

CAMSHAFT GRINDER : RLE



DESCRIPTION

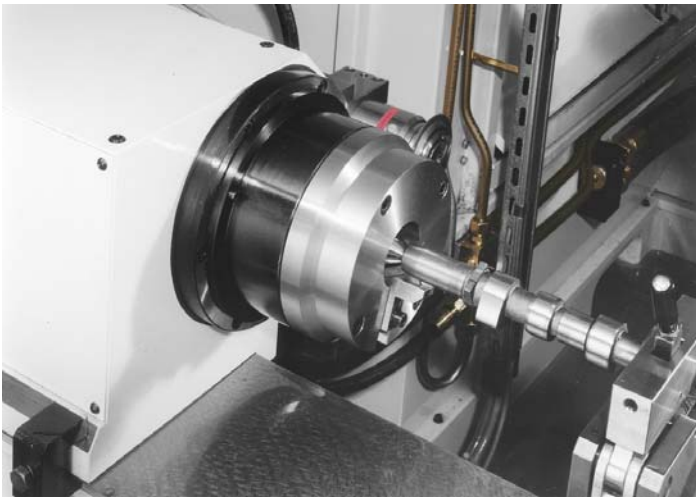
DOIMAK machine for the camshaft grinding, model RLE -800, is last generation machine, which is characterised for its high accuracy and production capacity. It has been designed with the most advanced methods for calculation and CAD design, and it includes the last technology in the field of digital drives, with the aim of achieving a machine for production of large series.

TECHNICAL FEATURES:

- Distance between centres: 800-3000 mm.
- Height of centers: 200 mm.
- Max wheel stroke: 250 mm.
- CBN wheel dimensions: 305 x 20 mm.
- Peripheral wheel speed: variable till 120 m/s.
- Wheel spindle power: 30 kW.
- Max. part rotating speed: 500 rpm.
- Max diamond disc speed: 14.000 rpm.

MACHINING CASE:

- Work part: 8 lobes automotive camshaft.
- Material: Chilled iron forging 42 HRc.
- Stock removal: 2,4 mm radial.
- Wheel speed: 100 m/s.
- Dressing frequency: 100 camshaft.
- Cycle time: 114 s.
- Finishing Ra: 0,2 µm.



WORKHEAD "C" AXIS

- The main shaft of special steel is ground and lapped, and runs on angular bearings.
- The shaft is driven by an air cooled A.C. motor and direct transmission.
- CNC variable speed workdrive.
- Spindle taper: MT-5.
- Spindle nose as DIN 55.021, AL.6 rules.
- Positioning by high resolution rotary encoder mounted in the shaft.

TAILSTOCK

- Automatic opening and closing by hydraulic cylinder.
- Sleeve mounted on lineal high accuracy ball bearings.
- Inside taper of sleeve: MT-4.
- Hydraulic pressure for rough grinding and with a spring for finish grinding.

DRESSER

- Mounted on the rear of the work head.
- Dressing cycle is programmable through CNC control and can be integrated into the grinding cycle.
- Dressing is made by a diamond disc, driven by AC motor and with rotation possibilities in both sides.

CNC SIEMENS SINUMERIK 840 D

- It controls 3 digital axes and 1 spindle.
- An RS 232 connection for programme management is provided.
- Part programming is made via dialogue display and the operator can adapt the cam profile, camshaft dimensions, and machining conditions. The behaviour of this software is fully verified by its application in previous models.

BASE

- Amply sized perlitic cast iron with the internal ribs necessary to ensure good machine rigidity and vibration-free running.

TABLE "Z" AXIS

- Slide driven by A.C. digital type servomotor and precision ballscrew.
- Infinitely variable working speeds between 0,1 ÷ 6.000 mm/min.
- Stroke reading by linear encoder.
- Position resolution: 0,001 mm.
- It moves on ground V and flat guideways continuously lubricated by a close circuit for stick-slip free infeed.

WHEELHEAD INFEEED SLIDE "X" AXIS

- Slide driven by A.C. digital type servomotor and hydrostatic screw.
- Infinitely variable working speeds between 0,1 ÷ 6.000 mm/min.
- Stroke reading by linear encoder.
- Positioning resolution: 0,001 mm.
- It moves on hydrostatic guideways for a uniform displacement of the slide at any speed.

GRINDING WHEELHEAD

- Main shaft is driven by a 30 kW servomotor and direct transmission.
- It runs on hydrostatic high speed bearings.
- Constant grinding wheel surface speed at 100-120 m/s.
- CBN grinding wheel Ø 305 mm.

