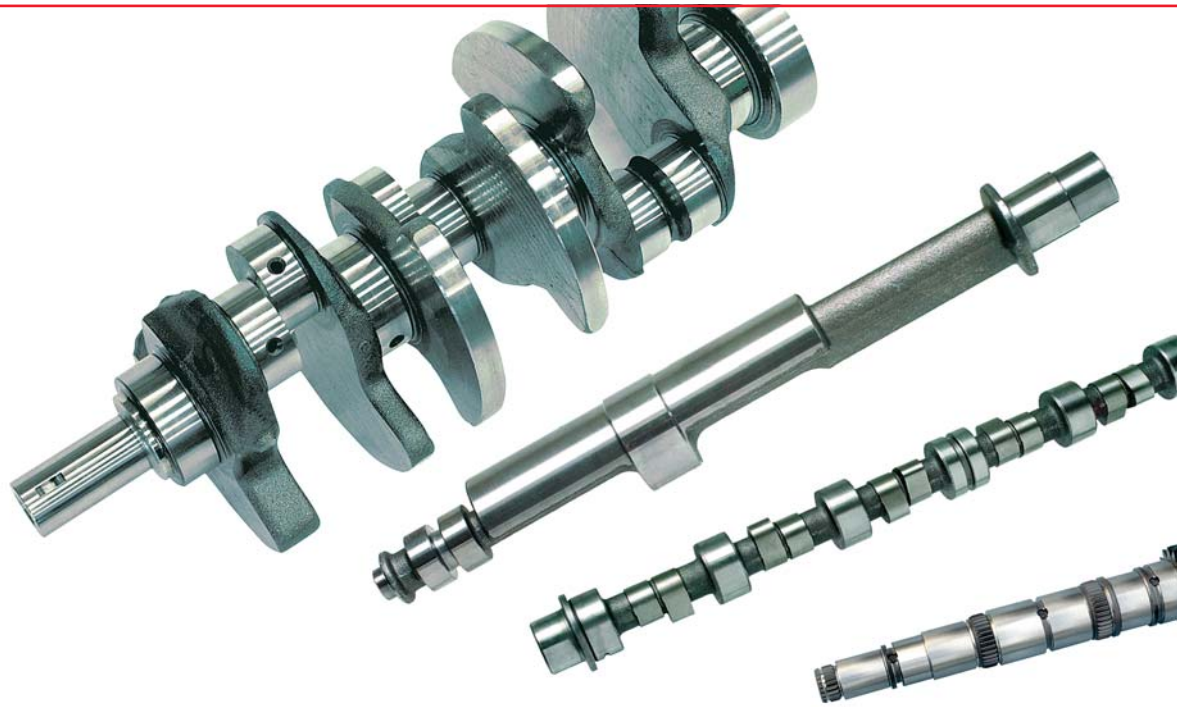


Superfinishing-Machine

Supfina CenFlex 2



**Finishing of crankshafts,
camshafts, gearshafts
and balancer shafts**



Superfinish

Supfina CenFlex 2 – for flexible production lines

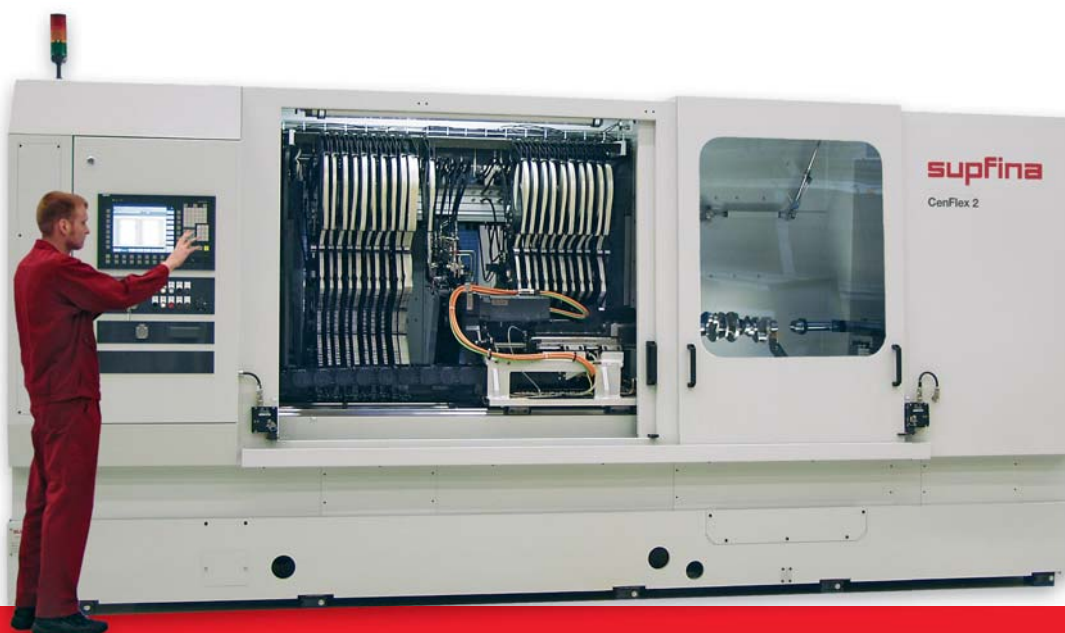
Areas of Application:

Whether it is a limited production of prototypes or a full production of flexible production lines, the Supfina CenFlex covers all areas of application with its high reliability and economic efficiency.

Depending on the application the set-up is either a one- or multi-step machining process of the workpiece (for example a crankshaft) or a step by step process of a cam- and crankshaft on the same machine (for example motorsports components).

supfina CenFlex 2

Workpiece (shaft) length: 450–850mm
optional 600–1250mm
Stroke (for crankshafts): max. 100mm
optional max. 120mm
Superfinishing tape arms: max. 23



The highly flexible CenFlex concept is the result of numerous customer suggestions from the automotive and automotive supplier industry, as well as our own long time surface machining experience.

Ergonomics → Your User Comfort

- Outstanding accessibility of the machining area resulting in the working area being within reach for the operator.
- All hydraulic and pneumatic valves, as well as the de-centralized electric periphery, are easily accessible and visible outside the machining area.
- Integrated tape cutting and disposal system for uninterrupted production.

Economic Efficiency → Your Advantage

- Separate control circuits for the hydraulic working pressure of the individual tape arm groups (optional for each tape arm).
- Longest tool lifetime by using 300m (1000ft) tape rolls as well as individually adjustable tape feed through each Superfinishing arm.
- Easy and quick workpiece changeover using automatic tape arm adjustment in connection with quick-changing shoes.
- Prolonged lifetimes of machining shoes and interchangeable parts using abrasion preventing coatings.

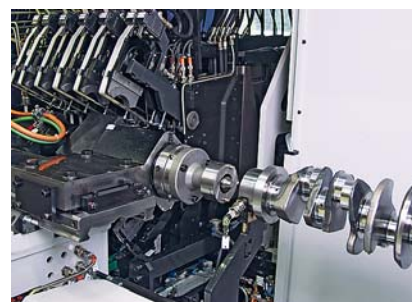
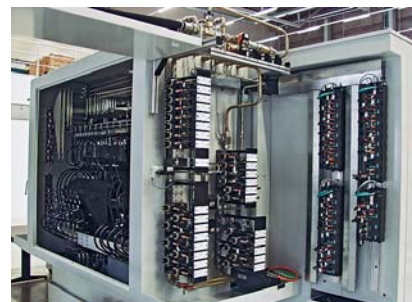
High Flexibility Advantages:

- Automatic tool adjustment of all installed Superfinishing tape arms to the workpiece
- Easy and quick changing of shoes (Supfina Quick-Changing System)
- Use of 'hard' and 'soft' shoes
- Up to 23 Superfinishing tape arms in a block-by-block or step-by-step machining process (per CNC-Program)
- Varying types of shafts (for example cam- and crankshafts) on the same machine

- Selection of individual tape arms for possible refinishing
- Easy and cost-efficient adjustment to new workpieces
- Universal loading and unloading: manual gantry loader or pallet system

Machining Options:

Main bearings, pin bearings, post end, flange, thrust face, radii, cam lobes



Special Processes:

- Machining of oil seal seats with circumferential lines
- Removal of chatter marks and waviness
- Removal of ferrite caps of cast iron workpieces
- Deburring of cam lobes and flange drillings
- Rounding of oil holes



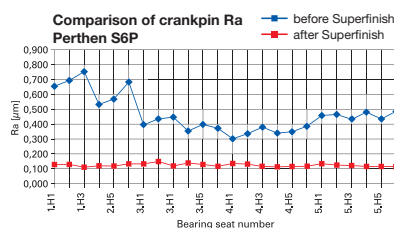
Quick change shoes allow easy changeovers to various workpiece geometries

Crankshaft



Results

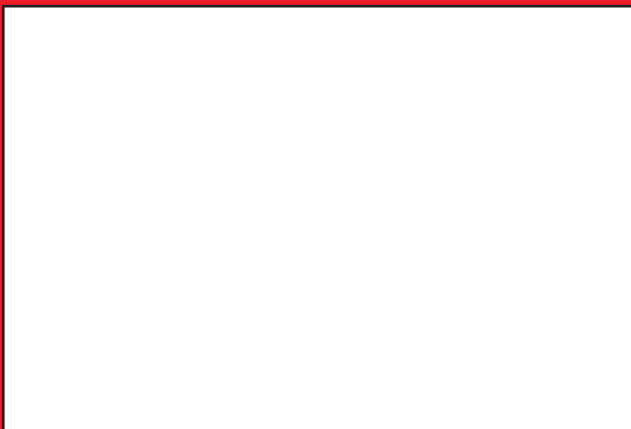
Surface roughness: $Ra = 0.1 - 0.15 \mu m$
 Roundness Delta: $\bar{x} = 1.4 \mu m$
 Cross-section: $\bar{x} = 2.9 \mu m$
 Stock-removal: $5 - 8 \mu m$
 Cycle time: 42 s
 CMK: 1.67





With locations in America and Asia and over 50 distributors worldwide we can offer customers comprehensive global service.

Surface Finishing Systems
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