

Product drawing not binding

## Data sheet NHE

Rivet base detection device

combinable with HPP-25, RC-30 and 3<sup>rd</sup> party control

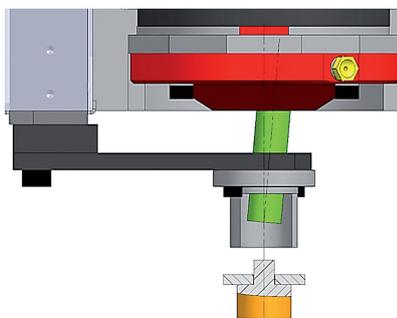
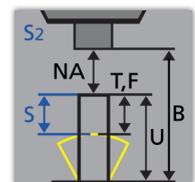
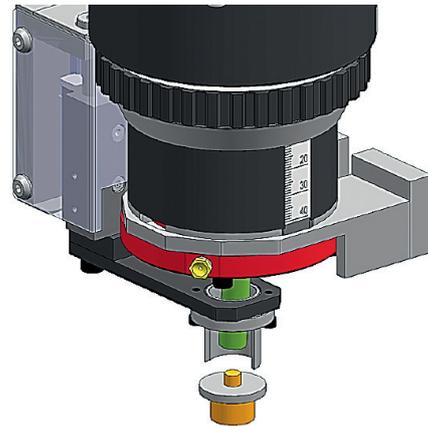
## Overview

### Rivet base detection device NHE-H, NHE-U, NHE-E, NHE-Combi

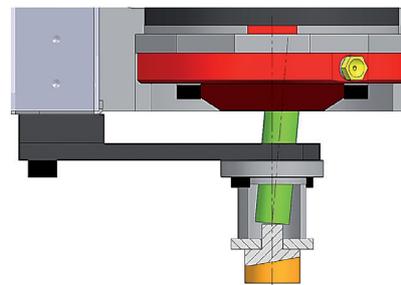
Combinable with: Process Control HPP-25, Time Based Control RC-30, 3<sup>rd</sup> party control

#### Function

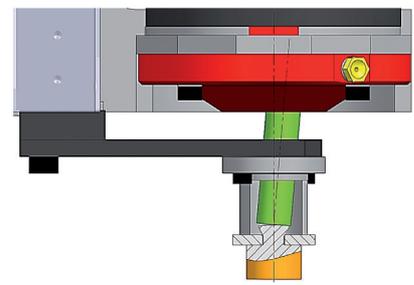
The NHE recognizes the rivet protrusion (U), serves as a downholder, helps to compensate dimensional deviations and detects missing components prior to the forming operation. Because of the NHE in combination with HPP-25 (required for most operation modes), it is possible to produce a constant head height, independent from the workpiece height. Controlling criteria (blue dimension) can be defined as for example final head height (H), forming time (T) or formed rivet length (S), even by considerable variance of workpiece height. Additionally, with the NHE, the process can monitor & inspect 100% of workpieces via many different customer defined tolerances (black dimensions). This 100% inspection eliminates the need for dimensional pre- or post inspection of workpieces, or additional inspection stations, which results in additional cost savings.



Machine in home position



Touch probe on work piece and forming begins



End of forming cycle determined by NHE feedback

- **Mycom switch**  
(NHE-U, NHE-E, NHE-C)  
Mechanical/electrical high-precision switch.

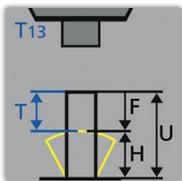
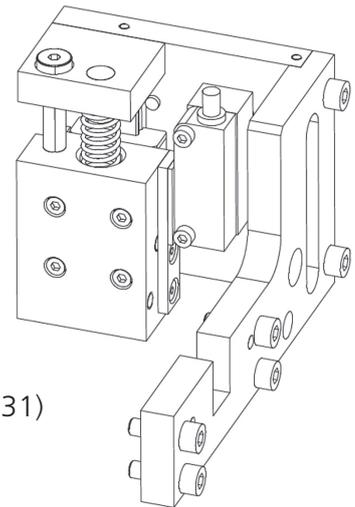
- **Measuring system**  
(NHE-H, NHE-C)  
Magnetic linear measuring system, integrated in the NHE. Only with BalTec Process Control HPP-25.

- **NHE-BIG**  
For larger rivets which require greater downholder forces (possible for RN/RNE 281-381 and 481). Can be used for driven head height.

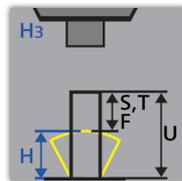
### NHE-H with measuring system

The rivet protrusion is calculated for definable control and monitoring criteria. This enables the exact closing head height to be determined – independent from flexing of machine.

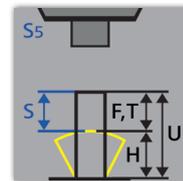
- Measuring system in the NHE (only with HPP-25)
- Controlling criteria: H (closing head height), S, T
- Possible modes: H2, H3, H5, H7, S5, T13
- Suitable models: NHE-STD-H-01 (151-231), NHE-STD-H-02 (281-431)  
NHE-BIG-H-01 (281-431), NHE-BIG-H-02 (481)



**T13** – controlled after NA detection with NHE. U, H and F monitored.



**H3** – H controlled. U, S, T and F monitored.



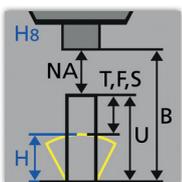
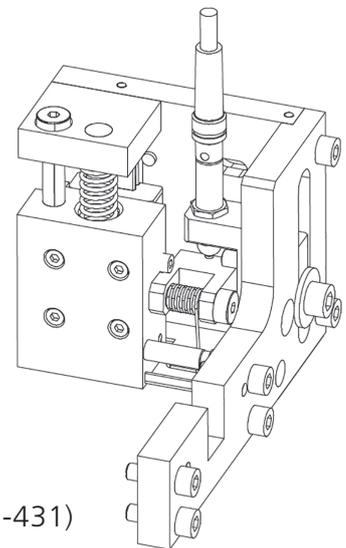
**S5** – S controlled after detection of NA. U, F, T and H monitored.

### NHE-U with Mycom switch

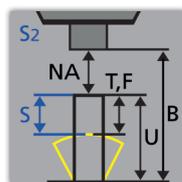
The HPP-25 determines via NHE the rivet protrusion prior to forming. In case the value is outside the tolerance, the forming cycle will be aborted.

Typical application: Varying workpiece height. Monitored criteria are calculated based on the machine's measuring system.

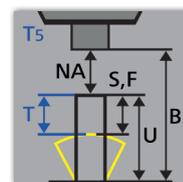
- Monitoring rivet protrusion U
- Measuring system (only with HPP-25)
- Controlling criteria: H, S, T or mode N
- Suitable models: NHE-MYC-U-01 (151-231), NHE-MYC-U-02 (281-431)  
NHE-BIG-U-01 (281-431), NHE-BIG-U-02 (481)



**H8** – H controlled after detection of NA. NA, B, U, T, F and S monitored. NHE-U necessary for rivet protrusion measurement.



**S2** – S controlled after detection of NA. NA, B, U, T and F monitored.

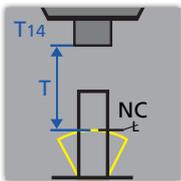
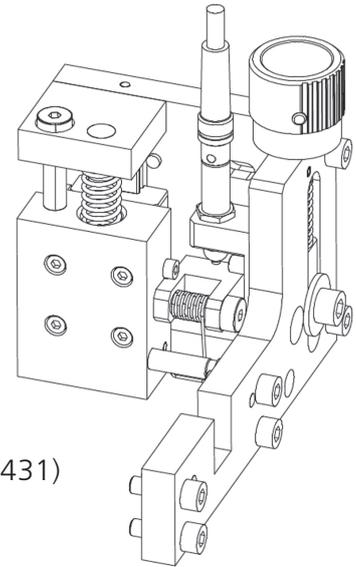


**T5** – T controlled after detection of NA. NA, U, S, F and B monitored.

### NHE-E with Mycom switch and spindle

The NHE references on the workpiece. The desired final head height is adjusted via adjustment knob. As a result, the NHE allows forming of a constant rivet height, regardless of workpiece height. Typical application: In combination with RC-30 or 3<sup>rd</sup> party control.

- Modes with control criteria E (total rivet spindle stroke) Mycom, with adjustment knob to adjust the trigger point
- Controlling criteria: N, T
- Possible modes: N1, 2, 3, 4, T14
- Suitable models: NHE-MYC-E-01 (151-231), NHE-MYC-E-02 (281-431)  
NHE-BIG-E-01 (281-431), NHE-BIG-E-02 (481)

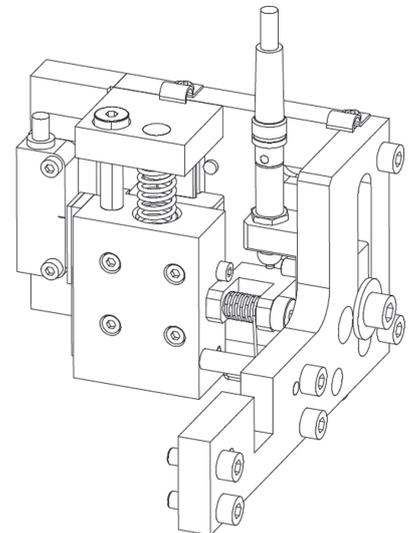


T controlled from TDC or until contact with NHE.  
No additional criteria monitored.

### NHE-Combi with Mycom switch and measuring system

Universal NHE; combination device – includes Mycom switch and measuring system. For rivet projection measurement U or riveting modes with control variable H (driven head height) Version NHE-BIG can only be used with HPP-25.

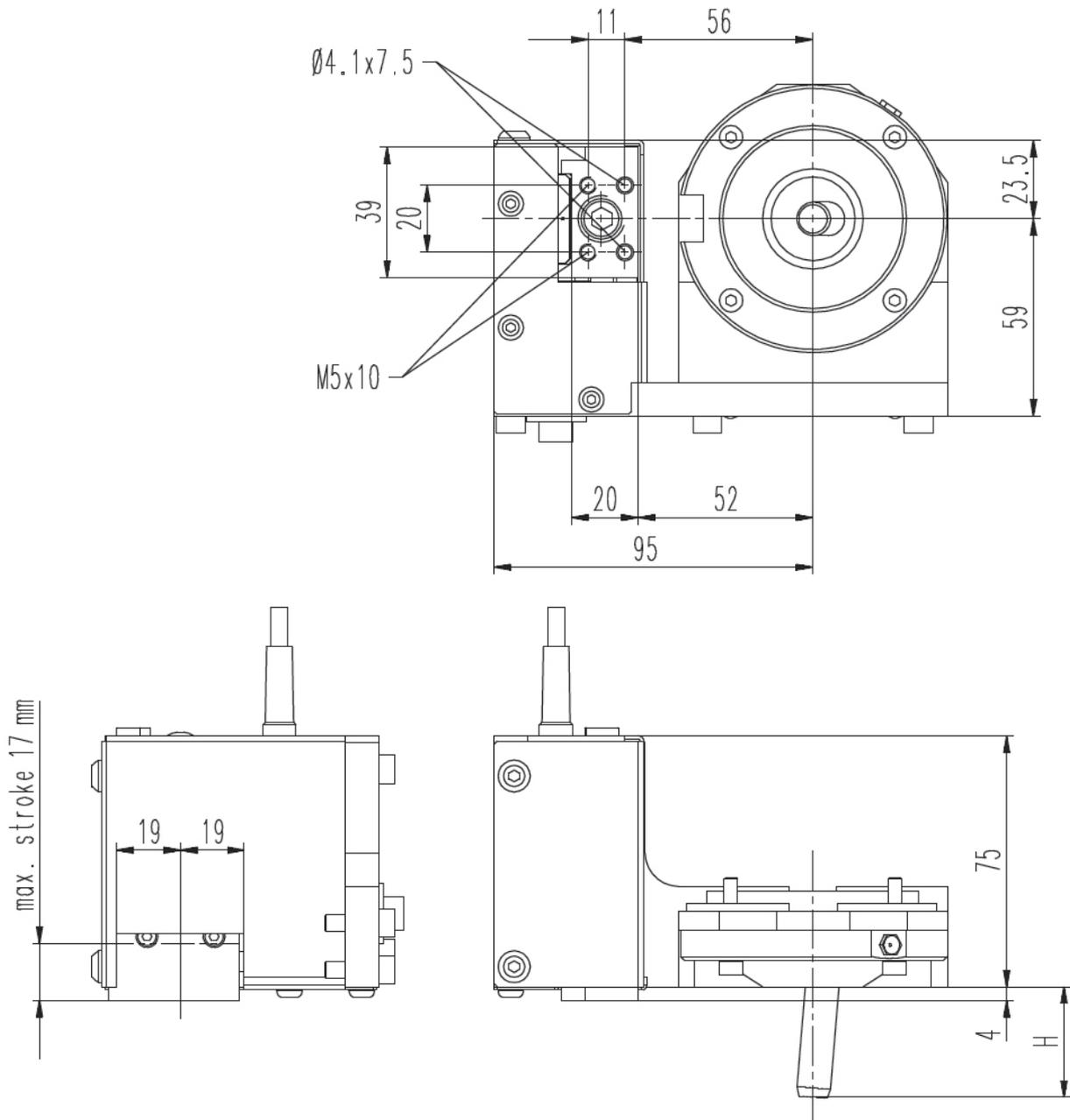
- Suitable models: NHE-COM-01 (151-231)  
NHE-COM-02 (281-431)  
NHE-COMBI-01 (281-431)  
NHE-COMBI-02 (481)



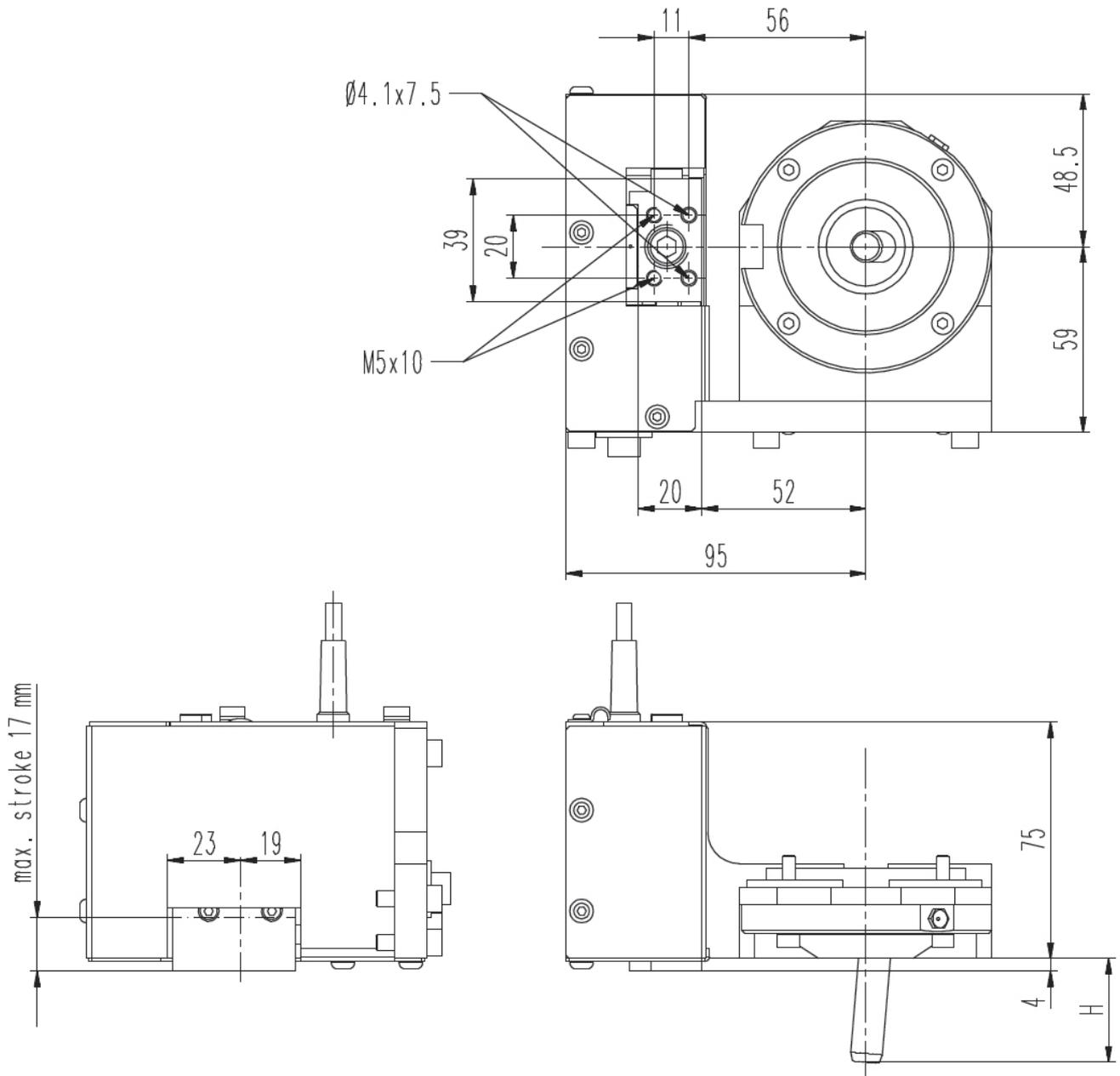
### Technical data

- NHE-X Standard, force in arm: up to approx. 40 N
- NHE stroke: 16 mm
- NHE-X big, force in arm: up to approx. 300 N
- NHE big stroke: 35 mm
- Linear measuring system, resolution: 0.005 mm (NHE standard & big)
- Stroke measurement-connection to HPP-25: X13
- Mycom connection to HPP-25: X14

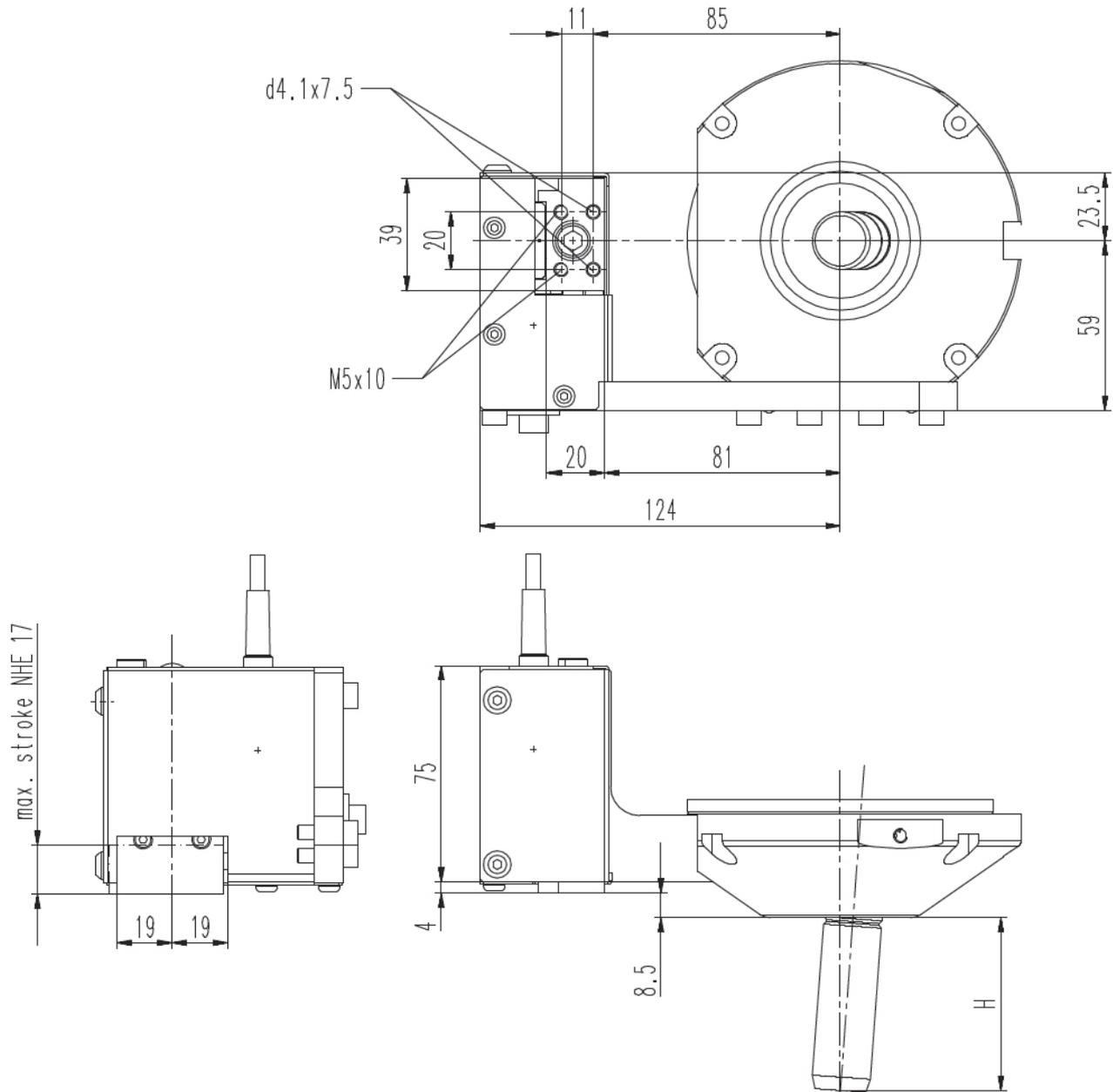
## Drawing RNE 151-231 with NHE (NHE-U, NHE-H, NHE-E)



## Drawing RNE 151-231 with NHE (NHE-C)

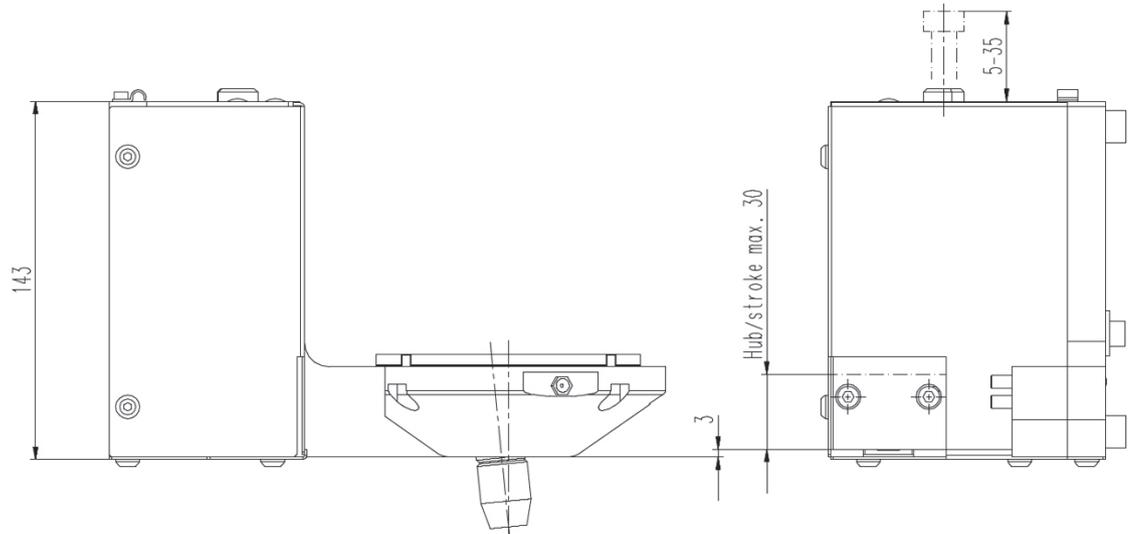
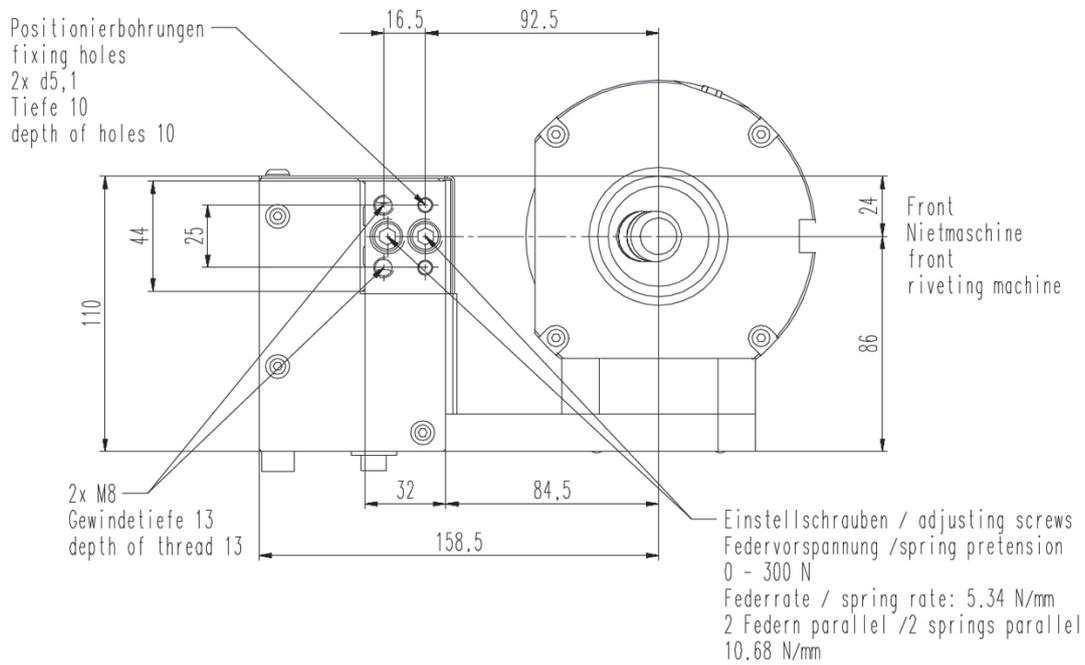


## Drawing RNE 281-431 with NHE (NHE-U, NHE-H, NHE-E)

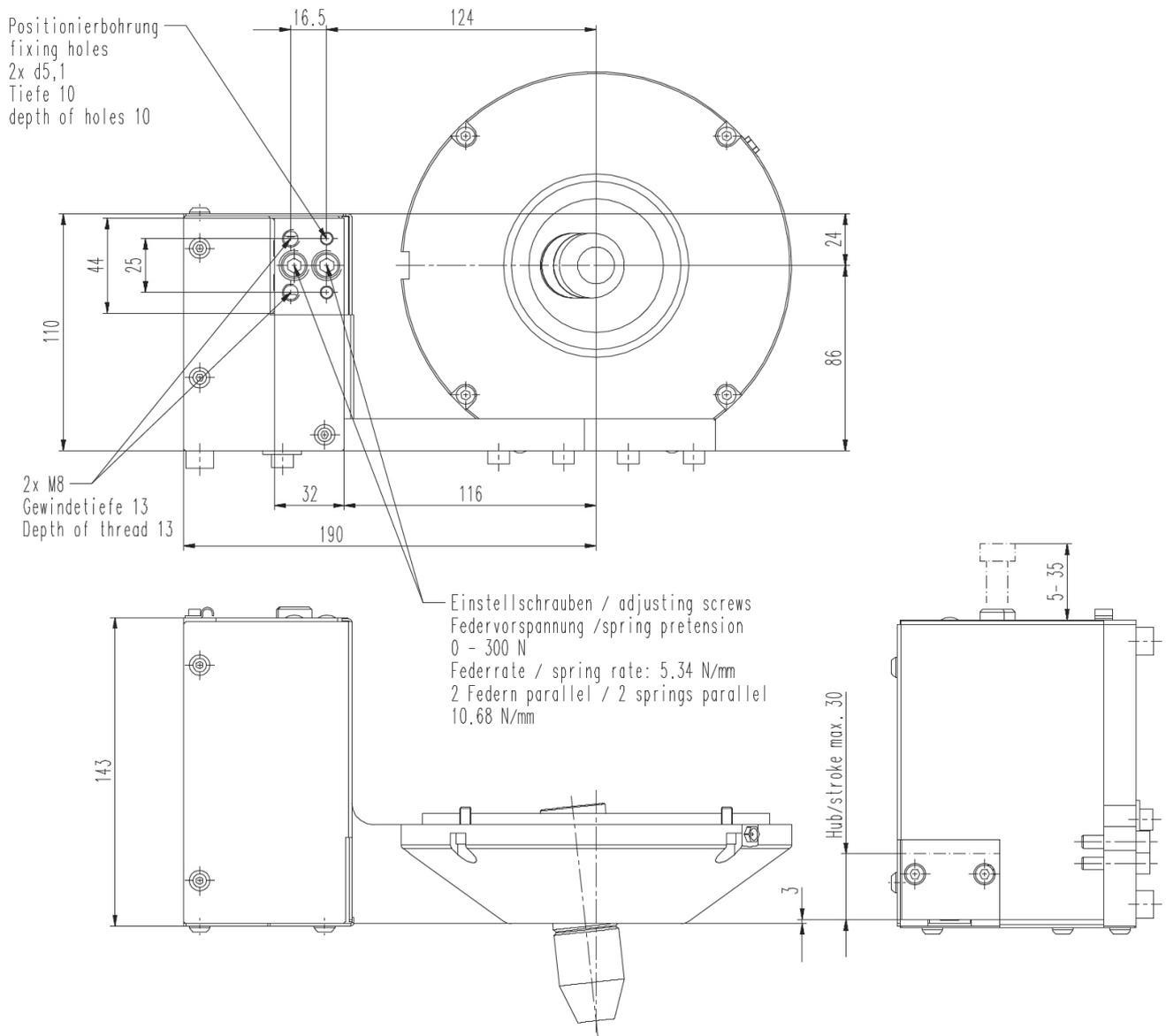


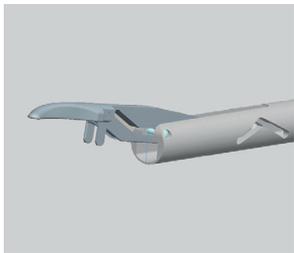
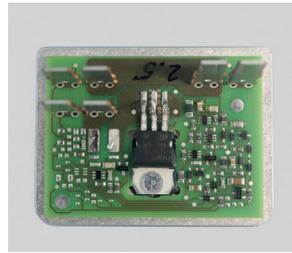
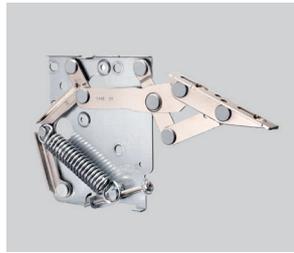


Drawing RNE 281-431 with NHE-BIG (853290-1-a)



## Drawing RNE 481 with NHE-BIG (853290-2-a)





BALTEC 0920 EN / Subject to change



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