flat, scrolled or radial grooved
IB 310-A	- Lapping plate, cast iron	350mm o.d., surfaces: flat, scrolled or radial grooved
IB 310-B	- Lapping plate, cast iron	400mm o.d., surfaces: flat, scrolled or radial grooved
IB 320	- Aluminium plate for mounting cloth or polyurethane	300mm o.d.
IB 320-A	- Aluminium plate for mounting cloth or polyurethane	350mm o.d.
IB 320-B	- Aluminium plate for mounting cloth or polyurethane	400mm o.d.
IB 330	- Stainless steel plate, for mounting cloth or polyurethane	300mm o.d.
IB 330-A	- Stainless steel plate, for mounting cloth or polyurethane	350mm o.d.
IB 330-B	- Stainless steel plate, for mounting cloth or polyurethane	400mm o.d.
IB 103	- Conditioning ring, cast iron, radial grooved	140mm dia.
IB 103-A	- Conditioning ring, cast iron, radial grooved	165mm dia.
IB 103-B	- Conditioning ring, cast iron, radial grooved	190mm dia.

Features

Specifications

Plate speed	0 - 100 r.p.m.
Plate mounting optional	lift off system with three fixing pins central thread
Plate diameter	from 250mm dia. up to 400mm dia.
Plate motor and drive	370 VA, belt
Sweep motor and drive	110 VA, belt
Number of workstations	up to three
Lap to sweep ratio	independend settable
Timer range	max. set time: 9h 59min 59 sec
Power supply	240V, 50 Hz, 600 VA
Nett weight	65 kg
Dimensions in mm	650 x 800 x 700 (W x D x H)