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**Cost-effective solution: The new JUCENTER
Productive CBN high-performance grinding of camshafts, crankshafts and
gearshafts**

Finish machining a four-cylinder camshaft on one machine, all in just 60 seconds: The JUCENTER sets new standards with its two machining stations.

An extremely cost-effective production concept

Two become one: Instead of linking separate grinding machines for grinding radius and cam profiles, the new JUCENTER combines both grinding processes in two separate clampings on a single machine. This saves production space as well as costs.

Integration beats interlinking

The basic idea behind this technical concept is that grinding of all bearing and pivot diameters is performed on one machine with one wheel set. In parallel, two further grinding slides process two radial non-aligned cams in the next clamping in pairs. An integrated loading portal reduces secondary processing times to an absolute minimum: The loading portal takes the blank from the conveyor belt, brings it to station 1 and there removes the previously partially machined camshaft, which is then loaded into station 2 for finishing.

Highlight of station 2: Two grind quicker than one

The JUCENTER's technical pièce de résistance when it comes to camshaft grinding lies in station 2: In order to grind cams in pairs which are very close to each other, two swivelling wheelheads are deployed simultaneously. Optimised for non-circular grinding, the two wheelheads machine all four cam pairs consecutively. Pair-wise grinding halves the primary processing time compared to conventional cam grinding machines where eight single cams have to be machined consecutively – an enormous time saving.

Also suitable for crankshafts and gearshafts

The operating principle behind the JUCENTER can also be transferred to other types of workpiece. The advantage of speed inherent in this production concept is particularly useful for automotive parts such as crankshafts and gearshafts.

JUCENTER saves components, space and costs

The JUCENTER machine concept works with just one controller and only single peripherals (coolant supply, highpressure station, hydraulics, pneumatics, lubrication) are required. There is potential for even further savings, as the space requirement is low: There is no longer a need for two separate machines to be positioned side-by-side and interlinked.

The process at a glance

Two fully independent grinding stations are set up on the same machine base. On station 1 on the left-hand side, finish grinding of all bearing and pivot diameters is performed simultaneously using controlled measurements. At the same time on station 2 in a second workpiece clamping, cylinder-specific finish grinding is performed simultaneously on two cams with a different concave cam profile and radial cam position.



Grinding station 1: Grinding of bearing and pivot diameters



Grinding station 2: Pair-wise grinding of cam pairs

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