

Maintenance Instructions

Series 28m Pigs



Fig. 1 - Series 28m Pigs

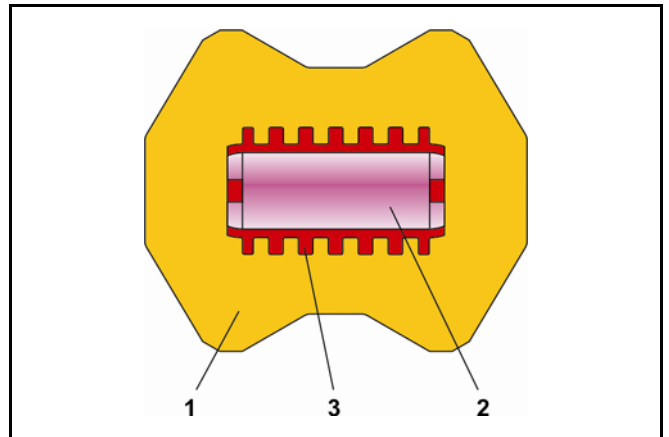


Fig. 2 - Sectional view of a TWIN 1 and TWIN 2 pig => Parts list, see Table 1 on page 2

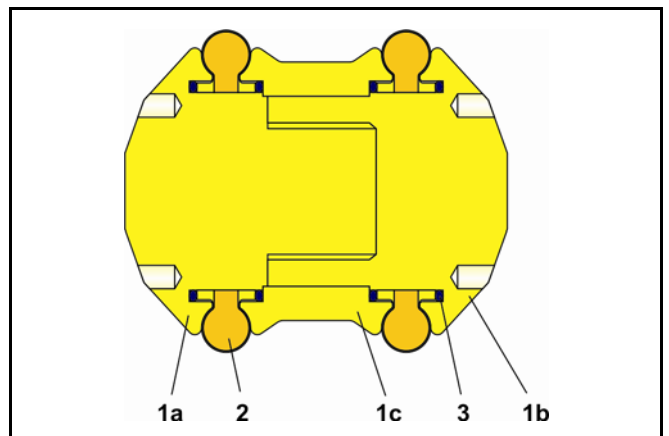


Fig. 3 - Sectional view of a TWIN 3 pig => Parts list, see Table 2 on page 3

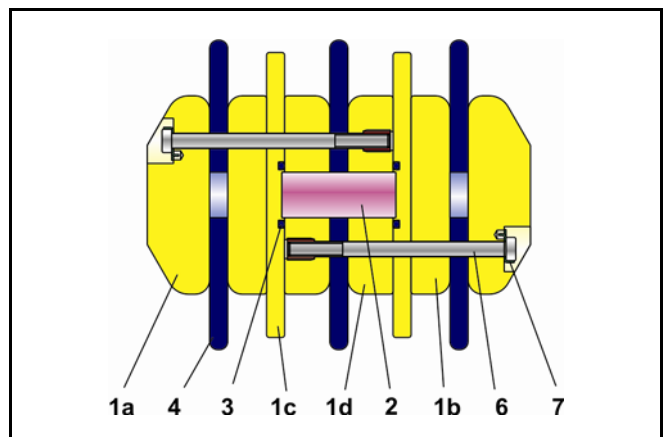


Fig. 4 - Sectional view of a TWIN 5 pig => Parts list, see Table 4 on page 5

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1 Introduction

These instructions are intended to support the user in the maintenance and repair of Series 28m Pigs. Technical details, as a result of the further development of the pigs mentioned in these instructions, are subject to modification without notice. The text and illustrations do **not necessarily** display the scope of supply or any ordering of spare parts.

Drawings and graphics are not to scale.

Customer-related special designs, which are not in accordance with our standard range, are not shown.

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This product may only be dismantled and disassembled by skilled staff, who are familiar with the assembly, start-up and operation of this product.

In these maintenance and assembly instructions, the term skilled staff refers to individuals who are able to judge the responsibilities assigned to them as well as recognize potential hazards due to their specialized training, knowledge and experience as well as their special knowledge of the relevant standards.

2 Design, operation and dimensions

Design, operation and dimensions as well as all further details and technical data can be found in the **Data Sheet <TB 28m_EN>**.

3 Maintenance and repair of pigs

3.1 Warranty



Note:
Parts subject to wear are not scope of the warranty.

3.2 Preparation for maintenance and repair

For the maintenance and repair of the pigs, carefully clean all parts and place them on a soft surface (rubber mat or similar).

Plastic parts are nearly always soft and very sensitive. Take particular care when handling the sealing lips to ensure that they do not get damaged.



Note: The position and arrangement of the individual parts shown in the detail drawing are to be observed when assembling the pig.

3.3 TWIN 1 and TWIN 2 pigs

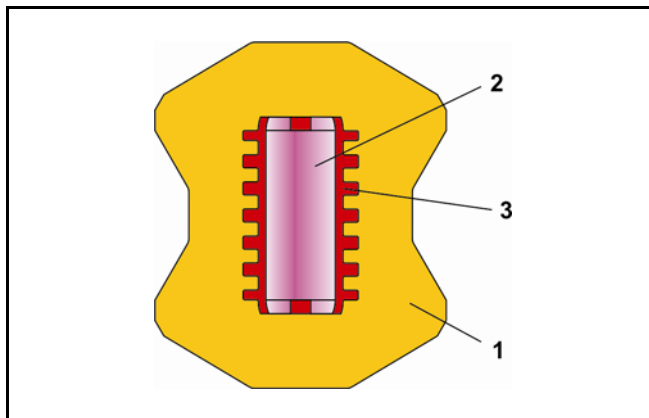


Fig. 5 - Sectional view of the TWIN 1 and TWIN 2 pigs

Item	Qty.	Description	Material
1	1	Main body	Elastomer
2	1	Magnet	Ferrite
3	1	Magnet casing	Aluminium

Table 1 - Parts list of the TWIN 1 and TWIN 2 pigs

3.3.1 General

No maintenance is necessary for TWIN 1 and TWIN 2 pigs due to their design.

However, signs of wear still become evident during use, e.g. reduction in size of the outside diameter. As a result, the pigs must be subjected to a regular visual inspection by staff.



Note:
Worn out pigs cannot be repaired. Therefore, they must be replaced at timely intervals.

3.4 TWIN 3 pig

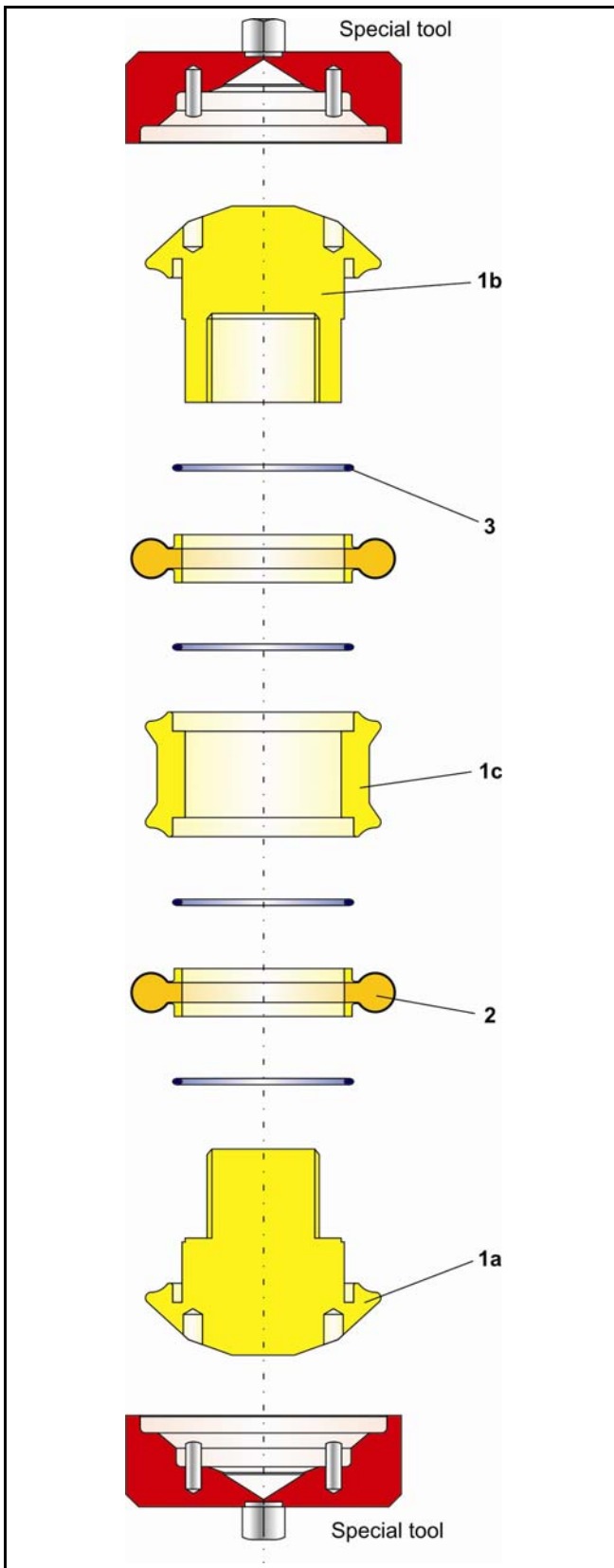


Fig. 6 - Detail drawing of TWIN 3 pig

Item	Qty.	Description	Material	Spare part
1a	1	Main body with magnet	Plastic	
1b				
1c				
2	2	Lips	Plastic	Yes
3	4	O-ring	FPM/FKM	Yes

Table 2 - Parts list of the TWIN 3 pig

3.4.1 General

Due to the design of the pig, the conventional signs of wear do not appear in these pigs.

The sealing lips have a very thin PTFE lining. Wear can only be noticed by regular monitoring of the pigs before the lining wear through.



Note:

This monitoring may only be carried out by staff who are trained in this type work.



Note: Only original spare parts from Pfeiffer must be used.

Replace the sealing lips (2), always in pairs, and use new O-rings (3). The sets of spare parts consist of two new sealing lips and O-rings in the appropriate material.



Caution: When screwing the two body parts together, make sure that the torque specified in Table 3 for the corresponding nominal size is observed (torque wrench).

The magnet in the end cap (1a) is built-in permanently and must not be dismantled.

3.4.2 Disassembly and assembly for repair

- Clean the pig.
- Check the condition of the sealing lips (2).
- If the sealing lips (2) are damaged or worn, replace the sealing lips (2) and the O-rings (3).
- Clamp the special fixture in a vice.
- Place the pig in the fixture.

- Unscrew the pig counterclockwise and dismantle in single parts
- Clean all the parts and check for damage.
- Replace the sealing lips (2) and O-rings (3) with new parts.
- Assemble the pig according to Fig. 6.
We recommend to first mount the sealing lips with O-rings onto the end caps (1a and 1b).
- Screw the pig together and tighten according to the torque in Table 3.



Note:
Use a torque wrench!

- Check dimensions according to Fig. 7 and Table 3 retighten, if necessary.



Note:
Observe the tolerances during assembly.
Do not overtighten plastic threads.

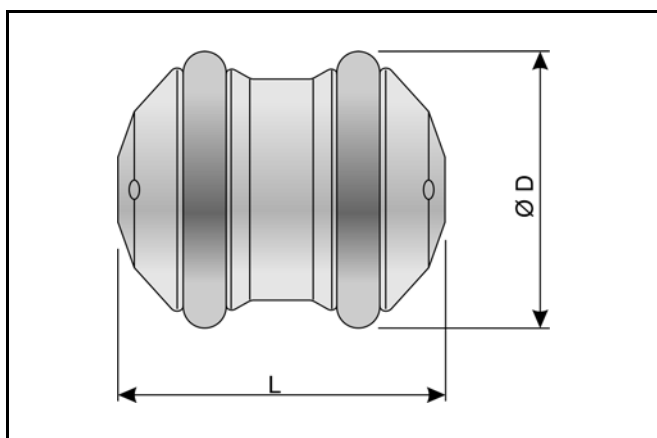


Fig. 7 - Dimensional drawing of the TWIN 3 pig

DN	L ±1	D ±0.5	Torque
50	67	56.5	7.5 Nm
80	100.5	85.5	22 Nm
100	126	110	40 Nm
125	163	135.5	47 Nm
150	217	164	60 Nm

Table 3 - Dimensions and torque

3.5 TWIN 5 pig

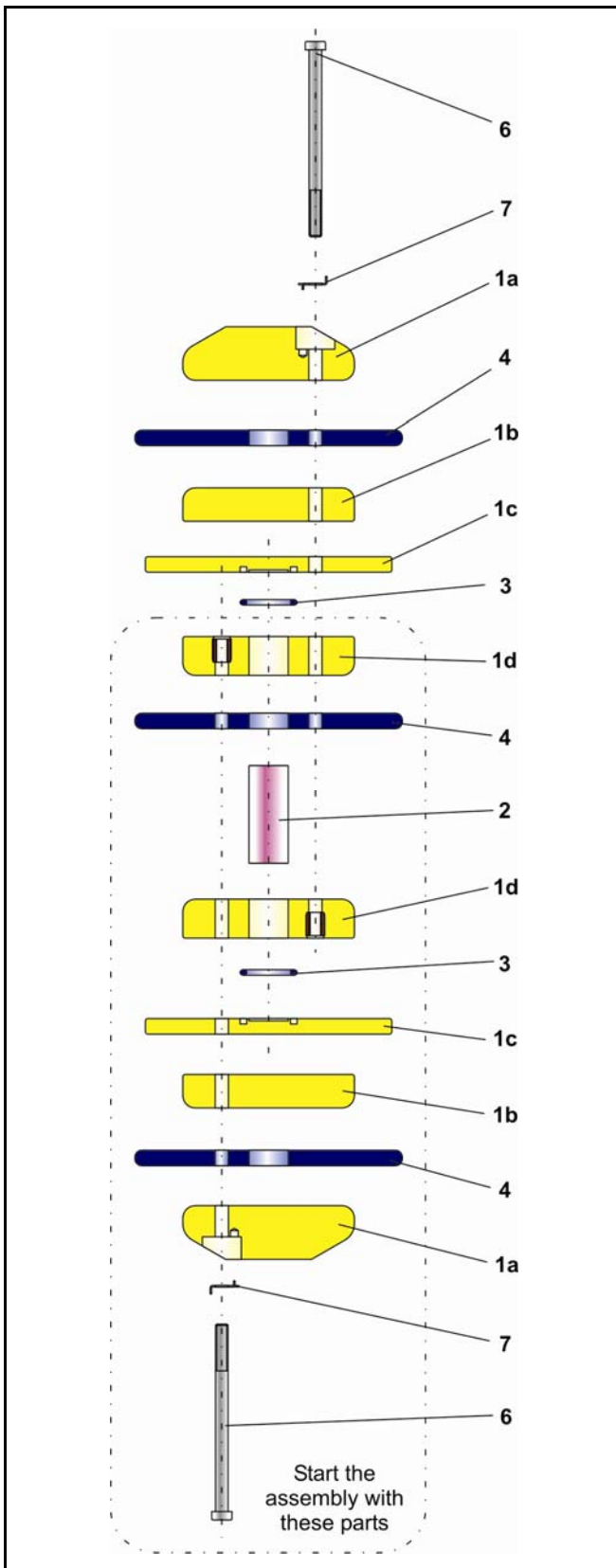


Fig. 8 - Detail drawing of TWIN 5 pig

Item	Qty.	Description	Material	Spare part
1a	1	Main body	Plastic	
1b				
1c				
1d				
2	1	Magnet	Ferrite	
3	2	O-ring	Elastomer	Yes
4	3	Lips	Elastomer	Yes
6	6	Screw	A2-70	
7	6	Retaining ring	1.4305	Yes

Table 4 - Parts list of TWIN 5 pig

3.5.1 General

The TWIN 5 lip pig has exchangeable sealing lips, which depending on the design, are available in various elastomer designs.

The sealing lips (4) must be regularly monitored for wear and damage.



Note:

This monitoring may only be carried out by staff who are trained in this type work.

Exchanging the sealing lips must be carried out at the very latest when signs of wear are distinctively noticeable, or when the risk of parts breaking off is noticeable.



Note:

Only original spare parts from Pfeiffer are to be used. Replace the sealing rings (4) including using new O-rings (5) and retainer ring (7). The set of spare parts for the pig contains all the necessary parts.



Note:

When assembling the parts, make sure that the components, which are similar in design and appearance, do not become mixed up or are assembled on the wrong side.

3.5.2 Disassembly and assembly for repair

- Clean the pig.
- Check the condition of the sealing lips (4). If the limit of wear for the outside diameter is exceeded or the sealing lips show signs of damage, then they must be exchanged.

- Loosen the retainer ring (7) and remove the screws (6).
- Dismantle the pig into single parts.



Note: The body parts for (1b, 1c and 1d) pigs with nominal sizes DN 50 and DN 80 are made from one part and not from three parts.

- Clean all the single parts and check for damage. Replace the sealing lips (4), O-rings (6) and retainer ring (7) with new parts.
- Assemble the pig starting from the center acc. to Fig. 8. We recommend starting with the marked components.



Caution: Do not assemble body parts (1b and 1d) must in the wrong direction or from the wrong side (observe the radius).

- Tighten all screws (6) with 15 Nm. Use a torque wrench!
- Place the safety disc on the wrench.
- Check dimensions acc. to Fig. 9 and Table 5.

DN	L	D	Abrasion limit	Torque
50	68	58	56	5 Nm
80	102	88	86	10 Nm
100	128	113	111	15 Nm
150	212	171	168	15 Nm

Table 5 - Dimensions and torques of the TWIN 5 pig

3.6 Further repair work

In case of severe damage, we recommend the repair work to be carried out by Pfeiffer.

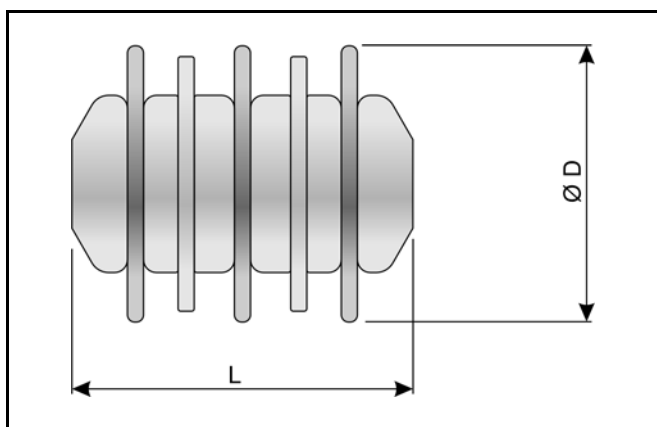


Fig. 7 - Dimensional drawing of the TWIN 5 pig

For your special requirements, please contact our technical sales department.

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