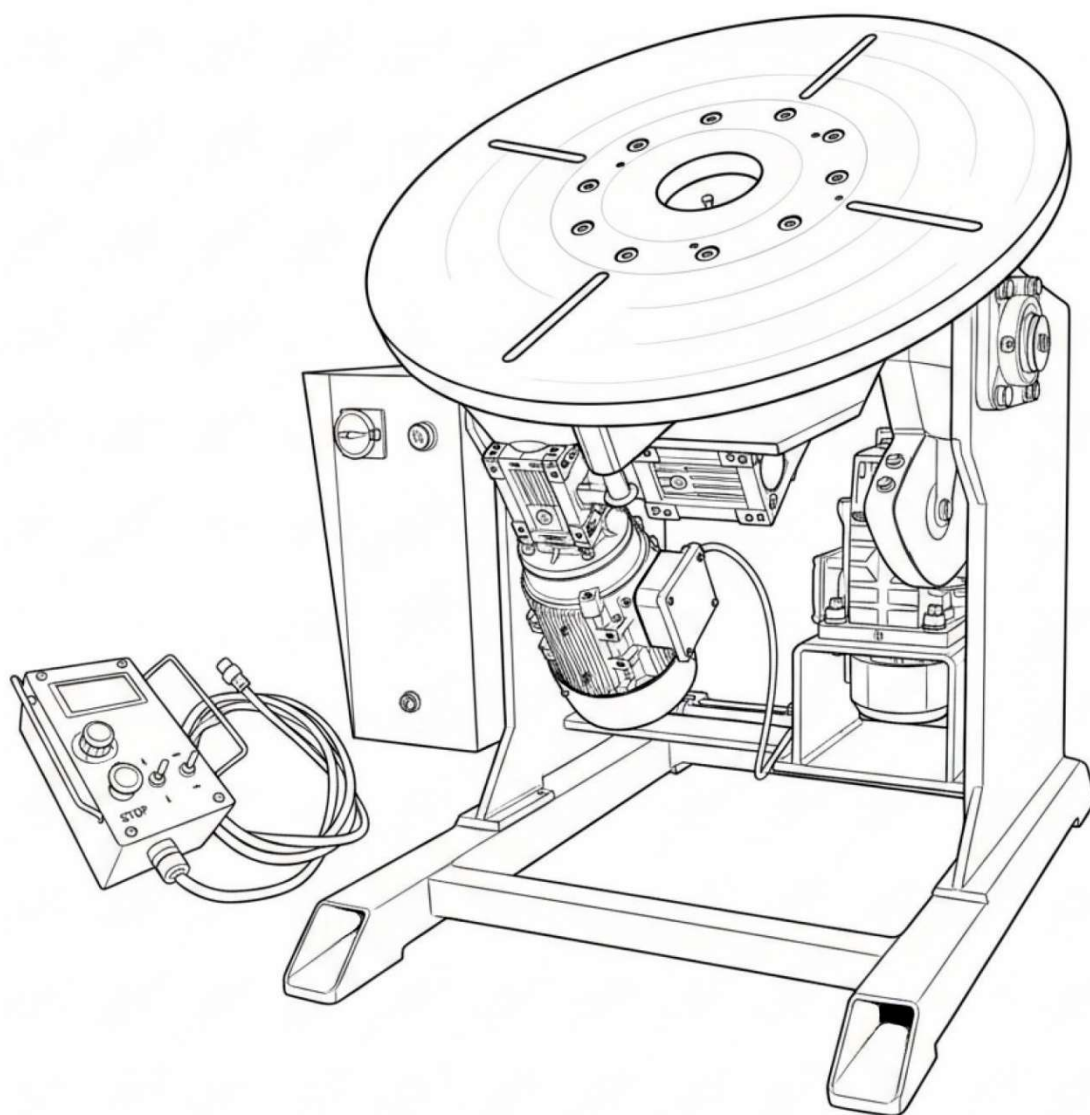


Sherman

ENG V1.20 07.09.26

USER MANUAL

POSITIONER BY-600



CE



WARNING!

Before installing and starting the appliance, please refer to this manual

1. GENERAL COMMENTS

The device can only be commissioned and operated after carefully reading these Operating Instructions.

Due to the continuous technical development of the device, some of its functions may be modified and their operation may differ in detail from the descriptions in the manual. This is not a fault of the device, but the result of progress and continuous modification work of the device.

Damage to the device caused by improper operation will void your warranty rights.
Any modifications to the charger are prohibited and will void the warranty.

Before starting the device, you should:

- Check the condition of electrical and mechanical connections.
- Take care of proper working conditions, i.e. ensure proper temperature, humidity and ventilation in the workplace. Protect against precipitation outside closed spaces.
- Place the appliance in a place that is easy to use.

Damage to the device caused by improper operation will void your warranty rights.
Any modifications to the positioner are prohibited and will void the warranty.

2. SYMBOLS

Some of the following symbols may appear on the appliance and in the operating instructions. Familiarize yourself with them and understand their meaning. Correct interpretation of each symbol ensures more efficient and safer operation of the power tool.

	General Warning Sign The content preceded by this sign contains important information about the safe use of the equipment.
	Read the user manual Before using the equipment, please read the user manual.
	Do not touch moving parts.
	Caution – risk of grabbing/crushing your hand.
	Attention – electrical voltage.
	Work to disconnect power before maintenance.
	The product should not be disposed of in a regular municipal waste bin. The product is treated as electrical and electronic waste (WEEE) and must be separately collected and recycled.

3. SAFETY RULES



WARNING! Before installing, operating, maintaining or repairing the welding positioner, read this manual carefully and follow all applicable health and safety regulations for welding work and electrical equipment.

1. The positioner may only be operated by persons with appropriate qualifications and training in the safe operation of welding equipment.
2. Before each start-up, check the technical condition of the device, in particular the power cord, foot pedal, fasteners, and electrical and mechanical connections. Do not use a damaged device.
3. The device should be placed on a stable, level and durable ground, ensuring that the working loads can be carried safely.
4. Must not exceed the permissible load parameters
5. The workpiece must be securely and stably attached to the workbench before the work table rotates or tilts. Improper attachment may result in workpiece being pulled out, loss of stability of the machine, and injury to the operator.
6. During operation, it is forbidden to touch the rotating parts of the device and put your hands between the welded component and the positioner structure. A safe distance from the work table movement zone must be maintained.
7. Work table tilt adjustment should be performed only after the rotation of the work table has stopped and the workpiece has been protected against uncontrolled movement.
8. All maintenance, adjustment and repair work may only be carried out when the appliance has been work tableconnected from the mains.
9. It is forbidden to use the positioner in rooms at risk of explosion, in the presence of flammable substances or in conditions of excessive humidity.
10. The operator should wear personal protective equipment appropriate to the welding process, including: welding helmet, protective gloves, flame retardant clothing and protective footwear.
11. Do not remove the protective covers, make arbitrary modifications to the design of the device or interfere with the electrical system. Such actions may lead to loss of safety of use, damage to the device and loss of warranty.
12. When you have finished working, stop the rotation of the work table, work tableconnect the device from the mains and leave the workstation in a safe and tidy state.

NOTE: During the operation of the positioner, the stability of the workpiece clamping and the even distribution of the mass on the workbench must be constantly monitored. Improper loading may cause excessive vibrations, overload of the drive and loss of control over the workpiece.

4. DESCRIPTION OF HAZARDS

During the operation of the welding positioner, there may be hazards resulting from both the mechanical movement of the device and the welding processes carried out. The operator is obliged to identify hazards and use appropriate protective measures. The positioner has a rotating work table, the possibility of tilting the work table in the range of 0–90° and is designed for manipulation of details, which requires special care.

4.1 Mechanical hazards

1. Grabbing or pulling a body part through a rotating work table.
 - Do not touch the rotating components while the appliance is operating.
 - It is forbidden to use loose clothing, jewellery and gloves with loose elements that can be caught by moving parts of the appliance.
2. Impact for a rotating workpiece.
 - A rotating component may protrude beyond the work table contour and pose a hazard to the operator and bystanders.
 - Keep a safe distance from the operating zone of the appliance.
3. Crushing when adjusting the tilt of the work table.
 - When changing the tilt angle, there is a risk of crushing your hands or fingers between the elements of the positioner's structure.
4. Falling or tearing out the workpiece.
 - Incorrect attachment of the component or exceeding the permissible load capacity may cause the workpiece to slip, damage the device and injury to persons nearby.

4.2 Electrical hazards

1. The positioner is powered by 230V AC, so there is a risk of electric shock during use, maintenance or repair
2. A particular risk occurs in the case of:
 - damage to the power cord,
 - use of the device in conditions of increased humidity,
 - perform service work without work table connecting the power supply.
3. Any repairs to the electrical installation may only be carried out by persons with appropriate qualifications.

4.3 Risks associated with the welding process

1. Arc radiation
 - It can cause damage to vision and skin burns.
 - Welding helmets and appropriate protective clothing should be used.
2. Hot metal and slag splinters
 - They can cause burns and fire of materials located near the workplace.
3. Welding fumes and gases
 - may adversely affect the health of the operator.
 - The workstation should be equipped with effective ventilation or a welding exhaust system.

4.4 Ergonomic hazards

1. Improper clamping of heavy workpieces can lead to musculoskeletal overloads during loading and dismantling.
2. For components with a significant weight, auxiliary equipment such as hoists, cranes or cranes must be used.

4.5 Fire hazards

1. The welding process generates high temperature and hot metal chips that can lead to ignition of flammable materials.
2. It is forbidden to operate the device in rooms at risk of explosion or near flammable substances.
3. Near the workplace there should be functional firefighting equipment suitable for the hazards occurring during welding.

4.6 Protective measures

In order to reduce the risk of an accident, the operator should use:

- a welding helmet or welding face shield.
- protective gloves for welders,
- flame retardant clothing with long sleeves,
- safety footwear with a protective toe cap,
- hearing protectors (if the noise level at the station requires it),
- respiratory protection in case of insufficient ventilation.



WARNING: It is forbidden for bystanders to be in the positioner's work area while the work table is rotating or welding operations are being performed. The operator should stop the device immediately if malfunctioning, excessive vibrations, loosening of the workpiece fastening or other situations that may cause a risk to health and life occur.

5. GENERAL DESCRIPTION

The BY-600 industrial welding positioner is an ideal tool for manipulating the welded element in simple or semi-automatic technological processes. It is characterized by extraordinary versatility, allowing the welding process to be carried out in an optimal position and thus contributing to the improvement of the quality of welded products. The design solutions used ensure safe operation and trouble-free operation. The positioner allows the work table to be tilted in the range of 0 - 90°. The work table is equipped with mounting connection grooves for fixing chucks and jaws. The device has smooth speed control and the ability to choose the direction of rotation. The positioner is powered by a single-phase voltage of 230V 50 Hz.

6. TECHNICAL PARAMETERS

	BY-600
Supply Voltage	AC 230V 50Hz
Load capacity when the work table is horizontal	600 kg
Load capacity at maximum work table inclination	300 kg
Center of gravity L1*	150 mm
Eccentricity L2**	150 mm
Table diameter	650 mm
Maximum workpiece diameter	690 mm
Table tilt adjustment range	0-90°
Table speed adjustment range	0.2 – 1.8 rpm
Overall dimensions	780 x 705 x 693 mm

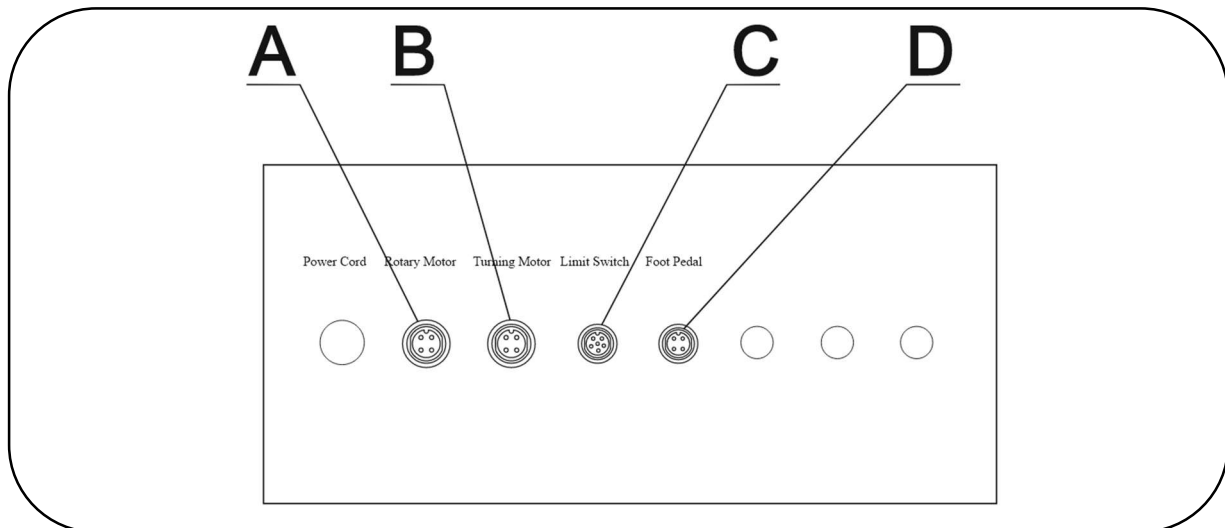
*Centre of gravity - the maximum distance of the workpiece's centre of gravity from the table surface, see point 5.**

Eccentricity – the maximum distance of the workpiece centre of gravity from the work table axis, see point 5.

7. CONNECTION TO THE POWER SUPPLY

1. The appliance should only be used in a single-phase, three-wire, grounded zero point power supply system.
2. BY-600 welding positioners are designed to work with a 230V 50 Hz network protected by 16A delay-acting fuses. The power supply should be stable, without voltage drops.
3. The appliance is equipped with a cord and a power plug. Before connecting the power supply, make sure that the power switch (1) is in the OFF position.

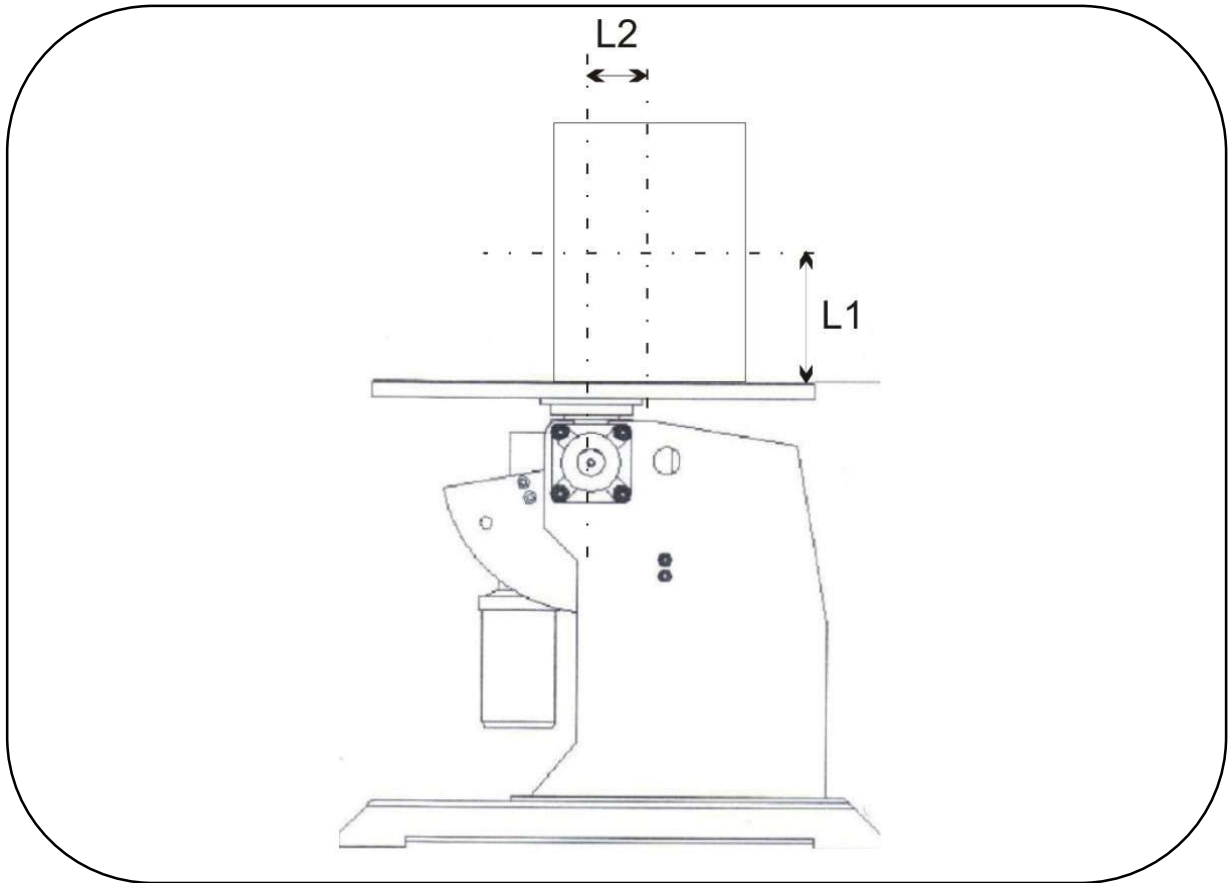
8. CONNECTION TO CONTROL BOX



- A. Work table Rotation Motor
- B. Work table tilt motor
- C. Limit switches
- D. Remote foot pedal

9. PLACEMENT OF THE WORKPIECE

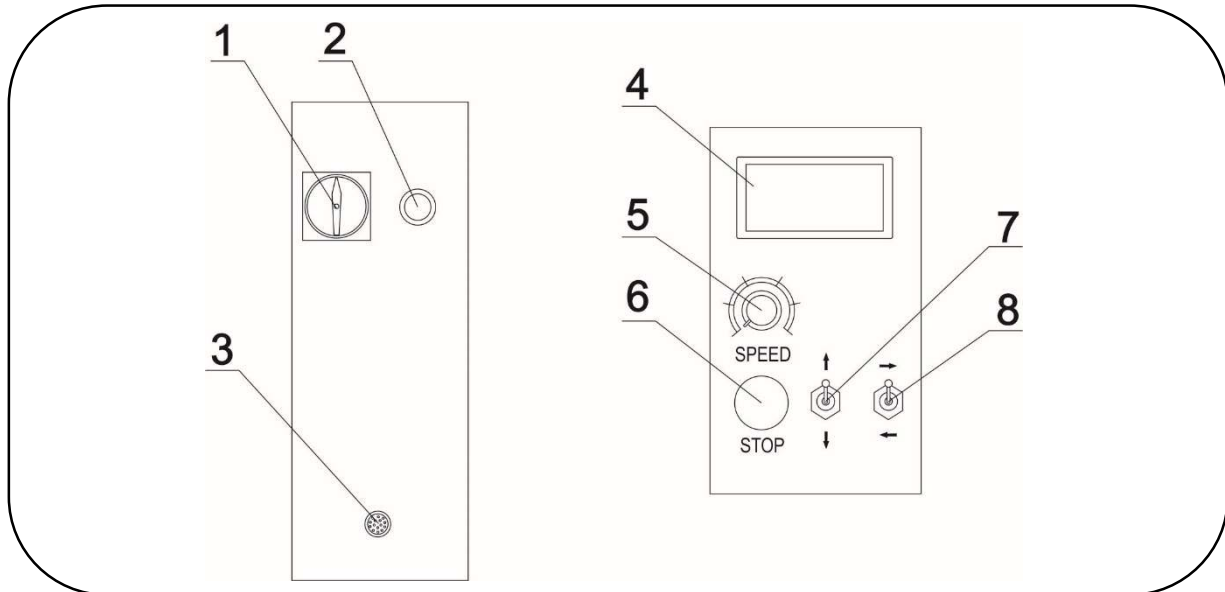
The workpiece should be placed on the table so that its center of gravity is at the correct distance from the surface and axis of the work table. The maximum distance of the workpiece center of gravity from the work table surface (L1) is 150 mm, and the maximum distance of the workpiece center of gravity from the table axis (L2) is 150 mm.



10. WELDING CIRCUIT GROUND WIRE CONNECTION

In order to be able to carry out the welding process while the positioner is running, the welding return cable must be fixed on the rotary beam supporting the work table with the help of an eye clamp

11. DESCRIPTION OF THE FUNCTIONS OF SWITCHES AND KNOBS



1. Main switch
2. LED to indicate that the device is plugged into the network
3. Remote control socket
4. Display
5. Speed control knob
6. Emergency stop button
7. work table tilt switch
8. Rotation direction switch

When starting the rotational operation of the positioner, set the minimum rotational speed, and then gradually increase it to the required value. To change the direction of rotation, first reduce the rotational speed to the minimum, stop the positioner by setting the rotation direction switch to the "0" position, then switch the direction of rotation and gradually increase the rotational speed to the required value.

12. HEALTH AND SAFETY INSTRUCTIONS

The BY-600 positioner should be connected to a 230V + PE, 50Hz power supply network protected by 16A delay-acting fuses.

Connecting the device to the network can only be done by a person with current SEP privileges after reading the user manual.

Note! The order in which the power phases are connected is important for the correct operation of the device.

An incorrect power connection can be the reason for improper operation, damage to the device, or an accident!

Employees operating the device should have the necessary qualifications to operate the device:

- know the rules of health and safety in the operation of equipment powered by electricity,
- Be familiar with the contents of this manual and operate the appliance for its intended purpose.

The following hazards exist during electric welding:

- Electric shock

Electric shock can be prevented:

- connecting the device to a technically efficient electrical system with grounding and electrical protection (additional protection against electric shock);
- in conditions of particular risk of electric shock (work in environments with high humidity and closed tanks), work with an assistant and a safety watcher, use clothing and gloves with good insulating properties,
- If you notice any irregularities, you should contact competent people to remove them.
- It is forbidden to operate the device with the covers removed.

13. OPERATING INSTRUCTIONS

The operation of the BY-600 positioner should take place in an atmosphere free of corrosive components and high dust. Do not place the device in dusty places, near working grinders, etc. Avoid use in environments with high humidity, especially in situations where dew occurs on metal components.

In the event of dew on metal elements, e.g. after introducing a cool device into a warm room, wait until the dew disappears. It is recommended that the positioner be placed under the roof in order to protect it from adverse weather conditions if the positioner is operated outdoors.

14. MAINTENANCE INSTRUCTIONS

As part of daily operation, keep the positioner clean and check the condition of the handle, cables and external connections.

At least once every six months, a general inspection and condition of electrical connections should be carried out, in particular:

- state of protection against electric shock
- isolation status

Regular maintenance of the positioner allows you to maintain its technical efficiency, extend the life of components and increase operational safety. All maintenance should be performed with the power supply work table connected.

14.1 General Rules

Before starting maintenance, switch off the appliance and work table and disconnect the plug of the power cord from the mains.

Maintenance and repairs should be carried out by persons with appropriate qualifications in the operation of electrical equipment.

Do not use harsh chemicals or solvents that may damage painted components, electrical cables, or seals.

14.2 Daily Maintenance

After completing the work, you should:

- remove welding chips, dust and other contaminants from the workbench,
- check the condition of the fastening grooves and fasteners of the workpiece,
- inspect the power cord and the foot pedal cable for mechanical damage,
- check the correct operation of the rotation and direction of rotation control.

14.3 Periodic Maintenance

At least once every 3 months or more often in the case of intensive use, you should:

- check the tightening of the screws fixing structural elements,
- check the condition of electrical connections and terminals,
- check the smoothness of the work table rotation and the tilt mechanism,
- remove accumulated dust from the housing and ventilation holes,
- check the correct operation of circuit breakers and controls.

14.4 Inspection of technical condition

Switch off the device immediately and submit it for service if you experience:

- unusual transmission or engine noises,
- excessive work table vibrations,
- damage to electrical wires,
- incorrect operation of the speed control,
- damage to the foot pedal,
- structural clearances affecting occupational safety.

Damage resulting from operating the positioner under improper conditions and failure to follow maintenance recommendations are not covered by warranty repairs.

15. STORAGE AND TRANSPORT INSTRUCTIONS

The device should be stored at a temperature of -10°C to +40°C and a relative humidity of up to 80% free of corrosive fumes and dust. Transport of packaged devices should be carried out by covered means of transport. During transport, packaged devices should be protected against movement and provided with the correct position.

In the event of a longer decommissioning, the positioner should:

- clean thoroughly,
- Store in a dry, closed room,
- protect against moisture, dust and precipitation,
- work tableonnect from the power source.

16. WARRANTY

The warranty is granted for a period of 12 months for business entities, but excluding warranty claims, or 24 months for consumers from the date of sale.

The warranty will be respected upon presentation by the complainant of proof of purchase (invoice or receipt) and a warranty card with the product name, serial number, date of sale and stamped point of sale.

To order a warranty repair, please fill in the form located on the www.tecweld.pl website in the SERVICE tab. On the basis of the notification, the device will be transported to the service by a courier company. Devices sent in any other way at the expense of TECWELD will not be accepted!

The device sent for complaint must be properly packed and secured for transport. TECWELD is not responsible for damage to the turntable resulting from transport.



If you intend to dispose of this product, do not dispose of it with ordinary household waste. According to the WEEE Directive (Directive 2012/19/EU) in force in the European Union, separate disposal methods must be used for used electrical and electronic equipment.

In Poland, in accordance with the provisions of the Act of 11 September 2015 on Waste Electrical and Electronic Equipment, it is prohibited to place waste equipment marked with the crossed-out bin symbol together with other waste.

The user who intends to dispose of this product is obliged to hand over waste electrical and electronic equipment to a waste equipment collection point. Collection points are operated, m.in, by wholesalers and retailers of this equipment and by municipal organisational units operating in the field of waste collection.

The above statutory obligations have been introduced in order to reduce the amount of waste generated from waste electrical and electronic equipment and to ensure an appropriate level of collection, recovery and recycling of waste equipment. The proper implementation of these obligations is particularly important when waste equipment contains hazardous components that have a particularly negative impact on the environment and human health.

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