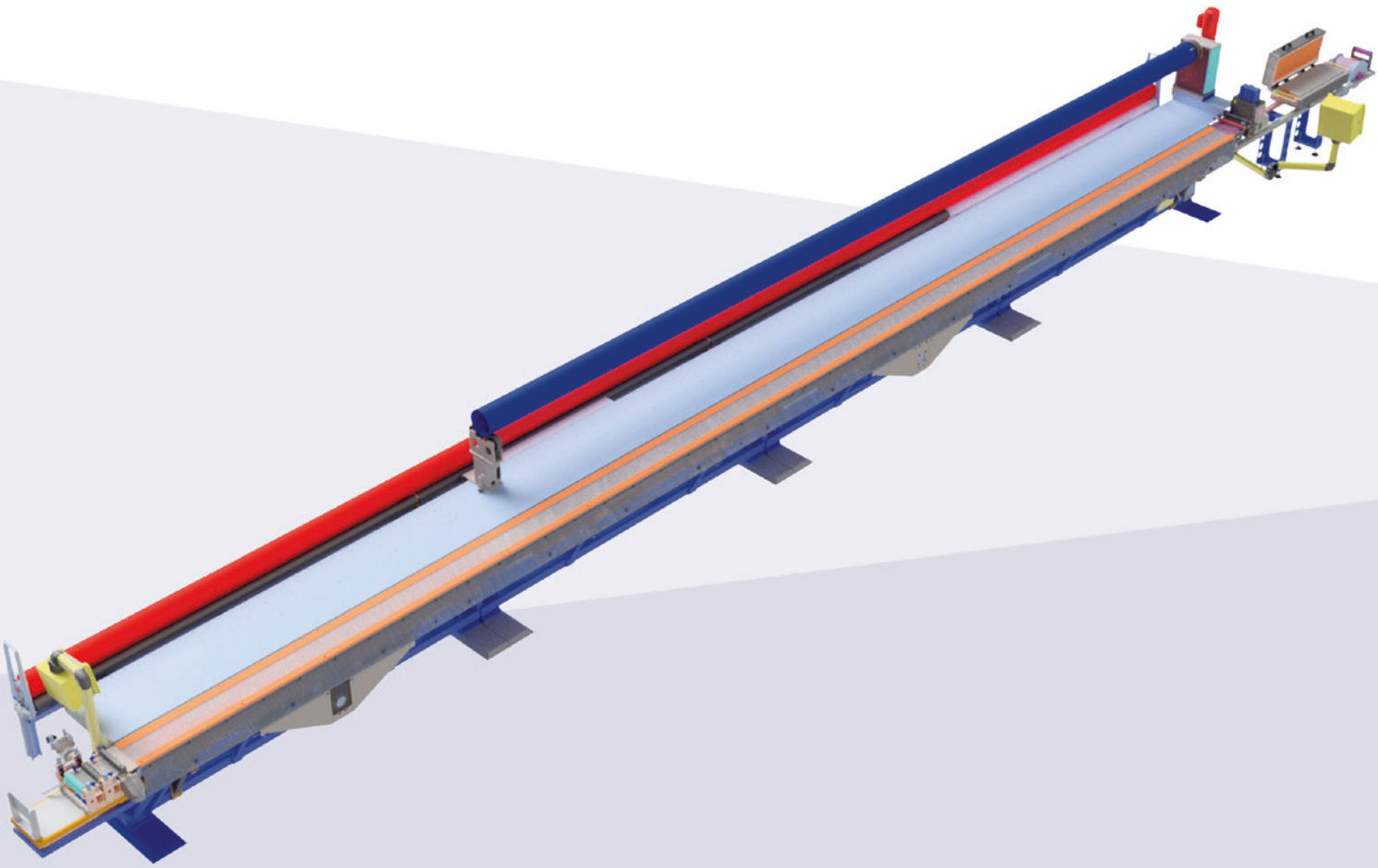
Jointing Table



M&A DIETERLE
MASCHINEN- & APPARATEBAU GMBH

BERATUNG · KONZEPTION · REALISIERUNG

Machine programme

The performance range of our special purpose machines covers all production steps from the manufacturing of spirals over the jointing and filling to the thermosetting, cutting and welding of screens. By connecting the individual machines to a closed production unit, an efficient and effective manufacturing is made possible.

Our special purpose machines can be subdivided into following production areas:

Machine type	Production Areas
Spiral machines	Production of individual spirals (left/right) from various monofilaments with various cross sections
Jointing tables	Joining and connecting individual spirals (up to 64 at the same time) for the production of spiral sleeves
Filling tables	Filling fixed and unfixed spiral sleeves with cored wire (up to 32 at the same time) with various cross sections
Calender	Heat setting
Cutting and welding machines	Marking, cutting edges, welding edges. Can be used for both felts and sleeves
Coiling system for nonwoven products	Production of non-woven products as standalone machine unit or expansion of existing calender unit

With our special purpose machines you will be able to produce with proven high quality:

EFFICIENTLY, PRECISELY AND RELIABLY

Jointing Table

With our jointing table, you will be able to process all common spiral screens. Innovation has always been a very important factor in our company.

The modular structure of the jointing table makes it possible to keep pace with your new developments by simply replacing individual components.

With our filling table you will be able to:

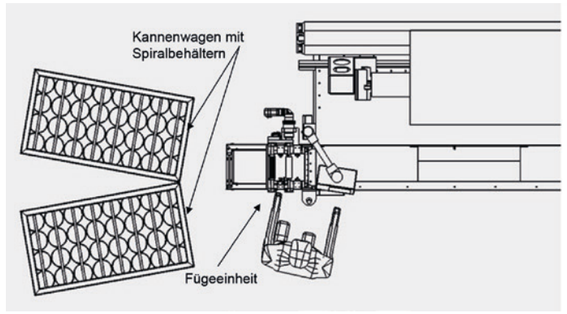
- Joint spirals with sizes between 4.50 x 2.50 mm and 14.80 x 8.00 mm with the appropriate pintle wires
- Process most different spiral-wire profiles, such as round and rectangular wires
- Joint up to 64 spirals at the same time
- Manufacture screens with a width of up to 11,70 m

Main Characteristics of the Jointing Table

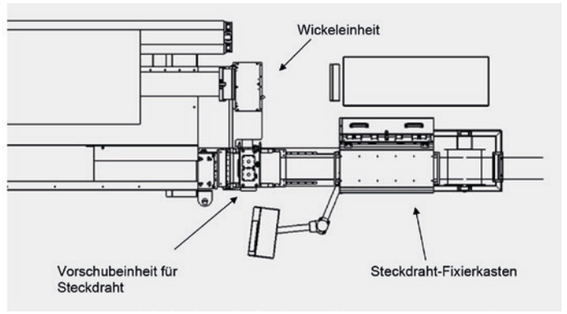
Design

- Modern lightweight steel construction
- Nearly vibration-free and without distortions for highest precision
- Safety standards according to CE standard
- Very good access to all maintenance and working areas
- High-quality components ensure maximum reliability and little maintenance work
- Simple retooling for other filler-wire types

Structure



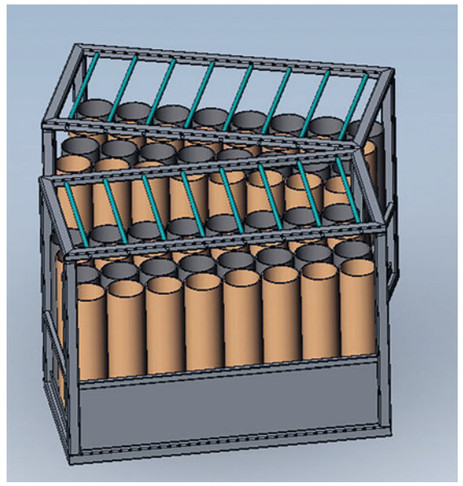
Jointing side



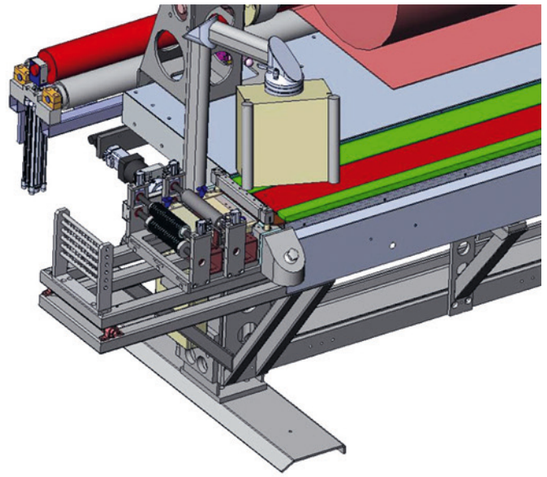
Pintle wire side

Functional Characteristics

At the left side of the table the spiral carriers are located where the individual spirals run through a guiding grill. Then they are jointed by the jointing unit.

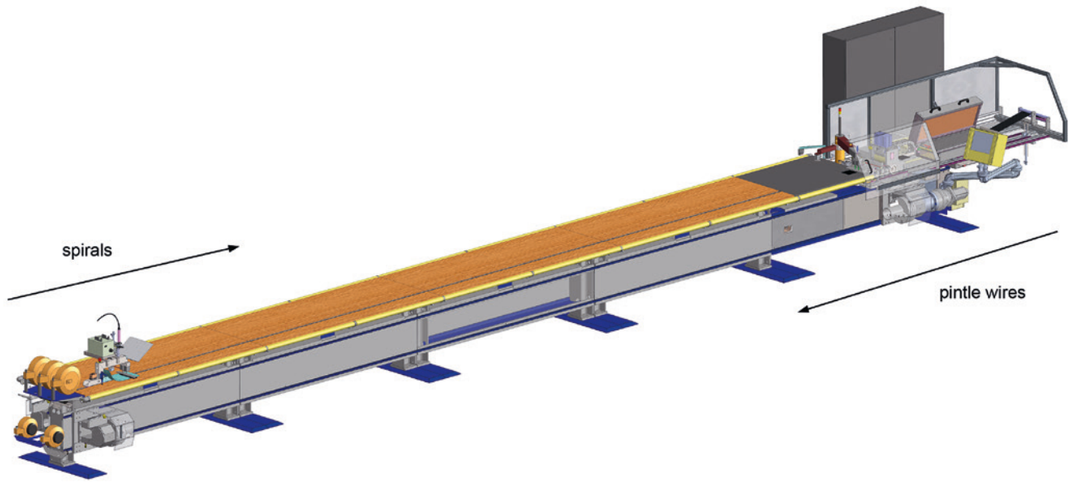


spiral carrier



jointing side with jointing unit and guiding grill

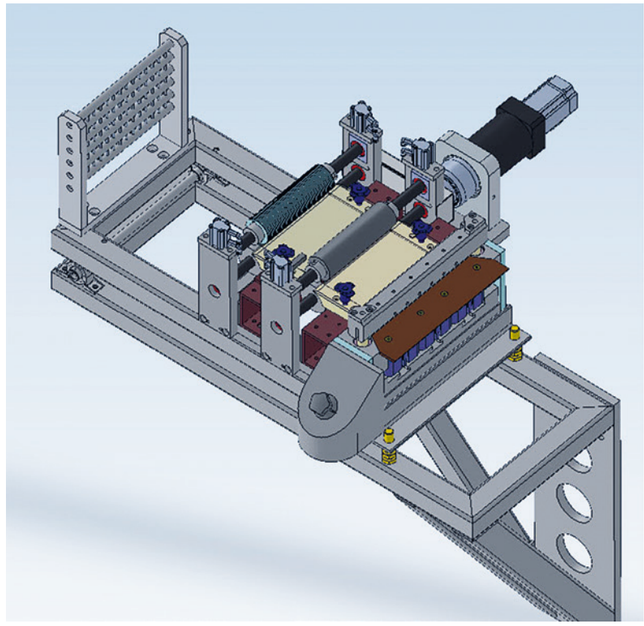
A jointed section is cut to a preselected length and then transported via the conveyor belt to the right until reaching the feed unit. Now, the pintle wires are inserted via the matrix unit of the feed unit and also cut to a preselected length.



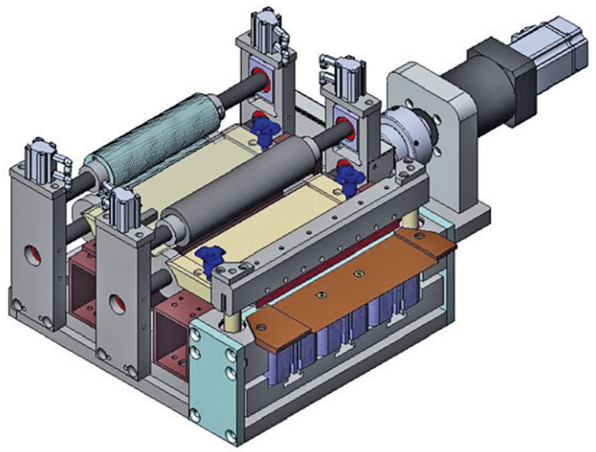
Finally, the cover disks of the jointing channel are opened and the jointed section can be taken out. Then, the section is tied manually in a simple way to the previously manufactured sections and rolled up by the winding unit.

Jointing unit with Changing System

Jointing unit with guiding grill and changing module



Over the guiding grill, the individual spirals are transported to a profiled roller that joins the spirals. A gummed cylinder pair next to this roller guarantees a constant forward feed of the spiral band.

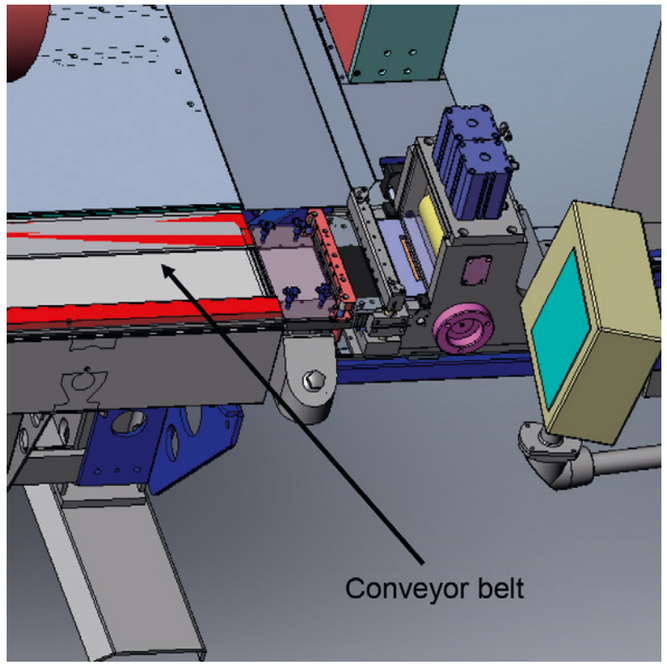


Changing module of the jointing unit

Conveyor belt

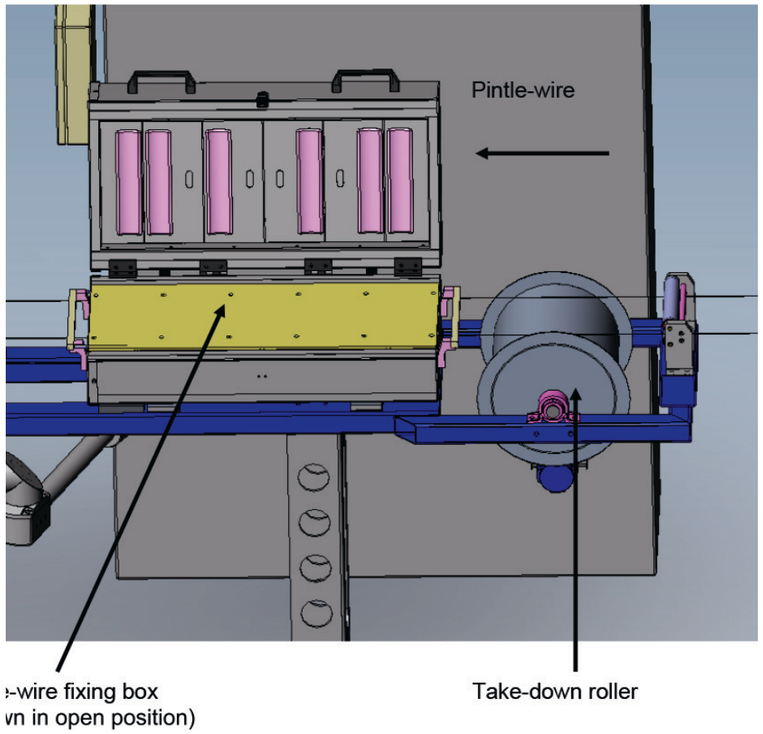
After having passed the jointing unit, thespiral band is placed on the conveyor belt whose speed of operation is synchronised with the forward feed of the gummed cylinders. The band consists of plastic reinforced with plastic and is moved by a frequencycontrol-led threephase motor.

The speed of the band is set in the control system of the machine or the feed regulator.



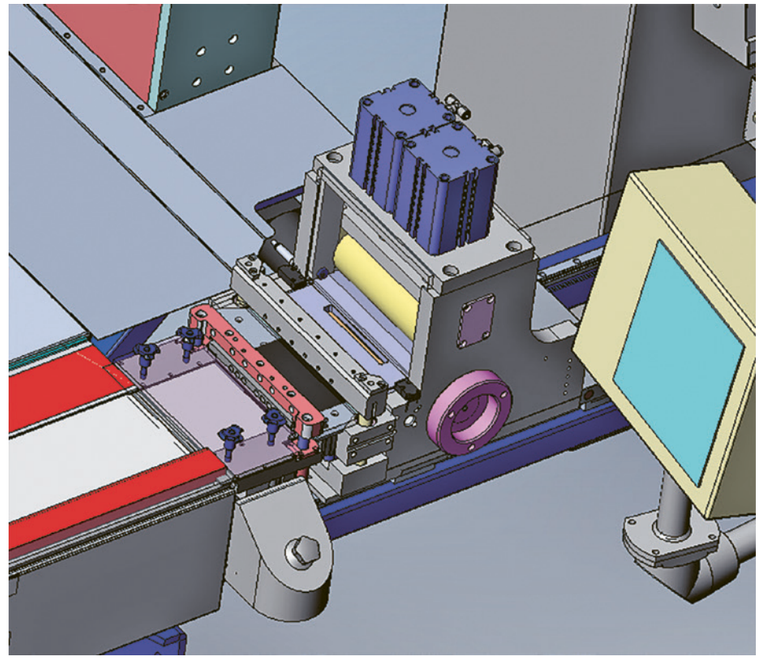
Heating

For guaranteeing a trouble-free insertion of the pintle wires, the wires pass through a pintle-wire fixing box where the pintle wires are heated and straightened.



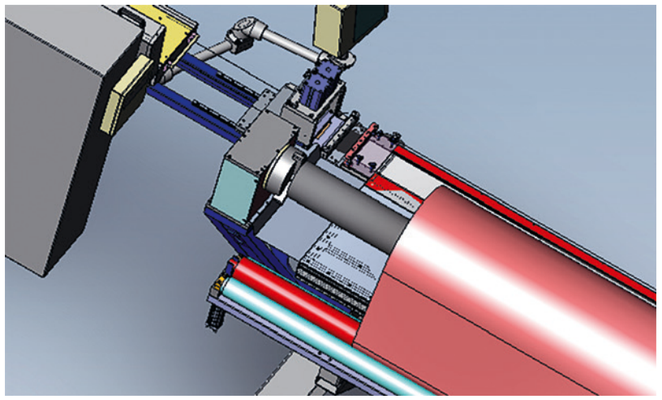
Feed unit

The feed unit for pintle wires consists mainly of a pair of conveyor rollers, a cutting device and a matrix unit dividing the wires to the exact partition of the spirals. The pair of conveyor rollers is made up of a gummed and a hardened cylinder pressing against each other. This ensures that the forward feed of the wires occurs with only very little wheel slip. As soon as the pintle wires have passed the complete screen, they are cut by the cutting device.

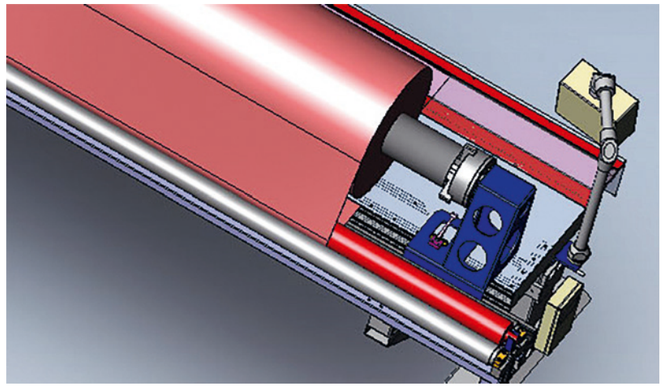


Winding unit

The winding unit is used for rolling up the jointed sections and for stretching them. The fitful winding-up results in an extension of the spirals in such a way that the pintle wires can only be removed from the screen with very much effort. It is possible to mount both short and long winding tubes as well as tubes with different diameters, as required.



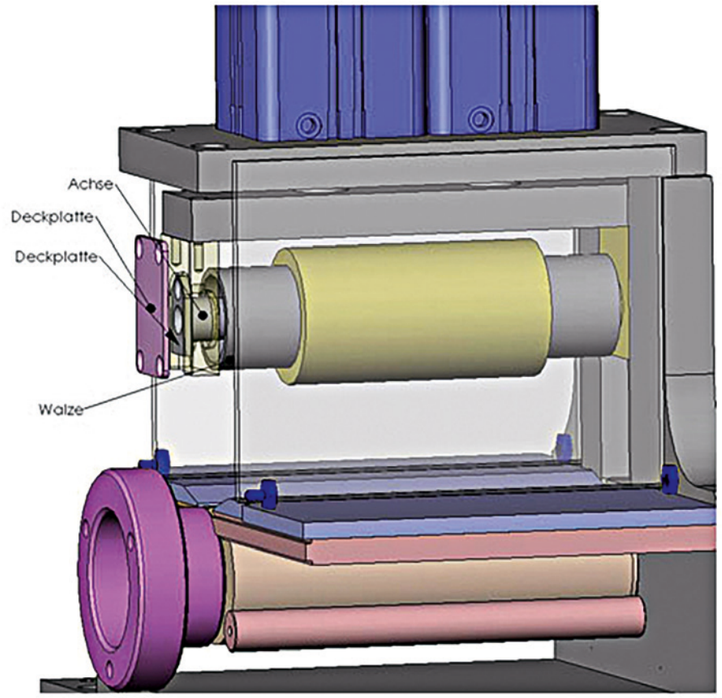
Drive side of the winding unit



Movable counter bearing for variable winding-tube lengths

Special Characteristics

- Faster retooling for other spiral sizes / pintle wires with our quick-retooling system
- By changing the process parameters via the menu control, the machine can be controlled universally.
- Due to the work-off of predefined steps and the application of the most recent control technique, a high process safety is guaranteed



Maintenance of the system

- The pneumatic components used are maintenance-free.
- The electric components must be subjected to a regular visual control and replaced, if necessary.
- The linear motors used must be maintained according to the maintenance plan of the manufacturer.
- Should it be necessary to replace the pressure roller of the feed unit (see top part of the picture), it can be done very easily. The screws of the cover plates are unscrewed, the arbor is removed on one side and the cylinder is taken out of its shell.

Specifications:

Electrical connection	3x400V +/- 10%, 16A, 50Hz +/-5% Power consumption: Max. 9.9kW (with heating switched on) Normal mode: approx. 4kW
Motors	Three-phase motors and servomotors
Control System	Siemens: Simatic Multipanel Touch Control voltage: 24V
Compressed-air supply	6 - 8 bar
Table lengths	customized
Heating	Infrared radiator: max. 250°C Temperature is adjusted via control system
Pintle wires	Round wires with diverse profiles
Spiral sizes	From 4.50 x 2.50mm to 14.80 x 8.00mm
Capacity	Jointing of up to 64 spirals per insertion. With a spiral size of e. g. 6.80 x 3.80 mm and a screen width of 6m approx. up to 15 m²/h
Space required	Length: approx. 6.00m + required table length Table width: approx. 2.70m
Dimensions	Width: 2,300 mm Depth: 1,200 mm Height: 2,250 mm

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TECHNOLOGY FOR YOUR BENEFIT

» Advice

» Partnership

» Quality

» Service

» Customer satisfaction

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