



EN

**Operating instructions
Scraper tool FWSG 710 L**

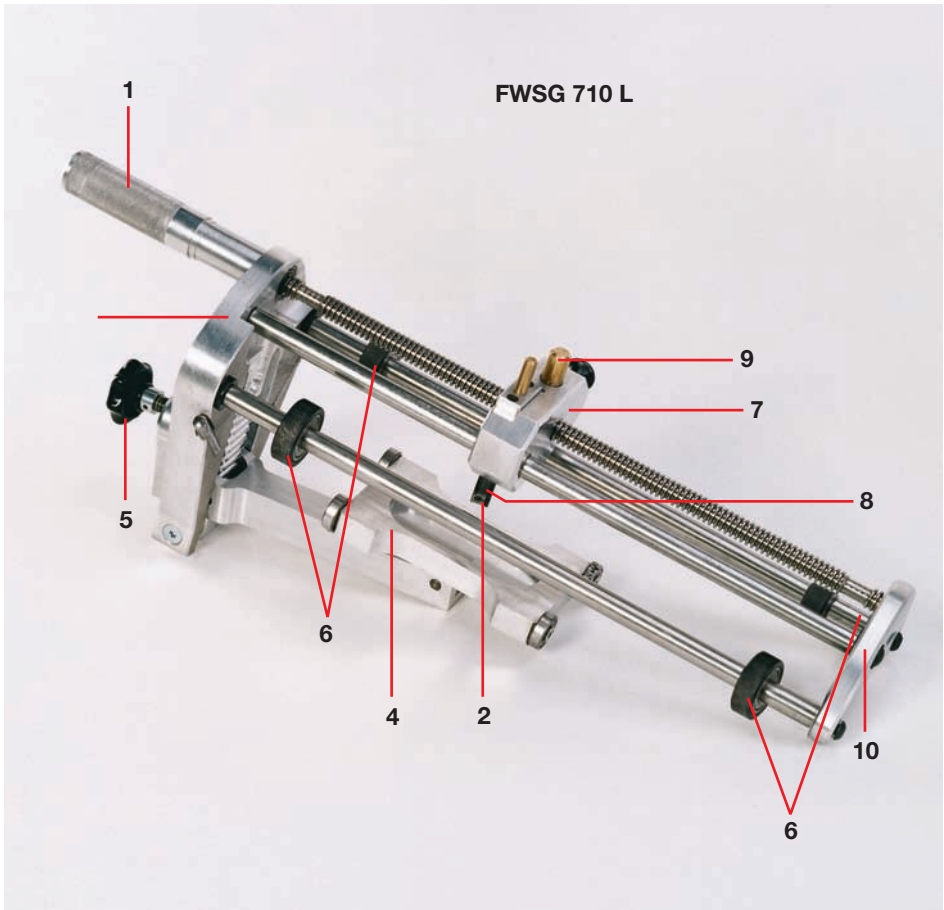


fig. 1

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


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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
 CAUTION	Danger to people. Failure to comply can result in minor or moderate injury.
NOTICE	Danger to objects. Failure to comply can result in objects damage.

1.2 Designated use

The scraper tool FWSG 710 L serves the processing of pipes made of PE 100 and PE 80 in the dimensions d 250 to d 710 (10" – 28" IPS). It is a precision tool and is suitable to remove the oxide layer as preparation for an electro-fusion joint which forms on the surface of PE pipes during their storage. The design of the FWSG 710 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.

These operating instructions apply in connection with the FRIALEN XL large couplers 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 710L 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 710L 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 710L 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. 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).

4. Assembly of the scraper tool

- Place blade (2) in protective position:
 - Press release button (9) and bring blade casing (7) close to the front plate (box) (fig. 2).
- 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 (fig. 3).
- 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 (fig. 2). The blade housing (7) is then located left of the marking.

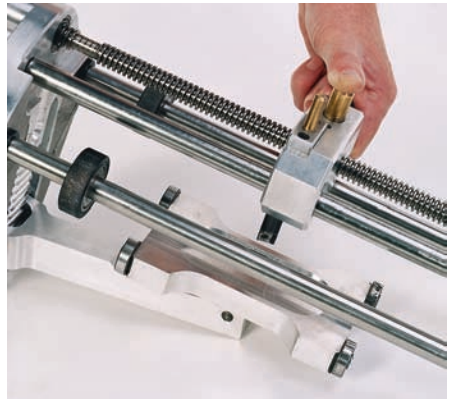


fig. 2



fig. 3

- 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) (fig. 4).



fig. 4

NOTICE

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
d250	d315	10"	12"
d280	d315	12"	12"
d315	d315	14"	18"
d355	d450	16"	18"
d400	d450	18"	18"
d450	d450	20"	28"
d500	d710	22"	28"
d560	d710	24"	28"
d630	d710	28"	28"
d710	d710		

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

- 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 (fig. 5). The front plate (3) must be flush with the front edge of the pipe.



fig. 5

NOTICE

Damage of the scraper blade!

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

- Locking of clamping:
 - Setting the clamping carriage (4) to the correct place for the given wall thickness (fig. 3). The load bearing part of the clamping carriage (4) should be aligned parallel with the pipe wall.



fig. 6

- Tighten the twist grip knob (5) (fig. 7) until all four guide rollers (6) rest on the surface of the pipe or spigot fitting.



fig. 7

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).

CAUTION

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

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.

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.

CAUTION

Risk of injury at the blade!

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

NOTICE

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.

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

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 (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 8).

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.

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

9. Notes on care and maintenance

Your scraper tool FWSG 710L 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.

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 710L 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 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 710L 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 710L.

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 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.