



Diamant

CNC machining centres

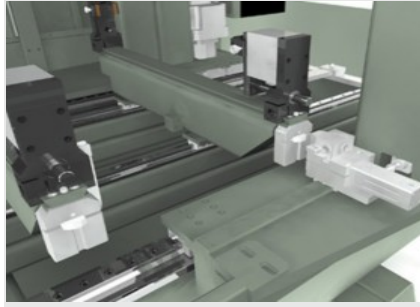


4-axis CNC machining centre with moving gantry structure. Designed for drilling, milling, thread cutting and cutting at angle any from 0° to 180° on bars or workpieces of aluminium, PVC, light alloys in general and steel. The moving part of the machine consists of a gantry with precision rack and pinion drive. The high power 7,5 kW electrically-driven spindle with HSK-63F tool holder allows machining operations, including heavy-duty work, with optimum results in terms of speed and accuracy. A 9-place tool magazine is installed behind the moving gantry structure. The machine can be used in double mode so as to minimize machine downtime, as it is possible to change the workpiece (load/unload) and the automatic setting of the vices in “concealed” time. It is also possible to load and consequently machine different workpieces and to perform different machining operations between the two work areas. The gantry is provided with a guard which, besides protecting the operator, also reduces the noise impact on the environment.



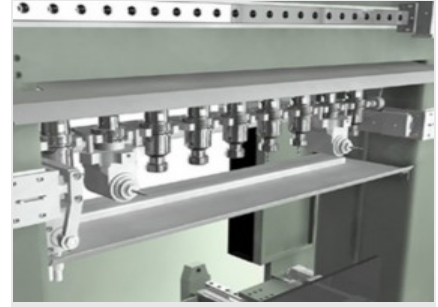
Double operation mode

Work system that allows reducing machine stand-still times to a minimum during the loading and unloading of the workpieces. The system enables the loading and subsequent machining of different codes and processes, between the two work areas. This solution makes the machine very advantageous in many sectors of use.



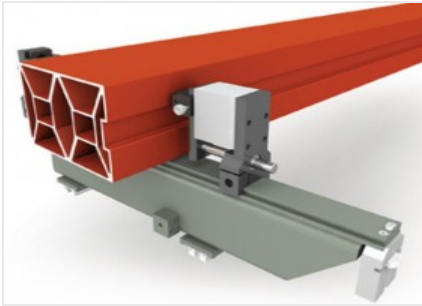
Automatic vice positioning

The machine software can calculate the correct positioning measure for each vice unit, according to the length of the workpiece and to the type of machining to be performed. The automatic vice positioning system performs the positioning of each vice assembly at the highest speed and with great precision and spares longer time and collision risks, so that the machine can also be easily used by less experienced operators.



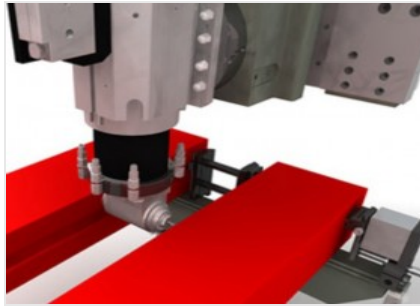
Tool magazine

The tool magazine is large and quick and is installed directly on the machine's carriage. Its lateral position, together with an exclusive housing, guarantees maximum protection of the toolholder cones from swarfs and accidental knocks. The magazine can contain up to 9 (8 + 250 mm blade) toolholders with relevant tools, which can be set at the operator's discretion. Each position of the toolholder is provided with a sensor detecting the correct toolholder cone position.



Vices

Well-dimensioned vice assembly, capable of guaranteeing the correct clamping of even large aluminium profiles. Each vice unit is equipped with a pneumatic table translation device that facilitates workpiece loading and unloading operations and significantly increases the machinable section.



Double hold-down device on pneumatic vice (Optional)

By exploiting the wide Y work area, the machine can be equipped to position, refer and clamp two profiles in parallel in the vices, working both profiles in a single cycle and thus allowing a very significant reduction in the machining time. Performing drilling and milling machining in the inner faces using angle machining head requires feasibility check.



Dimensional profile measurer (Optional)

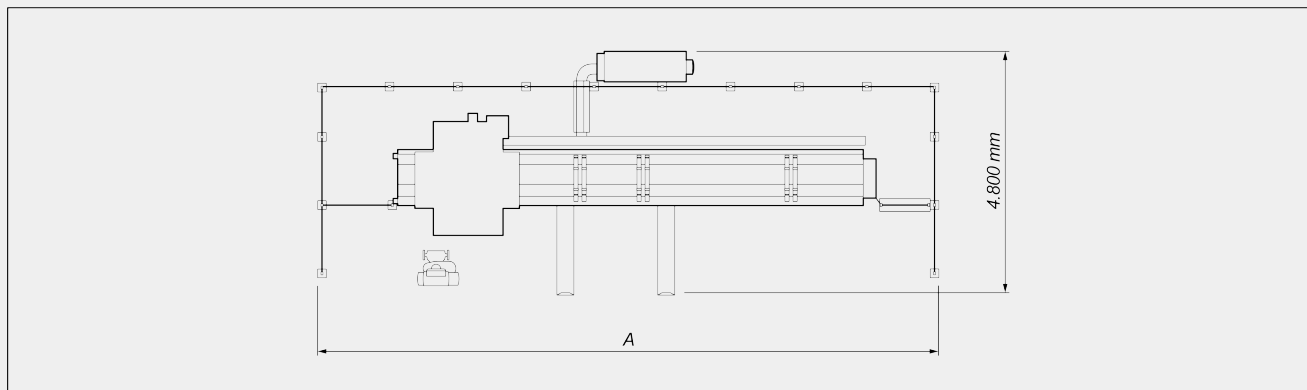
The machine can be optionally equipped with an electronic device that automatically corrects workpiece dimensional errors in length, width and height. In this way, the accuracy of the machine is not influenced by the differences between theoretic and actual workpiece dimensions during machining.





DIAMANT / CNC MACHINING CENTRES

LAYOUT



	A
Diamant 7.700 (mm)	12.000
Diamant 10.000 (mm)	14.800

The overall dimensions may vary depending on the product configuration.

AXIS STROKES

X AXIS (longitudinal) (mm)	7.690 ; 10.000
Y AXIS (transversal) (mm)	1.210
Z AXIS (vertical) (mm)	910
A AXIS (electrospindle rotation)	0° + 180°

POSITIONING SPEED

X AXIS (longitudinal) (m/min)	80
Y AXIS (transversal) (m/min)	64
Z AXIS (vertical) (m/min)	64
A AXIS (electrospindle rotation) (°/min)	8.100



ELECTROSPINDLE

Maximum power in S1 (kW)	7,5
Maximum speed (rpm)	20.000
Maximum torque (Nm)	8,2
Toolholder cone	HSK - 63F
Air cooling with electric fan	●
Electrospindle prepared for Flow Drill	●

AUTOMATIC TOOL MAGAZINE ON BOARD THE GANTRY

Number of tools in the standard magazine	9
Number of tools in the optional magazine	20
Maximum dimension of the tools that can be loaded into the magazine (mm)	$\varnothing = 63 - L = 180$
Blade slot in the magazine	●
Maximum size of the blade that can be loaded into the magazine (mm)	$\varnothing = 250$
Maximum number of angular heads that can be inserted into the optional tool magazine	4
Maximum number of angular heads that can be inserted in the standard tool magazine	2

WORKABLE SIDES

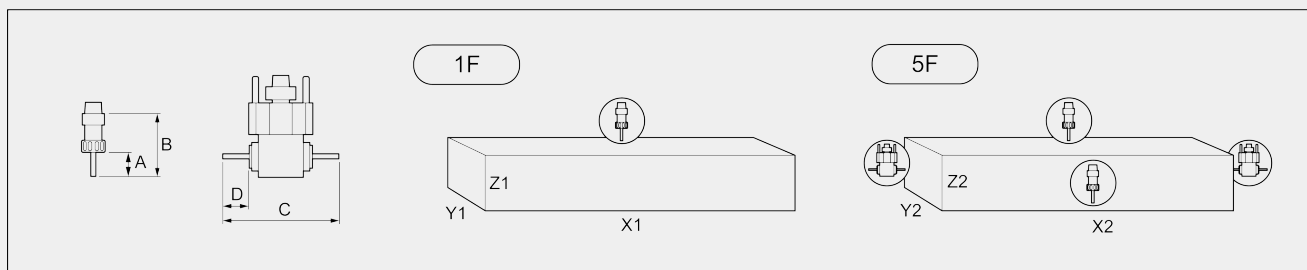
With direct tool (upper face and side faces)	3
With angular head (top face, side faces, heads, bottom face) (requires special locking equipment)	1 + 2 + 2 (+ 1)
With blade tool \varnothing 250 mm (upper face, side faces, heads)	1 + 2 + 2



WORK AREA

1F = 1 face machining

5F = 5 faces machining



		A	B	C	D	X1	Y1(*)	Z1	X2	Y2	Z2
DIAMANT 7.700	single mode	50	138,5	238	60	7.700	900	400	7.400	460	380
	double mode	50	138,5	238	60	3.650	900	400	3.520	460	380
DIAMANT/D 7.700	single mode	50	138,5	238	60	7.550	900	400	7.400	460	380
	double mode	50	138,5	238	60	3.650	900	400	3.520	460	380
DIAMANT 10.000	single mode	50	138,5	238	60	10.000	900	400	9.730	460	380
	double mode	50	138,5	238	60	4.750	900	400	4.690	460	380
DIAMANT/D 10.000	single mode	50	138,5	238	60	9.900	900	360	9.730	460	380
	double mode	50	138,5	238	60	4.750	900	330	4.690	460	380

Dimensions in mm

(*) requires special holding fixture

TAPPING CAPACITY (with Tap On Aluminium And Through Hole)

With compensator	M8
Stiff (optional)	M10

**WORKPIECE LOCKING**

Standard number of vices	6
Maximum number of vices	12
Automatic vice positioning through X axis (Diamant)	●
Automatic vice positioning through H and P axes (Diamant/D)	●
Disengagement system for vices positioning (Diamant/D)	●
Maximum number of vices per area	6
Lifting rollers on vices	○
Double horizontal hold-down device on vices for machining two profiles in parallel	○

Included ● Available ○