



PLANETARY LAPPING MACHINE
THE BENCHMARK FOR
THE DIAMOND INDUSTRY
COBORN.COM

Planetary Lapping Machine for PCD and CVD

Coborn's planetary lapping machines are designed to polish the top surface of PCD discs to a flat, mirror finish. They can also be used to polish CVD discs and PcBN. The machine consists of a number of independent work heads which hold the discs against a large, horizontally mounted planetary motion grinding wheel.

It is impossible to use flood cooling when polishing large areas of PCD as the discs 'aqua-plane' on the wheel surface. Therefore, the lapping is a dry process and the wheel is internally cooled using water from an associated water chiller.

Chilled water is also fed to the back of each disc. This maintains the disc at a uniform temperature to minimise disc dishing. The PL5i is equipped with 6 work heads as standard. Each arm is fitted with a double gimbal fixture to allow the disc to self-level. The disc holders are motor-driven. The lapping pressure can be individually adjusted.

The lapping or polishing of the top surface of PCD or CVD components is desirable to produce a smooth surface for chip flow and a good cutting edge for geometric integrity. It also maximises edge life, enhancing the characteristics of PCD and also minimises surface deviations over a large PCD or CVD area.

The PL5i has a new, user-friendly touchscreen control system providing more clarity on display status and more detailed diagnostics. New features include spindle load monitoring and the planetary wear indicator.

OPTIONAL EXTRAS

The most common optional fixtures available are shown below. Coborn can also design and supply custom fixtures and tool holding solutions according to customer requirements.



- Chiller**
- 7.5kW refrigerated chiller
 - Used to chill the fixture and underside of the grinding wheel

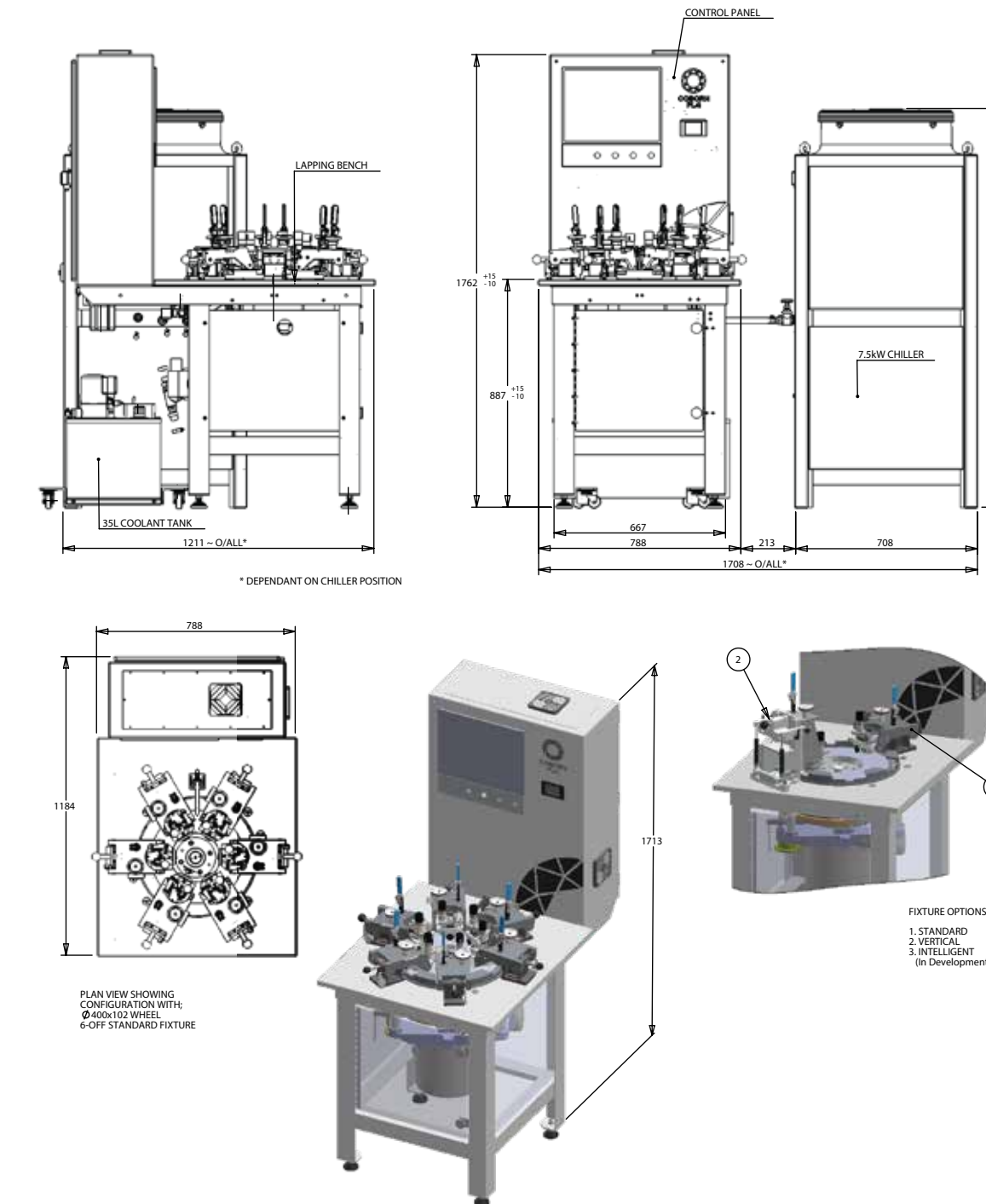


- Fixture**
- Standard - self-levelling
 - Vertical - for precision parts allowing the operator to adjust and level the surface

PL SERIES TECHNICAL SPECIFICATION

Characteristic	Model	
Machine	PL5i	PL4i
Machine dimensions (w x d x h)	790mm x 1150mm x 1625mm	690mm x 1020mm x 1625mm
Machine weight	590 kg	550 kg
Main spindle motor	12.0 kW	12.0 kW
Chiller capacity	7.5 kW	5.5 kW
Fixtures	6 as standard	4 as standard
Wheel dimensions	Diameter 400mm, Face 105mm	Diameter 300mm, Face 45mm
Electrical requirements	415/220 3phase 50/60 Hz 16Amps	415/220 3phase 50/60 Hz 16Amps
Pneumatic requirements	5.5 to 8 bar	5.5 to 8 bar

DIMENSIONS AND FOOTPRINTS



PL4/5i

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