



# Operating instructions

Scraper Tool FWSG RA



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# 1. Device description

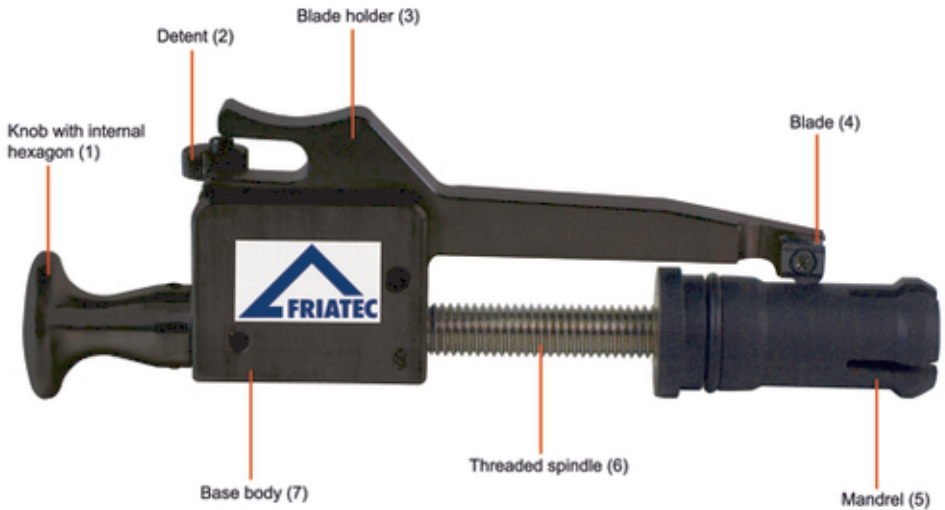


Image 1:

## 2. About this document

### 2.1. Purpose of these instructions and target group

These instructions describe all the necessary work steps and precautions to ensure safe and correct handling and installation of the product. These instructions are intended for the following target group:

- Trained fitters
- Owners

## 2.2. How to use these instructions

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### **i** INFO

Before assembly and use, read these instructions carefully.  
Follow all the other applicable documents.  
The operator must preserve these instructions for the life of the product.  
Compliance with the described sequence of operations is mandatory.

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## 2.3. Symbols used

The following flags and symbols are used in this document:

### **⚠ DANGER**

This warning describes an immediate threatening danger.

- ▶ Failing to heed it can result in death or extremely serious injuries.

### **⚠ WARNING**

This warning describes a possibly threatening danger.

- ▶ Failing to heed it can result in death or extremely serious injuries.

### **⚠ CAUTION**

This warning describes a possibly threatening danger.

- ▶ Failing to heed it can cause slight or minor injuries.

### **HINT**

This warning describes a danger that can result in damage to property.

- ▶ Measures for avoiding damage to property are described here.

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## **I** INFORMATION

This notice provides information about the following subjects:

- Usage tips
  - Additional information
- 

### **2.4. Effective documents**

These operating instructions apply in connection with the assembly instructions of the used fitting.

### **2.5. Updates to these instructions**

The technical information contained in these operating instructions is reviewed regularly to make sure it is up to date. The date of the last revision is specified on the document. Updated instructions are available online at <http://www.aliaxis.de/de/services/downloads>

We would also be pleased to send you a printed version.

## **3. Safety**

### **3.1. Designated use**

The FWSG RA scraper tools are precision tools and serve for the removal of the oxide layer as preparation for an electrofusion joint which forms on the surface of PE pipes during storage. They are particularly suited for scraping the outlets of FRIALEN component parts and safety fittings as well as pipe ends. Pipes made of PE80, PE100 RC, PE100 RT, PE100 and PE-Xa according to following table can be scraped.

The service life depends on the frequency of use and the external influences during use and/or the storage or transport of the tool.

<b>FWSG RA</b>	<b>Dimension</b>	<b>SDR</b>	<b>Order. Ref.</b>
FWSG RA 25	d 25	SDR 11	613576
FWSG RA 32	d 32	SDR 11	613580
FWSG RA 40	d 40	SDR 11	613581
FWSG RA 50	d 50	SDR 11	613582
FWSG RA 63	d 63	SDR 11	613583

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## **i** INFO

### **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.

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### **3.2. Structural changes**

No modifications, attachments or alterations on the scraper tool may be performed without approval by Aliaxis Deutschland GmbH.

### **3.3. Obligations of the operator**

All persons involved in commissioning, operation, maintenance and repair of the scraper tool FWSG RA 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.

When using a cordless screwdriver the assembly instruction of the manufacturer must be adhered to.

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.

### **3.4. Functional safety**

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

## **4. Preparation of scraping**

### **▲ CAUTION**

Bundled coil pipes must be re-straightened within the working area of the scraping tool before scraping.

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

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## **i** INFO

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

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- If a fitting has to be fused, mark the insertion depth on the pipe end with a FRIALEN marker pen.
- Mark the area to be scraped with a FRIALEN marker pen using wavy lines. In case of bundled coil pipes particularly the inside curve has to be marked (this is for you to determine whether pipe has been scraped completely).

## **5. Assembly of the scraper tool**

- Before the assembly of the scraper tool FWSG RA the blade holder (3) has to be arrested.
- Hold the scraper tool FWSG RA in the hand and press the blade holder (3) with the thumb in direction of the base body (7).
- The blade holder (3) is lifted from the mandrel (5).
- Rotate the detent (2), e.g. by a rotational movement of the wrist.



Image 2:

- Position the blade above the collar of the mandrel (5); eventually rotate the mandrel (5) in this position.
- Insert the mandrel (5) into the pipe end to be scraped, that the scraping tool FWSG RA has secure grip.
- Align the blade such that the edge is positioned above the pipe end.
- Press the blade holder (3) and release the detent (2), as previously described.

## **6. Scraping of pipe surface**

### **6.1. Manual scraping**

- Hold the scraper tool FWSG RA at the base body (7) and turn the tool clockwise around the pipe end.
- Press the scraper tool FWSG RA axially against the pipe end to be scraped.
- Scrape until the pre-marked surface of the pipe end is completely scraped.
- The swarf is to be removed manually.



## 6.2. Scraping with crank handle (accessory)



Image 3:

- Insert the external hexagon bolt of the crank handle into the adapter at the knob (1).
- Turn the scraper tool FWSG RA evenly clockwise around the pipe.
- Press the scraper tool FWSG RA axially against the pipe end to be scraped.
- Scrape until the pre-marked surface of the pipe end is completely scraped.
- The swarf is to be removed manually.

## 6.3. Scraping with cordless screwdriver

### ⚠ CAUTION

#### Risk of injury during scraping process!

Keep hands off the pipe.



Image 4:

- Cordless screwdrivers with the following features may be used exclusively:
- Maximum number of revolutions per minute: 200 rpm
- Maximum torque: 4 Nm.
- The impact-screw function must be deactivated.

### **i** INFO

#### Drilling machines may not be used!

Too many rotations per minute can lead to an inadequate scraping result!

- Fix a hexagonal bit SW6 at the cordless screwdriver.
- Insert the hexagonal bit SW6 into the adapter at the knob (1).

- While scraping, press the cordless screwdriver axially against the pipe end to be scraped.
- Ensure that the maximum permissible number of rotations per minute of 200 rpm is not exceeded.
- Scrape until the pre-marked surface of the pipe end is completely scraped.
- The swarf is to be removed manually after the cordless screwdriver was switched off.

## 7. Disassembly of the scraper tool

- For disassembling of the scraping tool FWSG RA the blade holder (3) has to be arrested.
- Press the blade holder (3) and rotate the detent (2), as previously described.
- Remove the scraper tool FWSG RA from the pipe end.

## 8. 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 is adjusted for a swarf strength of 0,15 - 0,25 mm. For the scraping of FRIALEN safety fittings the wear limit is max. 0,3 mm and must not be exceeded. Please note differing requirements of other fitting manufacturers. 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.

### **i** INFO

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

## 9. Replacement of blade

### **▲ CAUTION**

**Risk of injury at the blade!**

### **▲ CAUTION**

Bundled coil pipes must be re-straightened within the working area of the scraping tool before scraping.

The blade of your scraper tool FWSG RA is characterized according to the type of tool to one of the front sides with "20/25", "32/40" or "50/63". It has two cutting edges. At delivery the blade is installed by default that you can see the dimension. If no identification is visible, the second cutting edge is already in use. Is this cutting edge worn, a new blade must be used.

Insert a new blade always a way that the dimension is legible.

- Loosen the countersunk screw with a TorxPlus IP15 wrench.
- Turn the blade 180° clockwise.
- Fasten the countersunk screw with a TorxPlus IP15 wrench. Maximum torque: 3 Nm.

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## **i** INFO

Please note when replacing the blade that only a replacement blade according to following table is used!

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Replacement Blade Set	Characterization	Order. Ref.
FWSG 10 for FWSG RA 32 and 40	"32/40"	613329
FWSG 11 for FWSG RA 50 and 63	"50/63"	613330
FWSG 13 for FWSG RA 25	"20/25"	613332

## 10. Notes on care and maintenance

Your scraper tool FWSG RA 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.

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

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## **i** INFO

Your expense!

Careful handling of the equipment will prevent unnecessary repairs and downtimes. Regular annual safety checks by Aliaxis Deutschland GmbH are recommended.

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## 11. 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 tools FWSG and the plunger not according to its intended use,
- structural modifications not approved by Aliaxis Deutschland GmbH according 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.

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