



## ***Baffletech twin 2000***

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

**Production**

**Baffles flaring holes**



## A winning story since 1961

### The Beginning

At the end of the 1950s, Domenico Franco Agostino became the Italian representative of Albert Otto, a German manufacturer of tube expanders. In 1961 Franco Agostino's Albert Otto Italiana was founded and in 1972, after purchasing an area of 10,000 square metres in the municipality of Bagnolo Cremasco, Maus Italia Sas was established.

### The Growth

In 1976 his son Stefano, a mechanical engineer, joined the company. Together with his father, he studied products, introduced new machinery onto the market and filed the first patents by Maus Italia. Above all, Stefano was firmly convinced that people are the very heart of a company's success. Therefore, he invested in human capital by valuing people and roles, and he surrounded himself with skilled operators as well as technical, commercial and administrative collaborators. The result was a winning, competent and proactive team.

His daughter Anna - also a mechanical engineer - has been working in the company since 2016, giving new impetus and energy to the business her father and grandfather had built.

Father and daughter work together side by side every day to guarantee the excellence of Maus Italia and support all customers worldwide with competence and passion: the company's distinctive traits.



**Stefano Agostino**

CEO - Mechanical Engineer

**Anna Agostino**

COO - Mechanical and Management Engineer



## ***In-house production of each component*** ***Workshop 4.0 and 24/7 production control***

The production of Maus Italia branded items is entirely carried out in Bagnolo Cremasco, in the heart of an Italian industrial area 30 km southeast of Milan.

The company boasts a 4.0 workshop equipped with state-of-the-art machinery, an in-house heat treatment room and a final inspection department that allow Maus Italia to independently manage every phase of the manufacturing process of its wide range of products whilst maintaining high quality standards.



## ***Quality first.*** ***Design and development***

One of Maus Italia's strengths is its willingness to understand its customers' needs.

Our technical department is always ready to find operational solutions to the most complex applications, even via feasibility studies. We develop accurate work processes, draw with FEM analyses to verify our mechanical-structural performance and optimise the manufacturing process of each component.

## ***Ready To Deliver***

A well-stocked and complete warehouse of finished products enables Maus Italia ship quickly to customers all over the world according to a ready-to-deliver logic.

The warehouse is fully located within our premises in Bagnolo Cremasco at controlled temperatures and conditions to guarantee the maximum safety and quality of Maus Italia products for all our customers.

## ***Quality, environment and safety policy***

**Research, quality and safety are the watchwords of Maus Italia Spa.**

Maus Italia has several projects underway aimed at increasingly sustainable development and integrates environmental concerns into its business model. The company's actions, behaviour and development choices are focused not only on the short run but rather mainly on a medium and long-term horizon.



## ***Every day in over*** ***80 country*** ***worldwide***

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in your country



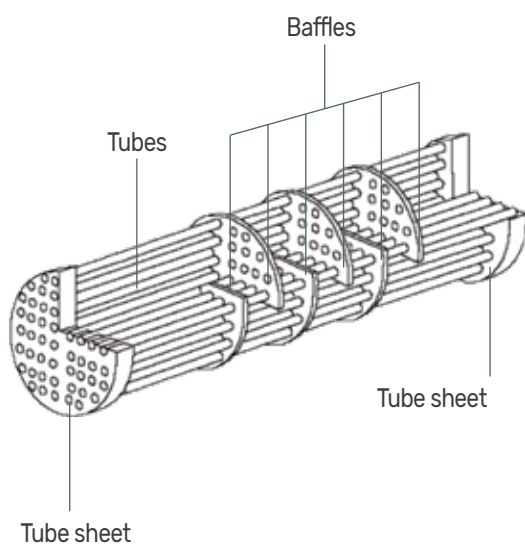






# Baffletech twin 2000

**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.

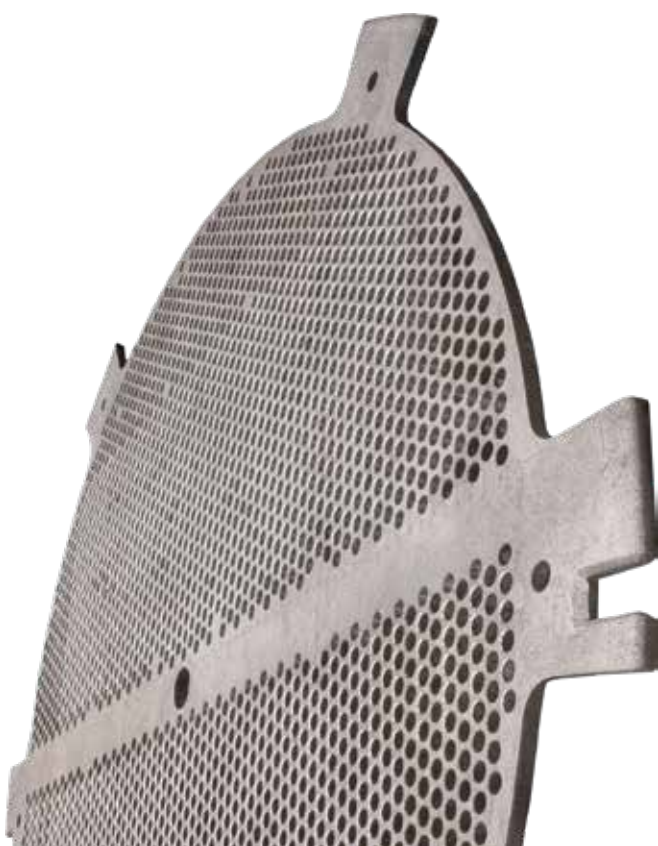
The baffle are loaded on one the side of the machine, proceeds along roller tables thanks to motored arms, which once the flaring phase is finish, will bring the baffle to the unloading position.

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





### 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

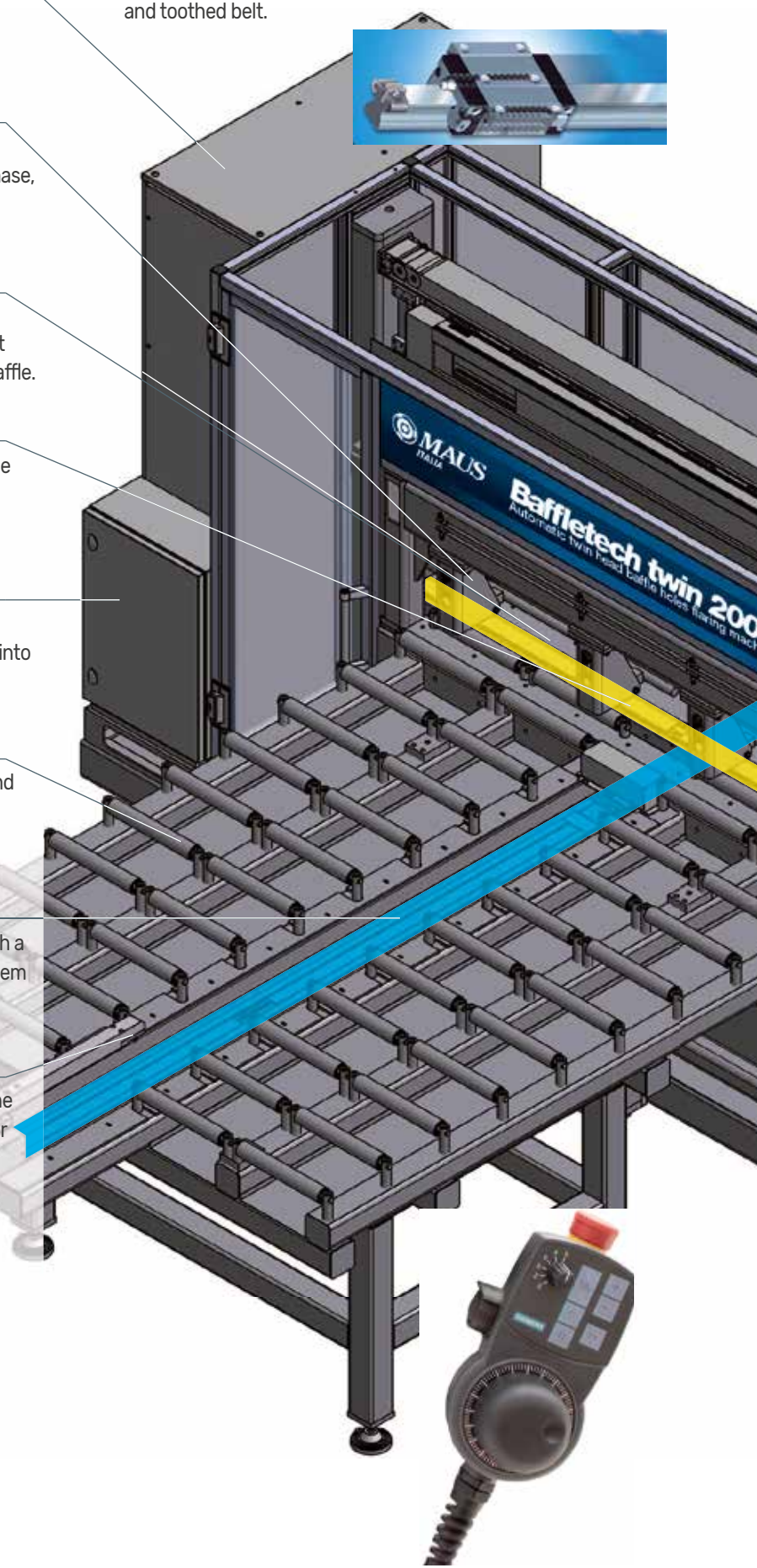
CNC-controlled movement of the baffle with a quick connecting system and centring system with zero workpiece.

### 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.

### Linear Bosch Rexroth modules

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



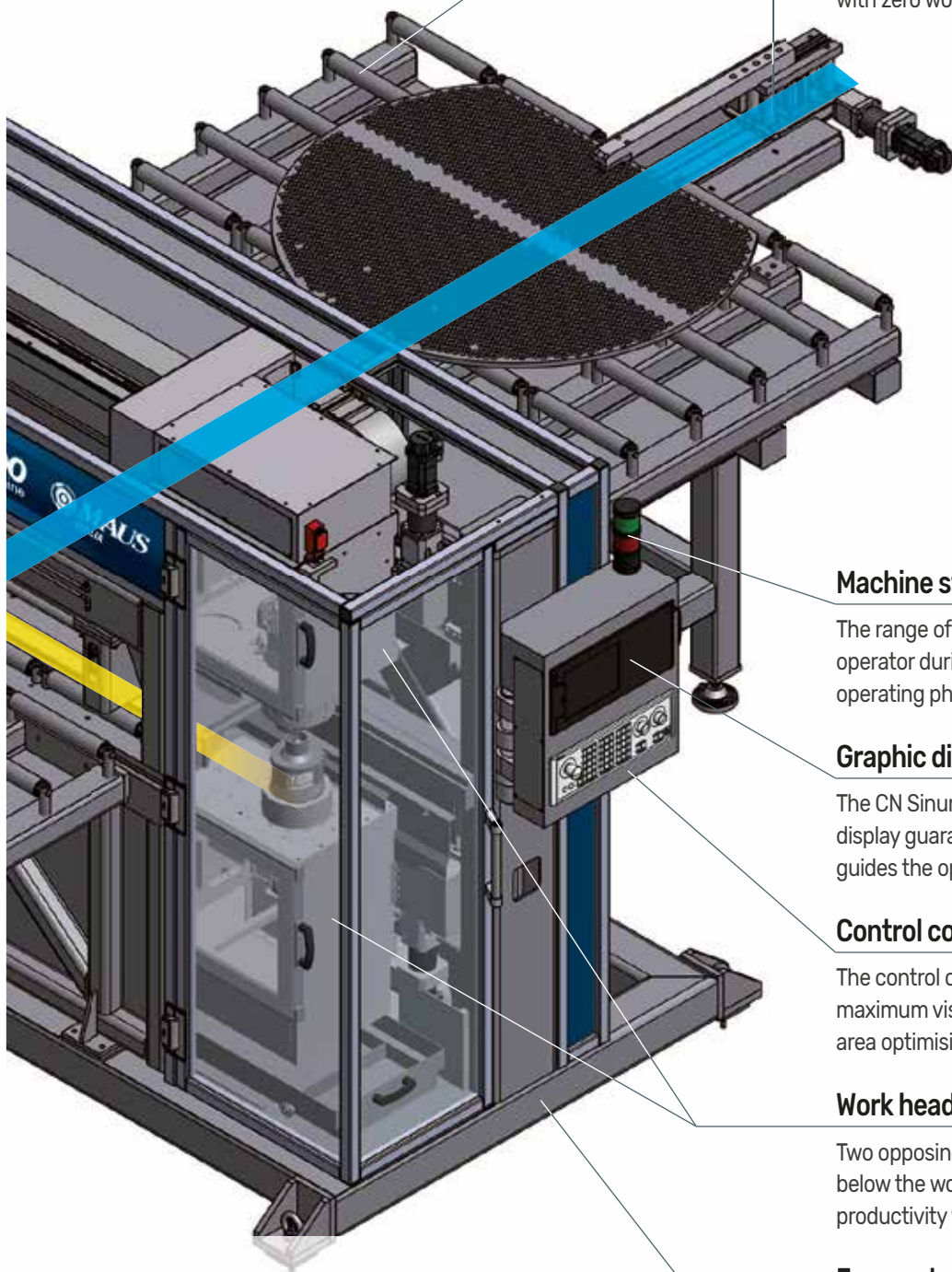


### Sliding and unloading roller

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

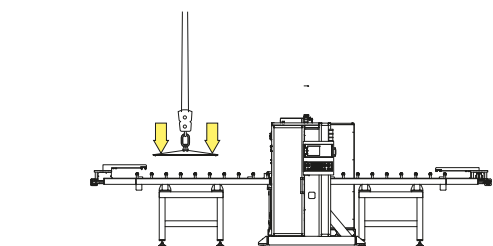
Frame structure (central frame and two rollers) in normalised electro-welded steel with high rigidity and vibration absorption characteristics.

### 3D design

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

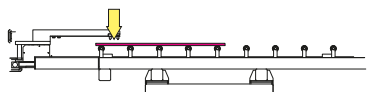


## Work procedure



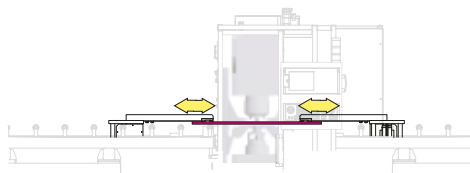
### 1 Loading

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



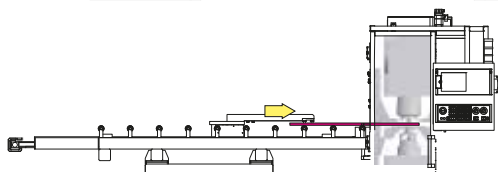
### 2 Hooking

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



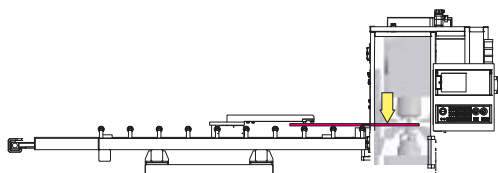
### 3 Alignment

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



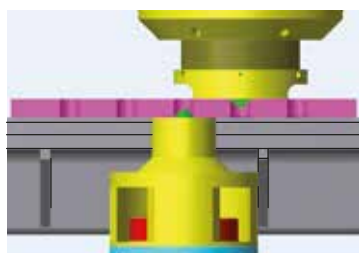
### 4 Positioning

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



### 5 Locking

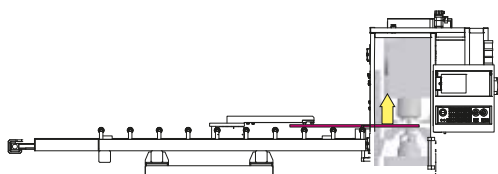
The locking bars press the baffle against the check beam and ensure its position during machining.



### 6 Flaring

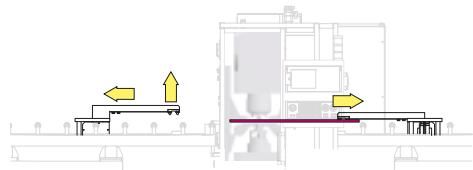
The two thrust collar mounted on the opposing heads will position against the baffle while the two flaring tool will execute the flare according to the machine program. The flaring of the holes is perfectly centered and is always at an equal depth thanks to the zero-set of the tool.

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



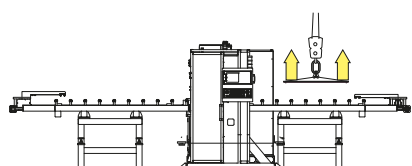
### 7 Unlocking

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



### 8 Relay

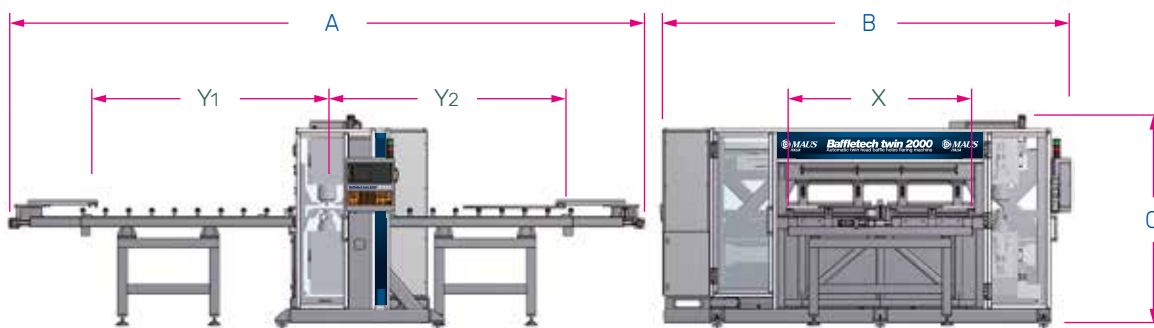
At the end stroke of Y1, the loading arm automatically "passes" the baffle to the unloading arm which guides it along Y2 until machining is complete.



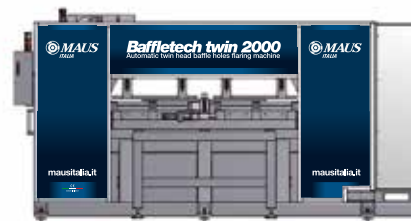
### 9 Unloading

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

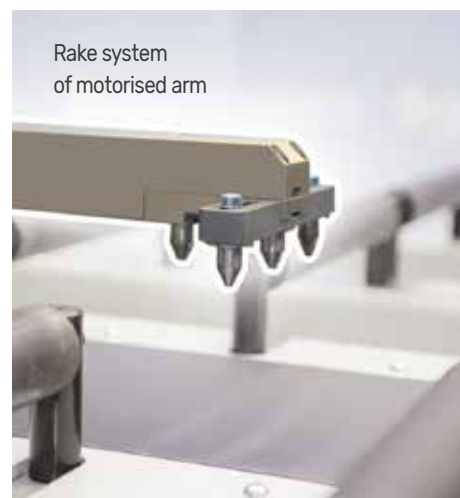




## Baffletech twin 2000



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 $\theta$ of the baffle	mm inches		2000 78
Max thickness of baffle	mm inches		30 1.181
$\theta$ 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



# Heat exchanger's world

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**MAUS ITALIA SPA IS THE WORLD LEADING MANUFACTURER OF TOOLS AND MACHINES FOR THE PRODUCTION AND MAINTENANCE OF HEAT EXCHANGERS**



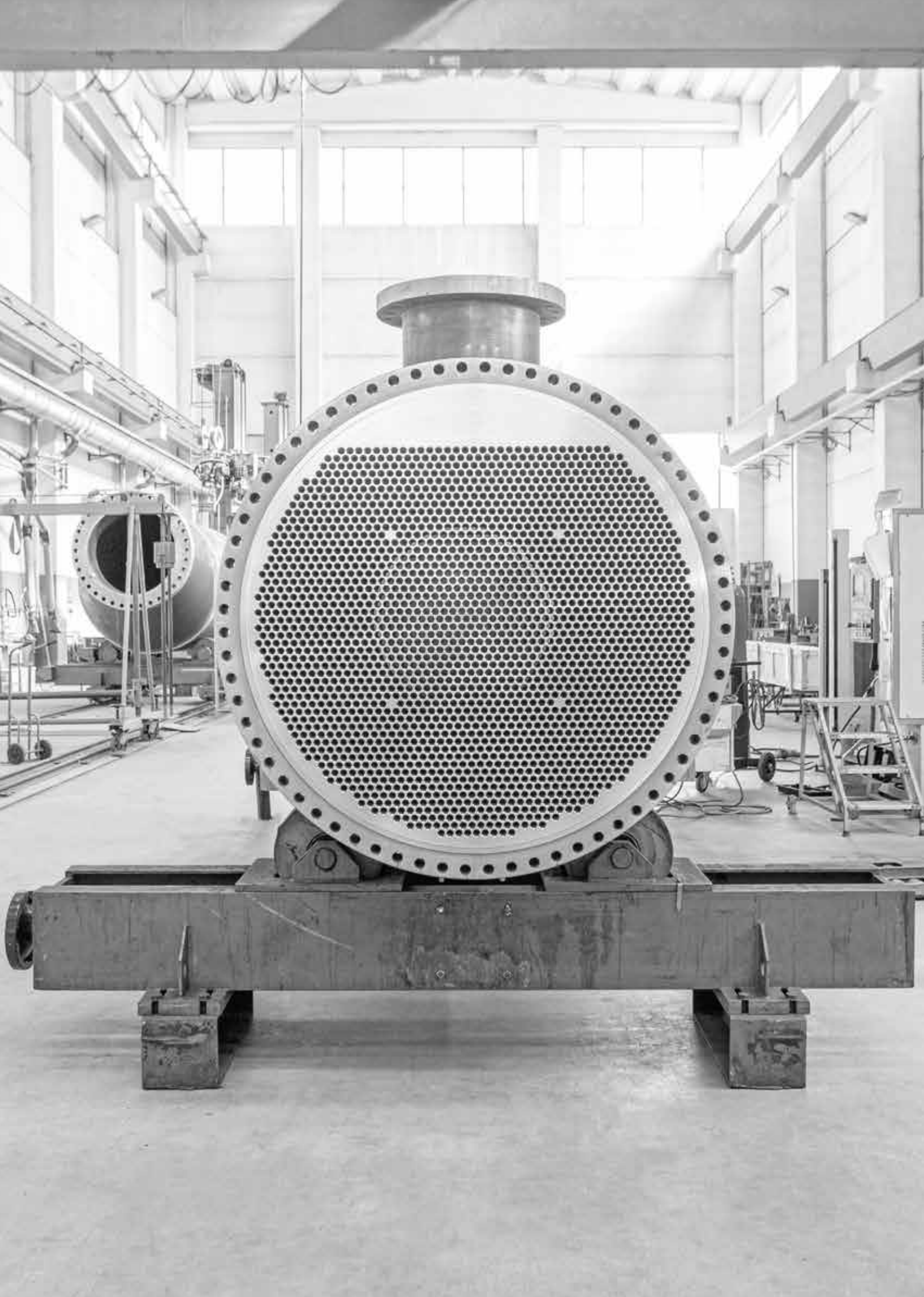
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