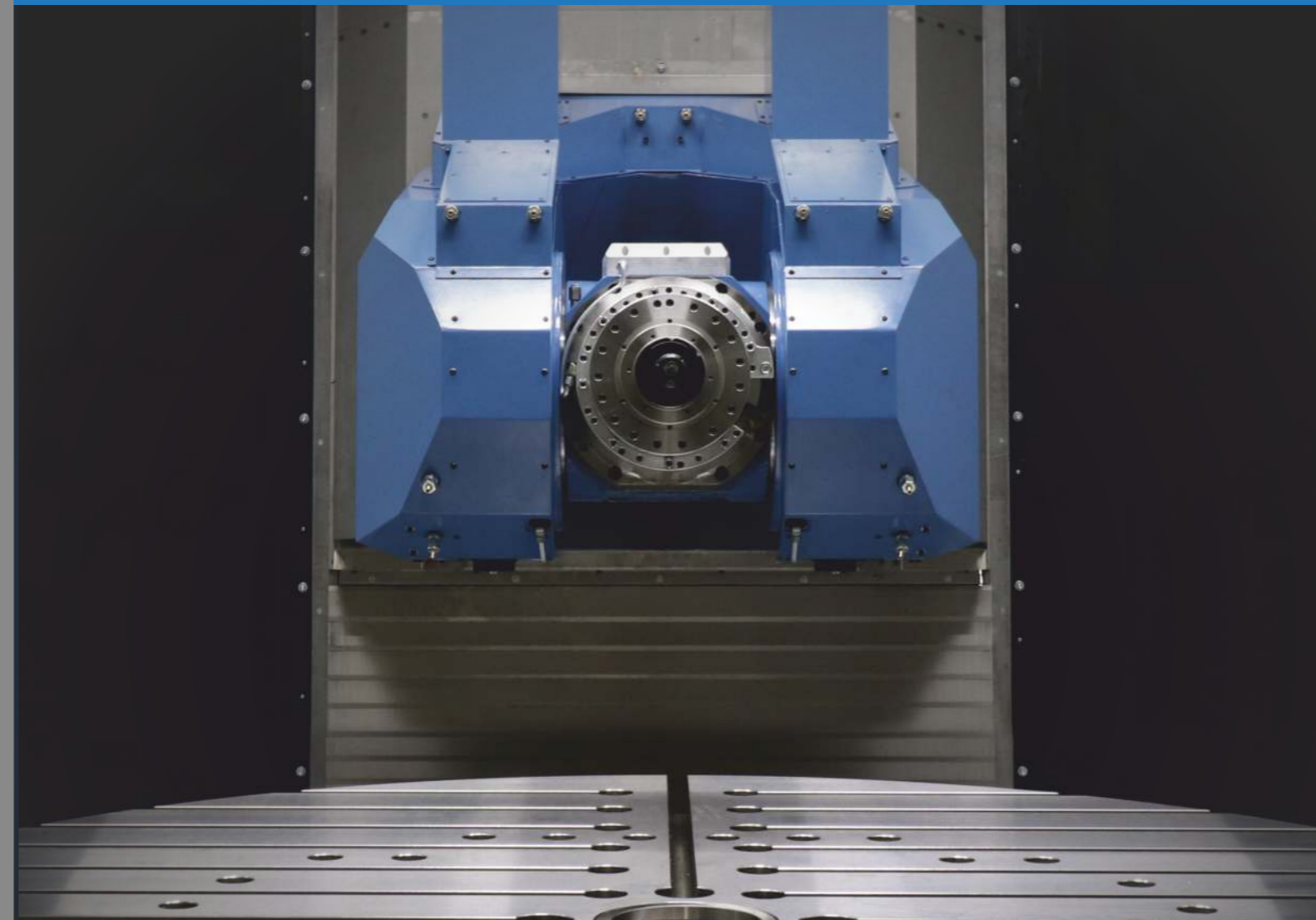


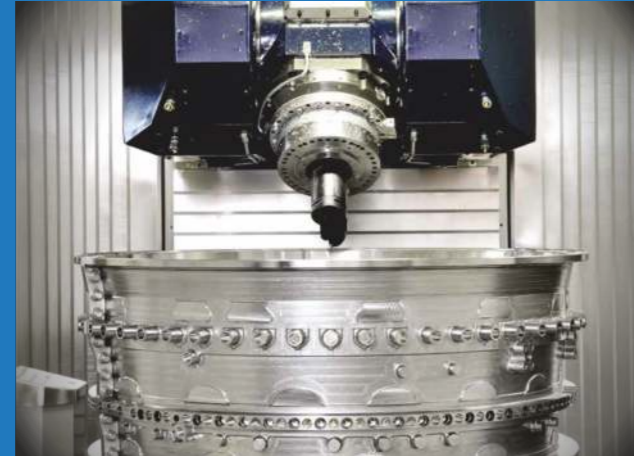


evolving together



MCM FIELDS OF APPLICATION

AEROSPACE



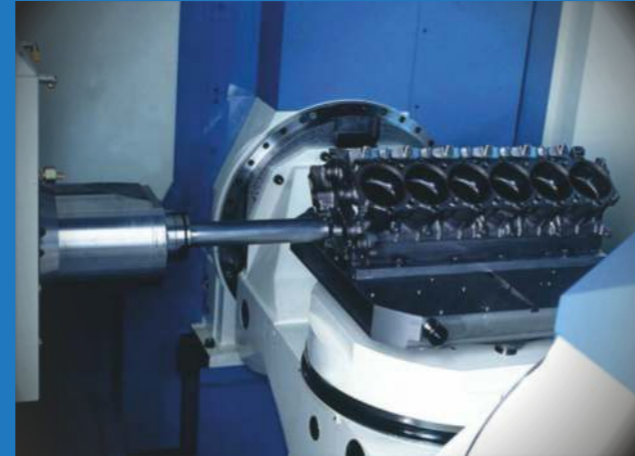
HEAVY EQUIPMENT AGRICULTURAL MACHINERY



MACHINERY, TOOLING, DEFENCE



AUTOMOTIVE



ENERGY, OIL & GAS



INDUSTRIAL COMPONENTS



COMPANY PROFILE / MISSION

MCM designs and manufactures high-performance horizontal machining centers, flexible manufacturing systems and customized solutions for the main sectors of precision mechanics (aerospace, automotive, energy, oil & gas, industrial components). Three production sites located in the area of Piacenza, subsidiaries in France, Germany, USA and China and operating partnerships in Spain, Russia, UK, Poland, Czech Republic and Middle East confirm the image of solid international company that MCM created throughout its long history.

MCM machines guarantee maximum performance in terms of precision, productivity and reliability. Three lines of horizontal machining centers: Clock, Tank and Jet Five, covering machining volumes up to 12 meters and configurable in 4 or 5 axes with milling, turning and grinding capacity.

MCM machining centers are available in single-, twin- and multi-pallet version or connected one to each other in FMS. The Software Solutions provided by MCE, the IT Division of MCM, are crucial and exclusive tools for production management.

The professional skills and the overall know-how of the MCM people is the main added value of the company. "Evolving together" is the motto that MCM follows and shares with customers, stakeholders and suppliers.

It is a common statement to define MCM as the right partner for all the customer needs: from the study of the production process to the technological solution including turnkey project and industrialization, up to the after sales services all over the world.

INTEGRATED PRODUCTION PROGRAM

MACHINING CENTERS

A high performance complete line of horizontal machining centers



FLEXIBLE AUTOMATION

Systems and solutions for FMS and manufacturing lines automation



SYSTEM INTEGRATION

A single partner to integrate machines and machining accessory technologies



SOFTWARE SOLUTIONS

jFMX, the exclusive MCM supervision software and the jFRX platform represent the state of the art of the system information, monitoring and control solution



MANUFACTURING TECHNOLOGY

MCM supports the customers in design and development of manufacturing process



SERVICE

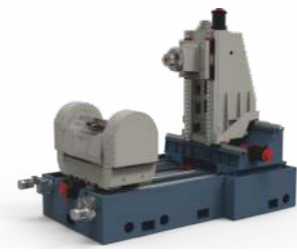
MCM provides an extensive technical service network through its branches and local partners in Europe, USA and Far East, centrally coordinated by the parent company



INTEGRATED PRODUCTION PROGRAM



MACHINING CENTERS



| | | CLOCK 800 | CLOCK 1000 | CLOCK 1200 | TANK 1300 | TANK 1600 | TANK 1900 | TANK.G 1600 | TANK.G 2000 | TANK.G 2600 | TANK.G 3000 | | |
|-------------------------------------|---|--|-----------------------|-----------------------|--|---|---|--|--|--|--|--|--|
| Process Technology | | Milling / Turning ¹ / Grinding ¹ | | | Milling / Turning ¹ / Grinding ¹ | | | Milling / Turning ¹ / Grinding ¹ | | | | | |
| Working Area | X-Axis Stroke [mm] | 800 | 1.000 | 1.200 | 1.300 | 1.600 | 1.900 | 1.600 | 2.000 | 2.600 | 3.000 | | |
| | Y-Axis Stroke [mm] | 800 | 1.100 | 1.100 | 1.300 | 1.400 | 1.400 | 1.500 | 2.000 | 2.000 | 2.500 | | |
| | Z-Axis Stroke [mm] | 800 | 1.000 | 1.000 | 1.300 | 1.500 | 1.960 | 2.000 | 2.000 | 2.000 | 2.500 | | |
| | X/Y/Z-Axis Thrust [kN] | 8 | 12 | 13 | 20 | 20 | 20 | 25 | 30 | 30 | 30 | | |
| | X/Y/Z-Axis Rapid Feed [m/min] | 75 / 60 / 75 | 75 | 75 / 60 / 75 | 50 | 50 | 50 | 40 | 45 | 40 | 40 / 40 / 32 | | |
| Pallet | Option 1 [mm] | 500 x 500 | 630 x 630 | 630 x 630 | 630 x 800 | 800 x 800 | 1.000 x 1.000 | 1.000 x 1.000 | 1.000 x 1.000 | 1.000 x 1.000 | 1.250 x 1.250 | | |
| | Option 2 [mm] | 500 x 630 | 630 x 800 | 630 x 800 | 800 x 800 | 1.000 x 1.000 | 1.250 x 1.250 | 1.250 x 1.250 | 1.250 x 1.250 | 1.250 x 1.250 | 1.250 x 1.600 | | |
| | Option 3 ² [mm] | Ø 630 | Ø 800 | Ø 800 | Ø 860 / Ø 1.000 | Ø 1.000 / Ø 1.250 | Ø 1.000 / Ø 1.250 | Ø 1.000 / Ø 1.250 | Ø 1.000 / Ø 1.250 | Ø 1.250 / Ø 1.400 | Ø 1.400 | | |
| Rotary Table (B-axis) | Max. Rotation Speed [RPM] | 60 / 1.200 ³ | 60 / 650 ³ | 25 / 650 ³ | 20 / 40 ¹ / 500 ³ | 20 / 40 ¹ / 500 ³ | 20 / 40 ¹ / 500 ³ | 20 / 500 ³ | 20 / 200 ³ | 20 / 200 ³ | 8 / 15 ¹ | | |
| | Type | Tilting Table | Tilting Table | Tilting Table | Tilting Head | Tilting Head | Tilting Head | Tilting Head | Tilting Head | Tilting Head | Tilting Head | | |
| | Max. Tilting Speed [RPM] | 40 | 40 | 20 | 25 / 35 ¹ | 25 / 35 ¹ | 25 / 35 ¹ | 25 / 35 ¹ / 15 ¹ | 25 / 35 ¹ / 15 ¹ | 25 / 35 ¹ / 15 ¹ | 25 / 35 ¹ / 15 ¹ | | |
| 5th Axis (A-axis) | Tilting Angle [degrees] | 140 (+35/-105) | 140 (+20/-120) | 135 (+25/-110) | 175 (+80/-95) | 175 (+80/-95) | 175 (+80/-95) | 175 (+80/-95) | 175 (+80/-95) | 175 (+80/-95) | 175 (+80/-95) | | |
| | <i>Linear Axes</i> | | | | | | | | | | | | |
| Accuracy | A/M/R as per ISO 230-2 [µm] | 4 / 2 / 3 | 4 / 3 / 3 | 4 / 3 / 3 | 5 / 3 / 4 | 5 / 3 / 4 | 5 / 3 / 4 | 5 / 3 / 4 | 5 / 3 / 4 | 5 / 3 / 4 | 5 / 3 / 4 | | |
| | <i>Circular Axes</i> | | | | | | | | | | | | |
| | A/M/R as per ISO 230-2 [arcsec] | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | 4 / 2 / 3 | | |
| Spindle Unit | Tool-Taper | HSK-A100 / HSK-A63 / ISO 50 / ISO 40 / CAPTO C8 ³ / CAPTO C6 ³ | | | | | | | | | | | |
| | Speed Range [RPM] | from 8.000 up to 30.000 | | | from 6.000 up to 30.000 | | | from 6.000 up to 30.000 | | | from 6.000 up to 30.000 | | |
| | Max. Power (up to) [kW] | 65 | 65 | 65 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | | |
| Tool-Magazine | Max. Torque (up to) [Nm] | 690 | 690 | 690 | 1.320 | 1.320 | 1.320 | 1.430 | 1.430 | 1.430 | 1.430 | | |
| | Capacity (up to) ¹ [No.] | 80 (500) | 80 (500) | 80 (500) | 80 (999) | 80 (999) | 80 (999) | 80 (999) | 80 (999) | 80 (999) | 80 (999) | | |
| | Tool Mass (up to) [kg] | 25 | 30 | 30 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | | |
| | Max. Length (up to) [mm] | 500 | 600 | 500 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | | |
| Machine Data | Max. Diameter (up to) ⁴ [mm] | 300 | 300 | 340 | 325 | 325 | 325 | 325 | 325 | 325 | 325 | | |
| | Indicative Footprint Area [m ²] | 36 | 50 | 73 | 74 | 95 | 115 | 104 | 115 | 124 | 171 | | |
| Available Configurations | Indicative Weight [kg] | 19.000 | 25.000 | 29.500 | 42.000 | 45.500 | 50.000 | 48.000 | 52.000 | 55.500 | 59.000 | | |
| | | Single-Pallet / Twin-Pallet / Multi-Pallet / FMS | | | Single-Pallet / Twin-Pallet / Multi-Pallet / FMS | | | Single-Pallet / Twin-Pallet / Multi-Pallet / FMS | | | | | |

| Highlights |
|-------------------------------|
| from 3.000 to 12.000 |
| from 1.500 to 2.500 |
| from 600 to 3.000 |
| 4.000 |
| 40 / 70 (linear motors) |
| 1.600 x 1.200 |
| 3.000 x 1.200 |
| 6.000 x 2.000 |
| 5 / 3 / 4 |
| 4 / 2 / 3 |
| HSK-B160 / HSK-A125 / HSK-A63 |
| from 4.000 to 30.000 |
| up to 120 |
| up to 10.000 |

Machining of large components | Excellent material removal capabilities | Open configuration to better match the customer needs | High Dynamic Machining version with Linear Motors for the axes motion | High Rigidity and Stiffness version with Ball Screws system for the axes motion | Twin-pallet, Multi-pallet and FMS configurations | Wide range of options for dedicated customization.



Notes _ The data reported in this table are referred to a 5-axis machining center in twin-pallet configuration
¹ Available as an option
² Further Options Available
³ Available for Multitasking machining centers only, turning max. speed depends on mass of component+fixture
⁴ Free adjacent tool places

SOFTWARE SOLUTIONS



The jFMX platform, the exclusive MCM supervision software, has an architecture organized in different levels in order to manage all the complexities of systems and information, with the possibility to become the coordination and management control center of an entire workshop.

High autonomy, optimal flexibility and reduction of human activities around the machine are just some of the advantages integrated in the jFMX software packages.

The jFRX platform based on an IT device, integrated on all new MCM machines, allows to monitor and compare the machine performance and operativity with a predictive Service and Maintenance indications, when plugged to the cloud computing services also offered by MCM.

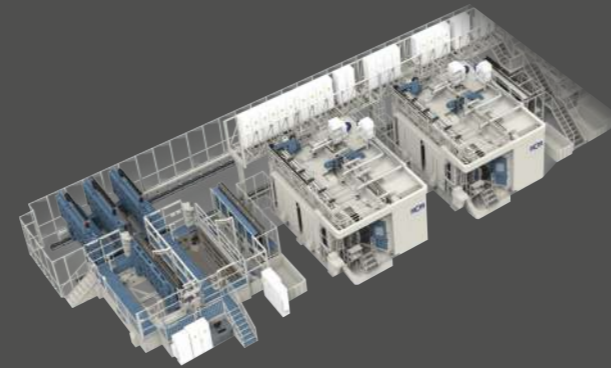


FMS



MCM designs and develops all the units that make up an FMS (Flexible Manufacturing System). The main customer benefit is to have a single partner for the realization of entire projects.

- FMS footprint engineered to optimize the use of the surface and the production flow
- Better performance, flexibility and autonomy
- Integration of third party machines (washing stations, EDM, storage units and CMM)
- Software solution engineered for the specific application covering all the FMS production units.



SYSTEM INTEGRATION



MANUFACTURING TECHNOLOGY



The ability to integrate complementary and auxiliary technologies is the kernel of the MCM portfolio. Based on the long experience in turnkey solutions for the realization of complex parts in all major sectors of precision mechanics (aerospace, automotive, energy, oil & gas, industrial components), MCM is well known as a systems integrator able to solve all the problems related to a mechanical production within their FMS:

- Coordinate Measuring Machines (CMM)
- Washing stations
- Robot
- Non-conventional technologies (e.g. EDM)
- Raw parts or W.I.P. storage units
- Programming and simulation of processes to analyse saturation and availability



www.mcmspa.it



INTEGRATED MANUFACTURING SOLUTIONS



MCM SpA - Machining Centers Manufacturing
 Via Celaschi,19 _ 29020 Vigolzone
 Piacenza / ITALY
 ☎ +39 0523 879811
 ☎ +39 0523 870400
 ✉ mcm@mcmspa.it
 ✉ mcm@pec.mcmspa.it
 www.mcmspa.it

#evolvingtogether

SERVICE

The MCM service global network provides and guarantees an efficient assistance. Specialized teams of engineers present alongside customers and de-centralized spare parts stocks, strengthen the company mission to service its customers anywhere and at any time.

MCM FRANCE

MCM France S.A.S.U.
 6 Av. du Garigliano / ZAC des Gâtines / 91600 / Savigny-sur-Orge / France
 ☎ +33 1 69 21 21 00 / ☎ +33 1 69 24 10 34
 Capital Social € 15.300 / RCS Evry B 342 583 895
 Siret N. 342 583 895 00020 / code TVA FR 31 342 583 895
 ✉ mcm@mcm-france.com / sav@mcm-france.com / www.mcmspa.it

MCM GERMANY

MCM Vertriebs GmbH Deutschland
 Humboldtstrasse, 13 / 65189 Wiesbaden / Germany
 Halle1 / Bürgermeister Wegele Straße, 12 / 86167 Augsburg / Germany
 ☎ +49 611 37 27 47 / ☎ +49 611 37 27 45
 ✉ mcmvertriebs@mcm-deutsch.de / www.mcmspa.it

MCM USA

MCM U.S.A. Inc.
 215 Fifth Avenue / Chardon, OH 44024 / USA
 ☎ +1 440 286 2148 / ☎ +1 440 286 2148
 ☎ Toll Free 877 626 5999
 ✉ mcmusainc@mcmspa.it
 www.mcmspa.it

MCM CHINA

MCM China
 Rifa Digital Science Zone,
 Qixing (Street) / Xinchang County
 Zhejiang province / 312500 China
 ✉ mcmchina-sales@mcmspa.it
 mcmchina-service@mcmspa.it
 www.mcmspa.com.cn

MCM S.p.A. reserves the right to make changes to data and descriptions without notice. The property rights of this catalogue, in their entirety, belong to MCM S.p.A. Texts, images and technical solutions can't be reproduced or utilized for any scope without the written authorization of the author.

MCM Integrated Production Program _ EN_R01 _ 06/2020

graph.mumbledesign.com