



@CMAMachineTools



@CMAMachineTools



CMA Machine Tools

WWW.CMAMACHINES.COM

HISTORY

CMA Machine Tools is a family company founded in Alzira (Valencia) in 1989. We are specialised in the production of machinery for metal drilling, milling and tapping.

FEATURES

All the machines produced are characterized by an **excellent price-performance ratio**, as well as high versatility and efficiency. They are ideal for those companies in the steel structure manufacturing and metal processing industry that want to **improve their production at a competitive price**.

FACILITIES

Our factory has a total surface area of 9000 m² located in El Pla Business Park. It's made up of 3 different buildings that include a parts warehouse, a painting workshop, a welding workshop, an assembly room and a machining department, as well as our offices.



MACHINING CENTERS

CMA CNC machining centers are characterized by a 3-axis (X, Y, Z) **sliding head**. They are designed for **drilling, tapping and milling in sheet metal, flat bars, profiles and steel tubes**. The head is designed and manufactured in CMA with internal lubrication (up to 60bar) which allows working with the latest tooling technology.

Each and every operation is perfectly programmable using a PC controller with CMA's own CNC software.

The spindle portal is guided along the table on linear guides, hardened and precision mounted on the machine body. The X-axis portal is driven by a **helical rack and pinion** and the Y and Z axes by a **ball screw**.

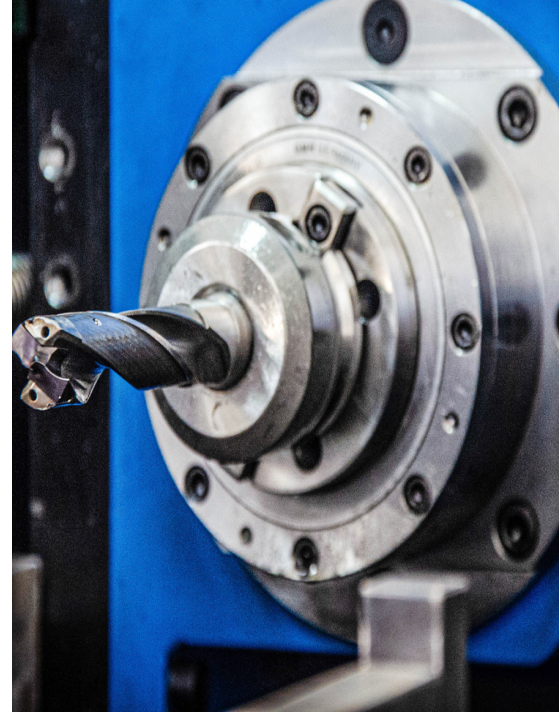
All models (3RD, GRD and BRD) can be programmed for drilling, thermal drilling, tapping, milling and chamfering operations.

One of their advantages is the **precision of the X/Y/Z travel** and the **wide range of operations** they can perform.

The **attractive price** of CMA machining centres in relation to our competitors, as well as a **wide range of additional options** and a successful design, make CMA machining centres very versatile.



BRD and GRD machining centres



CMA 3RD MACHINING CENTER

The 3RD is the **most flexible vertical machining center** on the market. It ranges in size from 3m to 10,5m in length, but in addition to our standard sizes, we design and manufacture custom machines to meet our customers' needs at the most appropriate price.

This model is capable of **high speed drilling** and **milling** of large parts in a setup with **less repositioning**.

Our **motion control system** is the most advanced CNC controller available, giving you the capability and flexibility for both your large and small machining applications.



AVAILABLE MACHINING RANGES:

For X-axis = 3000 / 4500 / 6000 / 7500 / 9000 / 10500 mm

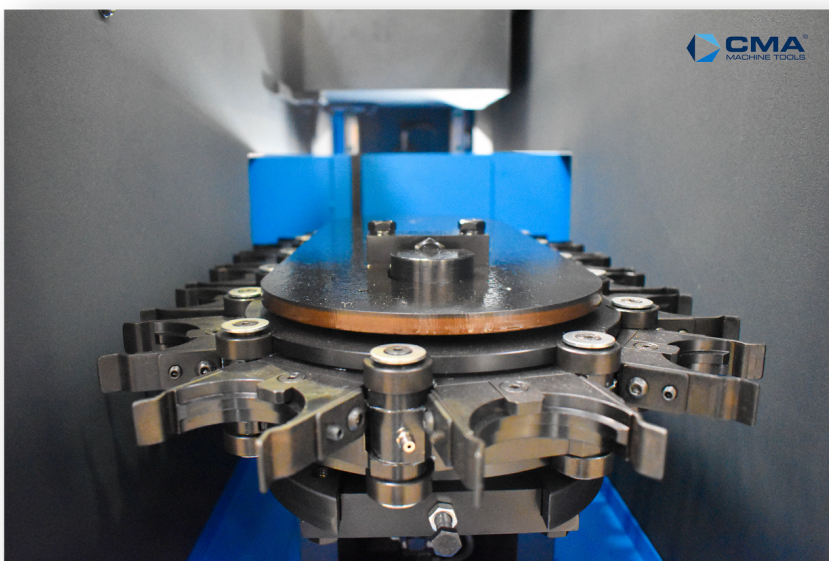
For Y-axis = 600 mm

CMA 3RD MACHINING CENTER

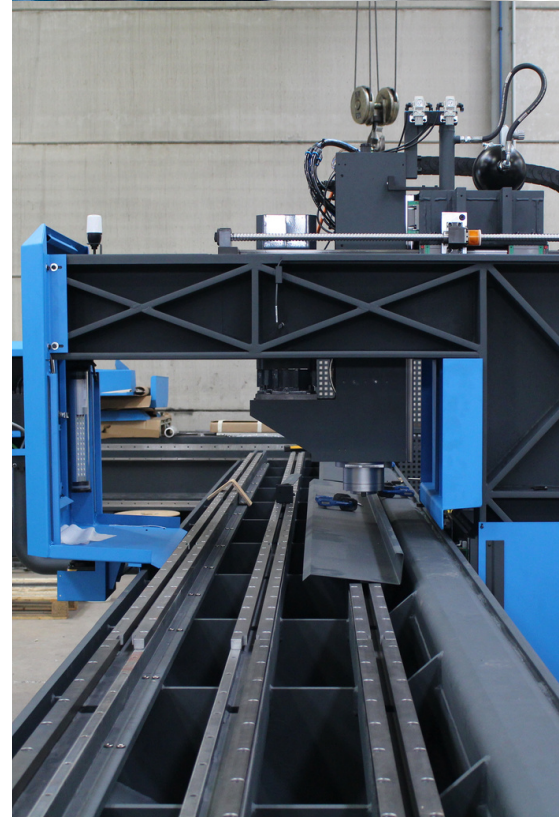
Drilling, tapping and milling operations are carried out by means of a spindle with an asynchronous SERVO motor with a power of 13,1 kW. The motor drive is transmitted directly through the pulleys and the toothed belt. Depending on the ratio applied in the pulley-belt relationship, we obtain a specific torque and the maximum speed of the spindle rotation.

There are **5 different speed ranges** (2000-6000rpm) to choose from. The tool clamping on the spindle is on the BT40 taper.

It has a safety laser scanner that allows **working in different areas**, a worm screw for coolant and chips extraction and, in addition, a mobile control panel on a linear guide that allows moving along the machine.



Tool changer of a 3RD model



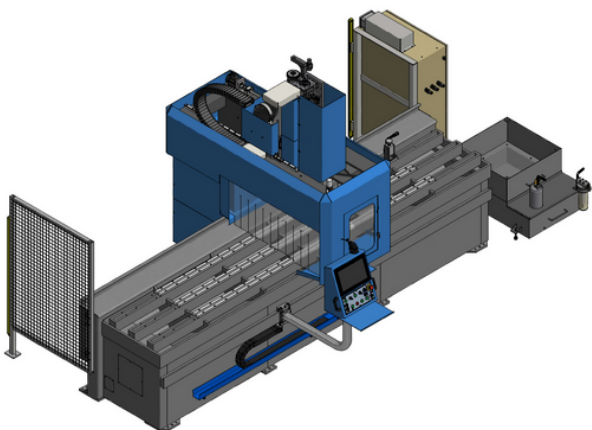
TECHNICAL FEATURES

3RD MODEL:

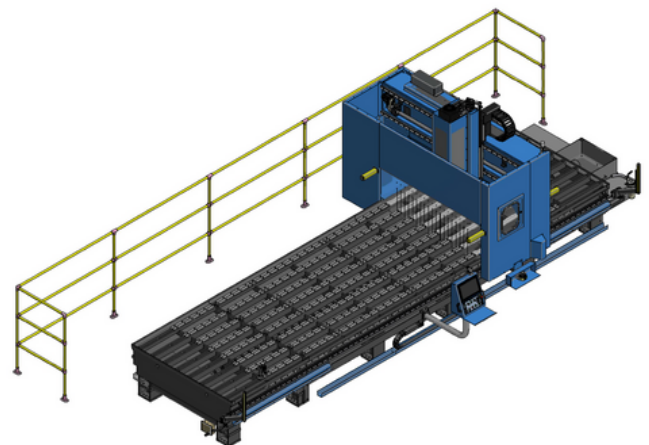
Model	3006	4506	6006	7506	9006	10506
Drilling capacity*	6 versions from max. ϕ 22 to max. ϕ 42					
Tapping capacity*	6 versions from max. M20 from max. M30					
Spindle motor	13'1 kW					
Spindle speed	6 versions from max. 2000 to max. 6000rpm (optional up to 15000 rpm)					
Max. torque	6 versiones desde max. 83 hasta max. 250 Nm					
Spindle type	BT 40					
Table length (mm)	3050	4575	6100	7625	9150	10650
Table width	580 mm					
Table capacity	1000 kg/m ² (580kg per m of machine length)					
X-axis travel	3050	4575	6100	7625	9150	10650
Y-axis travel	600 mm					
Z-axis travel	450 mm					
Head-table distance	125-575 mm (optional up to 745 mm)					

OPTIONS FOR 3RD AND GRD MODELS:

- Internal cooling through the head.
- Spray system for minimum quantity lubrication.
- Spraying system for paste (fluorospraying).
- Automatic workpiece height correction system (Z-reader).
- Reninshaw stylus for automatic zero point search.
- CAD/CAM software for the conversion of drawings into 3D.
- 4th axis (rotation axis) for round, square and rectangular tubes.
- Pneumatic and hydraulic clamping systems (single or multiple).
- Milling plus package with 2 motors in the X-axis (backlash free).



3RD machining centre

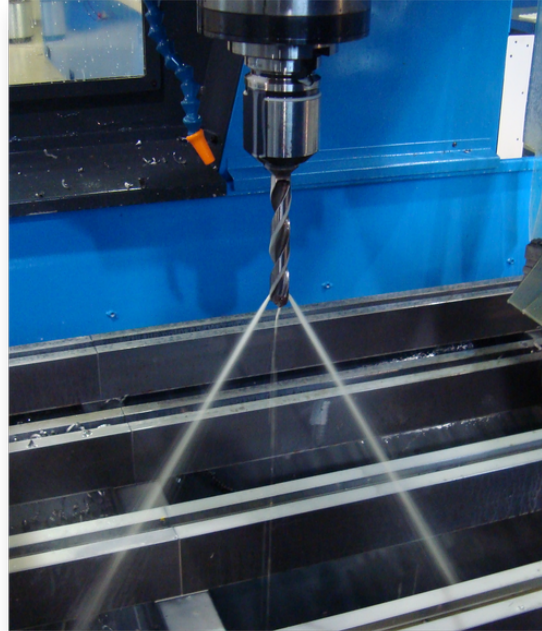


GRD machining centre

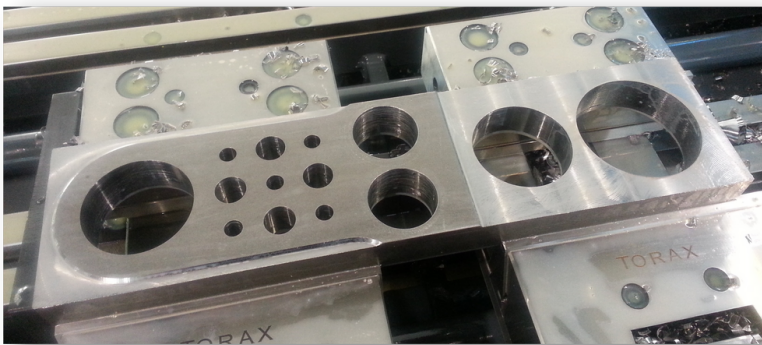
PRACTICAL EXAMPLES 3RD AND GRD MODELS:



Tool changer



Internal cooling



Drilling and milling



Thread cutting/milling

- Drilling up to $\text{Ø}42$ mm.
- Graphic programming.
- Tool changer.
- Chip conveyor.
- Special lengths on request.

CMA GRD MACHINING CENTER

The GRD model is the most flexible vertical machining center on the market, designed to **produce larger parts** than the CMA 3RD model.

Its size varies from 3x1,4m to 10,5x3m long, but, apart from our standard sizes, we design and manufacture customized machines to meet our customers' requests.

The GRD model can perform high speed drilling and milling on large parts in a setup with minor repositioning.

Our motion control system is the most advanced CNC controller available, providing the capability and flexibility for both your larger and small machining applications.



AVAILABLE MACHINING RANGES:

For X-axis = 3000 / 4500 / 6000 / 7500 / 9000 / 10500 / 12000 mm

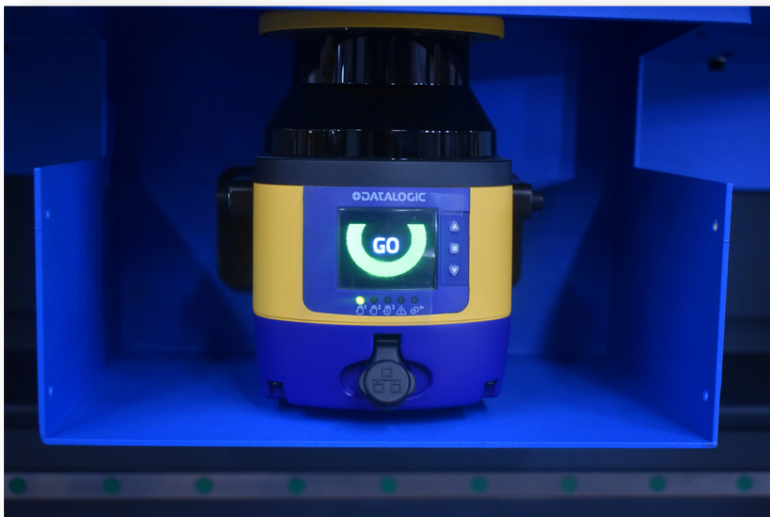
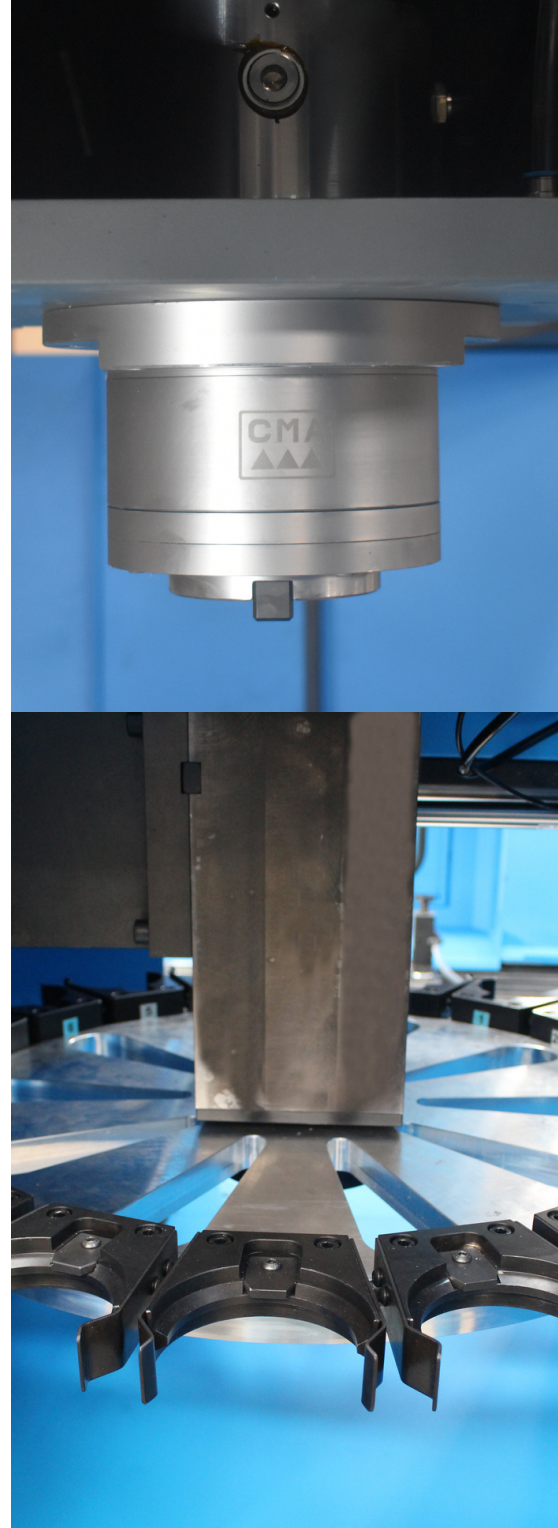
For Y-axis = 1400 / 1800 / 2000 / 2500 / 3000 / 3500 / 4000 mm

CMA GRD MACHINING CENTER

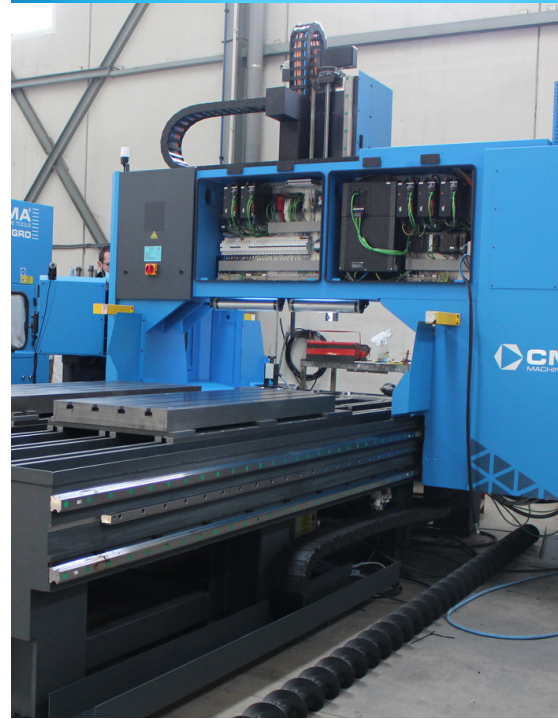
Drilling, tapping and milling operations are carried out by means of a head with an asynchronous SERVO motor with a power of 13 kW or 30 kW with direct transmission. The motor drive is transmitted directly via the pulleys and the toothed belt. Depending on the ratio applied in the pulley-belt ratio, we obtain a specific torque and the maximum speed of the spindle rotation.

The standard model of the GRD model includes a centrally located dust collector, an automatic storage for 24 BT40 tools.

The safety laser allows us to work in different areas of the machine. In addition, a worm screw allows the extraction of swarf and coolant. The mobile control panel is mounted on a linear guide, which allows working along the machine.



Safety laser

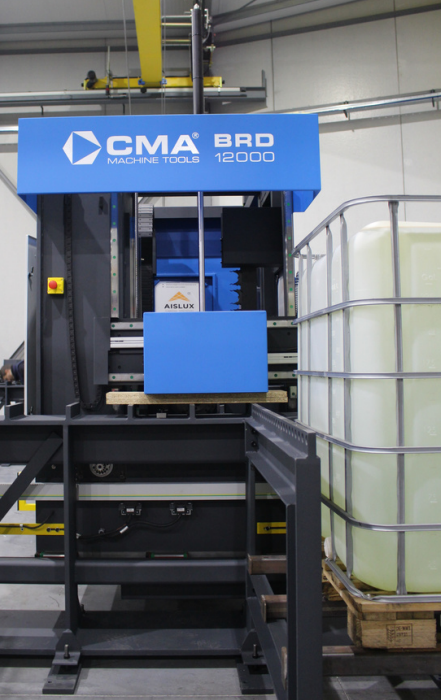


TECHNICAL FEATURES

3RD MODEL:



Model	3014 - 3030	4514 - 4530	6014 - 6030	7514 - 7530	9014 - 9030	10514 - 10530
Drilling capacity*	6 versions from max. Ø22 to max. Ø42					
Tapping capacity*	6 versions from max. M20 from max. M30					
Spindle motor	13'1 kW (optional up to 26'17 kW)					
Spindle speed	6 versions from max. 2000 to max. 6000rpm (optional up to 15000 rpm)					
Max. torque	6 versiones desde max. 83 hasta max. 250 Nm					
Spindle type	BT 40 (optional up to BT 50)					
Table length (mm)	3000	4500	6000	7500	9000	10500
Table width	1330 / 1830 / 2080 / 2580 / 3080 mm or according to the customer's needs					
Table capacity	2000 kg/m ²					
X-axis travel	3000	4500	6000	7500	9000	10500
Y-axis travel	1450 / 1800 / 2000 / 2500 / 3000 mm or according to the customer's needs					
Z-axis travel	500 mm (optional up to 700 o 1000 mm)					
Head-table distance	120-620 mm (+150 / +250 mm options or according to customer's requirements)					

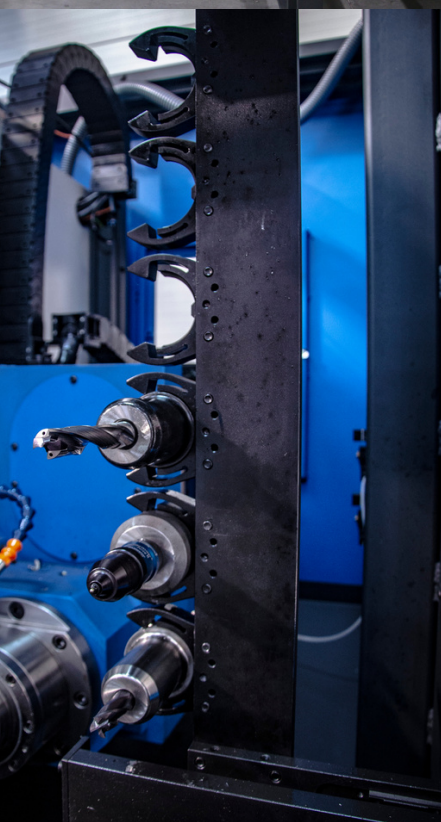


CMA BRD MACHINING CENTER

Our BRD model is designed for **drilling, tapping** and **milling** on **profiles** and **beams** with a 3-axis (X, Y, Z) moving head. The sizes of this model can vary between 12m or 16m long and 610mm or 1050mm high.

All operations are programmable via the PC controller with CMA software. In addition, the spindle gantry is guided along the table on linear guides, hardened and precision mounted on the machine body.

All this at a competitive price to help our customers improve their production.



AVAILABLE MACHINING RANGES:

For X-axis = 12000 / 16000 mm

For Y-axis = 600 / 1050 mm

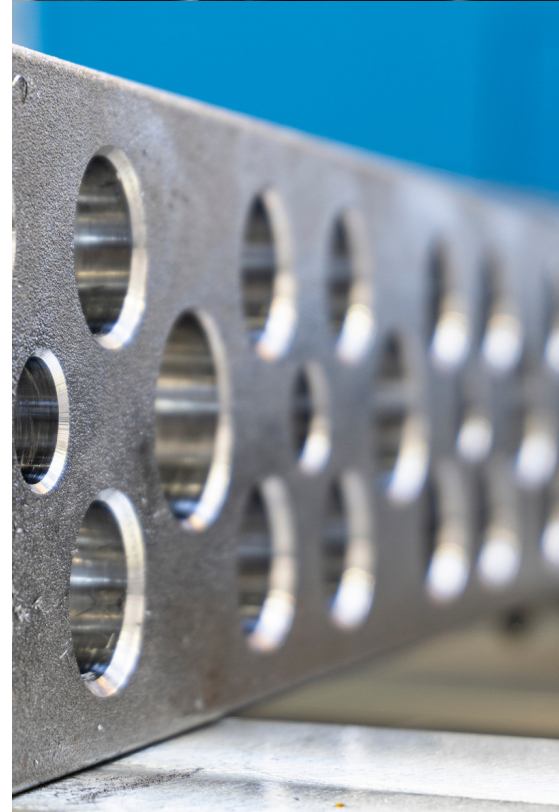
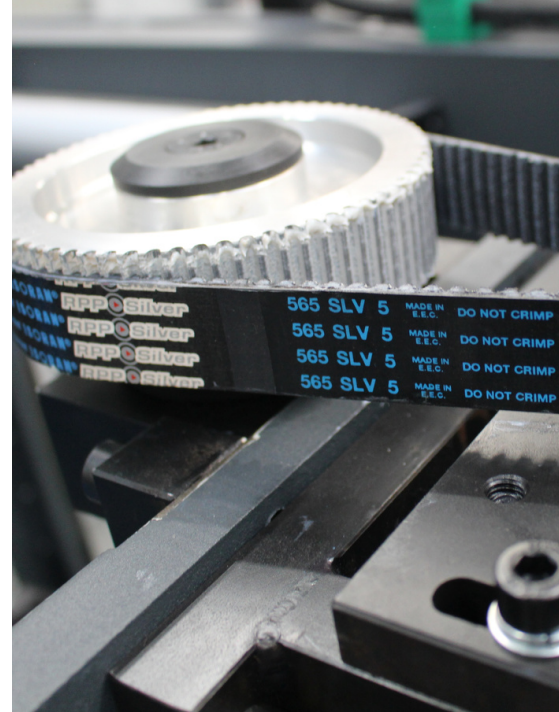
CMA BRD MACHINING CENTER

This model has a laser for **fast detection of the 0 point** of the workpiece. In addition, our BRD has a **hydraulic clamp** that allows X movement while the workpiece is clamped making milling, interpolation drilling and marking operations possible.

For our BRD model, the most optimal speed range is 50-3000 rpm, which allows threading up to M24 and drilling with a full bore up to a maximum of 42mm.

Some of the **most important capabilities** of this model are:

- It is possible to use HSS drills and high-speed carbide drills.
- It can process both large and small workpieces.
- It can work in multiple zones.
- It has easy part loading/unloading.
- It's simple to use and program.



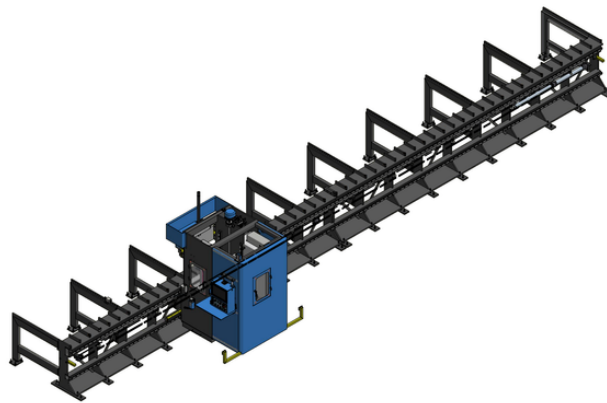
CMA BRD CNC machining centre

TECHNICAL FEATURES BRD MODEL:

Model	12006	16006	12010	16010
Drilling capacity*	Ø42 mm			
Tapping capacity*	M27			
Spindle motor	13'1 kW			
Spindle speed	Con regulación continua hasta 3000 rpm			
Max. torque	167 Nm			
Spindle type	BT 40			
Table length (mm)	12000	16000	12000	16000
X-axis travel	12000	16000	12000	16000
Y-axis travel	610	610	1010	1010
Maximum tool length	325 mm			
Head-table distance	110 mm			

OPTIONS FOR BRD MODELS:

- Radio remote control for Start/Stop/Emergency stop.
- Automatic profile turning device.
- Measuring system to correct the width of the workpiece (Y-reader).
- Measuring system for correcting the front of the workpiece (Z-reader).



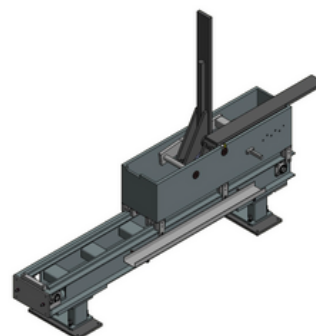
PRACTICAL EXAMPLES BRD MODEL:



Hydraulic clamping systems



Laser zero point sensor



Parts rotator

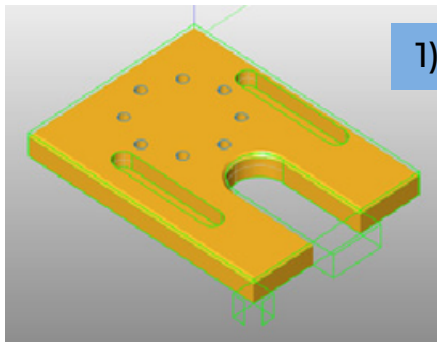
PROGRAMMING 3RD, GRD AND BRD:

The **controller** is the heart of the machine. It must therefore combine ease of use, precision and reliability.

To be easy to use, it must offer a variety of options, but it must be **comprehensive** and **easy** to program. Do not stress the operator with too many options that he does need for processing. The control should offer only what is necessary to perform the task or to be able to create the machine program.

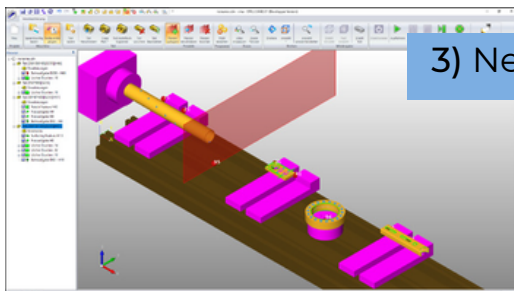
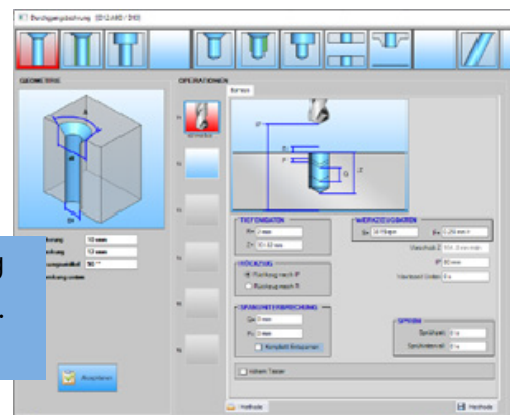
Data to be entered or even complete processing sequences should be entered or suggested automatically if possible.

IN JUST 4 STEPS:



1) Drawing the part (or importing the drawing)

2) Define tools (or select method). Cutting data, depths, feed rate during milling, etc. are defined automatically.



3) Nesting one or more parts at zero points

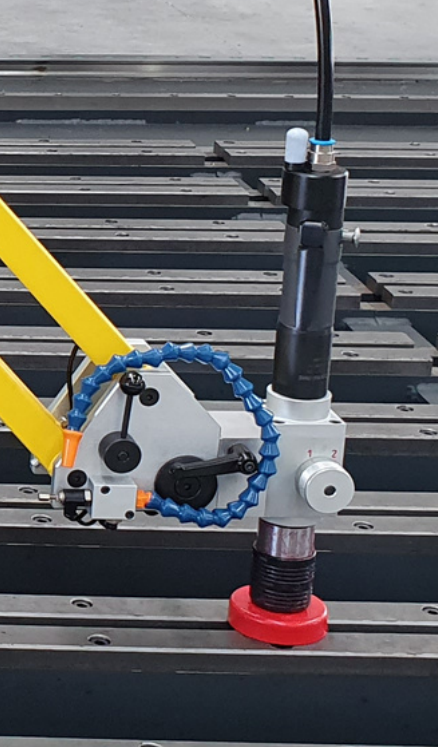
4) ISO programme created

N5 M7 T5 (21 WSP BOHRER)
N10 G52 Q163
N15 G80 G40 S3789
N20 G54 H91

TAPPING MACHINES

Thanks to the **pantographic arm** and the **multi-position head**, they can work perfectly in any position.

The **quick-change system** of the holders allows you to prepare the machine for the next job in a short time. A wide variety of drives and the mobility of the machines allows the choice of the tapping machine directly according to the customer's needs.



Electric tapping machine



Hydraulic tapping machine

ELECTRIC TAPPING MACHINE

The characteristics of the electric tapping machines will be presented below:

- 230V electronic single-phase motor.
- Pantographic arm of CMA's own design.
- Arm mounting bracket on the table.
- Control panel.
- Electronic threading speed regulator.
- Digital rotary reader.
- Tapping depth programmer: when the programmed tapping depth is reached, the motor stops automatically and engages counterclockwise rotation.
- Quick tap change system.
- Oil mist tap cooling system.



Electric tapping machine



HYDRAULIC TAPPING MACHINE

The characteristics of the hydraulic tapping machines will be presented below:

- 800x600mm work table with T-slots (models with fixed table).
- Control panel and hydraulic unit integrated in the work table.
- Threading depth adjustment (models with D+), after reaching the programmed threading depth, the motor stops automatically and changes the rotation to counterclockwise.
- Electronic threading speed regulator.
- Reinforced CMA pantographic arm.
- Arm mounting bracket on the table.
- Quick tap change system.
- Oil mist tap cooling system.
- Digital rotary reader.
- Inverter for smooth spindle speed control.
- CMA gearbox with continuous speed control (RHRM two-speed models).
- The RHRM 60D+ model is equipped with a work table with T-slots with dimensions of 1000x680mm.
- Magnetic positioner for tapping machines with multi-position head.



Hydraulic tapping machine

TECHNICAL SPECIFICATIONS:

ELECTRIC TAPPING MACHINES

Model	RPM	Motor	Size	Radius	Capacity St. 40
RE(M) 16 D+ 1270	÷500	0,75 kW	2 / Ø31	1270 mm	M3-M16
RE(M) 16 D+ 1800	÷500	0,75 kW	2 / Ø31	1800 mm	M3-M16
RE(M) 24 D+ 1270	÷250	0,75 kW	2 / Ø31	1270 mm	M3-M24
RE(M) 24 D+ 1800	÷250	0,75 kW	2 / Ø31	1800 mm	M3-M24

PNEUMATIC TAPPING MACHINES

Model	RPM	Torque	Size	Radius	Capacity St. 40
LCN(M) 8-700	700	10 Nm	1/ Ø19	1800 mm	M2-M8
LCN(M) 12-400	400	28 Nm	1 / Ø19	1800 mm	M3-M12

TECHNICAL SPECIFICATIONS:

HYDRAULIC TAPPING MACHINES

Model	RPM	Torque	Size	Radius	Capacity St. 40
RH(M) 20 D+	÷500	95 Nm	2 / Ø31	1800 mm	M3-M20
RHR(M) 24 D+	÷185 + ÷750	165 + 45 Nm	2 / Ø31	1800 mm	M3-M24
RHR(M) 30 D+	÷125 + ÷500	255 + 64 Nm	2 / Ø31	1800 mm	M4-M30
RHR(M) 45 D+	÷105 + ÷475	440 + 95 Nm	3 / Ø48	2200 mm	M4-M45
RHR(M) 60 D+	÷55 + ÷275	1100 + 220 Nm	4 / Ø60	2400 mm	M6-M60

Model	RPM	Torque	Size	Radius	Capacity St. 40
GH(M) 20 D+	÷500	95 Nm	2 / Ø31	1800 mm	M3-M20
GHR(M) 24 D+	÷185 + ÷750	165 + 45 Nm	2 / Ø31	1800 mm	M3-M24
GHR(M) 30 D+	÷125 + ÷500	255 + 64 Nm	2 / Ø31	1800 mm	M4-M30
GHR(M) 45 D+	÷105 + ÷475	440 + 95 Nm	3 / Ø48	2200 mm	M4-M45
GHR(M) 60 D+	÷55 + ÷275	1100 + 220 Nm	4 / Ø60	2400 mm	M6-M60

TAPPING MACHINES:



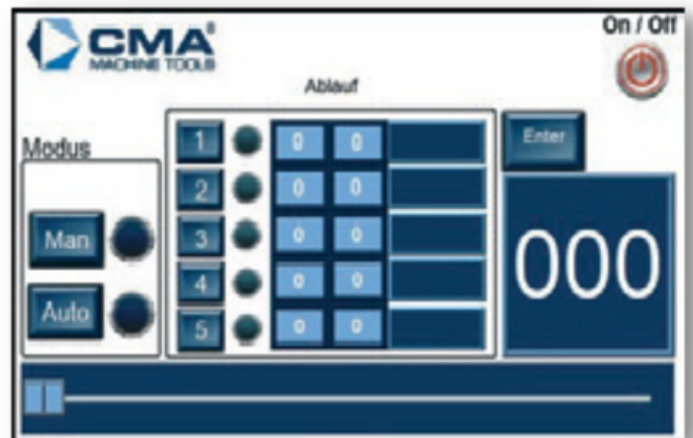
Casting table



Pantographic arm



Multi-position head



Depth control electric models



Wheels



Tool holders

CNC FTC AUTOMATIC TAPPING CENTRE

The **CMA CNC FTC automatic tapping centres** are characterized by a 3-axis (X, Y, Z) moving head. They are designed for **drilling, tapping and countersinking** sheet metal from laser cutting. The innovative floating head system is designed and manufactured by CMA. It's capable of absorbing deviations in workpiece positioning of up to 1mm.

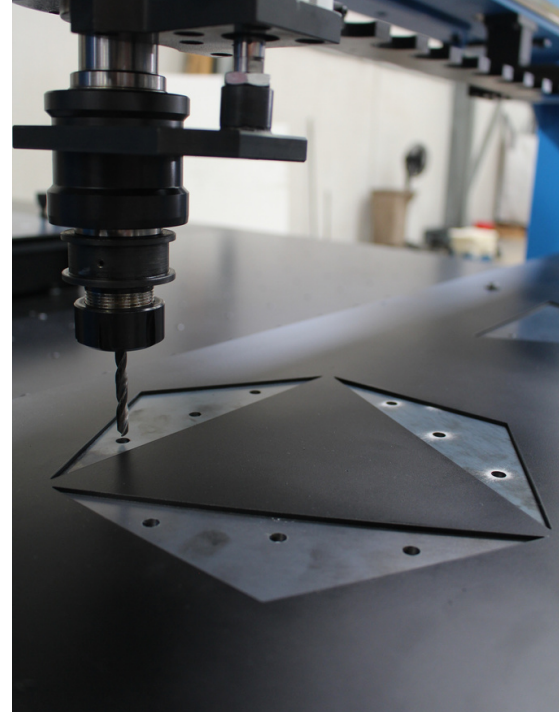
Each and every operation is perfectly programmable via a PC controller with **CMA's own CNC software (TapCam)** with the possibility of importing 2D/3D files and automatically converting them into the machine's ISO codes.

The table is designed with **Ø28 holes** to offer significant advantages. They provide solid anchor points to securely attach mooring systems. The holes are also used as reference points to establish the **zero point**. By using the same reference and anchor points, the time required to change from one workpiece to another is greatly reduced. This **increases machine efficiency and reduces downtime**.

The spindle is guided along the table on hardened **precision linear guides** mounted on the body of the machines. The X axis is driven by a helical rack and pinion and the Y and Z axes by a self-lubricating ball screw.



CNC drilling/tapping centre



TECHNICAL CHARACTERISTICS:

Model	FTC 3015 CNC
Drilling capacity	Ø14 mm
Tapping capacity	M3-M16 (tapping up to M12)
Spindle motor	5 kW
Spindle speed	50-3000 rpm
Nominal torque (S1)	24 Nm
Spindle type	KTA quick-change holder
Length of table	3680 mm
Width of table	1650 mm
Maximum load on table	500 kg
Stroke X-axis	3000 mm
Stroke Y-axis	1500 mm
Stroke Z-axis	200 mm
Number of tools in ATC	10 tools

Standard configuration:

- CNC-control with 22" touchscreen / Windows 10 operating system.
- Automatic toolchanger for 8 tools.
- Oil-spraying system for lubrication of the tools.



CNC-control



Oil-spraying system



www.cmamachines.com

info@cmamachines.com

+34 96 240 08 00

Our offices:

Parque Empresarial El Pla - C/Velluters,
n° 1804, Alzira, Valencia 46600, ES

