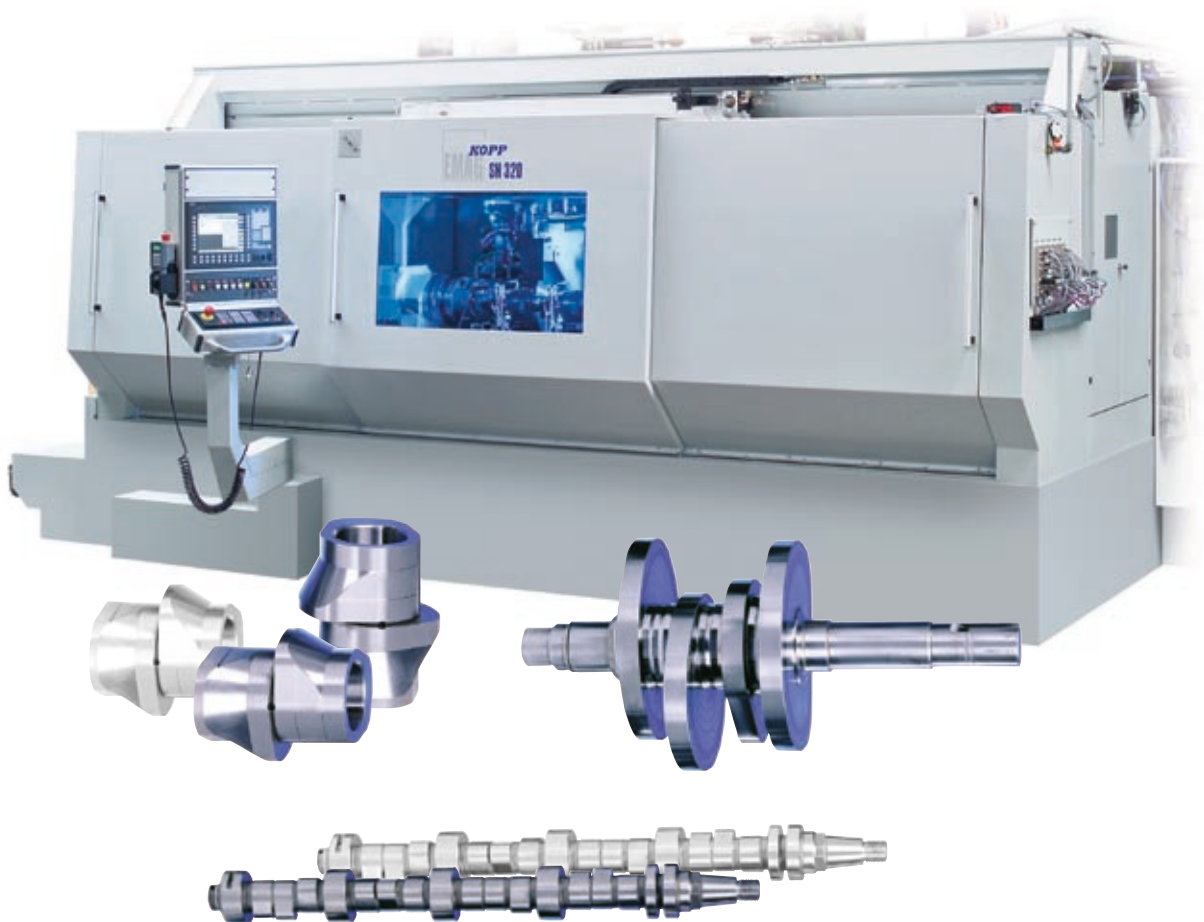




CAM PROFILE GRINDERS  
SN 310/320/330



# CAM PROFILE GRINDERS FOR ONE-OFFS AND VOLUME PRODUCTION



SN 310 with gantry loader, for volume production

Camshafts produced on EMAG KOPP machines are as suitable for highpowered Formula 1 racing cars as they are for environmentally friendly, volume produced private vehicles. Cutting-edge CBN technology handles the grinding of small, concave radii on camshafts for motorcycles, cars and trucks as well as it does that of camshafts for large diesel engines.

A choice of three different grinding lengths and two different center heights offers appropriate machines to suit diverse component geometries.

The compound table design reduces the footprint and brings savings in expensive production floor space. Hydrostatic guideways in all linear axes and a hydrostatic leadscrew-drive in the infeed



Workpiece samples

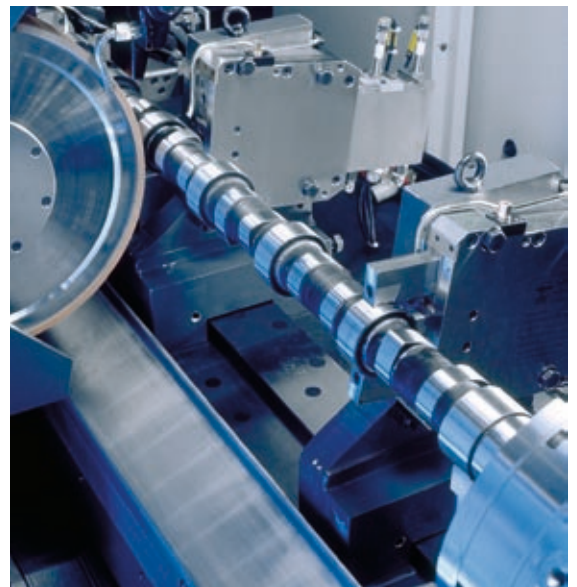
axis allow for the shortest, most accurate infeeds and an optimal continuity of movement, resulting in excellent surface finish and superb contour accuracy.

## WORKPIECE SAMPLES ...

The modular machine design offers:

- ◆ various work heads, tailstocks and grinding units
- ◆ in-process and post-process gauging equipment
- ◆ dressing attachments for CBN and corundum grinding wheels
- ◆ touch-recognition during grinding and dressing
- ◆ automatic balancing units
- ◆ different sizes of workholding units, chucks and steadies
- ◆ environmentally friendly cutting oil processing plants and extraction systems
- ◆ automated loading hatch and interface for an integral or external automatic loading / unloading device

- ◆ It is possible to grind all matter of cam contours and profiles:
  - ◆ cams with cylindrical and conical track,
  - ◆ cams with concave radii of max. 18 mm,
  - ◆ tapered cams.



CBN-grinding, in a single set-up, of cam profile and bearing seats on a lorry camshaft



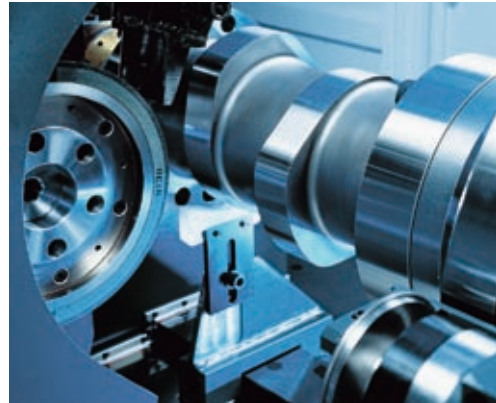
CBN-grinding of camshafts for railroad engines

## ... AT A GLANCE

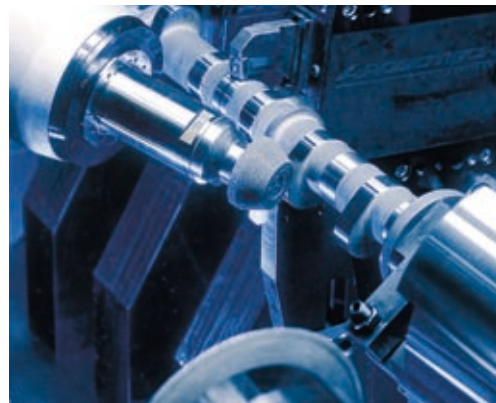
- ◆ Grinding of (in a single set-up):
  - ◆ camshafts: cams, bearing seats and end faces;
  - ◆ crankshafts: prototype machining of main and pin bearings, using a B-axis with torque motor and a maximum of three grinding spindles.



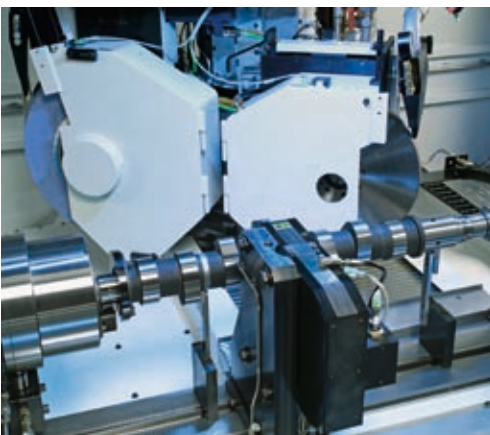
Grinding a camshaft



CBN-grinding of camshaft segments for large diesel engines



5-axis grinding (patent applied for) of racing car camshafts



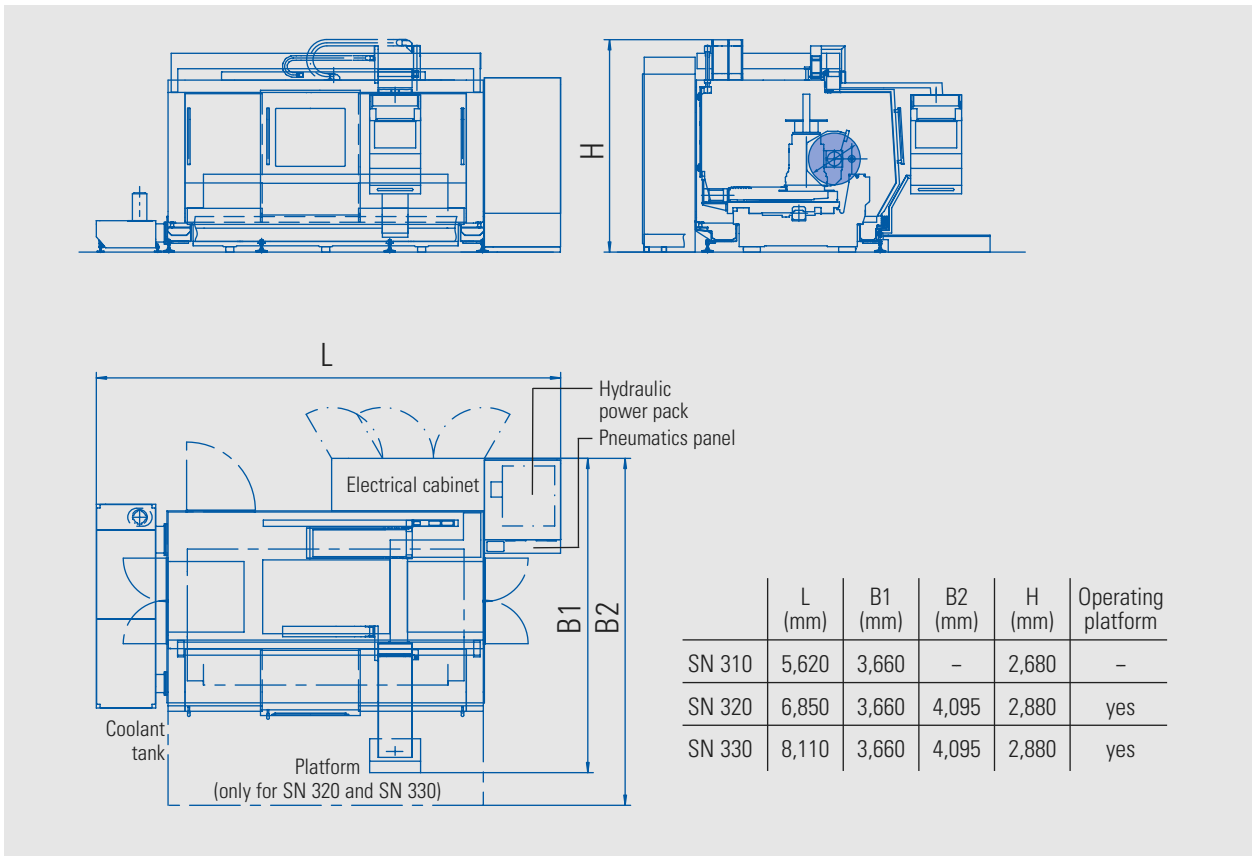
B-axis with two grinding wheels, for the grinding of camshafts



CBN-grinding of camshafts with concave radii

# TECHNICAL DATA

		SN 310	SN 320	SN 330
<b>CAPACITY</b>				
Workpiece dia., max.				
Center height 180 mm	mm	360	-	-
Center height 320 mm	mm	640	640	640
Workpiece length, max.	mm	1,000	2,000	3,000
<b>GRINDING WHEEL DIAMETER CBN</b>				
	mm		100 to 500	
<b>UTILISABLE RANGES</b>				
X-axis travel	mm	500	500	500
Z-axis travel	mm	1,700	2,700	3,700
Swivel angle B-axis	°	270	270	270
X-axis feed rate	m/min	15	15	15
Z-axis feed rate	m/min	15	15	15
<b>WEIGHT</b>				
	kg	14,800	19,000	22,400



Subject to change without prior notice.

# At home in the world.

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