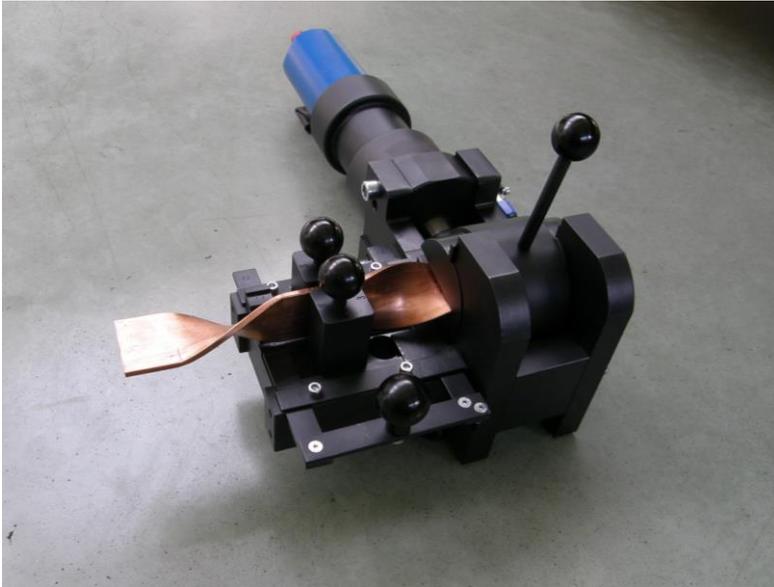


OPERATION MANUAL



AXIAL BENDER TYPE HSk5010

#VHSk5010 120518

Thank You for buying our product.
Before using this equipment, please carefully read user and maintenance manuals.

Producent / Producer / Производитель

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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.

Axial Bender HSk5010 is used for axial bending of copper and aluminum rails of 20, 30, 40 and 50mm width and 5, 10mm thickness.

Works with AH 500, AH 550 electric hydraulic units and busbar processing station SH400PLC. The station is equipped with electric JACK connector for connecting limit switch button.

2. TECHNICAL DATA

Max dimensions L x W x H	730 x 330 x 200
Working pressure	380 bar
Bending angle range	0-90°
Weight	42 kg

3. EQUIPMENT.

Standard equipment:

1.	Spacer insert for rotatable handle for busbars of thickness up to 5 mm.
2.	Adaptive vice jaws of constant holder.
3.	Adjustable busbar width brocket.
4.	Angle regulator with electric sensor (limit switch button) to maintain repeatable axial bending angle.

4. MAINTENANCE AND OPERATION REKOMENDATIONS.

1. Using busbar bender for materials other than specified in this manual, with a width more than 50 mm and thickness > 10 mm and with control settings inappropriate for dimensions of working element, can cause mechanical damage of the unit and loss of your guarantee.
2. Bearings of the rotatable handle (barrel) are designed for „dry work” and don't require lubrication ! Other moving parts should be periodically lubricated with small (few drops) quantity of oil.
3. Protect device from the feather, corrosion, pollution and mechanical damage.
4. Pay attention to keeping quick coupler clean as the pollution can get through to the pump circulation and damage the equipment or cause leak of quick coupler.

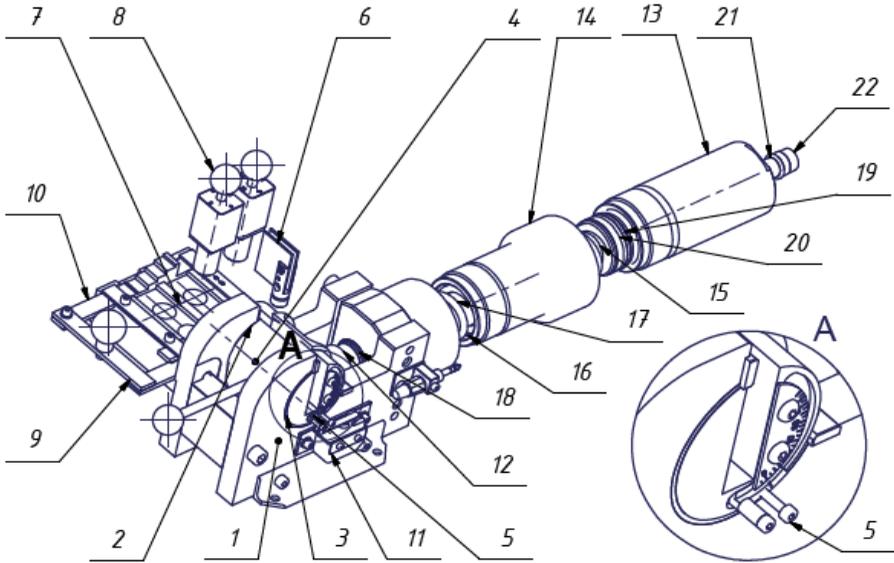
5. DESCRIPTION OF THE CONSTRUCTION

Fig. 1

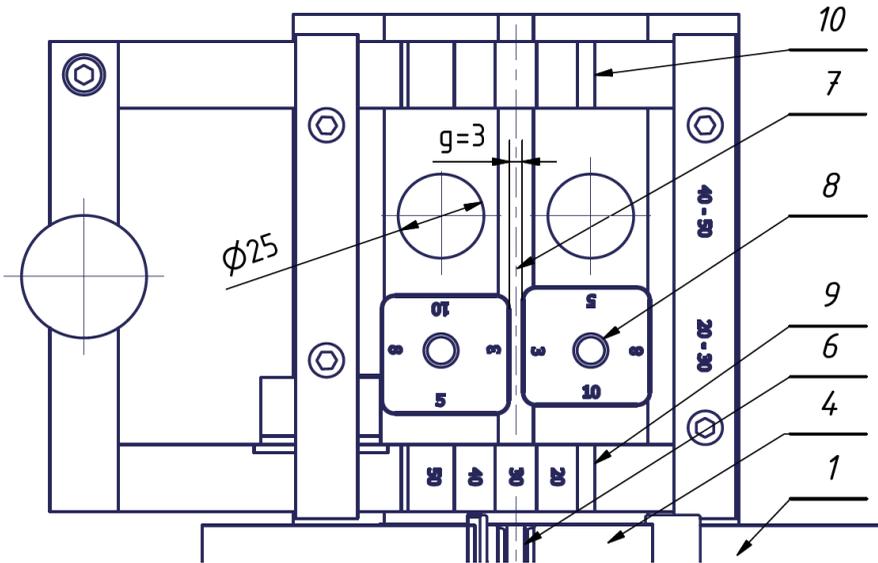


Fig. 2

Lp. / Item No.	Ilość / No.Used	Nazwa elementu / Description	Nr. zamówieniowy części / Code No.
1	1	Body	HSk5010-01.00
2	1	Cylindrical bearing	HSk5010-01.06
3	1	Flange bearing	HSk5010-01.07
4	1	Barrel	HSk5010-02.01
5	1	Angle positioner	HSk5010-02.04.0
6	1	Distance insert	HSk5010-02.07.0
7	1	Plate	HSk5010-03.01
8	2	Vise jaws set	HSk5010-03.02.0
9	1	Control bracket	HSk5010-03.03.0
10	1	Slider 2	HSk5010-03.04
11	1	Bending angle sensor	HSk5010-04.00
12	1	Piston rod shield	HSk5010-05.
13	1	Cylinder	HGD125-01.06.A
14	1	Coupler II	HGP5010-14
15	1	Piston rod	HGP5010-15
16	1	Spring coupler	HGP5010-16



17	2	Spring	HGD125-01.10.A
18	1	Spring ring	HGD100-01.13
19	1	Sealing ring	HURT_PS1400630-T46N
20	1	Guide ring	HURT_GP6900630-C380
21	1	Quick coupler	PT-00
22	1	Shield	PT_OSLONA

Table 1.

6. OPERATING PRINCIPLES

1. Attach the device to the workshop: 4 x openings fi-9 in brackets [1].
2. Connect bender with hydraulic unit/ busbar station SH 400 by connecting highpressure cable to quick coupler and electric cable with JACK connector.
3. Set angle adjuster [5] in position to match the desired angle of twisted rail then easily immobilize (without using key) by turning tight the longer control screw. Turn hand lever [4] to check interaction of angle adjuster [5] with angle sensor [11].
4. For processing busbars of ≤ 5 mm thickness, put distance insert [6] in the seat of bender barrel [4].
5. Control bracket [9] and the slider 2 [10] set "staggered" shaped, forming horizontal surfaces of the support rail in the position indicated by the width of machined rails coaxially with the axis of symmetry of the plate [7] and the axis of rotation of the drum [4] as shown, for example, , in Fig. 2 for the rail of the 30 mm width.

Suitable for the width, setting of hold up provides twisting of the rail according to its longitudinal axis. At the same time it protects the bender against damage by making it impossible to embed vise jaws [8] in the wrong holes $\varnothing 25$ of the plate [7], to make sure that at the time of bending rail 40-50mm there was no possibility of putting vise jaws in holes for bending rails 20-30mm (according point 6)

6. Put vise jaws [8] in the plate holes $\varnothing 25$ [7], appropriate for the width of working rail, marked 20-30 (closer to the width of barrel 20-30 mm) and 40-50 (further for the width of 40-50mm).

Depending on the thickness of the rail, set vise jaws by turning relatively to its longitudinal axis, so that the „base” of suitable mark (3,5,8 or 10 marked on the upper surface of the jaws) which specify thickness of material, is parallel for each

of jaws to the surface of the side rail. Fig. 2 shows positioning of the vise jaws for rail thickness $g = 3 \text{ mm}$.

7. Make, without the rail, bending test and pay attention to the operation (turn on/ off) of angle sensor [11]:
 - start the bender by using foot switch power supply,
 - after receiving set angle (*an intermittent work of power supply*) release pressure of foot switch (*piston rod returns to the start position*),
 - if it's necessary adjust the sensor by loosening and again, after correction of its position relatively to the body [1], tightening 2 pcs of screws M6 with 6-hexagon socket.
8. Make control bending by full working cycle:
 - place the material in the working space of the bender – barrel and vise jaws,
NOTE: Length of the rail „held” in a barrel or vise jaws shall not be less than 0,5 if it width.
 - start bending by releasing foot switch of power supply after reaching set angle,
 - remove vise jaws [8] and slide rail from the barrel [4],
 - check conformity of the reached bended angle with requirements. If it's necessary set angle adjuster. [5].
9. After making all actions described in this manual, the device is ready to be used.

7. SAFETY WORK AND HYGIENE MANUAL.

1. 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. and ensure clear space around the workplace.
2. It is unacceptable to run supplied hydraulic unit at the time of adjusting device and assembly or disassembly of the working rail in the bender holders.
3. Each time, before starting the working cycle, check the correct positioning for the vise jaws of permanent mounting holder in plate pocket and correctness of the attachment and coaxiality of the processed rail with the axis of the rotary holder (barrel).
4. Running the unit should be done at the end of the preparatory work and making sure that there is no danger or injury.

8. SERVICING.

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



9. DISPOSAL.

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

“Zgodnie z przepisami Ustawy z dnia 29 lipca 2005r. o ZSEiE zabronione jest umieszczanie łącznie z innymi odpadami zużytego sprzętu oznakowanego symbolem przekreślonego kosza.

Użytkownik, chcąc pozbyć się sprzętu elektronicznego lub elektrycznego, jest obowiązany do oddania go do punktu zbierania zużytego sprzętu.

Powyższe obowiązki ustawowe zostały wprowadzone w celu ograniczenia ilości odpadów powstałych ze zużytego sprzętu elektrycznego i elektronicznego oraz zapewnienia

odpowiedniego poziomu zbierania, odzysku i recyklingu. W sprzęcie nie znajdują się składniki niebezpieczne, które mają szczególnie negatywny wpływ na środowisko i zdrowie ludzi

10. GARANTEE CONDITIONS

Dear Customer,

Thank you for buying our product. We would like to inform you that we offer a 12-month guarantee for the product that you have purchased, starting on the day of purchase. The guarantee includes removing any faults free of charge, provided that they have been caused by manufacture of technical defects of the product and that the device has been used according to its purpose and to the requirements laid down in the operation manual. Please refer to the detailed conditions of guarantee mentioned in the Guarantee Card.

3.1. This Guarantee presents the obligation of the manufacturer, hereinafter referred to as Guarantor, to remove free of charge any physical defects of the device, originating within 12 months of the date of purchase.

3.2. This guarantee card, together with the product in question and a copy of the purchase receipt (invoice), is a proof of the guarantee rights. The Guarantor demands that a copy of the purchase receipt (invoice) be presented when the complaint is to be considered.

3.3. This guarantee does not include the tools in which damage occurred due to:

- improper or negligent operation, contrary to the purpose of the device or as a result of the user's lack of skill,
- mechanical damage to the product, resulting from improper storage, transport or failure to follow the required maintenance procedures,
- mechanical damage to the product, resulting from overloading and the defects caused by it,
- natural wear resulting from normal operation of a tool,
- repairs done by unauthorised persons,
- maintenance and/or repair done by the user, which resulted in the damage,
- force majeure (downpour, fire, flood, atmospheric discharge, etc.),
- using spare parts other than original ones or using materials other than those recommended by the manufacturer, intended for use with the device,

3.4. This guarantee does not cover the following: operations related to the assembly, start-up, maintenance, those provided for in the instruction manual, which should be performed by the user, at his own cost.

3.5. The rights resulting from this guarantee do not entitle the user to claim compensation for any lost profits or damage incurred due to the defect of the device. # VSH800PLC240913 - 41 -



3.6. The manner of removing the defect shall be chosen by the Guarantor, who can repair the damage either by replacing the faulty part or by replacing the whole device. Regardless of the manner of removing the defect, the guarantee continues and is extended by the time that the defect is removed by the Guarantor. Should the device or its part be replaced or repaired, the guarantee period restarts in relation to the device or its part, as applicable.

3.7. If the complaint is accepted, the Guarantor undertakes to repair the device or its faulty part within 14 days of the date of reporting the defect. If, owing to its difficulty, the repair is extremely labour consuming or if any parts have to be ordered abroad, the period shall be extended accordingly, the Guarantor shall make every effort to remove the defect within the shortest time possible, not exceeding 30 days from the day of making the complaint.

3.8. The Guarantor shall establish the detailed terms and conditions of guarantee in the Guarantee Card. The buyer signs the conditions, which is proof of accepting the conditions and results in concluding the relevant agreement by the parties.

3.9. Should the device be resold during the guarantee period, the guarantee rights shall be transferred to the new buyer.

The user shall lose the guarantee rights in the following cases:

- if any entries or corrections are found to have been made in the Guarantee Card by an unauthorised person,
- if the Guarantor or the Seller finds that any alterations and/or adjustments have been made which are not provided for in the operation manual,
- if the tools were used after the defect became visible.

Complaint procedure:

1. If a complaint is made, the user has to deliver the faulty device together with this Guarantee Card, a copy of the purchase receipt and a short description of the defect, in the original package.

2. The user shall deliver the faulty product at his own cost and risk to the place of purchase or to the authorised service of ERKO.

3. The user declares that he will deliver the clean and complete device.

4. If the complaint is accepted, ERKO shall deliver the repaired device to the original place of purchase or, if agreed upon, to another location, at its own cost.

Service center address you will find on www.erko.pl

11. GARANTEE CARD

*Distributor's stamp	*Date of purchase, seller's stamp and signature	
*Name of the device-Type	*Serial number	*KJ
Axial bender HSk5010		

* The guarantee card is valid only if the marked fields are filled in!

GUARANTEE REPAIRS

Date of receipt	Date of the repair	Description of the repair, replaced parts	Stamp of service, signature

* I have read the terms and conditions of the guarantee

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Customer's signature