CAMSHAFT GRINDING MACHINES
SN 204 · SN 208
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.

Subject to technical changes

HIGH-PERFORMANCE GRINDING OF CAMSHAFTS AND EXTERNAL CONTOURS
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

#### Working Range

<table>
<thead>
<tr>
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<th>SN 204</th>
<th>SN 208</th>
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<tbody>
<tr>
<td>Max. workpiece dia.</td>
<td>380</td>
<td>380</td>
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<tr>
<td>Workpiece length, max.</td>
<td>600</td>
<td>950</td>
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#### Grinding Wheel Unit for CBN Grinding

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<thead>
<tr>
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<tbody>
<tr>
<td>Grinding wheel dia., max.</td>
<td>500</td>
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<tr>
<td>Motor spindle power rating</td>
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<td>Spindle speed, max.</td>
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#### Grinding Wheel Unit for Corundum Grinding

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<td>Grinding wheel dia., max.</td>
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<td>Motor spindle power rating</td>
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<td>Spindle speed, max.</td>
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#### Feeds and Speeds

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<tr>
<td>X-axis travel</td>
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<td>360</td>
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<td>Z-axis travel</td>
<td>1,000</td>
<td>1,600</td>
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<td>X- and Z-axis speed</td>
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#### Work Head with Motor Spindle

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<tr>
<td>Torque</td>
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<td>95</td>
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<td>Speed range</td>
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<td>Tool holder</td>
<td>KK</td>
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#### Dimensions and Weight

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<tr>
<td>Length (a)</td>
<td>3,410</td>
<td>4,550</td>
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<tr>
<td>Width (b)</td>
<td>2,400</td>
<td>2,400</td>
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<tr>
<td>Height (c)</td>
<td>2,490</td>
<td>2,490</td>
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<tr>
<td>Weight</td>
<td>11,000</td>
<td>14,000</td>
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AT HOME ALL OVER THE WORLD.

EMAG Salach GmbH
Salach
Austrasse 24
73084 Salach
Germany
Phone: +49 7162 17-0
Fax: +49 7162 17-4027
E-mail: info@salach.emag.com

Leipzig
Pitterstrasse 26
04159 Leipzig
Germany
Phone: +49 341 4666-0
Fax: +49 341 4666-2114
E-mail: info@leipzig.emag.com

Frankfurt
Martin-Behaim-Strasse 12
63263 Neu-Isenburg
Germany
Phone: +49 6102 88245-0
Fax: +49 6102 88245-412
E-mail: info@frankfurt.emag.com

Munich
Zamdorferstrasse 100
81677 München
Germany
Phone: +49 89 99886-250
Fax: +49 89 99886-160
E-mail: info@muenchen.emag.com

Austria
Glaneckerweg 1
5400 Hallein
Austria
Phone: +43 6245 76023-0
Fax: +43 6245 76023-20
E-mail: info@austria.emag.com

Denmark
Horsvangen 31
7120 Vejle Ø
Denmark
Phone: +45 75 854854
Fax: +45 75 816276
E-mail: info@daenemark.emag.com

Sweden
Glasgatan 19B
73130 Köping
Sweden
Phone: +46 221 40305
E-mail: info@sweden.emag.com

Hungary
Gerenda 10
1163 Budapest
Hungary
Phone: +36 30 9362-416
E-mail: lbujaki@emag.com

Czech Republic
Lolkova 766
103 00 Praha 10 – Kolovraty
Czech Republic
Phone: +420 731 476070
E-mail: mdelis@emag.com

Poland
ul. Krzycka 71A / 6
53-020 Wrocław
Poland
Phone: +48 728 389 989
E-mail: info@poland.emag.com

EUROPE
EMAG MILANO S.r.l.
Via dei Mille 31
20098 San Giuliano Milanese (Mi)
Italy
Phone: +39 02 905942-1
Fax: +39 02 905942-24
E-mail: info.milano@emag.com

EMAG MILANO S.r.l.
Succursale en France
5 Avenue de L’Europe – BP 22
18150 La Guerche sur L’Aubois
France
Phone: +33 248 7711-00
Fax: +33 248 7111-29
E-Mail: info.france@emag.com

EMAG MILANO S.r.l.
Sucursal en España
Pasaje Arrahona, n° 18
Poligono Industrial Santiga
08210 Barberà del Vallès (Barcelona)
Spain
Phone: +34 93 7105090
Fax: +34 93 7297107
E-mail: info.spain@emag.com

EMAG UK Ltd.
Chestnut House
Kingswood Business Park
Holyhead Road
Albrighton
Wolverhampton WV7 3AU
Great Britain
Phone: +44 1902 37609-0
Fax: +44 1902 37609-1
E-mail: info@uk.emag.com

EMAG OOO
ul. Akademika Chelomeya 3/2
117630 Moscow
Russia
Phone: +7 495 287 0960
Fax: +7 495 287 0962
E-mail: info@russia.emag.com

AMERICA
EMAG L.L.C. USA
38800 Grand River Avenue
Farmington Hills, MI 48335
USA
Phone: +1 248 477-7440
Fax: +1 248 477-7784
E-mail: info@usa.emag.com

EMAG MEXICO
Maquinaria EMAG Mexico S de RL de CV
Av. Hercules 301 Nave 1
Polígono Empresarial Santa Rosa
76220 Santa Rosa Jauregui, Querétaro
Mexico
Phone: +52 442 291 1552
E-mail: info@mexico.emag.com

EMAG DO BRASIL
Edifício Neo Corporate Offices, CJ 1503
Rua Enxovia, 472
04711-030 São Paulo SP
Brazil
Phone: +55 11 38370145
Fax: +55 11 38370145
E-mail: info@brasil.emag.com

Market Companies

EUROPE
EMAG MILANO S.r.l.
Via dei Mille 31
20098 San Giuliano Milanese (Mi)
Italy
Phone: +39 02 905942-1
Fax: +39 02 905942-24
E-mail: info.milano@emag.com

EMAG MILANO S.r.l.
Succursale en France
5 Avenue de L’Europe – BP 22
18150 La Guerche sur L’Aubois
France
Phone: +33 248 7711-00
Fax: +33 248 7111-29
E-Mail: info.france@emag.com

EMAG MILANO S.r.l.
Sucursal en España
Pasaje Arrahona, n° 18
Poligono Industrial Santiga
08210 Barberà del Vallès (Barcelona)
Spain
Phone: +34 93 7105090
Fax: +34 93 7297107
E-mail: info.spain@emag.com

EMAG UK Ltd.
Chestnut House
Kingswood Business Park
Holyhead Road
Albrighton
Wolverhampton WV7 3AU
Great Britain
Phone: +44 1902 37609-0
Fax: +44 1902 37609-1
E-mail: info@uk.emag.com

EMAG OOO
ul. Akademika Chelomeya 3/2
117630 Moscow
Russia
Phone: +7 495 287 0960
Fax: +7 495 287 0962
E-mail: info@russia.emag.com

AMERICA
EMAG L.L.C. USA
38800 Grand River Avenue
Farmington Hills, MI 48335
USA
Phone: +1 248 477-7440
Fax: +1 248 477-7784
E-mail: info@usa.emag.com

EMAG MEXICO
Maquinaria EMAG Mexico S de RL de CV
Av. Hercules 301 Nave 1
Polígono Empresarial Santa Rosa
76220 Santa Rosa Jauregui, Querétaro
Mexico
Phone: +52 442 291 1552
E-mail: info@mexico.emag.com

EMAG DO BRASIL
Edifício Neo Corporate Offices, CJ 1503
Rua Enxovia, 472
04711-030 São Paulo SP
Brazil
Phone: +55 11 38370145
Fax: +55 11 38370145
E-mail: info@brasil.emag.com

Turning
Milling
Grinding
Gear Hobbing
Power Skiving
EMAG Salach GmbH
Salach
Austrasse 24
73084 Salach
Germany
Phone: +49 7162 17-0
Fax: +49 7162 17-4027
E-mail: info@salach.emag.com

Frankfurt
Martin-Behaim-Strasse 12
63263 Neu-Isenburg
Germany
Phone: +49 6102 88245-0
Fax: +49 6102 88245-412
E-mail: info@frankfurt.emag.com

Leipzig
Pittlerstrasse 26
04159 Leipzig
Germany
Phone: +49 341 4666-0
Fax: +49 341 4666-2114
E-mail: info@leipzig.emag.com

Munich
Zamdorferstrasse 100
81677 München
Germany
Phone: +49 89 99886-250
Fax: +49 89 99886-160
E-mail: info@muenchen.emag.com

Austria
Glaneckerweg 1
5400 Hallein
Austria
Phone: +43 6245 76023-0
Fax: +43 6245 76023-20
E-mail: info@austria.emag.com

Denmark
Horsvangen 31
7120 Vejle Ø
Denmark
Phone: +45 75 854854
Fax: +45 75 816276
E-mail: info@daenemark.emag.com

Sweden
Glasgatan 19B
73130 Köping
Sweden
Phone: +46 221 40305
E-mail: info@sweden.emag.com

Hungary
Gerenda 10
1163 Budapest
Hungary
Phone: +36 30 9362-16
E-mail: info@hungary.emag.com

Czech Republic
Lokova 766
103 00 Praha 10 – Kolovraty
Czech Republic
Phone: +420 731 476070
E-mail: mdelis@emag.com

Poland
ul. Krzycka 71A / 6
53-020 Wroclaw
Poland
Phone: +48 728 389 989
E-mail: info@poland.emag.com

Turkey
Sanayi Cad. No.: 44
Nish Istanbul Sitesi D Blok
D: 155 Yenibosna – Istanbul
Turkey
Phone: +90 532 694 54 44
E-mail: ckoc@emag.com

ASIA
EMAG (China) Machinery Co., Ltd.
Building A3 & B7 Cangneng
Europe & America Technology Park
No. 8 Loujiang Rd. (N.)
215400 Taicang
Jiangsu, China
Phone: +86 512 5357-4098
Fax: +86 512 5357-5399
E-mail: info@emag-china.com

EMAG (Chongqing) Machinery Co., Ltd.
No. 10th Lailand Road
Yongchuan District
402160 Chongqing
China
Phone: +86 23 49783399
Fax: +86 23 49783388
E-mail: info@emag-china.com

EMAG INDIA Pvt. Ltd.
Technology Centre
No. 17/G/46-3, Industrial Suburb,
2nd Stage, Yeshwantpur,
Bengaluru – 560 022
India
Phone: +91 80 50050163
E-mail: info@india.emag.com

EMAG KOREA Ltd.
Rm204, Biz center, SKn Technopark,
124 Sagimakgol-ro, Sangaewon-dong,
Jungwon-gu, Seongnam City,
Gyeonggi-do, 462-721
South Korea
Phone: +82 31 776-4415
Fax: +82 31 776-4419
E-mail: info@korea.emag.com

TAKAMAZ EMAG Ltd.
1-8 Asahigaoka Hakusan-City
Ishikawa Japan, 924-0004
Japan
Phone: +81 76 274-1409
Fax: +81 76 274-8530
E-mail: info@takamaz.emag.com