

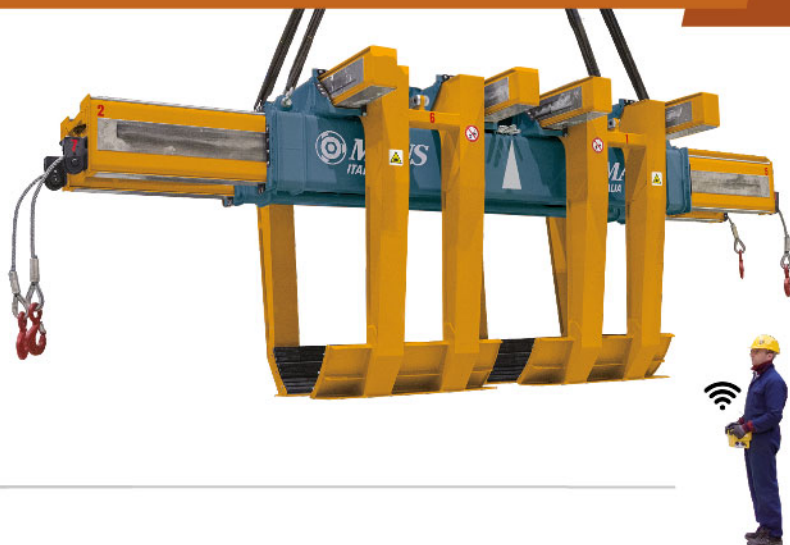


YEARS ANNIVERSARY
OF EVOLVING HISTORY

Products overview



MADE IN ITALY



BundleTutor *lifter* Super

Aerial tube bundle transporter
with adjustable length
for heat exchanger tube bundles

Learn more

72

Mef express HT NAVY

Aerial extractor
for heat exchanger tube bundles

Learn more

80



DNV
ST-0378 | ST-E273
MARITIME



2



BundleCut *Evolution*

Band saw
for the dismantling of tube bundle
and recovery of heat exchanger
tubesheets

Learn more

90



MaTIG 502 **4.0**
INDUSTRY

Automatic positioning
tube to tubesheet
TIG orbital welding system

Learn more

52

Giotto FullControl

Advanced tube-tubesheet
TIG orbital welding system



Learn more

50



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

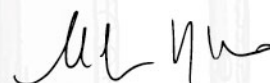
68

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



Eng. Stefano Agostino
CEO

"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 "Stefano Agostino".



Franco and Luisa Agostino
Founders

60TH
YEARS ANNIVERSARY
OF EVOLVING HISTORY

*To Luisa and
Franco Agostino
with affection*

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 devote all his efforts to bring Maus Italia to the top of both the European and global sectors.



ALBERT OTTO OHG
SPEZIALFABRIK FÜR
DRUCKZEUGE

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

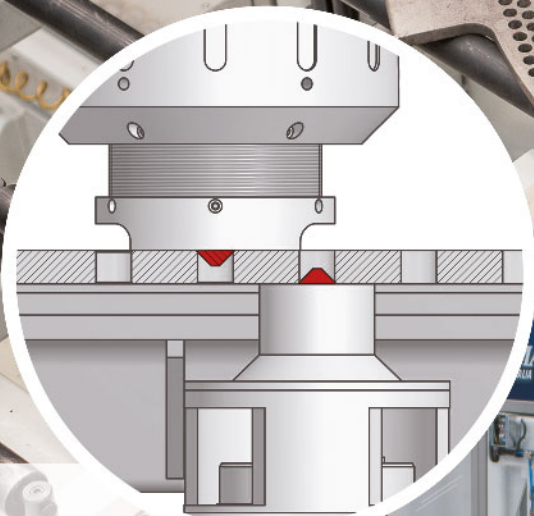
and tube bundle assembly

Automation	10	> Automation and special machine
Control	22	> Tube rolling equipment
Tube expanders	36	> Tube expanders
Tubweld	44	> Tube-to-tube sheet orbital welding
Accessories	54	> Accessories



*For more details,
please request detailed catalogues*

Up to 2000 holes per hour
(4000 flaring)



Baffletech twin 2000

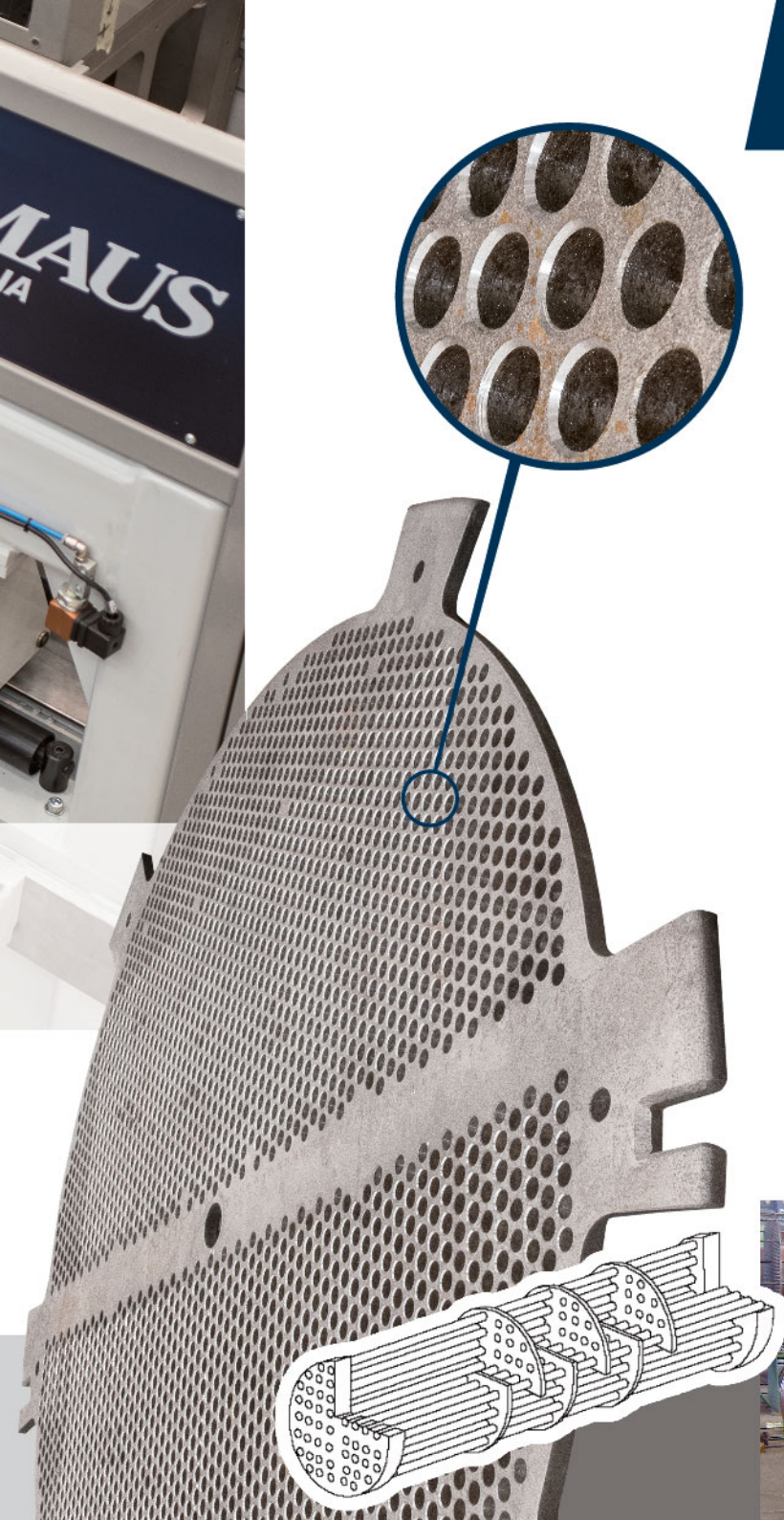


Automatic centre with double head for flaring the holes of the heat exchangers baffle.

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:

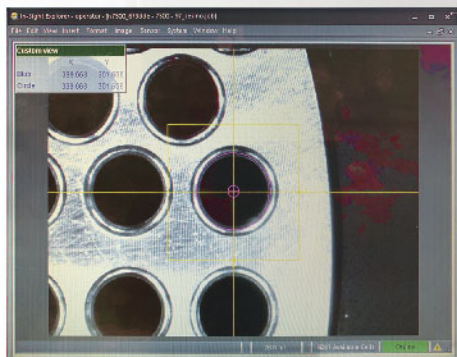
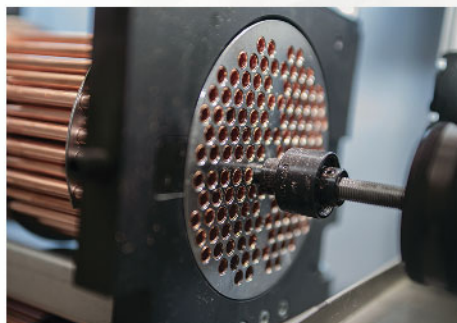
- a uniform depth flare thanks to the special design of the tilting head;
- precise centering of the flare in relation to the axis of the hole due to the innovative self-centring mandrel tool-holder;
- programming of the work sequence using dedicated software developed by Maus Italia.





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





MA-400

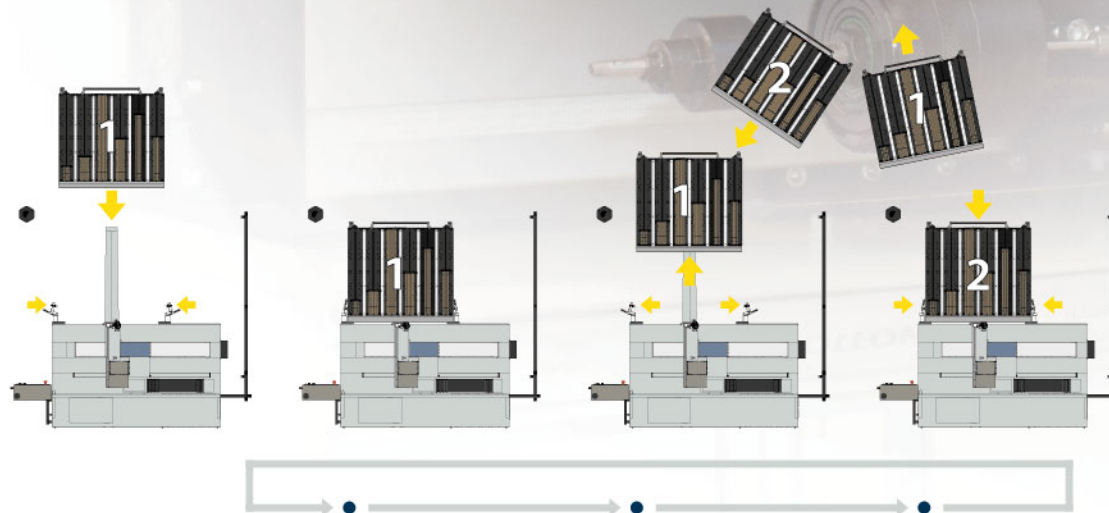


Automatic CNC tube rolling
work centre with machine vision
and pallet change



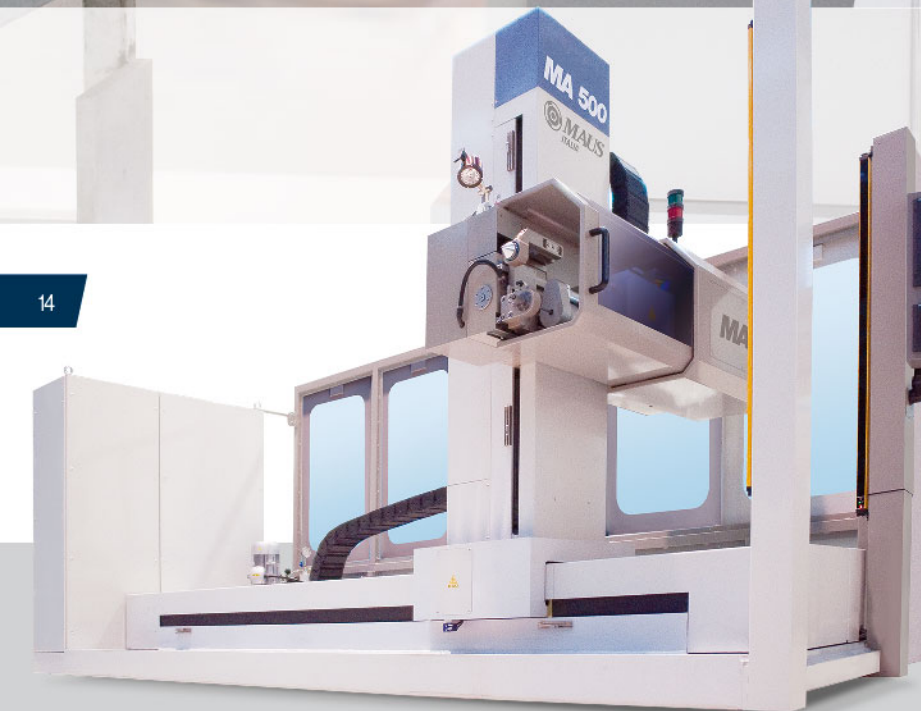
MAUS ITALIA has solved the problem of production of small dimension tube bundle batches with an automatic tube rolling work centre complete with innovative solutions, such as:

- 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.



Free
tubes



Parallel
rolls



Automatic
compensation
of the expansion
limit depth



Mandrel
forward
movement
digital control



Speed
continuous
variation

MA 500



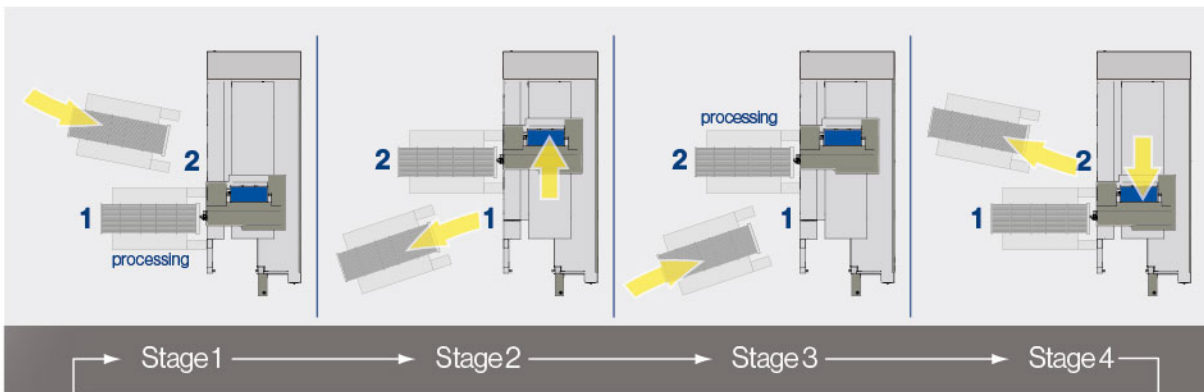
Single axis cnc working centre for rolling and facing ideal for serial production.

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

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



Courtesy of



16



Free
tubes



Parallel
rolls



Automatic
compensation
of the expansion
limit depth



Mandrel
forward
movement
digital control



Speed
continuous
variation

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.

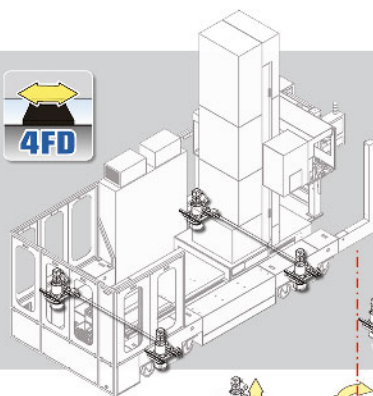
- High technology
- Maximum productivity
- Maximum manoeuvrability



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

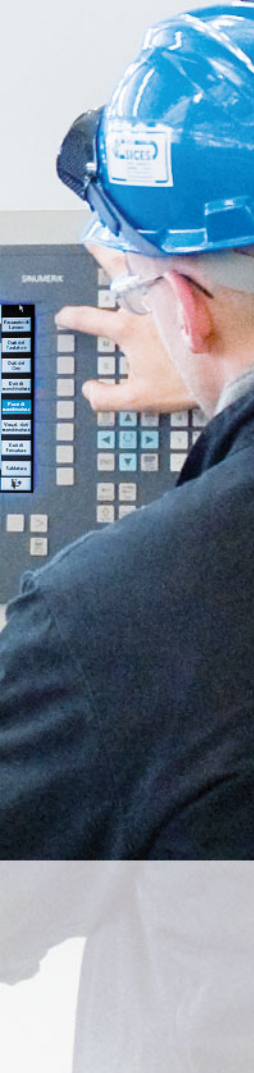
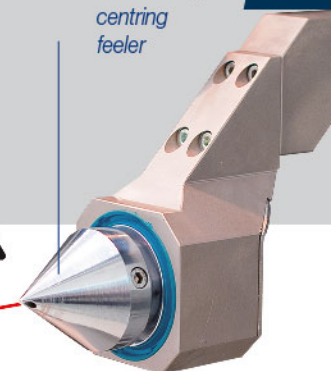


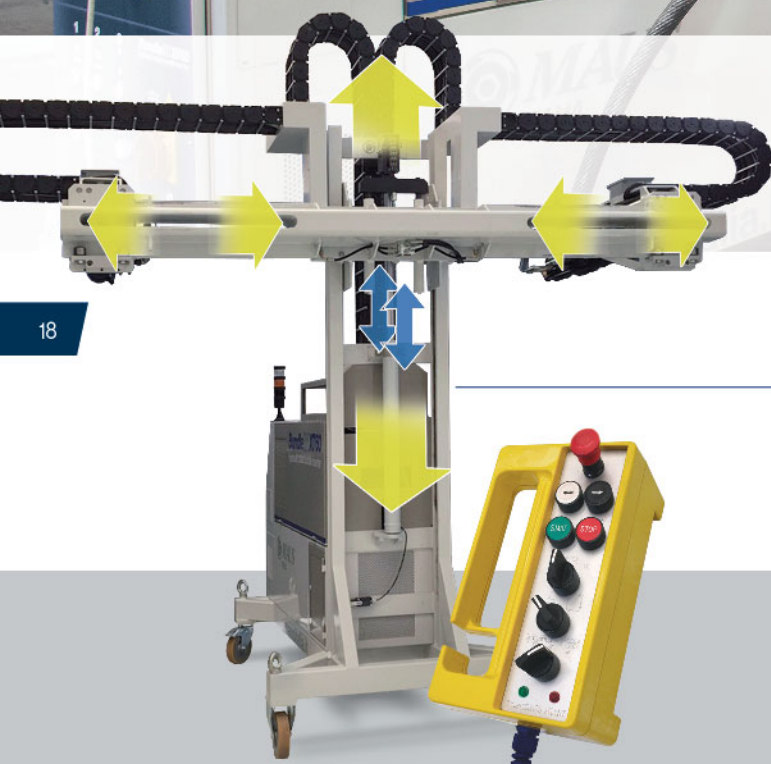
MA 3501
Up to a
tube sheet diameter of
3500 mm (140")



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

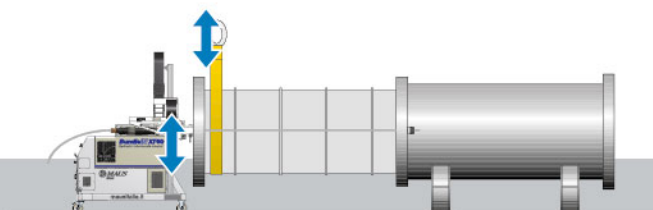
FOCS
self-learning
centring
feeler





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





BundleIN XT60

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

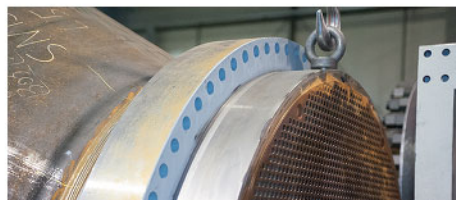
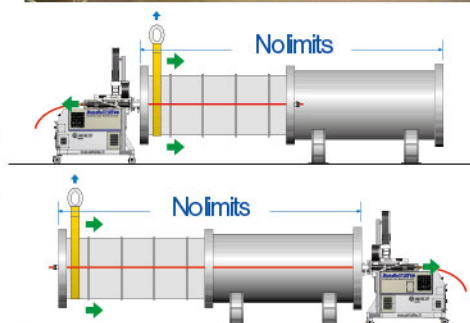
According to heat exchanger manufacturers, the insertion of long and heavy tube bundles floating inside the shells is one of the most challenging steps of the assembly cycle.

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*

MefshopIN

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

The **MefshopIN** 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).

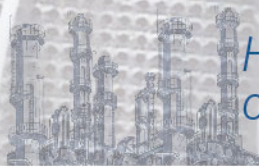


Control

MAUS
ITALIA



*Air conditioner
and air cooler assembly*



*Heat exchanger
on-site maintenance*

22



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



Masterol

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.



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



Quadrol Matex MRP

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



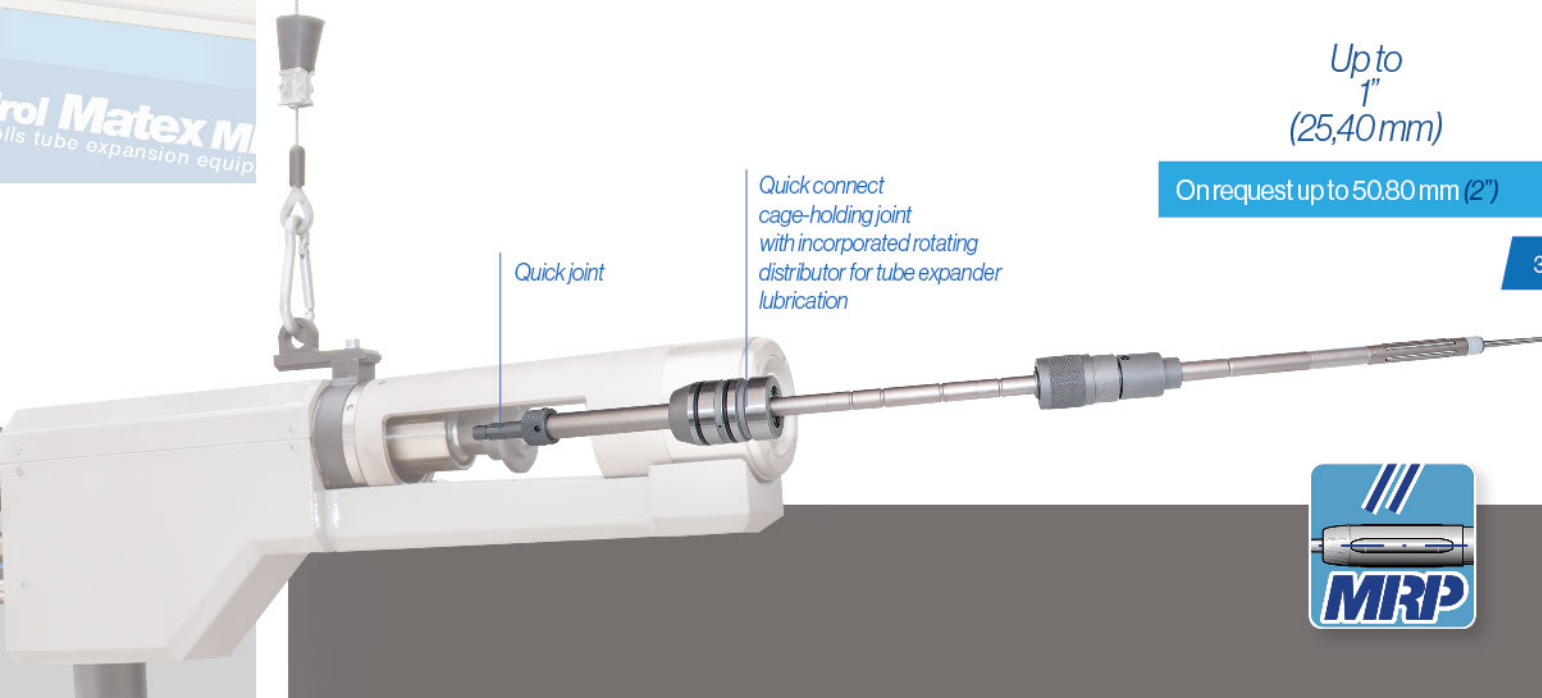
This system is dedicated to the rolling of tubes wherever it is necessary to minimize elongation in the tube and its related stress to obtain a perfectly homogeneous contact between tube and tube sheet across the entire expansion length.

Up to
1"
(25,40 mm)

On request up to 50,80 mm (2")

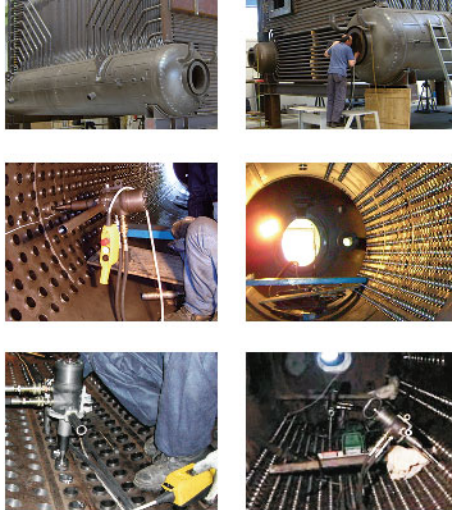
Quick joint

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



*With two simultaneously
operating hydraulic motors*





Hydrol

Hydraulic tube rolling equipment for the expansion of boiler tubes.

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

Hydrol40.2

Professional model, due to its capability to independently handle two portable hydraulic rolling motors, **Hydrol40.2** rolls two tubes simultaneously by controlling oil pressure with a programmed continuous cycle and adjustable speed.

Hydrol40.1

Professional model with a single hydraulic rolling motor.

Hydrol20.1

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

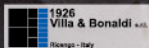
HM

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



Controlled positioning of the tube without contamination

Courtesy of

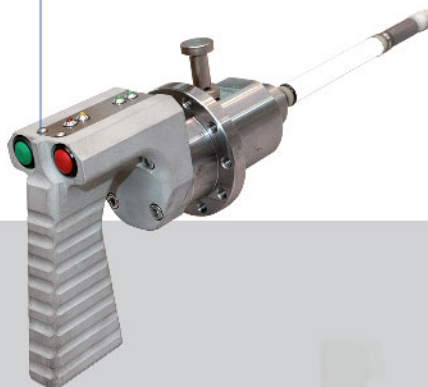


**NO CREVICE
CORROSION**



HDP4001

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



Hydrex

Ultra high pressure water hydraulic system for tube expansion.

Up to
5000Bar
(72500Psi)

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 5003S** 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.

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

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





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).



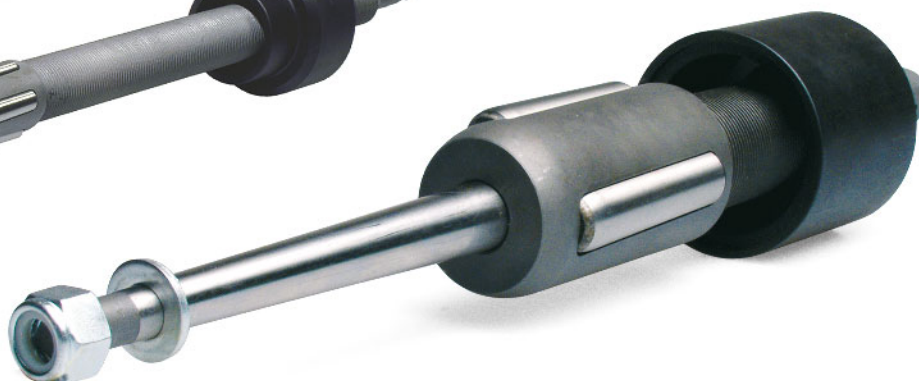
5R

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

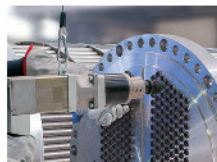
Tube expanders for thick tube sheets and tubes with Ø from 1 3/4" to 3" (44,45 to 76,20 mm).



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

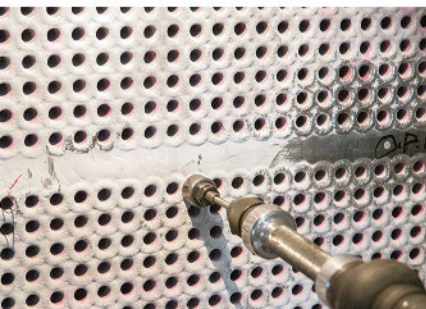
MG1200

With **2.1/4"**
long rolls

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

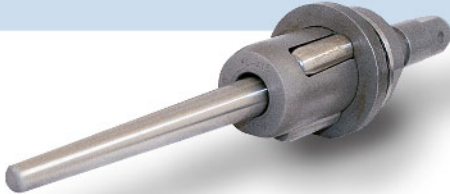


For high thickness tube sheet



BH

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



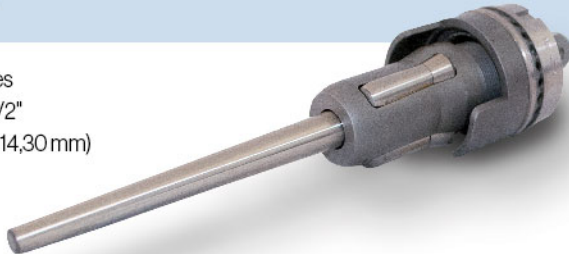
CH

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



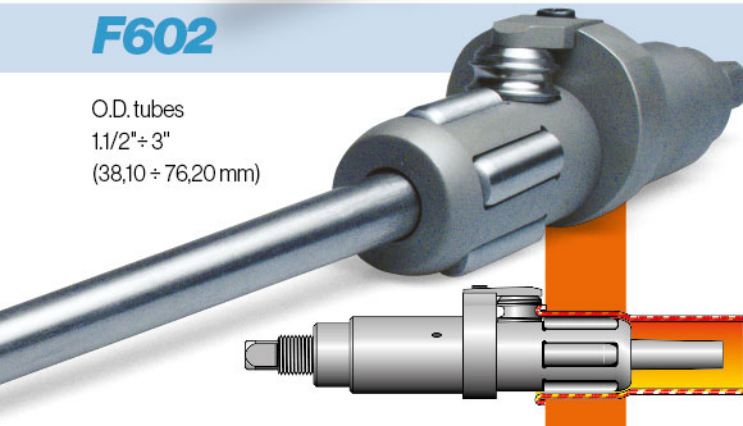
DH

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.

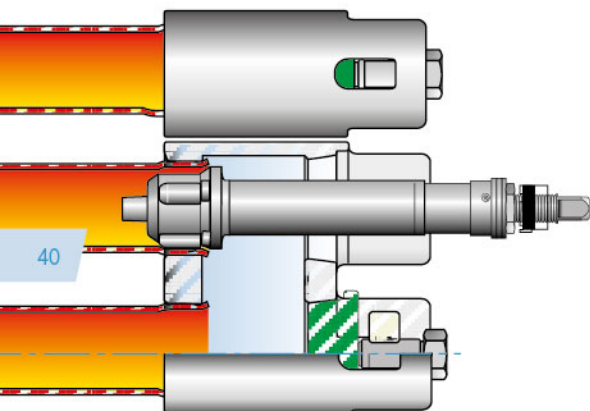
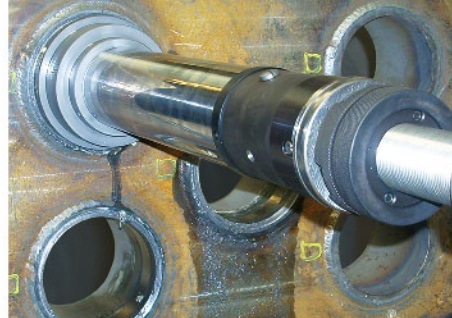
This is the improved version of the **CH-series** which gives a uniform result in rolling and flaring thanks to an adjustable stop.

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

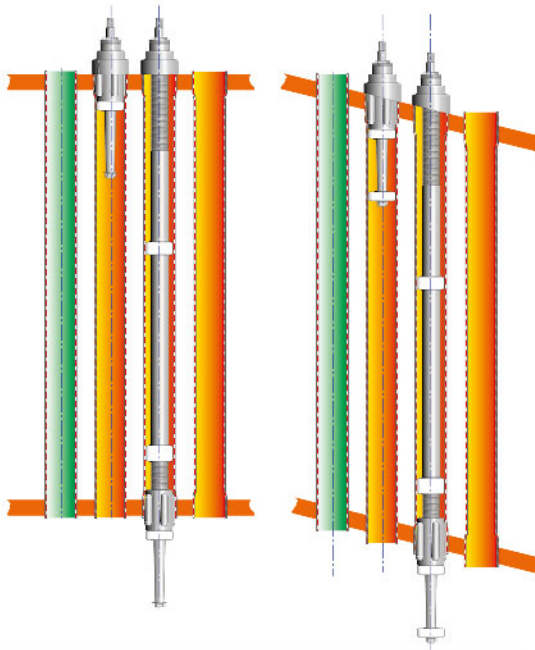
O.D. tubes
ASA from 3" to 8"
(from 88,9 to 219,1 mm)





VP100 SG100

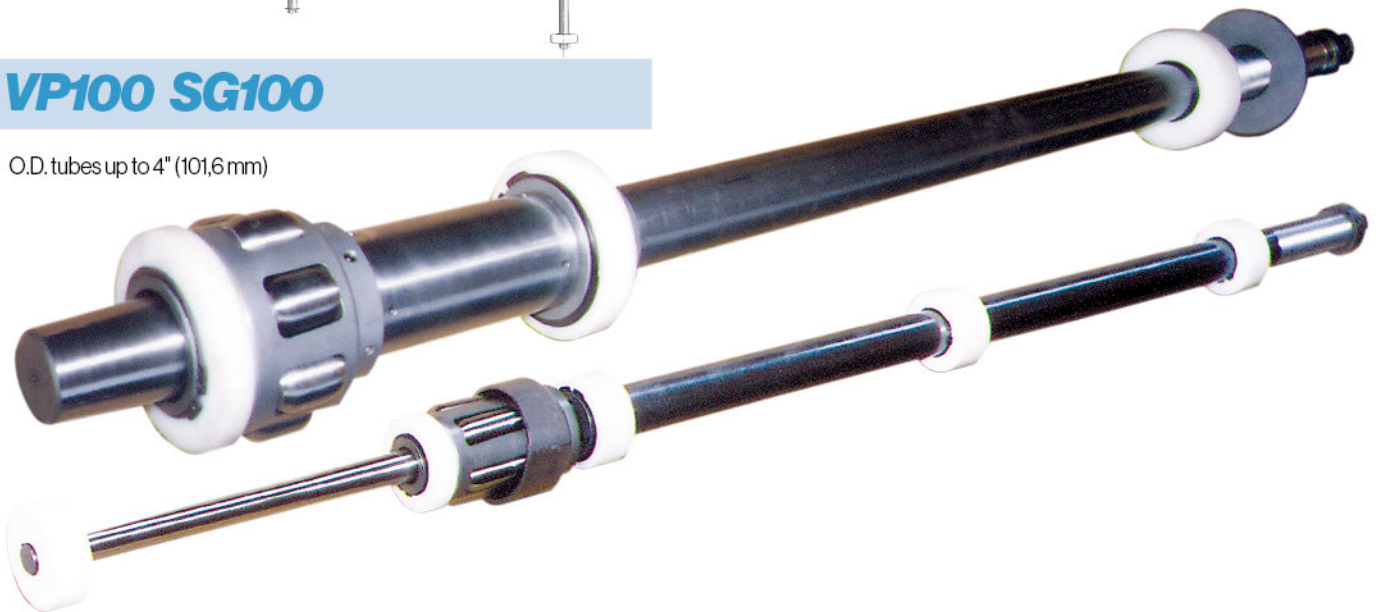
Complete line of tube expanders for sugar production plant vacuum evaporators.



- **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.

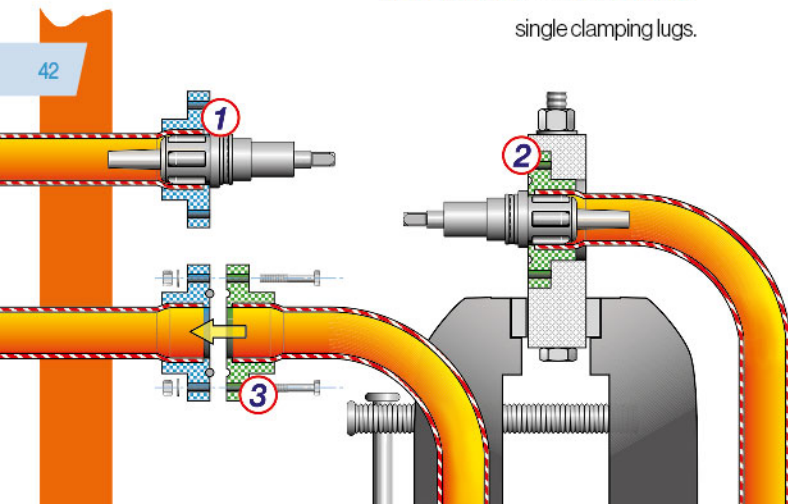


The system consists of:

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)



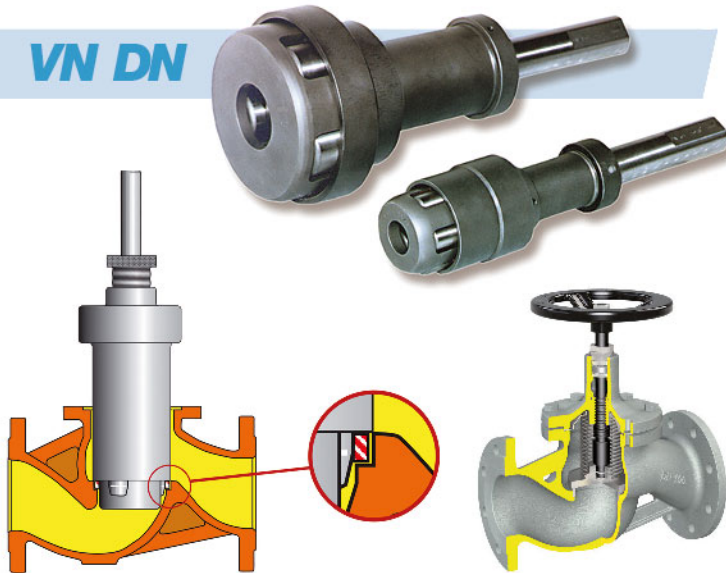
MTT BS



MSS BS



VN DN

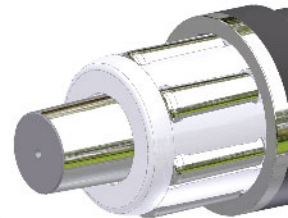


VN DN

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

Special models

For special application.

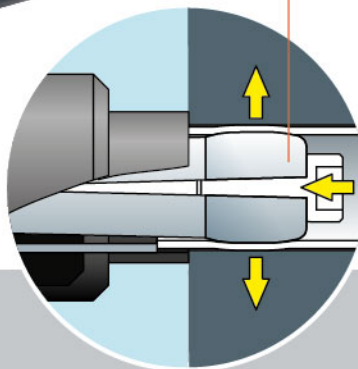


Maus Italia designs and manufactures tube expanders customized for special applications.





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)



KattexFix

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

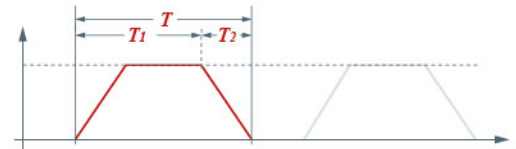
Innovative patented system for the instantaneous locking of tubes using a metal expanding plier.

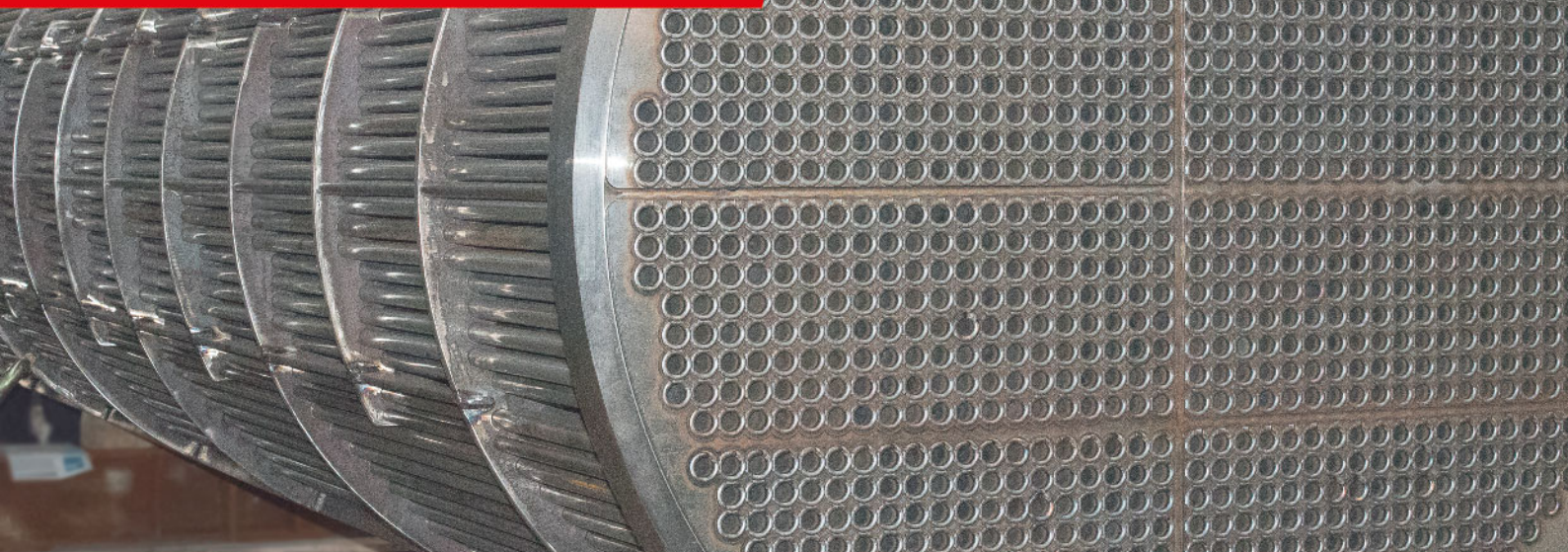
The use of the **KattexFix** ensures a precise result in a very limited time thus increasing job productivity.



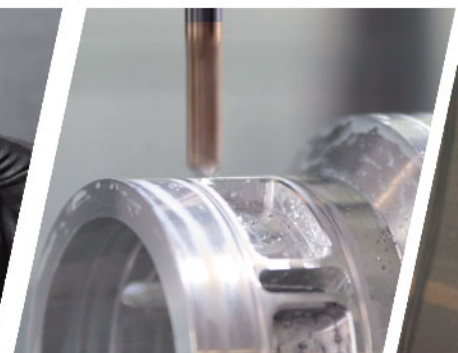
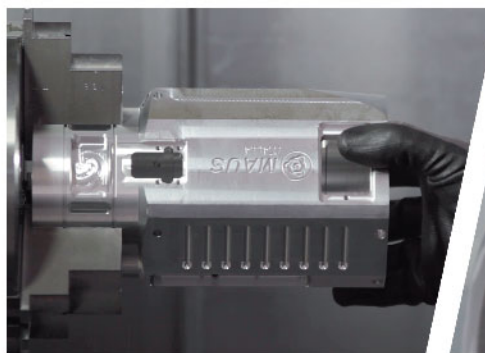
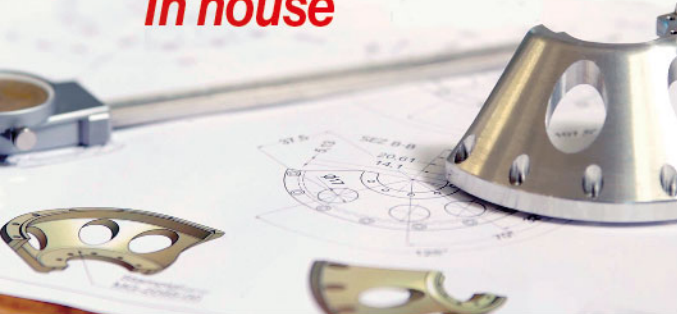
TP2EQ2

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

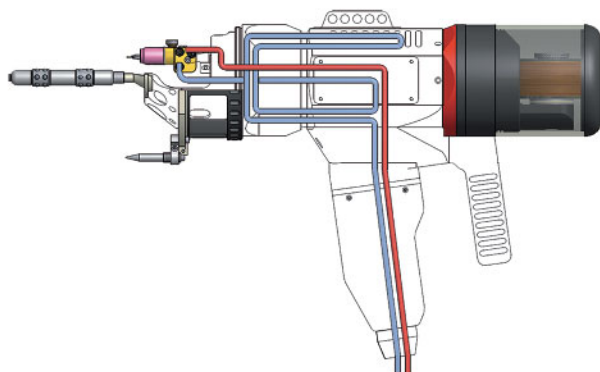




In house

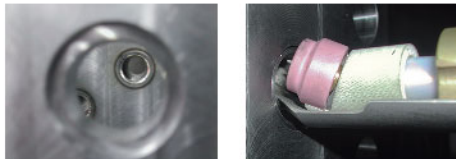
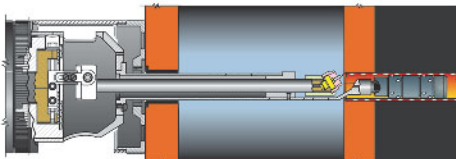
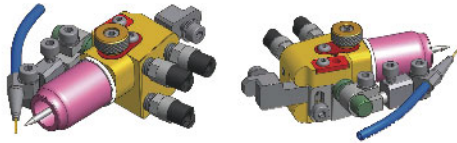


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Giotto 250 B

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



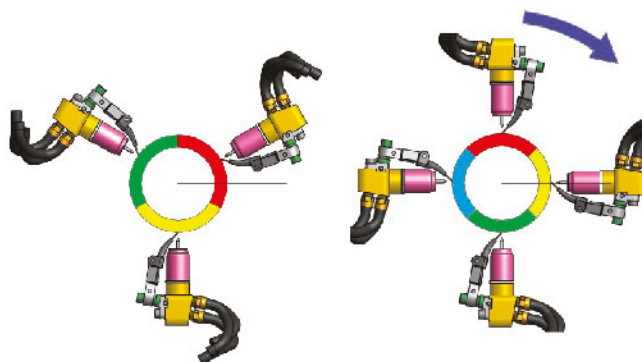
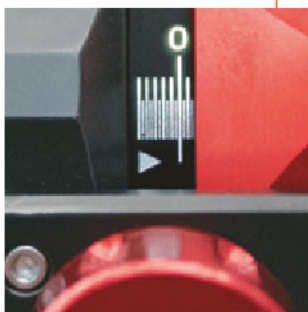
Orbital welding heads for tube-to-tube sheet TIG welding for the manufacture of tube bundle heat exchangers.

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





GiottoBasic

High-quality tube-tubesheet
TIG orbital welding system.



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

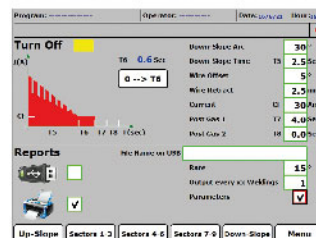
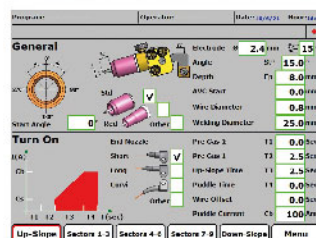
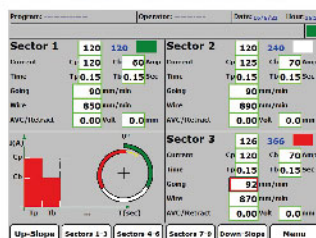
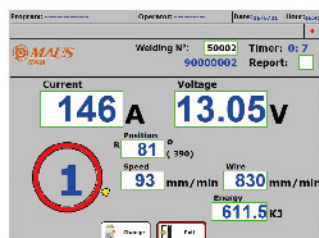
Its in-house design and manufacture has enabled us to optimise the design in order to offer a high-quality system, comprising:

■ **Giotto250B** orbital head for tube-tubesheet TIG welding;

■ **GiottoPower200** inverter generator complete with cooling unit and microprocessor.



*For a total control of
tube-tubesheet TIG orbital welding*



PATENT PENDING
OPTIONAL

MAUS
ITALIA

Tubweld



Argo clamp

TIG orbital welding head
centring and locking system

Giotto FullControl

Advanced tube-tubesheet
TIG orbital welding system



New

MAUS ITALIA presents the **Giotto FullControl** system, top-of-the-range trolley-mounted semi-automatic systems for heat exchanger tube-tube-sheet orbital welding.

In-house design and construction has allowed this product to be optimised, providing a high quality system, composed by:

- **Giotto FC250** orbital head for tube tube-sheet TIG welding;
- **Giotto PG 300** programmer/generator with microprocessor inverter complete with cooling unit and touchscreen interface.

Accessories, options and spare parts to meet every need for welding tubes to the tube-sheet.



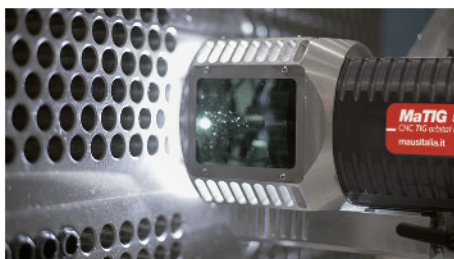
Courtesy of **KOCH**
HEAT TRANSFER COMPANY

52



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

mausitalia.it



MAUS
ITALIA

Tubweld

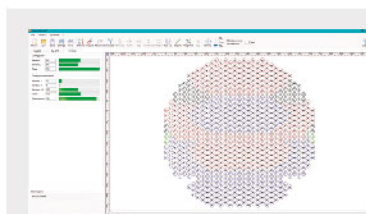
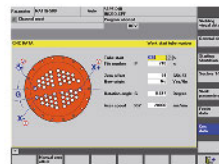
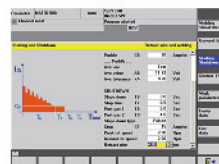
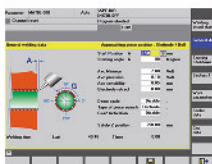
MaTIG 502



Automatic positioning
tube to tubesheet
TIG orbital welding system
for tubes from 1/4" to 2"
(6,35 to 50.80 mm).

MAUS ITALIA presents the evolution of its TIG orbital welding work centre with new functional, ergonomic and aesthetic solutions, in response to practical requests from its increasingly demanding customer base.

With its **Giotto 250 Auto** welding head, graphic interface, **MausCAM** software and many other components of the highest quality, a milestone has been reached in the quality control of the tube-tubesheet welded joint.



MausCAM
Dedicated software for intuitive DXF
programming for the construction of the
tubesheet drilling coordinate matrix.



Dial for
reading in mm



Dial for
reading in inches



F700

Internal mechanical gauge with 2 contact points



F703

Internal digital micrometer with LCD display and 3 contact points





F707 F703 F700

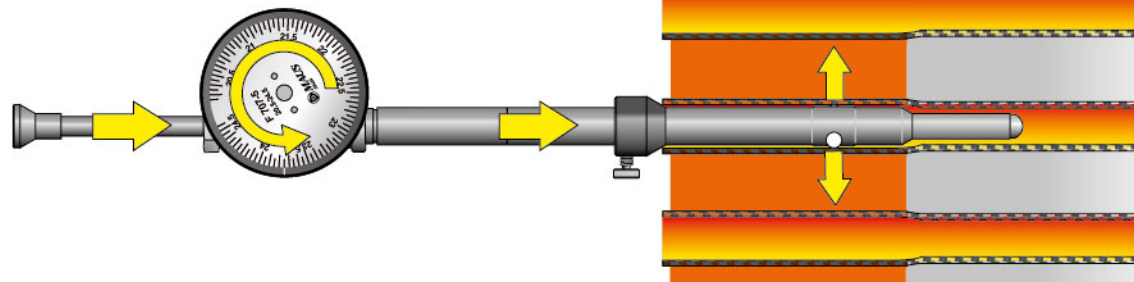
Mechanical and digital instruments for hole measurement.

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
Co 5%



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.

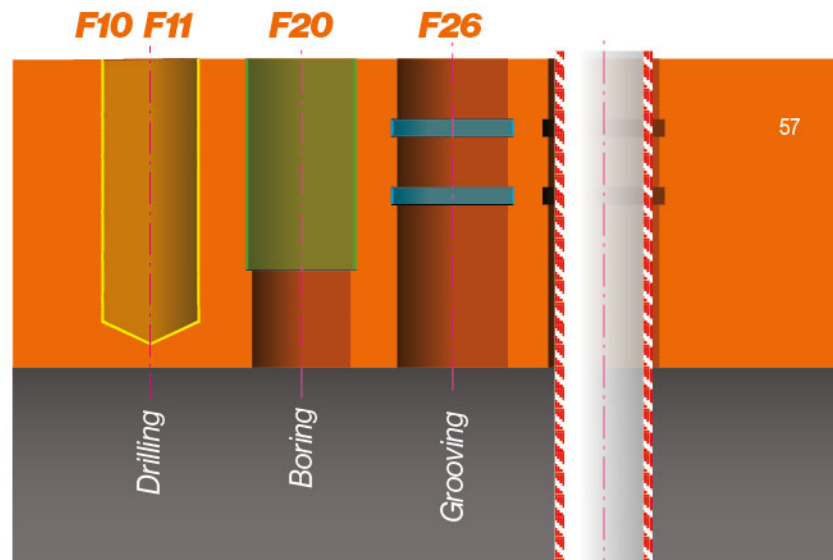
The F26 self-centring grooving tool is equipped with interchangeable HSS-Co 10% cutter

F20

Reamers with Tungsten Carbide tips

F26

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



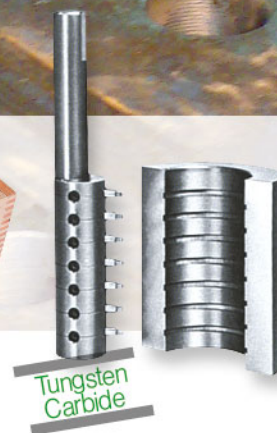
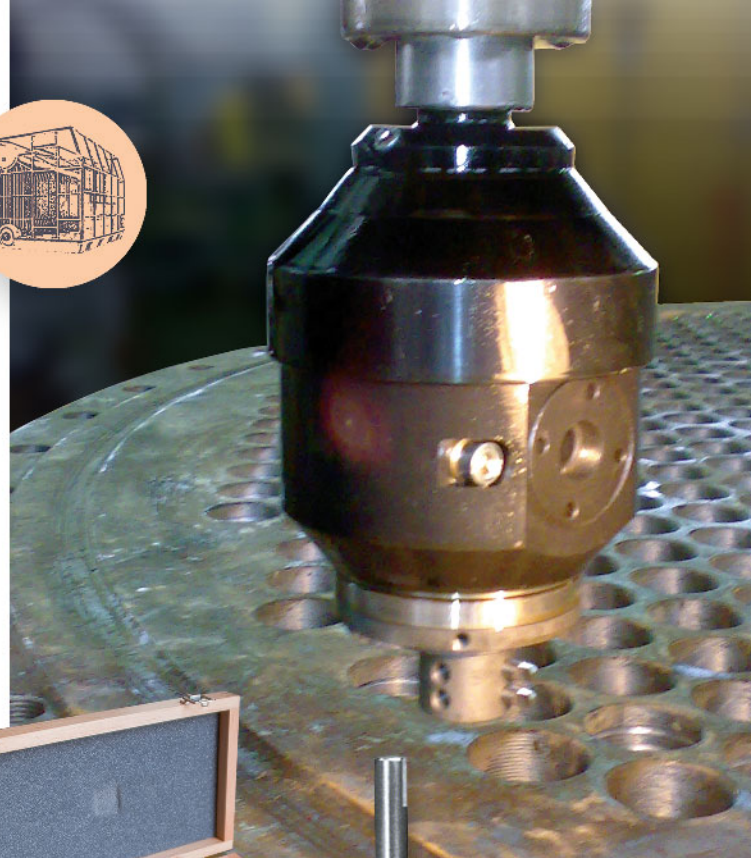
F112 F120

Universal
grooving tools.



F112

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



F120

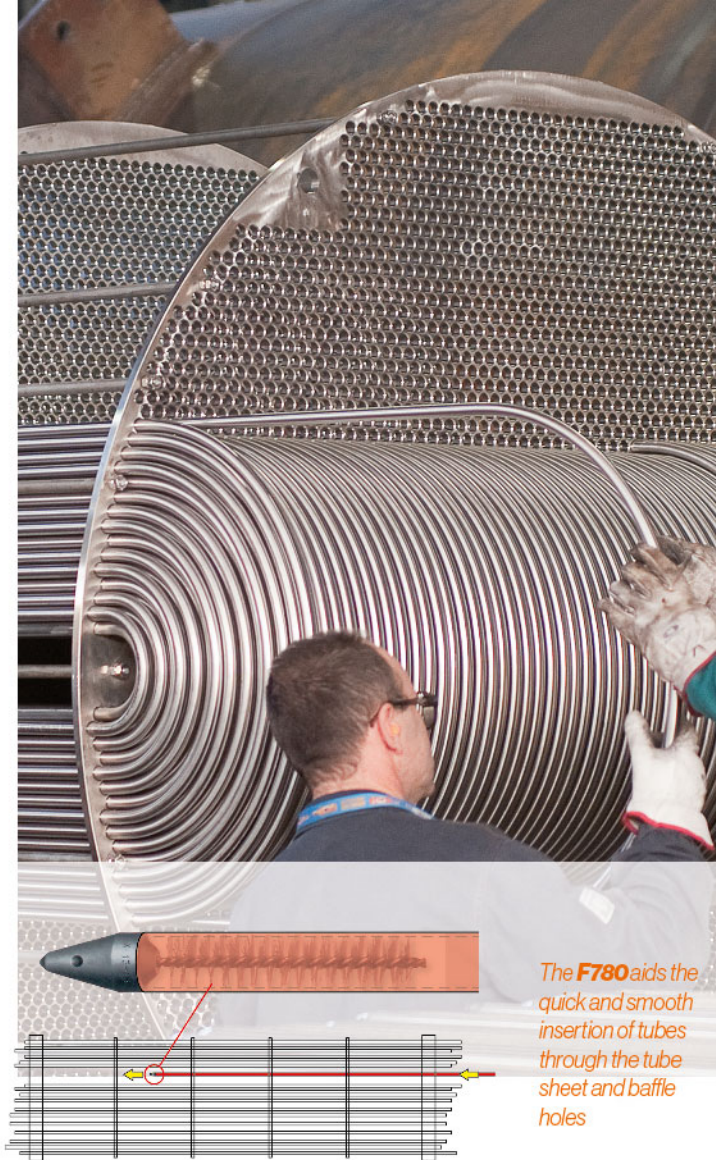
Hydraulic universal grooving tool for
holes up to 120 mm (4.724")

F780

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

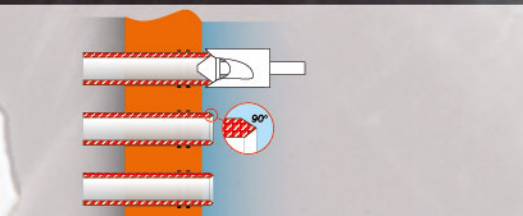
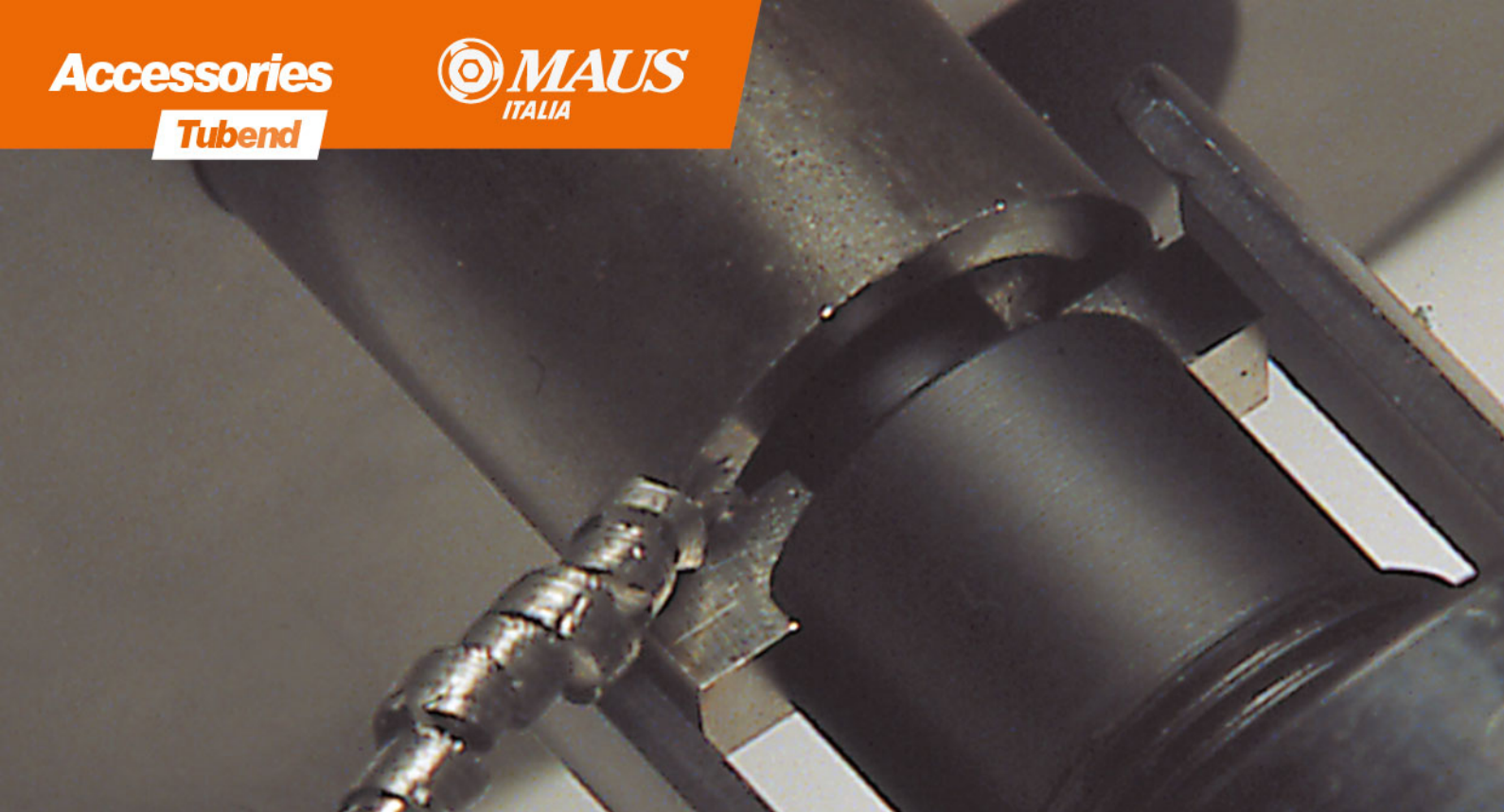
The **F780** series tube pilot comprises an aluminium tapered head (steel, PVC or other materials available upon request) and a nylon brush.

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

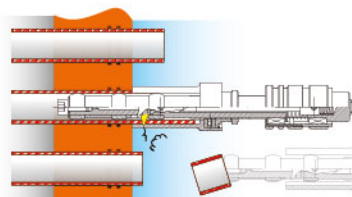


*The **F780** aids the quick and smooth insertion of tubes through the tube sheet and baffle holes*





60



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

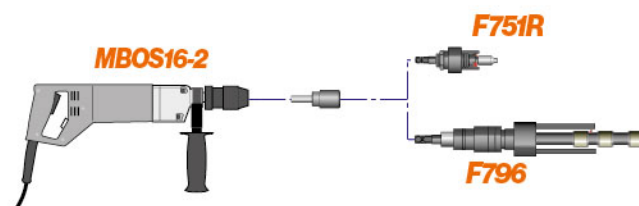
F796 F751R F753 MBOS16-2 MOF

Tube facing tools driven by
electrical and pneumatic motors

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

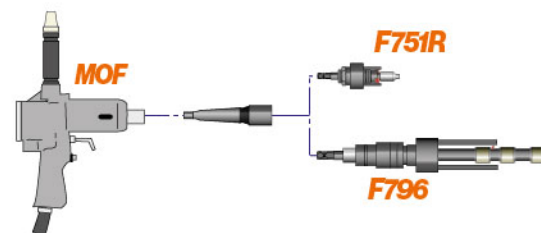
MBOS16-2

Electrical motor



MOF

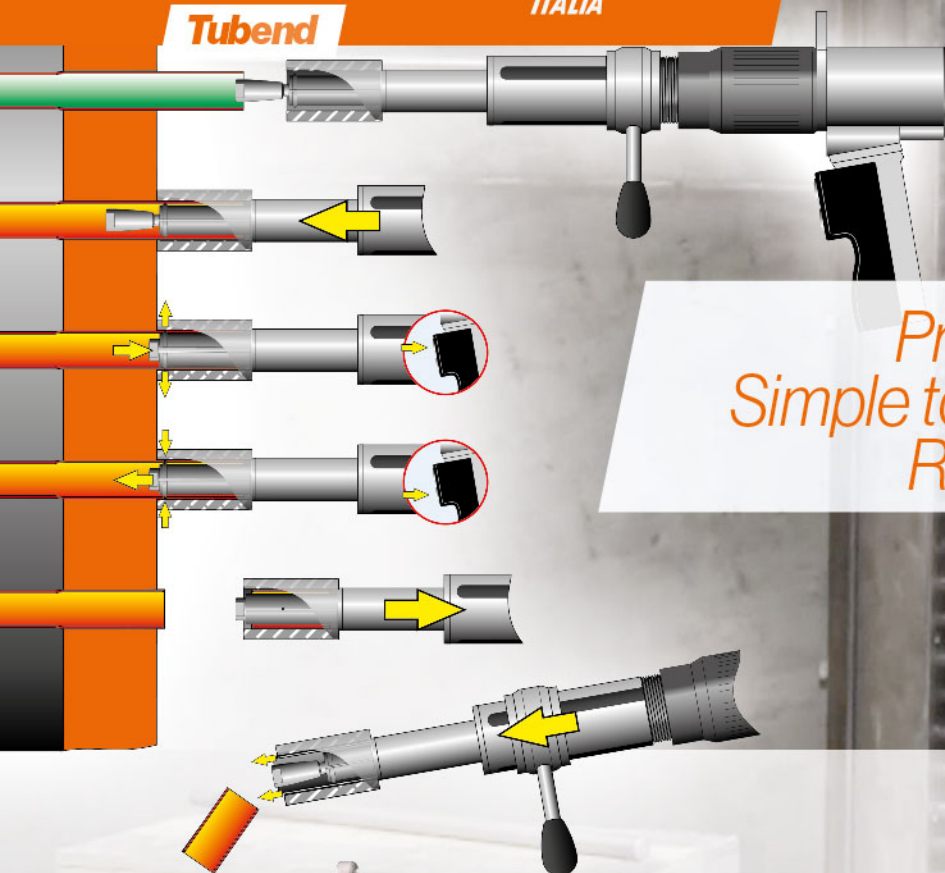
Pneumatic motor



Accessories

MAUS
ITALIA

Tubend



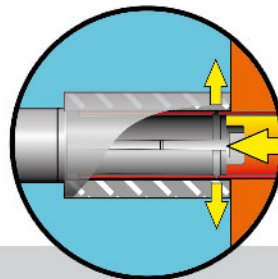
Precise
Simple to use
Rapid

patented



Manual device for
cut stub removal

High productivity



LTP6

Optional accessory for the **KattexCut 6** 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





64

F314HS F317HS

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



NO VIBRATION



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.

*Special model
available
upon request*

**F308HS
F308**

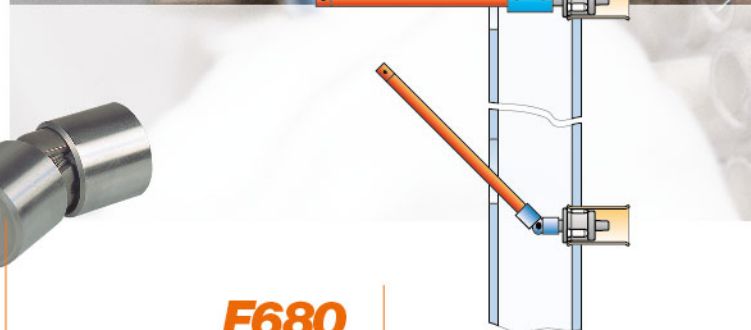
*Telescopic shafts with Cardan joints, the **F308HS** and F308 series, for the rotation and torque transmission from the rolling motor to the tube expander allowing the horizontal movement required*

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.

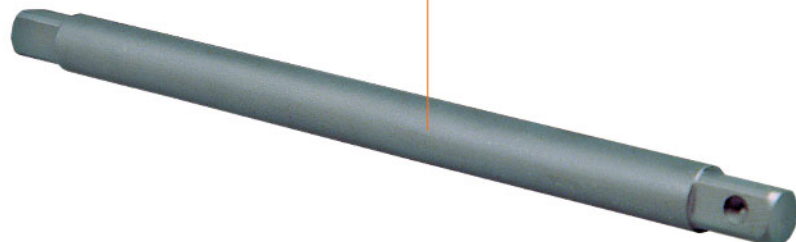
Strong reversible ratchet wrenches are available for manual tube
expansion.



66

F770HS

*Rigid extension with
male-male square
drive*



F771

*Universal
joint*

F680

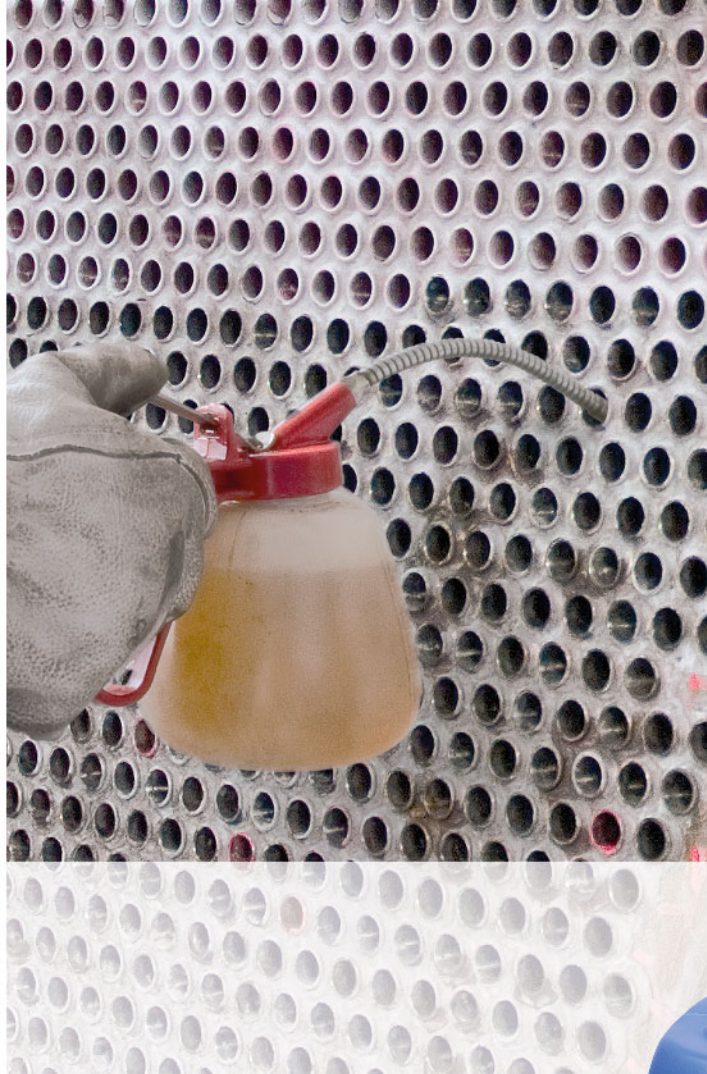
*Square hole
reversible ratchet
wrench for
manual
expansion*



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*

- 70 > Tube bundle extraction, transporting and lifting
- 86 > Tube bundle cleaning
- 90 > Tube bundle cutting
- 92 > Tube cutting
- 96 > Tube extraction



*For more details,
please request detailed catalogues*

To ensure minimum downtime and protection
of the tube bundle during extraction



ATEX certification
on request

The **MefexpressHT** 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)

Up to 125 Tons



SPECIAL MODEL
for low temperatures
is available on request

Wireless
remote control
available on request





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



3 parts

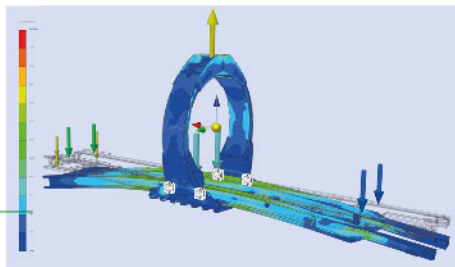


Oval



Circular

Structural analysis



Loading and lifting test (Dummy weight)



**Tube bundle
extraction**

Mefexpress HT

Aerial quick hooking bundle extractors (on-shore).

MAUS ITALIA presents, for **the extraction and insertion of tube bundles in the plant**, a complete new range of **Mefexpress HT** aerial tube bundle extractors with dedicated solutions for handling by crane for maintenance at great heights.

Years of evolution of the **Mefexpress** product series have allowed the design to be revisited, making the **Mefexpress HT** (High Technology) aerial tube bundle extractors of today even more lightweight, more versatile and easier to handle.

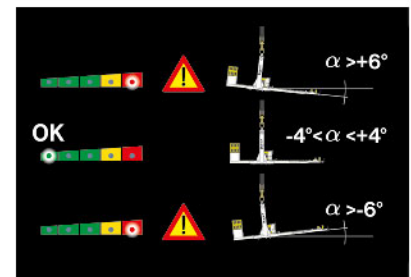
Starting from the numerous standard products that cover common market requests, MAUS ITALIA is also able to provide custom solutions to solve extreme cases with ATEX / OFF-SHORE versions.

EOC electronic
overturning control



71

*Innovative control system which allows overhead handling of loads in complete safety by inhibiting any incorrect commands that could compromise the stability of the **Mefexpress HT**.*



Combined use with
Mefexpress HT tube
bundle extractor

For easy, safe and secure **aerial**
handling of the tube bundle



ATEX certification
on request

DNV

ST-0378 | ST-E273
MARITIME

72



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

BundleTutor lifter **NAVY**

DNV approval version for operation in the open sea
where extreme conditions and erosion are merciless

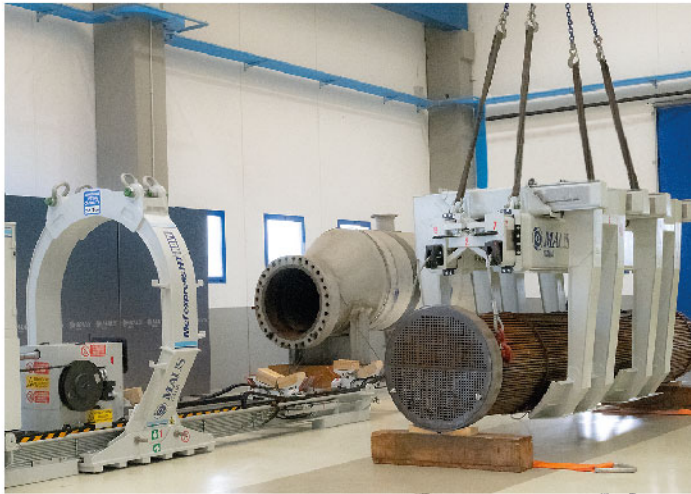
BundleTutor lifter **E**

Fully Electric version for operation indoor while
respecting the environment and operator health



BundleTutor lifter Super

Aerial tube bundle transporter
with **adjustable length**



MAUS ITALIA presents the **BundleTutor lifter Super** for *the aerial handling of tube bundles, for use both within the plant and during the production of heat exchangers*. By lifting the tube bundle easily and safely, the **BundleTutor lifter Super** eliminates the risk of destroying the baffles and damaging the tubes.

The MAUS ITALIA team is available to design custom solutions for extreme circumstances and ATEX / NAVY versions for the offshore market.



Fixed length version
The fixed coupling points are a simple and effective solution for fastening the tube bundle supporting slings.





For the quick, safe and secure **independent** handling of the tube bundle



ATEX certification
on request

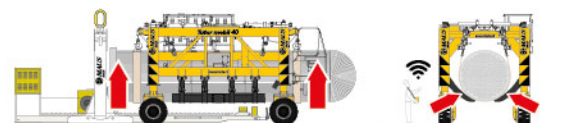
74





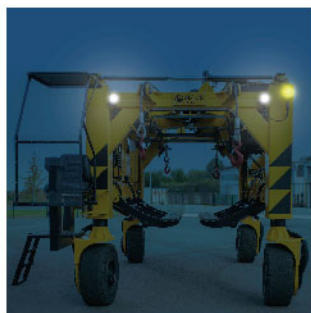
BundleTutor mobil

Self-propelled transporter
for the handling of tube bundles



MAUS ITALIA offers the **BundleTutor mobil** for the handling of tube bundles independently of cranes and trucks inside the plant, speeding up loading and unloading of **Mefexpress HT** bundle extractors and transportation from the extraction point to the washing area or maintenance workshop.

The MAUS ITALIA team is available to design custom solutions to provide solutions for extreme cases and ATEX explosion proof and NAVY versions for the offshore market.



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



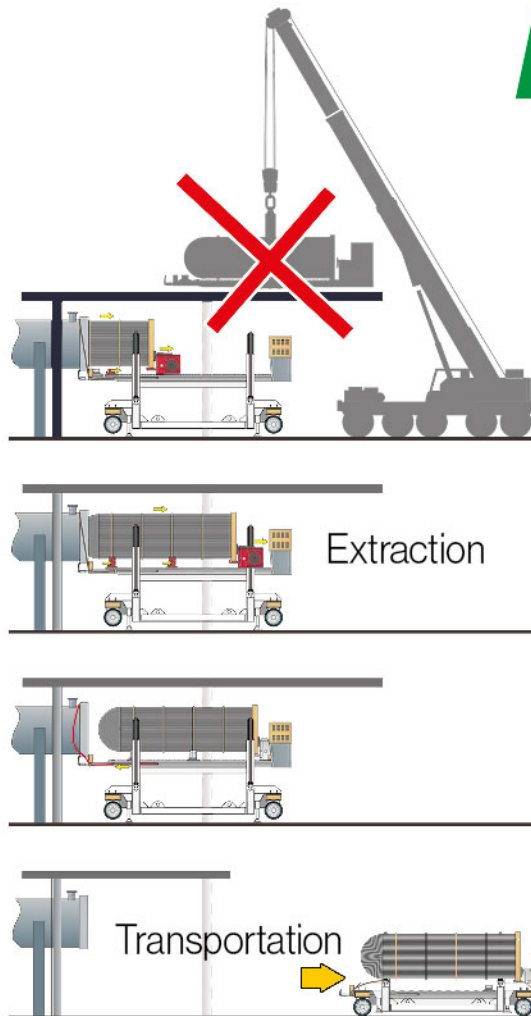
Wireless
remote control
available on request



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.

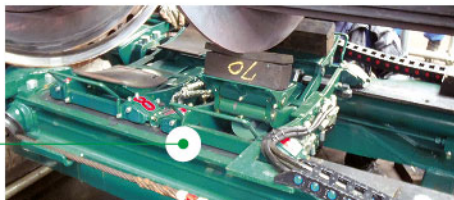








The **Mef mobil**, self-propelled tube bundle puller, is designed for areas which are difficult to access in petrochemical plants for the extraction and transportation of tube bundles.

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

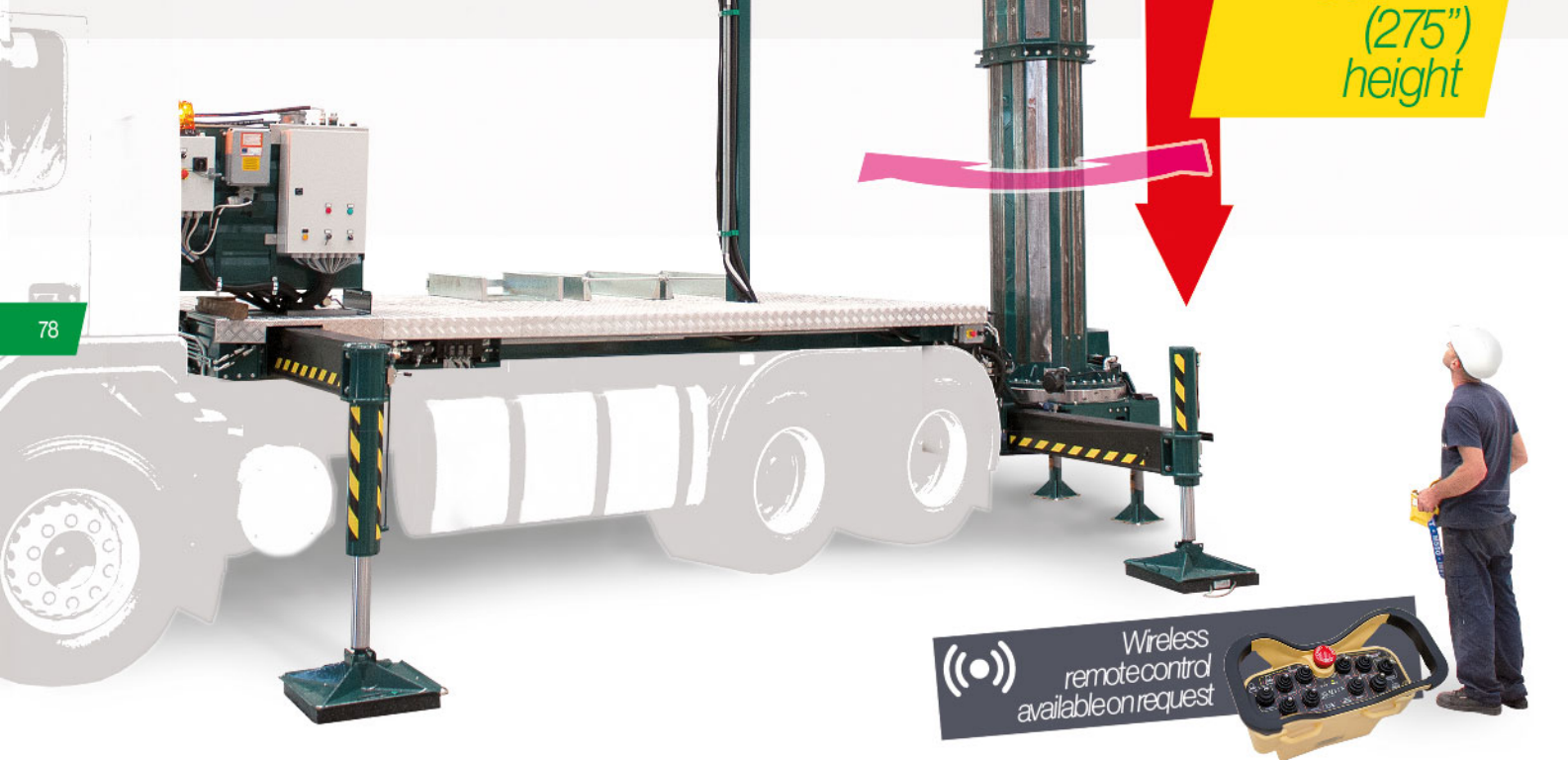
*Solution for difficult access
areas (under shelter)*

Hydraulically-
controlled
bundle supports



-  Bundle elevation from 600 up to 7000 mm (from 24" up to 275")
-  Lateral frame translation ± 100 mm (± 4 "). Hydraulic device for centring the **Mef TT 23** 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°

Up to
7000 mm
(275")
height





**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.





ATEX

DNV certification for FPSO and offshore platforms

80

Lifting certification

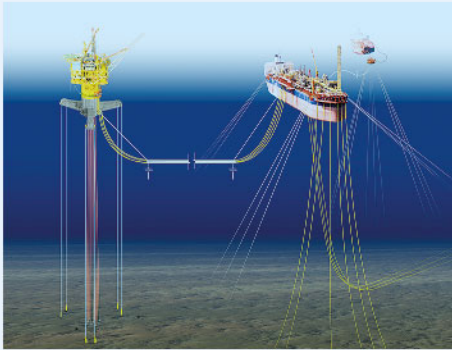
Supplied chains, shackles and lifting hooks are **DNV** certified for use in the open sea and in cases of extreme stress.



Movement certification

Movement components, such as hydraulic cylinders and planetary gearboxes, are **DNV** certified for use in the open sea and in cases of extreme stress.





Mef express HT NAVY

Aerial Quick hooking bundle extractors (off-shore).



DNV
ST-0378 | ST-E273
MARITIME

MAUS ITALIA can, on customer request, manufacture **Mef express HT** extractors in an offshore version.

The **DNV MARITIME** certified transformation includes everything already done to obtain the **ATEX certification** with additional specifications for lifting accessories, movement and sizing guided by the certification specifications with a more accurate process control.

Welding certification

Welds are subjected to magnetostrictive (or radiographic) examination to obtain **DNV** certification.



Customized



ATEX

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

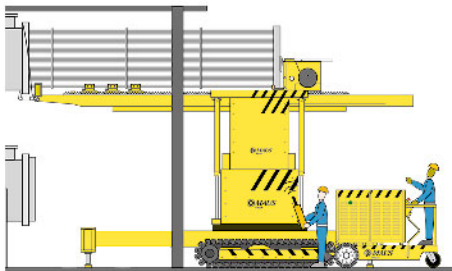
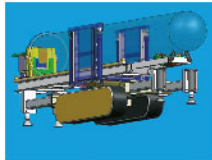
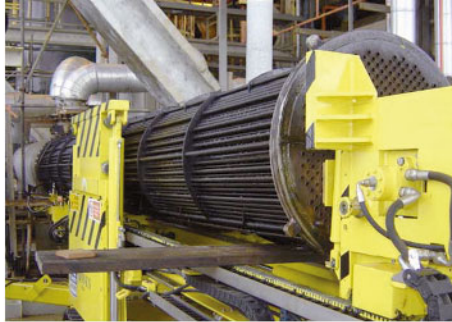


Mefmobil NAVY

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.



Van Motor 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

MeffixedNAVY
is designed to be
operated in areas
classified as hazardous

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MeffixedNAVY 1500/56-E
CSA model classified area
Class 1- Zone 1- IIBT3

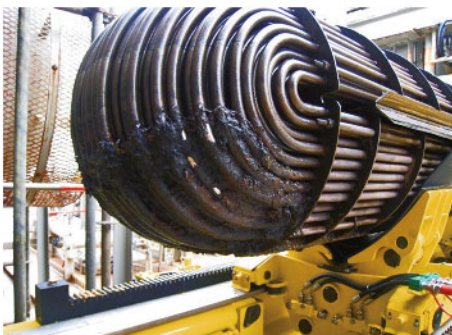
Mefixed NAVY

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

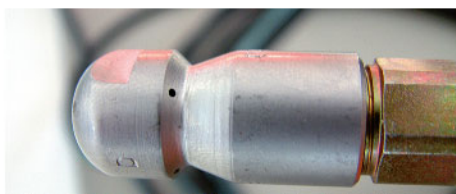
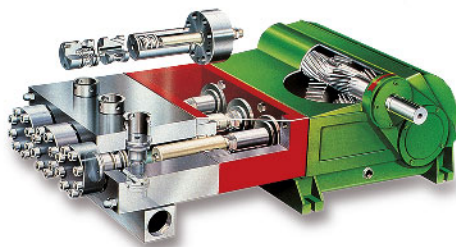


Idroscal NAVY
ATEX certification
on request

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



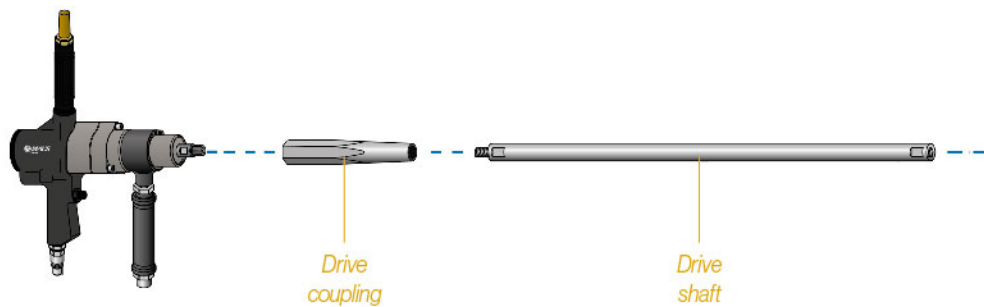
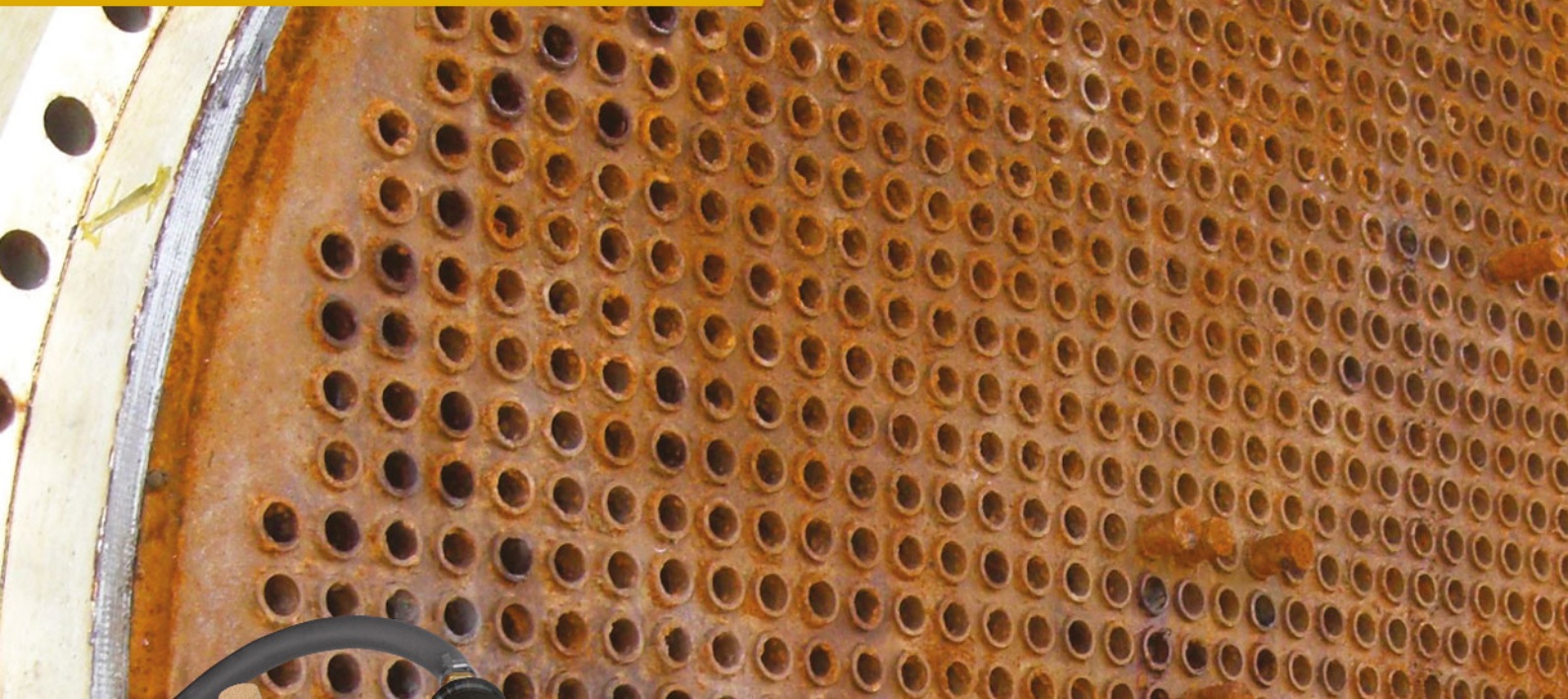
Idroscal

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.



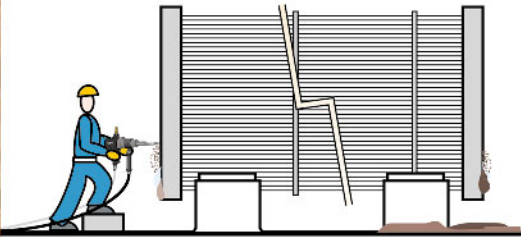
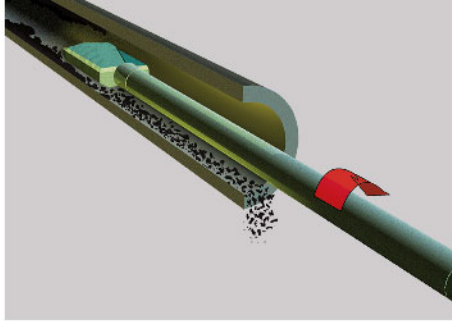
Soundproof version



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.

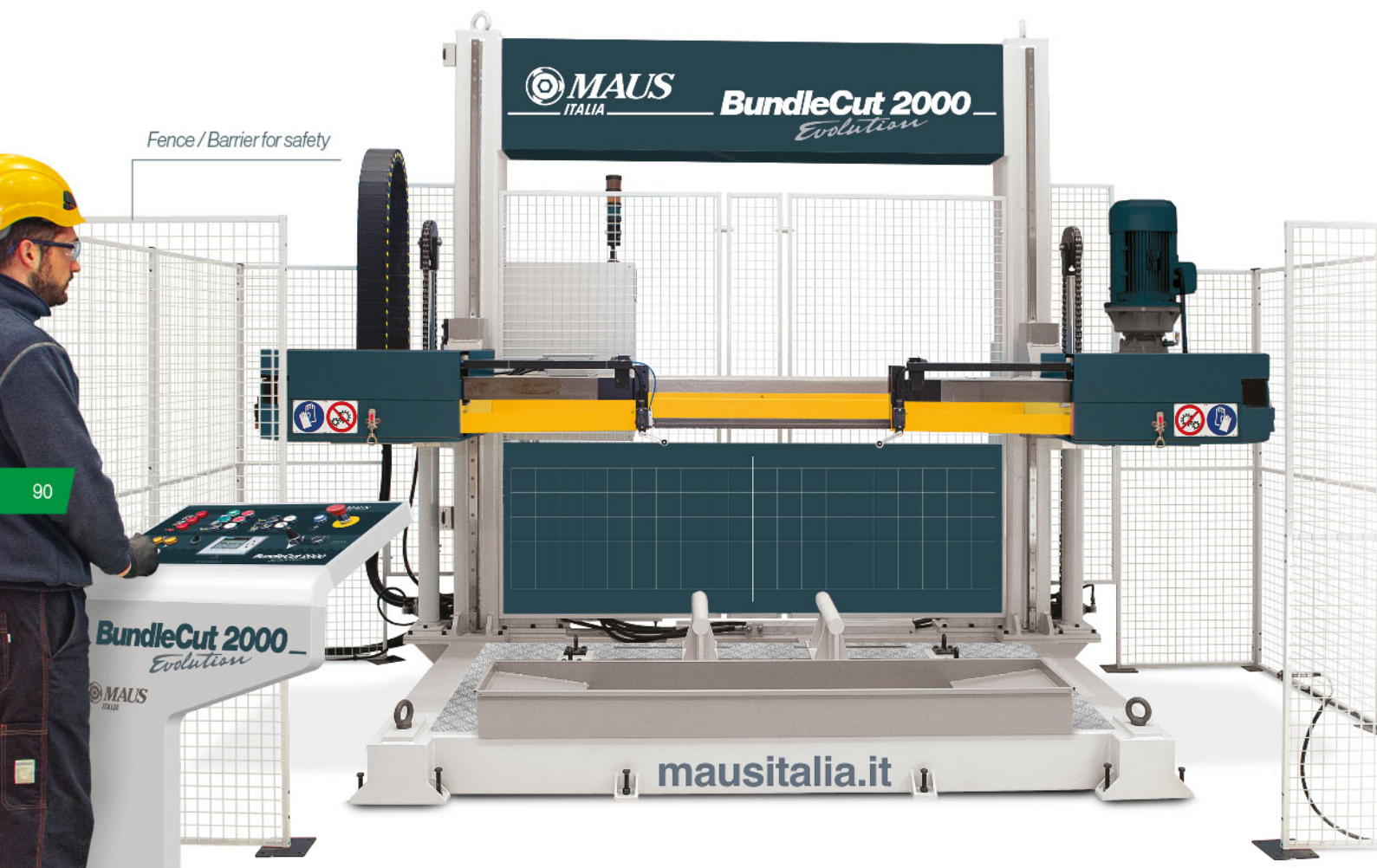


Shaft
coupling

Driven
shaft

Cleaning drills
or brushes

Allows rapid and
clean separation
of the tubesheet from
the rest of the bundle



Fence / Barrier for safety

Quick hydraulic tube sheet
locking device (optional)



BundleCut 2000
Evolution

BundleCut 2000
Evolution

Up to 78"
(2000 mm)

BundleCut 3000
Evolution

Up to 118"
(3000 mm)

BundleCut
Evolution



Band saw
for the dismantling of tube bundle
and recovery of heat exchanger
tubesheets

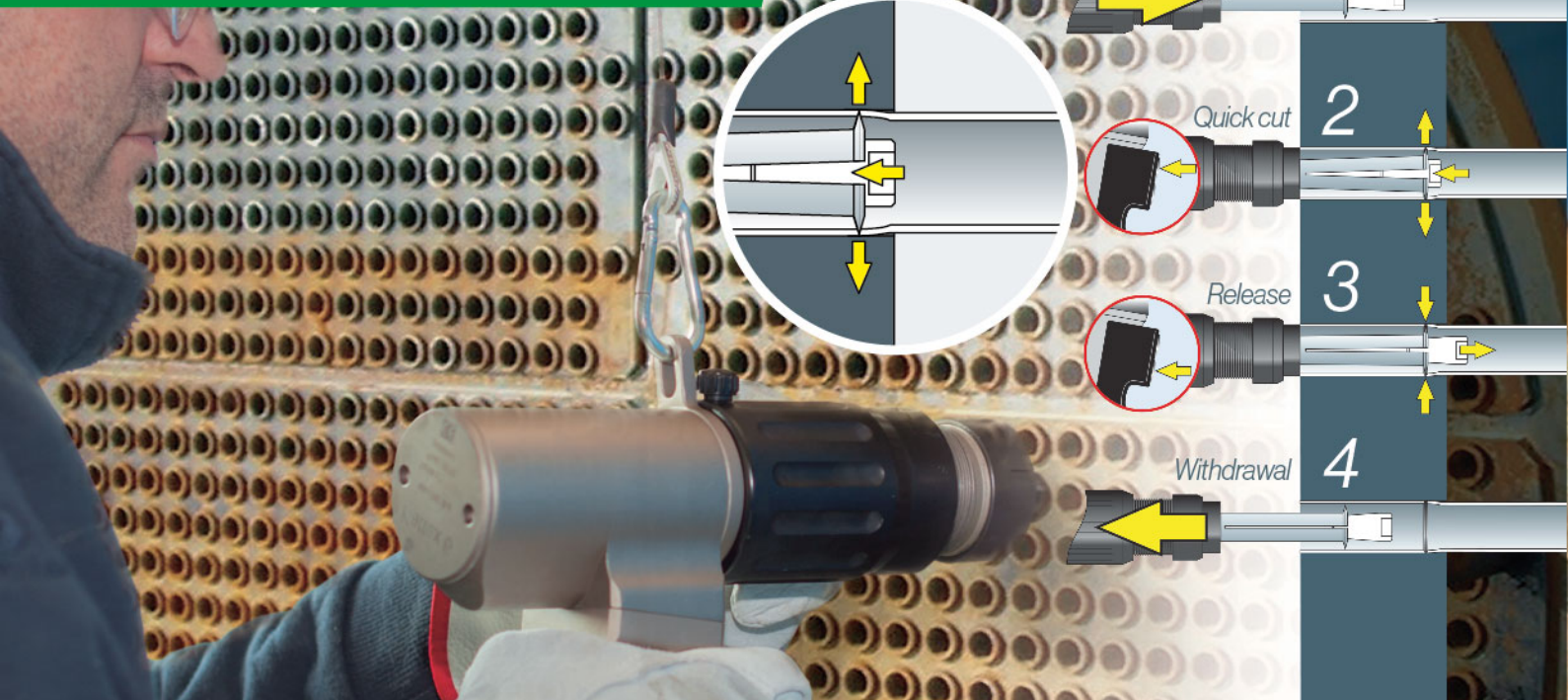
For when it becomes impossible to partially retubing the tube bundle from a heat exchanger, MAUS ITALIA proposes the **BundleCut** band saws for the rapid, safe and ecological retrieval of the tubesheet.

BundleCut has become "*Evolution*". Years of product evolution have allowed a complete review of the design, enabling MAUS ITALIA's band saws to be even safer, better performing, more precise and state-of-the-art.

Thanks to the high level of cleanliness in the cut, in combination with the **Grippul** series quick-fastening tube stub extractor and **Onlypul** and **Runpul** continuous tube extractors, the **BundleCut Evolution** facilitates and speeds up the recovery of the tubesheet without damaging its holes.

Precision
Any stubs
that are still
attached to the
tube sheet are
not deformed
and are easy to
remove





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

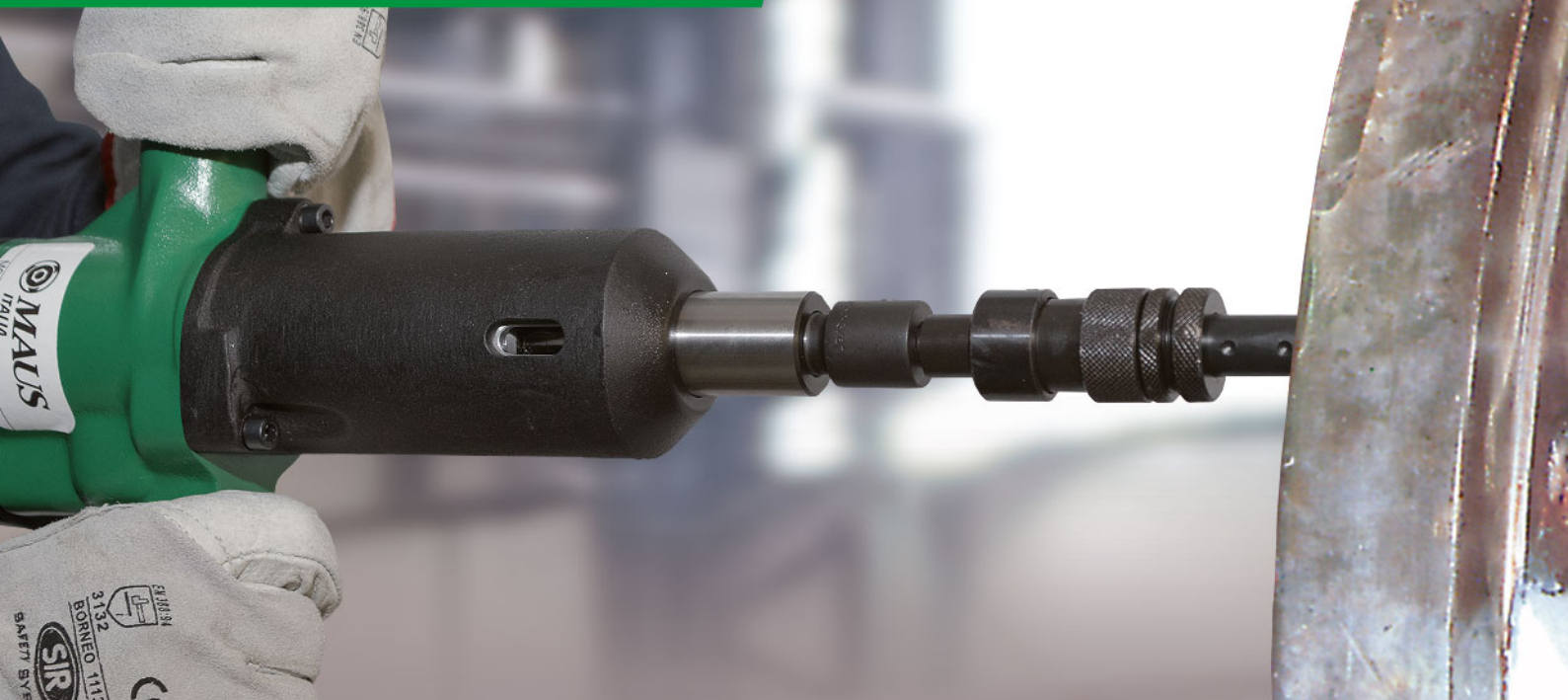
TP2P

Pneumatic hydraulic pump unit



Cutting
without shaving





F794



94

MBOS16-2

Portable
electric drill



MOF

Portable
pneumatic drill



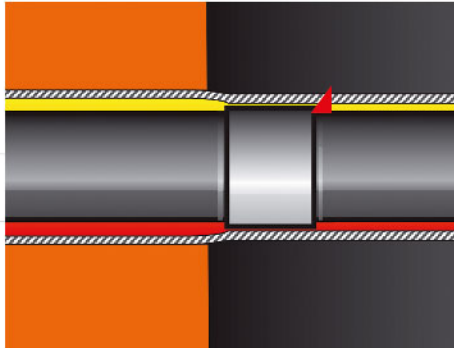
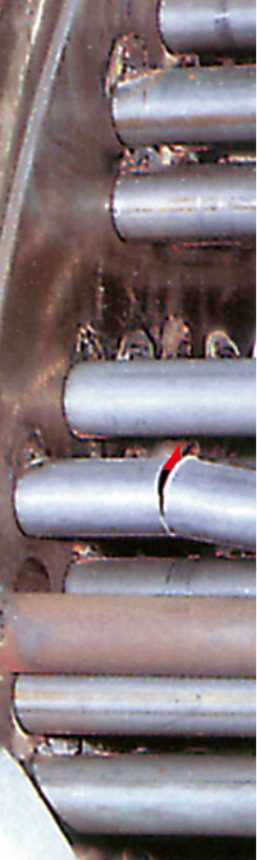


F794 F794L

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_{max}

Up to
6"
(152,40 mm)

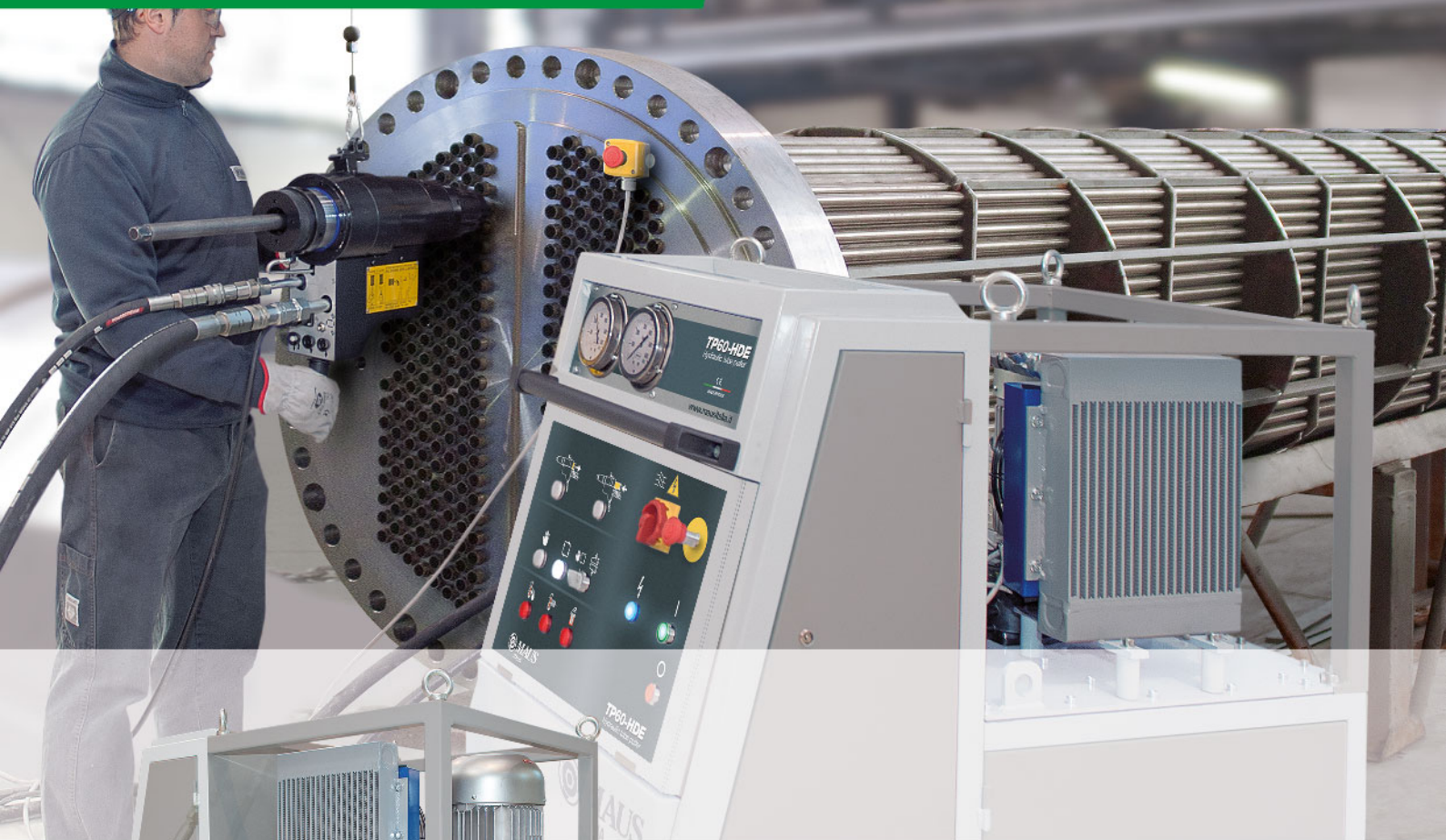
F794L

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

RE_{max}

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

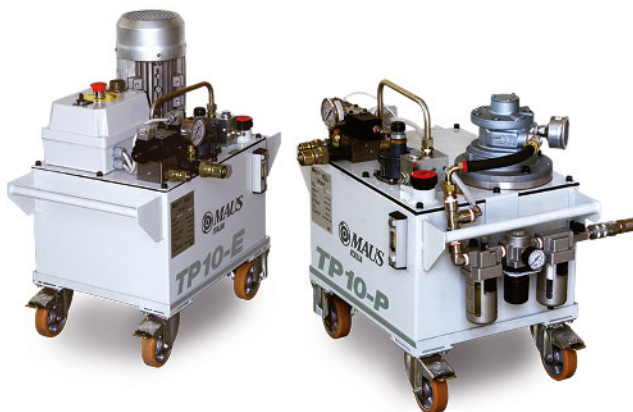
Quick hydraulic stubs pullers.

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

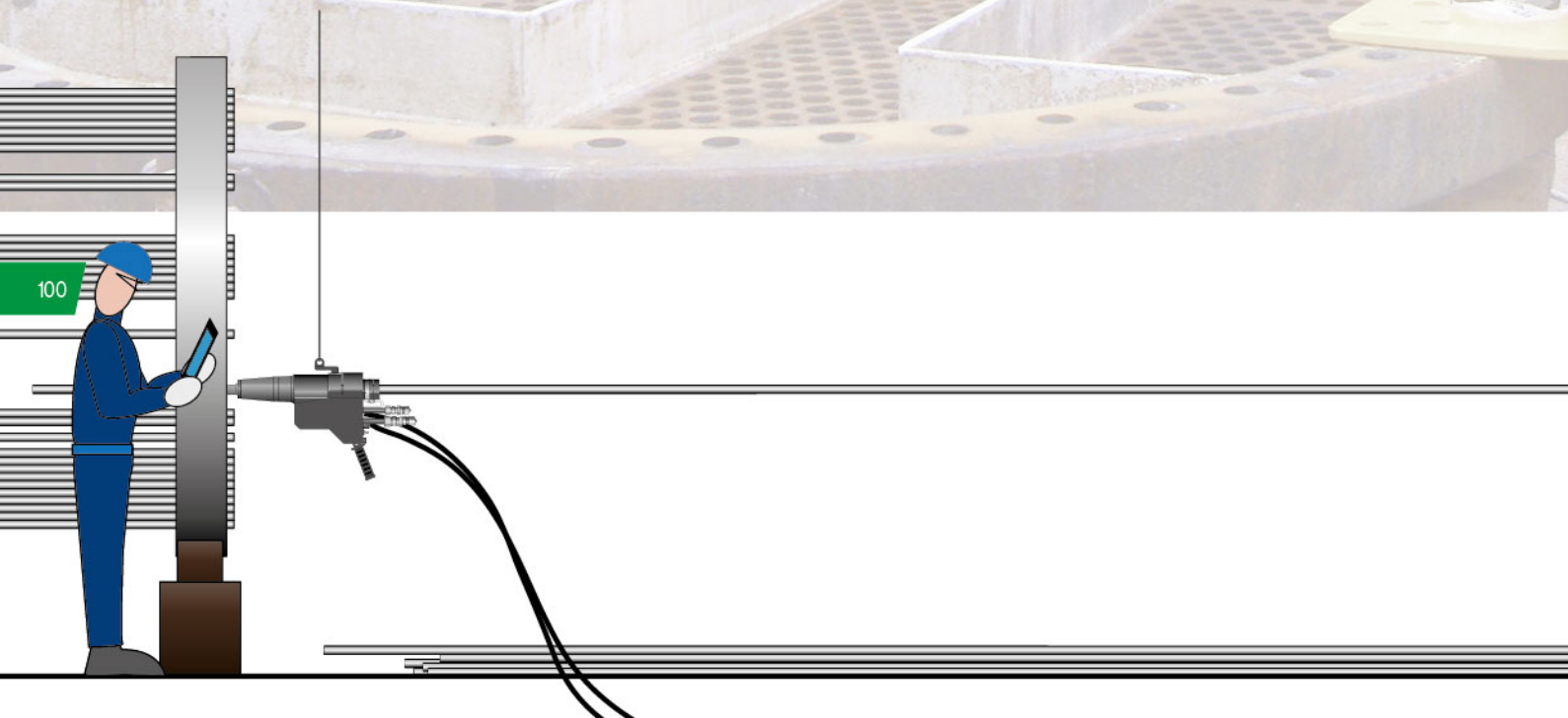


Standard supply
Grippul
Set of spare gaskets
Service wrenches set
Pressure gauge
Instruction manual
2 hydraulic hoses



Tube
extraction

 **MAUS**
ITALIA





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



MAUS
ITALIA

**Tube
extraction**

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.

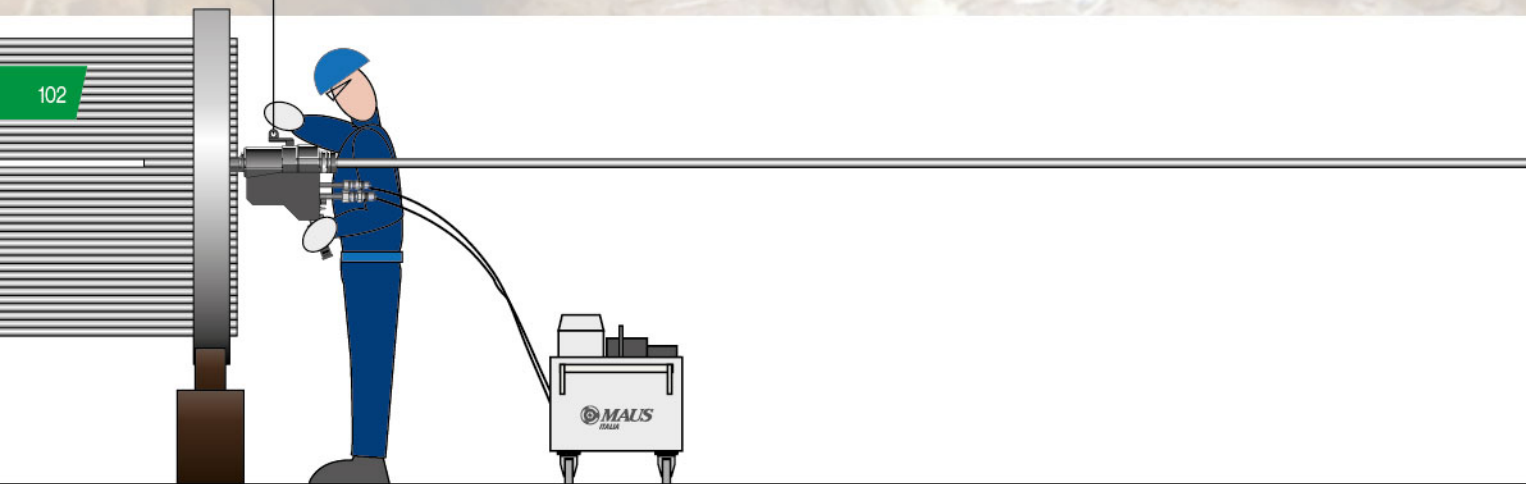
Runpul 15 from 3/8" to 1 1/8" (9,52 to 28,58 mm)

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).







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.

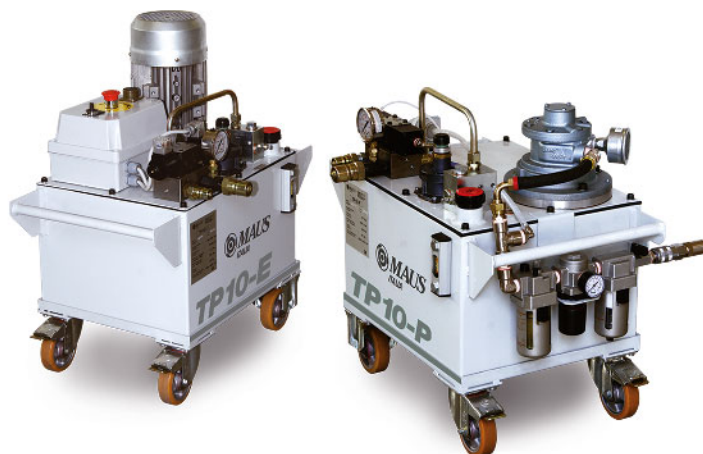
Hydraulic tube puller semiautomatic continuous extraction.
Suggested for small scale maintenance work.

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)

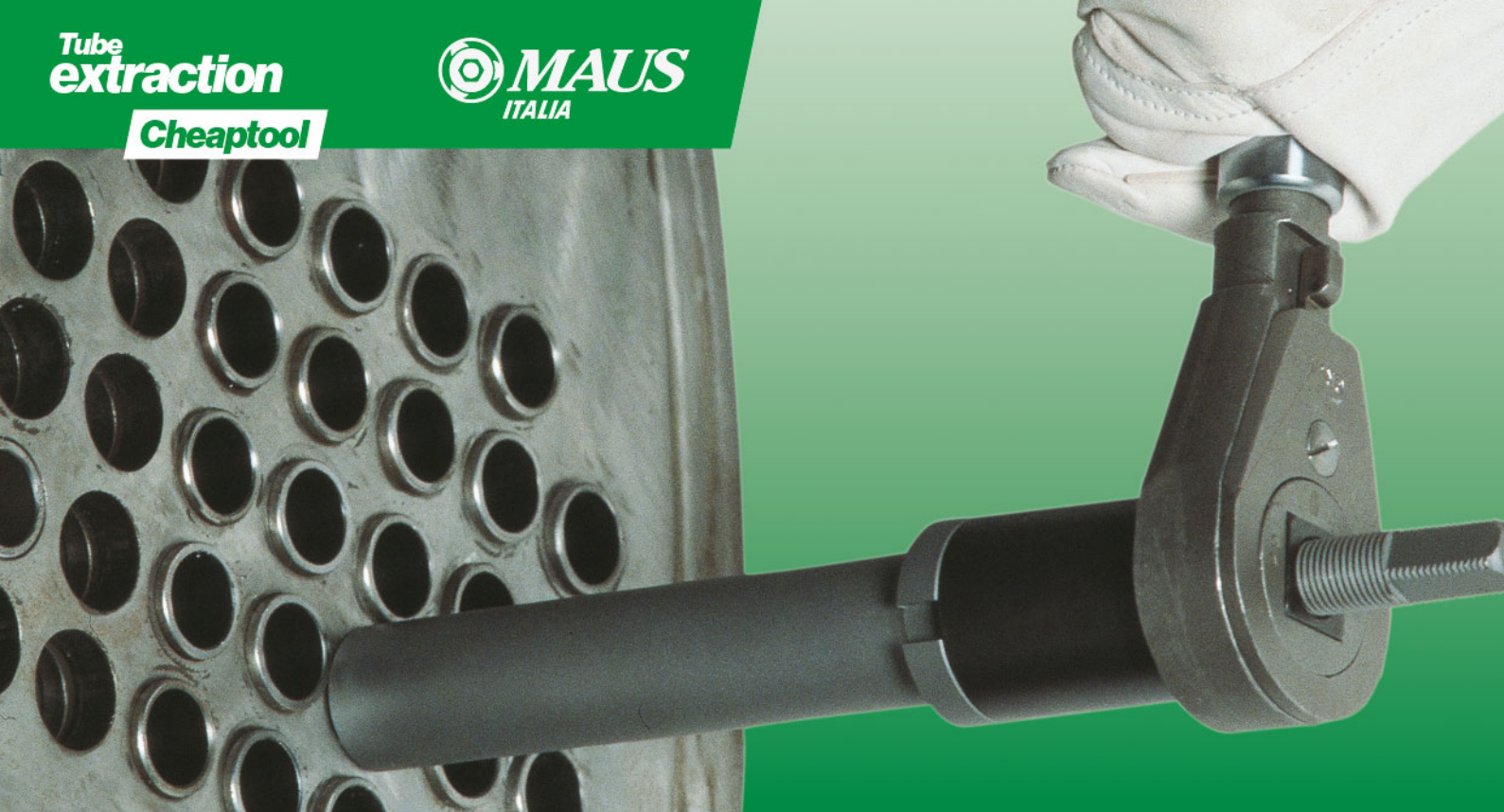
Onlypul 45 from 1" to 3" (25,40 to 76,20 mm)

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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