

## OPERATION MANUAL



### Bender – puncher HGD 125

# VHGD125081114

**Thank You for buying our product.**

**Before using this equipment, please carefully read user and maintenance manuals.**

**Producent / Producer / Производитель**

**Zakłady Metalowe ERKO R. Pętlak spółka jawna  
Bracia Pętlak**

**ul. Ks. Jana Hanowskiego 7, 11-042 JONKOWO k/OLSZTYNA**

tel./fax (+48) 089 5129273 NIP: 739-020-46-93

e-mail: [sprzedaz@erko.pl](mailto:sprzedaz@erko.pl), [export@erko.pl](mailto:export@erko.pl) [http\www.erko.pl](http://www.erko.pl).



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\* ERKO has the right to introduce construction modifications due to equipment modernization.



**ISO 9001**  
**ISO 14001**

**Before using this equipment, please read user and safety manuals.**

## 1. APPLIANCE

HGD 125 Bender – puncher hydraulic device is designed to bend Cu and Al rails with a thickness of 10 mm and a width of 125 mm and cutting screw holes into them for M8 - M20 screw sizes.

HGD 125 Bender – puncher cooperates with H 800 hydraulic pump or hydraulic unit AH 300, AH 500 and equipped with rulers for positioning - the accuracy of 1mm.

## 2. TECHNICAL DATA

The distance between the axis of the punch, and the rear wall	60 mm
Force	196 kN
Working pressure	630 bar
Dimensions	585 x 370 x 260 mm
Weight (excluding the equipment)	42 kg

## 3. STANDARD ACCESORIES ACCORDING TO THE ORDER

Bender – puncher HGD 125 can be equipped with:

1. Bending insert HGD 121 for bending the rails at an angle of  $0^{\circ}$  -  $90^{\circ}$
2. HGD-102 casing
3. Set of matrices and punches HGD103 for punching round holes with the following diameters:  $\phi 6,6$ ;  $\phi 8,5$ ;  $\phi 10,5$ ;  $\phi 13$ ;  $\phi 17$  i  $\phi 21$  mm.
4. Set of punches and matrices HGD104 for punching round holes with the following diameters: 8,5x12; 11x16; 13x18; 17x21
5. Electric sensor for measuring the angle HGD105 cooperating with HGD-121 - applied only with the unit AH-300 or AH400- bending repeatability of  $\pm 1^{\circ}$  (it is not possible to determine the angle of bending)



#### **4. MAINTENANCE AND OPERATION RECOMENDATIONS**

- 1. In the case of using the hydraulic unit, it is unacceptable to switch it on during carrying out the work (assembly and disassembly of components, positioning of elements being processed).**
  
- 2. Running the unit should be done at the end of the preparatory work and making sure that there is no danger of injury.**
  
3. Before bending, cutting, check the correctness of assembled circuit - stamp [5] – stamp casing [4] - latch [3].
4. After punching the hole in the busbar check whether there is waste in the punch. Remove the waste if necessary.
5. For predetermined diameter die [6] use only the corresponding dimension of the punch [5].
6. Piston rod [2] and cylinder [1] must be periodically oiled.
7. When cutting out holes in the aluminum rails the stamp must be lubricated every time with oil or kerosene. Recommended oil WÜRTH "HHS 2000 "
8. Periodically, where appropriate, eliminate the material accumulating on the stamp (especially when working with aluminum). This can be done with a file or sandpaper, be careful not to damage the surface of the stamp.
9. The application of punching machines for cutting holes in the rails of greater thickness and other materials than specified in the manual may cause damage to the punches and dies, and loss of the warranty.
10. Protect your device from the weather, corrosion, pollution and mechanical damage.
11. Keep the quick coupler clean, because pollutants can get through to the circulation that cause damage to the pump and cooperating devices or leaks of quick coupler.
12. It is forbidden to cut holes on the edge of material with the punches HGD-103 and HGD-104.

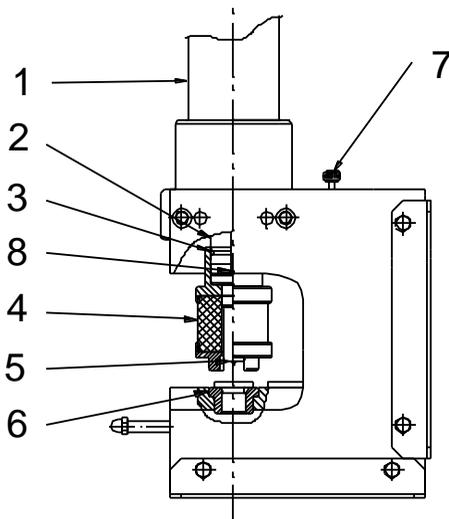
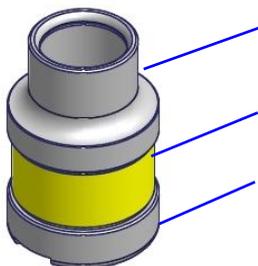


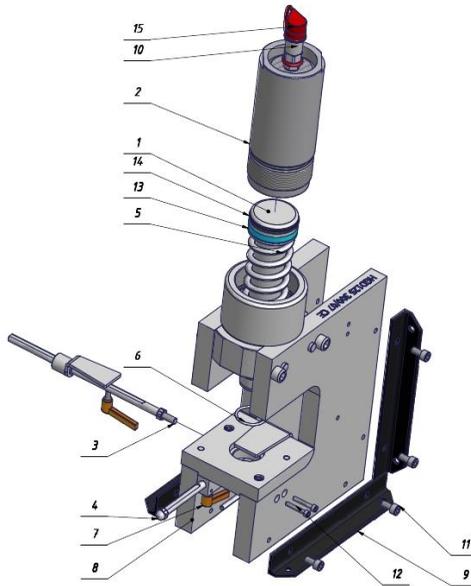
Fig.1

## 5. DESCRIPTION OF THE CONSTRUCTION

### SPARE PARTS HGD 102

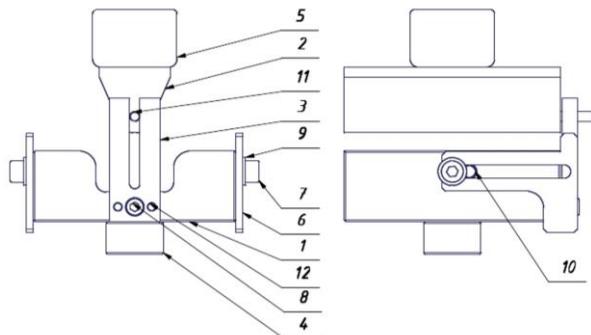


Lp. / Item No .	Ilość / No.Used	Nazwa elementu / Description	Nr. zamówieniowy części / Code No.
1	1	Stamp Casing	HGD102-01.01.B
2	1	Frontend	HGD102-01.02.B
3	1	Spring PUR 6350	HGD102-01.03.A

**SPARE PARTS HGD 125****Fig.2**

Lp. / Item No.	Ilość / No.Used	Nazwa elementu / Description	Nr. zamówieniowy części / Code No.
1	1	Piston rod	HGD125-01-05-A
2	1	Cylinder	HGD125-01-06-A
3	1	Base side	HGD125-01-07-A
4	1	Base back assembling	HGD125-01-08-A
5	1	Spring	HGD125-01-10-A
6	1	Base back	HGD100-01-13
7	1	Knob set.	HGD125-01-17
8	1	Body	HGD125-02-00
9	4	Bracket	HC125-01-10-A
10	1	Fast connector	PT-00
11	8	Screw	NEZS_WI-M8-16-8.8OC
12	4	Screw	NEZS_WI-M5-30-8.8OC
13	1	Guide ring	HUTR_GP6900630-C380
14	1	Ring seal	HUTR_PS1400630-T46N
15	1	Cover	PT_OSLONA

## SPARE PARTS HGD 121



**Fig.3**

Lp. / Item No.	Ilość / No.Used	Nazwa elementu / Description	Nr. zamówieniowy części / Code No.
1	1	Hole bending insert	HGD121-01.01.A
2	1	Bending Stamp	HGD121-01.03
3	1	Bending die guide	HGD121-01.04.A
4	1	Pin	HGD121-01.06
5	1	Bending stamp pin	HGD121-02.07.A
6	2	Rail resistor	P-HGD121-03.05
7	2	Screw M8 x 25 - 8.8	PN-EN ISO 4762
8	1	Screw M6 x 20 - 8.8	PN-EN ISO 4762
9	2	Normal round washer 8.4	PN-EN ISO 7089
10	2	Cylindrical pin 8 m6 x 18	ISO 2338
11	1	Cylindrical pin 6 m6 x 30	ISO 2338
12	2	Cylindrical pin 5 m6 x 16	ISO 2338



## 6. OPERATING RULES

### MOUNTING PUNCH AND DIE

- 6.1.1. Mounting / removing operation of the punch and die (both for bending and punching) must be performed at the upper position of the piston rod [2] cylinder [1] of bender-puncher (Fig. 2).
- 6.1.2. In the case of cutting out holes the device must be set in **an upright** position while in the case of bending the rails in **horizontal** position.
- 6.1.3. Matrices for cutting holes [6] should be embed with cutting surface (polished) facing upwards in the die slot. Insert stamp holder [4] with appropriate stamp [5] on the piston rod actuator [2] (latch [3]).
- 6.1.4. Embed bending stamp on the actuator rod [2] (latch [3]) (Fig. 1) so that the guide pin [11] (Fig. 3) is situated within the channel of the fence (the rear portion of the bending die [3] (Figure 3 )).

### HOW TO WORK DURING BENDING

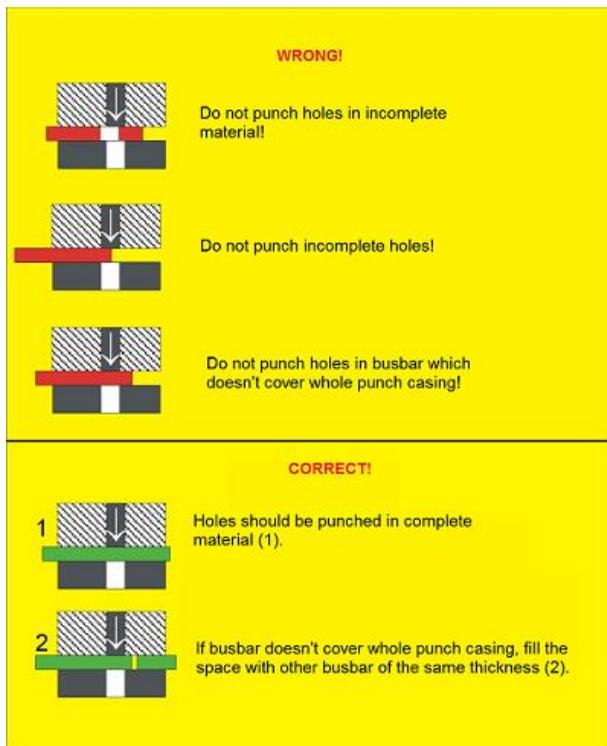
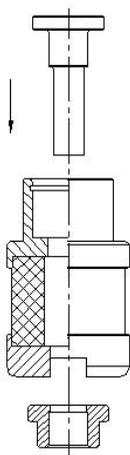
#### **Bending Insert HGD-121**

- 6.2.1 Place the device in a **horizontal** position.
- 6.2.2 Install HGD121 so that the bending punch pin is inserted in the punch guide.
- 6.2.3 Install the bending angle sensor and connect the sensor cable to the unit.
- 6.2.4 Place the base of the rail in such a way that the axis of symmetry of the rail coincides with the axis of symmetry of the cylinder HGD125.
- 6.2.5 Set the base [10] (Fig. 3), so that the center of the rail coincides with the axis of the rod [5] cylinder [2] [**IMPORTANT**] (Fig.1).
- 6.2.6 Set initially the angle sensor (limit switch) using the adjusting screw [7] (Fig.1).
- 6.2.7 Place in the rail between the punch [2] and the matrix [1] bending insert HGD 121 (Fig.3).
- 6.2.8 Push the pedal of AH-500 unit until the bending angle sensor, switching the hydraulic unit, actuation.
- 6.2.9 Release the pedal of AH-500 unit for the purpose of setting the punch in position for the next bend. Check whether the desired angle was obtained, eventually make amendments through readjustment of the screw and re-bending.

## HOW TO WORK DURING ROUND HOLE PUNCHING

### Stamp casing HGD-102 and round hole punching die HGD-103

- 6.2.10 Place the device in an upright position.
- 6.2.11 Install the appropriate punch to the appropriate stamp [5] embedded in the stamp frame [4] and a matrix [6] (Fig.1).
- 6.2.12 Place in the rail into the space between the punch holder [4] and the matrix [6] (Fig.1).
- 6.2.13 Push the pedal of AH-500 unit until the moment of the hole is cut in the rail.
- 6.2.14 Release the pedal of AH-500 unit for the purpose of setting the punch in position for the next hole punching.

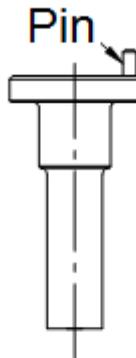




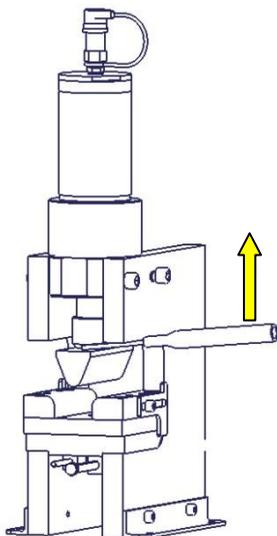
## **HOW TO WORK DURING OVAL HOLE PUNCHING**

### **Stamp casing HGD-102 and round hole punching die HGD-104**

- 6.4.1. Place the device in an **upright** position.
- 6.4.2. Install appropriate punch to the appropriate stamp embedded in the frame [4], considering that the pin in the punch hit exactly in the groove leading [8] the piston rod [2] cylinder [1] and a matrix [6] **[IMPORTANT]** (Fig.1).
- 6.4.3. Place the rail into the space between the punch holder [4] and the matrix [6] (Fig.1).
- 6.4.4. Push the pedal of AH-500 unit until the moment of the hole is cut in the rail.
- 6.4.5. Release the pedal of AH-500 unit for the purpose of setting the punch in position for the next hole punching.

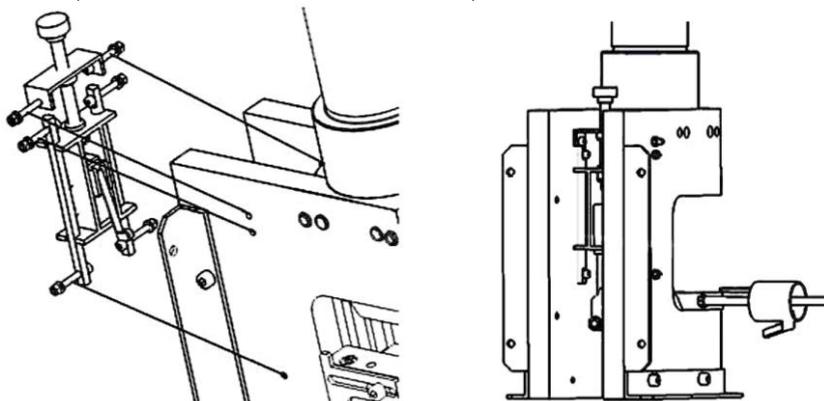


## 7. DISMANTLING OF PUNCH CASING WITH THE HELP OF THE KEY



## 8. BENDING ANGLE SENSOR ASSEMBLY

Bending angle sensor is mounted with six screws to the side plates of the bender-puncher. After mounting the sensor, for security reasons, you should set it in the up position (turn the knob of the sensor to the left).





## 9. SAFETY WORK AND HYGIENE MANUAL

1. Before starting work on the device, make sure it is positioned so as not to pose a threat to the employee.
2. Ensure clear space around the workplace.
3. Before starting work, please check the condition of the device, completeness and correctness of mounting elements, leakage of hydraulic connections, condition of elements' surface (without damage, cracks) etc.
4. It is forbidden to tamper with moving parts within the unit operation of bending or cutting holes
5. It is unacceptable to run supplied hydraulic unit at the time of adjusting device and assembly or disassembly of the working rail in the holders.
6. Running the unit should be done at the end of the preparatory work and making sure that there is no danger or injury.

## 10. SERVICING

ERKO provides full service both during and after the guarantee period.

## 11. DISPOSAL

After the end of the exploitation period, utilize or recycle the particular elements of this equipment according to the regulations in force.

### **Directives 2002/96/EC (WEEE) and 2006/66/EC**

This product complies with EU Directives 2002/96/EC and 2006/66/EC. Crossed out wheelie bin (Fig 7) on the appliance indicates that the product, requiring separate treatment to household waste after its normal working life, must be taken to a waste-sorting centre for electrical and electronic appliances or returned to the retailer at the time of purchasing a new equivalent appliance. The user is responsible for taking the appliance to the appropriate waste collection centre at the end of its working life. Correct waste sorting, with the discarded appliance being sent for recycling, treatment and compatible environmental disposal helps prevent any negative effects on the environment and health, and encourages the recycling of product materials. For further detailed information regarding available collection systems, please contact your local waste disposal service or the shop where you made your purchase. If under the bin there is a chemical symbol (HG, Cd, Pb) – Fig 8 – this indicates that the batteries have a concentration of that heavy metal higher than the following limits: Hg: mercury (0,0005%), Cd: cadmium (0,002%), Pb: lead (0,004%).

**Directive 2002/95 EC (RoHS).** k is product complies with EU Directive 2002/95/CE RoHS.