

HAND GRINDER for tungsten electrodes



D40



User's manual



WELDING EQUIPMENT SUITABLE FOR TODAY'S NEEDS

Thank you for purchasing our product!

You have made a right choice. Plasma welding and welding processes are carried out in difficult conditions that expose welding equipment to extreme tests of its strength. Only high quality equipment can ensure required reliability and performance during realization of the above-mentioned processes. SPARTUS® products are characterized by precisely such features: they are primarily reliable and durable, but they are also versatile. We listen carefully to clients' needs. Therefore, our offer covers such a wide assortment of products. Thank you very much for your trust in our company. We would like to invite you to familiarize yourself with the remaining products and offer at www.spartus.info or directly at a local distributor of SPARTUS® products.

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IMPORTANT!

Before using this product, read the instruction manual in its entirety, with understanding. Keep the instructions for quick reference to it if necessary. Pay special attention to safety instructions provided for your protection. In the event of any points of misunderstanding instructions, contact your supplier or supervisor.

1. SAFETY RULES



Information in this manual on the safe use of the provided equipment does not release the operator from following safety regulations in force on site.

In addition, the operator should have an information on the necessary safeguards as defined in relevant national and international standards and regulations.

It is forbidden to use the equipment without previous reading of this manual.

! *This symbol is dedicated for tips not using of which may be dangerous to life or health. These tips should be used while keeping special caution in these situations. These tips should be given to all users of the device.*

1.1 INTENDED USE

Hand grinder for tungsten electrodes SPARTUS® D40 is dedicated for sharpening of tungsten electrode tip (non-consumable electrode), use for TIG welding procedure.

! *It is **forbidden** to grind tungsten electrodes with thorium without first connecting the extractor and separating the dust with proper filtration. The dust generated as the result of the grinding of thorium electrodes is highly harmful to health and life of the operator..*

*It is **forbidden** to use the device for improper purposes!*

1.2 SAFETY USE

Before each use check the condition of the device and additional accessories. It is forbidden to use damaged or technically inoperable device. Used and damaged parts must be replaced with original spare parts.

! *Breaking the safety rules may lead to the risk of losing health or life!*

1.2.1 Eye and face protection

The wheel rotational speed reaches 13 000 rpm. During the grinding, splinters and impurities that can form in the eye may appear. High temperature can be produced due to strong friction forces. The rotating wheel of the grinder can pose a risk to the operator's hands and fingers.

In order to prevent hazards mentioned above and other risks that accompany the grinding process, the following rules must be followed:

- it is absolutely forbidden to use the device when the protective cover is removed or damaged,
- it is forbidden to put hands or fingers inside the grinding chamber when the device is connected to the electricity supply,
- sharpened electrode always should be secured by a clamp.

1.2.2 Noise load

The device itself emits a low level of noise. However, during the sharpening of tungsten electrode, the level of noise increases. Excessive noise can cause permanent damage to hearing. In order to prevent threats mentioned above, following rules must be followed:

- use appropriate hearing protectors,
- people in the vicinity should be informed about the dangers of exposure to excessive noise. People in the work zone must wear appropriate hearing protection.

1.2.3 Risk of electric shock

The unit is powered from single-phase network 230V +/- 10%. Like all device supplied with electricity network, the grinder may cause risk of electric shock to the operator. Electrical shock from the electricity network can result in permanent damage to health or loss of life. In order to prevent threats mentioned above, following rules must be followed:

- it is forbidden to use when the power cord, plug or cover is damaged,
- do not touch electrical components of the device under voltage,
- take special care when using the device in small rooms or in areas with increased air humidity,
- avoid contact with water.

1.3 ENVIRONMENTAL CONDITIONS

Conditions during the operation, storage and transport

Ambient temperature during operation	-10°C ÷ +40°C
Relative air humidity	50% in +40°C 90% in +20°C
Ambient air	free from excessive amounts of dust, acids, corrosive gases
Ambient temperature during transportation and storage	-20°C ÷ +55°C

2. EC DECLARATION OF CONFORMITY

Hand grinder SPARTUS® D40 is in conformity with the relevant Union harmonization legislation:

LVD 2014/35/UE	Low Voltage Directive
EMC 2014/30/UE	Electromagnetic Compatibility Directive

harmonized standards:

EN 60745-1:2006 Hand-held motor-operated electric tools – Safety – Part 1: General requirements.

Product is marked with CE sign .

This declaration applies only to the machine in the state in which it was on the market and does not include components added by the end-user or subsequent actions carried out by it.

3. GENERAL DESCRIPTION

Hand grinder SPARTUS® D40 for tungsten electrodes enables precise sharpening or blunt the end of the tungsten electrode, in accordance with technological requirements.

The grinder is designed for sharpening electrodes with diameters from 1.6 to 4.0mm and allows the electrode tip to be sharpened in the range of 15-180°. The ergonomic shape ensures comfort while working, and the use of filtration effectively protects the user's health by preventing the inhalation of harmful substances generated during grinding.

The use of a tungsten electrode length locator means that the minimum grinding length is 15mm, which increases the use of the electrode by over 30%. The design of the sharpener allows you to observe the grinding condition of tungsten electrodes.

The bottom of the grinder is equipped with a base and screw holes, which allows it to be stably mounted, e.g. on an assembly table.

4. TECHNICAL SPECIFICATIONS

Input	~1 x 230V ± 10% 50 / 60 Hz
Electric motor power [W]	770
Electrode sharpening angle [°]	15-180
Max. rotational speed [rpm]	13 000
Diameter of electrodes [mm]	1.6 – 4.0
Grinding wheel diameter [mm]	φ40.6 x φ8 x 2.3
Min length of grinding electrodes [mm]	15
Dimensions [mm]	380 x 90 x 103
Grinder weight [kg]	3

5. INSTALLATION AND USE



*Situations and threats that may cause direct danger during use of the device.
Precautions to be taken by the operator in order to avoid hazards!*

Health-impaired materials that electrodes are made of!

Tungsten electrodes can contain harmful materials. Follow the manufacturer's instructions and recommendations! In case of doubt concerning the composition of tungsten electrodes contact the manufacturer / supplier of electrodes.

Activation with an electrode applied to the grinding wheel!

Launching and commissioning of the device with an electrode applied to the grinding wheel may cause twist of the electrode and damage the grinding wheel, the equipment and personal injury!

During the launching, the electrode must not adhere to the surface of the grinding wheel. Check the electrode position before switching on.

Open supply channel!

During the grinding procedure splinters and dust which can fall into the eye or be released into the air can get through a supply channel.

Prior to switching on the device, place the electrode holder in the supply channel. Keep in mind that the end of the grounded electrode should not touch the grinding wheel.

After turning off, wait until the grinding wheel has completely stopped before pulling out the electrode holder from supply channel.

Too much clamping force between electrode and grinding wheel!

Using too much clamping force on grinding wheel can cause overheating and an annealing of electrode. Annealed electrode may be unusable or damage the device.

Do not use too much clamping force between electrode and grinding wheel!

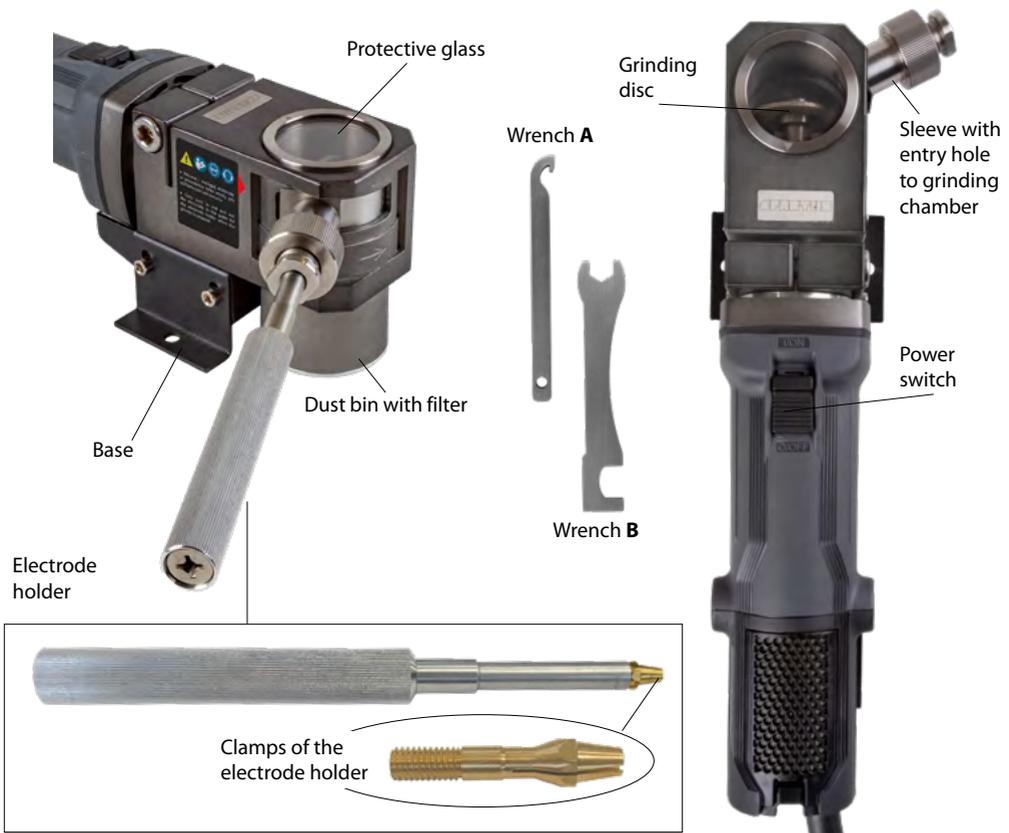


*Before each use make sure that all components are properly installed and technically functional. It is **forbidden** to use the device if it is technically inoperable!*



The unit is powered from single-phase network 230V. Risk of electric shock! Connect to a single-phase network with the parameters indicated in the technical documentation. Check the status of plug and power supply lines. Replace the damaged power supply line or plug with a new one!

6. DEVICE CONSTRUCTION



7. HOW TO USE SPARTUS® D40 HAND GRINDER

1. Check if the power switch is in the „OFF“ position.
2. Set the angle of electrode sharpening.
3. Select a holder clamp with a diameter consistent with the diameter of the tungsten electrode and lock it firmly in the holder, using a key.
4. Before turning on the device, make sure that the sharpening angle is set correctly and that the sleeve is tightened stably.
5. Insert the holder with the installed electrode into the sleeve (entry hole to grinding chamber).
6. Set the grinding speed according to the electrode diameter.
7. Turn on the grinder and sharpen the electrode.
8. When you have finished using the device, remember to turn it off.

8. MAINTENANCE

1. The cartridge filter should be taken out from the bottom of the machine within ten hours of cumulative use for harmless dust disposal. The cartridge filter should be replaced after two months of use to avoid airflow obstruction due to cartridge filter's blockage, which lead to dust accumulation and bearings damage under high temperature.
2. The grinding chamber should be dust-blown when it has been used for about 20 hours totally to prevent tungsten dust from entering the connection gaps, accelerating the grinder wear and shortening the service life of the grinder.
3. Selecting the proper grinding speed according to the diameter of the tungsten electrode, which can effectively improve the grinding concentricity.
4. After adjusting the three positions of the grinding disc, if it still cannot achieve the sharpening effect, the grinding disc must be replaced in time.
5. The continuous operation time of the machine cannot exceed one hour, otherwise it will decrease the grinding accuracy. So please turn off the power in time after grinding is completed.

8.1 REPLACING THE GRINDING DISC

1. Check if the power switch is in the „OFF“ position.
2. Unscrew the electrode holder.
3. Press the dust container from the bottom to slide out and remove the protective glass.
4. Lock the axle with a wrench **A** and unscrew the mounting bolt with a wrench **B**.
5. Remove the worn disc, replace it with a new one and assemble the device.

9. ENVIRONMENTAL PROTECTION



The product must not be disposed of into an ordinary waste container. It is totally forbidden to dispose of electric or electronic equipment marked with a crossed-out trash can symbol by throwing it into ordinary waste containers. According to the WEEE directive (directive 2012/19/UE), binding within the European Union, such products should be disposed of according to local regulations.

We hereby inform the client that, according to the regulations, each commodity is burdened with waste disposal costs (WDC) according to charging rates valid for a given year.

Attention! If using liquid to water-cooled torches, utilize it according to attached information.

10. TROUBLESHOOTING

The end of the tungsten electrode after the grinding is overheated.	Too much clamping force between electrode and grinding wheel.
Uneven grinding of the electrode.	Incorrect tungsten electrode grinding technique. The grinding wheel is worn out.
End of the electrode is not sharp enough – the electrode is not sharpened.	Too low grinding depth.

Notes



EASY

Simple solutions and an attractive price – these are the features of SPARTUS® Easy series devices. Our equipment has been designed with ease of use and ergonomics at work in mind.

A masterly combination of high quality production, excellent parameters and ergonomics – these are features of the SPARTUS® Master series of devices, which were created with demanding welding jobs in mind.



MASTER



PRO

Precision, functionality, excellent parameters and resistance to high workloads – these are the features of the SPARTUS® Pro industrial series of devices. This series consists of specialised solutions which will satisfy even the most demanding users.



Videopresentation of products



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