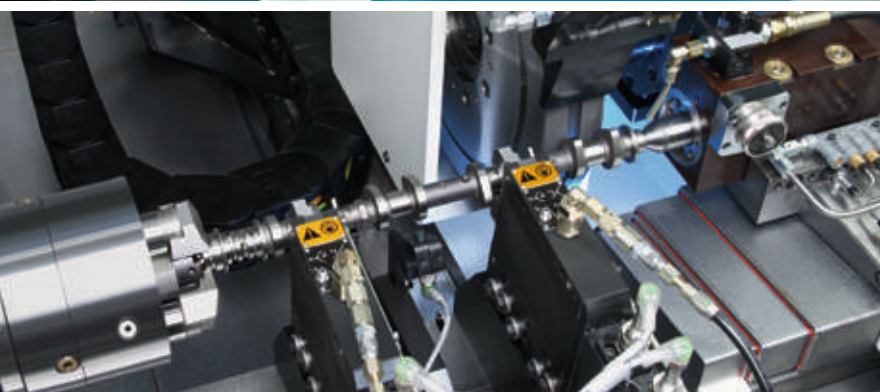
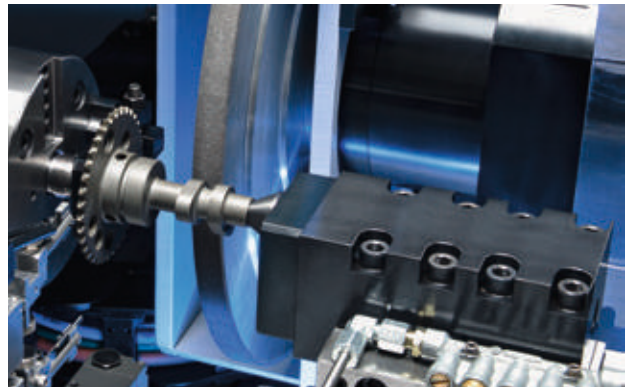
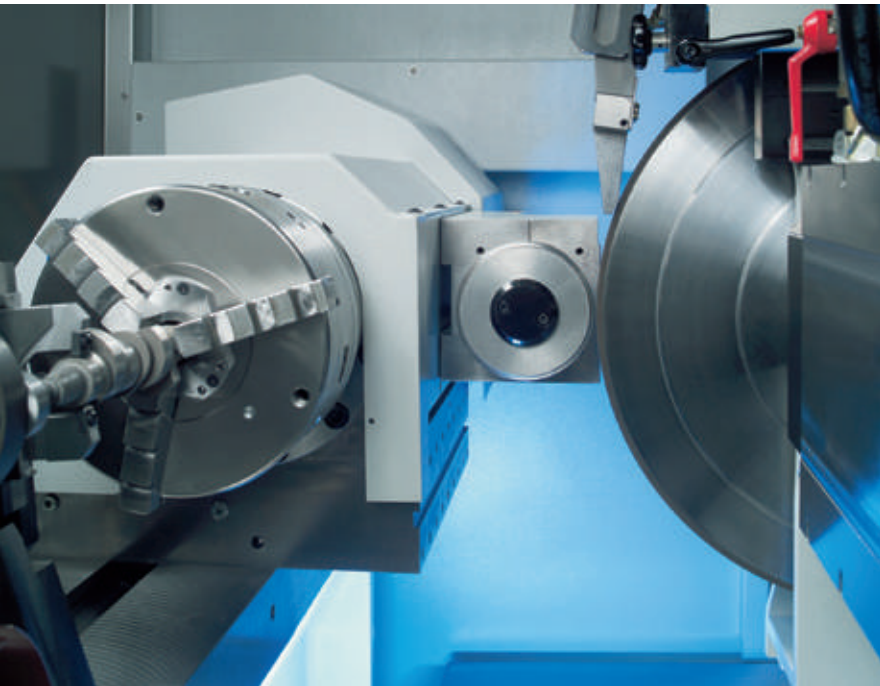


CAMSHAFT GRINDING MACHINES

SN 204 · SN 208



HIGH-PERFORMANCE GRINDING OF CAMSHAFTS AND EXTERNAL CONTOURS

The KOPP SN Series is the best manufacturing solution for all non-round grinding tasks for camshafts and external contours.

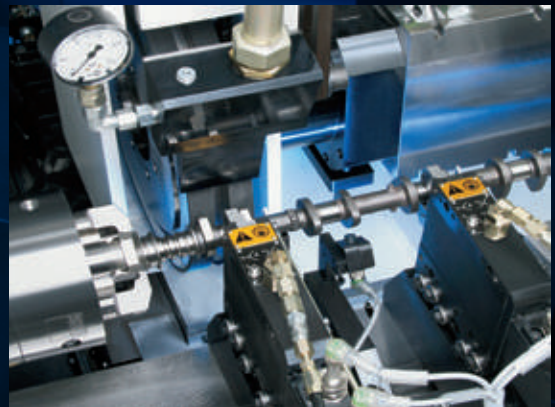
The SN 204 and 208 modular machines have a wide range of machine versions available, making them flexible to perfectly fit any production requirements. All modern grinding technologies are possible on these machines. The machine can be fitted with one, two or three grinding wheels for external non-round and/or round machining. The X-axis features a hydrostatic ball screw drive and hydrostatic guideway to guarantee very accurate grinding results.





BENEFITS

- + The modularity of these machines makes it possible to create the perfect machine configurations for the desired application – from a simple, single-slide machine with one grinding spindle, to a very flexible system with two grinding slides, a B-axis and up to four grinding spindles.
- + The very dynamic X-axis and directly driven workpiece headstock allow for short grinding times for non-round machining.
- + Use of hydrostatic ball screw drive and hydrostatic guideways in the X-axis provide great vibration damping properties ensuring top-of-the-line component quality.
- + Use of highly productive CBN grinding technology
- + The modern EMAG contour control and programming system is easy to use, and provides experts with a variety of ways to improve the manufacturing process.



THE MODULAR PRINCIPLE

Using the SN module system, a customized machine can be perfectly configured to meet any requirement. For the body of the machine, two options are available to achieve different part lengths. The machine can be a single or twin design with a mounted compound slide. Additionally, three grinding spindles can be positioned on a high-precision B-axis on the compound slide.

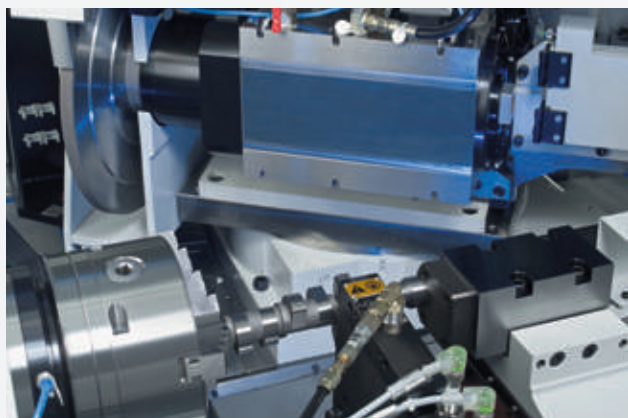
The appropriate grinding and dressing spindle combination can be selected to fit the workpiece requirements. In its full configuration, the machine can be fitted with a drive rating of 30 kW for CBN roughing. The minimum grinding wheel diameter for cam machining is 60 mm (2 in).

As standard, the workpieces are rotated by a powerful direct drive with a rated torque of 95 Nm. Several steady rests, measuring heads and a tailstock with

adjustable clamping pressure can be mounted to the workpiece bench to fit the specific requirements of the workpiece.

The workpiece can be loaded and unloaded manually or automatically using a loading/unloading device.

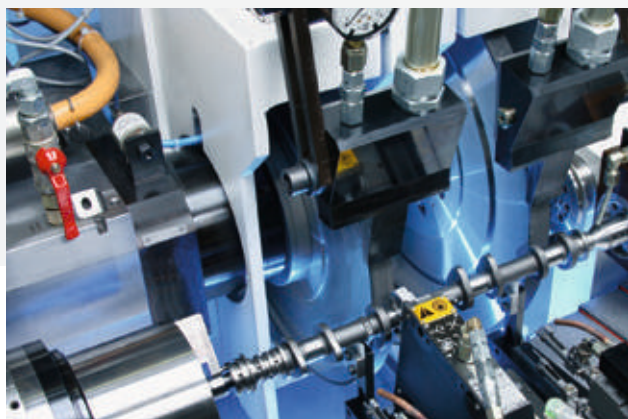
Application examples for the SN Series include the non-round grinding of camshafts for car and motorcycle engines, camshafts for injection pumps, eccentric shafts, external polygons and external curves for textile and packaging machines.



Indexing axis and two grinding units with CBN grinding wheels



Grinding a radial cam for textile machines



The SN 208 fitted with two slides for simultaneous grinding



Polygon grinding



TECHNICAL DATA

SN 204 SN 208

Working range

» Max. workpiece dia.	mm	380	380
	inch	15.0	15.0
» Workpiece length, max.	mm	600	950
	inch	23.6	37.5

Grinding Wheel Unit for CBN Grinding

» Grinding wheel dia., max.	mm	500	500
	inch	19.7	19.7
» Motor spindle power rating	kW	30	30
	hp	40	40
» Spindle speed, max.	rpm	7,200	7,200

Grinding wheel unit for corundum grinding

» Grinding wheel dia., max.	mm	610	610
	inch	24.0	24.0
» Motor spindle power rating	kW	15	15
	hp	20	20
» Spindle speed, max.	rpm	4,000	4,000

Feeds and Speeds

» X-axis travel	mm	360	360
	inch	14.2	14.2
» Z-axis travel	mm	1,000	1,600
	inch	39.4	63.0
» X- and Z-axis speed	m/min	30 / 30	30 / 30
	ipm	1,181 / 1,181	1,181 / 1,181

Work Head with Motor Spindle

» Torque	Nm	95	95
	ft-lb	70	70
» Speed range	rpm	1 – 1,000	1 – 1,000
» Tool holder	KK	5	5

Dimensions and Weight

» Length (a)	mm	3,410	4,550
	inch	134	179
» Width (b)	mm	2,400	2,400
	inch	94.5	94.5
» Height (c)	mm	2,490	2,490
	inch	98.0	98.0
» Weight	approx. kg	11,000	14,000
	approx. lb	24,251	30,865



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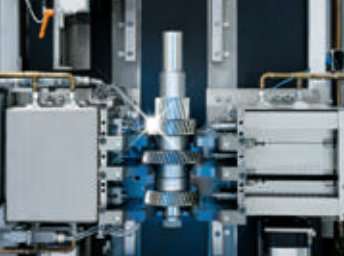
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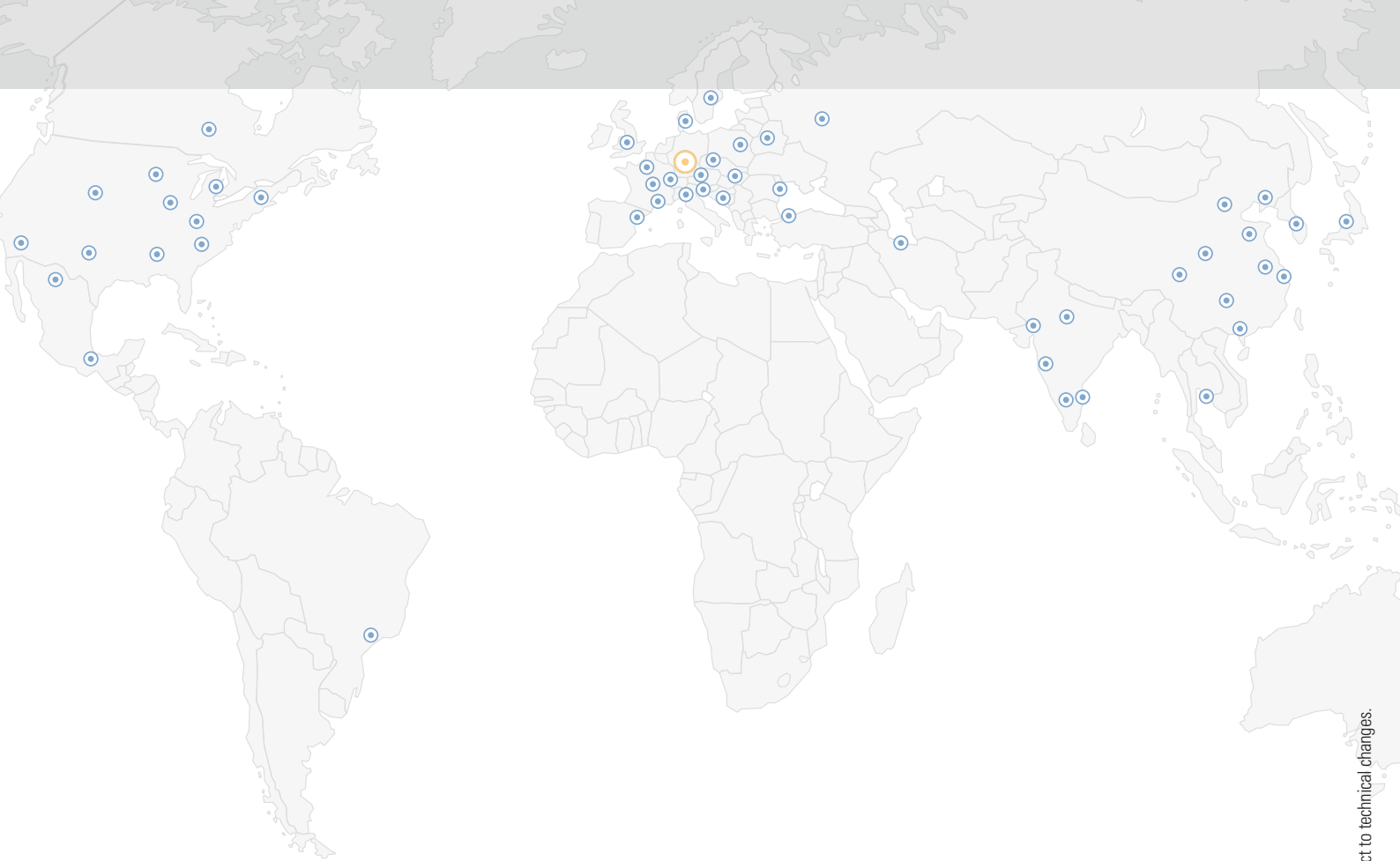
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