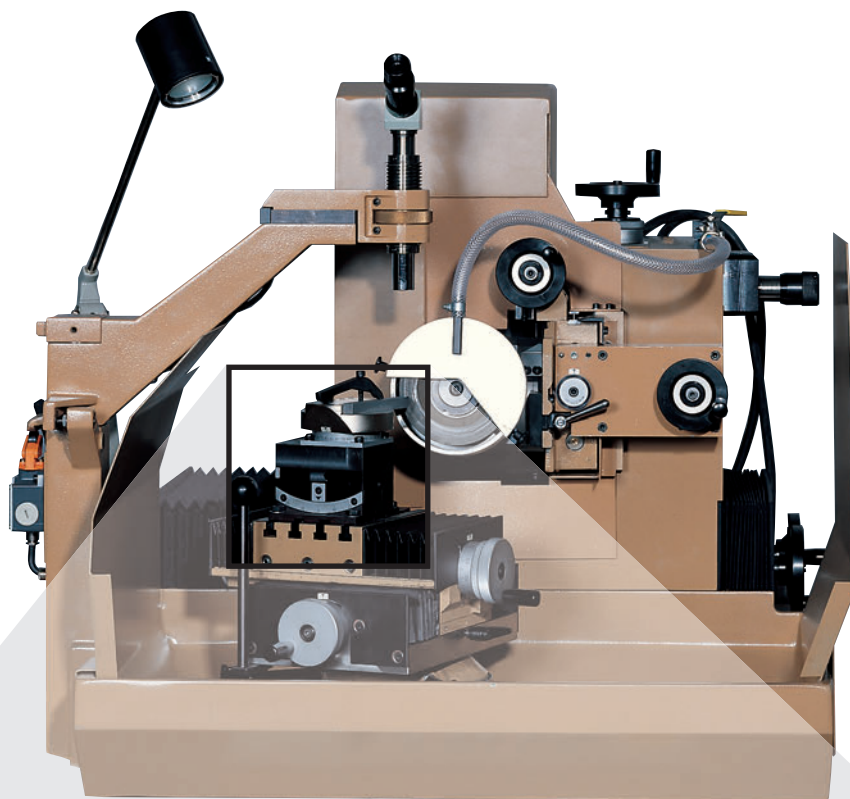
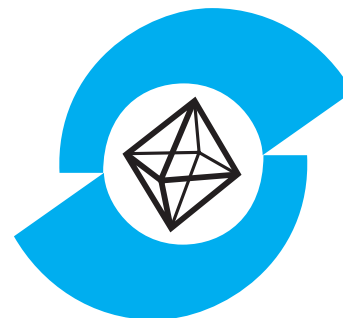
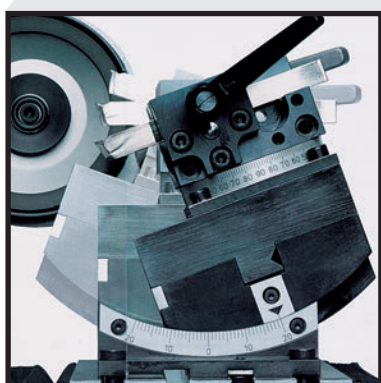


LACH DIAMANT

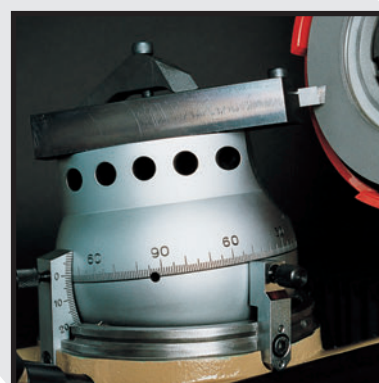
Worldwide Leadership in Technology since 1922



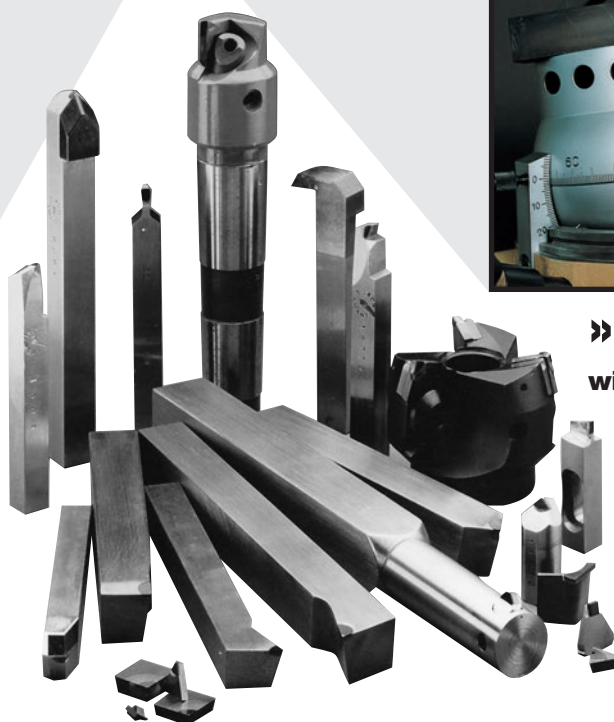
PCD-Tool-Grinding Machines

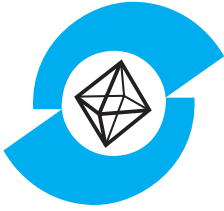


»pcd-100«
with Yoke



»pcd-300«
with Spherical Head





LACH PCD-Tool-G

for resharpening and the manu

Precision Tool Grinding Machine »pcd-100« (with yoke)

The traditional Precision-Tool-Grinding Machine in the LACH DIAMOND program for resharpening and manufacturing of single edge cutting tools.

The »pcd-100« is based on the experience of LACH DIAMOND since 1973 in the production of polycrystalline turning and milling tools for the grinding of PCD and CBN materials.

Rugged construction and rigidity are considered of great importance, especially for the grinding of PCD. Even small- and medium series can be coped with economically, due to ease of operation without expensive preparation. The same advantage is also true for single-piece production.

The grinding of the primary cutting edge, tip radius and secondary cutting edge is possible in one clamping, without reference tables or trigonometric calculations. The inclinable grinding spindle allows the grinding of conical tip radii, assuring always a constant clearance angle.

The grinding spindle can be driven with standard regulated speeds. If equipped with a frequency regulator

(Optional equipment) the speed is infinitely variable from 2.000 to 6.000 RPM.

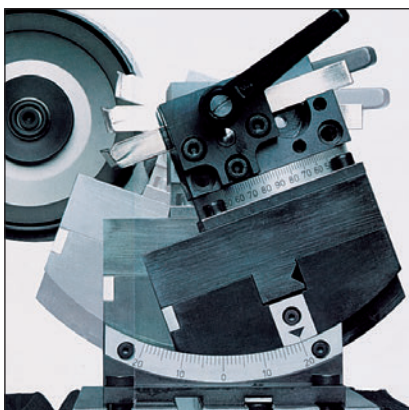
Oscillation-stroke and frequency are adjustable each in position, stroke length and frequency.

The »pcd-100« can be operated for dry- as well as for wet grinding, accessories such as dust extraction unit or coolant system are available. The control of the grinding process takes place either with a swiveling projector with concentric circles for measuring the radius or with a microscope with built-in hairline plate (each optional).

In order to obtain a high grinding efficiency, the contact pressure of the cutting edge acting against the grinding wheel can be adjusted, variable from 5 to 30 kp (available as optional equipment).

LACH DIAMOND has developed grinding wheels with bonds especially designed for particular applications for the PCD and CBN grinding.

The »pcd-100« as a Precision-Tool-Grinding Machine can of course also be utilized efficiently for the grinding of cutting tools with HSS, carbide or ceramic cutting edges.



Special Features of the »pcd-100«

Equipped with a yoke, which can be tilted in two planes ± 20 degrees.

The yoke is the basis for the acceptance of all clamping devices, such as a vice for square parts. With the quick clamping device, pre-clamped work pieces are clamped and can be ground immediately. Chucks and special clamping devices for fine drilling units and inserts as well as for tools in special shapes are available as accessories.



Grinding-Machines



Manufacturing of polycrystalline turning and milling tools

Precision Tool Grinding Machine »pcd-300« (with spherical head)

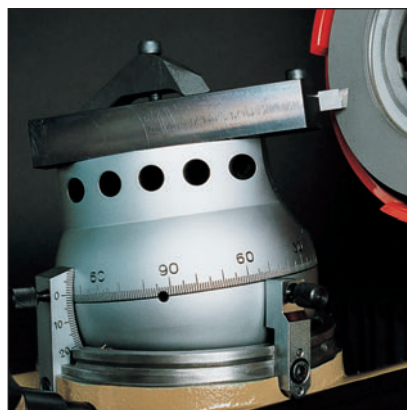
Performance characteristics like »pcd-100«

Special features of the »pcd-300«

Equipped with a spherical head, geometrically complicated single edge cutting tools can be manufactured quickly and precisely. Example: Grinding of double inclined, conical tip and profile radii. Or the grinding of differently inclined tool flanks left and right, as well as on the tip can be achieved quickly and simply in repeatable grinding quality and precision.

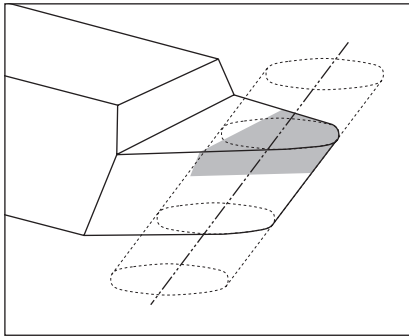
With just a few grips the tool is brought into the grinding position:

- Clamp tool to seat of the spherical head.
- Adjust tip radius on scale.
- For adjustment of the clearance angle and adjustment angle, put and fix pivot bearing temporary to "0".
- Turn sphere (ball) in two planes to adjustment angle and clearance angle of the left cutting edge.
- Tighten sphere (ball) in this position in one axis with angle locking screw.
- Turn sphere in the free axis to clearance angle of the right cutting edge (use moveable vertical scale).
- Tighten sphere with central star handle.
- Loosen pivot bearing and adjust to tip angle and fix stops.
- Pre-program grinding wheel rotational direction, oscillation frequency and stroke, dust extraction and coolant supply with push buttons.
- Grinding – when swiveling the pivot bearing from the primary cutting edge to the secondary cutting edge, the tip radius is ground at the same time.
- Afterwards, if required the face or the chip breaker groove can be ground.

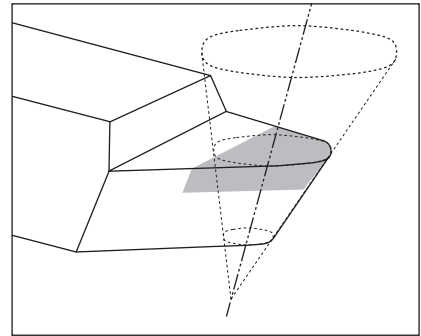


At a glance:

The most important data of the LACH »pcd-100« and »pcd-300« Precision-Tool-Grinding Machines



Left:
Tilting of the workpiece produces cylindrical tip radii. A combination of both adjusting possibilities accomplishes an optimal cutting edge geometry.



Right:
The tiltable grinding spindle makes it possible to grind conical tip radii (constant clearance angle).

Technical Data

| | |
|--|-----------------------|
| Motor power output | 1.5 kW |
| Spindle speed (RPM): Standard: | 2800–4200–5600 RPM |
| With optional frequency regulator: | 2000–6000 RPM |
| Grinding wheels | diameter 100 + 125 mm |
| Oscillation stroke, infinitely variable | 5–45 mm |
| Oscillation frequency, infinitely variable | 0–70 strokes/min. |
| Tip radius/division | 0–45 mm/0.01 mm |
| Pivot angle at the grinding spindle | 0–20 degrees |
| Pivot angle horizontal | ± 100 degrees |
| Oscillation position infinitely variable | 0–130 mm |
| Feedrate steps | 0.01 mm |
| Division steps of the adjustable center offset | 0.01 mm |

| | |
|-----------------|---------------------|
| Power supply | 3 x 380 V/50 Hz |
| Control voltage | 24 V |
| Power rating | approx. 2.5 kW |
| Weight | 700 kg |
| Dimensions | 800 x 800 x 1500 mm |

Accessories:

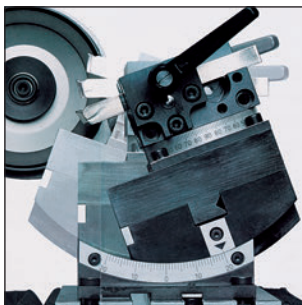
| | |
|---|------------------------------------|
| Microscope with graduated dial for radius measuring | magnification 15 times |
| Projector screen diameter 80 mm | magnification 10 times or 20 times |
| Halogen lamp for the projector | 6 V/20 W |
| Coolant aggregate | flow up to 30 liters/min. |
| Dust exhausting equipment | 700 W/12 liters |
| Illumination, halogen lamp | 12 V/20 W |

Option:

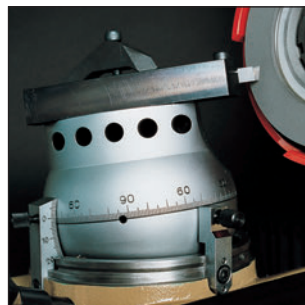
Contact pressure: Variable, adjustable from 5–30 kp

We reserve the right for modifications and changes as a result of technological advancements.

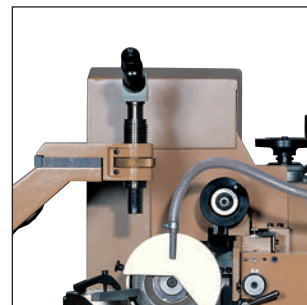
»pcd-100« with Yoke



»pcd-300« with Spherical Head



Option: Microscope or Projector



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