

ROTHENBERGER



ROWELD® ROFUSE Sani 160

www.nipo.cz
NIPO
TOOLS
partner profesionálů

5.4230



Bedienungsanleitung bitte lesen und aufbewahren! Nicht wegwerfen!

Bei Schäden durch Bedienungsfehler erlischt die Garantie! Technische Änderungen vorbehalten!

Please read and retain these directions for use! Do not throw them away! The warranty does not cover damage caused by incorrect use of the equipment! Subject to technical modifications!

Lire attentivement le mode d'emploi et le ranger à un endroit sûr! Ne pas le jeter! La garantie est annulée lors de dommages dûs à une manipulation erronée! Sous réserve de modifications techniques!

Lees de handleiding zorgvuldig door en bewaar jaar goed! Niet weggooiden! Bij schade door bedieningsfouten komt de garantieverlening te vervallen! Technische wijzigingen voorbehouden!

CE-KONFORMITÄTSERKLÄRUNG

Wir erklären in alleiniger Verantwortung, dass dieses Produkt mit den angegebenen Normen und Richtlinien übereinstimmt.

EC-DECLARATION OF CONFORMITY

We declare on our sole accountability that this product conforms to the standards and guidelines stated.

DECLARATION CE DE CONFORMITÉ

Nous déclarons sous notre propre responsabilité que ce produit est conforme aux normes et directives indiquées.

EC-KONFORMITEITSVERKLARING

Wij verklaren in eigen verantwoordelijkheid dat dit product overeenstemt met de van toepassing zijnde normen en richtlijnen.



**CE-KONFORMITÄT/
CE-CONFORMITY/
CONFORMITÉ/
EC-KONFORMITEIT**

EG Richtlinie 89/336 EWG

EG Niederspannungsrichtlinie 73/23 EWG

**Andere Normen/
Other Standards/
Autres normes/
Andere standaarden**

EN 292/1

EN 292/2

EN 60242

ppa. Arnd Greiding

Introduction

Dear Customer:

Thank you very much for purchasing our product. We are confident that it will meet your expectations.

The ROWELD® ROFUSE Sani 160 welding unit for electrofusion fittings is designed exclusively for joining PE discharge lines equipped with electrofusion fittings.

The ROWELD® ROFUSE Sani 160 was manufactured and checked according to state-of-the-art technology and widely recognized safety regulations and is equipped with the appropriate safety features.

Before shipment, it was checked for operation reliability and safety. In the event of errors of handling or misuse, however, the following may be exposed to hazards:

- the operator's health,
- the ROWELD® ROFUSE Sani 160 and other hardware of the operator,
- the efficient work of the ROWELD® ROFUSE Sani 160.

All persons involved in the installation, operation, maintenance, and service of the ROWELD® ROFUSE Sani 160 have to

- be properly qualified,
- operate the ROWELD® ROFUSE Sani 160 only when observed,
- read carefully and conform to the User's Manual before working with the welding unit.

Thank you.

1 Safety Instructions

When using the ROWELD® ROFUSE Sani 160 welding unit, comply with the following safety instruction to protect yourself from electrocution, injuries, and fire. Read and respect these instructions entirely before using the unit and keep the safety instructions in good order.

1.1 Keeping Your Work Area Orderly

Keep the area you work in orderly and tidy. If you do not have a proper overview or if it is not orderly, this is in itself a potential cause for accidents.

1.2 Paying Attention to Your Work

When working, monitor your actions and do not use the unit if you do not feel perfectly well. Pay attention to what you are doing at all time.

1.3 Securing the Pieces to Be Welded

Use appropriate clamps to secure the fitting and the joint mechanically. By doing so, you also have your hands free to control the welding unit.

1.4 Ensuring a Compatible Environment

Do not use the unit in a humid or wet environment or while it is raining. Do not use it close to flammable materials, such as liquids and gases. Avoid any contact with acids and other corrosive chemicals.

1.5 Cleaning the Welding Unit

The ROWELD® ROFUSE Sani 160 must not be sprayed with or immersed in water. Use a dry piece of cloth to remove dirt from the unit.

1.6 Checking the Welding Unit for Damage

Each time before operating the welding unit, check safety features or possibly existing parts with minor damage for proper function. Make sure that the push-on connection terminals work properly, that contact is fully established, and that the contact surfaces are clean. All parts have to be installed correctly and properly conform to all conditions in order to be sure the unit works as intended.

1.7 Repairing the Unit

Damaged safety features or functional parts should be properly repaired or changed by a qualified after-sales service. Therefore, the unit must never be repaired if not by a qualified and licensed specialist. Home-made repairs are strictly prohibited, as they may put you at a high risk of danger.

1.8 Opening the Unit

Do not remove the cover from the welding unit. It may be opened only by specialized staff of Rothenberger or another, properly authorized partner company.

1.9 Using Suitable Accessories

Use only approved and properly labelled accessories (e.g., extension cables).

1.10 Using Genuine Parts

On any rate, use only – if available – genuine and original accessories and spare parts.

1.11 Using the Appropriate Unit

Make sure you use the unit that is appropriate for the intended work, and weld only fittings that are intended for this kind of application. The welding unit is suited exclusively for indoor installation applications. Use for buried pipeline construction applications is prohibited.

1.12 Unplugging the Power Supply Cord

To avoid unnecessary risk, unplug the power supply cord from the mains socket when the unit is not used.

1.13 Storing the Welding Unit Safely

Store the unit in a safe locale. Dry, lockable locales located at some height are particularly suited, the more so if they are out of the reach of children.

1.14 Protecting Yourself from Electrocution

Connect the unit only to power supply socket equipped with an equipment grounding contact. In an environment that is humid or otherwise at risk of ground loops, the unit has to be operated with ground-leakage circuit breaker (30 mA false intensity threshold).

1.15 Only Qualified Operators

The unit must be operated exclusively by properly trained specialized staff or by trainees if supervised by a competent person entitled to train others. Adolescents younger than 16 years of age may in no event be qualified to operate the unit.

1.16 Avoiding Unwanted Start of Operation

Make sure that the unit is switched off before connecting it to the power supply. Carry it in such a way the none of the two buttons can be pressed inadvertently.

1.17 Improper Use of the Welding and Power Supply Cables

Do not carry the ROWELD® ROFUSE Sani 160 by its cord and do not pull the cord to unplug the unit from the socket. Protect cord and cables from heat, oil, and cutting edges.

1.18 Mains Power Supply

EVU wiring regulations, VDE provisions, regulations for prevention of accidents, DIN / CE regulations, and applicable national codes have to be respected. Mains power fuse protection should be max. 10 A. Power supply to the unit has to be connected through a leakage current switch (earth-leakage circuit breaker rated at 30 mA false intensity).

1.19 Protecting Yourself from High Temperatures in the Fitting

Caution! Be careful not to touch the fitting being welded or its immediate vicinity while welding is in progress and after it was finished. Temperatures in these pieces may be as high as up to 200 °C.

1.20 Protecting Yourself from the Electrical Voltage in the Fitting

Caution! The voltage at the contact terminals of the fitting may be as high as up to 230 V during welding. Therefore, ensure at all times that neither the terminals nor the welding cables of the fitting are defective. While welding, never touch the contact terminals and their vicinity, and never remove the welding cable before having completely finished the welding process.

1.21 Keeping Pipes and Fittings Dry

Never weld a fitting or pipes that are wet or filled with water.

2 Service and Repair

As the unit is used in applications that are sensitive to safety considerations, it may be serviced and repaired only on our premises or by partners who were specifically trained and authorized by us. Thus, constantly high standards of operation quality and safety are maintained.

IMPORTANT!

Non-compliance with this provision will dispense the manufacturer from any warranty and liability claims for the unit and any consequential damage.

When serviced, the unit is automatically upgraded to the technical specifications with which the product is currently shipped, and we grant a three-month functional warranty on the serviced unit.

We recommend having the device serviced at least every twelve months.

In Germany, keep in mind the follow-up check under BGV A2!

Transport, Storage, Shipment

The ROWELD® ROFUSE Sani 160 is shipped in a cardboard box. Store the ROWELD® ROFUSE Sani 160 in the box dry and protected from humidity.

When shipped, the welding unit should be placed into the box at any time.

3 Principle of Operation

The ROWELD® ROFUSE Sani 160 allows joining with electrofusion fittings, discharge lines made of PE / PP and routed indoor, of the following makes: Geberit, Akatherm-Euro, Coes, Valsir, Wavinduo, and Vulcathene-Euro.

The microprocessor-controlled welding unit ROWELD® ROFUSE Sani 160

- controls and monitors the welding process in a fully automated fashion,
- determines welding duration depending on the ambient temperature,
- shows all information with three LEDs and a seven-segment display screen.

Further Optional Accessories

- Transport Case
- Handheld Scraper

4 Operation

4.1 General Information on the Applied Procedure

Electrofusion welding is characterized by thermal fusion of the outer surface of the pipe and the inner surface of the weld fitting by heating the heater coil incorporated into the fitting. In this process, the weld fitting shrinks and thereby creates the contact pressure needed to carry out the fusion of pipe and fitting surfaces. The automatic welding unit provides the electrical energy needed to perform this and control the energy supply according to certain parameters, such as ambient temperature.

4.2 Preparing the Welding Process

In all cases, the relevant information supplied by the manufacturer of the pipes and the fittings have to be respected. First, both pipe butt have to be cut at right angles and level using appropriate tools. Then, using a chamfering and peeling tool or a handheld scraper, chamfer the edge and smoothen the pipe surface up to the length it will be inserted into the fitting. Then, the weld surface that is achieved by this process has to be de-fatted using an appropriate solvent (non-fibrous paper, spirit or suitable alcohol). Make sure nobody touches the cleansed surface and secure pipe and fitting for the welding operation.

4.3 Turning the Welding Unit On

After connecting the power supply cord to 230V mains power, turn the welding unit on using the main switch. The unit then performs an auto-test. All three LEDs are on briefly simultaneously to indicate that the unit is ready for operation. Furthermore, the seven-segment characters show the welding mode H0 for approximately 1 second. After this, both the LEDs and the screen characters change back to off.

H0

4.4 Connecting the Electro fusion Fitting

Connect the connection terminals to the fitting and check for proper contact. The contact surfaces of the connection terminals and the fitting have to be clean. Dirty contacts may lead to improper welding and also to overheated and fused connection terminals.

After the fitting was connected, the yellow LED (Fitting connected) is on. At the same time, the screen displays the welding time. By pressing the START key, the welding process can now be started.

The welding time is counted down from about 80 s. To determine the welding duration that will be needed, the ambient temperature is taken into consideration to some extent, which may result in a welding time slightly longer or shorter than 80 s.

80

4.5 Welding Process

The welding process is monitored for its entire duration applying the welding parameters computed for the fitting.

4.6 End of Welding

The welding process was completed successfully if the actual welding time shown on the screen is 0, the green LED (End) is on, and at the same time the audible signal can be heard twice.

4.7 Welding Aborted

The welding process has caused errors if the red LED (Fault) is on and the audible signal buzzes intermittently. Additionally, an error code is displayed on the screen.

An error has to be reacted to by pressing the STOP key.

4.8 Cooling Time

The cooling time as given in the fitting manufacturer's instructions has to be respected. Note that during that time, no external forces must be applied to the pipe fitting joint which is still warm.

4.9 Returning to the Start of Welding

After welding is finished, disconnecting the welded fitting from the welding unit will cause the unit to return to the start of welding. An additional safety feature prevents a given electro fusion fitting from being welded twice inadvertently: after a properly completed or an aborted welding operation, the welding unit first has to be disconnected from the fitting to be ready for the next welding.

5 Self-Monitoring Functions Overview

5.1 System Error

CAUTION!

The welding unit has to be disconnected immediately from the power supply and the fitting. The auto-test has found an error in the system. The unit must no longer be operated and has to be turned in for check and repair.

E0

5.2 Power Supply Failure

The last welding is incomplete. The welding unit was disconnected from the power supply. This error has to be acknowledged by pressing the STOP key.

E1

5.3 No Contact

There is no properly established electric contact between the welding unit and the fitting (check push-on terminal on fitting), or the heater coil is defective.

E2

5.4 Low Voltage

The input voltage is below 180 V. Adjust generator output voltage.

E3

5.5 Overvoltage

The input voltage is above 280 V. Adjust generator output voltage.

E4

5.6 Temperature Error or Temperature Sensor Defective

The measured ambient temperature is outside the operating range of the welding unit, i.e., below $-5\text{ }^{\circ}\text{C}$ or over $+40\text{ }^{\circ}\text{C}$.

If this error is displayed during the unit's auto-test, the temperature sensor is defective.

E5

5.7 Frequency Error

The frequency of the input voltage is out of tolerance (40 Hz - 70 Hz).

E6

5.8 Low or Excess Current

The message is displayed if there is a momentary current failure or if the current regulator is defective.

E7

5.9 Emergency Off

The welding process has been interrupted by pressing the STOP key.

E8

5.10 Fitting Already Welded

After welding was finished, the fitting was not disconnected from the welding unit, and the user attempted to weld the same fitting a second time.



6 Troubleshooting

6.1 Nothing happens after unit was turned on, it does not execute the auto-test

Possible causes:

- The unit is not connected to a mains power outlet.
- The switch is defective.
- The power supply line is faulty.
- The unit is defective.
- There is a general problem with the power supply.

6.2 After connecting the fitting, the yellow check LED does not light up, welding is impossible

Possible causes:

- The contact terminals are not properly connected.
- The contact terminals are dirty.
- The welding cable is faulty.
- The weld fitting is defective.
- The weld fitting is unsuitable.
- The unit is defective.

7 ROWELD® ROFUSE Sani 160 Technical Specifications

Nominal Voltage	230 V
Frequency	40 Hz - 70 Hz
Power	1200 VA, 80 % ED
Protection Index	IP 44
Primary Current	max. 10 A
Ambient Temperature	- 5 °C to + 40 °C
Max. Output Current	5 A
Measuring Tolerance:	
Temperature	± 5 %
Current	± 2 %
Unit Dimensions	L = 120 mm, W = 160 mm, H = 77 mm
Welding Cable Length	3 m
Power Supply Cord Length	2.5 m

8 Service and Repair Contact

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9 Accessories and Spares for ROWELD® RO-FUSE Sani 160

Aluminium Carrying Case

ROWELD® ROFUSE Sani 160 User's Manual

Manual Scraper

10 Disposal

Parts of the machine are reusable materials and can be recycled. Approved and certified recycling companies are available for this. For the environmentally friendly disposal of the non-recyclable parts (e.g. electronic scrap) please ask your responsible waste authority.