mandelli

ITALIAN INNOVATION MAKERS. SINCE 1932

4&5 AXES HORIZONTAL AND MULTITASKING MACHINING CENTERS

Innovation
1st Machining Center

1960

Clever thinking
Plasma control

1980

Ingeniousness
Mandelli workshop set up

1932

Revolutionary
Spark

2000 - 2005

Customer orientation
FMS

1970

Evolution
Storm, Rock, Thunder

1990

OUR VALUES, OUR HISTORY

Pioneering
Titanium machining
2005 - 2010

Bravery
Spark 3500
2015 - 2018

Tirelessness
HS50
2023

Forerunners
iPuma and Rumble
2010 - 2015

Responsiveness
Allied Group worldwide network
2021

The big one
Spark 4000
2024

APPLICATIONS

AEROUNAUTICS & AEROSPACE

Motors (turbines, disks, shafts, combustion cases)

- **Landing gears**
- **Structural parts**
- **Ailerons**
- **Rudder/Slats**

POWER GENERATION

- **Open impellers**
- **Closed impellers**
- **Butterfly valves**
- **Spheroidal valves**
- **Split case pumps**
- **Turbines**

PEOPLE & PARTS MOBILITY

- **Axles**
- **Roadwork machinery**
- **Marine engines**
- **Earth moving machinery**
- **Agricultural machinery**
- **Excavators**
- **Elevators**

GENERAL & PRECISION MACHINERY

- **Machine tool components**
- **Gear boxes**
- **Hydraulic manifolds**
- **Textile machinery**
- **Transmissions**
- **Welded structures**
- **Large size molds**

SPARK 2

4 & 5 AXES
HORIZONTAL
AND MULTITASKING
MACHINING
CENTERS

SPARK 2,
THE 4 AND 5 AXES DREAM

Designed according to the FEM approach for static and dynamic efforts assessment, culminating in high rigidity required for roughing operations and flexibility expected in finishing. The SPARK line guarantees excellent static and dynamic performances under the most demanding working conditions.

The machine structures are thermo-symmetrically designed and can be made in compound or in cast iron. It is equipped with direct drive motors on linear axles and table.
The milling spindle with mechanical transmission (low rpm/high torque) or a wide choice of electro spindles (high rpm/low torque), can house different tooling systems: Capto, HSK, ISO
A variety of heads can be installed on the HMC accordingly to end user machining: horizontal, tilting for indexed positioning or for continuous machining (5th axis) both solutions with “A” head and “U” head.

Linear axes move on linear guideways with roller bearings and damping devises to provide the utmost vibration damping and ensure rapid speeds up to 50 m/min as well as high acceleration ratio.

A direct measuring system featuring high resolution pressurized optical scales on the linear axis and an encoder on the rotary table guarantee the utmost precision in finishing.

THIS MODEL IS PRESENTED IN THREE DIFFERENT VERSIONS:

SPARK 2 MILLTURN, the Multitasking machining center combines turning and milling functionalities.

The table is fixed to the basement and the direct drive motor is sunken in the structure to generate up to 7600 Nm of continuous torque and high rotation rigidity.
The X axis is a staggered structure to improve the machine rigidity.

Gantry drives and large size roller slides maintain the thrusts barycentric alignment and allows for a significant speed and acceleration increase.

These characteristics provide optimal stability and perfect balancing of the work forces combined with excellent dynamics and top-class accuracy in finishing.

Both electro spindles and mechanical ones are locked with Hirth rings during turning operations to provide stiffness and preserve the bearings integrity.

Square or round pallets with longitudinal or radial T slots can be fitted to the machine.

SPARK 2 1600 for *Mobility* sector endowed with no. 7 pallets and "arena" type pallet exchanger for fast and uninterrupted machining cycle. The HMC is equipped with our sturdy "H" head for machining on 4 axes. The Tool Storage houses no. 108 HSK-100 milling tools handled by quick automatic tool changer provided with conical wiper for tools accurate cleanness. **I-PUMA** Scada manages the pallet exchange tirelessly for time loss reduction.

SPARK 2 TI, HARD MATERIALS, HARDEST SOLUTION

SPARK 2 1300, designed for the *Aerospace & Energy* industries where materials such as Titanium and Superalloys are widely employed

SPARK 2 TI is the solution for high stock removal and recognized finishing quality.

With a double drive tilting head capable of generating a 12000 Nm continuous torque, a backlash free kinematics combined with damping technologies that reduce vibrations by 75% and a 100bar coolant pressure in milling and 350bar in turning, **SPARK TI** is the 5-axis machining centre that leaves semi finishing operations out.

SPARK 2 2100 for *Power and Energy* sector equipped with no. 2 pallets for continuous machining process and "U" head for massive and precise chips removal. Automatic Tool Changer for the housing of no. 216 posts for Capto C8 milling and turning tools. The pallet exchange is managed by **iPum@Scada**, our native software for pallets management and optimization

SPARK 2 2100 for *Aerospace* sector with no. 3 pallets and "A" head with mechanical transmission for high torque machining. It allows 5 axes continuous machining where any backlash is damped thanks to the dual drive system on the rotating axis. Equipped with **iPum@Smartcut**, it avoids any chattering phenomenon on component surface by exploiting its natural structural rigidity during the whole machine life.

SPARK 2 HS

High Speed

4 & 5 AXES
HORIZONTAL
AND MULTITASKING
MACHINING
CENTERS

SPARK 2 HS,
THE COMPACT 4 OR 5 AXES
HIGH-SPEED SOLUTION

Within the Spark 2 family, HS Multitasking machine (for turning and milling operations) is designed for high performance and fast machining; in fact, it boasts high rapid speed and acceleration, quick tool and pallet change and high reliability which guarantees high productivity and a shorter return on Investment.

Designed on a modular basis with a one-piece base, tool magazine with multilevel racks or anthropomorphic robot and arena magazine and automatic pallet changer on single or double level with centering station.

The versatility of this machine is needed to meet the variable requirements of the industry. The three linear axes are well coordinated to the tilting of the main spindle, consequently, the 5 axes combination is sturdy and precise both in turning and milling operations.

Compactness is a must for such machines size, to guarantee optimal space management and installation time shortage.

The multi-pallet changer allows unattended machining 24/7, by exploiting the machine at top level.

SPARK 2 MODEL	HS-50 multitasking	HS-63 multitasking	SP 1200 milling multitasking	SP 1300 milling Titanium
X, Y, Z Axes mm (inch)	800-800 800 (31-31-31)	1100-1000 1100 (43-39-43)	1200-1200-1450 (47-47-57)	1300-1100 1050 (51-43-41)
Pallet size mm (inch)	500 X 500 (20 x 20)	630 x 630 (25 x 25)	800 x 800 (31 x 31)	630 x 800 (25 x 31) 800 x 800 (31 x 31)
	-	-	1000 T (39) T	-
B Axis Payload Kg (lb)	1000 (2205) 4 axes 800 (1764) 5 axes	1500 (3307) 4 axes 1000 (2205) 5 axes	2000 (4409)	1500 (3307)
No. of interpol.Axes	4 /5	4 /5	4 /5	4 /5
Rapids m/min (inch/min)	75 (2953)	75 (2953)	60 (2362)	50 (1968)
Acceleration m/sec² (inch/ sec²)	7 (276)	7 (276)	5 (197)	4 (157)
Thrust N (lbf)	10000 (2248)	12000 (2698)	20000 (4496)	12000 (2698)
Milling spindle speed rpm	10000/ 20000	10000/ 20000	Wide range of electrospindles or mechanical spindles, from 5000rpm up to 24000rpm	
Spindle torque (S1) Nm (lbf/inch)	198 (1752)	300 (2655)	Wide range of electrospindles or mechanical spindles, from 100 up to 1500 Nm	
Taper	HSK-63	HSK-63/100	HSK-100 / ISO-50 / CAPTO-C6/8	
Tool Technical data at full/alternate pockets Ø mm / L mm weight kg (Ø inch / L inch weight lb)	100-200 (4-8) 400 (16) 15 (33)	100-325 (4-13) 600 (24) 35 (77)	100-325 (4-13) 600 (24) 35 (77)	100-325 (4-13) 600 (24) 35 (77)
Tool changer capacity	108/216/324 tools		110/200/290/342/492 tools	
Tool-to-tool change time	2,5" to 4" (>5Kg)	3" to 5"(>5Kg)		
Automatic Pallet Changer	single pallet, 2 pallets, 6/8 pallets arena type, 5 to 100 pallets in line or multilevel, loading/unloading and centreing stations			
Pallet-to-pallet change time	10" to 15" (>600 Kg)	12" to 20" (>600 Kg)	20"	20"
Tool room and smart tool	tool room >500 tools, smart tool by means of anthropomorphic robot hanging on aerial rail			
Machine Weight (Kg/ lb)	25000 (55115)	30000 (66138)	35000 (77161)	38000 (83775)
Numerical Control				
HMI	22" iPuma control (portrait frame)			
Positioning accuracy according to ISO 230/2				
Accur. (A) µm (1/1000 inch)	4 (0,16)	4 (0,16)	4 (0,16)	4 (0,16)
Repeat. (R) µm (1/1000 inch)	3 (0,12)	3 (0,12)	3 (0,12)	3 (0,12)
B Axis Accur. (A) (arcsec)	4	4	4	4
B Axis Repeat. (R) (arcsec)	3	3	3	3

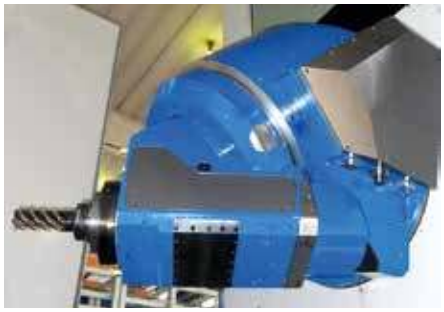
SP 1600 milling multitasking	SP 2100 milling multitasking/ Titanium	SP 2600 milling	SP 3500 milling	SP 4000 milling
1600-1400/1700-1250 1550 (63-55/67-49/61)	2000-1700/ 2000T Ti-1800 (79-67/79T/Ti-71)	2500 -2000 1800 (98-79-71)	3500-2000 1800 (138-79-71)	4000/2500 3000/2800 (157/98-118/110)
800 x 1000 (31 x 39)	1000 x 1250 (39 x 49)	1000 x 1250 (39 x 49) 1250 x 1600 (49 x 63)	1250 x 1600 (49 x 63) 1600 x 2000 (63 x 79)	1250 x 1600 (49x63) 1600 x 2000 (63x79)
800 x 800 - ø 1000 T (31 x 31 - ø 39) T	1000x1000 - Ø1250 T (39 x 39 - Ø 49) T	-	-	-
	1000 x 1250 Ti (39 x 49) Ti			
2500 (5512) 2500/4000 T (5512/8818)	5000/ 8500 (11023/18739) 5000 (11023) T 5000 (11023) Ti	5000/8500 (11023/18739)	8000 (17637)	up to 20000 (44092)
4 /5	4 /5	4 /5	4 /5	4 /5
50 (1968)	50 (1968) 50 (1968) T 30 (1181) Ti	50 (1968)	35 (1378)	40 (1575)
4 (157)	4 (157) 4 (157) T 2.5 (98) Ti	4 (157)	2.5 (98)	3 (118)
16000 (3597)	16000 (3597) 16000 (3597) T 24000 (5395) Ti	16000 (3597)	16000 (3597)	30000 (6744)
	Wide range of electrospindles or mechanical spindles, from 5000rpm up to 24000rpm			
	Wide range of electrospindles or mechanical spindles, from 5000rpm up to 24000rpm			
	HSK-100 / ISO-50 / CAPTO-C6/8			
100-325 (4-13) 600 (24) 35 (77)	100-325 (4-13) 600 (24) 35 (77)	100-325 (4-13) 600 (24) 35 (77)	00-325 (4-13) 600 (24) 35 (77)	Up to 600 (24) Up to 900 (35) Up to 60 (110)
	110/200/290/342/492 tools			
15”			20”	
	single pallet, 2 pallets, 6/8 pallets arena type, 5 to 100 pallets in line or multilevel, loading/unloading and centreing stations			
40”	50”	50”	60”	60”
	tool room >500 tools, smart tool by means of anthropomorphic robot hanging on aerial rail			
45000 (99207)	54000 (119048) 58000 (127867) Ti	70000 (154322)	74000 (163140)	96000 (211643)
Siemens ONE / Fanuc				
	22” iPuma control (portrait frame)			
5 (0,20)	5 (0,20)	5 (0,20)	5 (0,20)	5 (0,20)
4 (0,16)	4 (0,16)	4 (0,16)	4 (0,16)	4 (0,16)
4	4	4	4	4
3	3	3	3	3

HEADS

A WIDE RANGE
OF HEADS
AND ATTACHMENTS

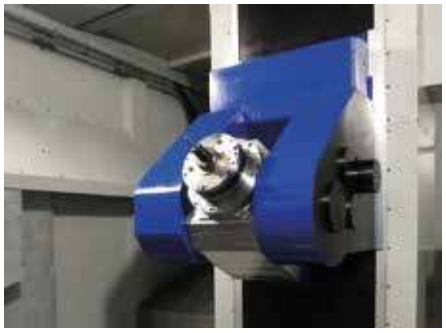
**HOW TO MEET
THE MOST DIVERSE NEEDS,
WITHOUT COMPROMISES.**

Made of electro-welded steel or spheroidal cast iron, both thermally stabilized, the spindles equipping the SPARK line heads provide maximum radial and axial rigidity in any working condition thanks to a pneumatic system which varies the preload according to the rotation speed and a zero-backlash kinematics combined with ultra precise dynamically balanced ceramic bearings.



"A" head, 5 axes, versatile, fast, it can house an electro spindle to exploit the maximum rpm, alternatively, a mechanical transmission system to achieve higher torque.

"U" head now available also in 5 axes version, due to its narrow shape, can face the most complex workpieces, without interferences and the rigidity of the dual drive system that drives the 5th axis. "H" axis head, sturdy, equipped with electro spindle or mechanical transmission is strongly recommended for 4 axes machining with fine geometrical tolerances and evident rigidity.



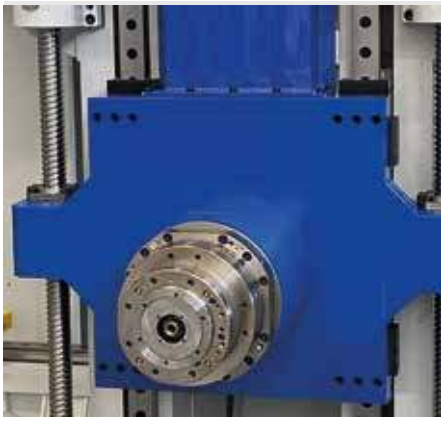
The spindle operating temperature is controlled through a dedicated chiller unit where the coolant feeding guarantees outstanding geometric stability.

The thermal compensation of spindle distension is an integrated part of I/O link package and NC, ensuring stable performances to of the machining. A network of sensors control the spindle status and adjust or stop it according to pre-set alarm thresholds if any faulty operating conditions are detected. Among the others, the vibration detecting system to prevent the chattering phenomenon automatically. The tool presence sensor avoid any unexpected crash and preserves the machine from failure and damage.

H-Head

U-Head - Continuous

A-Head Continuous



HS-Head

	SPARK			HS
TECHNICAL DATA	**H HEAD**	**U HEAD**	**A HEAD**	**H HEAD**
Speed rpm	5000 ÷ 24000	6000 ÷ 9000	5000 ÷ 24000	10000 ÷ 20000
Power in S1 kW (HP)	30 ÷ 78 55-80	48 ÷ 50 (64 ÷ 67)	37 ÷ 75 (50 ÷ 101)	22 ÷ 50 (29 ÷ 67)
Torque in S1 Nm (lbf/inch)	71 ÷ 2666 2000-2688	405 ÷ 707 (3585 ÷6257)	78 ÷ 1259 (690 ÷11143)	90 ÷ 300 (796 ÷ 2655)
A Axis rpm	-	-	7,5 ÷ 15	-
A Axis machining torque in S1 Nm (lbf/inch)	-	-	3000 ÷ 12000 (26552 ÷106208)	-
Angular Range	-	0° / -90° each 2,5°or continuous	-100 °/ 90° (continuous)	-
Accuracy (A) arcsec	-	5	4	-
Repeatability (R) arcsec	-	4	3	-
Taper	ISO - HSK - CAPTO			

PALLET AUTOMATION

AUTOMATIC
PALLET
CHANGER

THE SPARK 2 LINE CAN BE EQUIPPED WITH VARIOUS PALLET AUTOMATION SYSTEM

From the twin automatic pallet changer that optimizes the floor space, through the trans pallet system housing up to a maximum of 8 buffers stations any pallet size, to the single or double level in-line expandable shuttles and integrations with complex multilevel systems.

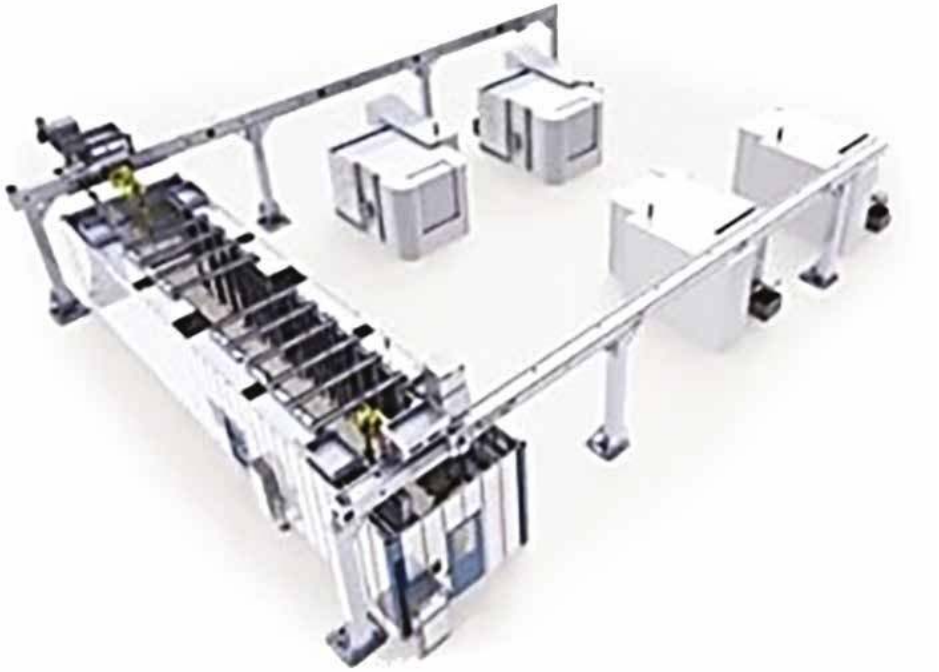
All the pallet handling solutions can be integrated into the company ERP and are designed to guarantee the highest operative autonomy to offer an automation level in line with the output production needs.

If equipped with our native pallet management software **iPum@Scada** for pallets, the flow optimization and the production increase is a fact, it shortens significantly the Return-On-Investment.

Mandelli's automation solutions make maintenance easy; in fact, the accesses to the machine, APC and ancillaries are designed to ease maintenance and refill procedures with special care to human ergonomics principles.

TOOLS MANAGEMENT

TOOL ROOM AND SMART TOOL



The Tool room is shared between 2 or more machines, and it allows the centralized tool maintenance in a single point by easing the standard procedures. It can host more than 500 cutting tools according to user needs.

The concept of the tool room and of the “Smart tool”, aims to optimize the tool set in each ATC of the machines to be ready for the specific operation required on the workpiece. The tool exchange can be performed between machines as well by Interchanging the tools between the tool room and the machines.

Beyond the optimization performed with **iPum@Scada** a (our native software for pallets and smart tool management), a single operator can handle up to 5 machines tools-set, by picking up and releasing the serviced tools.

The shifting of the tools (batches of 5 tools/each) is carried out by means of an anthropomorphic robot on aerial rail that perform the pick-up and deposit of the tools inside the ATC of the machines.

There, the storage of the tools is made by the usual CNC management system.

TOOL MAGAZINES

Perfectly fitted into the machine perimeter, Mandelli tool magazines combine easy operating with easy handling.

- Compact structure perfectly fitted into the machine perimeter to minimise the floor space.
- ATC type can be chosen among in-line rack with servo bracket or arena with anthropomorphic robot. The modular design of our ATC aim to satisfy the number of tools necessary to complete the full machining cycle.
- The ATC can store up to 500 tools on a multiple level tray structure to prevent dripping contamination and bending in the presence of long and heavy tools.
- Minimum tool setup, even in the presence of short machining cycles, thanks to a two-axis manipulator and a double search logic in concealed time.
- Laser Control & ID systems to guarantee full time operating conditions
- Self-cleaning of the tool cone before picking up both with air compressed air and rotating wiper.
- The ATCs are equipped with the servo bracket for quick change on milling spindle, even for heavy tools.

- Loading/unloading door for maintenance and tools off-set, the automatic servo-bracket provides the delivery and tools list updating in the NC
- Reading and writing station can be installed for tool life monitoring according to end user data
- Wide windows anti scratch allow the view of the tools and any visual check of the tool set.

RUMBLE

RUMBLE
A BLEND OF TOP CLASS TECHNOLOGY

Our **RUMBLE** model was designed to machine hard materials such as Titanium and superalloy on complex profiles. It boasts a thermosimmetrical electro-welded steel structure for maximum rigidity achievement due to the masses and torque involved.

Despite the moving inertia of the masses , the linear axes rapid speed is 50 m/min and acceleration levels up to 4 m/s2 by ensuring the shortest ramps of acceleration to reach top speed.

RUMBLE was born on the modular concept, it can reach any «X» axis stroke multiple of 2 meters. It exploits the dual-drive technology by means of double rack and pinion for Y axis movement. While X and Z axes are led by wide size ballscrews with double preloaded nut anti backslash system.

The reading system adopts high resolution pressurized optical scales on linear axes and high-precision encoders for the rotary axes by creating a full-loop-closed control together with NC and drives.

B and C axes (milling spindle and table) work by means of a double pinion and helicoidal crown for backlash recovery, this emphasizes the native skill of Rumble to cope with tough, having high HRC degree.

The machine's basic configuration includes allowing the housing of HSK 125 taper, rigid and stable, for a 2688 Nm continuous max torque on the mechanical pindle, this guarantees optimal swarf removal and no chattering during the machining process.

The operator cabin housed on the X axis is a designated station from which the operator controls all the axes movements and monitors the machining operation through our **iPum@Control** with 22inch monitor.

TECHNICAL DATA	RUMBLE 4000	RUMBLE 6000
X Axis mm (inch)	4000 (157)	6000 (236)
Y Axis mm (inch)	2000/3000 (79/118)	2000/3000 (79/118)
Z Axis mm (inch)	1250 (49)	1250 (49)
Rapid Speed rpm	40	40
Acceleration m/sec2 (inch/sec2)	3 (118)	3 (118)
Thrust N (lbf)	30000 (6744)	30000 (6744)
Max Payload Kg (lb)	5500 (12125)	8000 (17637)
Taper	HSK – ISO	
Tool Number	100 – 200 – 300	
POSITIONING ACCURACY ACCORDING TO ISO 230/2		
Accuracy (A) µm (1/1000 inch)	5 (0,20)	5 (0,20)
Systematic Positioning Error on full stroke (E) µm (1/1000 inch)	8 (0,32)	8 (0,32)
Repeatability (R) µm (1/1000 inch)	4 (0,16)	4 (0,16)

HEAD

RUMBLE
UNIVERSAL HEAD
AND THE PALLET
AUTOMATION

TECHNICAL DATA	DATAU60-5000 mechanical
Speed rpm	20-5000
Power in S1 kW (HP)	55-80 (64 ÷ 118)
Taper	CAT 60
Torque in S1 Nm (lbf/inch)	2000-2688 (3585 ÷ 13426)
B Axis rpm	16
B Axis machining torque in S1 Nm (lbf/inch)	8500 (6270)
60B Axis locking torque in S1 Nm (lbf/inch)	15000 (11063)
Baxis Angular Range	±180°
C Axis machining torque in S1 Nm (lbf/inch)	12000 (8850)
C Axis locking torque in S1 Nm (lbf/inch)	25000 (18450)
Angular Range	±180°
Accuracy (A) arcsec	10
Repeatability (R) arcsec	5

RUMBLE universal Head can reach any point in the space thanks to the exclusive design for the double rotating axes: B and C. These are both driven by *Master and Slave* system for backlash compensation as well as high torque for continuous machining".

PALLET AUTOMATION

The **RUMBLE**, further, can be equipped with a pallet-handling system that allows workpieces to be loaded/unloaded: separately, the horizontal loading of the workpiece makes its handling easier, then the tilting table rotates in vertical position by allowing the transfer of the component inside the machine ready for process.

While the machining is in process, the table discharged can be loaded with the next component for assuring the best productivity.

Alternatively, the Rumble can be equipped with other solutions such as on-floor double rotating table, allows for separate machining, to keep unchanged the productivity of the machining center.

SPECIAL DESIGN

MAXIMUM
FLEXIBILITY
FOR CUSTOMIZED
SOLUTIONS

Among our distinctive qualities, we provide engineered solutions for efficient machining for the end-users. The flexibility of our design due to the quality of our engineers, allows us to study and provide the best solution.

As an example, the Titanium structural parts machining for the Aerospace industry is deeply customized thanks to the vertical turning application. This, by means of a tailstock, allows us to machine long and small diameter parts without any loss of precision and finishing quality.

The flexibility is not a limit, it is an opportunity.
In fact, the machine can perform the typical machining both in milling and turning operations for standard sized parts and, if necessary, the tailstock can provide higher rigidity and top finishing quality for those out of size parts.

Further example, again for full machining of aircraft bearing parts, the special solution that allows the machining in turning and milling operation of the whole landing bar. Both milling and turning operation are performed in a single setup.

Then, the special configuration of the chucks, allows the machining of the end-bar-parts with high rigidity.
The versatility of the milling spindle allows the housing of a special attachment to machine the whole profile of the end-bar-parts.

The automatic pallet changer includes an additional pallet for standard machining, confirming again the perfect binomial flexibility/ opportunity.

IPUM@ SUITE 4.0

OUR NATIVE SOFTWARES

iPum@Control, the **user interface** that controls the machining center through a 22" touchscreen divided into 3 sections to offer a **global overview of the HMC operating status.**

iPum@Scada, the **Supervising & Control** Software developed by Mandelli to optimize the use of the HMCs equipped with a **pallet handling system** thanks to the data acquired in real time.

iPum@Smartcut, the HW and SW system that **monitors the machining process** through the control of vibrations and stabilizes the cutting process via vibration damping strategies.

iPum@Predict, the system that processes the machine data and monitors the machining status to **prevent possible non optimal working conditions** that might lead to faults.

SERVICE REVAMPING & RETROFITTING

CUSTOMER CARE

FOR ALL OUR MODELS
SPARK - ROCK- STORM
THUNDER - M3 - M4 - M5 - M7
M8 - M10 - M12 - M14

Mandelli SERVICE is an integrated structure interconnected in real time with all the company functions, both on site and online.

With more than 10,000 original spare parts in stock, a technical assistance intervention timing within a few hours anywhere in the world.

We approach the service with responsibility, and we foresee four levels of intervention:

- Telephone/help-line support
- Remote diagnostic control from our HQ
- Local service intervention
- Motherhouse intervention

Besides the traditional support, Mandelli offers several diversified maintenance programs which are more and more replacing the traditional on call service. Specifically conceived according to the customers' productive needs, Mandelli's preventive and predictive maintenance programs are designed according to specific guidelines and contribute to maintaining the machining centers best performing conditions.

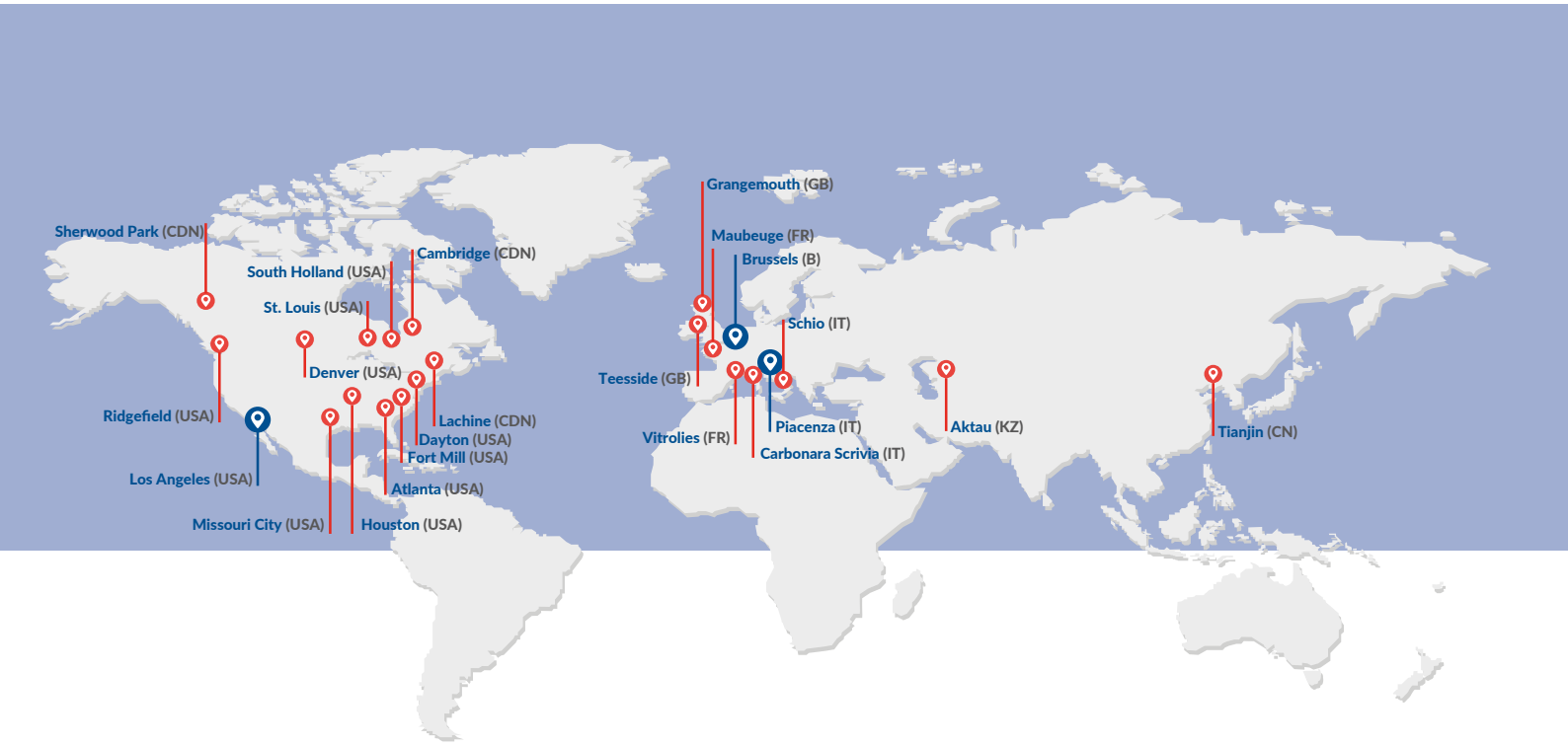
REVAMPING & RETROFITTING

The best knowledge of Mandelli machines is owned by Mandelli OEM.

That's why we perform not only mechanical interventions to restore the initial operating conditions but also the newest innovations installed and tested on the most recent horizontal machining centers: modifications of the machine functions to meet new production requirements, integration of retrofitted machines into new FMS lines and safety upgrades to update the machine to the safety rules and regulations in force.
Further, we can intervene on the electronics only, targeting to upgrade the NC and leave the machine itself original, keeping the same structure of the horizontal machining centers, which is well known for rigidity and precision.

These retrofit operations do not always require the machine to be moved to Mandelli headquarters. In fact, in some cases we can perform the whole revamping at the customer's site, with lower impact on logistics and by reducing the end-user expenditure budget.

MANDELLI IN THE WORLD



- **Headquarters**, Piacenza - Italy
- **North Europe Branch**, Brussels - Belgium
- **North America Branch**, Los Angeles - USA
- **Allied Group Warehouses**

Mandelli SRL

Via Caorsana, 35
29122 Piacenza - ITALY
Tel. +39 0523 548548
www.mandelli.com
mandelli.info@mandelli.com