

# 508MT2

X1000 LINEAR

## HIGH-PRECISION MACHINING CENTER

- 6 TO 11 AXES
- MILLING / TURNING
- MACHINING FROM BAR STOCK OR IN ONE-PIECE MODE
- AUTOMATIC BACK MACHINING
- SIMULTANEOUS MULTI-POST MACHINING



WILLEMIN-MACODEL

# OVERVIEW

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THE 508MT2 X1000 IS A MULTI-PROCESS MACHINING CENTER DEDICATED TO MACHINING COMPLEX PARTS FROM Ø 65 MM BAR STOCK. IT IS EQUIPPED WITH A PIVOTING POWERED SPINDLE FITTED ON A B-AXIS AND A HIGH-PRECISION A-AXIS SPINDLE/DIVIDER ENABLING TURNING OPERATIONS UP TO 6,000 RPM.

THE 508MT2 X1000 MACHINING CENTER OFFERS EXCEPTIONAL FLEXIBILITY AND PRODUCTIVITY. ITS INNOVATIVE BACK MACHINING TURRET WITH 2 USABLE POSITIONS, INCLUDING A COUNTER-SPINDLE AND A PRECISION VICE, ENABLES ALL SECONDARY OPERATIONS TO BE PERFORMED. IT IS THE TURNING TURRET WITH 12 MOTORISED POSITIONS WHICH REALLY SETS THE 508MT2 X1000 APART. THIS ALLOWS THE MACHINE TO SIMULTANEOUSLY MACHINE WITH BOTH THE MILLING MOTOR SPINDLE AND THE TURNING TURRET, WITH NO COMPROMISES. THIS ALLOWS YOU TO OPTIMISE YOUR MACHINING RANGES, ENABLING PRODUCTION TIME TO BE REDUCE IN THE MOST FAVOURABLE SCENARIOS.

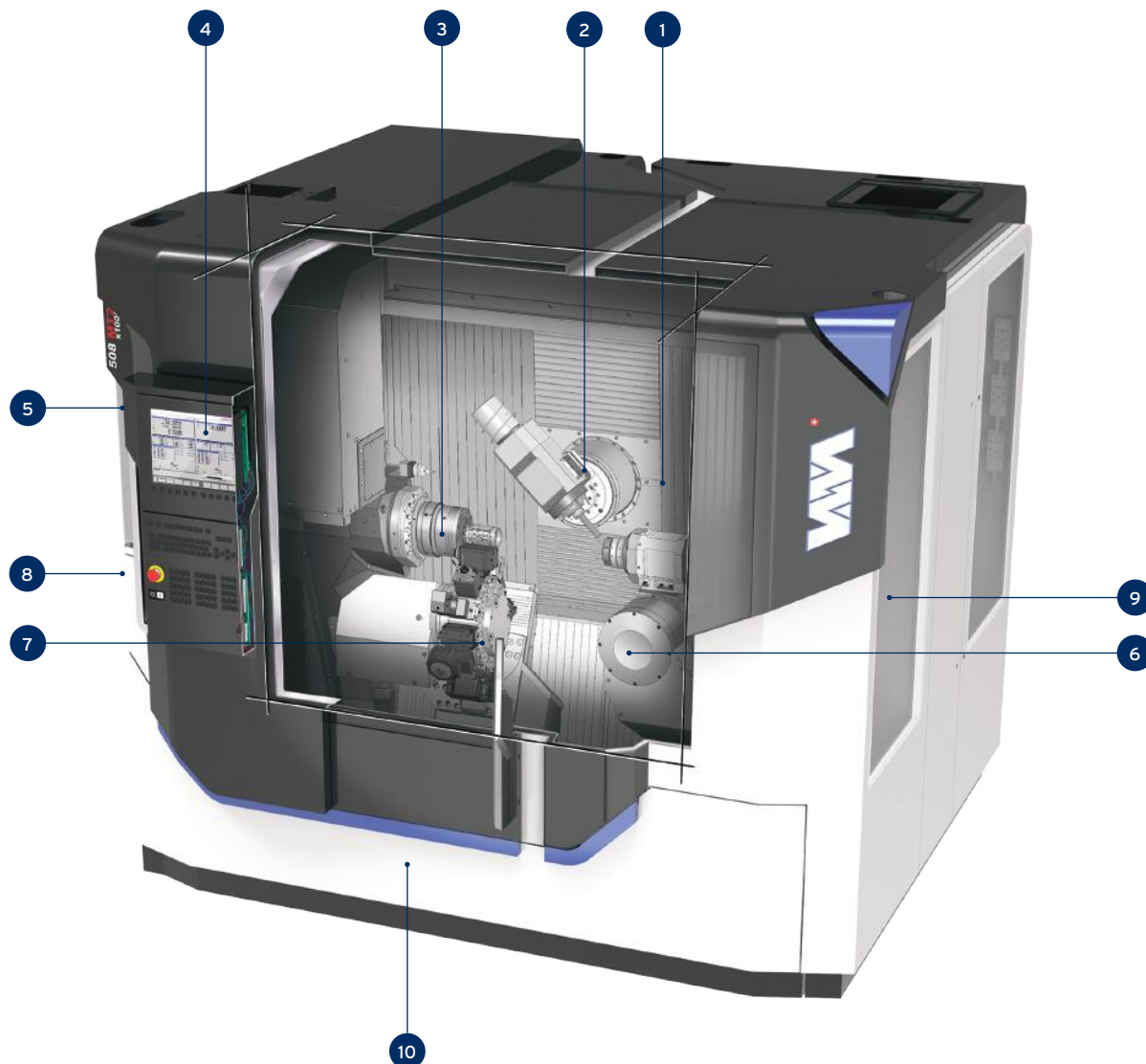
BENEFITING FROM THE LATEST TECHNOLOGICAL DEVELOPMENTS AND WILLEMIN-MACODEL'S COMPREHENSIVE EXPERTISE IN HIGH-PRECISION MACHINING FROM BAR STOCK, THE 508MT2 X1000 IS PERFECT FOR CUTTING-EDGE INDUSTRIES SUCH AS WATCHMAKING, MEDICAL, AEROSPACE AND HIGH-PRECISION MECHANICAL SUB-CONTRACTING.

## ADVANTAGES

- Front and back side simultaneous machining of the part
- Mixed machining process of milling and turning
- Machining from bar stock or in one-piece mode
- Parts fully machined in a single cycle
- Flexibility offered by the multifunction back turret (pickup spindle and vice)
- Turning turret with 12 positions enabling high volume swarf removal
- Positioning accuracy
- Thermal stability of the kinematic chain
- Simple clamping systems
- Rapid change-over time
- Large-capacity tool magazine
- HSK-E40, HSK-A40 or Capto C4 interface
- Reduction in down time
- Optimised tool management
- Peripherals integrated in the machine
- Quick return on investment
- Excellent ergonomics
- Custom automation

## SOME FEATURES

- Milling up to 42,000 rpm
- Powered spindle, 0 - 30,000 rpm in 0.8 s
- Turning on the A-axis up to 6,000 rpm
- 65 mm standard bar stock diameter
- Turning on the C-axis pickup spindle up to 8,000 rpm
- Motorised tools on the turning turret, with 12,000 rpm
- Turning turret indexing time, 0.6 s
- B-axis angular movement -45° to +115°
- B-axis indexing from 0° - 90° in 0.2 sec
- Acceleration of X Y Z linear axes, 10 m/s<sup>2</sup>
- Rapid feed rate of X Y Z linear axes, 60m/min
- Tool magazine with up to 72 positions
- Tool change time 0.8 sec
- Optional coolant through spindle programmable up to 80 bar
- Footprint approx 5.5 m<sup>2</sup>

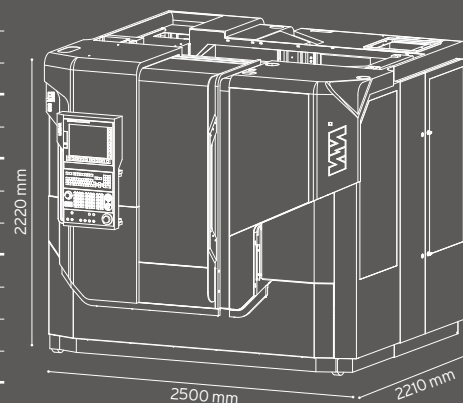


## THE 508MT2 X1000 MACHINING CENTER

- 1 Direct drive of the X, Y and Z axes by linear motors
- 2 30,000 rpm powered spindle with HSK-E40, HSK-A40 or Capto C4 interface (optional 42,000 rpm milling)
- 3 A-axis spindle/divider, turning up to 6,000 rpm, 65 mm bar stock diameter
- 4 CN Fanuc 31i-B5 control console, 15" screen
- 5 Tool magazine with 48-position quick tool changer (72-position magazine optional)
- 6 Back machining turret with 2 usable positions (counter-spindle and vice), fitted on the U-axis, 520 mm travel
- 7 Turning turret with 12 motorised positions, speed 12,000 rpm, fitted on a Z2-axis with 300 mm travel and a X2-axis with 150 mm travel
- 8 Various feeding systems for short or long bars stock (can be adapted on the left side of the machine)
- 9 Various automation systems, loading or unloading workpieces or pallets (can be adapted on the right side of the machine)
- 10 Swarf and coolant collection tray (recovery of precious metals or conveyor optional)

# TECHNICAL SPECIFICATIONS

LINEAR AXES	X - Y - Z travel	1,000 / 200 / 400 mm
	Max. feed rate	60 m/min
	Acceleration	10 m/s <sup>2</sup>
	Feed force	1,800 N / 4,500 N
	Resolution	12.5 nm (0,0125 µm)
SWIVELLING B-AXIS	Drive unit	Torque motor
	Angular movement	-45° to +115°
	Nominal torque	120 Nm
	Max. rotation speed	250 rpm
	Resolution	0.0001°
	Hydraulic maintaining brake	450 Nm
HORIZONTAL A-AXIS	Drive unit	Torque motor
	Divider interface	A6
	Angular movement	360°
	Max bar Ø	Ø 42 mm (51/65 mm optional)
	Torque S1 / S6	72 Nm / 96 Nm
	Power S1 / S6	24 kW / 34 kW
	Milling mode rotational speed	200 rpm
	Turning mode rotational speed	6,000 rpm
	Resolution	0.0001°
	Clamping pressure	68,000 N
BACK MACHINING TURRET	Positions	2 usable pos. / 1 free pos.
	Travel on the U-axis	520 mm
TURNING TURRET (OPTION)	Z2 / X2 travel	300 mm / 150 mm
	Capacity	12 motorized positions
	Speed	12,000 rpm
POWERED SPINDLE INTEGRATED	Interface	HSK-E40
	Power S1/S6	10 kW / 15 kW
	Torque S1/S6	8 Nm / 12 Nm
	Speed	30,000 rpm (42,000 rpm)
TOOL MAGAZINE QUICK CHANGER	Number of tools	48 (72)
	Tool-to-tool change	0.8 sec
	Chip-to-chip change	3 sec
	Max. tool Ø	50 mm
	Max. tool Ø (adjacent vacant positions)	80 mm
	Max. tool length	150 mm (130 mm)
	Max. tool weight	1 kg
COOLANT	Reservoir capacity	400 l
	Pump capacity	40 l/min 2.5 bar pressure
HYDRAULIC UNIT	Nominal pressure	100 bar
NUMERICAL CONTROL	Fanuc	3i-B5



Voltage	3 x 400 V/50 Hz
Installed power rating	45 kVA/63 A
Air pressure	6 bar
Net weight	Approx. 6'100 kg

## HEADQUARTERS

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