Patented

BALTEC ELECTRIC

Servo Riveting & Roller Forming Units with HPPi PC Software

Rivet Shank-Ø: up to 20 mm | Force: 0.3 - 50 kN | Stroke: 0-100/200 mm

BalTec

Key Features | Content of Delivery

Servo Riveting and Roller Forming Units with HPPi PC Software

Riveting Processes: Radial, Orbital, Tangential, Roller Forming

Power Range: 0.3 up to 50 kN, covered by 4 Base Models

Standard version

- Power unit with all sensors and corresponding process module
- Cable set between unit and control box (2.4 m / 3 m, depending on design)
- Automatic spindle lubrication, two threaded rings
- Control box with drives with integrated safety PLC, IP/Ethernet & USB interface
- HPPi PC software based on Windows 10
- Various digital interfaces to integrate the unit in the customer's safety systems
- Safety standard PLe / SIL 3
- Declaration of incorporation according to 2006/42/EC

Suitable options

Mechanics

- Adapter for side mount on columns
- Columns with or without table or C-columns
- Automatic lubrication for form tool holder/ pressure cup of ER models
- Down holder with or without rivet base detection (only for radial and tangential)

Electronics

- Cable set instead of the standard cable (5 m / 6 m, depending on design)
- HMI (PC with touch screen), all-in-one (10.4 inch) with pre-installed HPPi PC software
- Communication OPC/UA (only on request and with clear indication of the requirement)

Models	Process	Shank [1] max.Ø mm	VS [3] mm/s	VR [3] min^{-1}	F [3] kN	S mm	G Unit [2] kg
ER03U	Radial	2.0	0.05-140	0-3000	0.3 - 3.0	0 - 100	28
ER15U	Radial	10.0	0.05-140	0-3000	1.5 - 15.0	0 - 100	28
ER30U	Radial	15.0	0.05-180	0-2000	3.0 - 30.0	0 - 200	120
ER50U	Radial	20.0	0.05-120	0-2000	5.0 - 50.0	0 - 200	120
ET03U	Tangential	2.0	0.05-140	0-3000	0.3 - 3.0	0 - 100	28
ET15U	Tangential	10.0	0.05-140	0-3000	1.5 - 15.0	0 - 100	28
ET30U	Tangential	15.0	0.05-180	0-2000	3.0 - 30.0	0 - 200	120
EO03U	Orbital	2.0	0.05-140	0-3000	0.3 - 3.0	0 - 100	28
EO15U	Orbital	10.0	0.05-140	0-3000	1.5 - 15.0	0 - 100	28
EO30U	Orbital	15.0	0.05-180	0-2000	3.0 - 30.0	0 - 200	120
EB03U	Roller Forming	–	0.05-140	0-1000	0.3 - 3.0	0 - 100	28
EB15U	Roller Forming	–	0.05-140	0-1000	1.5 - 15.0	0 - 100	28
EB30U	Roller Forming	–	0.05-180	0- 800	3.0 - 30.0	0 - 200	120

S = Stroke
F = Max. forming force
VR = Rotational speed
VS = Linear speed
G = Weight without forming tool

[0] Tangential
[1] Steel 370 N/mm^2
[2] Weight without adapter and control box/table
[3] Restrictions reserved

Subject to technical change.
Different types on request.
Product pictures not binding.

Technical Specifications ELECTRIC

Base Unit

- Linear stroke of up to 100 mm, respectively 200 mm
- Linear speed of 0 – 120 mm/s, respectively 0 – 180 mm/s, servo regulated
- Rotation speed of 0 – 3000/min^{-1}, servo regulated
- Easily exchangeable process heads (radial, tangential, orbital, roller forming)
- Intergrated overload mechanism with simple puncture repair
- Coaxial load cell (DMS) with amplifier allows true force measurement
- Position measurement integrated by two independent systems
- Integrated temperature measurement on engines, servo drive monitors temperature
- Slim, straight design with internal cable routing
- Standard lubrication of the spindle, software monitored and controlled
- Connectors for cable connection to the control box on the spindle head
- Optional: down holder available (with rivet base detection on request)

Control Box

- Complete control box (IP50) with 2 axial fans according to CE-Standard
- 3x380 bis 480 VAC (45 – 65 Hz) secured with 16 A
- Main switch on the front
- Safety PLC, servo drives & transformers
- Ethernet/IP and USB 3.0 connection
- Cable set to base unit (2.4 m / 3 m, depending on design)
- Digital inputs and outputs for external safety and higher-level PLC
- Optional:
  HMI monitor and manual control box available
  Main switch in door available
  Control box in UL standard available
  Cable set extension (5 m / 6 m, depending on design)

Software

- Based on Windows 10 (64 bit) with integrated Teamviewer for remote access
- Integrated: Program data and process data management with riveting curve recording, process data evaluation with component feedback (IO / NIO status), work piece or rivet recognition by adaptable rivet start recognition (NA), user management with password
- Process parameters: Forming time, path and force, spindle path, linear and rotational speed
- Display of machine status information for diagnosis and alarm display/acknowledgement
- Can also be used offline for diagnosis
- Predefined master programs available, can be copied and customized
- Manual operation with separate input mask
- Logging of all process data on internal PLC, on USB memory stick or in the company network
- Graphical display of process curves and data, individually adaptable
- Download of programs, data and curves for storage or diagnosis
- Ethernet IP interface as standard
- Software only for BalTec ELECTRIC products, no knowledge of servo drive programming required
- Optional:
  OPC/UA interface available
  (on request and with clear indication of the requirement)

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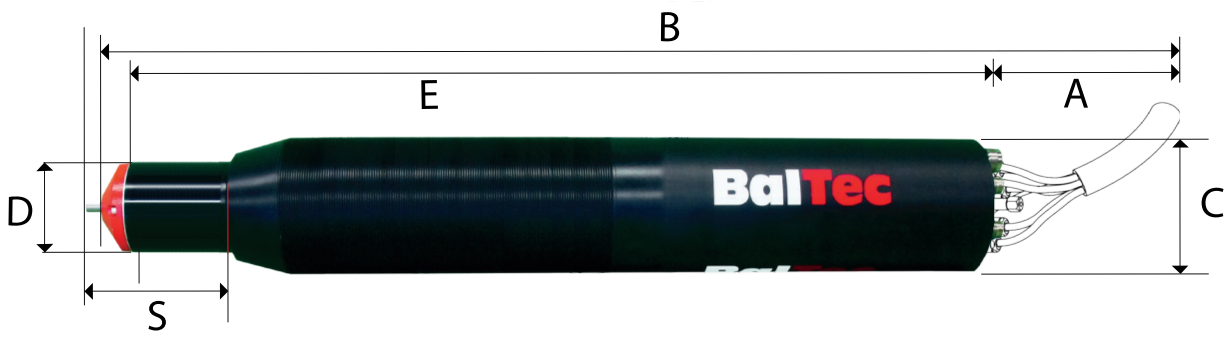
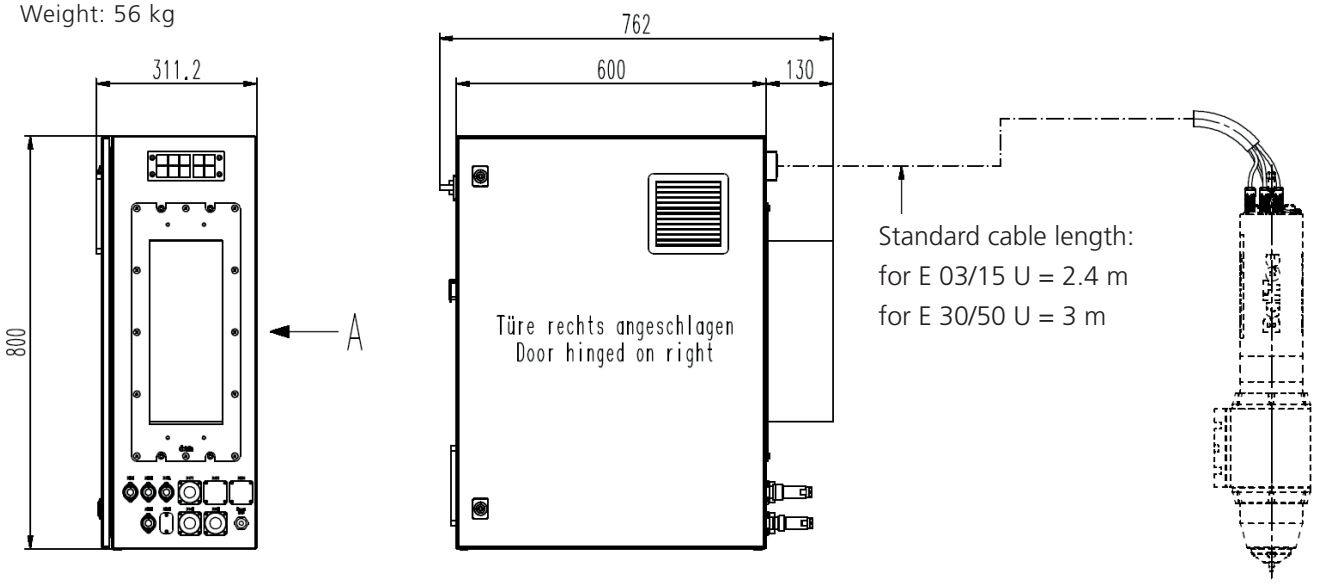
Design for Models E 03U | 15U | 30U and ER50U



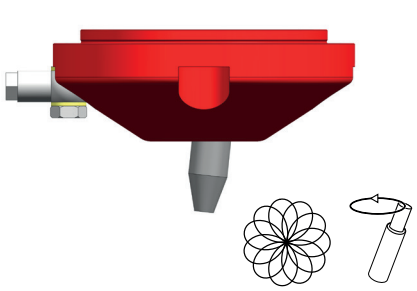
Measurements in mm	E 03	E 15	E 30	E 50
A	min. 200	min. 200	min. 218	min. 218
B	min. 874	min. 874	min. 1283	min. 1283
C	120	120	180	180
D	80	80	140	140
E	674	674	1022	1022
S	0-100	0-100	0-200	0-200

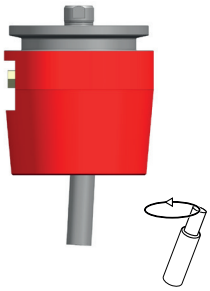
Control Box for all Models

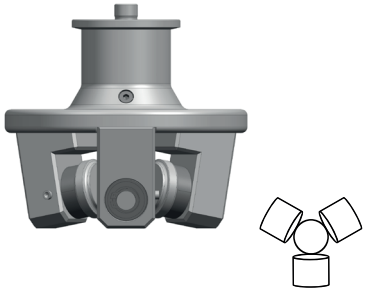
Weight: 56 kg



Riveting- and Roller Forming Heads

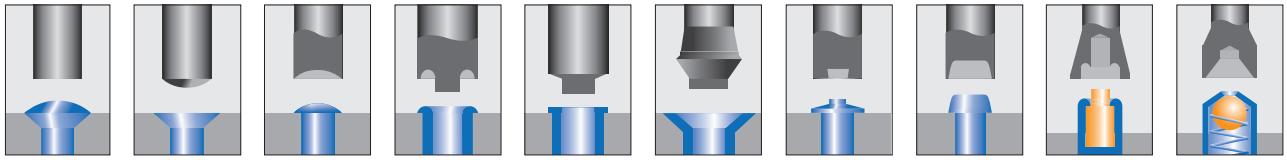




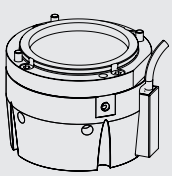


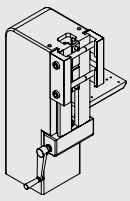
Forming tool profile

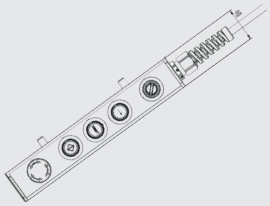
Having the specific tools needed for your metal forming project can mean the difference between success and failure. Contact us with your unique application for custom tooling.

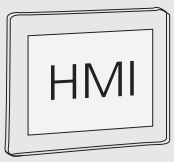


Accessories









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