September 2017
NEWS
Patent pending

MAUS
ITALIA

Baffletech twin 2000

Automatic centre with double head
for flaring the holes
of the heat exchangers baffle

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MADE IN ITALY

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Baffletech twin 2000

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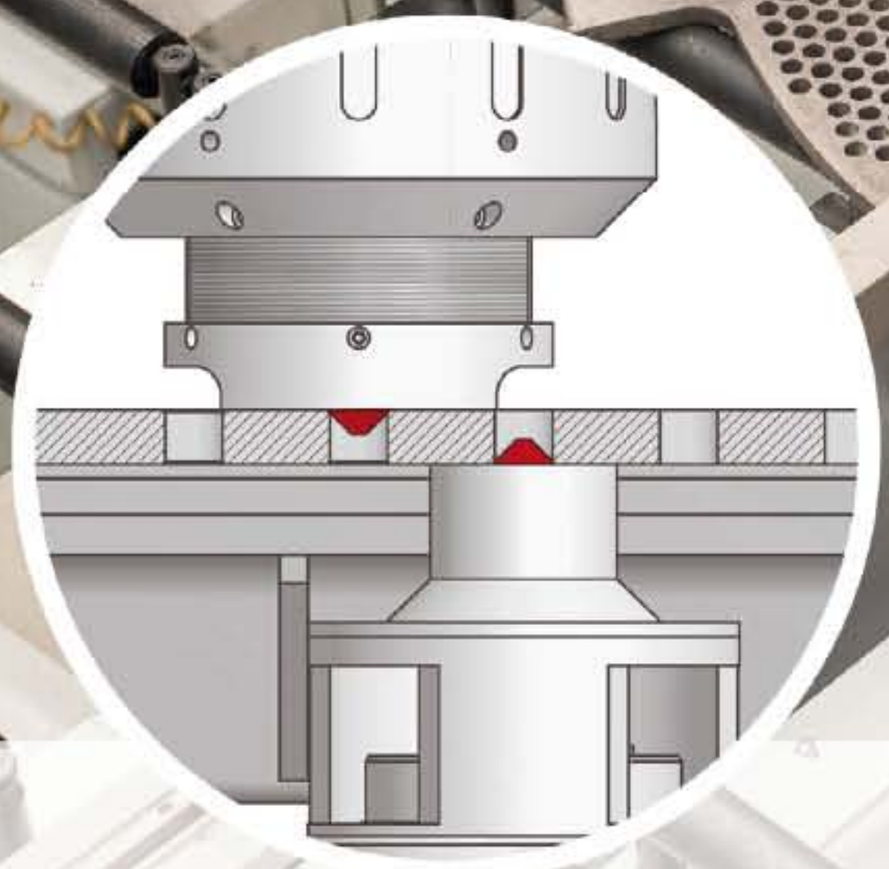

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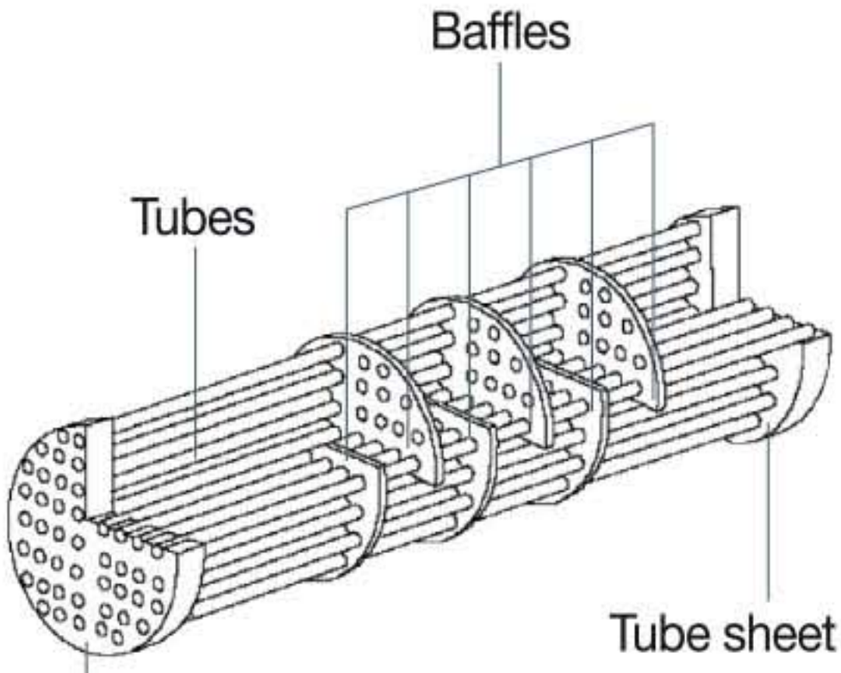
Baffletech twin 2000

Up to 2000 holes per hour (4000 flaring)



Baffletech twin 2000

4.0 INDUSTRY

Automatic centre with double head for **flaring the holes of the heat exchangers baffle** up to O.D. 2000 mm (78”).

Maus Italia presents the ***Baffletech twin 2000***, another step towards a completely automated production chain in the construction of heat exchanger tube bundles.

The ***Baffletech twin 2000***, entirely designed and manufactured by Maus Italia, allows the simultaneous flare of the holes on both sides of the baffle in a single pass without the need for additional operations thanks to two opposing heads which are equipped with self-centring tools.

The baffle are loaded on one the side of the machine, proceeds along roller tables thanks to motored arms, which once the flaring phase is finish, will bring the baffle to the unloading position.

The ***Baffletech twin 2000***, is equipped with CNC control for:

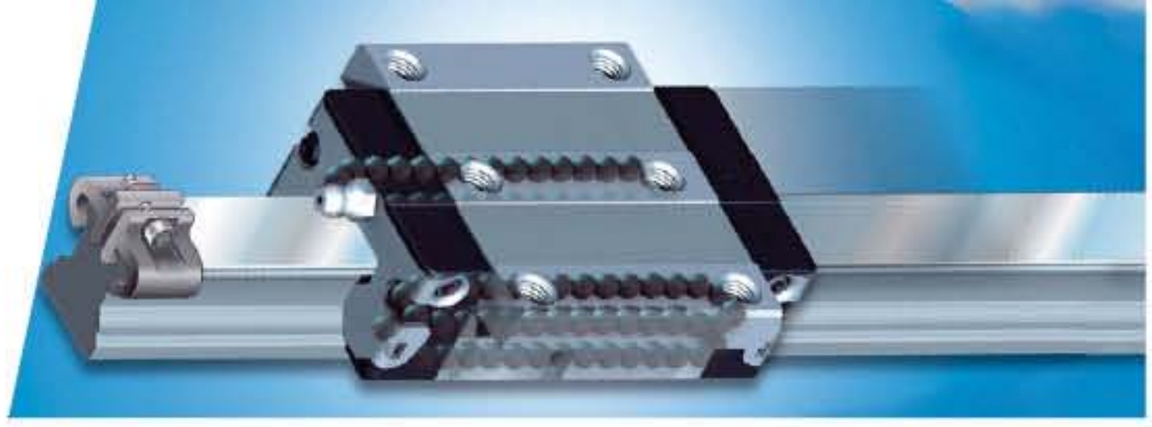
- the movement of the baffle;
- the independent positioning of the two heads;
- the movement and independent rotation of the tools.

The ***Baffletech twin 2000*** also permits:

- a **uniform depth flare** thanks to the special design of the tilting head;
- **precise centering** of the flare in relation to the axis of the hole due to the innovative self-centring mandrel tool-holder;
- **programming of the work sequence** using dedicated software developed by Maus Italia.

Baffletech twin 2000

MAUS ITALIA



Linear Bosch Rexroth modules

Ensure perfect movement of the axes with recircular ball screws and toothed belt.

Electrical cabinet

Installed on the machine, including air conditioning for **automatic control of the internal temperature**

Locking bars

Locking of the baffle against the corresponding beam during the working phase, the locking bar will automatically release the baffle for the movement phase

Check beam

Work surface located between the sliding rollers. This is the **machine's reference point** for the lower and upper machining of the baffle.

X axis

CNC-controlled transverse movement of the two flaring heads

Pneumatic cabinet

Isolated from the electrical cabinet, this contains the system for distributing the air into the various areas

Sliding and loading roller

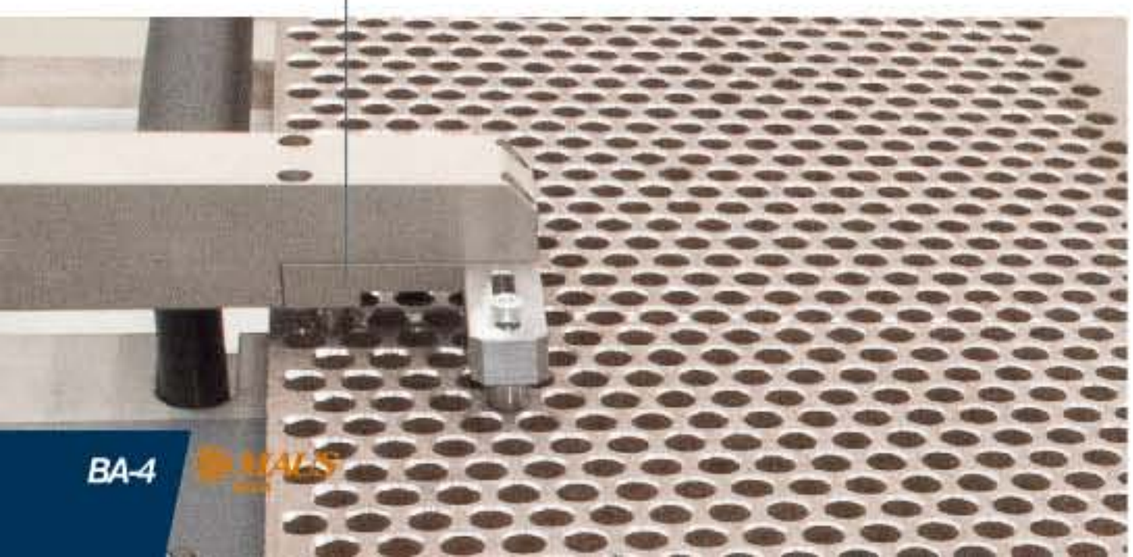
Modular system of rollers for the support and sliding of the baffle during loading and machining

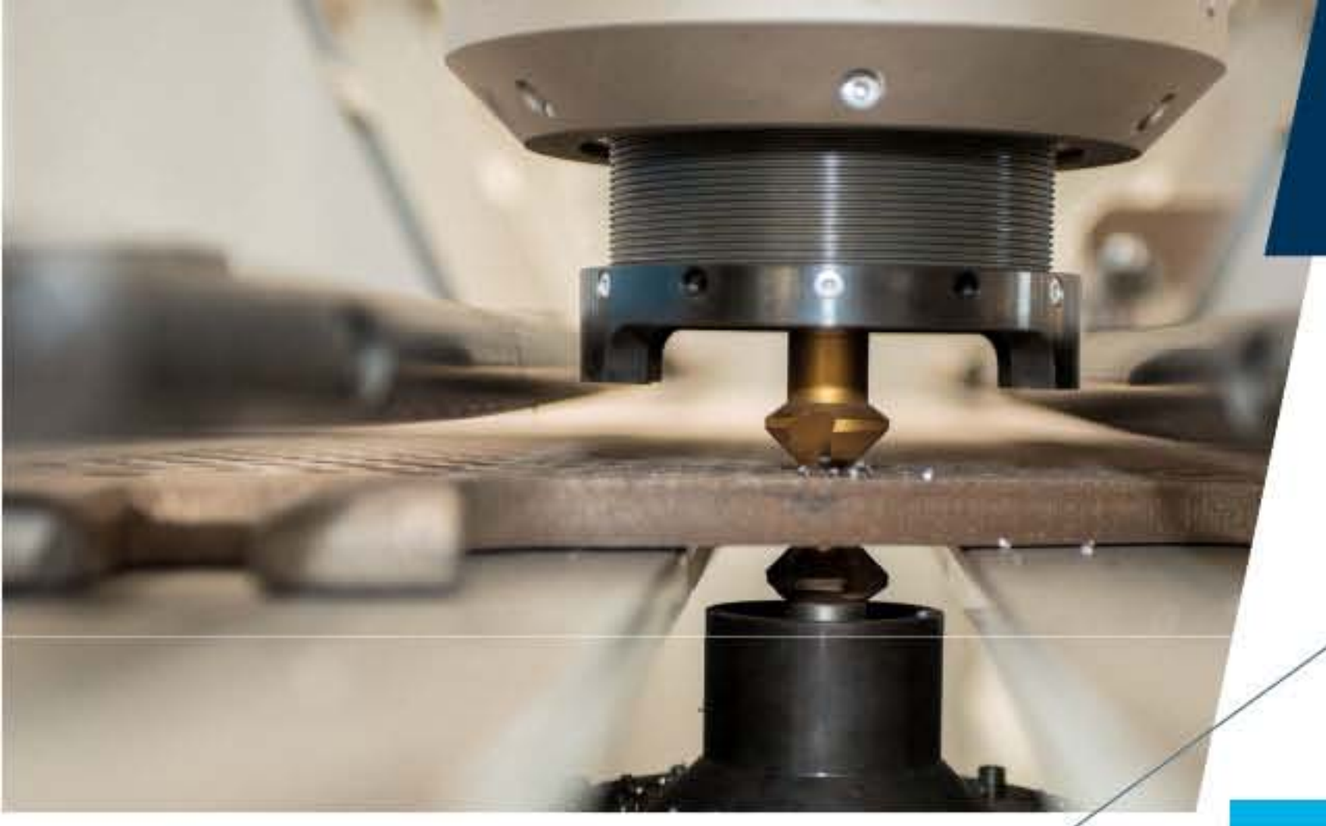
Y1 axis - baffle **loading**

CNC-controlled movement of the baffle with a quick connecting system and centring system with zero workpiece

Rake system

Mounted on two mechanical arms, this is the innovative solution offered by Maus Italia for the quick hooking of the baffle for ensuring the zero workpiece and permitting the movement of the baffle.



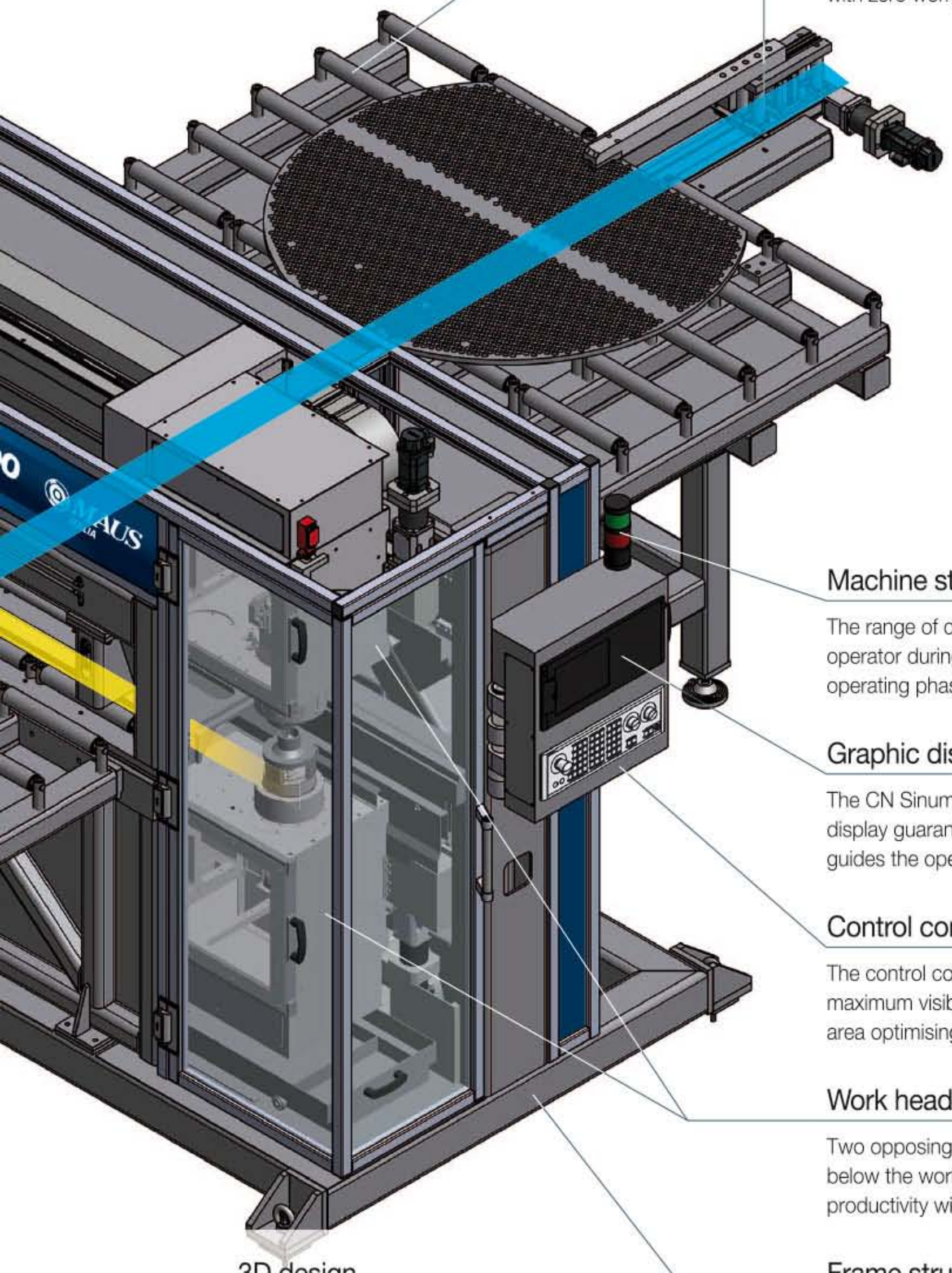


Sliding and unloading roller

Modular roller system for supporting and sliding the baffle during machining and unloading

Y2 axis - **unloading** of baffle

CNC-controlled lengthways movement of the baffle with quick coupling system and centring with zero workpiece



Machine status signal

The range of default signals assist the operator during the loading and operating phases

Graphic display

The CN Sinumerik 828D Siemens® graphic display guarantees maximum simplicity as it guides the operator during operating phases

Control console

The control console is located to ensure maximum visibility of the the operator's work area optimising the performance of all phases

Work heads

Two opposing heads, located above and below the work surface, ensure high productivity without the need to turn the baffle

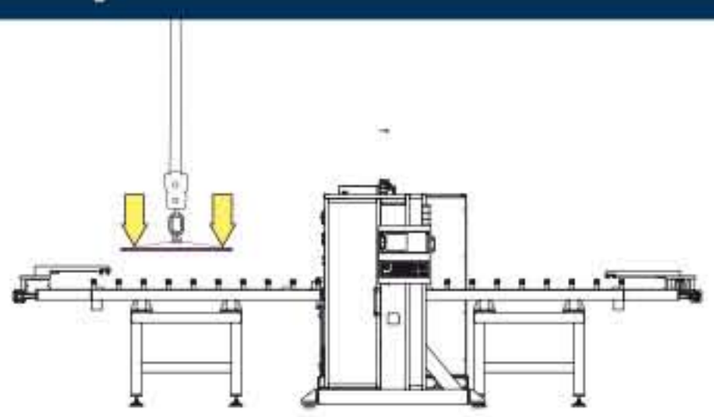
Frame structure

Frame structure (central frame and two rollers) in normalised electro-welded steel with high rigidity and vibration absorption characteristics

3D design

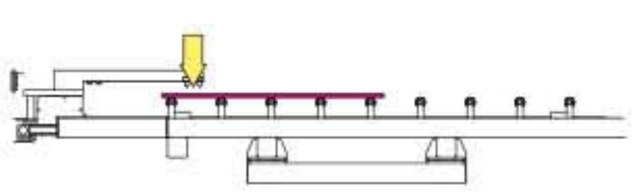
Each component has been entirely designed by Maus Italia technical staff in a virtual environment before being manufactured

Work procedure



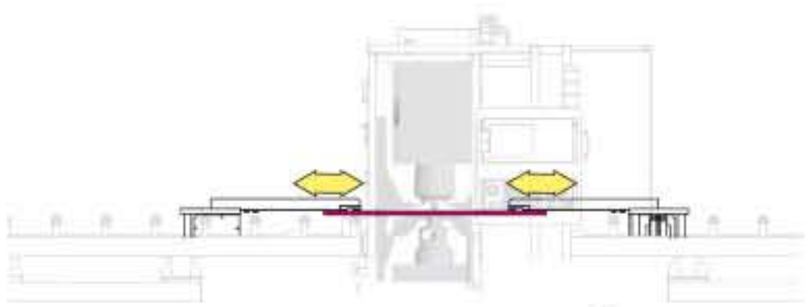
1 Loading

The baffle to be machined is positioned using a bridge crane on to the roller and is correctly oriented for machining



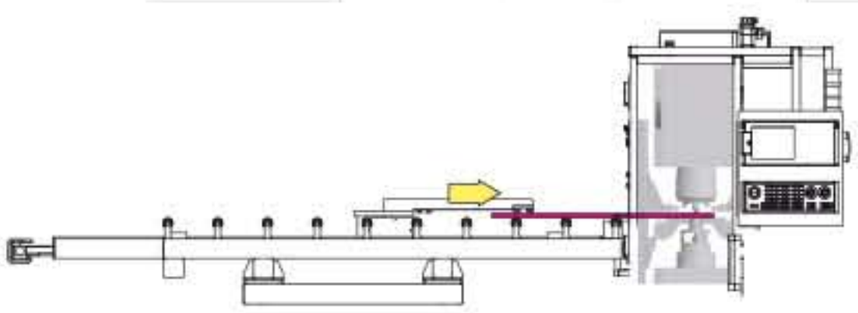
2 Hooking

The motorised arm, thanks to the special rake system, rapidly hooks the baffle, ensuring the zero work piece and movement



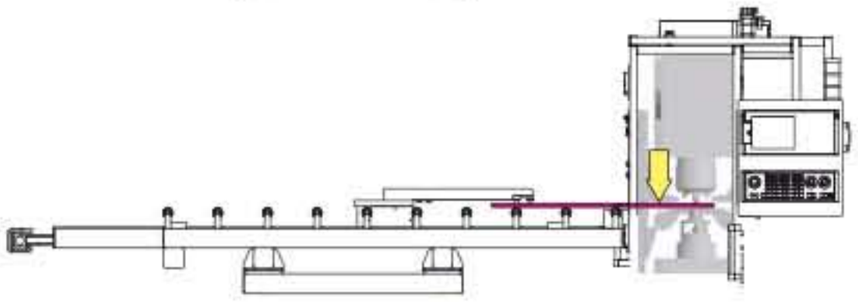
3 Alignment

Before the baffle is machined, the two mechanical arms align it accurately



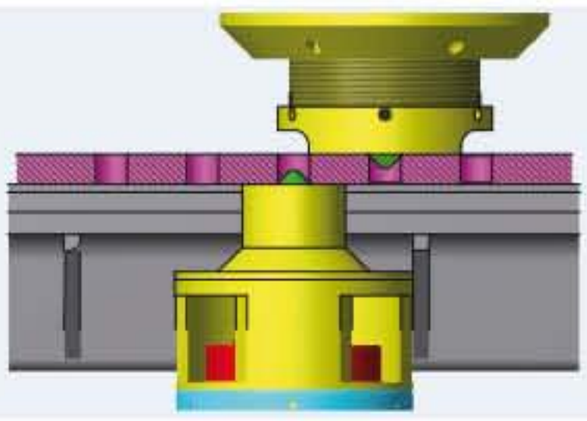
4 Positioning

The motorised arm guide the baffle lengthways to its work position on the check beam



5 Locking

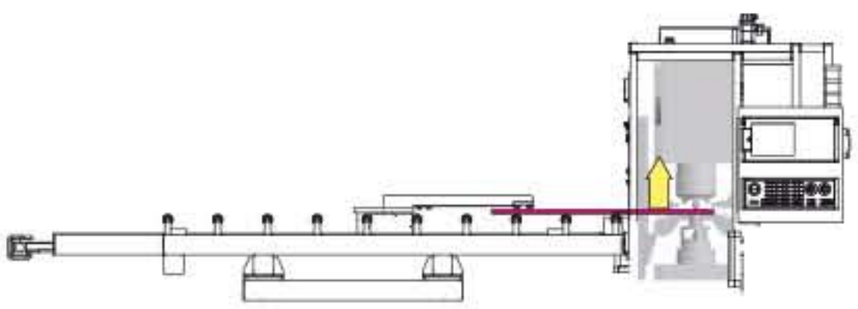
The locking bars press the baffle against the check beam and ensure its position during machining



6 Flaring

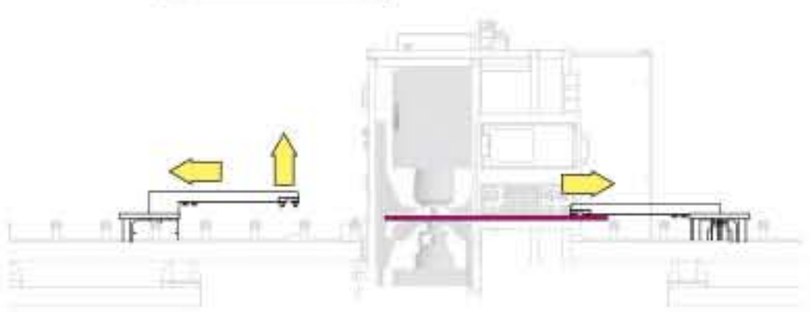
The two thrust collar mounted on the opposing heads will position against the baffle while the two flaring tool will execute the flare according to the machine program. The flaring of the holes is perfectly centered and is always at an equal depth thanks to the zero-set of the tool.

The row of holes is rapidly machined on both sides with the transverse movement of the two independent heads



7 Unlocking

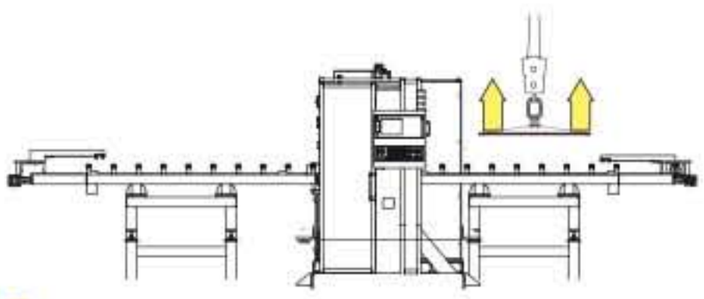
The locking bars release the baffle, allowing positioning for machining the next row of holes



8 Relay

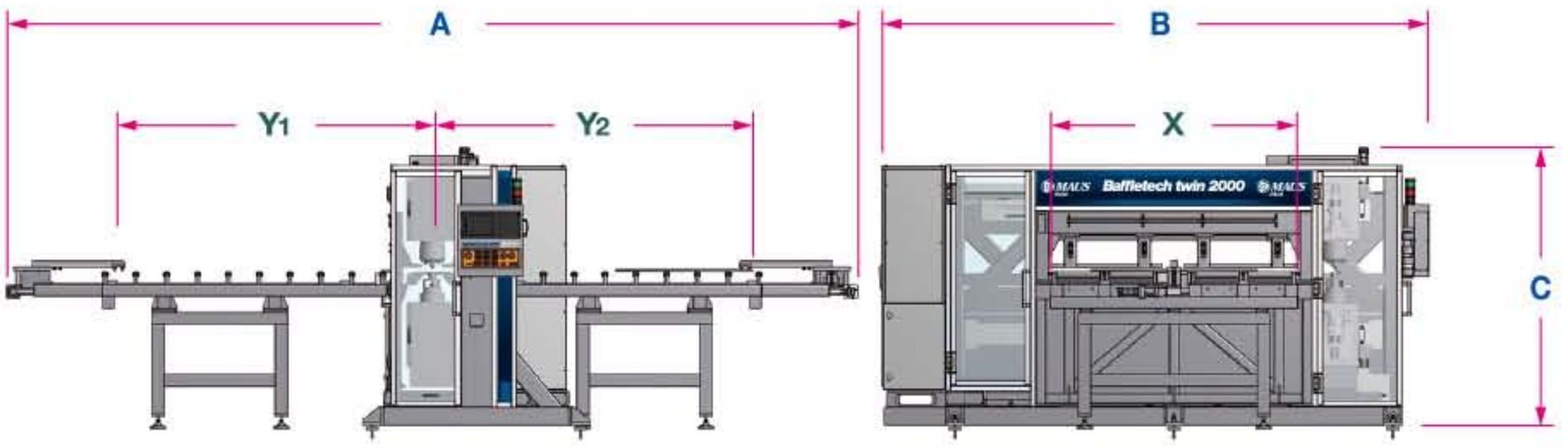
At the end stroke of **Y1**, the loading arm automatically "passes" the baffle to the unloading arm which guides it along **Y2** until machining is complete

Relay



9 Unloading

When machining is complete, the mechanical unloading arm releases the baffle which may then be unloaded



Baffletech twin 2000

Power supply		
Voltage	Volt - Ph	400 - 3
Frequency	Hz	50
Installed power	KW	6
Pressure	Bar *Psi*	4-6 *58-87*
Air consumption	l/min *US gpm*	340-400 *92-105*
Work capacity		
Max Ø of the baffle	mm *inches*	2000 *78*
Max thickness of baffle	mm *inches*	30 *1.181*
Ø of the machinable hole	mm *inches*	12,7÷50,8 *1/2"÷2"*
Size capacity		
Lengthways stroke of the baffle **Y1 / Y2**	mm *inches*	2500 *98*
Transverse stroke of the heads **X**	mm *inches*	2000 *78*
Dimensions		
Length **A**	mm *inches*	6694 *264*
Width **B**	mm *inches*	4466 *176*
Height **C**	mm *inches*	2186 *87*
Stand weight	kg *lbs*	6000 *13250*
2 rollers weight (loading + unloading)	kg *lbs*	2000 *4400*
Colours of structure	RAL	7030-7035
Degree of protection	IP	55

Rake system of motorised arm

GIOVEADV
DESIGN
STUDIO
1995

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