

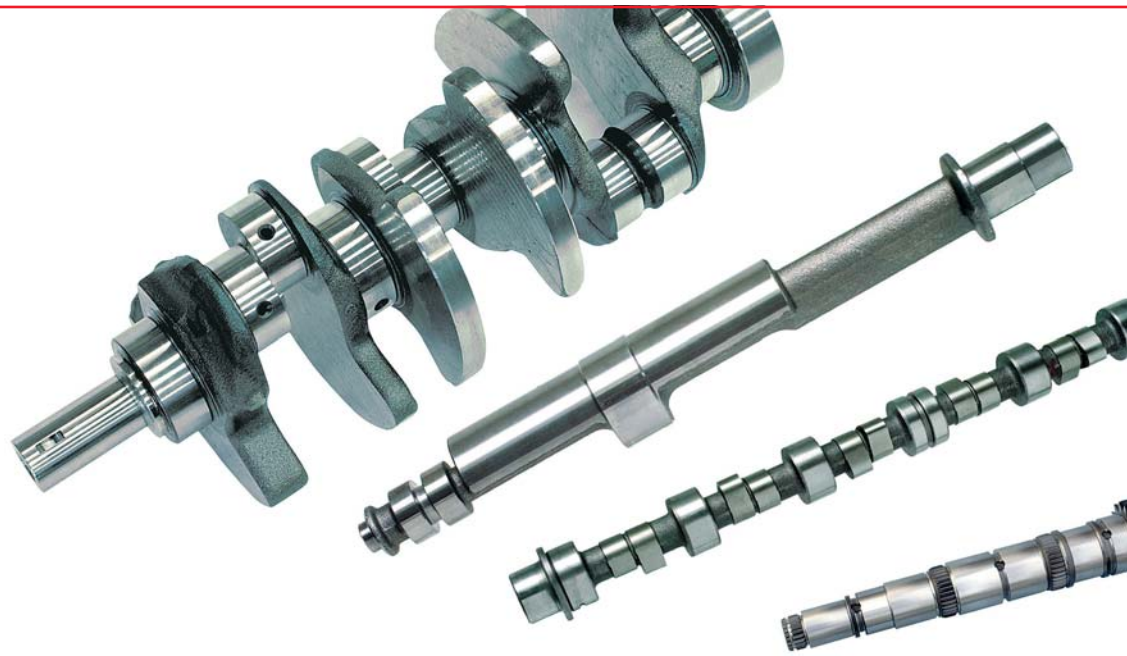
supfina

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:
 Automobile: 450 – 850 mm,
 optional 600 – 1250 mm

Stroke (for crankshafts):
 Automobile: max. 100 mm
 optional max. 120 mm

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.

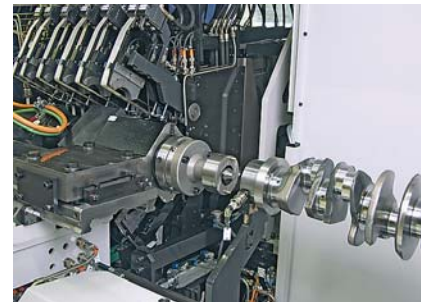
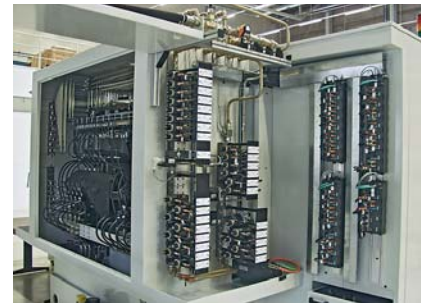
High Flexibility Advantages

- 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

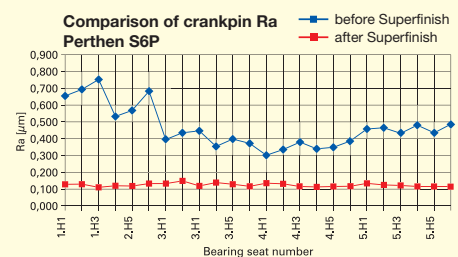
Crankshaft



The results

Surface roughness: $R_a = 0,1-0,15 \mu\text{m}$
 Roundness Delta: $x_{\text{quer}} = 1,4 \mu\text{m}$
 Cross-section: $x_{\text{quer}} = 2,9 \mu\text{m}$
 Stock-removal: $5-8 \mu\text{m}$
 Cycle time: 42 s
 CMK: 1,67

Comparison of crankpin Ra Perthen S6P





With over 50 representatives and our locations in the American and Asian region we are globally active and can offer our customers comprehensive service and support.



www.supfina.com

 Supfina Grieshaber GmbH & Co. KG
Schmelzegrün 7 · D-77709 Wolfach
Tel. +49 (0)7834 866-0 · Fax +49 (0)7834 866-200
www.supfina.com · info@supfina.com

 Supfina Machine Company, Inc.
181 Circuit Drive · N. Kingstown, RI 02852 / USA
Tel. +1(1)401-294-66 00 · Fax +1(1)401-294-62 62
www.supfina.com · info@supfina.com

 Supfina Grieshaber GmbH & Co. KG
Beijing representative Office
DiYang Tower 1202B · Chaoyang District Beijing
100027 P. R. China
Tel. +86-10-84536-669 · Fax +86-10-84536-670
www.supfina.com · supfina@126.com