Operating instructions

Scraper Tool FWSG SE

FRIATEC

aliaxis

Table of Content

1. Device description

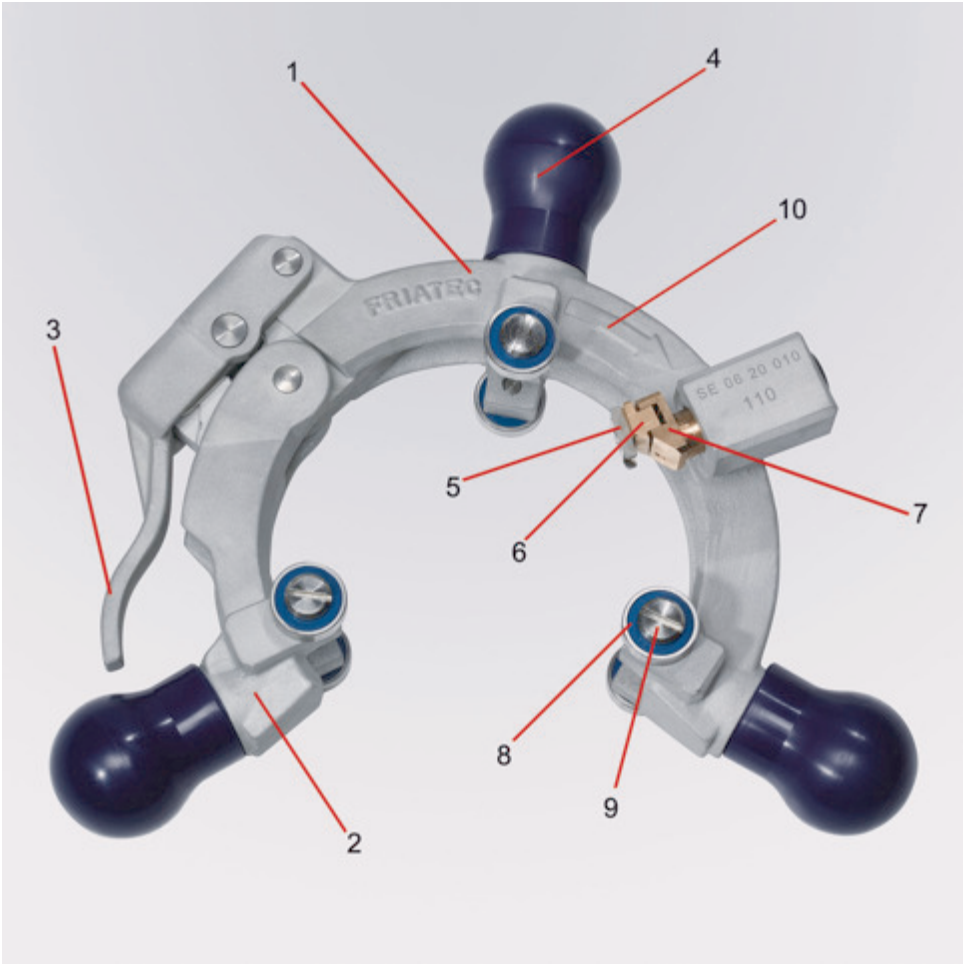


Image 1:

1. upper part
2. lower part
3. clamping lever
4. ball handhold
5. scraper blade
6. blade housing
7. blade holder
8. roller
9. fitting screw
10. arrow showing direction for scraping

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

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.

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.

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 SE 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 ideal for scraping the surface areas of FRIALEN and FRIAFIT saddle fittings on the pipe and preparing for fitting fusion at the outlet spigot or end of the pipe.

Pipes made of PE80, PE100, PE100 RC, PE100 RT 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.

FWSG SE	dimension	Order no.
FWSG SE 63	d 63	613 562
FWSG SE 75	d 75	613 563
FWSG SE 90	d 90	613 564
FWSG SE 110	d 110	613 565
FWSG SE 125	d 125	613 566
FWSG SE 140	d 140	613 567
FWSG SE 160	d 160	613 568
FWSG SE 180	d 180	613 569
FWSG SE 200	d 200	613 570
FWSG SE 225	d 225	613 571
FWSG SE 250	d 250	613 572
FWSG SE 280	d 280	613 573
FWSG SE 315	d 315	613 574

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.

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 SE 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.

3.4. Functional safety

The scraper tool FWSG SE 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

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

INFO

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

- Determine the area on the saddle parts to be scraped. Place FRIALEN / FRIAFIT saddle part onto pipe and mark the outline using a FRIALEN marker pen.
- If a fitting is to be fused, mark the insertion depth on the pipe end (use the FRIALEN marker pen).
- Mark area to be scraped using wavy lines (this is for you determine on scraping whether pipe has been scraped evenly).

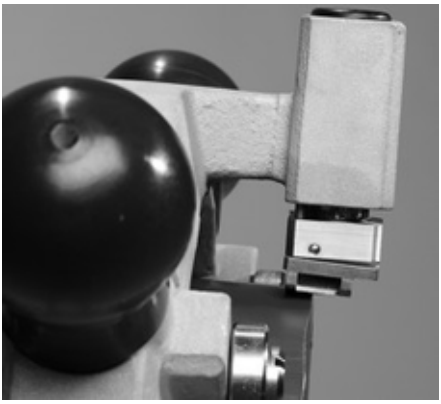
5. Assembly of the scraper tool

CAUTION

Risk of crushing!
Make sure that your fingers are outside the clamping area between lower part **(2)** and clamping lever **(3)**.

Hold scraper tool by central ball handhold **(4)** and clamping lever **(3)** and place onto pipe at the point to be scraped.

Image 2:



When scraping is to take place at the pipe end, place scraper blade **(5)** in such a way that approx. 1/3 of the scraper blade **(5)** sits on the pipe.

Image 3:

Close clamping lever **(3)**.

Image 4:

6. Scraping of pipe surface

⚠ CAUTION

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

Image 5:

- Evenly rotate scraper tool by ball handholds **(4)** in direction shown (note arrow **(10)**) around the pipe.
- Continue scraping until the pipe area marked has been completely scraped.

INFO

Scraping the outlet spigot of saddle fittings!
Should the scraped length be too short, the scraper tool must be turned and again clamped to the outlet spigot. Scraping is then performed in the opposite direction towards the face side. Scraping must stop as soon as it overlaps the previously scraped spigot area – at most by one turn. At this position, the scraper tool's front guide wheels may not function properly.

INFO

Do not push the tool in the direction of the axis of the pipe whilst scraping!

- The swarf is to be removed manually.

7. Disassembly of the scraper tool

For disassembling hold scraper tool by gripping the central ball handhold **(4)** with one hand and using the other hand to release the clamping lever **(3)**.

Image 6:

Pull the scraper tool off the pipe.
After use, store the tool in the transport box.

Image 7:

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.

Depending on the dimensions, the scraper blade **(5)** is set to a swarf thickness according to following values:

- pipe diameter d 63 from 0,15 - 0,25 mm, wear limit max. 0,3 mm.
- pipe diameter d 75 - d 225 from 0,15 - 0,35 mm, wear limit max. 0,4 mm.
- pipe diameter d 250 - d 315 from 0,30 - 0,45 mm, wear limit max. 0,5 mm.

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

The scraper tool's nominal swarf thickness and wear limit have been defined in their test records as max processing limits for FRIALEN safety fittings and the FRIAFIT sewage system. When processing fittings of other manufactures, note the minimum pipe diameter for fusion.

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 9).

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!

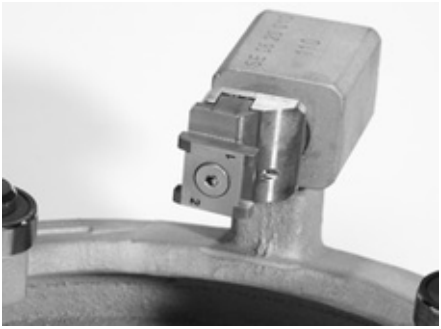


Image 8:

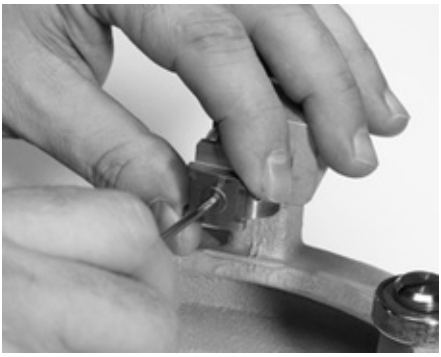
The scraper blade **(5)** of your scraper tool is made up of two blades. The blade **(5)** has been assembled by the factory in such a way that the blade with the number "1" is in use.

9.1. Change blade 1 to blade 2

- Loosen hexagon screw by using SW 2,5 hexagon spanner by one rotation.
- Rotate scraper blade by 180º.
- Tighten hexagon screw by using SW 2.5 hexagon spanner.

Image 9:

9.2. Replace scraper blade



- Loosen hexagon screw using SW 2.5 hexagon spanner.
- Remove scraper blade.
- Clean supporting area if necessary.
- Apply new scraper blade.
- Tighten hexagon screw using SW 2.5 hexagon spanner.

Image 10:

Replacement blade set	Order no.
FWSGE 8	613 327

10. Notes on care and maintenance

Your scraper tool FWSG SE 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.

INFO

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

The scraper tool FWSG SE must be kept clean and dry. After use, the tool is always to be stored in the dry transport box. The FWSG SE must be treated **regularly** using FRIATEC maintenance spray. Spray FRIATEC maintenance spray onto a clean cloth and rub carefully on the tool. Those parts of the tool which come into contact with the pipe, e.g. the scraper blade **(5)** or the grooves for the rollers **(8)** may not be treated using the maintenance spray. If this happens accidentally, these parts must be cleaned by using standard cold cleaning agents. Service and maintenance tasks should be carried out in a workroom.

INFO

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

Article	Order no.
FRIATEC maintenance spray*	613 301

*Please observe safety and application instructions on agent container.

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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