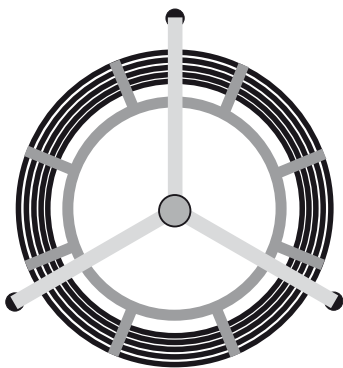
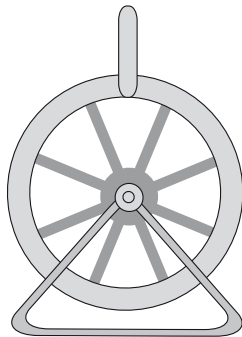


GFS/GSK

Operating Instructions




SEWERIN

Measurable success by Sewerin equipment

Congratulations. You have chosen a quality instrument manufactured by Hermann Sewerin GmbH.

Our equipment will provide you with the highest standards of performance, safety and efficiency. They correspond with the national and international guide-lines.

Please read and understand the following operating instructions before using the equipment; they will help you to use the instrument quickly and competently. If you have any queries we are available to offer advice and assistance at any time.

Yours

Hermann Sewerin GmbH

Robert-Bosch-Straße 3
33334 Gütersloh, Germany
Tel.: +49 5241 934-0
Fax: +49 5241 934-444
www.sewerin.com
info@sewerin.com

Sewerin Ltd

Hertfordshire
UK
Phone: +44 1462-634363
www.sewerin.co.uk
info@sewerin.co.uk

Sewerin USA, LLC

13551 W. 43rd Drive, Unit R
Golden, CO 80403-7272
Phone: +1 303-424-3611
Fax: +1 303-420-0033
www.sewerin.net
jerry.palmer@sewerin.net

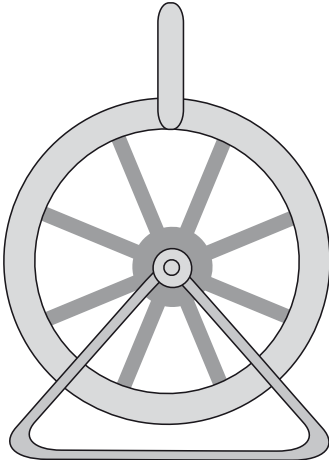
SEWERIN Sarl

17, rue Ampère - BP 211
67727 HOERDT CEDEX, France
Tél. : +33 3 88 68 15 15
Fax : +33 3 88 68 11 77
www.sewerin.fr
sewerin@sewerin.fr

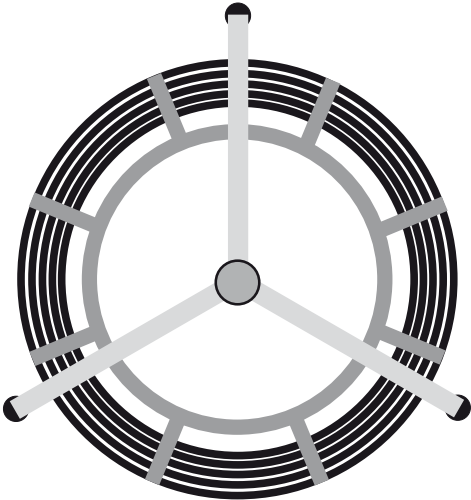
SEWERIN IBERIA S.L.

c/ Cañada Real de Merinas, 17
Centro de Negocios „Eisenhower“
Edificio 5; Planta 2 - C
28042 Madrid, España
Tel.: +34 91 74807-57
Fax: +34 91 74807-58
www.sewerin.es
info@sewerin.es

Glassfibre rod **GSK**



Glassfibre rod **GFS**



Operating Instructions

Glassfibre Probe Systems

GFS/GSK

Mini pig transmitter

Sluices for mini pig transmitter

03.03.2008 – V 2 – 102684 – en

For your safety

This product may only be operated by appropriately-trained persons who are familiar with the relevant operating manual.

It may only be used for its designated purpose, i.e. for industrial and commercial use.

Repair work may only be carried out by specialists or by persons who have undergone appropriate training.

Any alterations or modifications to the product require the prior approval of Hermann Sewerin GmbH. In the event of unauthorised alterations to the product the manufacturer accepts no liability for damage.

Only Hermann Sewerin GmbH accessories may be used with the product.

Only spare parts approved by us may be used for repairs.

Hermann Sewerin GmbH accepts no liability for damage resulting from non-compliance with the foregoing. The guarantee and liability provisions in the Hermann Sewerin GmbH terms of sale and supply are not extended by the foregoing.

We reserve the right to make changes in the context of continued technical development.

In addition to these instructions, please comply with generally applicable safety and accident-prevention regulations!

Symbols used:



CAUTION!

This symbol warns of dangers that may threaten the safety of the user or may damage or destroy the product.



Note:

This symbol flags information and hints extending beyond the actual operation of the product.

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1 Glassfibre probe systems GFS/GSK

1.1 Purpose

The glassfibre probe systems are used in conjunction with a commercially available pipeline-location device (such as the SEWERIN **FERROPHON**) to locate non-metallic pipeline systems.

1.2 Construction

Inside the flexible glassfibre rod there are conducting wires which serve to determine the path of the pipeline.

The connection socket on the reel hub connects the glassfibre probe to the generator (transmitter).

The brass tip on the end of the rod enables it to be used with very small radii (down to the radius of the reel).



Caution!

Never bend the glassfibre rod to a radius smaller than that of the reel.

1.3 Components of the location device

The location device consists of the following components:

- generator
- receiver with headphones or loudspeaker,
- search coil (if not integral to the receiver) and
- **GFS** or **GSK** glassfibre rod.

1.4 Inducing a field in the glassfibre rod and locating it

Comply with the instructions in the generator manual. In principle the induction of an electrical field in a glassfibre cable is no different from galvanic induction in a pipeline (cf. fig. 1).

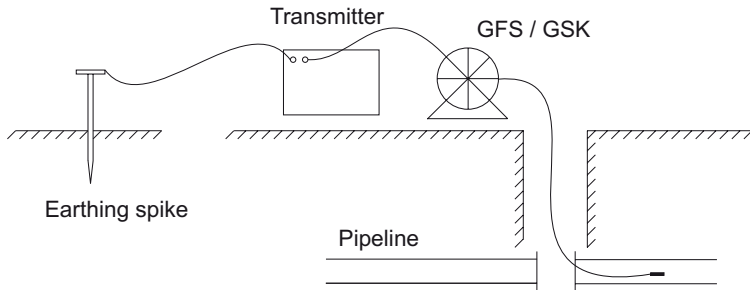


Fig.1 - Set-up for determining the pipeline path

In order to receive a clean signal the following points should be observed:

- the further the rod is pushed in, the higher the initial level (transmission current) should be set
- the signal quality can be substantially improved if there is a little water in the pipeline system.

The path of the pipeline can now be determined in the same way as that of a pipeline with a galvanically induced electrical field (also the **FERROPHON** operating instructions).

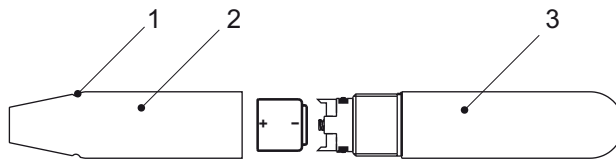
2 Mini pig transmitter

2.1 Purpose

The mini pig transmitter serves to determine the position of the tip of the **GFS** and **GSK** glassfibre rods. It generates an electromagnetic alternating field which can be located with a pipeline-location device.

2.2 Mini pig transmitter "A"

The mini pig transmitter "A" can be externally distinguished from other mini pig transmitters by the groove running round it (item 1) on the pig screw-joint (item 2).



The **transmission frequency is "A"**, i.e. approximately 41.6 kHz. This frequency must be set at the receiver.

The mini pig transmitter is **switched on** by screwing it onto the glassfibre rod. It must be unscrewed again after use, otherwise it remains in operation.

To **change the battery** unscrew the pig housing (item 3) and fit the new battery as shown.

Hint: the function of the mini pig transmitter should be checked before it is used. In order to avoid misleading displays this should be done in the open air in an undisturbed environment; conducting parts (steel sheathing) in the ground deflect the electromagnetic field.

The location of the mini pig transmitter is described in the receiver operating instructions.

Mini pig transmitter "A"

length: approx. 103 mm
diameter: approx. 15 mm
battery: lithium, 3V, 160 mAh, order no. 1355-0008
operating time: 9 ... 12 hours
location depth: up to approx. 6 m

2.3 Mini pig transmitter "B"

The mini pig transmitter "B" can be externally distinguished from other mini pig transmitters by the fact that it has **no groove running round it** on the pig screw-joint (cf. the mini pig transmitter "A").

The mini pig transmitter is **switched on** by screwing it onto the glassfibre rod. It must be unscrewed again after use, otherwise it remains in operation.

To **change the battery** the mini pig transmitter must be unscrewed. The battery must be placed in the black pig housing so that the positive terminal is visible.

The **transmission frequency is "B", i.e. approximately 10 kHz**. This frequency must be set at the receiver (e.g. type E6 or E4B).



Note:

The transmission frequency may alter during operation owing to temperature fluctuations. When using the receiver the reception frequency should be periodically adjusted.

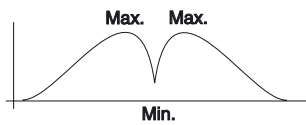
Mini pig transmitter "B"

length: approx. 105 mm
diameter: approx. 15 mm
battery: e.g. Varta V13HM 1.4 V, order no. 1356-0001
operating time: approx. 50 hours
location depth: approx. 1.5 m

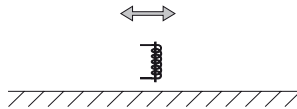
2.4 End-point determination with the FS3A probe and the mini pig transmitter

End-point determination is carried out by the "minimum method". The following illustration shows how the signal changes at the receiver.

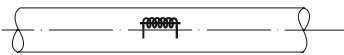
You are recommended not to induce an electrical field in the glassfibre rod during end-point determination (switch the generator off).



Signal at receiver



Position of the FS3A search coil



Location of the mini pig transmitter in the pipe

3 Sluice

3.1 Purpose

There is a special sluice for each glassfibre probe system (**GFS** and **GSK**).

This enables the glassfibre rod to be introduced into pressurised lines in the region of the building junction.

3.2 Components of the sluice

The sluice consists of the following individual components (fig. 4):

- ② 1 connector piece
- ③ 1 connection nipple
- ④ 1 valve nut
- ⑤ 4 compressors
- ⑥ 2 rubber seals and
- ⑦ 1 sealing ring

Item ① depicts the glassfibre rod with mini pig transmitter.

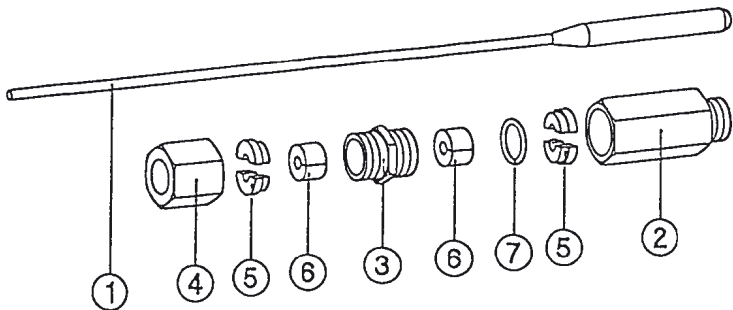
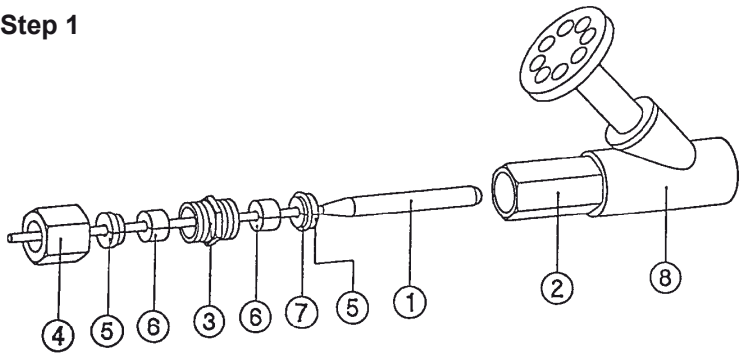


Fig. 4 - components of the sluice

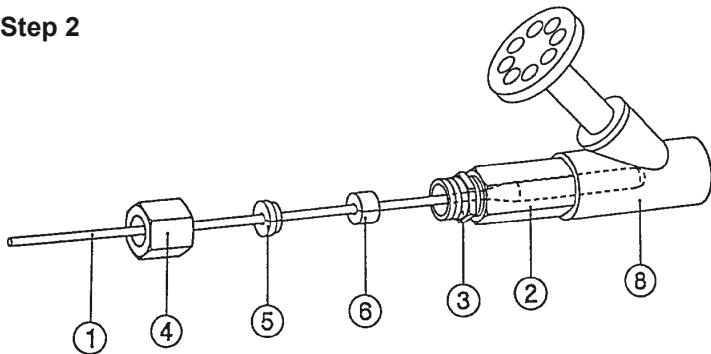
3.3 Installation

Fig. 5 shows how the sluice with the glassfibre probe ① is mounted on the stop valve ⑧.

Step 1



Step 2



Step 3

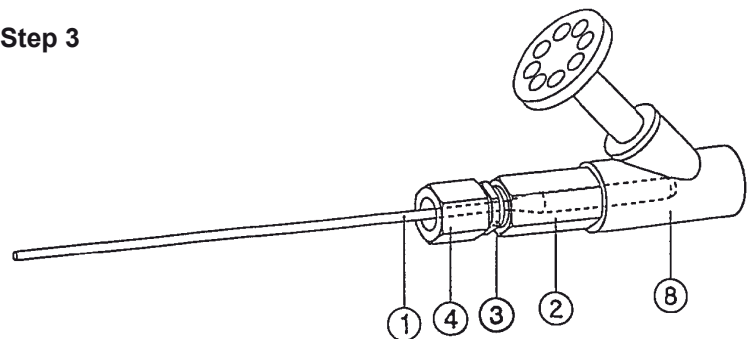


Fig. 5 - assembling the sluice

Hermann Sewerin GmbH
Robert-Bosch-Straße 3 · 33334 Gütersloh · Germany
Telefon +49 5241 934-0 · Telefax +49 5241 934-444
www.sewerin.com · info@sewerin.com