

# Braiding machines Gauge 680



**RATERA**<sup>®</sup>  
Founded in 1942



# Braiding machines Gauge 680

## Specialists in big diameters

- Greater rope diameter (70 mm) for a length of 220 metres, compared to other brands in the same category, due to having a larger bobbin capacity.
- Greater versatility, as it is capable of braiding diameters from 20 to 85 mm.
- Greater product diversity, due to being able to work with threads of different diameters, thanks to its carriers equipped with linear bearings and hardened guides.
- Less noise, thanks to its helical gears.
- Greater durability and lower maintenance, thanks to the ball bearings used in the pinion/horn-gear assembly.
- Greater stability at the braiding point, thanks to the two hardened and rectified linear guides.
- Lighter, more resistant bobbins, with aluminium flanges and steel nucleus.
- Anti-tangling controls in the working zone, using photocells.
- Complete control of the machine, thanks to the inclusion of cutting-edge software and touch screen, making the process more intuitive and practical.

## Mechanical design to the last detail

### • Housing

- Lower housing made of rolled and weldable steel.
- Oil lubricated using a control system with oil-bath, motorised pump and independent circuit for lubricating the upper track plate.
- Automatic machine stop in case of lack of lubrication.
- Hardened and precision finished  $\varnothing 680\text{mm}$  horn-gears.
- Hardened and precision finished crossings.
- Main 7.5 Kw reducer motor with incorporated encoder, to guarantee perfect step synchronisation.
- Six stopping devices for yarn breakage or bobbin run out, together with 2 photocells to prevent thread falling into operating area.
- With shaved helicoidal gears transmission.

### • Bench

- Cross-shaped structure.
  - Includes 8 floor support points with adjustable feet to level the machine, and 4 lower support points for the housing.
- ### • Square frame
- Made of metal sheet.
  - Consists of 2 columns and 1 upper bridge, which can be dismantled.
  - Height from floor level to highest point of machine: 5200 mm (with anti-tangling switch fully raised) and 4270 mm (with anti-tangling switch fully lowered).
  - Alignment wheel  $\varnothing 800\text{ mm}$ .
  - Metal access ladder to capstan and braiding point with upper platform, door and safety sensor.
  - Includes push buttons to manually adjust the height of the braiding point.

### • Overall guard

- Tubular sheet metal structure around whole perimeter at height of 2.1 metres.
- Grate/"Deployé" metal sheet window with extensive visibility.
- Double front and rear doors.
- Equipped with safety sensors to comply with CE machinery safety regulations.

### • Carrier

- Gauge 680 mm with  $\varnothing 365 \times 730\text{ mm}$  bobbin with capacity for  $74.319\text{ cm}^3$ .
- Hardened and precision feet and guides.
- Bobbin with reflective adhesive in nucleus/barrel to detect bobbin run out using photocell.
- Equipped with top open bushing, harden middle yarn guide pulleys and yarn tenseur, with bearings, for a maximum thread diameter of 20mm (single thread).
- Yarn tenseur with harden linear guides equipped with linear bearings for maximum glide efficiency.
- Changeable traction springs for different tensions.
- Carrier shoe with break with quick action screw adjustment in case of brake pad wear.
- Traction control plungers.
- Option for open top yarn guide with self-guiding rotary pulley to improve thread friction.

### • Braiding point

- Multidirectional top anti-tangling switch & braiding point detector (braid die SPLIT type) including a ball socket & a microswitch for a maximum of  $\varnothing 85\text{mm}$ .
- Allows springs to be changed for different levels of sensitivity.
- Motorised height adjustment system.
- Equipped with a motor reducer.
- Operated using rack and two linear guides for improved grip.

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Braiding machines Gauge





RATERA is entering into the sector of **large diameter braiding machines**, filling the gap in this market by incorporating the most cutting-edge techniques in new materials, technology and processes.

• **Take-off system**

- Independent tower made of steel plate.
- Equipped with two Ø800 mm wheels with 4 grooves, for a maximum thread diameter of 85 mm.
- Operated by one 2CV motor reducer (1.5 Kw).
- The control panel allows the operation using ticking of the take-off and the machine or from the take-off only.
- Allows spin direction to be reversed.
- Variable speed control on electrical panel.
- Emergency stop.

• **Independent electrical control panel**

- Equipped with 2 frequency shifters to change the speed of braider main motor and take-off system.
- PLC to control whole process and machine movements.
- 10.5" touch screen.
- Complete programme for operating and controlling all braiding parameters, with the following features:
  - Allows entering the required helix/pitch.
  - Horn-gears RPM control.
  - Partial and total metre counter.

- Counter for operating time and remaining time.
- Control for all important machine parameters, with graphic indication of problems in the event of stops caused by breakdowns.
- Detector warning for open door, anti-tangling switch, bobbin yarn run out and maintenance alerts.
- Graphic indication of fault locations in the event of the machine stopping due to an alarm.
- Acoustic start-up signal.
- Database containing parameters of the products made, allowing all of the adjustments to be saved for each of the client's products. The different types of products to be braided can then be recovered quickly, without having to re-enter the adjustments.
- Saves alarm log, indicating the time and problem.
- Option for including rope calculation tools (strand diameter required, planned meters of rope, etc.)
- Buttons on desk, inside braiding machine, in independent take-off system and on frame.
- 2 red lights indicating machine status.

**Winding machine 1PVLU/820  
Essential complement**

As an essential complement to the Model 680 Braiding Machine consider the **1PVLU/820 Winding Machine** which is made with the same spirit of solidity and modernity in mind.

- Semi-automatic, designed to fill 1 bobbin with a maximum flange diameter of 365 mm.
- Adjustable traverse between 730 and 820 mm.
- Adjustable pitch between 3 and 40 mm using a distribution box.
- 3 operating modes:
  1. At constant head unit speed: Allows the head unit speed to be adjusted up to a maximum of 430 RPM. designed for when the feeding uses a creel with tensors and break detectors.
  2. At constant thread speed: Allows the thread speed to be adjusted up to a maximum of 80 metres per minute. The head unit speed will be adapted to the diameter of the bobbin, thanks to our frequency shifter designed for when the feeding method uses a creel with tensors and break detectors.
  3. At constant tension: Allows the spooling tension to be adjusted, only when the spooler is connected to a thread feeding machine such as a twister: The tension is kept constant and the speed is adapted to the feed.

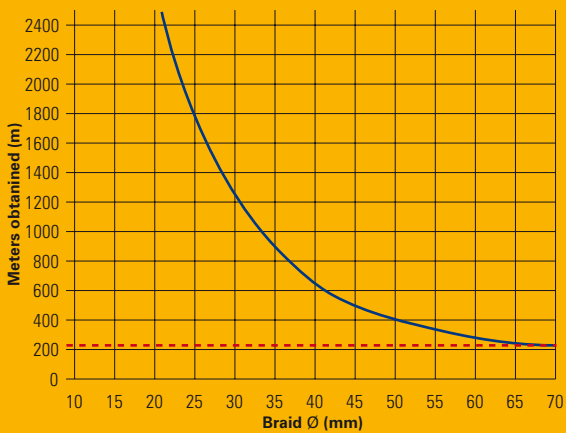
- Electrical panel consisting of:
  - Emergency stop.
  - Left or right hand inching.
  - Metre-counter.
  - Operating mode selector.
  - Accessories
    - Bobbin turner: Allows the full bobbin to be unloaded in a vertical position, to help with the unloading process. The turner is reversible, allowing it to spin left or right depending on whether the thread tension is S or Z, to keep the same position as the bobbins in the braiding machine.
    - Transportation trolley: Allows full bobbins to be transported effortlessly from the spooler to the braiding machine. The height is calculated to permit simple and immediate installation in the Ratera 680 braiding machine.



1PVLU/820  
Winding machine



### Technical features



Number of Carriers	<b>12</b>
Motor power	<b>7.5 Kw/10 Cv</b>
Horn gear speed*	<b>33</b>
Bobbin dimensions	<b>Ø365 x 730 mm</b>
Bobbin capacity	<b>74.319 cm<sup>3</sup></b>
Length (a)	<b>7,5 m</b>
Width (b)	<b>3,3 m</b>
Height (c)	<b>5,2 m</b>
Maximum rope Ø	<b>85 mm</b>

\*According to raw material

