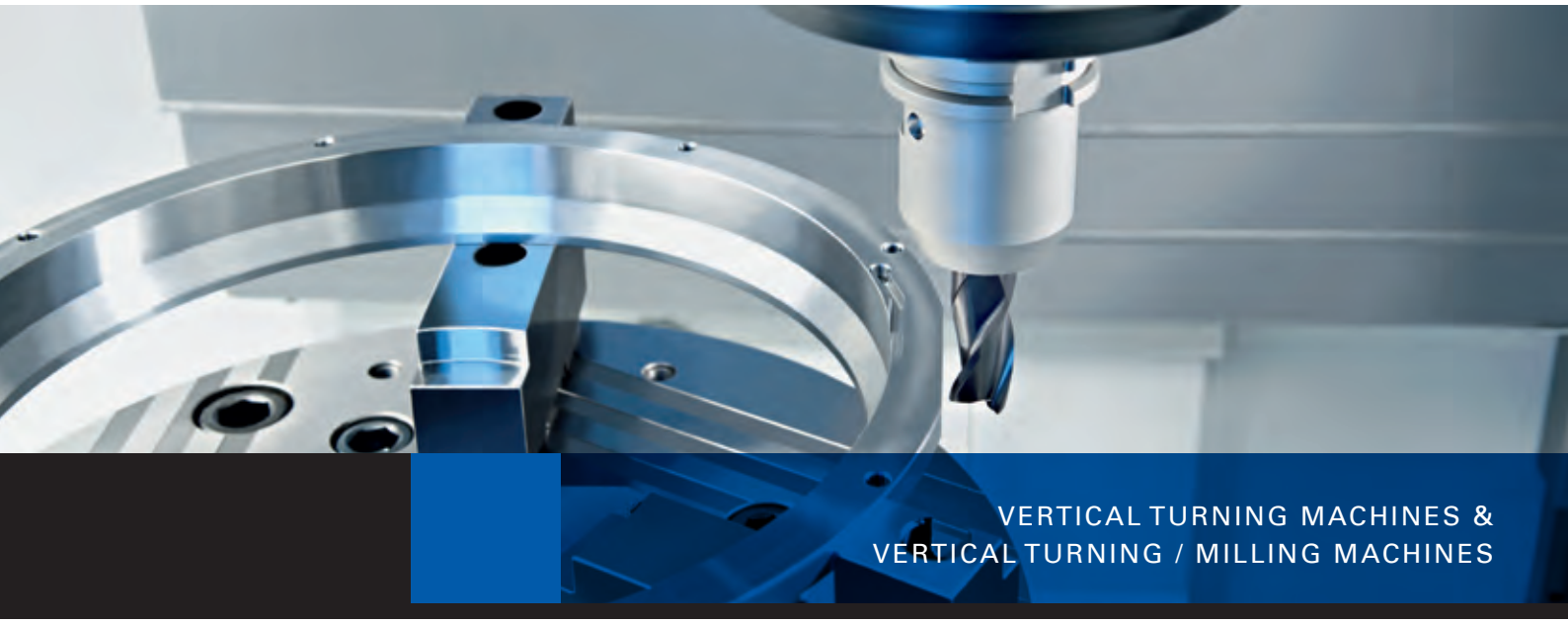
VMC-SERIES



VERTICAL TURNING MACHINES &
VERTICAL TURNING / MILLING MACHINES

think VERTICAL

EMAG

+ **Consistent vertical model product families with a modular design ensure a large range of options**
+ **Ideal for small production runs, part families and prototype production**
+ **Suitable for universal use – highly flexible manufacturing of a wide range of workpieces and materials**
+ **Machine concept which can be optimally adapted to the machining process required with a large selection of technology modules**
+ **Number of tools can be extended using mini tool carriers**

THE VMC PLATFORM

VMC 300 MT

Vertical turning / milling center

Workpiece diameter, max.:
300 mm

VMC 450

Vertical turning center

VMC 450 MT

Vertical turning / milling center

Workpiece diameter, max.:
450 mm

EQUIPMENT	VMC-SERIES	VMC MT-SERIES
Axes	X / Z / C (Y optional)	X / Z / C (Y optional)
Tooling systems	Disc-type turret Disc-type turret with driven tools	Multi-functional turning / milling spindle
Technologies	Turning / Drilling / Milling Additional technologies with driven tools	Turning / Drilling / Milling and other multi-functional technologies
No. of tools	Turret with eight or 12 tool positions BMT / VDI	20 tool positions, HSK / Capto (can be extended in intervals of 20)

ERGONOMIC, PRECISE, PRODUCTIVE

VMC 600

Vertical turning center

VMC 600 MT

Vertical turning / milling center

Workpiece diameter, max.:
630 mm

* Available starting 2016

THE BENEFITS

1. **Machining of chucked parts = standard machine concept**
2. **Small footprint = reduced floor space costs and many possibilities for the machine layout**
3. **Short travel distances = reduced idle times**
4. **Common parts strategy and standard spare parts warehousing = lower maintenance costs**
5. **Ease of operation = extremely accessible machining area, quick machine set-up and measurement**
6. **Energy efficient = reduction in energy costs**
7. **Loading concept = manual, robot, portal, TrackMotionSystem**

PRODUCTIVE

Adaptable to Optimally Fit Machining Requirements

The vertical turning centers of the **VMC-series** are designed for the manufacture of individual parts and small production runs with a wide variety of parts. For machining, the tool turret, with eight or twelve tool positions depending on the tool interface desired (BMT or VDI), can be equipped with driven tools, to carry out drilling operations, for example. The integrated probe ensures process reliability and guarantees a consistently high workpiece quality (first part = OK part). The VMC-series is thus extremely well equipped for a wide variety of production tasks.

The **VMC MT-series** expands this machine concept with the turning-milling spindle positioned at the top to form a highly flexible production center. The machines focus on universality and can be configured to suit almost any customer request. Complete machining using a wide variety of technologies is a key feature. The VMC MT-series offers various tool magazines with up to 200 available tool positions and various spindles to compliment this range. The VMC MT-series is thus the all-round solution for a wide variety of workpieces.

ADVANTAGES OF THE VMC PRODUCT FAMILY

MAXIMUM PRODUCTIVITY
Highly dynamic axes for short idle times and quick machining processes

USER FRIENDLY
All the service units are easy to reach

MAXIMUM PERFORMANCE
Minimized transport distances

HIGH SURFACE ACCURACY
Axis monitoring by rotary, indirect absolute encoders. All axes with optional fully encapsulated linear glass scale.

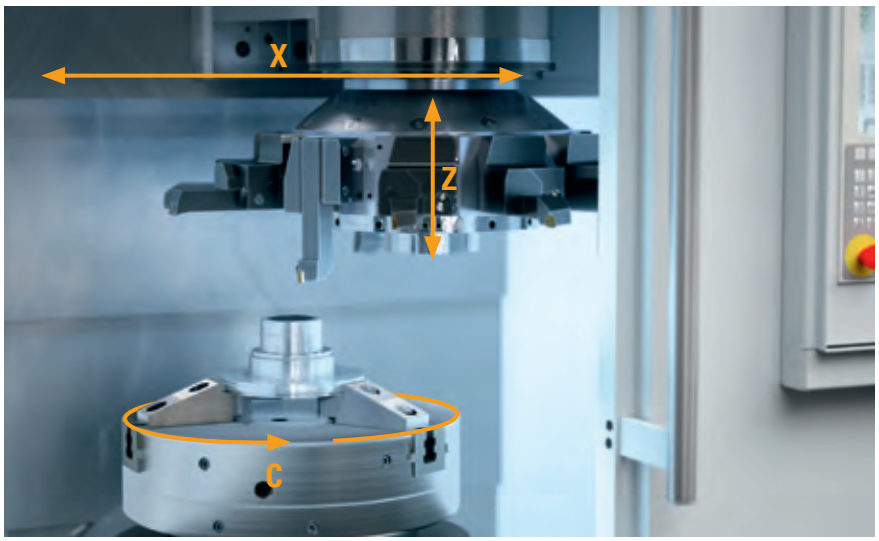
IDEAL FOR HEAVY-DUTY MACHINING
Generously dimensioned main spindle, maintenance-free spindle motors and rigid guideways

EXTENDED TOOL LIFE
Machine body made of MINERALIT® with six to eight times better damping properties than gray cast iron

With the flexibility of the VMC- and VMC MT-series, EMAG offers a single machine system for chucked parts suited to the production of a wide variety of workpieces in many different manufacturing scenarios. Be it parts for trucks, construction and agricultural machines or the aviation industry, the VMC-series is ideal for practically every sector.

Universal Solutions for Machining Chucked Components

VMC-series

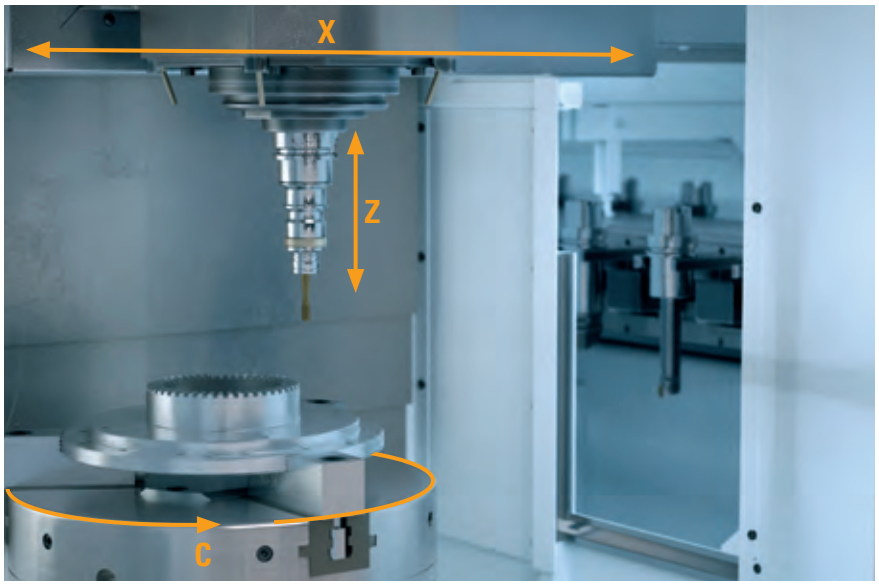


Arrangement of the axes on VMC machines, tool carrier turret

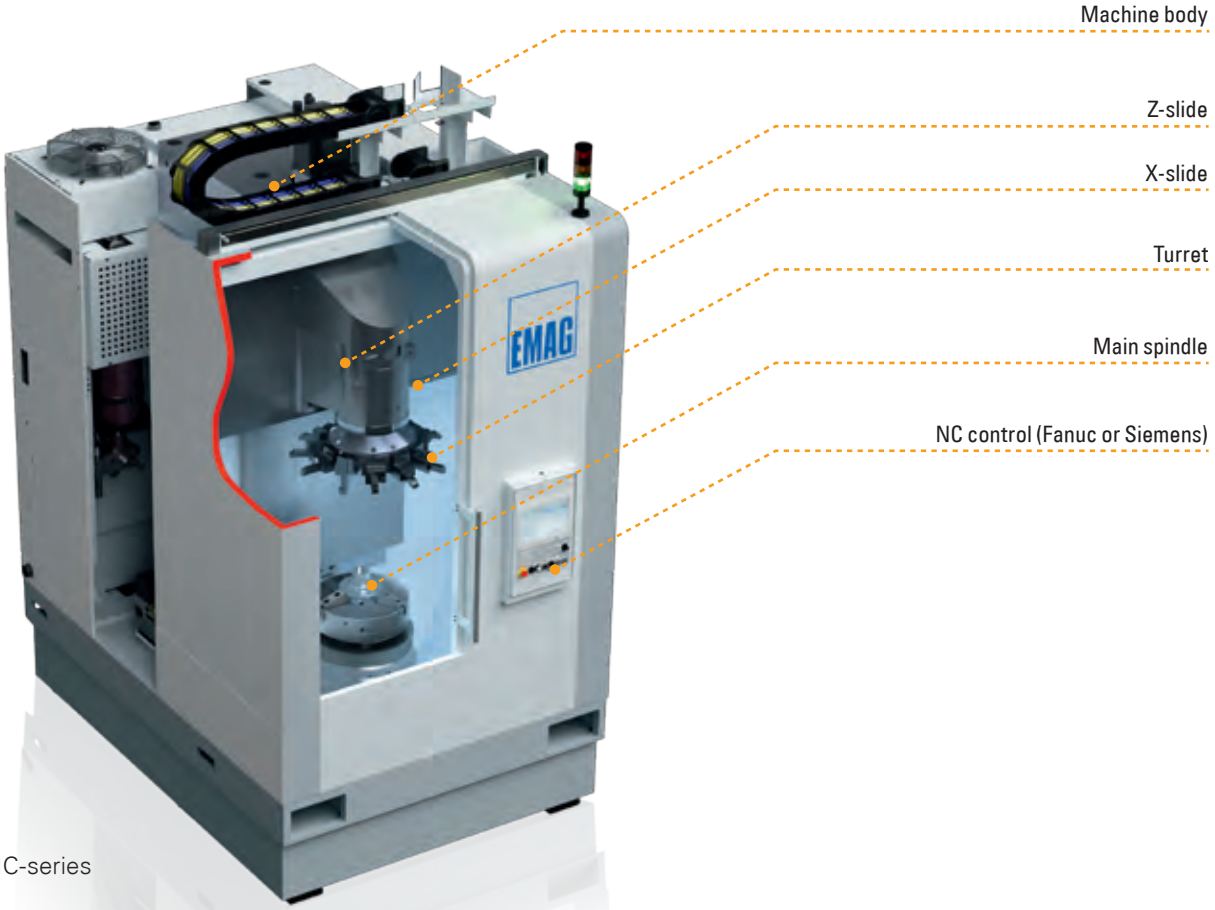
MACHINE
DESIGN

FLEXIBLE

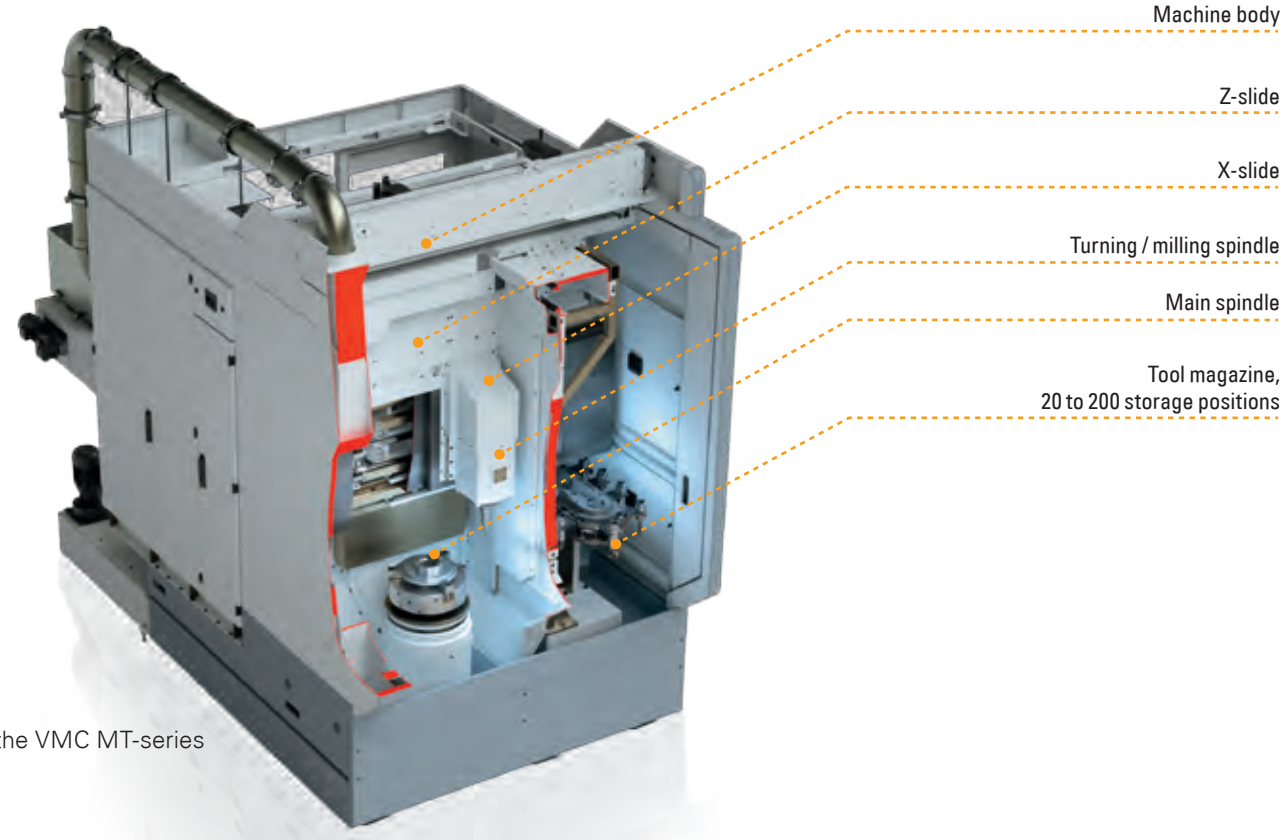
VMC MT-series



Arrangement of the axes on VMC MT machines: turning / milling spindle and tool magazine, lateral arrangement



Design of the VMC-series



Design of the VMC MT-series

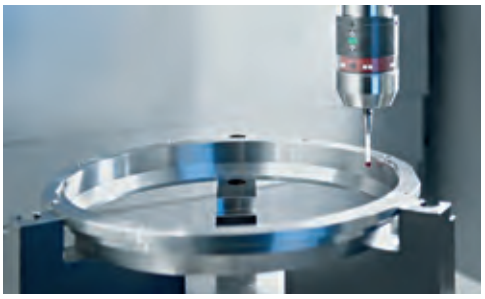
PRECISE

Integrated Quality Assurance

For consistent quality management and maximum component quality, the VMC and VMC MT machines feature several complementary measuring systems. The laser measuring bridge outside the machining area monitors the wear and diameter of the tools and always ensures that the machining process is uninterrupted. A radio probe, which is available as an interchangeable system, monitors the quality of the workpieces.

TOOL CHECK

- Outside the machining area
- Diameter check
- Tool length
- Inspection for fractures
- Blade wear
- Tip to base distance for turning tools



WORKPIECE CHECK

- High-precision 2-point measurement

TECHNICAL DATA	VMC 300 MT	VMC 450	VMC 450 MT	VMC 600 *	VMC 600 MT *
Chuck diameter	315 mm 12.5 inch	450 mm 18 inch	450 mm 18 inch	630 mm 25 inch	630 mm 25 inch
Weight, max.	300 kg 661 lb	300 kg 661 lb	300 kg 661 lb	500 kg 1,102 lb	500 kg 1,102 lb
Swing diameter over base	500 mm 19.5 inch	650 mm 25.5 inch	650 mm 25.5 inch	800 mm 31.5 inch	800 mm 31.5 inch
Turning diameter, max.	300 mm 12 inch	450 mm 18 inch	450 mm 18 inch	600 mm 24 inch	600 mm 24 inch
X-axis / Z-axis travel	330 / 500 mm 13 / 19.5 inch	330 / 500 mm 13 / 19.5 inch	330 / 500 mm 13 / 19.5 inch	450 / 580 mm 18 / 23 inch	450 / 580 mm 18 / 23 inch
Spindle height (without clamping devices)	970 mm 38 inch	970 mm 38 inch	970 mm 38 inch	1,200 mm 47 inch	1,200 mm 47 inch
Main spindle					
» Spindle flange to ISO 702-1: 2009	Size 8	Size 8	Size 8	Size 11	Size 11
» Spindle bearing	140 / 160 mm 5.5 / 6.5 inch	140 / 160 mm 5.5 / 6.5 inch	140 / 160 mm 5.5 / 6.5 inch	190 mm 7.5 inch	190 mm 7.5 inch
Main drive					
» Synchronous motor, 40 % duty cycle	49 / 83 / 138 kW 66 / 111 / 185 hp	49 / 83 / 138 kW 66 / 111 / 185 hp	49 / 83 / 138 kW 66 / 111 / 185 hp	138 / 150 kW 185 / 201 hp	138 / 150 kW 185 / 201 hp
» Synchronous motor, 100 % duty cycle	32 / 55 / 84 kW 43 / 74 / 113 hp	32 / 55 / 84 kW 43 / 74 / 113 hp	32 / 55 / 84 kW 43 / 74 / 113 hp	84 / 93 kW 113 / 125 hp	84 / 93 kW 113 / 125 hp
» Full power at speed of	800 rpm	800 rpm	800 rpm	800 / 540 rpm	800 / 540 rpm
» Torque, 40% duty cycle	585 / 990 / 1,650 Nm 431 / 730 / 1,217 ft-lb	585 / 990 / 1,650 Nm 431 / 730 / 1,217 ft-lb	585 / 990 / 1,650 Nm 431 / 730 / 1,217 ft-lb	1,650 / 2,650 Nm 1,217 / 1,954 ft-lb	1,650 / 2,650 Nm 1,217 / 1,954 ft-lb
» Torque, 100% duty cycle	380 / 650 / 1,000 Nm 280 / 479 / 738 ft-lb	380 / 650 / 1,000 Nm 280 / 479 / 738 ft-lb	380 / 650 / 1,000 Nm 280 / 479 / 738 ft-lb	1,000 / 1,650 Nm 738 / 1,217 ft-lb	1,000 / 1,650 Nm 738 / 1,217 ft-lb
» Number of revolutions, max.	3,000 / 2,400 / 2,000 rpm	3,000 / 2,400 / 2,000 rpm	3,000 / 2,400 / 2,000 rpm	2,000 / 1,500 rpm	2,000 / 1,500 rpm
» Accuracy of spindle positioning	± 0.01° (C-axis)	± 0.01° (C-axis)	± 0.01° (C-axis)	± 0.01° (C-axis)	± 0.01° (C-axis)
Feed drive					
» Rapid-traverse rate X / Z	60 / 30 m/min 2,363 / 1,181 ipm	60 / 30 m/min 2,363 / 1,181 ipm	60 / 30 m/min 2,363 / 1,181 ipm	60 / 30 m/min 2,363 / 1,181 ipm	60 / 30 m/min 2,363 / 1,181 ipm
» Feed pressure in X / Z	4 / 8 kN 899 / 1,798 lbf	4 / 8 kN 899 / 1,798 lbf	4 / 8 kN 899 / 1,798 lbf	12 / 20 kN 2,698 / 4,496 lbf	12 / 20 kN 2,698 / 4,496 lbf
» Ball screw dia. in X / Z	40 / 40 mm 1.5 / 1.5 inch	40 / 40 mm 1.5 / 1.5 inch	40 / 40 mm 1.5 / 1.5 inch	50 / 50 mm 2 / 2 inch	50 / 50 mm 2 / 2 inch
Motorized milling spindle					
» Synchronous motor, 25 % duty cycle	26.4 / 43 kW 35 / 58 hp	–	26.4 / 43 kW 35 / 58 hp	–	38 / 56 kW 51 / 75 hp
» Synchronous motor, 100 % duty cycle	13.2 / 24 kW 18 / 32 hp	–	13.2 / 24 kW 18 / 32 hp	–	29 / 44 kW 39 / 59 hp
» Number of revolutions, max.	12,000 / 7,000 rpm	–	12,000 / 7,000 rpm	–	5,500 rpm
» Full performance at	2,100 rpm	–	2,100 rpm	–	1,400 rpm
» Torque, 25% duty cycle	120 / 196 Nm 89 / 145 ft-lb	–	120 / 196 Nm 89 / 145 ft-lb	–	256 / 384 Nm 189 / 283 ft-lb
» Torque, 100% duty cycle	60 / 110 Nm 44 / 81 ft-lb	–	60 / 110 Nm 44 / 81 ft-lb	–	200 / 300 Nm 147 / 221 ft-lb
» Tool magazine positions	40	–	20 or more	–	40 or more
» Spindle interface	DIN 69893-1 HSK-A63 ISO 26623 CAPTO C6	–	DIN 69893-1 HSK-A63 ISO 26623 CAPTO C6	–	DIN 69893-1 HSK-A100 ISO 26623 CAPTO C8
Disc-type turret					
» for cylindrical shanks to DIN 69 880	–	VDI 40 / BMT 65	–	VDI 50 / BMT 75	–
» Turret tool positions	–	8 / 12	–	12	–
» Width across flats	–	380 mm 15 inch	–	440 mm 17.5 inch	–
» Tool indexing radius	–	690 mm 27 inch	–	940 mm 37 inch	–
» Torque of driven tools, 30% / 100%	–	27 / 15 Nm 20 / 11 ft-lb	–	48 / 30 Nm 35 / 22 ft-lb	–
» Speed driven tools	–	6,000 rpm	–	6,000 rpm	–

* Available starting 2016

At home all over the world.

EMAG Salach GmbH

Salach
Austrasse 24
73084 Salach
Germany
Phone: +49 7162 17-0
Fax: +49 7162 17-820
E-mail: info@salach.emag.com

Leipzig
Pittlerstrasse 26
04159 Leipzig
Germany
Phone: +49 341 4666-0
Fax: +49 341 4666-114
E-mail: info@leipzig.emag.com

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

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

WORLDWIDE

Market Companies

NODIER EMAG INDUSTRIE
2, Parc des Fontenelles
78870 Bailly
France
Phone: +33 130 8047-70
Fax: +33 130 8047-69
E-mail: info@nodier.emag.com

EMAG MAQUINAS HERRAMIENTA S.L.
Pasaje Arrahona, n° 18
Polígono Industrial Santiga
08210 Barberà del Vallès (Barcelona)
Spain
Phone: +34 93 7195080
Fax: +34 93 7297107
E-mail: info@emh.emag.com

ZETA EMAG Srl
Viale Longarone 41/A
20080 Zibido S.Giacomo (MI)
Italy
Phone: +39 02 905942-1
Fax: +39 02 905942-21
E-mail: zetaemag@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

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
Colina de la Umbria 10
53140 Boulevares
Naucalpan Edo. de México
Mexico
Phone: +52 55 5374266-5
Fax: +52 55 5374266-4
E-mail: info@mexico.emag.com

EMAG DO BRASIL Ltda.
Rua Schilling, 413
Vila Leopoldina
05302-001 São Paulo
SP, Brazil
Phone: +55 11 38370145
Fax: +55 11 38370145
E-mail: info@brasil.emag.com

EMAG Machine Tools (Taicang) Co., Ltd.
Building 3, Cang Neng
Europe & American Technology Park
No. 8 Lou Jiang Rd. (N.)
215400 Taicang
Jiangsu, China
Phone: +86 512 5357-4098
Fax: +86 512 5357-5399
E-mail: info@emag-china.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. Prusa 9F / 1
50-319 Wrocław
Poland
Phone: +48 728 389 989
Fax: +48 601 371 353
E-mail: arak@emag.com

EMAG GROUP Thailand Office
19 Moo 1, Pong, Banglamung
Chonburi 20150
Thailand
Phone: +66 87 1468800
E-mail: ukaiser@emag.com

EMAG INDIA Pvt. Ltd.
Technology Centre
No. 17/G/46-3, Industrial Suburb,
2nd Stage, Yeshwantpur,
Bengaluru – 560 022.
India
Phone: +91 80 42544400
Fax: +91 80 42544440
E-mail: info@india.emag.com

EMAG KOREA Ltd.
Rm204, Biz center, SKn Technopark, 124
Sagimakgol-ro, Sangdaewon-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

Subject to technical changes.

Contact us. Now.

271-1-GB/02.2015 · Printed in Germany ·

www.emag.com

EMAG