

CNC Universal Milling Machines

DMU 50

DMU 70

DMU 50/70 Series



DMU 50/70 Series

Entry-level CNC universal milling with up to five axes.

The DMU 50/70 introduces a new era in the workshop, training, labour, fixtures and tool and die industries. These CNC Universal Machines are characterised by innovative machine construction technology. Highlights such as digital drives in all axes, a rapid traverse up to 24 m/min, an acceleration of 5 m/s² and a motor spindle up to 18,000 rpm give the DMU 50 and DMU 70 increased dynamics. In addition to the standard fixed table, other table options are also available, including a motorised swivel rotary table with hydraulic clamping and a simultaneous table that brings two additional machining axes into play. The modern cross-slide design with its inherently rigid, ribbed cast iron frame provides a base with significantly more precision.

The latest control technology with the DMG *ERGoline*® Control, a 19" screen and 3D-software guarantee the highest operational speed, as well as precision and reliability. DMG's DMU 50/70 offers both an ideal and affordable entry into the world of 5-sided / 5-axis simultaneous machining.



1



2

1: Hydraulics component / Auto racing

2: Plate magazine / Machine construction



3



4



5



6

3: Valve manifold / Engine construction 4: Pump housing / Fluidics
5: Aluminium housing / Lighting engineering 6: Cog / Automotive industry



**DMU 50/70 Universal
Milling Machines:**

5-axis milling of single parts
and small series, from simple
to highly complex work pieces.

Work piece illustrated:

Motorcycle frame component.



1



3



2

1: Flexible machining with three to five axes 2: Easy-to-see work area with an optional tool magazine 3: Simultaneous table

DMU 50/70 Series:

The universal compact machines in a new design with high-tech components, powerful milling performance and the latest control technology at an affordable price!



DMU 50/70 Series

New design, 3D-controls, digital drives and rotational speeds up to 18,000 rpm.

The machine design of the DMU 50/70 Universal Milling Machines offers the ideal foundation for the production of single and small series parts. In addition to the standard digital drives, a wide range of spindle speed options ranging from 10,000 rpm to 18,000 rpm are also available. Extend the flexibility of the machine with high-performance tool changers, featuring 16, 30, or 60 pocket magazines. The new machine design with improved operator access to the work piece and greater visibility into the work area, as well as the DMG ERGOline® Control with a 19" screen, increases ergonomics and highlights the universality of these compact machines.



DMU 50/70 Series

Advanced technology on a small footprint – with three to five axes.

The swivel rotary table allows advanced fabrication of complex work pieces in a maximum of two operations. Avoiding elaborate equipment saves money while significantly increasing precision. The large swivel area of up to 115° ($-5^\circ / +110^\circ$) allows undercuts up to 20° . Guides, drives, measurement systems and tools are safely and conveniently arranged outside of the work space.

DMU 50/70 in cross slide construction:

The cross slide construction with inherently stiff, ribbed, cast components combined with the machine base of cast mineral composite offers maximum stability for the highest precision and best surface quality.





1: Digital drives, linear guides and direct measuring systems (optional) for the highest precision 2: Fixed table
3: Swivel rotary table with digital drive trains 4: Swivel rotary table for 5-axis simultaneous machining



Highest flexibility

Variable table options, from fixed to swivel rotary table, for automatic 5-axis simultaneous machining

High work piece weights

and maximum precision due to the integrated swivel rotary table with large bearing diameters in both rotary axes

Optimum space economy

Excellent accessibility to the work area, good chip disposal, steeply slanted walls and a large work area in relation to a small machine size

Assembly of the tool magazine parallel to processing time*

Tool changer with 16/30 or 60* tool pockets

Direct measuring systems*

Guarantees higher precision and perfect surfaces

Powerful motor spindle

with up to 18,000 rpm*, 130 Nm and 35 kW (40 % DC)

Maximum precision

Digital drives, machine base made of polymer compound, an integrated swivel rotary table* and advanced, wide roller guide ways

* Option



2



3

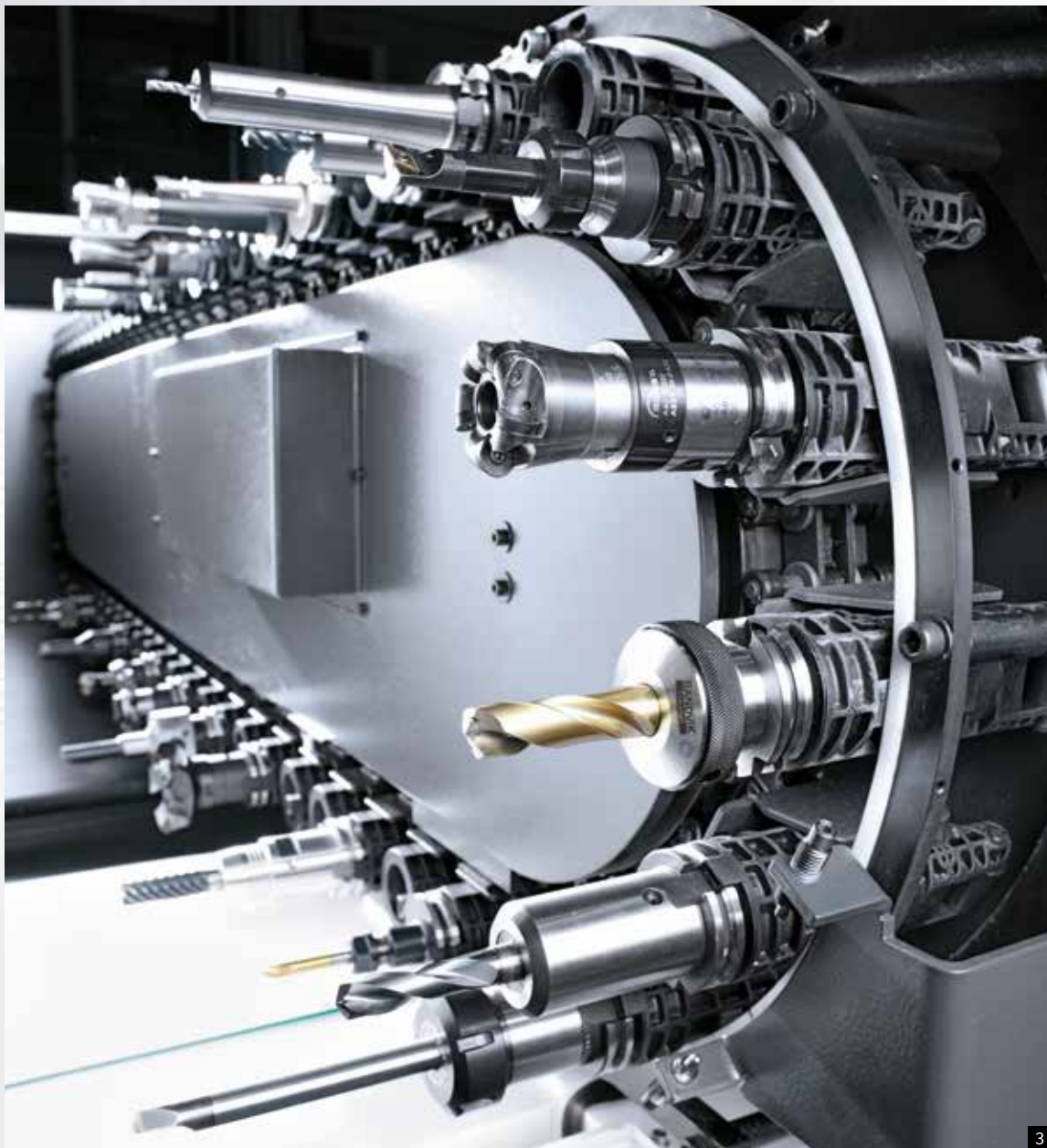


4



Powerful milling performance

With the 10,000 rpm, 14,000 rpm and 18,000 rpm motor spindle, the DMU 50/70 offers powerful milling and optimum results.



1: Tool magazine with 16 pockets and pick-up exchange 2: Work space with pallet handling
3: 30 or 60 pocket tool magazine with setup aid

DMU 50/70 Series

The best options for every application.

The powerful and reliable optional tool changers of the DMU 50/70 with 16 pockets in pick-up operation, or the 30/60 magazine pockets with a fast double gripper, and short chip-to-chip times save time in the overall production.

Additionally, the separation of work space and tools avoids contamination by chips. Automation for the entry-level machine – for unattended machining and improved efficiency, the DMU 50/70 may be automated. Lateral connection of the handling system allows easy accessibility to the work space.

11



**DMU 50 with PH 15018
Automation:**

Handling of eight pallets
with up to 150 kg work
piece weight.

DMG ERGOline® Control

Control systems with a 19" screen and 3D work piece simulation.

The most significant highlight of the new machine design is the DMG ERGOline® Control with a 19" screen. The larger screen ensures greater legibility and allows the integration of additional DMG SOFTkeys® and additional status information, which leads to more efficient overall operation. The key switch is replaced by an intelligent DMG SMARTkey® with chip replacement that offers complete ease-of-use, with features ranging from retrievable machine operating modes to personalised user access.

In addition, the operator has access to state-of-the-art 3D-controls, such as the Heidenhain iTNC 530 HSCI, MillPlus iT V600 or Siemens 840D solutionline Operate 4.5.

DMG ERGOline® Control:

The controls boast such features as 3D-simulation, high storage capacity, extremely fast processors and excellent ease-of-use.





Siemens 840D solutionline

- + SINUMERIK Operate 4.5
- + 3D-simulation
- + Processing from the hard drive
- + Fast editing of large programs
- + Simple, visually-supported setup
- + Extensive tool management
- + 19" screen

Your benefits

- + Easy, interactive programming
- + Programming without additional documentation
- + Extensive cycle selection
- + Safety through pre-job simulation
- + Sophisticated tool handling

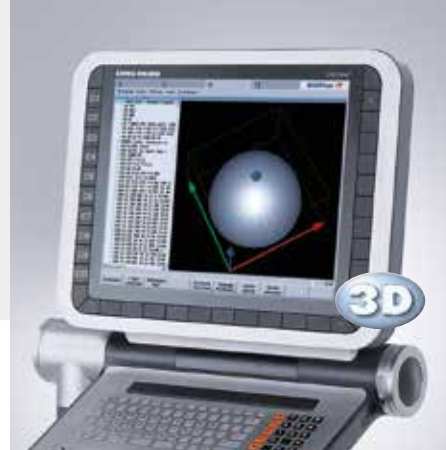


Heidenhain iTNC 530 HSCI

- + smarT.NC user interface or proven TNC plain text
- + 3D-simulation
- + Simple editing of large programmes
- + Coordinate transformation
- + Tool management with a context-sensitive help function
- + 19" screen

Your benefits

- + Familiar and proven Heidenhain user interface
- + Fast program generation
- + Visually-supported programming
- + Ease-of-use, due to a wide range of available cycles



Heidenhain MillPlus iT V600

- + DMG MillPlus 3D-software
- + 3D-simulation
- + State-of-the-art software interface options
- + Geometry and temperature compensation
- + Adjustable lurch control
- + 19" screen

Your benefits

- + Ergonomic menu design
- + Excellent flexibility during data access
- + Integrated safety technology
- + Visually-supported programming
- + Ease-of-use, due to a wide range of available cycles

- 1: DMG ERGOline® Control with DMG SOFTkeys® – customised hotkeys for frequently used screen content or regularly used operational sequences
- 2: DMG SMARTkey® – Electronic access control for the personalised authorisation of the operator with user-specific access privileges for the control and the machine



Energy efficiency for DMG MORI machines

Up to 30 % energy savings

As co-founder of the Blue Competence Initiative, sustainable manufacturing technology and resource-saving product designs are already standard on DMG MORI machine tools. Thanks to intelligent technology, our machine tools consume on average 20 % less energy over their life cycle.



Intelligent control technology:

- + **DMG AUTOshutdown:**
Intelligent standby control for minimal energy use during downtime
- + **DMG GREENmode:**
Faster processing speed and energy savings through intelligent feed control
- + **Simulation with DMG Virtual Machine:**
Fast setup and reduced downtime with preliminary simulation

Intelligent electronics and drive technology

- + Optimal drive configuration
- + Regulated motors in the unit technology
- + Regenerative feedback drives

Optimised mechanics

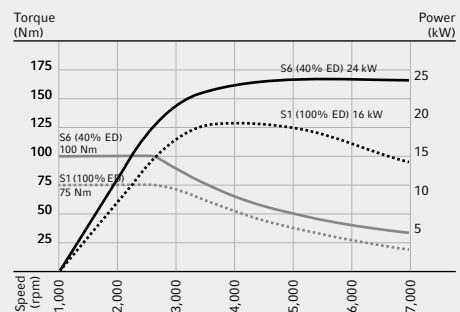
- + Reduced moving masses and weight balance
- + Minimised friction

DMU 50/70 Series

Performance Diagrams

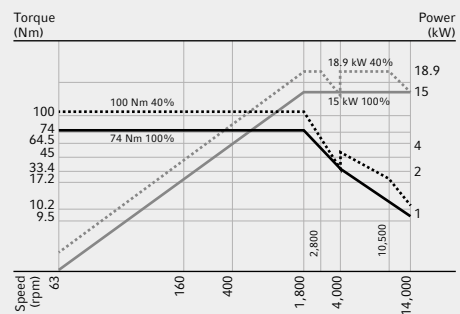
Motor spindle SK40

10,000 rpm / 13 kW / 83 Nm



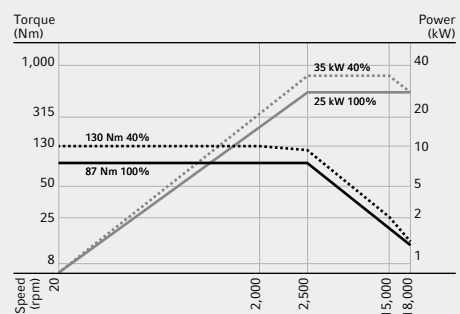
Motor spindle SK40 / HSK-A63*

14,000 rpm / 19 kW / 100 Nm



Motor spindle SK40 / HSK-A63*

18,000 rpm / 35 kW / 130 Nm



* Option

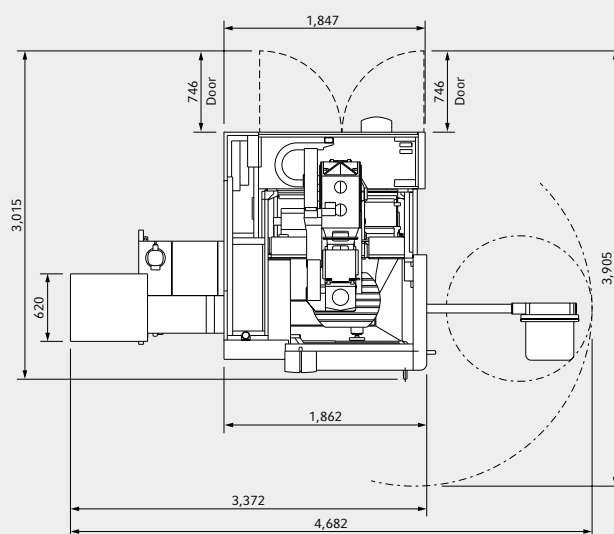
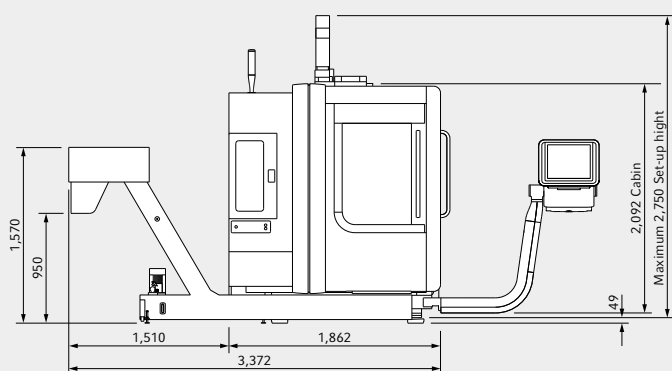
DMU 50/70 Series

Floor Plans

DMU 50

Front view with 16 tools

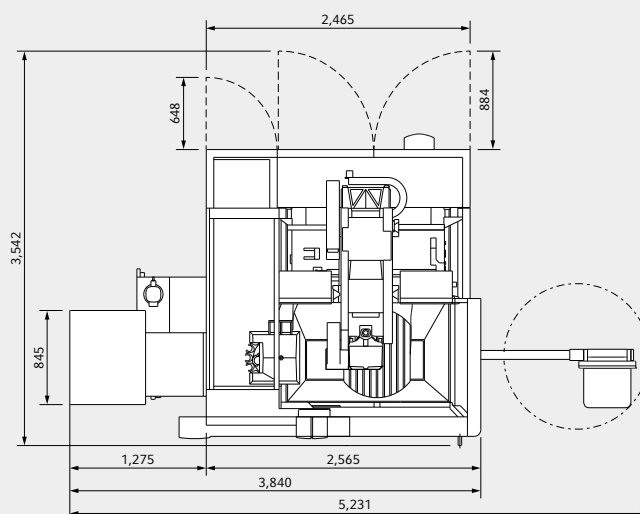
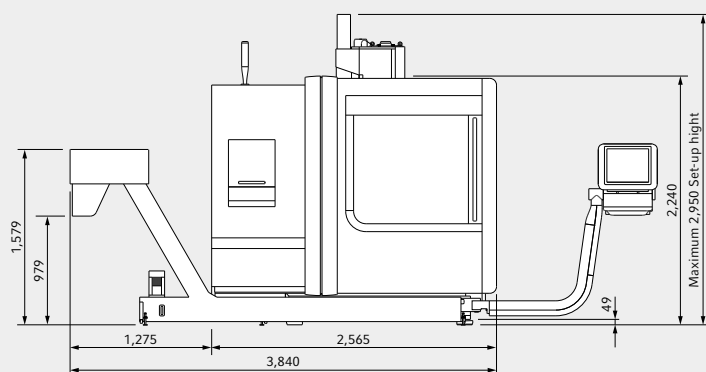
Top view with 16 tools



DMU 70

Front view with 16 / 30 tools

Top view with 16/30 tools



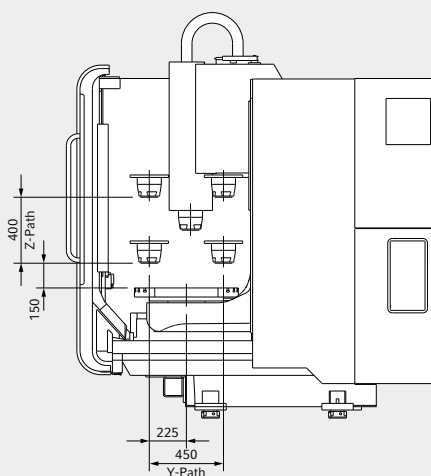
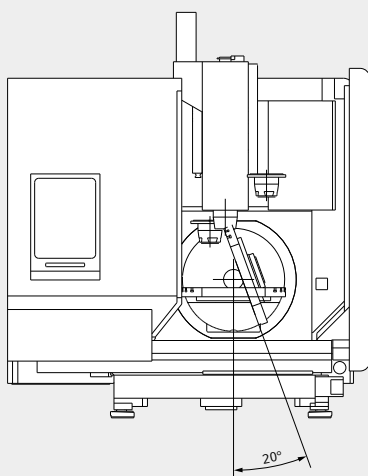
DMU 50/70 Series

Work Areas

DMU 50

Front View

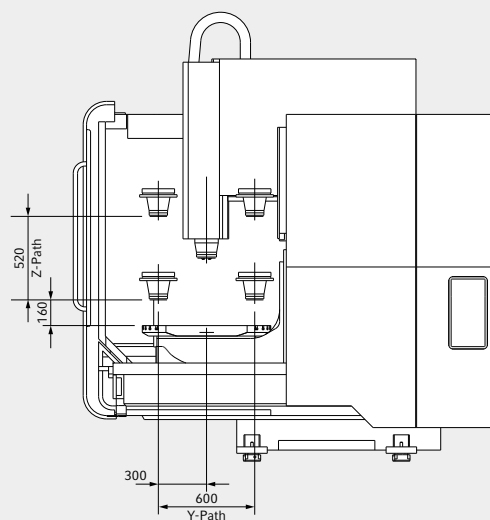
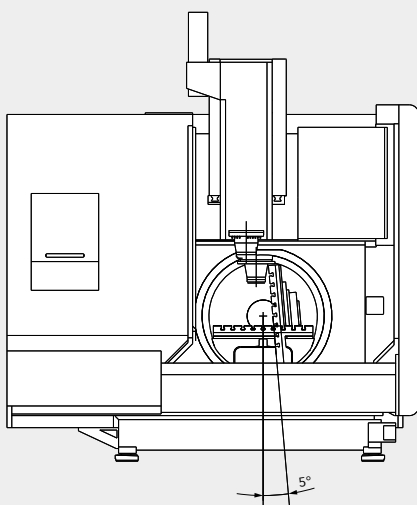
Side View



DMU 70

Front View

Side View



Technical Data

		DMU 50	DMU 70
Work area			
Travel X / Y / Z	mm	500 / 450 / 400	750 / 600 / 520
Main drive (standard version)			
Speed range	rpm	20–10,000	20–10,000
Drive power (100 / 40 % DC)	kW	9 / 13	9 / 13
Torque (40 % DC)	Nm	83	83
Main drive (optional)			
Speed range	rpm	20–14,000	20–14,000
Drive power (100 / 40 % DC)	kW	14 / 18.9	14 / 18.9
Torque (40 % DC)	Nm	100	100
Main drive (optional)			
Speed range	rpm	20–18,000	20–18,000
Drive power (100 / 40 % DC)	kW	25 / 35	25 / 35
Torque (40 % DC)	Nm	130	130
Feed			
Rapid traverse X / Y / Z	m/min	24	24
Maximum feed power X / Y / Z	kN	4.8	6 / 6 / 3
Fixed table			
Clamping surface	mm	700 × 500	1,000 × 620
Maximum load	kg	500	800
Integrated swivel rotary table*			
Clamping surface	mm	ø 630 × 500	ø 800 × 620
Maximum load	kg	200 / 300	350 / 400
Swivel range	Degrees	–5 / +110	–10 / +95
Tool changer option – pick up			
Pockets	Number	16	16
Tool weight	kg	6	6
Maximum tool length	mm	300	300
Maximum tool diameter	mm	80 / 130	80 / 130
Tool changer optional chain with a double gripper			
Pockets	Number	30 / 60	30 / 60
Maximum tool length	mm	300	300
Maximum tool diameter	mm	80 / 130	80 / 130
Tool weight	kg	6	6
Machine weight /Connected load			
Weight	kg	4,480	6,600
Power	kW	21	25
Maximum rated current	A	31	37

Options

Swivel rotary table as positioning or simultaneous table; laser tool measurement; chip conveyor; 16 / 30 / 60 pocket tool magazine; direct X / Y / Z position sensor; oil mist separator; blower jet coolant switching; blower jet through the center of the spindle; rinsing pistols; chip conveyor; inner cooling lubricant feed up to 40 bar (580 psi)

Controls

DMG ERGOline® Control with a 19" screen, 3D control

Siemens 840D solutionline Operate 4.5
Heidenhain iTNC 530 HSCI
Heidenhain MillPlus iT V600

* Option

Headquarters

Germany:

DMG MORI Deutschland

Riedwiesenstraße 19
D-71229 Leonberg
Tel.: +49 (0) 71 52 / 90 90 - 0
Fax: +49 (0) 71 52 / 90 90 - 22 44

Europe:

DMG MORI Europe

Lagerstrasse 14
CH-8600 Dübendorf
Tel.: +41 (0) 44 / 8 01 12 - 40
Fax: +41 (0) 44 / 8 01 12 - 31

Asia:

DMG MORI Asia

3 Tuas Link 1
Singapore 638584
Tel.: +65 66 60 66 88
Fax: +65 66 60 66 99

America:

DMG MORI America

2400 Huntington Blvd.
Hoffman Estates IL 60192
Tel.: +1 (847) 593 - 5400
Fax: +1 (847) 593 - 5433

Europe

DMG MORI Austria

Oberes Ried 11 · A-6833 Klaus
Tel.: +43 (0) 55 23 / 6 91 41 - 0
Fax: +43 (0) 55 23 / 6 91 41 - 100
Service Hotline: +43 (0) 1 795 76 109

_ Stockerau

Josef Jessernigg-Str. 16 · A-2000 Stockerau
Tel.: +43 (0) 55 23 / 6 91 41 - 0
Fax: +43 (0) 55 23 / 6 91 41 - 100

DMG MORI Benelux

_ Nederland

Wageningselaan 48
NL-3903 LA Veenendaal
Tel.: +31 (0) 318 - 55 76 - 11
Fax: +31 (0) 318 - 52 44 - 29
Service Turning: +31 (0) 318 - 55 76 - 33
Service Milling: +31 (0) 318 - 55 76 - 34
Service Fax: +31 (0) 318 - 55 76 - 10

_ Belgium

Hermesstraat 4B · B-1930 Zaventem
Tel.: +32 (0) 2 / 7 12 10 - 90
Fax: +32 (0) 2 / 7 12 10 - 99
Service: +32 (0) 2 / 7 12 10 - 94

DMG MORI Czech

Kaštanová 8 · CZ-620 00 Brno
Tel.: +420 545 426 311
Fax: +420 545 426 310
Service: +420 545 426 320
Service Fax: +420 545 426 325

_ Planá

Chýnovská 535 · CZ-39111 Planá nad Lužnicí
Tel.: +420 381 406 914
Fax: +420 381 406 915

_ Slovensko

Brnianska 2 · SK-91105 Trenčín
Tel.: +421 326 494 824

DMG MORI France

Parc du Moulin · 1, Rue du Noyer
B.P. 19326 Roissy-en-France
F-95705 Roissy CDG Cedex
Tel.: +33 (0) 1 / 39 94 68 00
Fax: +33 (0) 1 / 39 94 68 58

_ Lyon

Parc des Lumières
1205, Rue Nicéphore Niepce
F-69800 Saint-Priest
Tel.: +33 (0) 4 / 78 90 95 95
Fax: +33 (0) 4 / 78 90 60 00

_ Toulouse

Futuropolis Bat. 2 · 2, Rue Maryse Hilsz
F-31500 Toulouse
Tel.: +33 (0) 5 / 34 25 29 95
Fax: +33 (0) 5 / 61 20 89 19

_ Haute-Savoie

Espace Scionzier
520 avenue des Lacs · F-74950 Scionzier
Tel.: +33 (0) 4 / 50 96 41 62
Fax: +33 (0) 4 / 50 96 41 30

DMG MORI Hungary

Vegyész u. 17-25 · B. Building
H-1116 Budapest
Tel.: +36 1 430 16 14
Fax: +36 1 430 16 15
Service Hotline: +36 1 777 90 57

DMG MORI Ibérica

Pol. Ind. Els Pinetons
Avda. Torre Mateu 2-8 · Nave 1
E-08291 Ripollet · Barcelona
Tel.: +34 93 586 30 86
Fax: +34 93 586 30 91

_ Madrid

Avda. Fuentemar 20 · Nave B4
E-28820 Coslada · Madrid
Tel.: +34 91 66 99 865
Fax: +34 91 66 93 834

_ San Sebastián

Edificio Igaraburu
Pokopandegi, 11 Oficina 014
E-20018 San Sebastián
Tel.: +34 943 100 233
Fax: +34 943 226 929

DMG MORI Italia

Via G. Donizetti 138
I-24030 Brembate di Sopra (BG)
Tel.: +39 035 62 28 201
Fax: +39 035 62 28 210
Service Hotline: +39 199 177 811
Service Fax: +39 035 62 28 250

_ Milano

Via Riccardo Lombardi 10
I-20153 Milano (MI)
Tel.: +39 02 48 94 921
Fax: +39 02 48 91 44 48

_ Padova

Via E. Fermi 7
I-35030 Veggiano (PD)
Tel.: +39 049 900 66 11
Fax: +39 049 900 66 99

DMG MORI Middle East

Jebel Ali Free Zone · JAFZA Towers 18
Floor 24 · Office 3
PO Box 262 607 · Dubai, U.A.E.
Tel.: +971-4-88 65 740
Fax: +971-4-88 65 741

DMG MORI Polska

ul. Fabryczna 7
PL-63-300 Pleszew
Tel.: +48 (0) 62 / 7428 000
Fax: +48 (0) 62 / 7428 114
Service: +48 (0) 62 / 7428 285

DMG MORI Romania

Road Bucuresti
Pitești, DN7, km 110
Platforma IATSA
RO-117715 Pitești · Stefanesti
Tel.: +40 2486 10 408
Fax: +40 2486 10 409

DMG MORI Russia

Nowoholowskaja-Strasse 23/1
RUS-109052 Moscow
Tel.: +7 495 225 49 60
Fax: +7 495 225 49 61

_ Jekaterinburg

ul. Sofi Kowalewskoj 4, litera Z
RUS-620049 Jekaterinburg
Tel.: +7 343 379 04 73
Fax: +7 343 379 04 74

_ St. Petersburg

pr. Obuhovskoy Oborony 271, litera A
RUS-192012 St. Petersburg
Tel.: +7 812 313 80 71
Fax: +7 812 313 80 71

DMG MORI Scandinavia

_ Danmark

Robert Jacobsens Vej 60 · 2.tv
DK-2300 København S
Tel.: +45 70 21 11 11
Fax: +45 49 17 77 00

_ Sverige

EA Rosengrens gata 5
S-421 31 Västra Frölunda
Tel.: +46 31 348 98 00
Fax: +46 31 47 63 51

_ Norge

Bergsli Metallmaskiner AS
Gateadresse: Bedriftsveien 64
N-3735 Skien
Postadresse: Postboks 2553
N-3702 Skien
Tel.: +47 35 50 35 00
Fax: +47 35 50 35 70

_ Finland

Fastems Oy Ab
Tuotekatu 4
FIN-33840 Tampere
Tel.: +358 (0)3 268 5111
Fax: +358 (0)3 268 5000

_ Baltic states

Fastems UAB
Kalvarijos str. 38
LT-46346 Kaunas
Tel.: +370 37 291567
Fax: +370 37 291589

DMG MORI Schweiz

Lagerstrasse 14
CH-8600 Dübendorf
Tel.: +41 (0) 44 / 8 24 48 - 48
Fax: +41 (0) 44 / 8 24 48 - 24
Service: +41 (0) 44 / 8 24 48 - 12
Service Fax: +41 (0) 44 / 8 24 48 - 25

DMG MORI South East Europe

9th km. National Road Thessaloniki –
Moudanion · PO Box: 60233
GR-57001 Thessaloniki
Tel.: +30 2310 47 44 86
Fax: +30 2310 47 44 87

DMG MORI Turkey

Ferhatpaşa Mah. Gazipaşa Cad. NO: 11
TR-34885 Ataşehir · İstanbul
Tel.: +90 216 471 66 36
Fax: +90 216 471 80 30

DMG MORI UK

4030 Siskin Parkway East
Middlemarch Business Park
Coventry CV3 4PE · GB
Tel.: +44 (0) 2476 516 120
Fax: +44 (0) 2476 516 136

DMG / MORI SEIKI Europe AG

Lagerstrasse 14, CH-8600 Dübendorf
Tel.: +41 (0) 44 / 8 01 12 - 40, Fax: +41 (0) 44 / 8 01 12 - 31
info@dmgmori.com, www.dmgmori.com