

# MAXIMA

Vertical machining centre for  
milling and turning



Flexible High Tech Solutions for Industry  
“Those who look a little harder discover a lot more”

**breton**  
Machine Tools



MAXIMA

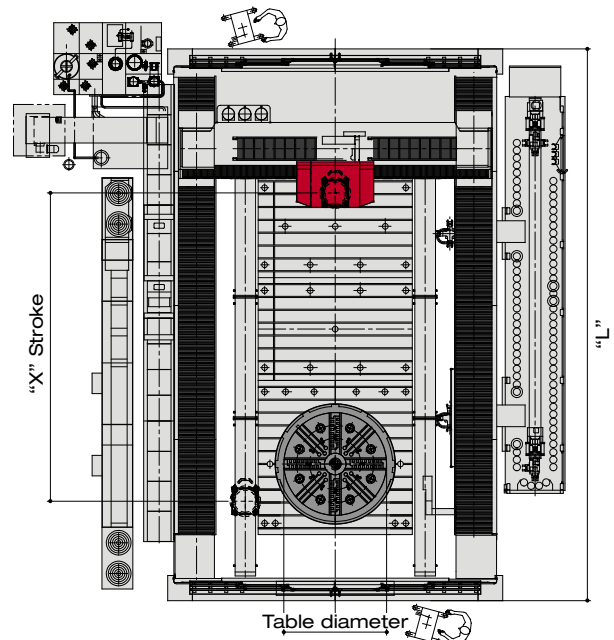
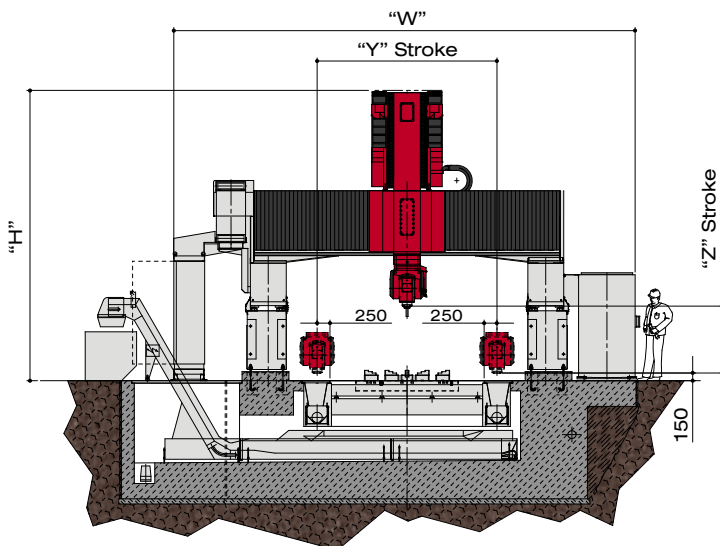
Customized Efficiency



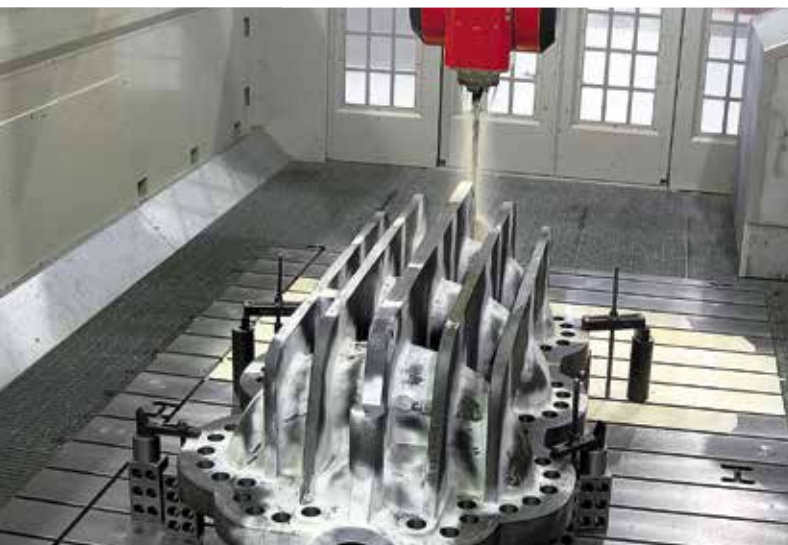
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# MAXIMA

		MAXIMA 1200 K16/30	MAXIMA 1600 K30/60/80	MAXIMA 2000 K30/60/80
Interpolated axes		6	6	6
"X" Stroke	mm in	1.600 - 3.000 63 - 118.1	3.000 - 6.000 - 8.000 118 - 236 - 315	3.000 - 6.000 - 8.000 118 - 236 - 315
"Y" Stroke	mm in	2.200 86.6	2.500/3.500 98.4/137.8	3.500 137.8
"Z" Stroke	mm in	1.000 39.4	1.300 51.1	1.300 51.1
"X" Axis rapid feedrate	m/min ipm	60 2,360	60 2,360	60 2,360
"Y" Axis rapid feedrate	m/min ipm	60 2,360	60 2,360	60 2,360
"Z" Axis rapid feedrate	m/min ipm	40 1,575	40 1,575	40 1,575
"A" Axis rotation		-105° ÷ +120°	0° ÷ +135°	0° ÷ +135°
"C" Axis rotation		continuous	continuous	continuous
"A" Axis rapid feedrate	rpm	50	50	50
"C" Axis rapid feedrate	rpm	100	100	100
<b>MILLING SPINDLE:</b> Spindle power S6(40%) / S1	kW HP	40/40 or 54/40 53/53 or 72/53	85/74.6 or 40/40 or 54/40 114/100 or 53/53 or 72/53	85/74.6 or 40/40 or 54/40 114/100 or 53/53 or 72/53
Spindle torque S6(40%) / S1	Nm ft-lb	137/100 or 70/51 101/74 or 52/38	480/300 or 137/100 or 70/51 354/221 or 101/74 or 52/38	480/300 or 137/100 or 70/51 354/221 or 101/74 or 52/38
Spindle speed	rpm	18.000 or 28.000	14.000 or 18.000 or 28.000	14.000 or 18.000 or 28.000
<b>TURNING SPINDLE:</b> Turning table diameter	mm in	1.200 47.2	1.600 63	2.000 78.7
Maximum swiveling diameter	mm in	1.800 70.9	2.000 78.7	2.500 98.4
Spindle power S6(40%) / S1	kW HP	30/30 40/40	88/68 118/91	116/100 156/134
Spindle torque S6(40%) / S1	Nm ft-lb	2.700/2.000 1,991/1,475	8.400/6.500 6,196/4,794	24.600/20.000 18,145/14,752
Spindle speed range S6(40%) / S1	rpm	500/400	350/300	248/230
Din 69893-1 milling tool taper		HSK-63A	HSK-63A or HSK-100A	HSK-63A or HSK-100A
Milling turning tool taper		Capto C6	Capto C8	Capto C8
Dimensions W	mm / in	5.900 / 232.30	7.250 - 8.250 / 285.4 - 324.8	8.250 / 324.8
H	mm / in	4.850 / 191	5.700 / 224.4	5.700 / 224.4
L	mm / in	5.600-7.600 / 220.5-299.2	7.400-9.700-12.000 / 291.3-381.8-472.4	7.400-9.700-12.000 / 291.3-381.8-472.4







### **A competitive solution**

Multitasking, high-speed vertical 6-axes machining centre for vertical milling and turning of workpieces up to 3.500 mm in diameter.

MAXIMA is ideal for turning, milling, drilling and tapping components with a three-dimensional, complex shape such as those used in aeronautics and gear, energy or general mechanical sectors, minimizing the piece positioning operations during the transition from raw material to finished product.

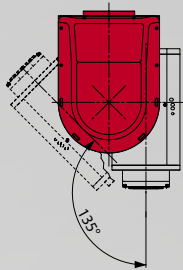
### **Wide range of configurations for custom made performances**

There are many ways to configure the machine in order to meet any job requirements:

- standard version with one work area
- version with two work areas for hunting machining
- version with double Ram
- version with double beam
- different solutions for automated pallet loading/unloading are available for either a single machine or "machining islands".

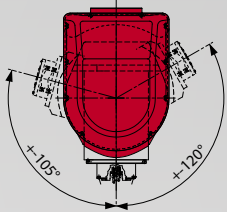
### **Easy access and clear view**

Clear view of the work area that is within the operator easy reach thanks to the machine gantry structure with mobile bridge and wide frontal doors.



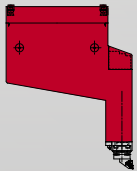
### TORNADO HD

kW (S6/S1)	85-75
Nm (S6/S1)	480-300
rpm	14.000
"A" axis	0-135°
"C" axis	continuous
"A" axis (rpm)	50
"C" axis (rpm)	100

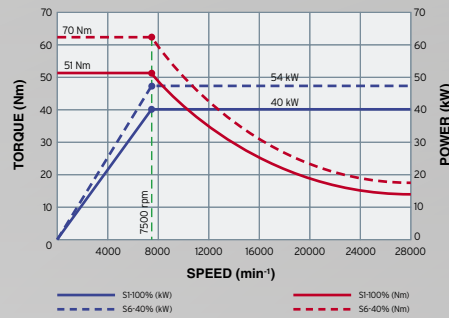


### TORNADO

kW (S6/S1)	54-40	40-40
Nm (S6/S1)	70-51	137-100
rpm	28.000	18.000
"A" axis	-105 +120°	-105 +120°
"C" axis	continuous	continuous
"A" axis (rpm)	50	50
"C" axis (rpm)	100	100

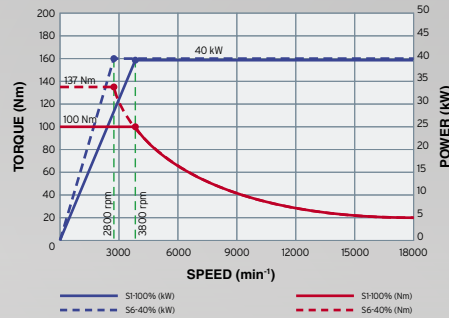


### VERTICAL TURNING HEAD



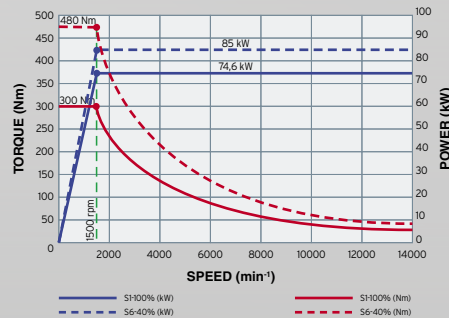
### M 51/28

Electrospindle featuring a power of 40 kW, continuous torque of 51 Nm in S1 duty and 28.000 rpm: the ideal choice for customers requiring high-speed machining on either steel or light alloys, from rough-machining up to precision finishing.



### M 100/18

Electrospindle featuring a power of 40 kW, continuous torque of 100 Nm in S1 duty and 18.000 rpm: smartly performing any machining operation on either steel or light alloys, from rough-machining up to precision finishing.



### M 300/14

Electrospindle featuring a power of 48 kW, continuous torque of 300 Nm in S1 duty and 14.000 rpm: amazingly efficient when machining either steel or super alloys, from rough-machining up to precision finishing.

### A superior head

The electrospindles always offer the highest machining performance thanks to the cast-iron, fork designed head ensuring structural rigidity and efficient vibration damping. The totally symmetrical structure of the head guarantees the best mechanical precision even when environmental temperature is variable.

### High Speed, Dynamics and Precision

Carriage and beam travel on suitably dimensioned recirculating roller guides ensuring precision and stability. Axis motion is through a system consisting of a ground, recirculating roller screw / pre-loaded nut assembly, or a double rack and pinion system with electronic backlash recovery, powered by brushless motor.

Axes are controlled by digital drives with latest generation, brushless servo motors.

### Wide range of electrospindles

MAXIMA machining centre can be equipped with a wide range of electrospindles according to the required machining.

Machining precision is always guaranteed by the thermal stabilizing system of the spindle and the software designed to compensate natural, thermal expansions of the electro-spindle as the machining conditions change. Simple and reliable tool magazines.

Depending on the version, the machine can be provided with moving, fixed wheel-type magazines or chain magazines with manipulator for rapid exchange in order





to minimize the tool changeover time. Magazines are installed outside the work area for protection against dirt and long-term reliability. They can also be provided with a system for the tool data automatic coding and chip reading.

### **Top bellows and dust extraction**

Ideal for machining composite and resin-based materials, MAXIMA can be supplied with an efficient dust extraction system, which is installed on the spindle nose, and top bellows that completely enclose the machine thus isolating the work area from the surrounding area. Different fume and dust extracting systems are available according to the customer specific requirements.

### **The ideal cooling system**

Depending on the type of machining, the tool cooling system may either use a coolant liquid flowing inside and outside the spindle (maximum 60 litres/minute) with a fixed or variable internal feeding pressure of up to 70 bar, or incorporate a spray mist system, or simply use compressed air.



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UNI EN ISO 14001:2004  
CERT. No. 299A/O



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