



**EN**

**Operating instructions  
Scraper tool FWSG 315**

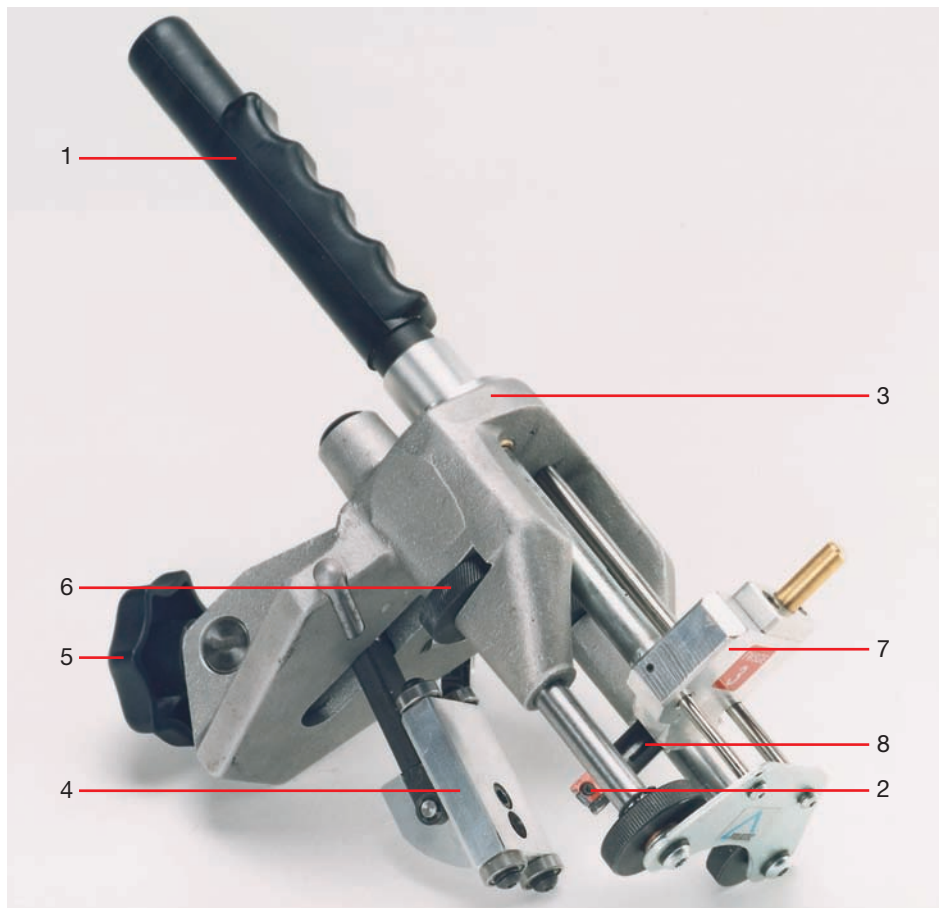


fig. 1

1. Roller handle
2. Scraper blade
3. Housing
4. Clamping carriage
5. Twist grip knob
6. Guide rollers
7. Blade housing
8. Blade holder



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# 1. Preliminary notes

## 1.1 Safety notes and hints

In these operating instructions, the following symbols with warnings are used:

Symbol	Meaning
	Danger to people. Failure to comply can result in minor or moderate injury.
	Danger to objects. Failure to comply can result in objects damage.

## 1.2 Designated use

The scraper tool FWSG 315 serves the processing of pipes made of PE 100, PE 80 and PEX-a in the dimensions 3" IPS up to 12" IPS. It is a precision tool and is suitable to remove the oxide layer as preparation for an electrofusion joint which forms on the surface of PE pipes during their storage. The service life depends on the frequency of use and the external influences during use and/or the storage or transport of the tool.

These operating instructions apply in connection with the FRIALEN Safety Fittings assembly instructions.

### **NOTICE**

**Before any fusion, a scraping has to be performed in any case!**

Leaking fusion joints may result if the oxide layer is not removed completely.

## **2. Safety**

### **2.1 Functional safety**

The scraper tool FWSG 315 is subject to the quality management pursuant to DIN EN ISO 9001:2008 and is checked for its functional safety before any delivery.

### **2.2 Obligations of the operator**

All persons involved in commissioning, operation, maintenance and repair of the scraper tool FWSG 315 must:

- be correspondingly qualified, and
- strictly observe these operating instructions.

The operating instructions must always be kept at the place of use of the tool (transport box recommended). The instructions must be available to the operator any time.

With regard to the intended use, please observe the accident prevention regulations, environmental regulations and statutory rules, as well as the relevant safety regulations and all local standards, laws and regulations.

### **2.3 Structural changes**

No modifications, attachments or alterations on the scraper tool FWSG 315 may be performed without approval by FRIATEC AG.

### 3. Preparation of scraping

- Remove any dirt such as sand and soil from the pipe surface to be scraped (e.g. using a clean, fat-free cloth).

#### NOTICE

**If the pipe surface to be scraped is not cleaned, the scraper blade wears prematurely!**

- Determine the area to be scraped = the insertion depth of the coupler/ moulded part + 5 mm (approx. + 0.1969 inches).
- Mark the area to be scraped with a FRIALEN marker pen using wavy lines (this is for you to determine whether pipe has been scraped evenly).

### 4. Assembly of the scraper tool

- Set pipe dimension.
- Hold the scraper tool by the roller handle **(1)** and point it towards the floor.
- Turn the tool anti-clockwise with twisting movements until it reaches the mark for the required scraping dimension (Fig. 2).

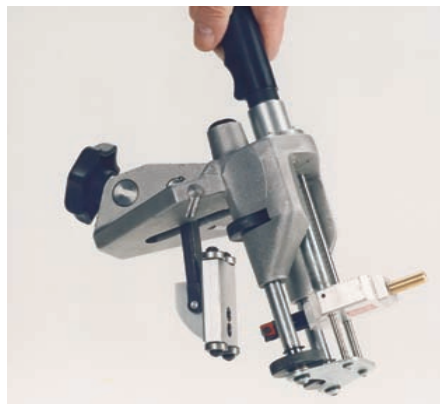


fig. 2

#### NOTICE

##### **Damage of the scraper blade!**

Do not allow the scraper blade **(3)** to butt at the clamping carriage **(4)**.

- If necessary open the clamping carriage by turning the twist grip knob **(5)** anti-clockwise.
- Check every 5 to 10 turns to see if the mark has been reached. The marking line below the marking number must be visible and must finish up flush with the housing (Fig. 3).
- Assemble scraper tool.
- Remove protecting cap.
- Guide the tool over the pipe so that the clamping carriage **(4)** is inside the pipe and the scraper blade **(2)** is on the outer surface of the pipe (Fig. 4).
- Turn the twist grip knob **(5)** clockwise until all four guide rollers **(6)** are pressing firmly against the pipe.

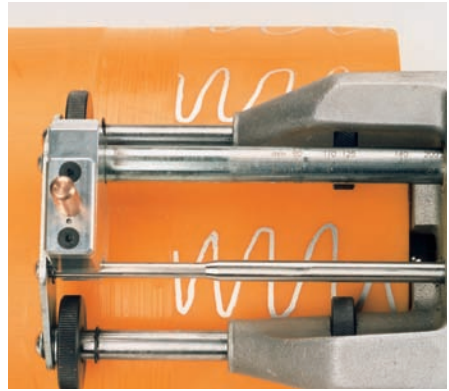


fig. 3



fig. 4

## 5. Scraping of pipe surface

- Turn the tool clockwise around the end of the pipe by the roller handle **(1)**.
- Turn it steadily until the pipe surface is scraped up to the mark (Fig. 5).



fig. 5

**NOTICE**

**Press the scraper tool against the end of the pipe while scraping in order to avoid tilting of the tool in axial direction.**

- The swarf is to be removed manually.

**CAUTION**

**Risk of injury during scraping process!**  
Keep hands off the pipe.

## 6. Disassembly of the scraper tool

- Release the twist grip knob **(5)** by turning it anti-clockwise.
- Pull the scraper tool off the pipe end.

## 7. Inspection of the scraping result

Inspect the scraping result, i.e. the swarf must be completely removed and the markings applied before with the FRIALEN marker may no longer be visible.

For bundled coil pipes control the scraping result with regard to the swarf thickness or remained marks on the pipe very carefully.

The blade **(3)** is adjusted for a swarf thickness of 0,25 – 0,35 mm (approx. 0.0098 – 0.0138 inches). For the scraping of FRIALEN safety fittings the wear limit is max. 0,4 mm (approx. 0.0157 inches) and must not be exceeded.

Please note differing requirements of other fitting manufacturers.

If the marker lines are not completely removed, the scraping process should be repeated.

**NOTICE**

**Scrape twice at a maximum!**



- If a perfect result is still not achieved even after scraping twice.

- a) Check the feed setting at the markings.
- b) Check the scraper blade **(3)** and if necessary replace it (see chapter 8).

An abrasion of the blade can enlarge the swarf thickness inadmissibly. This abrasion occurs because of multiple usage and outside influences (sand, soil etc.). Therefore the strength of the swarf must be measured regularly - e.g. with a calliper gauge. Scraper blades are worn parts and have to be replaced (see chapter 8).

### NOTICE

**Scrape twice at a maximum!**

### NOTICE

**An incomplete scraping or a differing swarf thickness may result in a leaking fusion joint.**

## 8. Replacement of blade

### CAUTION

**Risk of injury at the blade!**

### NOTICE

**Please note when replacing the blade that only blades dyed green may be used!**

- Release the TORX screw with the TORX spanner supplied.
- Remove the blade and clean the supporting surface carefully.
- Insert a new blade.
- Tighten the TORX screw with the torx spanner.

Item	Order-No.
FWSGE 3/Replacement blade set	613322

## 9. Notes on care and maintenance

Your scraper tool FWSG 315 is a precision tool. Please thus observe the notes on care and maintenance. All component parts are to be regularly cleaned of dirt and deposits. and deposits.

### NOTICE

#### Your expense!

Careful handling of the equipment will prevent unnecessary repairs and downtimes. Regular annual safety checks by FRIATEC AG are recommended.

The scraper tool FWSG 315 must be kept clean and dry. After use, the tool is always to be stored in the dry transport box.

Rollers must be treated **regularly** using oil-based maintenance spray supplied in the transport box.

Those parts which have come into contact with the pipe during use **may not** be treated using the oil based maintenance spray. Should this accidentally occur, these parts must be cleaned using standard cold cleaning agents.

### NOTICE

**Oil or oil-based maintenance spray may not come into contact with the pipe surface to be scraped!**

Article	Order-No.
Oil-based maintenance spray*	613301

\*Please observe safety and application instructions on agent container.

## 10. Warranty

The warranty is granted for 1 year.

Excluded from this are parts which prematurely wear because of the environment (sand, earth, corrosion-promoting materials and similar).

Warranty and liability claims in the event of injuries to persons and damages to property shall be excluded if they are the result of one or several of the following causes:

- use of scraper tool FWSG 315 and the plunger not according to its intended use,
- structural modifications not approved by FRIATEC AG accord. to item 2.3.,
- improper handling and improper transport,
- improperly performed maintenance and repair work,
- non-observance of notes in these operating instructions, and/or
- use of worn work functional parts or of a damaged scraper tool FWSG 315.

## 11. Update of these operating instructions

These technical statements are regularly checked for their up-to-dateness.

The date of the last revision is stated on each page. For an updated version of the operating instructions, please visit our website [www.friatools.com](http://www.friatools.com) on the Internet. You will find the “Download” page on the navigation bar. This page contains our updated operating instructions as pdf documents. We would also be pleased to mail them to you on request.