EA30 ELECTRIC Roller Forming Machine

3 axis, servo-driven, for articulating roller forming

Force: 0.3 up to 30 kN | Stroke: up to 200 mm |

BalTec

3 axis servocontrolled for radial articulating roll forming with HPPi PC-Software

Forming processes: axial roller forming, radial roller forming, crimping, 3D forming

Force range: 0.3 up to 30 kN - axial and radial

- **Main Features**
- Workcell with roller forming unit, incl. roller forming head: Net weight ~ 450 kg
- - Width: 1200 mm
  - Depth: 1000 mm
  - Height: 2400 mm
- Control cabinet mounted on the side
- Enclosure with lift door at front including safety interlock
- Manual control box mounted on the frame
- HMI-Monitor (PC) with HPPi-Software installed
- C-Frame with integrated table, made from steel
- Floor standing table, steel structure with lockable swivel castors
- EK0-360, adjustable task light, LED
- Process Module: Articulating roller forming
- Three axis servo controlled; Stroke Z, Rotation M, Radial movement
- Process data archiving of all axis
- Power supply: 3x380 to 480 VAC (45-65 Hz), 16A overload protection

Standard Version
- Power unit with all sensors
- Process module with three-rolls roller forming head
- Cable set between power unit and control cabinet
- Automatic spindle lubrication
- Two threaded rings
- HPPi PC-Software, based on Windows 10
- UDP communication module for process data upon request. No charge
- Safety standard PLe/SIL 3
- EC Declaration of conformity for machinery 2006/42/EC
- Assembly instruction and manufacturer's verification certificate (force and path) at first delivery enclosed as hard copy – in English
- Operating Manuals and Software enclosed on electronic media (USB) in English

Basic Unit

- Force axial axis: 3.0 to 30 kN
- Linear Stroke: max. 200 mm, servo controlled
- Linear feed rate: max. 180 mm/sec, servo controlled
- Rotation Speed: max. 800 min-1, servo controlled
- Integrated mechanical overload protection
- Coaxial load cell (DMS) with amplifier allows true axial force measurement
- Axial path measurement via two independent measuring systems, monitored against each other
- Integrated motor temperature monitoring via servo drives
- Standard lubrication of the spindle, software monitored and controlled

Optional – not included in this proposal

- Adapter for side mount to column
- C-frame

Process Module & Roller head for articulated roller forming

Roller forming head with 3 rolls. One set of rolls with customer specific geometrie included.

- Roller forming head with 3 rollers. One set of application specific rollers included
- Force radial axis: up to 30kN, total of all three rollers
- Radial stroke (radius): 10 mm
- Radial feed rate: max. 10mm/sec, servo controlled
- Coaxial load cell (DMS) with amplifier allows true radial force measurement
- Radial path measurement via resolver integrated in roller forming head
- Work piece size & limitations – refer to dimensional sheet

Optional – not included in this proposal

- Down holder integrated in roller forming head

CONTROL CABINET

- Servo drives for three axis, power distribution, 24V power supply, integrated safety PLC, IP/Ethernet & USB port
- Main Switch in side wall
- Integrated fans for cooling
- CE Standard, IP50 – rating

Optional - not included
- Control Cabinet acc. to UL-Standard
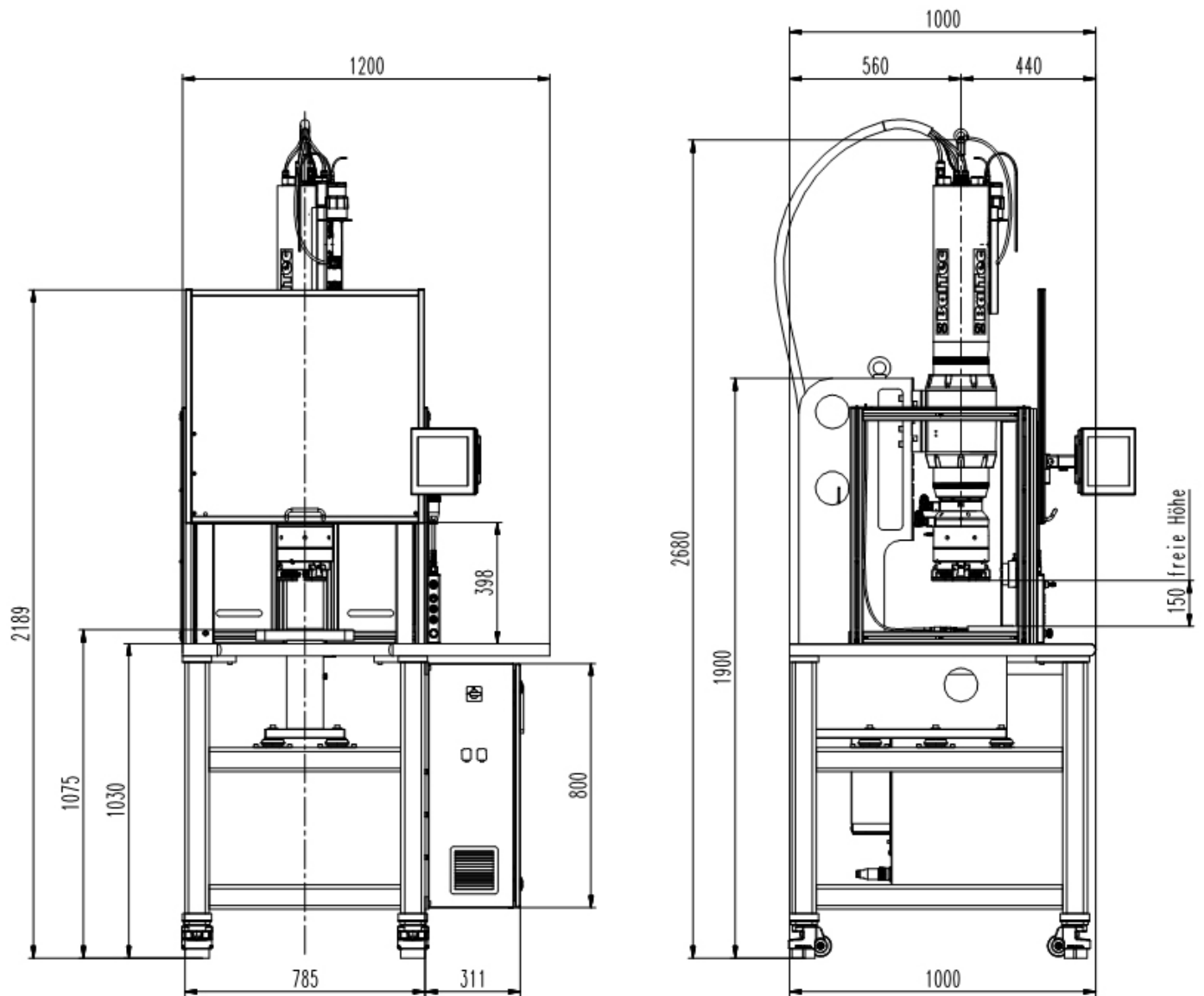- Main Switch through the door

Connectivity
- Ethernet/IP and USB 3.0 Connection
- Cable set between power unit and control cabinet 3.0 m
- Existing connections on the control cabinet:
- X111: Socket for Working light, Reserve
- X121: Socket for Lubrication of spindle and riveting head
- X131; Socket for Safety (light curtain, lift door interlock, other safety interlock)
- X141: Socket for external safety, reset, cycle permissive
- Alternative a; - Delivery default / b; - Configurable by customer
- X151: Socket for Externa emergency Stop, start signal, permissive for work piece handling
- X161: Socket for PLC interface, cycle start, program selection, HPPi OK/Ready, Cycle evaluation OK/NOK
- X171: Socket for Manual Control Box

Optional - not included:
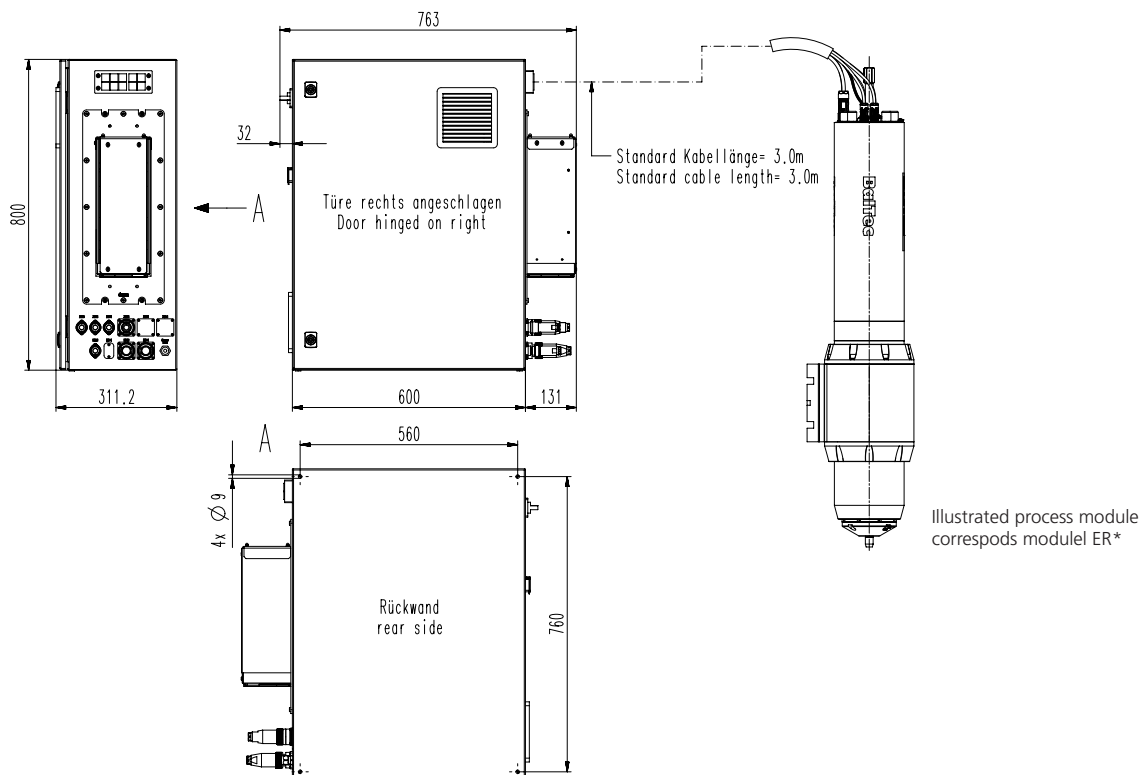- X161; PLC-Interface, plug with cable 5.0m

Software HPPi
- Based on Windows 10 (64 bit) with integrated TeamViewer for remote access
- Program- and process data management with process curve visualisation
- Process data evaluation with feedback of OK/NOK status
- Work piece detection, various types of process start detection (RA)
- Password protection for different access levels
- Process parameter for axial & radial movement: Forming time, Forming path, Forming force, Spindle path, Linear- and Rotational speed
- Display of machine status information for diagnostics and alarm display/acknowledgement
- HPPi SW can also be used for offline diagnostics
- Predefined master programs available, can be copied and customized
- Manual operation in 'jog-mode' on separate screen
- Logging of all process data on internal PLC, on USB stick or on the customer network
- Graphical display of process curves and data, customizable
- Download of programs, data and curves for storage or diagnosis
- Ethernet IP interface as standard, UDP Protocol for process data available
- Software only works with BalTec ELECTRIC Products. No experience of servo drive programming required.
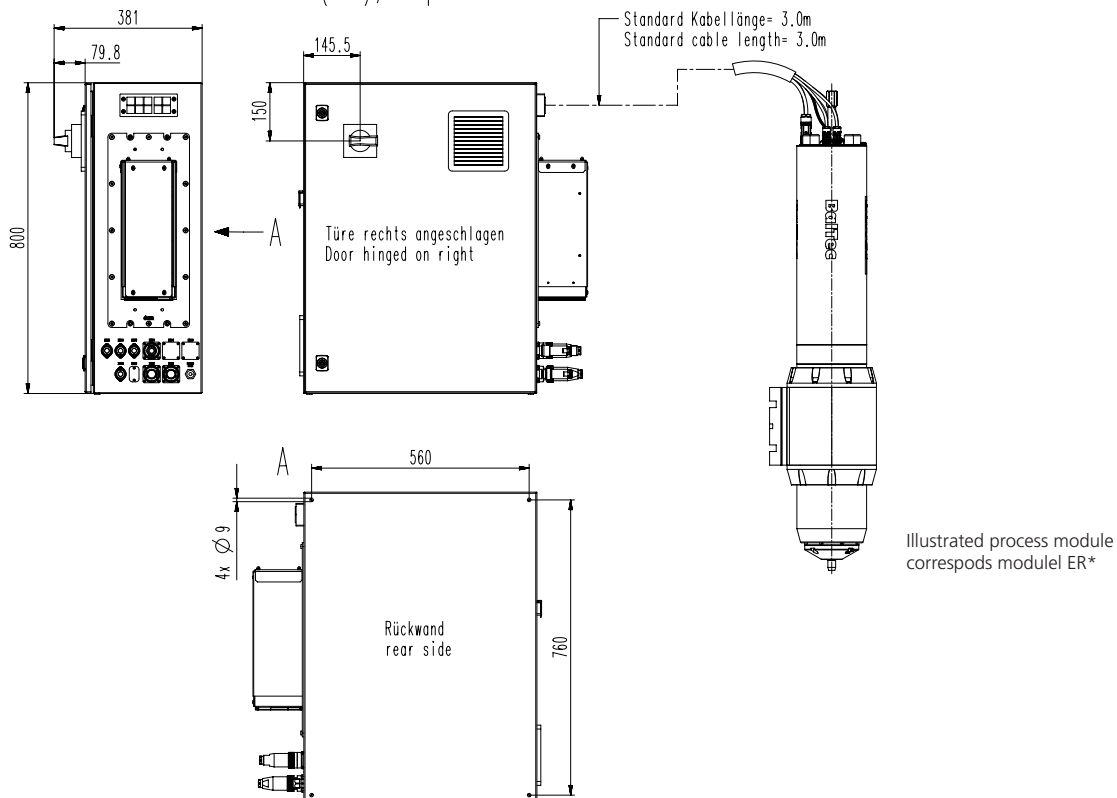- OPC/UA Communication available (On request and with clear definition of the requirement)

Design for control cabinet - EU-standard, lateral main switch (UL-standard not possible)
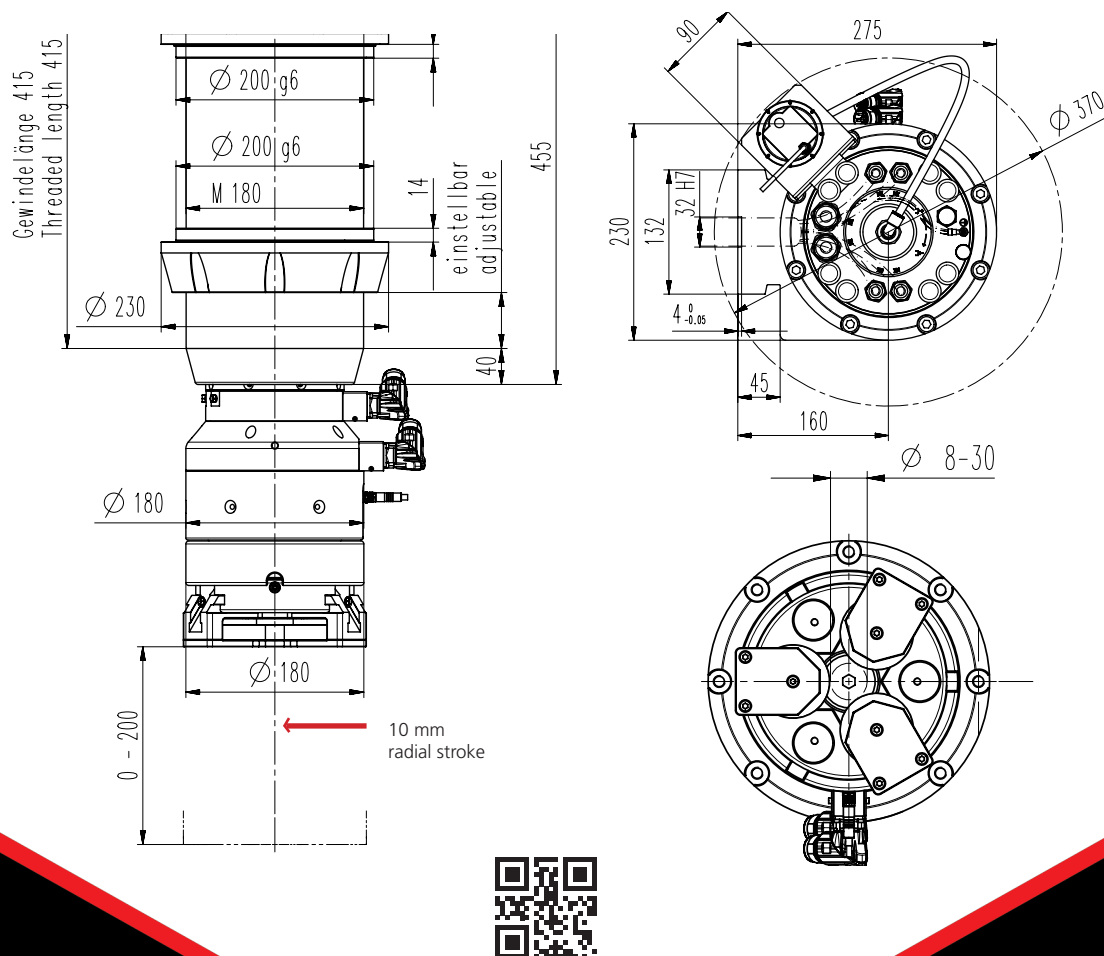
Version Europa Norm, Hauptschalter seitlich

763

32

800

311.2

600 131

Türe rechts angeschlagen
Door hinged on right

Standard Kabellänge= 3.0m
Standard cable length= 3.0m

A

A

560

4x Ø 9

760

Rückwand
rear side

Illustrated process module
correspods modulel ER*

Design for control cabinet - EU-standard (optional UL-standard)

Version UL Norm (USA), Hauptschalter in Türe

381

79.8

145.5

150

800

Türe rechts angeschlagen
Door hinged on right

Standard Kabellänge= 3.0m
Standard cable length= 3.0m

A

A

560

4x Ø 9

760

Rückwand
rear side

Illustrated process module
correspods modulel ER*

- Radial travel — 10 mm on the radius
- Max radial in/outward movement speed — 10 mm/s
- Forming speed — 0-10 mm/s radial
- Max. radial force per slide / all slides — 10kN / 30kN
- Max. axial push force — 30 kN
- Max. axial pull force — 3 kN
- Part Ø to Roll form (with diff. rollers & slides) — PØ5 – Ø25 – Ø75* mm
- Part height – internal clearance (Part Ø < 40mm) — 80 mm
- Part height – internal clearance (Part Ø > 40mm) — 20 mm

* Larger diameter possible on request

SWISS MADE

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