



# Products overview



CE

MADE IN ITALY



**MA 400**



Automatic CNC tube rolling  
work centre with machine vision  
and pallet change

Learn more

12





Tube to tubesheet TIG orbital  
welding system

Learn more

48

## **Hydrol 40.1**

Hydraulic tube rolling equipment for the expansion of boiler tubes.



Learn more **32**



## **Tutor mobil 40**

Self-propelled transporter for the handling of tube bundles



ATEX certification  
on request

Learn more **72**



The company

6

*for* **Production**  
*and tube bundle assembly*

8

- > Automation and special machines
- > Tube rolling equipment
- > Tube expanders
- > Tube-to-tube sheet orbital welding
- > Accessories:
  - > Measuring
  - > Hole preparation
  - > Tube insertion
  - > Tube facing
  - > Mechanical drives

*for* **Maintenance**  
*and tube bundle dismantling*

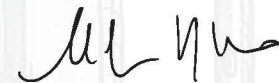
66

- > Tube bundle extraction
- > Tube bundle transporting and lifting
- > Tube bundle cleaning
- > Tube bundle cutting
- > Tube cutting
- > Tube extraction



Eng. Stefano Agostino  
*Sole Director*

“A company's growth  
is sometimes natural and inevitable;  
it is the management's task to seek  
harmony and pursue its objectives  
without losing sight  
of the fundamental characteristics  
to which the company  
owes its success.”

A handwritten signature in black ink, appearing to be the name of the author of the quote.



Franco and Luisa Agostino  
Founders

At the end of the 1950s, Franco Agostino seized the opportunity to learn the art of manufacturing tube expanders which the experienced German manufacturer, Albert Otto, passed on to him. Then, thanks to his indomitable spirit, intuition and the support of his wife Luisa, Mr. Agostino founded the small Italian factory that a few years later would become Maus Italia.

In 1972 Maus Italia established its new premises and laid the foundations for its development. Mr. Agostino has now entrusted this to his son Stefano, a mechanical engineer, who in 1976 successfully devoted all his efforts to bring Maus Italia to the top of both the European and global sectors.

To Luisa and  
Franco Agostino  
with affection



ALBERT OTTO OHG  
SPEZIALFABRIK FÜR  
WÄRMETECHNISCHE WERKZEUGE

ALBERT OTTO di F. AGOSTINO  
FABBRICA ITALIANA MANDRINI ALLAR



*A functional working environment, computer-delegated production control, storage systems and CNC machine tools combine with young and talented engineers who, with their input, enthusiasm and ability, create an atmosphere that allows a successful Maus Italia to be the major point of reference in the global technology sector.*

*The company's goal is to:*

■ *design, manufacture and sell equipment and machinery for the production and maintenance of heat exchangers, condensers and boilers of chemical plants, oil refineries, power plants, factories, etc.*

■ *Accept the challenges posed by the market to give impetus to the Company's quest for machines and tools that offer customers more specific high-tech solutions.*



for **Production**  
*and tube bundle assembly*

*Complete line of equipment  
for tube expansion*



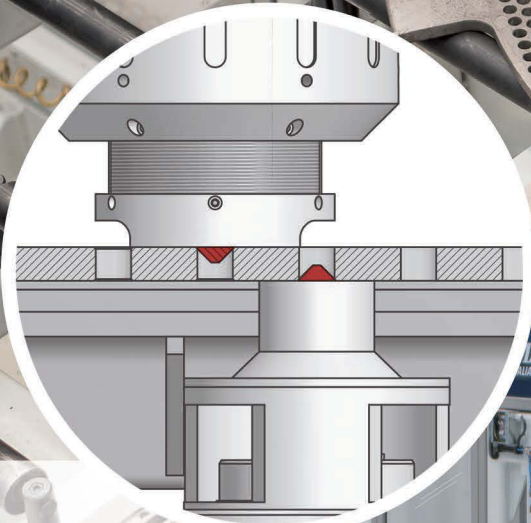
*for* **Production**  
*and tube bundle assembly*

<b>Automation</b>	10	> Automation and special machine
<b>Control</b>	22	> Tube rolling equipment
<b>Tube expanders</b>	36	> Tube expanders
<b>Tubweld</b>	44	> Tube-to-tube sheet orbital welding
<b>Accessories</b>	52	> Accessories



*For more details,  
please request detailed catalogues*

Up to 2000 holes per hour  
(4000 flaring)



## **Baffletech twin 2000**

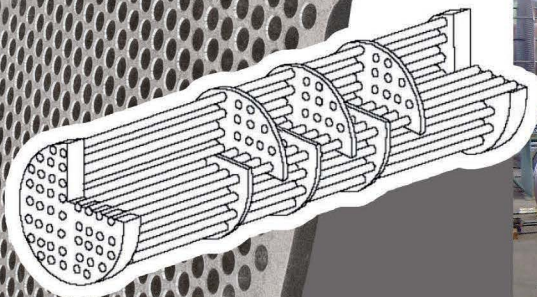
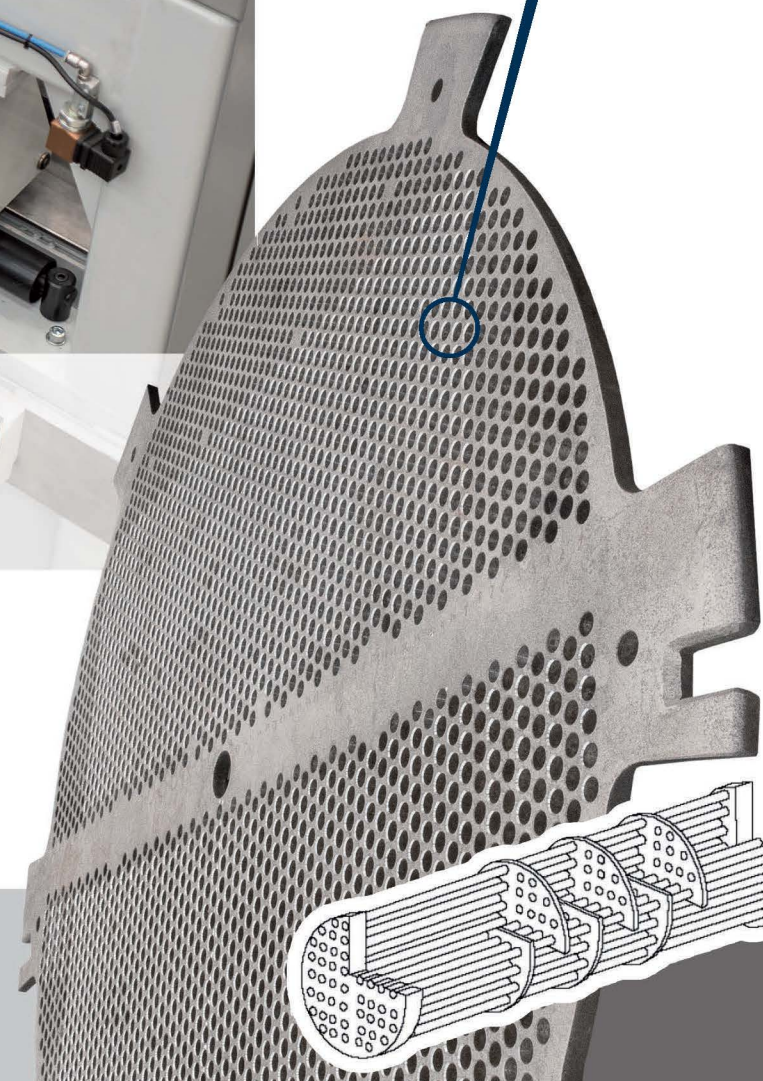


Automatic centre with double head for flaring the holes of the heat exchangers baffle.

The **Baffletech twin 2000**, 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 **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.

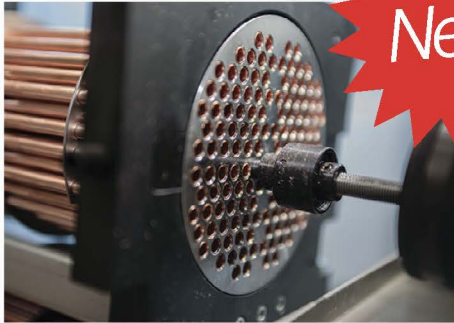




More than 600 expansion/hour - 1 cycle in less than 6 sec.



**400**

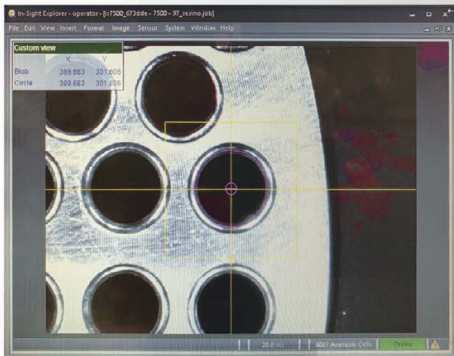


New

**MA-400**

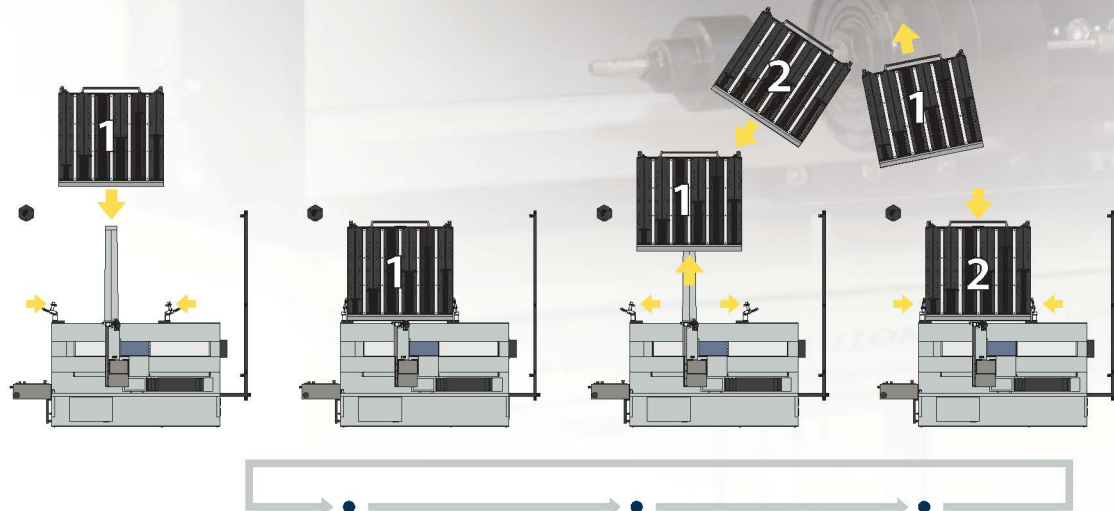


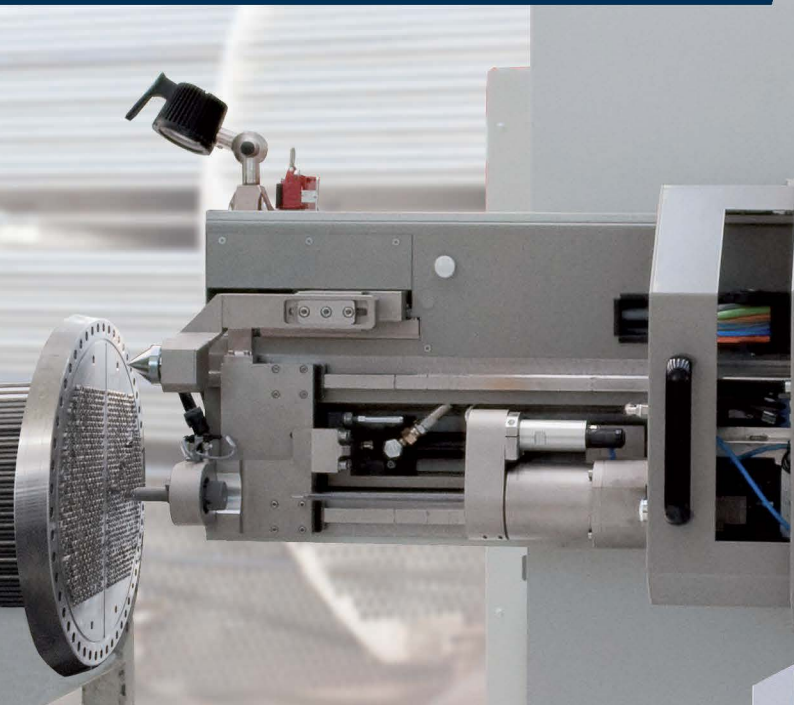
Automatic CNC tube rolling  
work centre with machine vision  
and pallet change



MAUS ITALIA has solved the problem of production of small dimension tube bundle batches with an automatic tube rolling work centre complete with innovative solutions, such as:

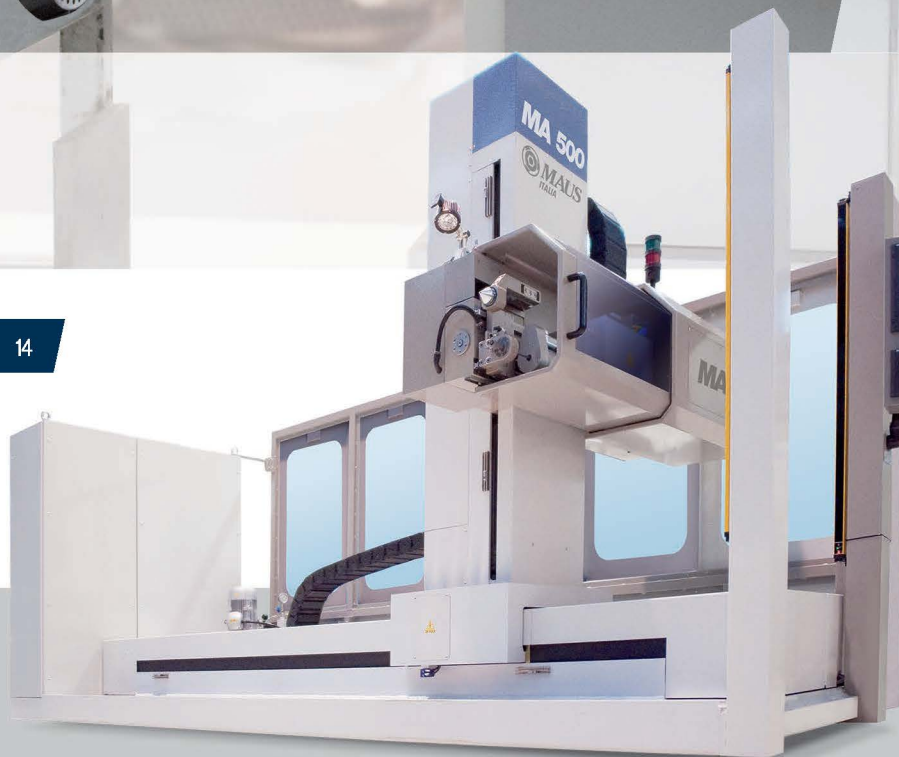
- machine vision system for rapid centring of holes;
- multiple fixing templates with vertical loading for the assembly of tube bundles and precise positioning for production;
- pallets for the loading/unloading of tube bundle batches in front of the **MA-400**.





*600 tubes/h*  
*1 cycle every 6 sec.*

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Free tubes



Parallel rolls



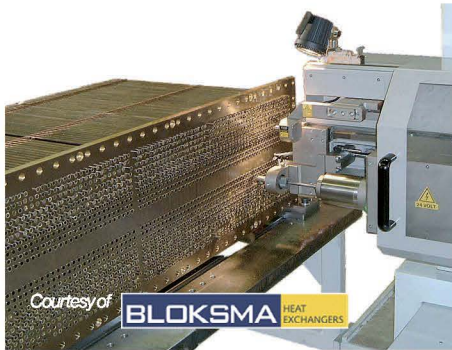
Automatic compensation of the expansion limit depth



Mandrel forward movement digital control



Speed continuous variation



*Pendulum process with trolleys  
Continuous positioning in front of the  
machine eliminates load/unload  
downtimes, thus increasing production*

## MA 500

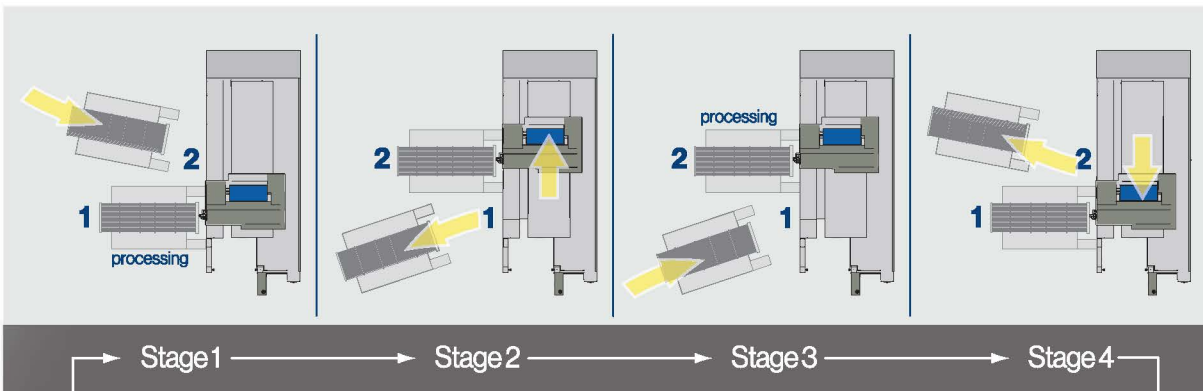


Single axis cnc working centre for rolling and facing ideal for serial production.

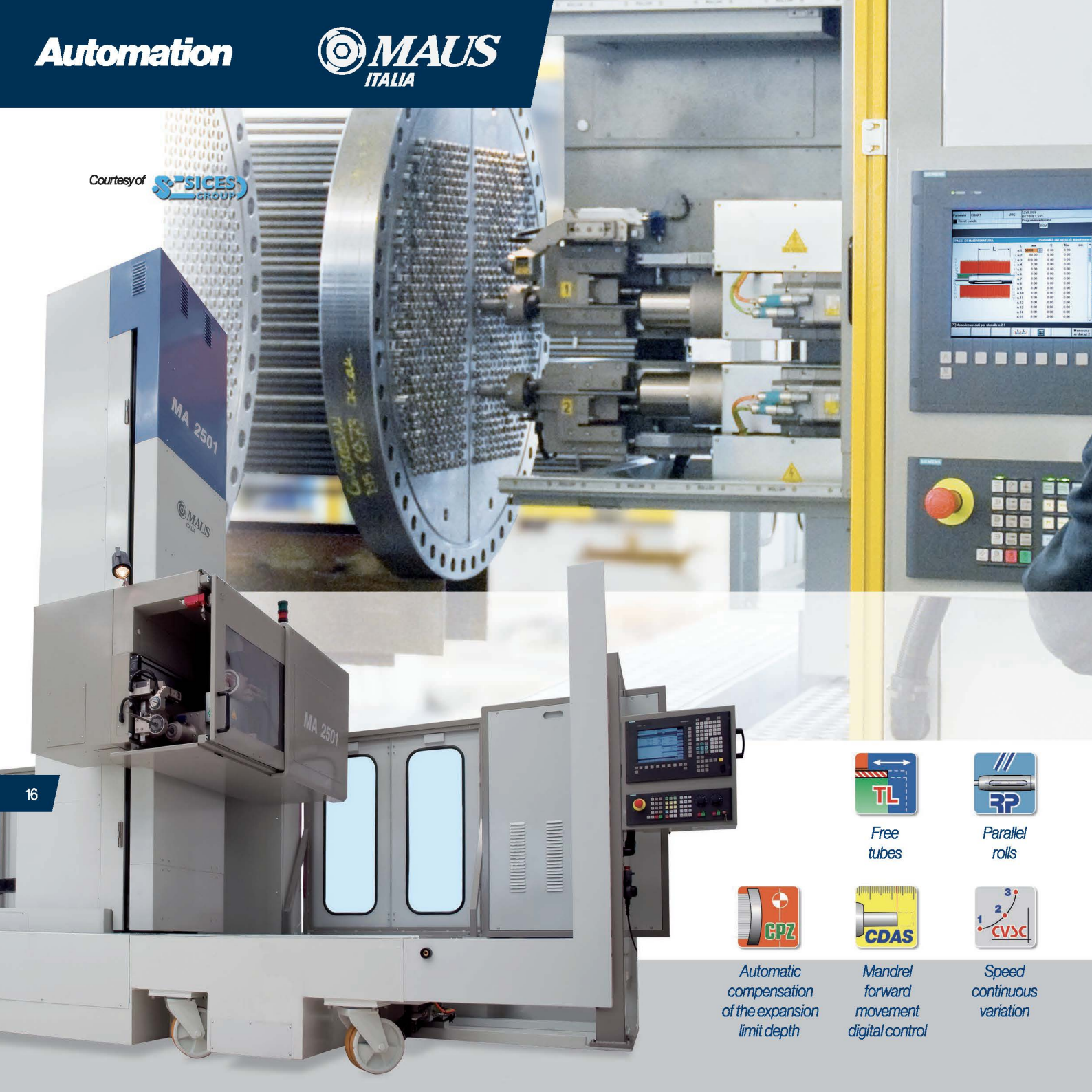
Tube sheet max diameter 1000 mm (40").

The **MA 500** is the most innovative and effective solution ever offered by Maus Italia for automating the process cycles of small heat exchanger assembly for high volume production.

- High technology
- Maximum productivity



Courtesy of **S-SICES GROUP**



Free tubes



Parallel rolls



Automatic compensation of the expansion limit depth



Mandrel forward movement digital control



Speed continuous variation





The ability to lean the **MA 2501** makes the machine suitable for any type of transport



**MA 3501**  
Up to a tube sheet diameter of 3500 mm (140")

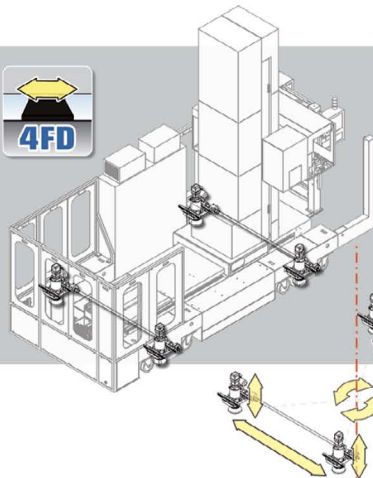
## MA 2501



Single or double axis cnc working centre with movable machine for rolling, facing, grooving and TIG orbital welding.

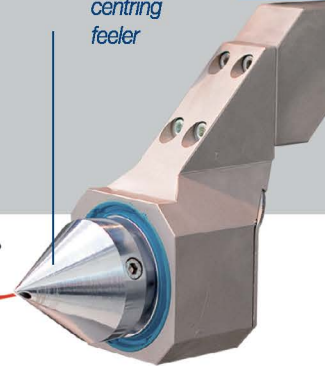
The **MA 2501** is the most innovative and efficient solution ever offered by Maus Italia as an automatic process for the construction of medium and large sized heat exchangers.

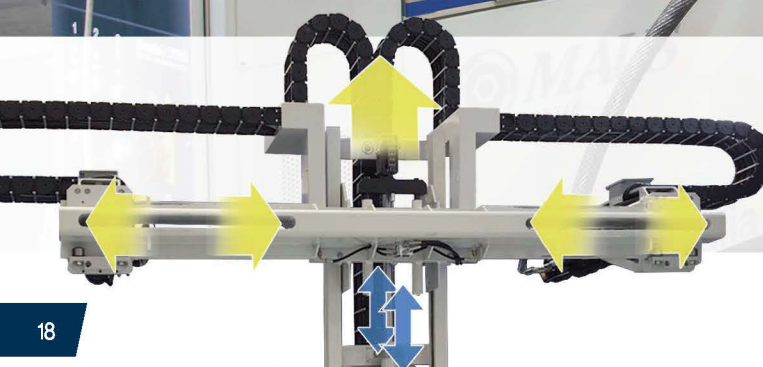
- High technology
- Maximum productivity
- Maximum manoeuvrability



**Four Feet Drive**  
The new **MA 2501** and **MA 3501** servo hydraulic machine base guarantees durability and precision. In particular, the 4 positioning stabilizers help to compensate for horizontal positioning errors. The transmission system on each stabilizer guarantees continuity and precision in movement

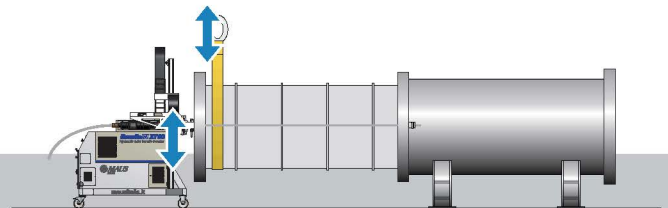
**FOCS**  
self-learning centring feeler





Patented **icos** system to compensate for crane oscillations on the Y axis

The patented **icos** system allows the **BundleIN** to rapidly, accurately and safely achieve bundle insertion





## BundleINXT60

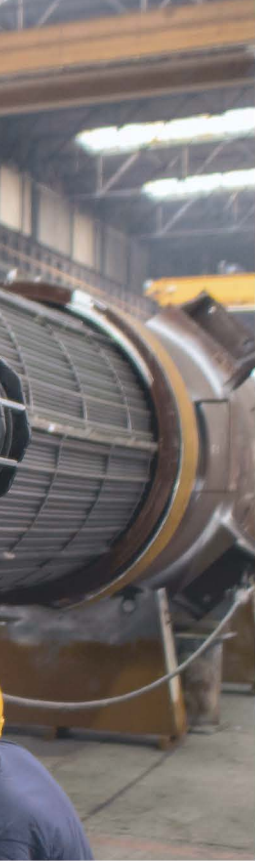
Automatic hydraulic tube bundle inserter for heat exchangers with patented **ICOS** system to compensate for crane oscillations on the Y axis.

According to heat exchanger manufacturers, the insertion of long and heavy tube bundles floating inside the shells is one of the most challenging steps of the assembly cycle.

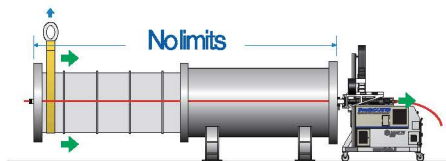
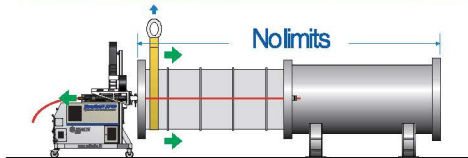
With the **BundleIN**, Maus Italia offers a piece of equipment that can solve this type of problem quickly, accurately and safely.

Once the fixing points of the ropes are attached to the shell, the **BundleIN** can insert the tube bundle at a speed of 2m/min (6.5 Ft/min)

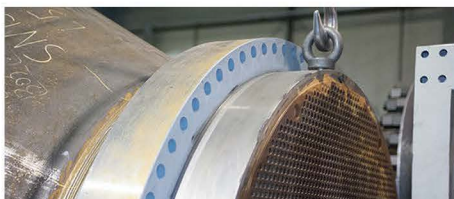
The adjustable generated coaxial force up to 60 T (132300 Lb) brings the tube bundle inside the shell smoothly and safely.



Example of bundle insertion: either pushing the tube sheet or pulling from behind the shell



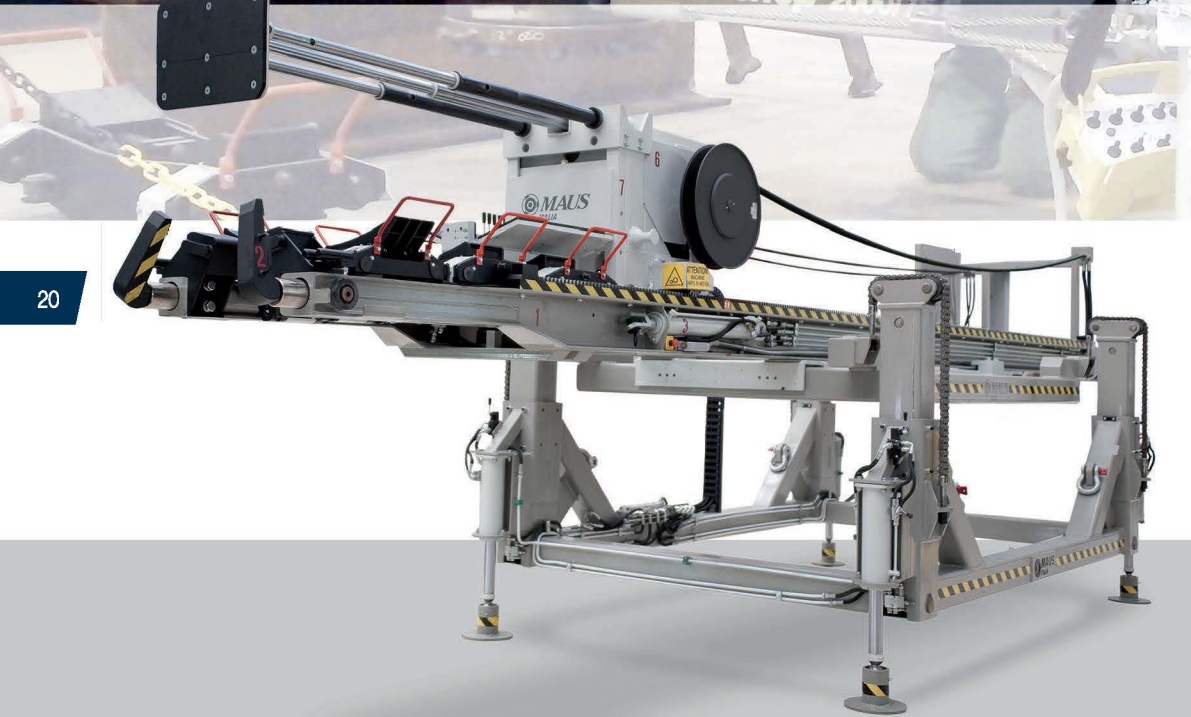
 Traction rope



Up to 60 Ton  
(132300 Lb)

Total safety for both  
operator and product

Courtesy of 



Power unit  
Independent electric  
hydraulic power unit  
assembled on a  
four-wheeled trolley for  
easy movement



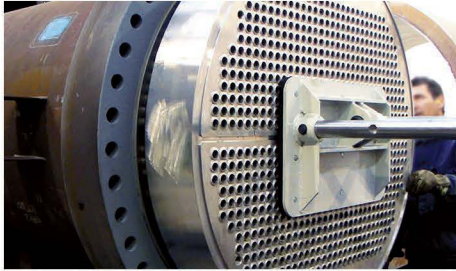
## Mefshop<sup>IN</sup>

Fixed station tube bundle *heat exchangers* inserter/extractor.

The **Mefshop<sup>IN</sup>** is a free-standing machine (no crane required), capable of inserting/extracting the bundle quickly, accurately and safely.

Thanks to its experience in the manufacturing of maintenance bundle extractors, Maus Italia offers a machine which is dedicated to modern heat exchanger manufacturers.

Max load capacity 22 T (48500 Lb).





*Air conditioner  
and air cooler assembly*

*Heat exchanger  
on-site maintenance*

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**Minirol**

Up to  
1/2"  
(12,7 mm)



**Macrol**

Up to  
2.1/4"  
(58 mm)

## Pneumatic rolling machines

Torque control pneumatic rolling machines

Maus Italia pneumatic rolling machines are quick, light, and safe and are the ideal solution for heat exchanger manufacturers and maintenance operators who want to operate on-site in a safe environment and with high quality equipment.



Boiler  
assembly



**Masterrol**

Up to  
4"  
(101,6 mm)



**Control**

**MAUS**  
ITALIA

*Three-phase 400 V system*

*Portable  
Low price  
Easy to handle*

Onboard controls  
**24V**  
Onboard controls

24

**Portrol 401**

Up to  
1.1/4"  
(31,75 mm)



Repeatability  $\pm 5\%$

High quality  
Long life  
Reliable and robust

## Portrol 401

Portable electric controller  
**Port 401** with 400 Volt 3-phase  
**PR-1000** motor for controlled  
tube expansion.

A good compromise between quality and price.

Specially designed for quality maintenance operations or for small heat exchanger batch production.

Maus Italia has designed and manufactured the first fully portable three-phase 400 Volt expansion machine which, meet strict European standards.

Maximum portability •  
**Only 13 Kg (28Lb)** •  
Maximum portability

**Port 401**  
Portable electronic controller  
for tube expansion



## Port 401

- Expansion torque selection
- Automatic motor rotation stop when selected torque is reached
- Multi-function display
- Manual rotation reversal
- Remote controlled
- No-load rolling motor resetting



Courtesy of

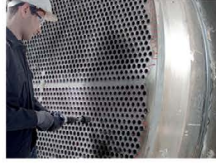


**Quadrol 90x standard**

**Quadrol 90x plus**

**Quadrol 90x executive**





## Quadrol 90x

Mobile semi-automatic expansion stations comprising **F90V5x** electronic expansion controller and **MK** low-voltage, 3-phase electrical rolling motors.

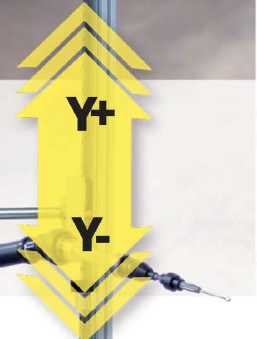
### MK-800

Up to  
1 1/2"  
(38,10 mm)

### MK-400

Up to  
2 1/2"  
(63,50 mm)

### F90V5x



Remote control  
Y+  
Y-



Courtesy of **KOCH**  
HEAT TRANSFER COMPANY

### FlexMatex

Up to  
3/8"  
(9,52 mm)



### PortMatex

Up to  
3/4"  
(19,05 mm)



### Quadrol Matex



Up to  
3"  
(76,20 mm)





## Matex

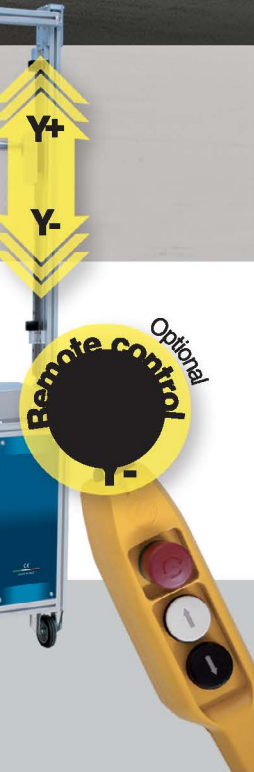
Hi-tech, low voltage electrical mobile stations with **R** brushless motors and torque-based speed continuous variation for semi-automatic controlled tube expansion.

*USB memory stick for the saving of expansion data*

- program setting
- torque value reports

*Instantaneous display of parameters*

- Motor absorption (amps)
- Torque delivered to the tube expander (Nm)
- Motor absorption Graph (amps)
- Cycle duration time
- Rotational speed of tube expander
- Successfully completed rolling cycle counter





## Quadrol Matex MRP

- high productivity
- quality of the expanded product
- reduction of the tube's elongation (thin tubes)
- better quality of the expanded contact between the tube and tubesheet
- reduction of residual internal stress
- significant reduction of the number of the tools required

Remote control  
Y+  
Y-

mausitalia.it

MAUS  
ITALIA

Quadrol  
Parallel ro



## Quadrol Matex

Hi-tech  
hydromechanically-assisted  
expansion system for tube  
expanders with parallel rolls.

Onboard controls  
**24V**  
Onboard controls



This system is dedicated to the rolling of tubes wherever it is necessary to minimize elongation in the tube and its related stress to obtain a perfectly homogeneous contact between tube and tube sheet across the entire expansion length.

Up to  
1"  
(25,40 mm)

On request up to 50.80 mm (2")

Quick joint

Quick connect  
cage-holding joint  
with incorporated rotating  
distributor for tube expander  
lubrication

Control Matex M  
tube expansion equip



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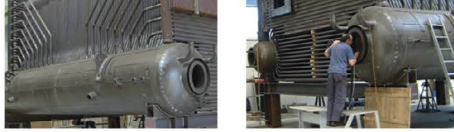


*With two simultaneously  
operating hydraulic motors*

**New**







## **Hydrol**

Hydraulic tube rolling equipment for the expansion of boiler tubes.

Hydrol equipment comprises two parts: a hydraulic unit and portable hydraulic rolling motors.

### **Hydrol 40.2**

Professional model, due to its capability to independently handle two portable hydraulic rolling motors, Hydrol 40.2 rolls two tubes simultaneously by controlling oil pressure with a programmed continuous cycle and adjustable speed.

### **Hydrol 40.1**

Professional model with a single hydraulic rolling motor.

### **Hydrol 20.1**

Manually controlled hydraulic unit for tube rolling expansion with a single hydraulic rolling motor.

### **HM**

Hydraulic rolling motors for tubes up to 219,10 mm (8.625").

# Controlled positioning of the tube without contamination



Courtesy of

1926  
Villa & Bonaldi s.p.a.  
Rovigo - Italy



**NO CREVICE  
CORROSION**

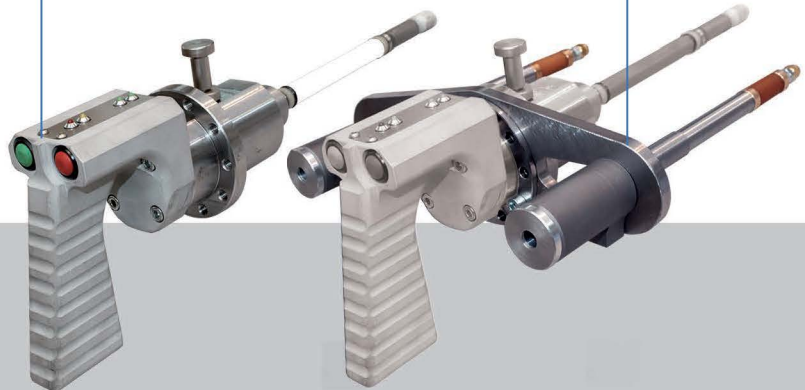


## **HDP4001**

Probe holder with quick coupling, standard supply with **Hydrex 5003** with Aluminium ergonomic handle and probe shank in material suitable for high pressure

## **2TH400**

With a pressure of 400 bars (5800 psi), the two 'noses' are expanded inside the tubes, ensuring precise positioning of the probe for all expansions



**Hydrex 5003**

**Hydrex 5003**



400 VOLT  
24 VOLT



## Hydrex

Up to  
5000Bar  
(72500Psi)

Ultra high pressure water hydraulic system for tube expansion.

In order to comply with the increasingly stringent specifications coming from the petrochemical, nuclear and chemical fields, Maus Italia has designed and manufactured the **Hydrex 5003**, a fourth generation product which has been acclaimed by our customers for more than 16 years. The **Hydrex 5003 S** is the 'full optional' version of the 5003 series, that Maus Italia has developed for specific application in the nuclear sector or in the "high quality" heat exchanger tube working process, and has the following features:

- the **HF6000** hydraulic gun, used for tack expansion, has been designed for the pre-welding positioning of tubes using a polymer ring to prevent any metal contamination;
- the **2TH400** hydraulic anchoring device, essential for the proper positioning of the probe to reduce the effects of crevice corrosion.

### HF6000

*Tack expansion hydraulic gun for pre-welding positioning of the tube. This type of expansion allows the welding gas flow between the tube and the tube sheet hole*



Tack expansion



## R11 R13

Tube expanders for tube with small diameters, from 1/4" to 1/2" (6,35 to 12,70 mm), having a thrust collar with plane shoulder.



## R30 R31

Adjustable tube expanders for thin or medium thickness tubesheets and tubes with Ø from 1/2" up to 1.1/2" (12,70 to 38,10 mm).



## R50 R51

Adjustable long reach tube expanders for thick tubesheets and tubes with Ø from 1/2" to 1.1/2" (12,70 to 38,10 mm).



## 5R

5R: Code used to indicate type R tube expanders with 5 rolls (instead of standard with 3 rolls), suitable for the rolling expansion of thin thickness tubes to ensure a better roundness on the expanded tube.



## R41

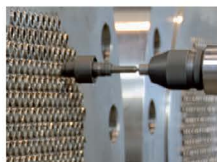
Tube expanders for thick tube sheets and tubes with Ø from 1.3/4" to 3" (44,45 to 76,20 mm).



## R141 R/161

Step-by-step tube expanders for tubes with Ø from 5/8" to 1" (15,87 to 25,40 mm) with quick release device for thrust collar repositioning to expand the entire tube sheet length without removing the expander from tube.





## R 5R

Complete **R-series** (3 rolls) and **5R-series** (5 rolls) line adjustable depth tube expanders for heat exchangers and condenser tubes.

The **R-series** adjustable depth tube expanders have been designed for rolling tubes in heat exchangers and boilers. They are driven by pneumatic or electric rolling machines with torque control.

The **5R-series** tube expanders have five rolls to overcome the problems of rolling thin-walled tubes, especially those made of titanium. These tube expanders perform special expansions and have gently tapered mandrels to reduce the problems connected with residual stress in the expanded tubes.



Step-by-step  
positioning  
thrust collar



## MG

Complete **MG-series** (3 rolls) line variable depth tube expanders for tube sheets of low, medium and high thickness for heat exchangers and condenser tubes.

The **MG-series** variable depth tube expanders have been designed for rolling tubes in heat exchangers. They are driven by pneumatic or electric rolling machines with torque control.

### MG800

With **1.1/2"**  
short rolls

O.D. tubes  
1/2" ÷ 1.1/2"  
(12,70 ÷ 38,10 mm)



For low thickness tube sheets

### MG800

With **2.1/4"**  
long rolls

O.D. tubes  
5/8" ÷ 1.1/2"  
(15,87 ÷ 38,10 mm)



For medium thickness tube sheet

### MG1200

With **1.1/2"**  
short rolls

O.D. tubes  
1/2" ÷ 1.1/2"  
(12,70 ÷ 38,10 mm)



For high thickness tube sheet

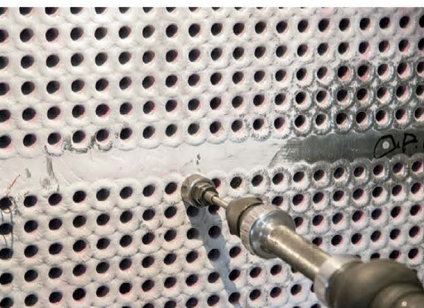
### MG1200

With **2.1/4"**  
long rolls

O.D. tubes  
5/8" ÷ 1.1/2"  
(15,87 ÷ 38,10 mm)



For high thickness tube sheet



## BH

O.D. tubes  
1.1/2" ÷ 4.1/2"  
(38,10 ÷ 114,30 mm)



## CH

O.D. tubes  
1/2" ÷ 4.1/2"  
(12,70 ÷ 114,30 mm)



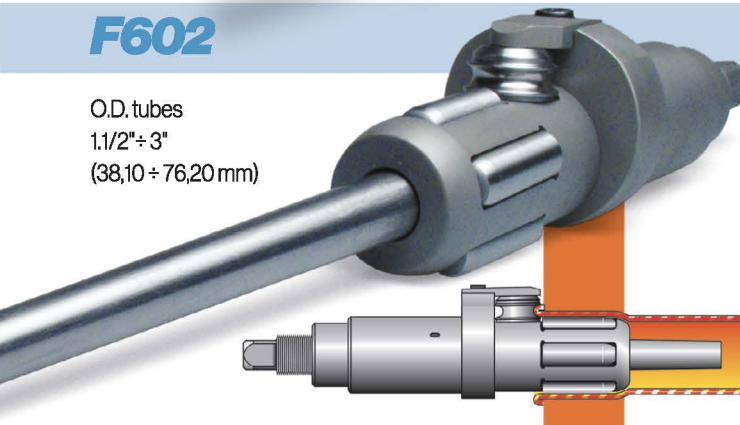
## DH

O.D. tubes  
1/2" ÷ 4.1/2"  
(12,70 ÷ 114,30 mm)



## F602

O.D. tubes  
1.1/2" ÷ 3"  
(38,10 ÷ 76,20 mm)



## BH CH DH F602

Complete line of fixed depth tube expanders for boiler tubes.

The **BH CH DH-series** fixed depth tube expanders have been designed for rolling boiler tubes.

A development of the B C D-series that Maus Italia has produced and sold with great success for more than 50 years.

All the tube expanders of the **BH CH DH-series** can be driven by pneumatic, hydraulic and electric rolling machines with torque.

- **BH-series** tube expander with plane shoulder available in the standard version with 3 expansion rolls

- **CH-series** tube expander for rolling and flaring at 15°, available in the standard version with 3 expansion rolls and 3 flaring rolls.

- **DH-series** tube expander for rolling and flaring at an angle of 15°, available in the standard version with 3 expansion rolls and 3 flaring rolls.

This is the improved version of the **CH-series** which gives a uniform result in rolling and flaring thanks to an adjustable stop.

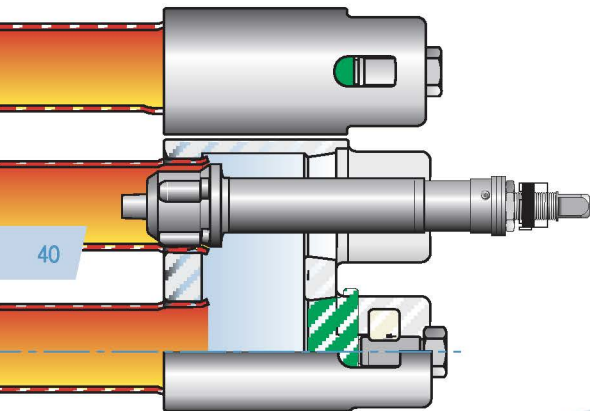
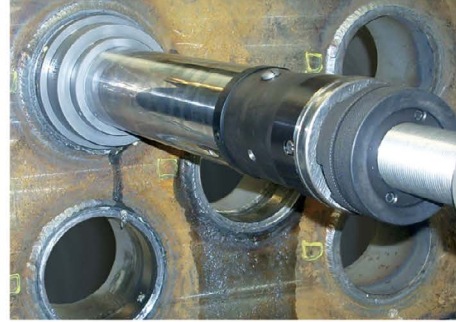
- **F602-series** tube expander for simultaneous rolling and beading of tubes in boilers.



## F500

Complete line of **F500-series** tube expanders with adjustable torque clutch, for rolling and flaring thick walled tubes in *cracking furnaces* tube seats.

**F500-series** tube expanders with adjustable torque clutch, torque control and mandrel feeding device for tubes up to ASA 8" Sch. 40 (219,1 x 8,18 mm).



## F500

O.D. tubes  
ASA from 3" to 8"  
(from 88,9 to 219,1 mm)

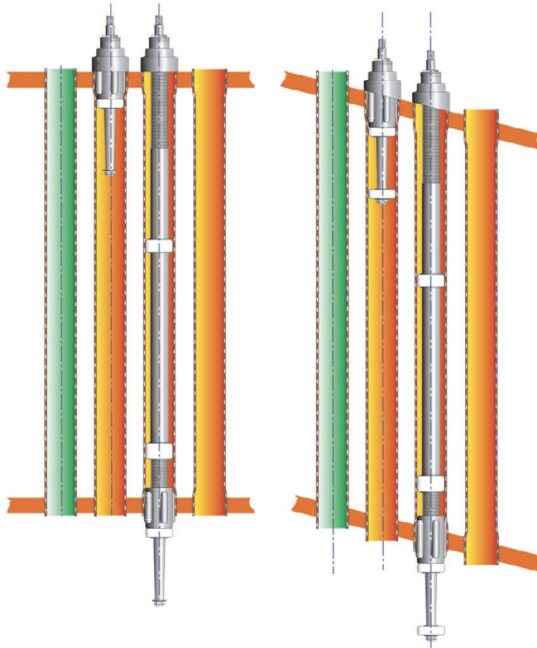






## VP100 SG100

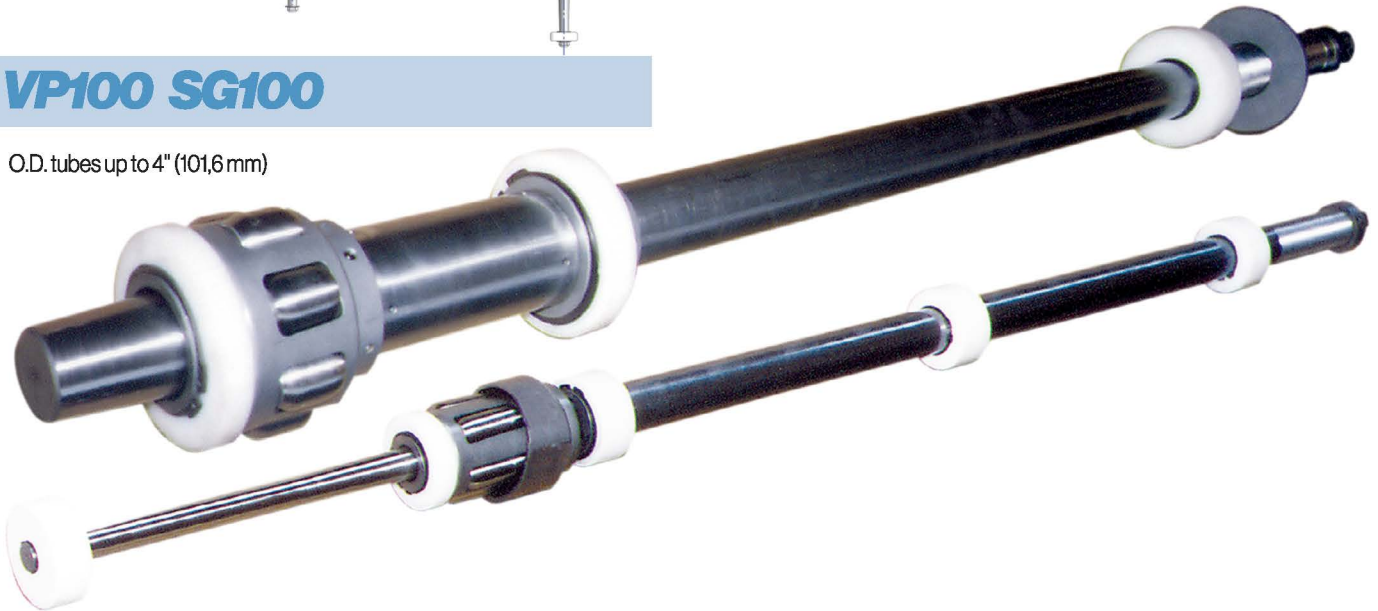
Complete line of tube expanders for sugar production plant vacuum evaporators.



- **VP100**-model for parallel tube sheets
- **SG100**-model for inclined parallel tube sheets.

## VP100 SG100

O.D. tubes up to 4" (101,6 mm)





## DIN BS

Complete line of **DIN** series  
and **BS** series (5 rolls)  
fixed depth tube expanders  
for the milk industry.



The system consists of:

**DIN** series and **BS** series tube expanders for stainless steel tubes  
and bends in accordance with DIN 11851, DIN 11852, British  
Standard 1864:1966

**MTT DIN** series and **MTT BS** series  
clamping lugs for cutting tubes

**MSS DIN** series and **MSS BS** series  
single clamping lugs.

## DIN Milk

O.D. tubes  
28,0 ÷ 104,0 mm  
(1.102" ÷ 4.094")



## MTT DIN



## MSS DIN



## BS Milk

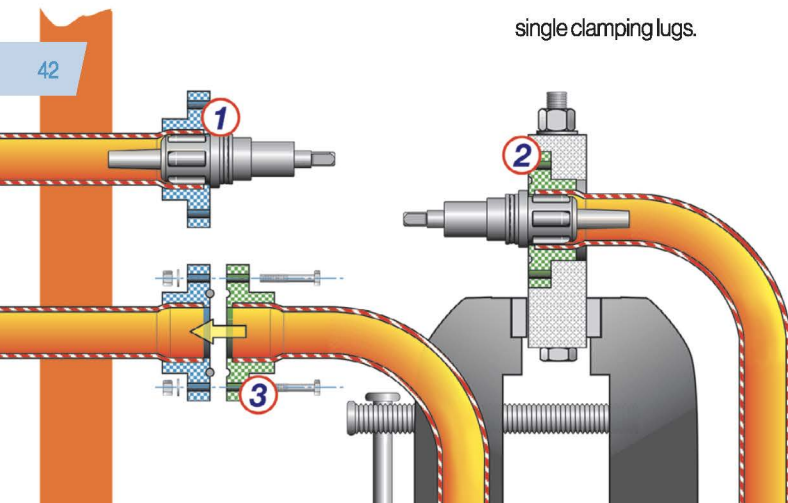
O.D. tubes  
1" ÷ 4"  
(25,40 ÷ 101,60 mm)



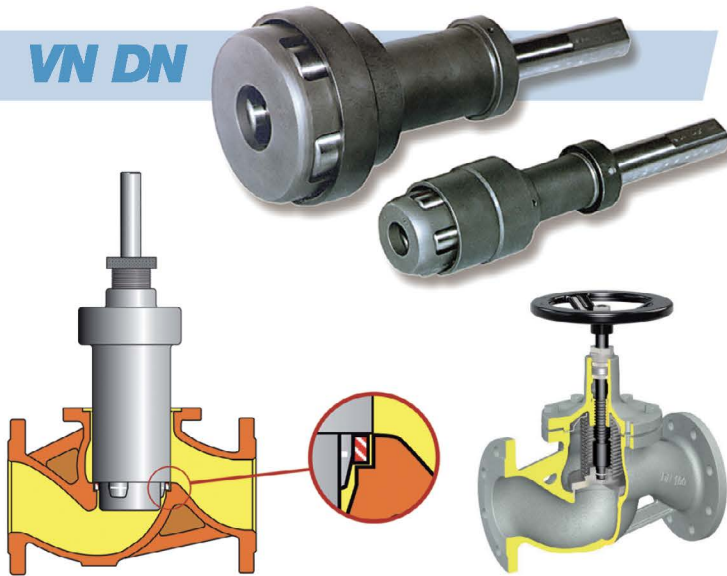
## MTT BS



## MSS BS



## VN DN



## VN DN

Complete line of **VD-series** and **DN-series** tube expanders for rolling valve seats.

## Special models

For special application.

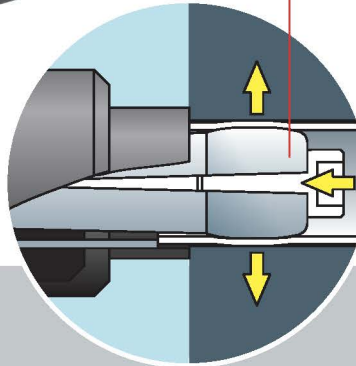


Maus Italia designs and manufactures tube expanders customized for special applications.





*Due to the expansion of the front plier, the tube is mechanically expanded for a few mm, brought to the tube sheet holes and fixed in the required position before the welding operation*

**KattexFix 6**

From 3/8" to 1 1/2"  
(9,52 to 38,10 mm)

**KattexFix 12**

From 1" to 4 1/4"  
(25,40 to 107,95 mm)



## **Kattex Fix**

Hydraulically-operated tube locking system for **pre-welding** expansion on heat exchangers.

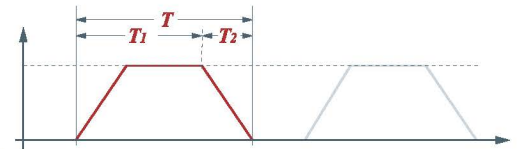
Innovative patented system for the instantaneous locking of tubes using a metal expanding plier.

The use of the **Kattex Fix** ensures a precise result in a very limited time thus increasing job productivity.



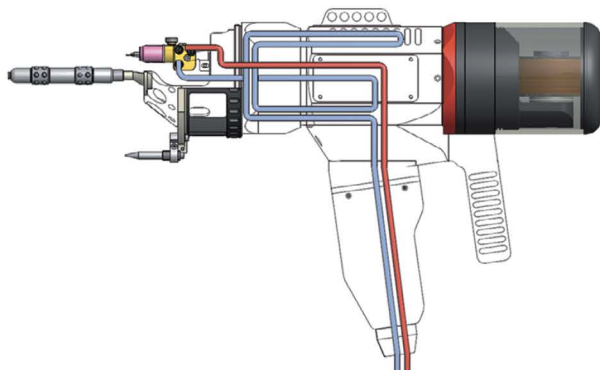
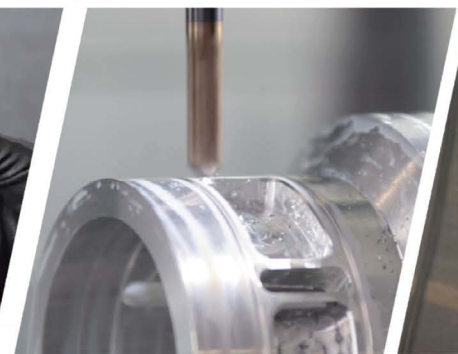
## **TP2EQ2**

Semi-automatic hydraulic unit with electrical motor and equipped with a timer control system recommended for repetitive tasks





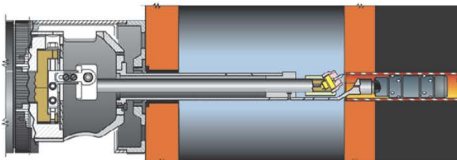
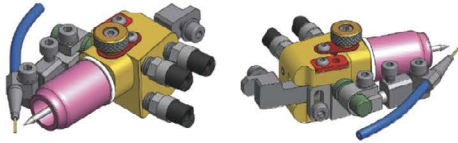
**In house**



**Giotto 250 B**

Standard orbital head for tube-to-tube  
sheet TIG orbital welding





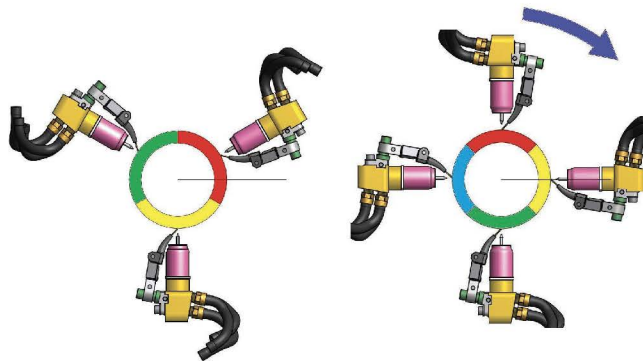
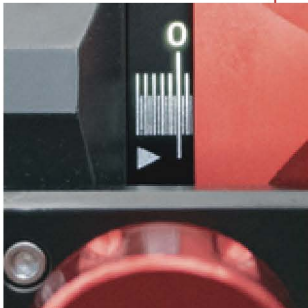

Orbital welding heads for tube-to-tube sheet TIG welding for the manufacture of tube bundle heat exchangers.

Maus Italia presents its new range of **Giotto** series orbital heads for tube to tubesheet TIG welding.

Following thousands hours of R&D, tests and prototyping, the result is an outstanding and unprecedented orbital welding head that is a masterpiece developed, manufactured and machined in Italy, with the extreme precision and quality you would expect from Maus Italia.




Head for aircooler geometry that allows passage over the water tank





New



## **Giotto Basic**

High-quality tube-tubesheet TIG orbital welding system.



MAUS ITALIA presents the **Giotto Basic** orbital welding system for tube-tubesheet welding in heat exchangers.

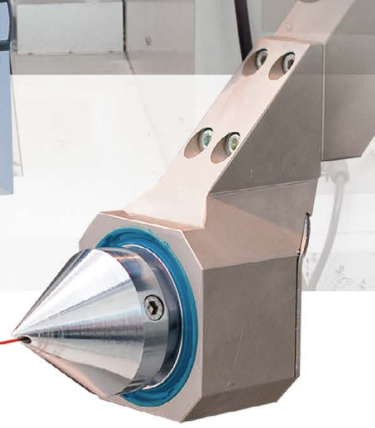
Its in-house design and manufacture has enabled us to optimise the design in order to offer a high-quality system, comprising:

- a **Giotto250B** orbital head for tube-tubesheet TIG welding;
- **GiottoPower200** inverter generator complete with cooling unit and microprocessor.





Courtesy of 



The **FOCS2** laser centring system combined with the CNC guarantees extreme precision of the geometries of the welded joints

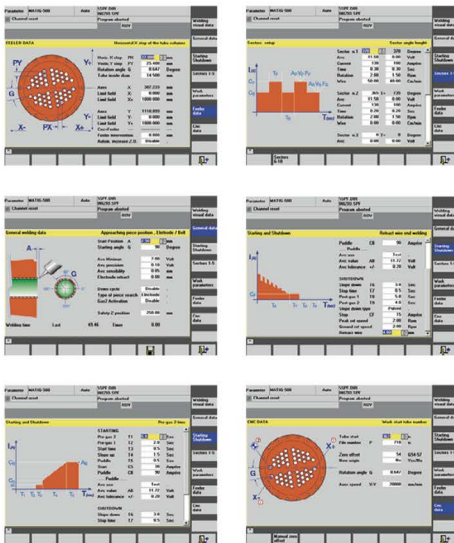
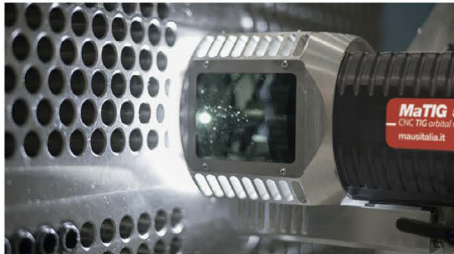


# MaTIG 501

Tube-to-tube sheet TIG orbital welding automatic positioning system for tubes from 1/4" to 2" (6,35 to 50.80 mm).

The **MaTIG 501** has been designed for the complete automation of tube-to-tube sheet TIG orbital welding cycles at competitive costs and with a considerable reduction in production time.

Welding parameters are programmed and controlled by the latest generation Windows® operating system.



Dial for  
reading in mm



Dial for  
reading in inches



## F700

Internal mechanical gauge with 2 contact points



Resolution - 0,01 mm

## F703

Internal digital micrometer with LCD display and 3 contact points



Resolution - 0,001 mm



## **F707 F703 F700**

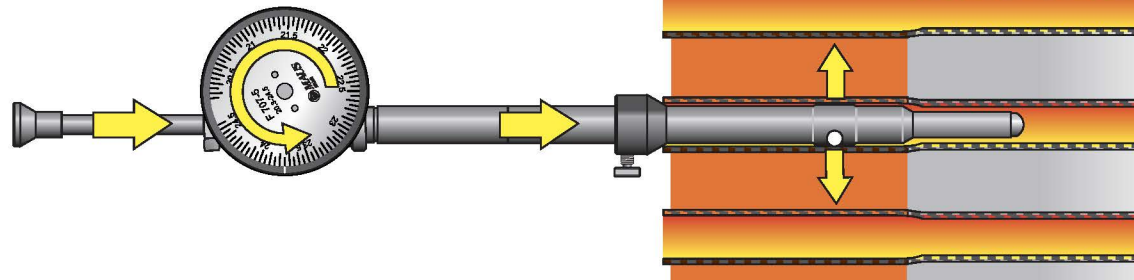
Mechanical and digital instruments for hole measurement.

Range of instruments designed for measuring tube sheet holes and the tube's internal diameter both before and after expansion.



### **F707**

*Maus Italia internal mechanical gauge  
(resolution 0,05 mm)  
with 3 contact points*



With coolant  
fluid feed channel



### F12

Rotating coolant distributor for coupling with the **F13** sleeves for use with the **Holetool** series of tools. Allows the coolant to flow from the inside directly to the cutting point; this guarantees the **Holetool** series of tools will be durable and high performance

### F13

Reduction sleeve

HSS

HSS  
Co 9%

### F10 F11

HSS twist drills with coolant fluid feed channels

F20-SHK

F20BDY

Tungsten  
Carbide

**F12 F13**  
**F10 F11 F20 F26**

Tools with coolant fluid feed channels for tubesheet hole processing.  
O.D. tubes from 3/8" to 2"  
(9,52 to 50,80).

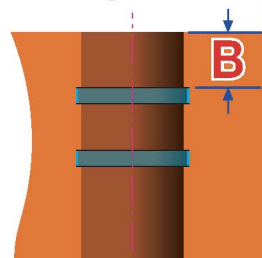
Range of tools made with extremely high quality and wear-resistant materials, capable of withstanding high speeds due to coolant fluid feed channels.



*The F26 self-centring grooving tool is equipped with interchangeable HSS-Co 10% cutter*

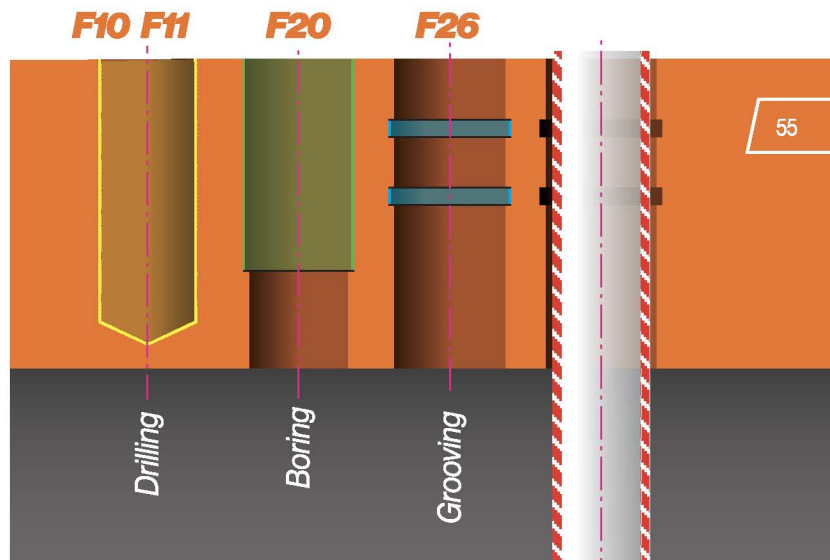
**F20**

Reamers with Tungsten Carbide tips



**F26**

Self-centring grooving tool, with adjustable **B** depth and interchangeable HSS-Co cutter bits



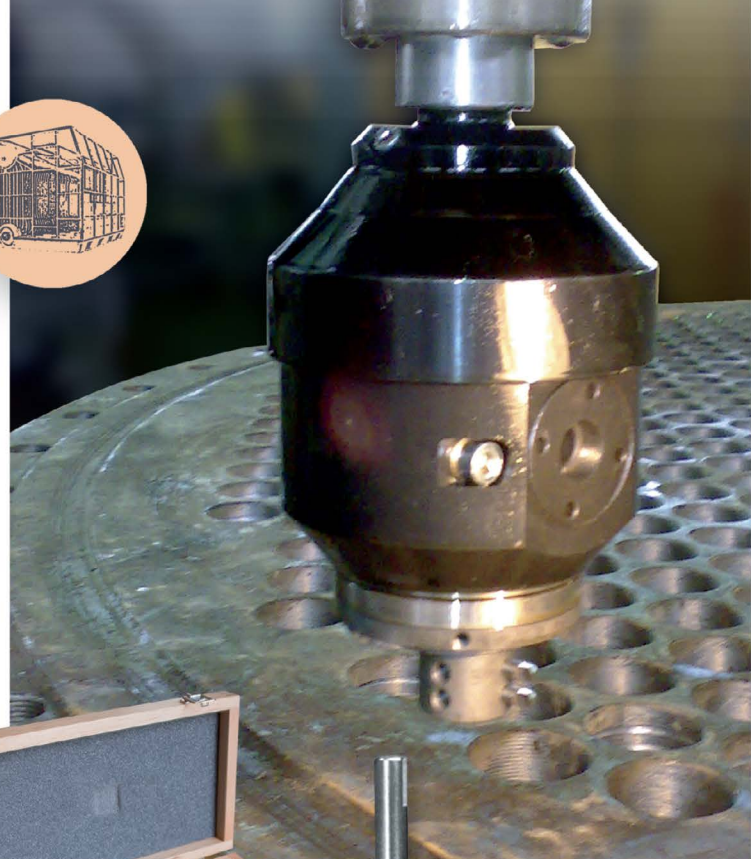
## F112 F120

Universal  
grooving tools.



### F112

Universal grooving tool for tube sheet  
holes ranging between  
7 and 30 mm (0.276" to 1.181")



Tungsten  
Carbide

### F120

Hydraulic universal grooving tool for  
holes up to 120 mm (4.724")



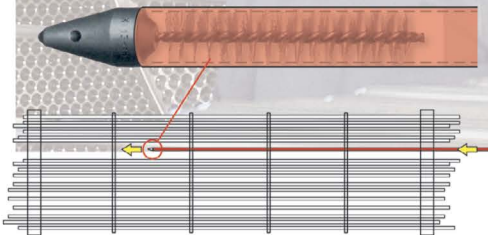
## F780

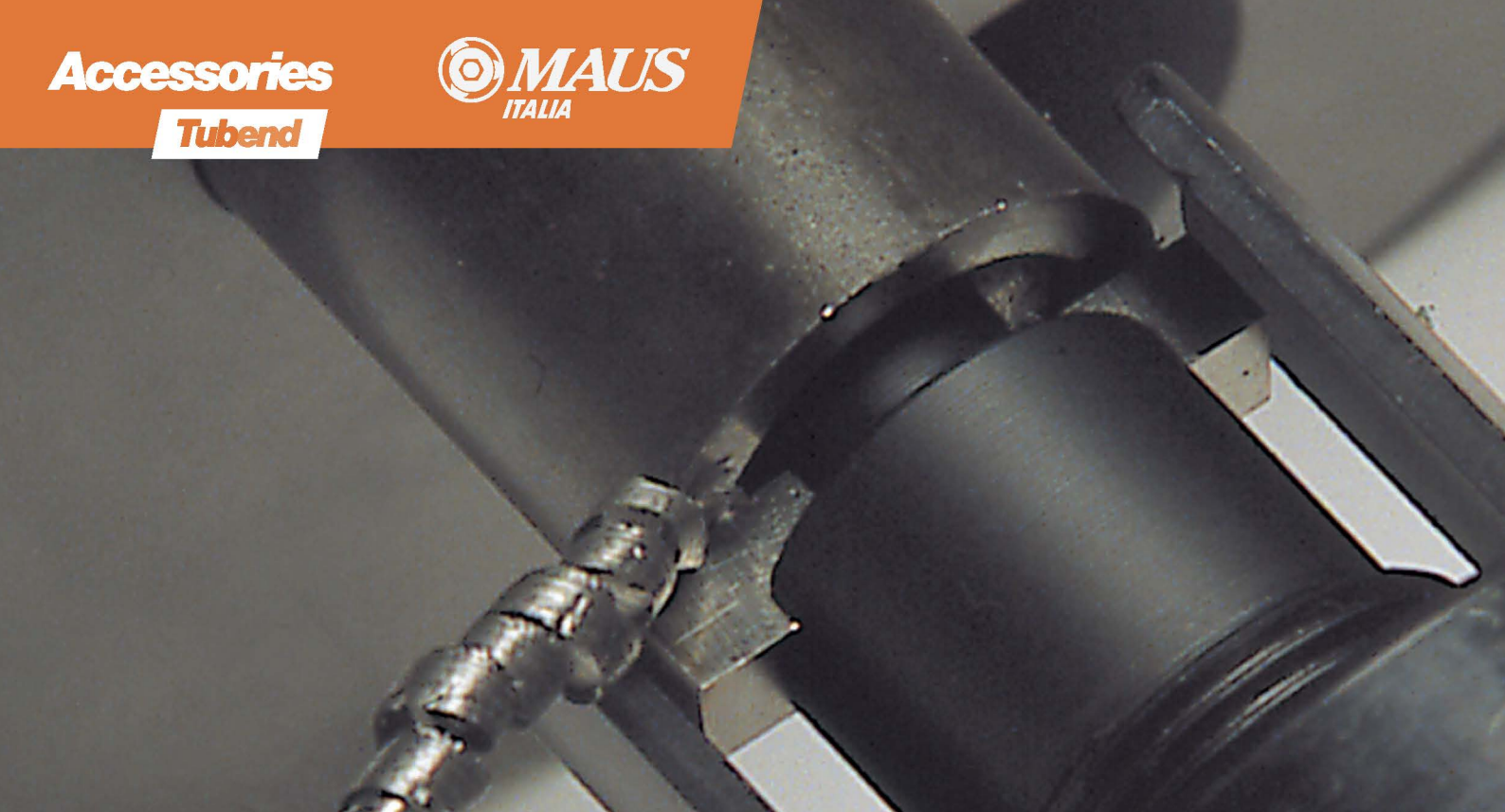
Tube pilots for tube insertion during tube bundle heat exchanger assembly.

The **F780** series tube pilot comprises an aluminium tapered head (steel, PVC or other materials available upon request) and a nylon brush.

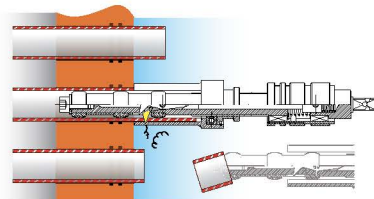
A hole on the tapered head allows easy removal of the tube pilot from the tube.

*The **F780** aids the quick and smooth insertion of tubes through the tube sheet and baffle holes*





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### F796

Tube cutter to remove extra tube sections



### F751R

Tube end facer with HSS cutting bit



### F753

Adjustable combined milling cutter for simultaneous deburring/chamfering of tube outer and inner diameters

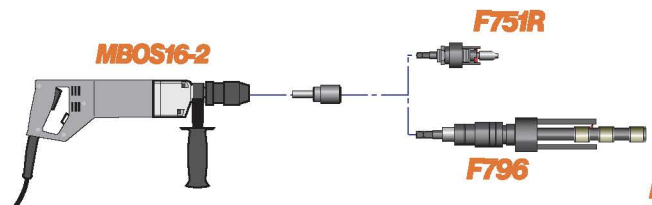
# **F796 F751R F753 MBOS16-2 MOF**

Tube facing tools driven by electrical and pneumatic motors

Complete series of tools for cutting, facing and deburring the tube ends of heat exchangers.

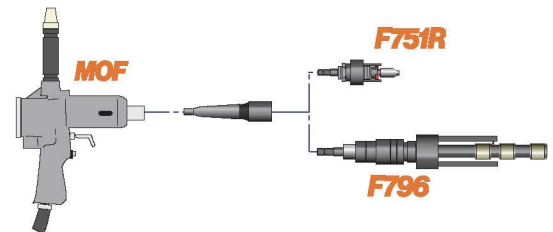
## **MBOS16-2**

*Electrical motor*



## **MOF**

*Pneumatic motor*



**Tubend**

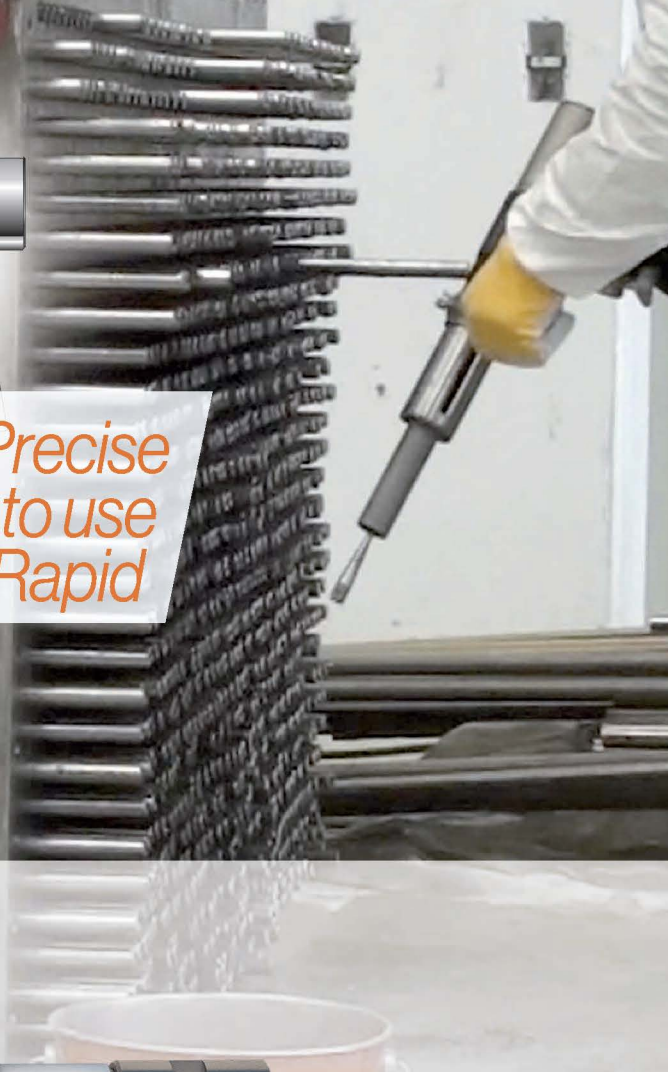
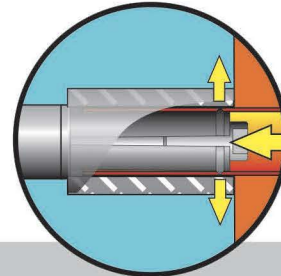


*Precise  
Simple to use  
Rapid*

**patented**

Manual device for  
cut stub removal

*High productivity*



## **LTP6**

Optional accessory for the **KattexCut6** for the removal of surplus tube with a protrusion

Indicated for applications on systems where limited access to the tube does not permit traditional external cutting.



## **TP2E**

*Hydraulic pump*





**F314HS**  
**F317HS**

Patented adapter with  
female/female double  
quick coupling specifically  
for high speeds



**F313**  
**F316**

Adapter with  
female/female double  
quick coupling



**F315**  
**F318**

Fixed female/female  
adapter



**F308HS F308**  
**F314HS F317HS**  
**F313 F316**  
**F315 F318**

Mechanical drive for tube expansion.

The brand-new **F308HS**, the technological evolution of the **F308** and boasting new innovative design solutions, is recommended for use at speeds exceeding 400 revolutions/min (r.p.m.) due to its accuracy and stability.



**F308HS**  
**F308**

*Special model  
available  
upon request*

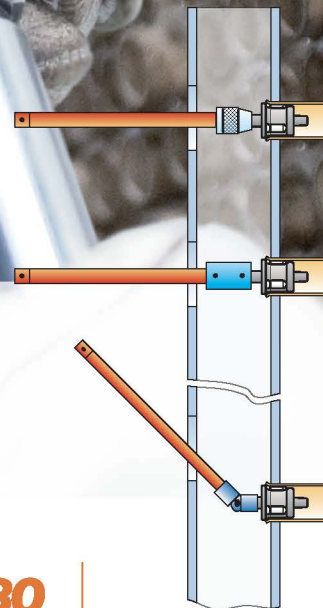
*Telescopic shafts with Cardan joints, the **F308HS** and F308 series, for the rotation and torque transmission from the rolling motor to the tube expander allowing the horizontal movement required*

# F770HS F771 F680

Rigid extension and universal joint  
for manual mechanical drive.

A full range of extensions and universal joints are available for jobs with  
difficult access conditions.

Strong reversible ratchet wrenches are available for manual tube  
expansion.



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## F770HS

Rigid extension with  
male-male square  
drive



## F771

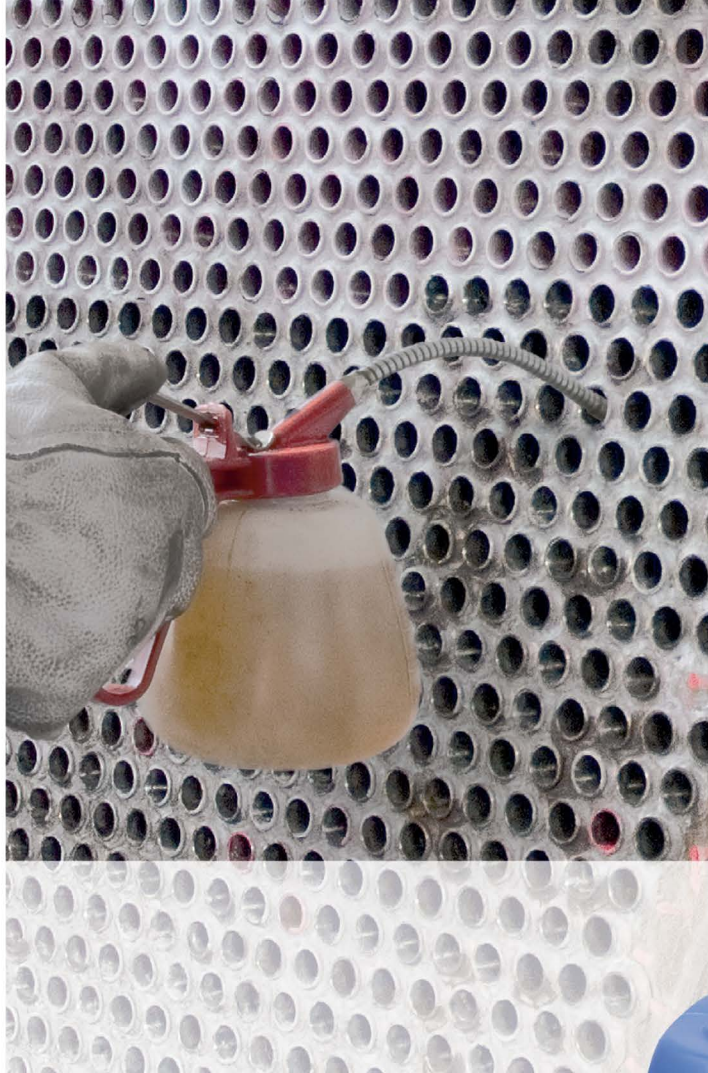
Universal  
joint

## F680

Square hole  
reversible ratchet  
wrench for  
manual  
expansion







## **GSA LBR**

Special water-soluble lubricating paste and fluids for tube expander lubrication.

With **Lubrol** products, Maus Italia has selected two lubrication solutions to increase the service life of the tube expander.



### **GSA**

*Special water-soluble vegetable paste specifically for tube expansion*



### **LBR**

*Special water-soluble vegetable fluid specifically for tube expansion*



for **Maintenance**  
*and tube bundle dismantling*

*Complete line of equipment  
for tube bundle maintenance*

*for* **Maintenance**  
*and tube bundle dismantling*

- 68 > Tube bundle extraction, transporting and lifting
- 84 > Tube bundle cleaning
- 88 > Tube bundle cutting
- 90 > Tube cutting
- 94 > Tube extraction



*For more details,  
please request detailed catalogues*

Up to 125 Tons



ATEX certification  
on request

68

The **Mefexpress** is supplied with a Diesel Engine.

Engine which are suitable for operation in areas classified as hazardous are available on request (**complete with ATEX** conformity declaration covering the whole machine)

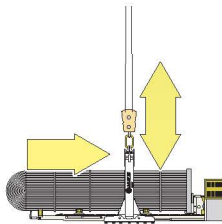
SPECIAL MODEL  
for low temperatures  
is available on request

Wireless  
remote control  
available on request





*Rocker arm which may be disassembled into 3 pieces for transportation in a container and for an easy machine storage*



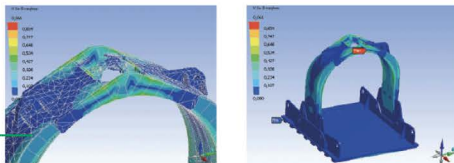
## **Mef express**

**Aerial quick hooking bundle extractors (on-shore).**

The quick hooking aerial tube bundle puller is manufactured in different sizes for tube bundles of up to 125 Tons (275500 Lb) and lengths of up to 12,5 m (41 ft).

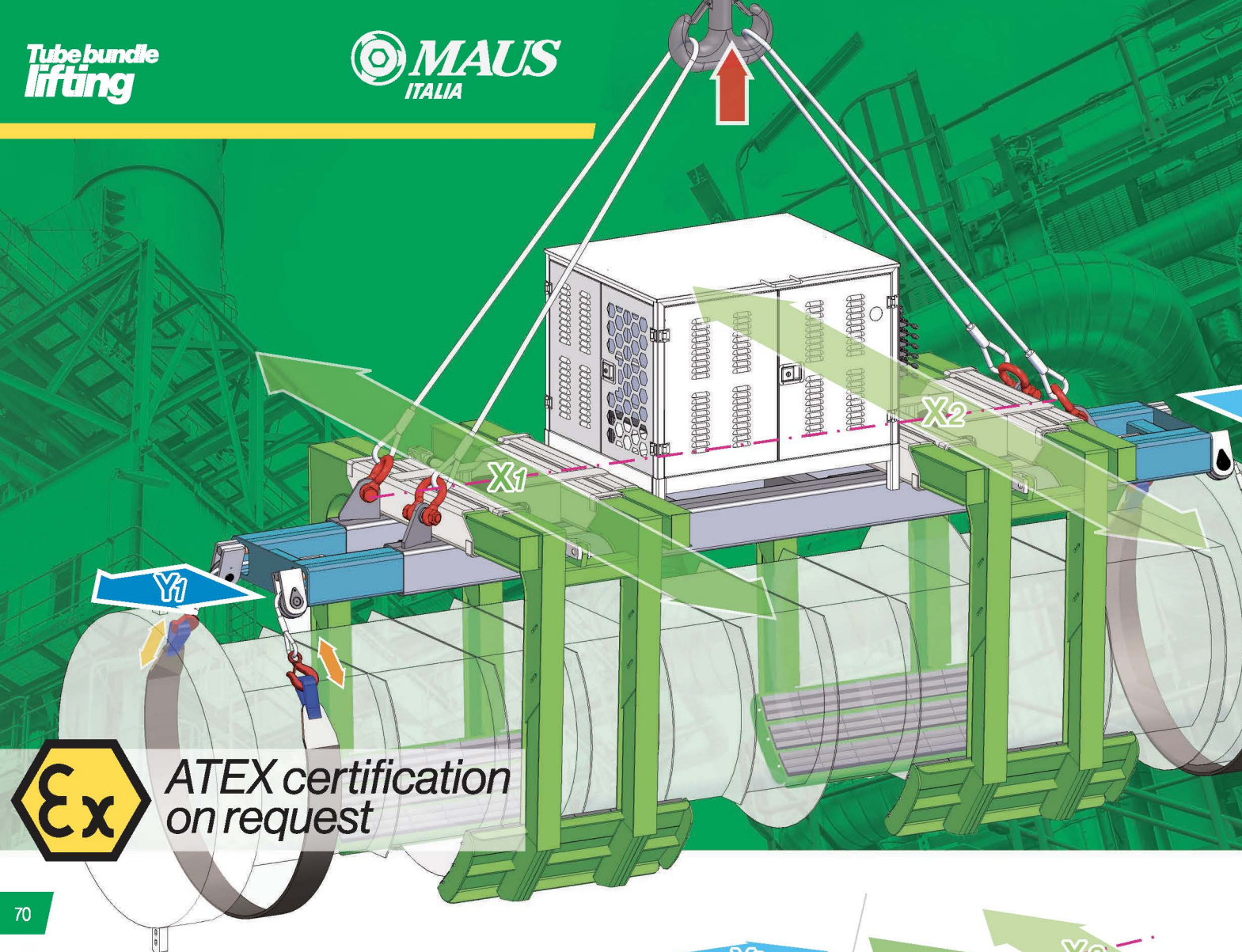
Maus Italia can also supply customized bundle puller models to meet special customer requirements (on submission of all the required documents, drawings and calculations).

*Designed with FEM model*



*Loading and lifting test (Dummy weight)*





**Ex** ATEX certification  
on request

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*Independent adjustable  
cables  
Ensures compensation for  
any asymmetrical  
positioning errors of the  
"saddle" bands located  
underneath the tube  
bundle.*



*Independent telescopic hydraulic beams to  
ensure balancing and adaptation of the  
**BundleTutor 1500** to the geometry of the tube  
bundle:  
Longitudinal extension **Y**  
**+1000 mm (39.4")** on each side*



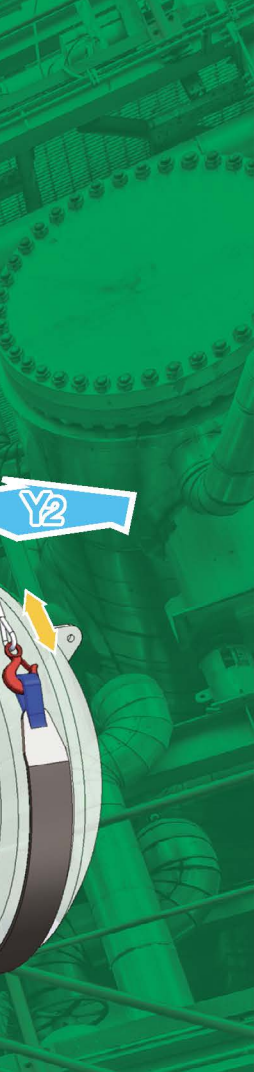
*Symmetrical opening and closing of  
the jaws relative to the axis of the tube  
bundle to ensure perfect centring:  
Transverse opening **X**  
**+600 mm (23.6")** on each side*



## BundleTutor 1500

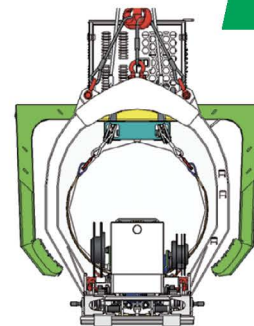
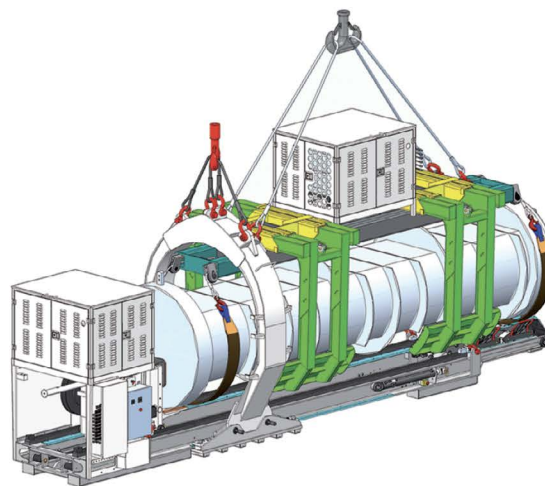
Multi grab quick lifting machine for protecting the tube bundle during handling

Specially designed and patented by Maus Italia, the **BundleTutor 1500** brilliantly solves the problem of grabbing and tube bundles lifting during handling (production / maintenance), while operating in total safety and eliminating the risk of damaging the baffles or crushing the tube bundle tubes.



Loading onto and unloading from  
**Mef** Series tube bundle pullers

The **BundleTutor 1500** has been designed to be most frequently used in conjunction with the Maus Italia **Mef** series tube bundle puller, such as the aerial **Mef express** and the independent mobile **Mef mobil** in its on-shore model or off-shore (**NAVY**) model.



Tube bundle  
transporting

**MAUS**  
ITALIA



ATEX certification  
on request

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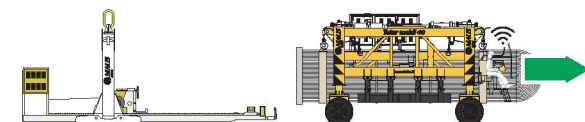
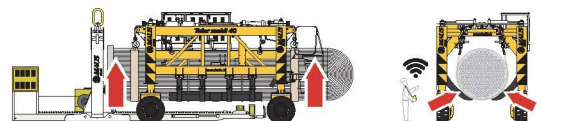
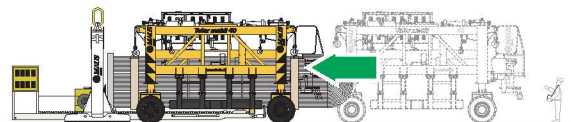






## Tutor mobil 40

Self-propelled transporter  
for the handling of tube bundles



MAUS ITALIA introduce the **Tutor mobil 40** for the moving of tube bundles inside the plant, significantly speeding up loading, unloading operations and transporting from the point of extraction to the washing station or maintenance workshop .



Tube bundle  
extraction and  
transporting

**MAUS**  
ITALIA



Up to 5850 mm  
(230") height



ATEX certification  
on request

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Bundle elevation



Lateral frame translation



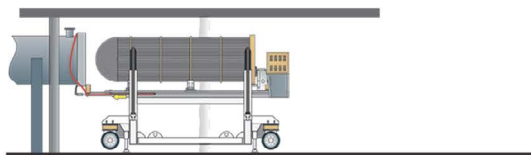
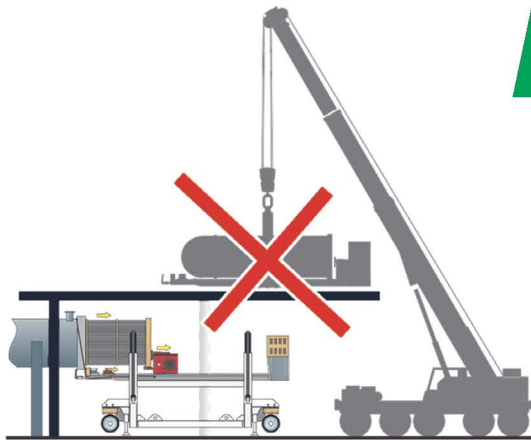
Longitudinal frame movement



Wireless  
remote control  
available on request



**SPECIAL MODEL**  
for low temperatures  
is available on request



## Mef mobil

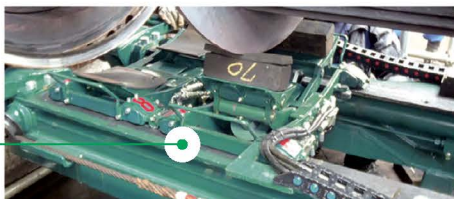
Self-propelled tube bundle puller (on-shore) for the extraction and transportation of tube bundles max. weight up to 20 Tons.







The **Mef mobil**, self-propelled tube bundle puller, is designed for areas which are difficult to access in petrochemical plants for the extraction and transportation of tube bundles.

The **Mef mobil** operates autonomously without the need for cranes and trucks for positioning and transportation of the tube bundle to the maintenance area.

*Solution for difficult access  
areas (under shelter)*

Hydraulically-  
controlled  
bundle supports



-  Bundle elevation from 600 up to 7000 mm (from 24" up to 275")
-  Lateral frame translation  $\pm 100$  mm ( $\pm 4$ "). Hydraulic device for centring the **MeTT23** with the bundle without moving the truck
-  Adjustable tube sheet anchoring plate (Left/Right)
-  Longitudinal frame movement to easily reach the bundle position
-  Bidirectional carriage - Able to extract/insert the tube bundle on both sides without turning the truck
-  Thrust bearing for rotation of the entire lifting device. Stroke rotation up to  $100^\circ$



Up to  
7000 mm  
(275")  
height

 Wireless remote control available on request





**MAUS**  
ITALIA

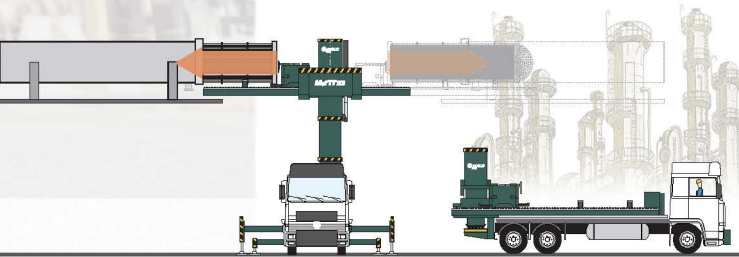
Tube bundle  
**extraction and  
transporting**



## MefTT23

Tube bundle puller to be mounted on the truck.

Lifting capacity  
up to 23 Ton



The **MefTT23** model tube bundle puller is designed to be mounted easily on the truck for the extraction of the tube bundle without the use of a crane.

This system is particularly advised for maintenance companies who constantly operate in the petrochemical plant field.

### EOC

#### Electronic Overturning Control system

Advanced system to control load movements under safe conditions, prohibiting any commands which could jeopardize the

**MefTT23** machine's stability, levelling and guaranteeing compliance with CE certification requirements.

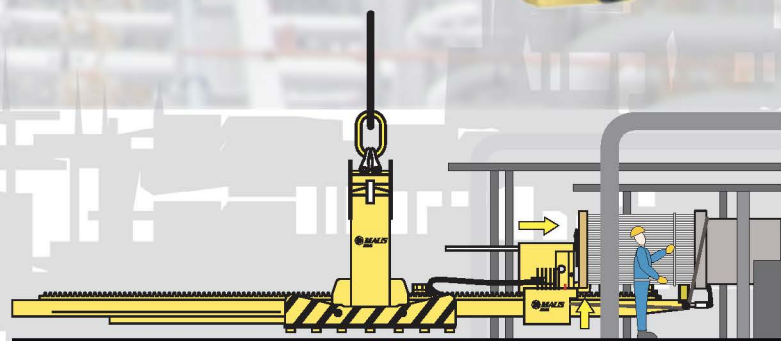


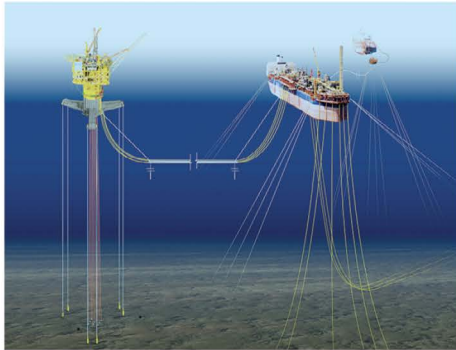
Customized



ATEX

*Mef express NAVY*  
is designed to be  
operated in areas  
classified as hazardous





## **Mef express** NAVY

Aerial Quick hooking bundle extractors (off-shore).



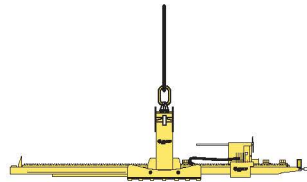
Circular  
rocker arm  
for lifting



Hydraulic  
vice

**Mef express NAVY** aerial bundle extractor, suitable for ocean platforms and FPSO installations.

This is a special model of the **Mef express**, designed and manufactured to meet the specific demands for safety and off-shore maneuverability.



Manual  
hydraulic  
commands



Main carriage  
with bundle  
locking system



## **Van Motor** NAVY

To reduce dimensions and weight of the **Mef express NAVY** the motor and the hydraulic unit are assembled on a four-wheeled trolley

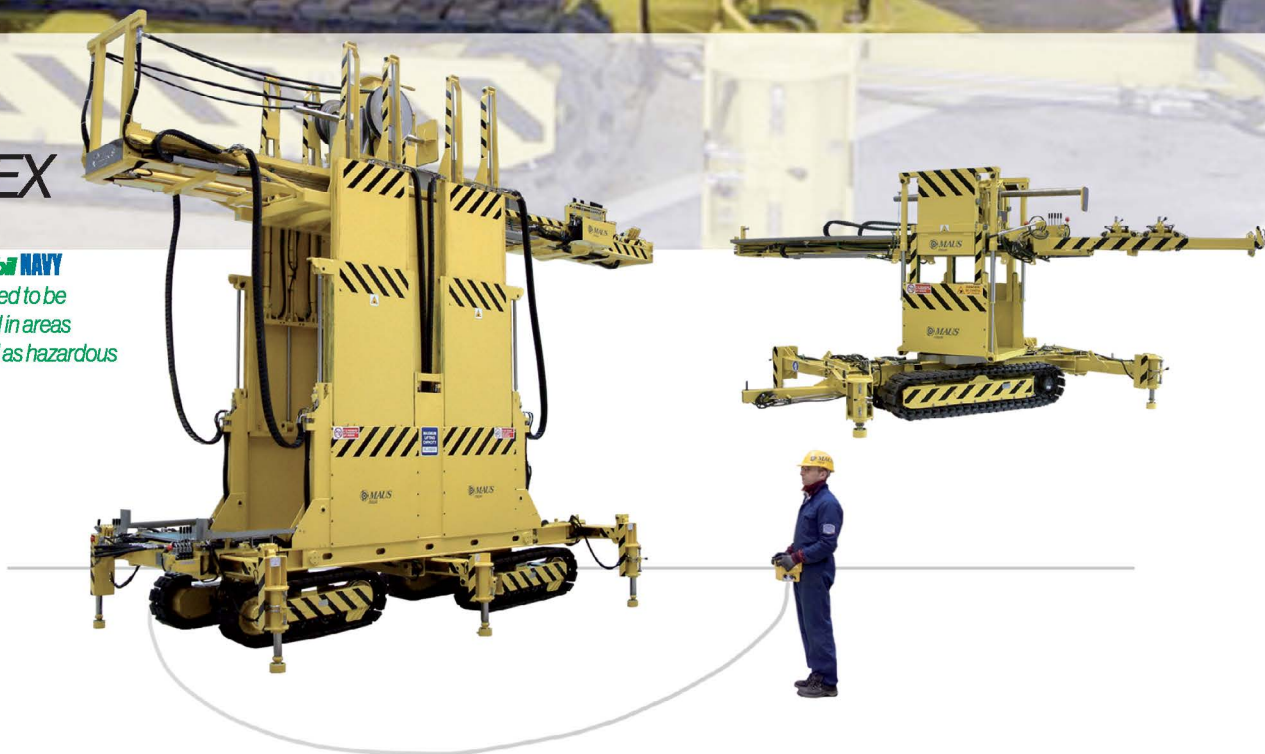


Customized



ATEX

*Mef mobil NAVY*  
is designed to be  
operated in areas  
classified as hazardous



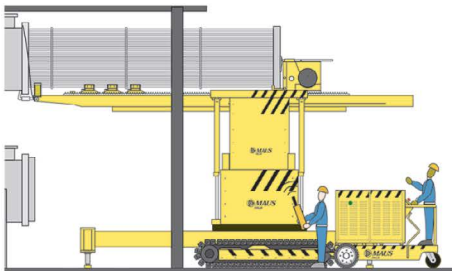
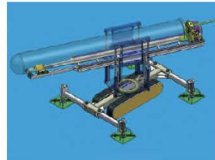
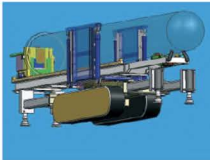
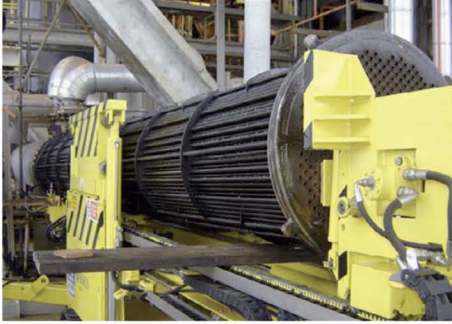


## **Mefmobil** NAVY

Self-positioning tube bundle puller, remote controlled for extraction, hoisting and movement of tube bundles (off-shore).

Self-positioning tube bundle extractor **Mefmobil NAVY**, suitable for ocean platforms and FPSO installations.

This is a special model of the **Mefmobil**, designed and manufactured to meet the specific demands for safety and off-shore manoeuvrability.



## **VanMotor** NAVY

*To reduce dimensions and weight of the **Mefmobil NAVY** the motor and the hydraulic unit are assembled on a four-wheeled trolley*



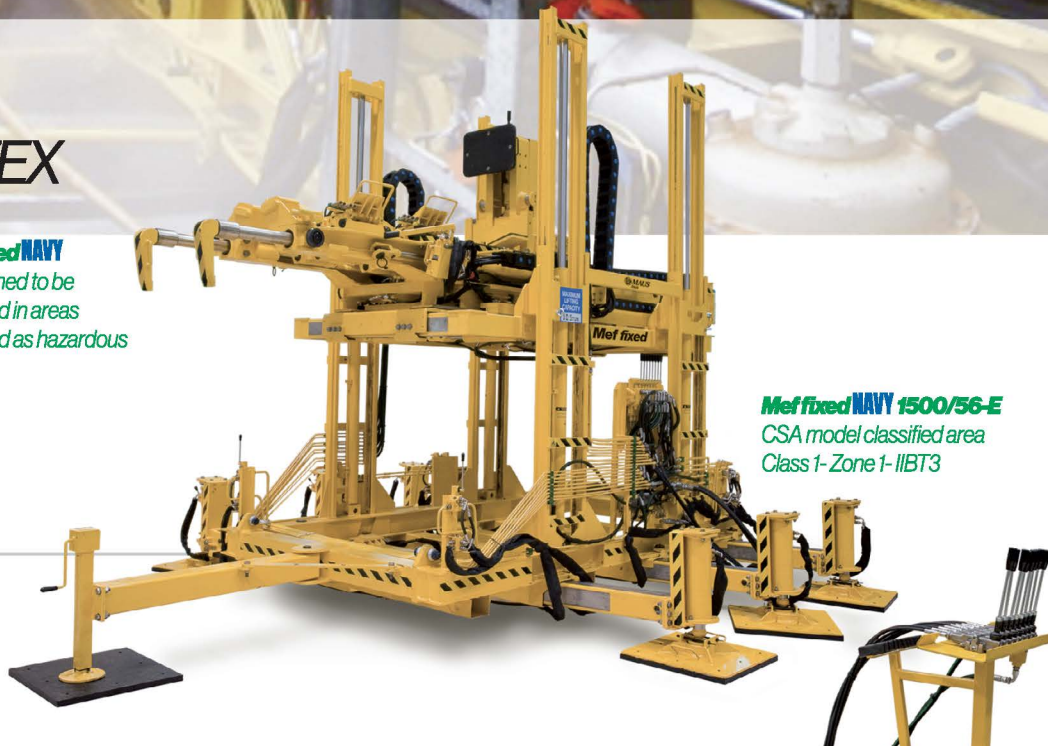
Customized



ATEX

**Mef fixed NAVY**  
is designed to be  
operated in areas  
classified as hazardous

82



**Mef fixed NAVY 1500/56-E**  
CSA model classified area  
Class 1- Zone 1- IIBT3

## Mefixed NAVY

Fixed tube bundle puller, remote controlled for extraction of tube bundles (off-shore).



**Mefixed NAVY** fixed tube bundle extractor, suitable for ocean platforms and FPSO installations.

This is a simplified version of the **Mefimobil NAVY**, designed and manufactured to meet the specific demands for safety and off-shore manoeuvrability.



*In order to reduce the dimensions and weight of the **Mefixed NAVY** the motor and the hydraulic device are assembled in a separate unit*



Available  
skid-mounted or  
trolley-mounted

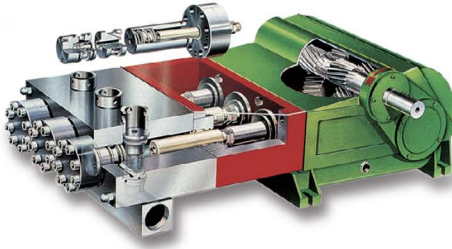


**Idroscal NAVY**  
ATEX certification  
on request

*Idroscal pumps can be supplied on request on the NAVY model with suitable motors for working areas classified as hazardous (complete with ATEX conformity declaration)*



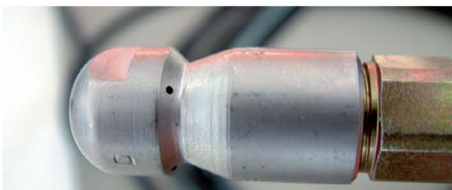
Diesel and Electrical version



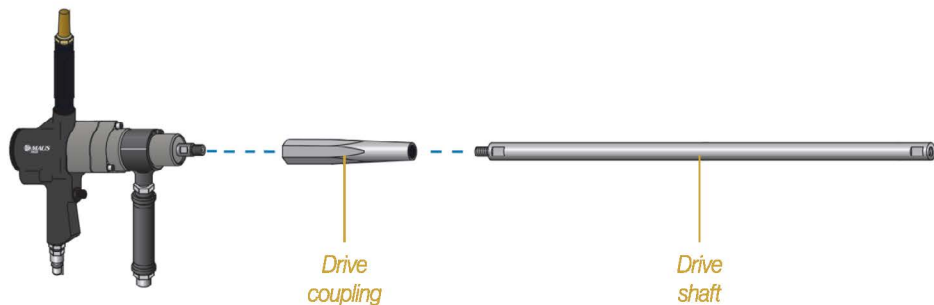
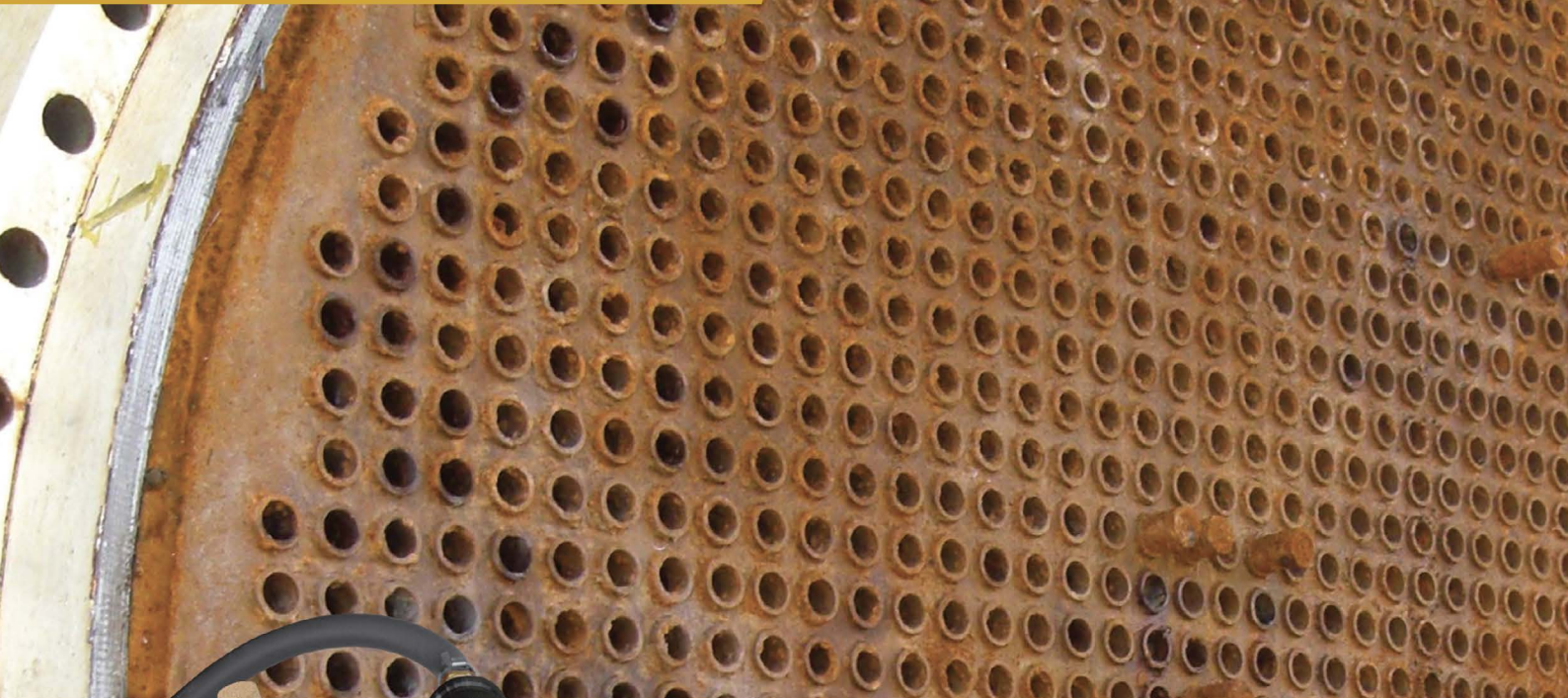
## Idroscal

Hydrodynamic pump unit with Electric motor or Diesel engine for cleaning of heat exchangers with high pressure water.

**Idroscal** hydrodynamic pump unit model supplied with Electric motor or Diesel engine for the cleaning of heat exchangers with high pressure water as per Customer requirements / needs.



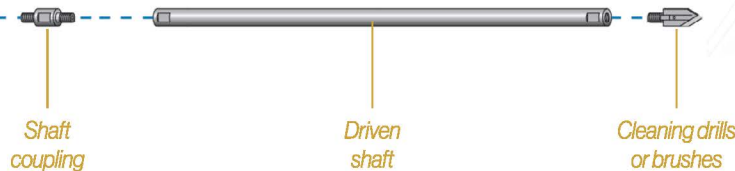
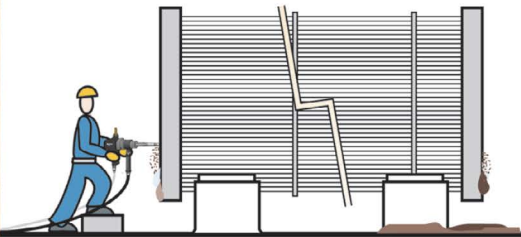
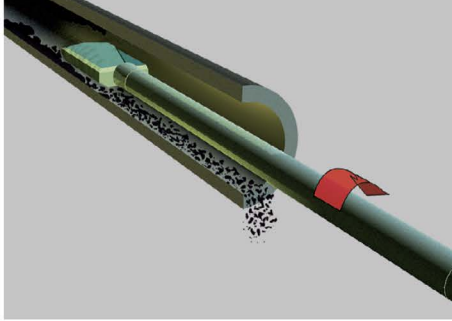
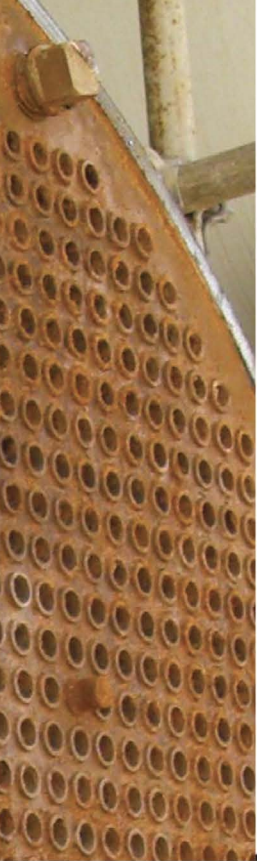
Soundproof version



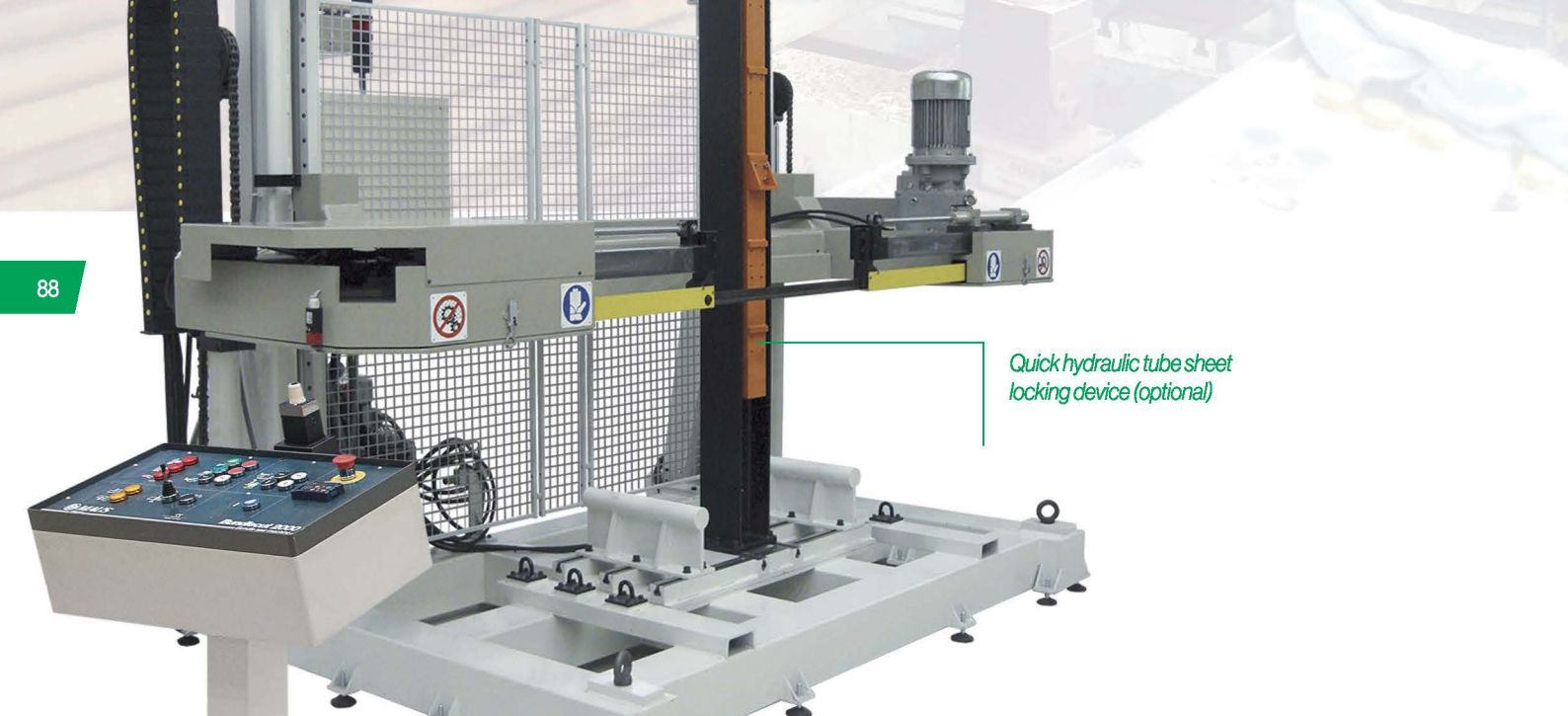
## **Hardscal**

Pneumatic shaft tube cleaners for tube bundle heat-exchangers.

The pneumatic shaft tube cleaners with tool water cooling system are the simplest and most effective solution to clean heat exchanger tubes even when completely blocked; the continuous flow of water (max pressure 20 Bar - 290 psi) through the holes in the tools provides cooling during the process and aids drainage of the material removed from the tubes.



*Healthy environment  
High safety  
High productivity*



*Quick hydraulic tube sheet  
locking device (optional)*





*Fence / Barrier for safety*

## **BundleCut2000**

*Up to 78"  
(2000 mm)*

## **BundleCut3000**

*Up to 118"  
(3000 mm)*

*Precision  
Anystubs  
that are still  
attached to the  
tube sheet are  
not deformed  
and are easy to  
remove*



## **BundleCut**

Bundle saw machine for dismantling heat-exchangers.

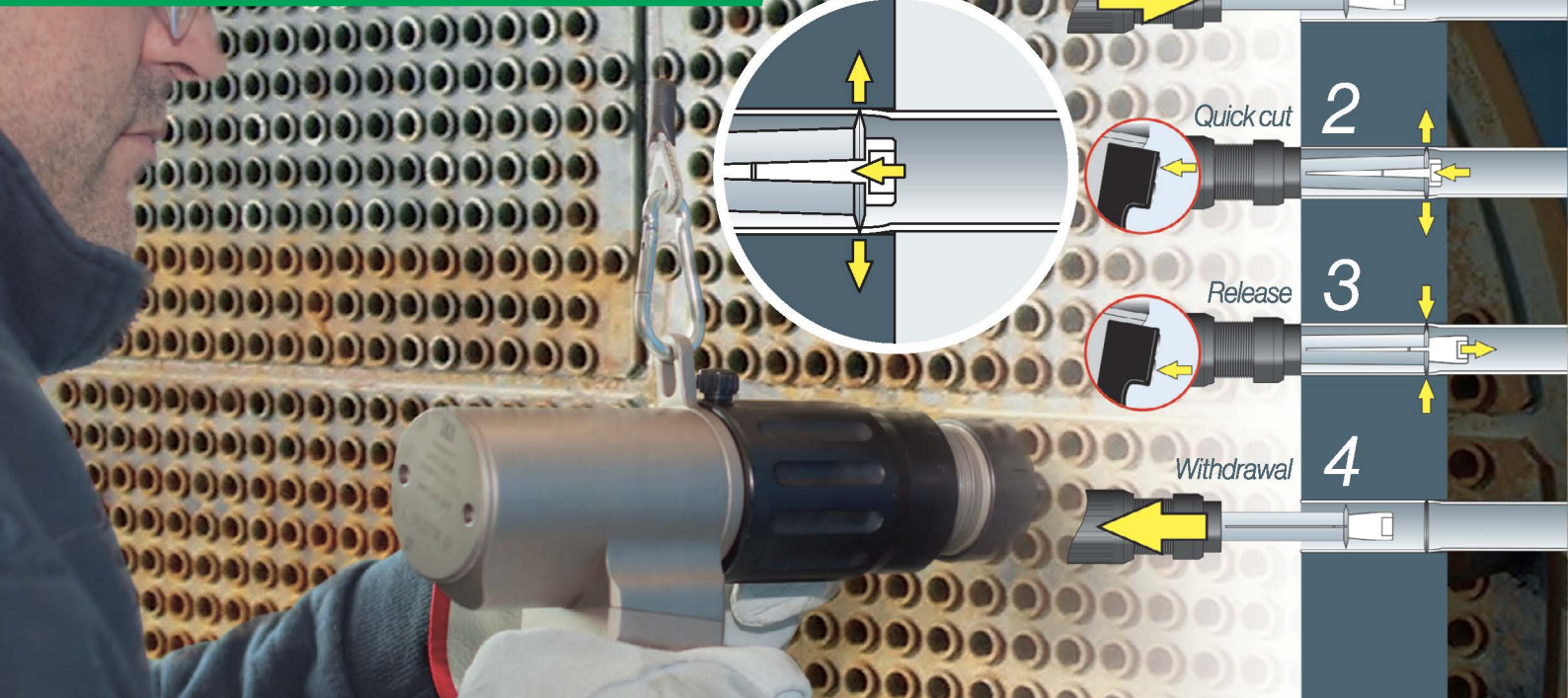


The solid construction of its electro-welded structure, the use of precision guides and pads and a number of fundamental devices make this machine an innovation to be included in any modern heat exchanger maintenance workshop.

The quality of the mechanical band cutting, in replacement of oxygen cutting, eliminates pollution from combustion gas and protects tube sheet holes against scratching during extraction of the stubs.

**BundleCut**, in tandem with the quick attaching gripper tube puller of the **Grippul** series, facilitates and significantly speeds up tube sheet recovery.





Insertion

1

Quick cut

2

Release

3

Withdrawal

4

90



**KattexCut 12**

From 1" to 4"  
(25,40 to 101,60 mm)



**KattexCut 6**

From 1/2" to 1 1/2"  
(12,70 to 38,10 mm)



## KattexCut

Hydraulically-operated tube cutter (before **Grippul**) for heat-exchanger and boilers.

Innovative patented device which is hydraulically operated for instantaneous internal cutting of tubes.

The **Kattex** ensures a clean result in a short time for dismantling or partial retubing during maintenance.

### TP2E

Electrical hydraulic pump unit

### TP2P

Pneumatic hydraulic pump unit



Cutting  
without shaving





**F794**



**MBOS16-2**

Portable  
electric drill



**MOF**

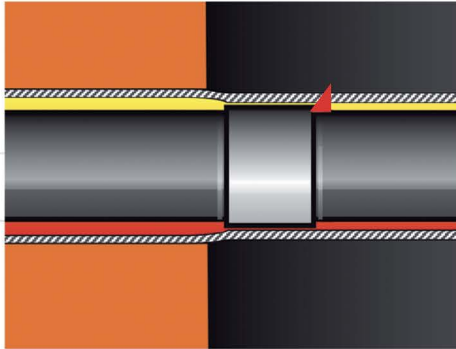
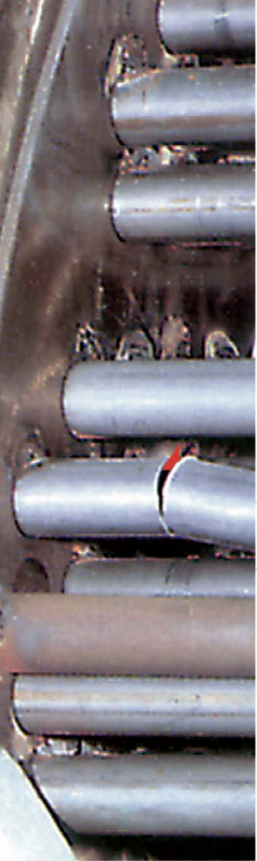
Portable  
pneumatic drill





## F794 F794L

Tube cutters for medium and thick tube sheets.



Model **F794** and **F794L** tube cutters are the traditional solution for internal tube cutting.

The tube cutters are driven by pneumatic **MOF** or electric **MBOS16-2** motors.

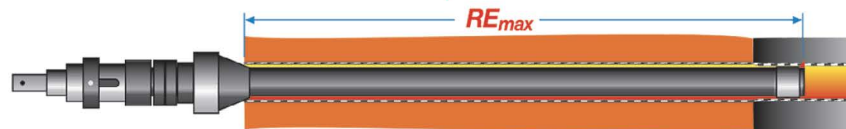


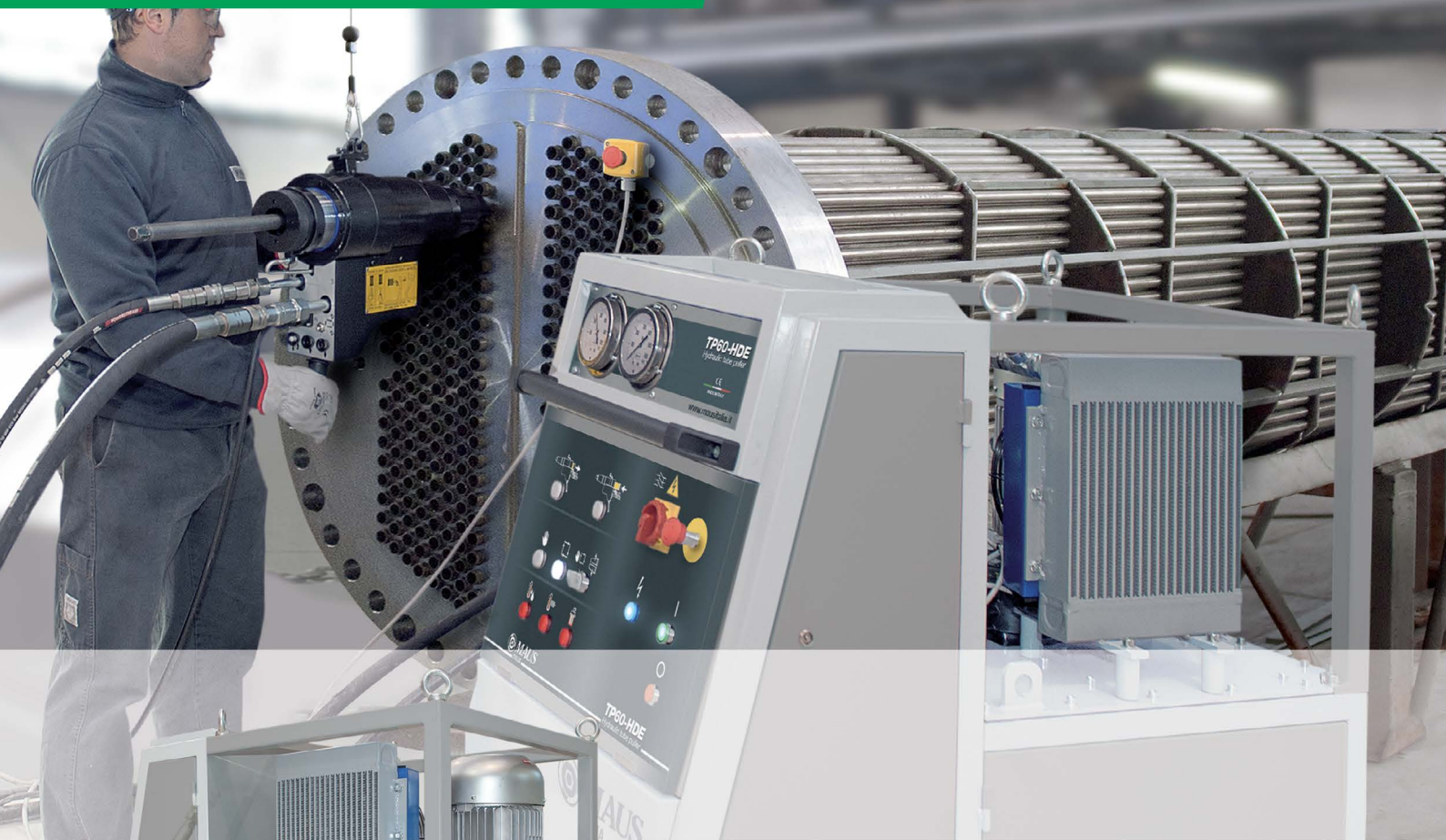
**F794**  
Up to  
1 1/2"  
(38,10 mm)

**RE<sub>max</sub>**  
Up to  
6"  
(152,40 mm)

**F794L**  
Up to  
1 1/2"  
(38,10 mm)

**RE<sub>max</sub>**  
Up to  
12"  
(304,80 mm)





**TEFC Electrical motor**  
**"Totally Enclosed Fan Cooled"**

An upgrade of the previous version, the **TP60HDE** electrical hydraulic unit is now available with a 7.8 Kw electric motor to ensure continuous maximum pressure in heavy maintenance applications.

**Hydraulic oil Fan-Cooled radiator**

The increase of the cooling unit is a further contribution to guarantee a constant power.



## TP

Electrical, Pneumatic and Manual hydraulic units.

Range of hydraulic units capable of satisfying various needs depending on the type of use: from the simple replacement of tubes to the more demanding applications of large scale maintenance work.



*High quality  
No damage to holes  
in the tube sheet*



*Stub pullers*



**Grippul 11**

From 1/2" to 1 1/2"  
(12,70 to 38,10 mm)

**Grippul 21**

From 1" to 2 1/2"  
(25,40 to 63,50 mm)





The **ABTS** (Anti-Breaking Tie-Rod System) allows the force with which the jaw penetrates the tube to be adjusted to suit the tube's diameter and the material from which it is made



The electric **OPS** (Over Pressure Switch) cuts off hydraulic fluid delivery when the piston reaches the end of its stroke, preventing unnecessary overpressure in the system



The **RC24** remote control beside the knobs simplifies and speeds up stub extraction. The remote control is fitted on both pneumatic and electric versions



The **RSR** (revolving support ring), on which the **Grippul** is suspended during use, allows optimal positioning in the tightest of spaces

## Grippul

Quick hydraulic stubs pullers.

The **Grippul** series of quick attaching gripper tube pullers is designed for the rapid extraction of tube stubs from tube sheets. In tandem with **BundleCut** or **Kattex**, they facilitate and significantly speed up the tube sheet recovery.

### TP10E

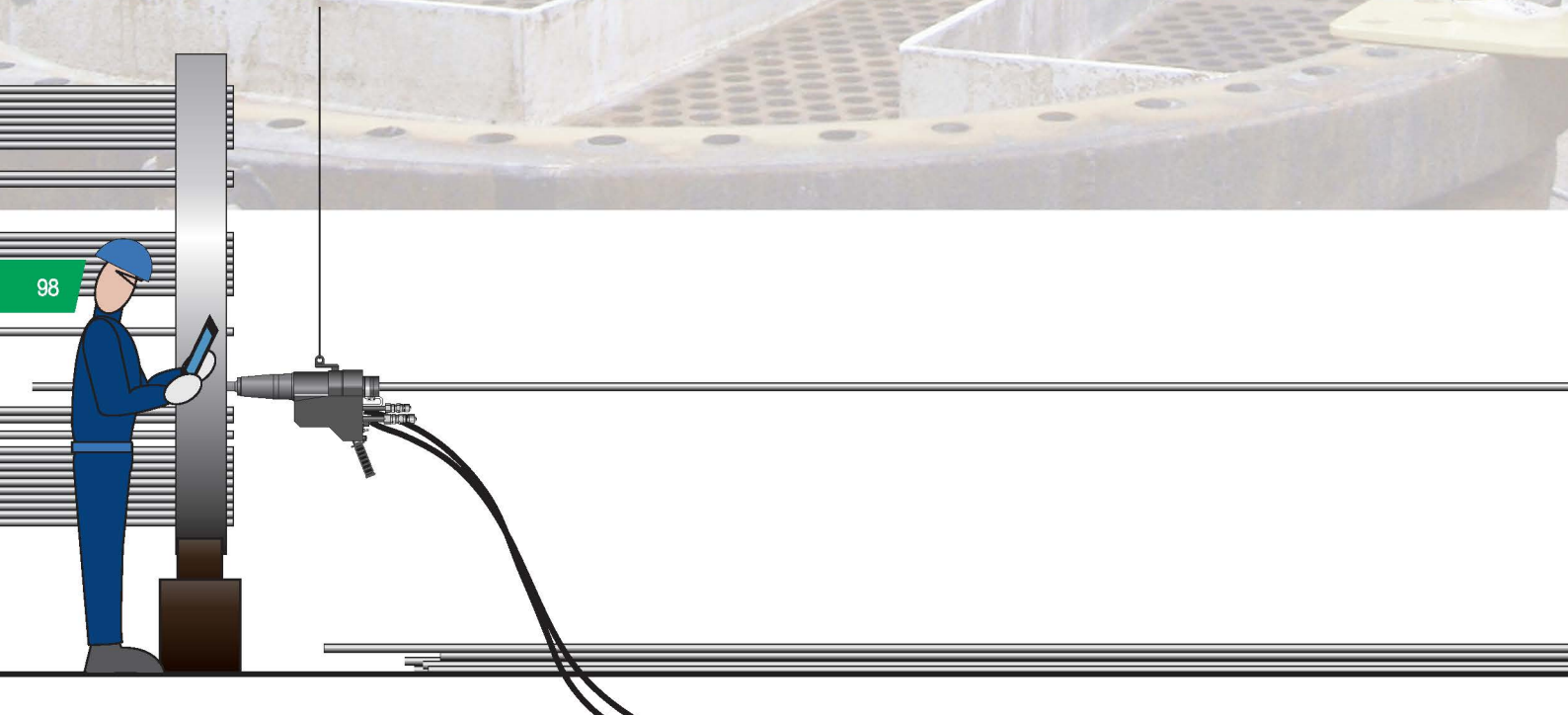
### TP10P

Electrical and  
pneumatic  
hydraulic  
pump unit



Standard supply  
**Grippul**  
Set of spare gaskets  
Service wrenches set  
Pressure gauge  
Instruction manual  
2 hydraulic hoses







The **USD** (Unclamping System Device) is an emergency hydraulic device for unlocking jaws which have been jammed on to the tube due to rust, etc



The electric **OPS** (Over Pressure Switch) cuts off hydraulic fluid delivery when the piston reaches the end of its stroke, preventing unnecessary overpressure in the system



The **RC24** remote control beside the knobs simplifies and speeds up tube extraction. The remote control is fitted on both pneumatic and electric versions



The **RSR** (revolving support ring), on which the **Runpul** is suspended during use, allows optimal positioning in the tightest of spaces



## Runpul

Automatic hydraulic tube pulling for continuous high speed extraction of tubes suitable for large scale maintenance work.

Hydraulic tube puller with double jaws, for automatic continuous tube pulling at high speed.

Suggested for large scale maintenance work on condensers and heat-exchangers.

**Runpul 15** from 3/8" to 1 1/8 (9,52 to 28,58 mm)

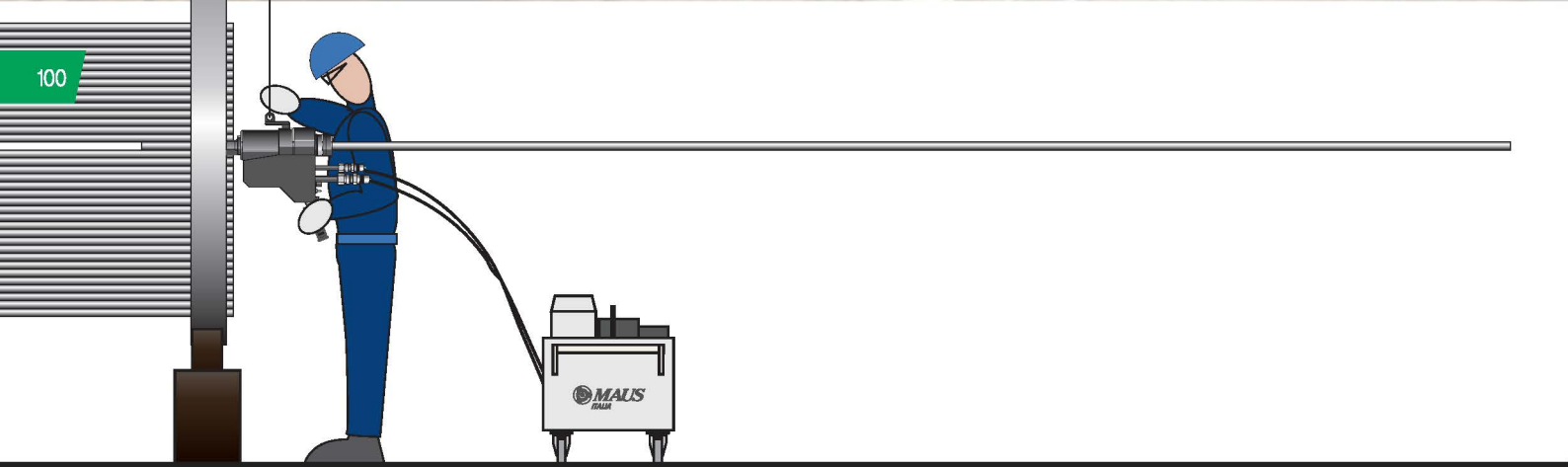
**Runpul 30** from 3/8" to 1 1/4" GAS (9,52 to 42,40 mm)

**Runpul 45** from 1" to 3" (25,40 to 76,20 mm)

**Runpul 60** from 2" to 4" (50,80 to 101,60 mm).



# Tube extraction





The **RC24** Remote Control beside the knobs simplifies and speeds up tube extraction. The remote control is fitted on both pneumatic and electric versions



The **RSR** (Revolving Support ring), on which the **Onlypul** is suspended during use, allows optimal positioning in the tightest of spaces



## Onlypul

Semi-automatic hydraulic tube pulling for small scale maintenance work.

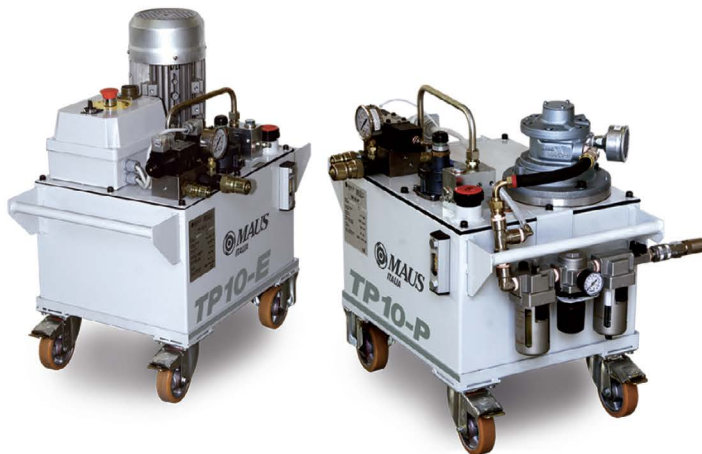
Hydraulic tube puller semiautomatic continuous extraction.  
Suggested for small scale maintenance work.

**Onlypul 15** from 3/8" to 1 1/8" (9,52 to 28,58 mm)

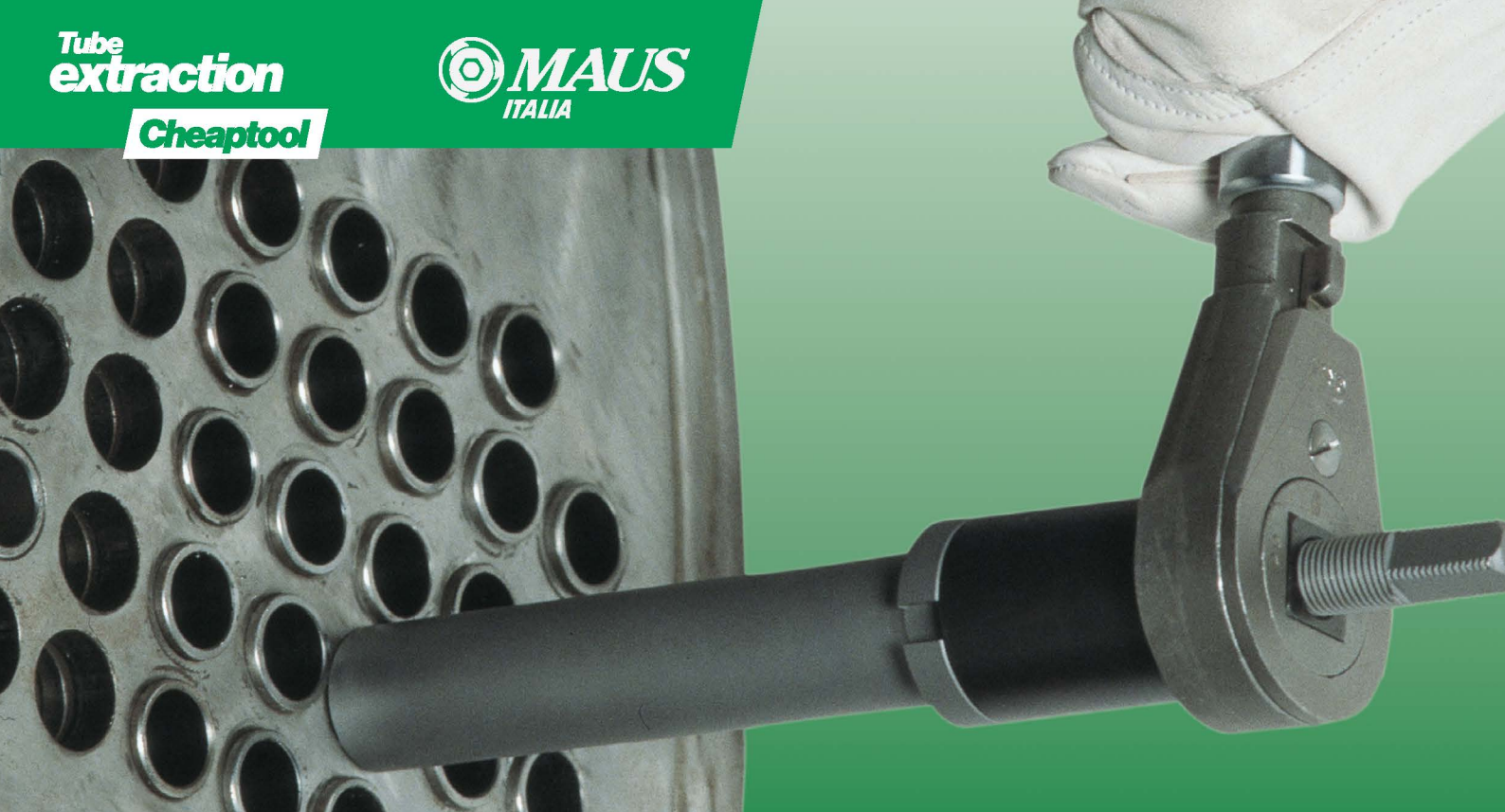
**Onlypul 30** from 3/8" to 1 1/2" (9,52 to 38,10 mm)

**Onlypul 45** from 1" to 3" (25,40 to 76,20 mm)

**Onlypul 60** from 2" to 4" (50,80 to 101,60 mm)



Standard supply:  
**Onlypul**  
Transport case  
Set of spare gaskets  
Service wrenches set  
Instruction manual  
2 hydraulic hoses



**TPMM**  
Mandrel

**TPCM**  
Collar

**F800**  
Manual extractor



**F790**  
One revolution tube cutter





## **F789 F/790 F/791 F/792 F/793 F/800**

Tools for manual maintenance of  
heat exchanger tubes.

**Cheaptool** is a complete system produced by Maus Italia for the manual, low-cost maintenance of tubes in heat exchangers in oil refineries, condensers in electric power stations, boilers, etc.

### **F791**

Tube reamer



### **F793**

Tube expeller



### **F792**

Tube collapsing tool



### **F789**

Pneumatic hammer









## *Integrated quality, environment and safety policy for its own success and that of its Customers*

*Maus Italia is fully aware that a responsible economic strategy should be targeted towards preventing quality and environmental problems deriving from its activities. It also considers the protection of health and safety at work as a fundamental and indispensable aspect of overall company management.*

*Maus Italia recognises that the continuous improvement of its own performance in terms of quality, environment and safety at work leads to significant commercial and economic advantages that at the same time satisfy customer expectations and lead to an environmental improvement in the territory where the company works and safety at its work sites.*

*Maus Italia therefore is committed to a policy of continuous improvement of its own performance, with the goals of fully satisfying the needs of its customers and other interested parties, and minimising, where technically possible and economically*



*sustainable, all negative impacts on the environment from its activities, formally committing itself to activities for the prevention and protection of everyone at its site in Bagnolo Cremasco (CR).*

*Maus Italia intends to achieve these goals through:*

- ensuring that its own activities are carried out in compliance with current laws and with any accepted codes of practice;*
- implementing and maintaining an effective Integrated Quality, Environment and Safety Management System according to the requirements of the UNI EN ISO 9001, and BS OHSAS 18001 standards;*

- *ensuring that this policy and the relative management system are included, implemented and maintained at all levels of the organisation and that the system is supported by periodical and systematic training activities;*
  - *defining objectives and goals relating to quality, environment and safety at work to be integrated with operative plant management and company development programs;*
  - *doing everything possible in organisational, operative and technological terms to prevent pollution of the water, the air or the ground.*
  - *minimising the use of energy and water and the production of waste and promoting recovery where possible.*
  - *increasing and improving the participation, awareness and skills of those working in the company plants.*
- This policy must be constantly adjusted according to the*

*Company's purposes and must be communicated and understood throughout the organisation. For this purpose, the Management has arranged for the policy, in parallel with the objectives, to be reviewed at least once a year during management reviews. The General Management ensures that companies collaborating with Maus Italia and those working on its behalf have the minimum quality requirements to guarantee services and products that are qualitatively compliant with the company's expectations and that these companies provide evidence of implementation of a continuous improvement and pollution prevention system.*

*This policy applies to the entire organisation and for the activities carried out at the Bagnolo Cremasco site.*



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