



# Operating instructions

Scraper Tool FWSG 900L





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## 1. Device description

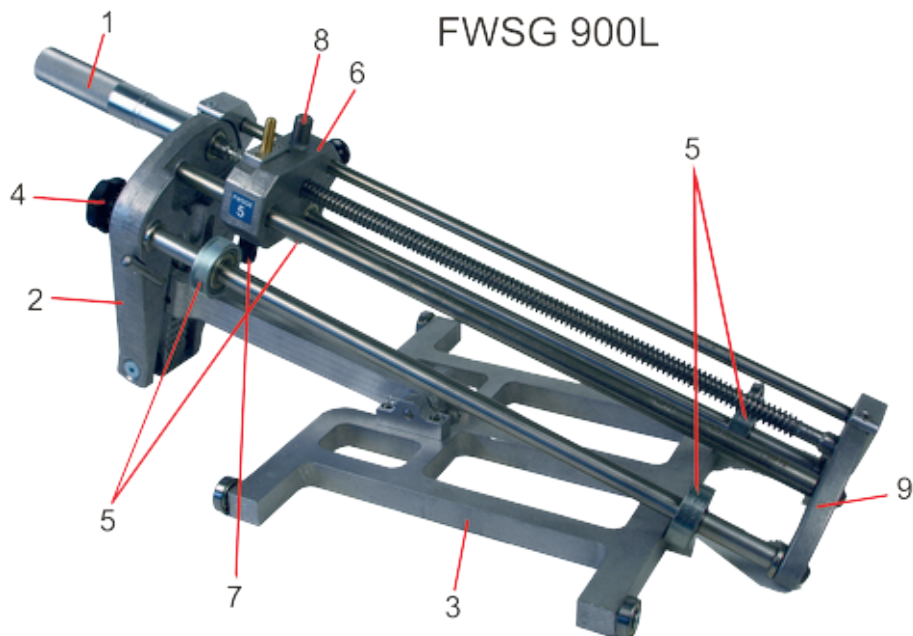


Image 1:

1. Roller handle
2. Housing
3. Clamping carriage
4. Twist grip knob
5. Guide rollers
6. Blade housing
7. Blade holder
8. Quick release button
9. End plate

## 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

### **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.

## 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 scraper tool FWSG 900 L serves the processing of pipes made of PE 80, PE 100, PE 100 RC, PE 100 RT and PE-Xa in the dimensions d 630 to d 900 (25" – 36" IPS), SDR 17 – SDR 33. When processing pipes of other SDR sizes, please contact our application-technical department. The scraper tool FWSG 900 L 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 design of the FWSG 900 L allows scraping of the pipe surface along the **entire length** of the **coupler** or **half** of it:

- Only half the coupler (up to where insertion will end) needs to be scraped when a simple fusion process is to be applied.
- Scraping the entire length of the coupler is required when a slideover coupler is employed.

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

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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 900 L 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 900 L 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).

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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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- Determine the area to be scraped. For slideover couplers: the length of the coupler; otherwise 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).



## 5. Assembly of the scraper tool

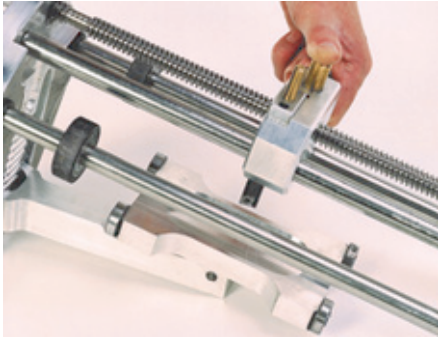


Image 2:

Place blade **(2)** in protective position:

- Press release button **(9)** and bring
- blade casing **(7)** close to the front plate (box).

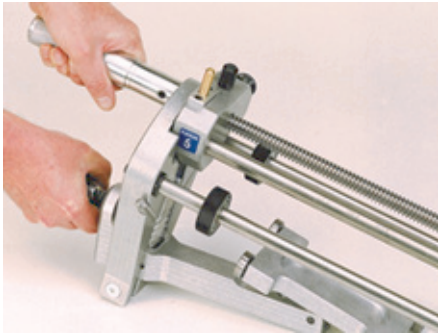


Image 3:

Place clamping carriage **(4)** into lower position:

- Loosen twist grip knob **(5)**.
- Cancel lock by applying pressure on the twist grip knob **(5)** and drive clamping carriage **(4)** down.

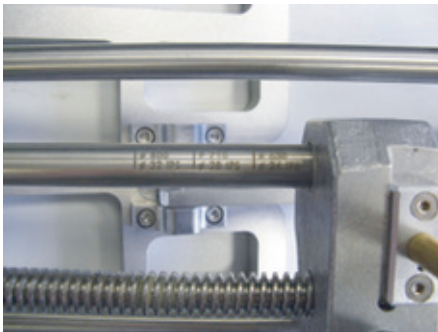


Image 4:

Adjust the blade housing **(7)** to the required scraping length (first marking simple or second marking double scraping length).

- Press the release button **(9)** and roughly adjust the blade housing **(7)** to the relevant dimensioning marking. The blade housing **(7)** is then located left of the marking.
- Final adjustments of the position of the blade casing **(4)** takes place by rotating the roller handle **(1)** until the marked line on the blade casing **(7)** is flush with the selected dimension range on the guide rod **(7)**.



## **i** INFO

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

Do not allow the scraper blade **(2)** to butt at the clamping carriage **(4)**.

- Set pipe dimension according to following table:

**Table for setting the various pipe sizes**

mm		inch IPS	
Pipe size	Setting mark on tool	Pipe size	Setting mark on tool
d 630	d 630	25"	24"
d 710	d 710	28"	28"
d 800	d 800	32"	32"
d 900	d 900	36"	32"

\* max. permitted deviation from nominal wall thickness  $\pm 3$  mm (approx.  $\pm 0.1181$  inches).



Image 5:

Mounting the scraper tool:

- Scraper tool must be guided across the pipe in such a way that the clamping carriage **(4)** is situated inside the pipe and the scraper blade **(2)** is on the pipe surface. The front plate **(3)** must be flush with the front edge of the pipe.

## **i** INFO

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

Do not push the blade **(2)** across the pipe surface.



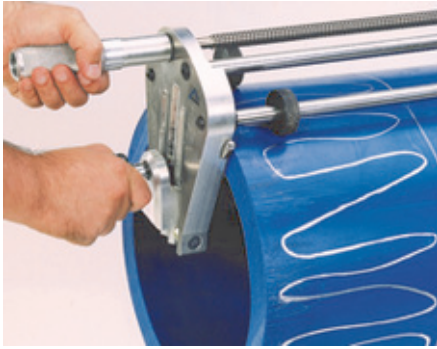


Image 6:

Locking of clamping:

- Setting the clamping carriage **(4)** to the correct place for the given wall thickness. The load bearing part of the clamping carriage **(4)** should be aligned parallel with the pipe wall.



Image 7:

Tighten the twist grip knob **(5)** until all four guide rollers **(6)** rest on the surface of the pipe or spigot fitting.

## 6. Scraping of pipe surface

### ⚠ CAUTION

**Risk of injury during scraping process!**

Keep hands off the pipe.

- 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.

### i INFO

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.



## 7. Disassembly of the scraper tool

### CAUTION

#### **Risk of injury at the blade!**

The blade housing (7) must be brought up to the front plate (3) on completion of the work, in order to prevent any injuries.

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

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### INFO

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

The blade casing (7) must be brought up to the front plate (3) on completion of the work, in order to prevent damage to the scraper blade.

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- After use, store the tool in the transport box.

## 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 (2) is adjusted for a swarf thickness of 0,3 - 0,4 mm (approx. 0.0118 - 0.0157 inches). For the scraping of FRIALEN safety fittings the wear limit is max. 0,5 mm (approx. 0.0197 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.

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).

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### INFO

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

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# 9. Replacement of blade

## ⚠ CAUTION

Risk of injury at the blade!

## i INFO

Please note when replacing the blade that only blades dyed blue 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.

Article	Order-No.
FWSGE 5/spare scraper blade	613324

# 10. Notes on care and maintenance

Your scraper tool FWSG 900 L 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.

## 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.

The scraper tool FWSG 900 L 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.



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## INFO

Oil may not come into contact with the pipe surface to be scraped!

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

\*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.



**Aliaxis Deutschland GmbH**  
Infrastructure  
Steinzeugstraße 50  
68229 Mannheim, Germany  
T +49 621 486-2238  
info.de@aliaxis.com  
**www.aliaxis.de**

