



BundleCut Evolution

Bandsaw for the dismantling of tube bundle and recovery of heat exchanger tubesheets

Maintenance

Tubesheet cutting



A winning story since 1961

The Beginning

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

The Growth

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

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

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



Stefano Agostino

CEO - Mechanical Engineer

Anna Agostino

COO - Mechanical and Management Engineer



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

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

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



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

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

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

Ready To Deliver

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

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

Quality, environment and safety policy

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

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



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BundleCut Evolution

Band saw for the dismantling of tube bundle and recovery of heat exchanger tubesheets
Allows rapid and clean separation of the tubesheet from the rest of the bundle

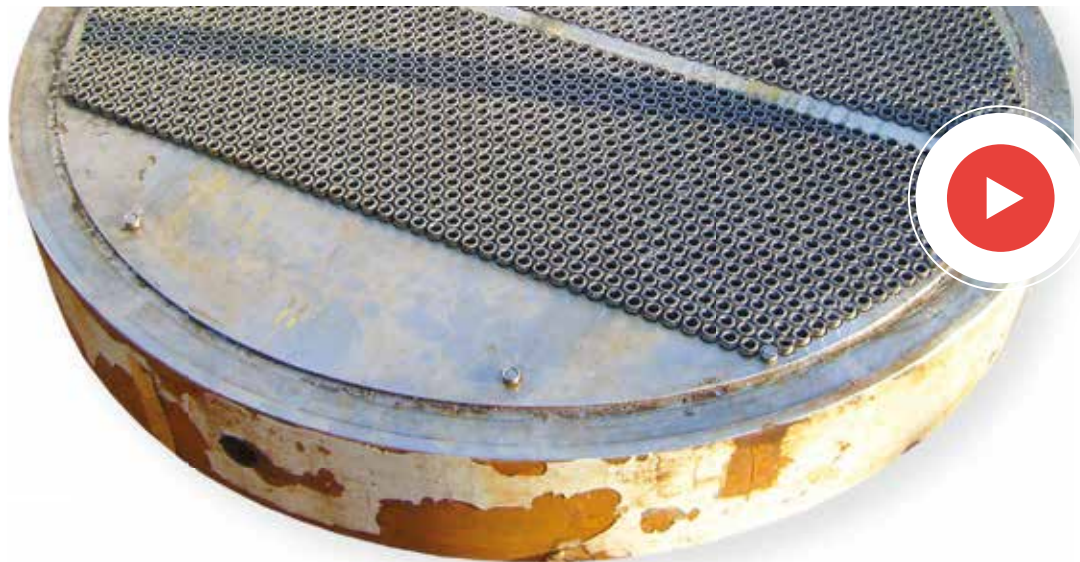
For when it becomes impossible to partially retubing the tube bundle from a heat exchanger, Maus Italia proposes the BundleCut band saws for the rapid, safe and ecological retrieval of the tubesheet.

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 cleanness in the cut, in combination with the Grippul series quick-fastening tube stub extractor and Onlypul and Runpul continuous tube extractors, the BundleCut facilitates and speeds up the recovery of the tubesheet without damaging its holes.

Used for over 20 years in workshops across the globe





Watch the video

Exclusive features



Precise and clean cut

The tube stubs, with no deformities or metallic burrs, are removed easily without damaging the tubesheet holes.



Smart cutting

The ability to continuously control the speed of descent of the cutting arc allows maximum speed without compromising the life of the blade.



High safety

The photoelectric barrier, if crossed, stops the blade automatically to ensure maximum safety in the cutting zone.



High productivity

Thanks to its practicality of use and the speed and precision of the cut, it is indispensable for heat exchanger maintenance workshops.



Healthy environment

The elimination of harmful gases generated by traditional flame cutting and the removal of cutting dust with a grinder make the work environment healthy.



High strength

It can be used for the simultaneous cutting of the shell and the bundle as well as the cutting of solid rounds.



Ø max. tubesheet

BundleCut Evolution 2000
78" (2000 mm)

BundleCut Evolution 3000
118" (3000 mm)



Rapid locking (optional)

The (optional) hydraulic press rapidly locks the tubesheet, safely speeding up the positioning operations

Blade rigidity control

The blade guides, operator-adjustable using a hydraulic device, always remain alongside the tube bundle during cutting, ensuring the correct and continuing rigidity of the blade without requiring the machine to be stopped.



High rigidity in the sliding system

Thanks to pairs of profiled recirculating ball linear guides with high load capacity, the vertical movement of the arc is extremely fluid and rigid. The integrated greasing system extends times between maintenance.



Compact transmission

The use of transmission chains on the movement of the lifting cylinders reduces the overall dimensions of the BundleCut and the vertical stroke of the pistons, giving greater stability during a continuous and extremely clean cut.



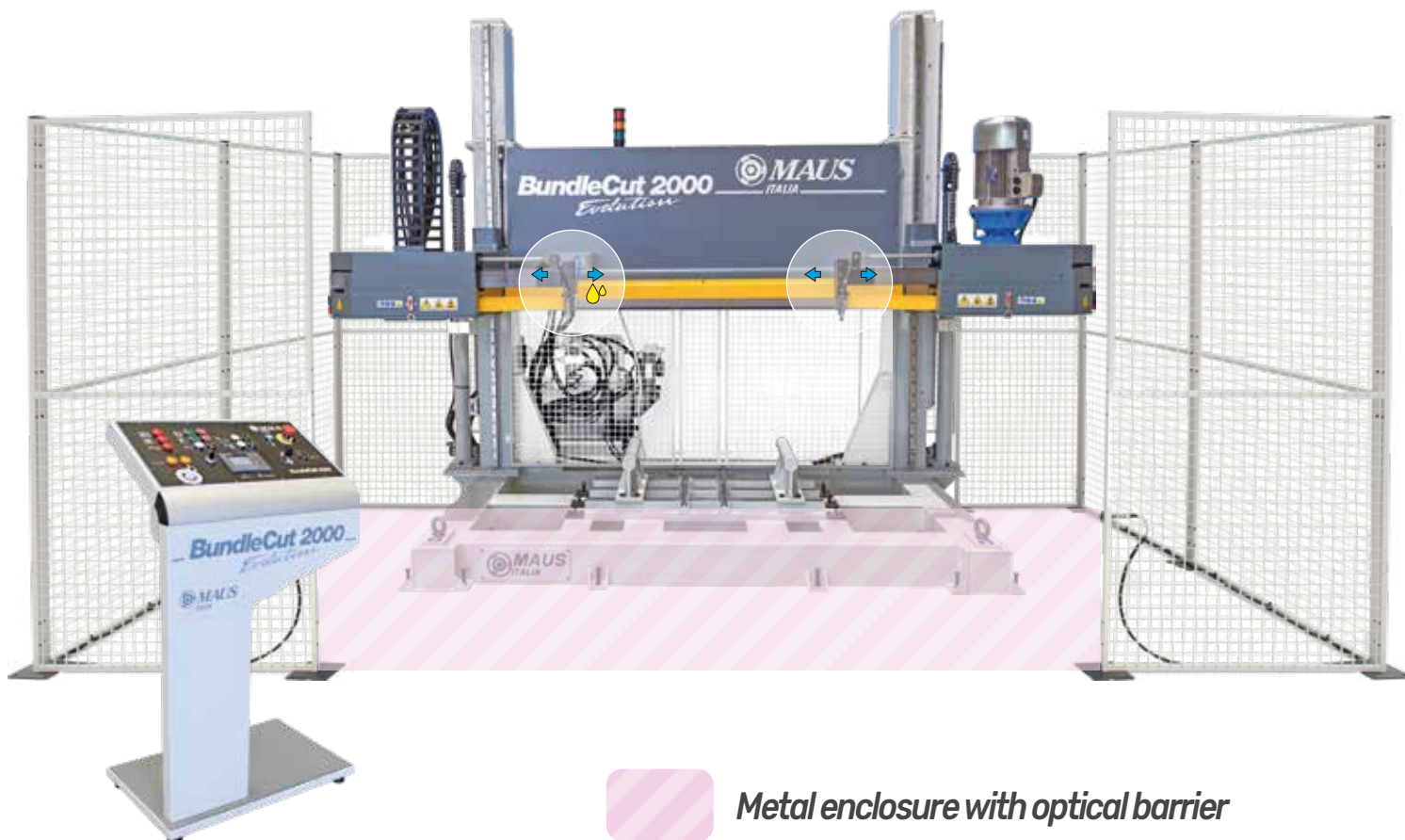
Anti collision device



Chips collector



Automatic lubricator



 **Metal enclosure with optical barrier**



Blade tension control

Automatic control of blade tension and total machine stop in case the blade breaks or falls from the flywheels.

User friendly - Control of work parameters

Thanks to the integrated SIEMENS LOGO! TDE panel with LED backlighting, the setting and display of parameters is quick and simple.

Blade

- Blade motor absorption display
- Adjustment of blade rotation speed
- Blade rotation speed display
- Storage of set cutting speed

Arc

- Display of arc descent speed
- Display of distance travelled by arc
- Display of distance remaining to end of cut

Plus

- Display of time elapsed since beginning of cutting cycle
- Display of time remaining until end of cutting cycle



Smart cutting

The ability to continuously control the speed of descent of the cutting arc allows maximum speed without compromising the life of the blade.



| | | | | | |
|--|-----------------------------------|--|---------------------------|--|-----------------------------------|
| | Hydraulic unit thermal protection | | Hydraulic unit start/stop | | Emergency STOP |
| | Blade motor thermal protection | | Blade motor start/stop | | Open/close blade guide |
| | Blade failure indicator | | Tighten/loosen blade | | Open/close BundlePress (optional) |
| | Arc ascent limit switch | | Arc movement joystick | | Turn on BundleCut |
| | Arc descent limit switch | | Fast | | |

Machine status reports

Complete range of signals and alarms. These support the operator during the operational phase and job setting.



Electrical cabinet and maintenance control panel

In addition to the main switch, there are commands to disable the blade motor to unlock or replace the blade.



Lubrication unit

Pneumatic lubrication system with frequency and deposit capacity regulator for the cutting oil on the blade.



Hydraulic oil cooling system

Guarantees long periods of use by keeping the hydraulic system oil at the correct temperature.

Oil tank

The large tank is equipped with an oil temperature control and drainage cap.

Fixing and levelling feet

18 fixing points for suitable anchor bolts or for fixing on anchor plates. After positioning, these allow the base to be levelled.

Base and structure in electro-welded steel





Due to its high weight and new technical features, the BundleCut is extremely rigid to guarantee an extremely "clean" cut.



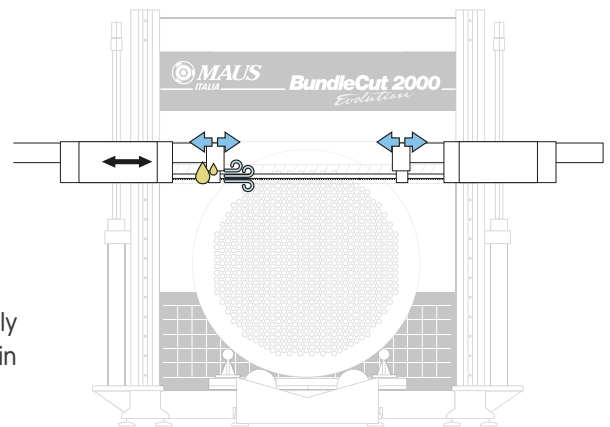


Precise and clean cut with all materials

To ensure a precise cut without metal burrs, and a long life of the blade, the following can be continuously monitored:

-  Blade tension
-  Automatic opening and closing of the blade guides
-  Lubricant supply
-  Constant air cooling of the blade

By doing so, the tube stubs, non-deformed and without burrs, can be easily removed (with Grippul series tube extractors), without damaging the holes in the tubesheet, thus allowing quick recovery.



Removable frame extension

Removable frame extension that allows shipping in 20 fts open top container.

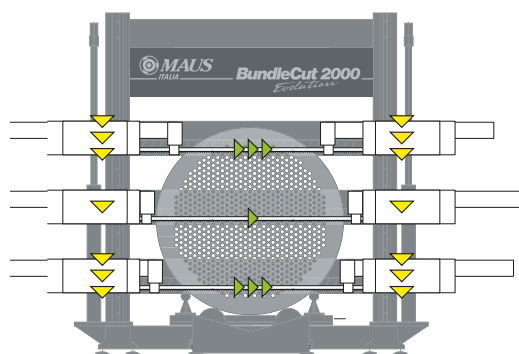




Smart cutting

The exertion of the blade during the cut is directly proportional to the variation in the section of the tube bundle:
 the operator's control of the speed of descent of the cutting arc and the speed of rotation allows maximum speed without compromising the life of the blade.

- ▼ Speed of descent of the cutting arc
- ▶ Speed of blade rotation



The ideal combination in tube sheet recovery

The BundleCut tube bundle band saw is used in combination with the Grippul extractor for the removal of tube stubs, resulting in a tube sheet ready for reuse. To recondition the holes and grooves, we also recommend the use of FB brushes and F26 chasers. For further details on recommended equipment, please refer to the relevant trade brochures.

FB
 Steel brushes for reconditioning the holes

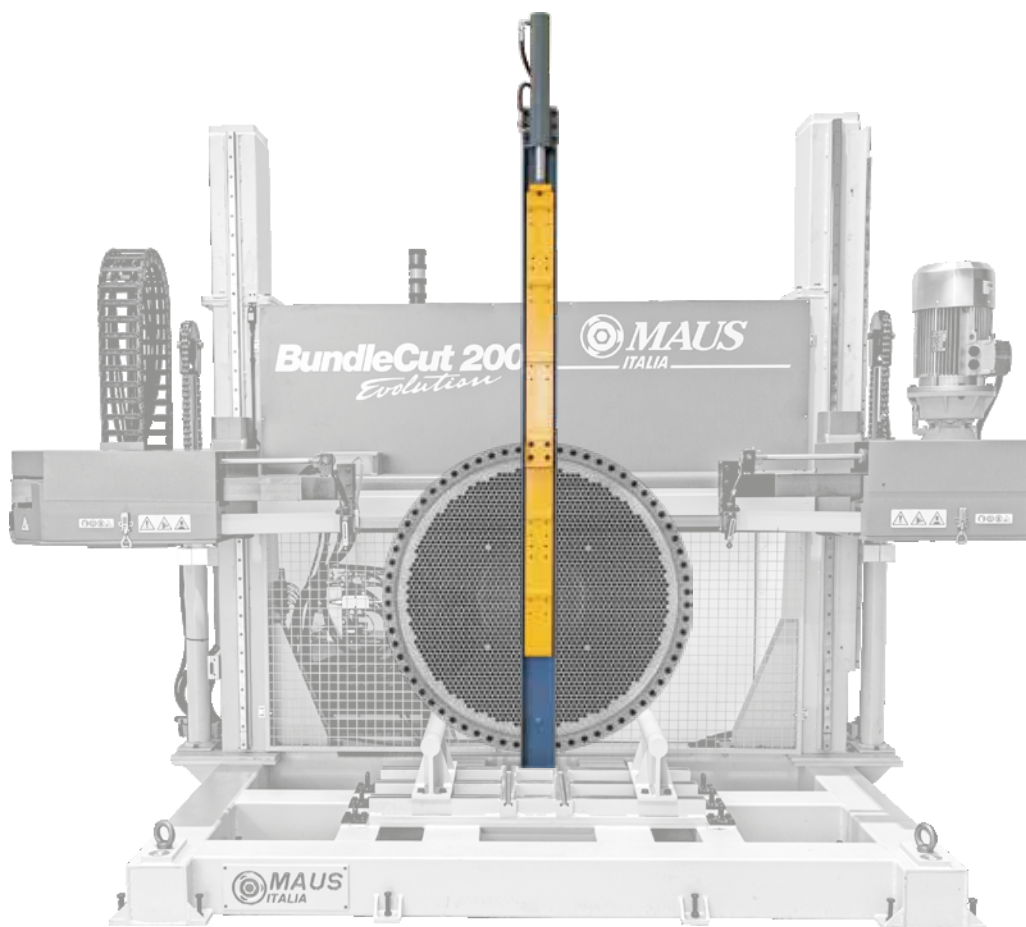
F26
 Self-centring grooving tool with adjustable depth with interchangeable HSS-Co blades

Optionals



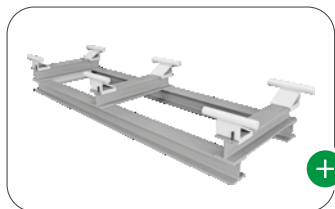
Bundle press

In place of anchoring straps with ratcheting tensioner, Maus Italia proposes a device for the rapid locking of the tube plate. It comprises a vertical hydraulic press, controlled from the console, which, mounted on the base, enables the loading of the tube bundle and the unloading of the separated tube sheet to be accelerated.

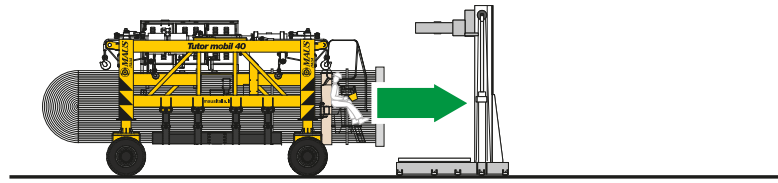


Bundle support

Modular structure with a standard length of 4000 mm (13 ft) for supporting the tube bundle in front of the BundleCut with sliding wedges for adaptation to the diameter of the bundle to be cut. Customisable dimensions for shapes and lengths as needed.



Cutting procedure



1 Positioning

The heat exchanger is positioned in front of the BundleCut using a bridge crane or BundleTutor mobil conveyor on to the Bundle support and the support brackets are adapted to give the correct support.

2 Fixing

The fixing of the tube sheet is ensured by an anchoring strap with a ratchet tensioner or with a BundlePress hydraulic vice (optional) which speeds up the operation.

3 Cutting

Operator-controlled cutting with a circular blade allows precision cutting of tube bundle in a short time without polluting the work environment and without damaging the tube stubs being removed.

4 Separation

At the final cut, the tube bundle is moved while the tubesheet remains secured to the BundleCut. The neatly cut tube stubs left in the tube sheet are ready for extraction.

5 Stub extraction

Thanks to Grippul series tube extractors, the tube stubs left in the tubesheet are easily removed without damaging the holes.

Spare parts

Blades

Maus Italia supplies bimetallic band blades according to the model of selected saw (BundleCut 2000 or BundleCut 3000). Selection of the blade is made according to the type of work to be carried out. The following are factors in the selection:

- the material to be cut
- the thickness of the tubes
- the features of the exchanger shell (if present).

Maus Italia technical staff are available to provide the correct information.



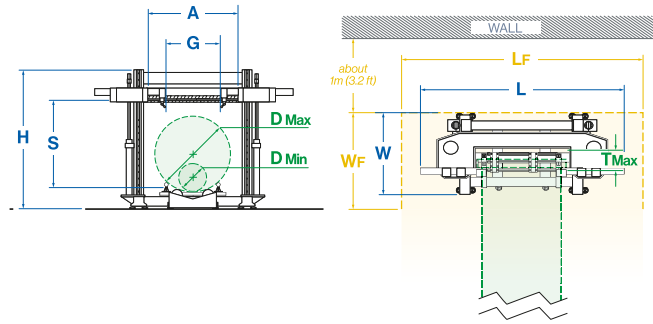
Material to be cut

Z serration

Blade material

| | | |
|-----------------|------|-----|
| Aluminium | 4-6 | M42 |
| Copper | 5-8 | M42 |
| Brass | 5-8 | M42 |
| Carbon steel | 6-10 | M42 |
| Stainless steel | 4-6 | M51 |
| Titanium | 4-6 | M51 |
| Inconel | 4-6 | M51 |
| Duplex | 4-6 | M51 |


Technical features



| BundleCut Evolution | | 2000 | | 3000 | | | |
|----------------------------|--------------|-------------|--------|-------------|--------|--------|--------|
| Ø tubesheet (max.) | D Max | mm | inches | 2000 | 78.7 | 3000 | 118.1 |
| * Ø tubesheet (min.) | D Min | mm | inches | 200 | 7.9 | 350 | 13.8 |
| Tubesheet thickness (max.) | T Max | mm | inches | 600 | 23.6 | 800 | 31.5 |
| Cutting speed (min-max.) | | m/min | ft/min | 20-250 | 65-820 | 10-140 | 32-460 |

| BundleCut Evolution | | 2000 | | 3000 | | | |
|----------------------------|-----------|-------------|--------|-------------|--------|-------------|--------|
| Electrical system | | | | | | | |
| * Power supply voltage | | V-ph-Hz | | 400-3-50/60 | | 400-3-50/60 | |
| Absorbed power | | kW | | 8,0 | | 16,0 | |
| Hydraulic unit power | | kW | | 1,5 | | 4,0 | |
| Blade motor power | | kW | | 5,5 | | 11,0 | |
| Hydraulic system | | | | | | | |
| Tank capacity | | l | GalUS | 40 | 10.5 | 100 | 26.4 |
| Pneumatic system | | | | | | | |
| Air supply | | bar | PSI | 4÷8 | 58÷116 | 4÷8 | 58÷116 |
| Dimension | | | | | | | |
| Width | L | mm | ft | 3730 | 12.3 | 5160 | 17.0 |
| Depth | W | mm | ft | 2300 | 7.6 | 2300 | 7.6 |
| Height | H | mm | ft | 2950 | 9.7 | 3720 | 12.2 |
| Height without extension | | mm | ft | 2230 | 7.3 | 3000 | 9.8 |
| Width of required space | Lf | mm | ft | 4900 | 16.1 | 6700 | 22.0 |
| Depth of required space | Wf | mm | ft | 2500 | 7.3 | 2500 | 8.2 |
| Blade guide light | G | mm | inches | 1900 | 74.8 | 2900 | 114.2 |
| Arc light | A | mm | inches | 2200 | 86.6 | 3040 | 119.7 |
| Vertical stroke | S | mm | inches | 2000 | 78.7 | 3000 | 118.1 |
| Weight | | kg | lb | 3700 | 8160 | 7700 | 16980 |
| Degree of protection | | IP | | 54 | | 54 | |

| Shipment | BundleCut Evolution 2000 | BundleCut Evolution 3000 |
|-----------------|---------------------------------|---------------------------------|
| Width | | cm ft 552 18.1 |
| Depth | | cm ft 248 8.1 |
| Height | | cm ft 417 13.7 |
| Case weight | | kg lb 1575 3470 |
| Total weight | | kg lb 9275 20450 |



Shipment in 20 fts open top container.



Shipment in wooden case.

* Refers to use of provided standard fasteners. Customised fixings on request permit the reduction of the diameter as needed
 * For power supplies other than 400V-3ph, Maus Italia supplies a suitable transformer

Heat exchanger's world

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