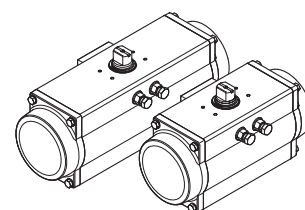
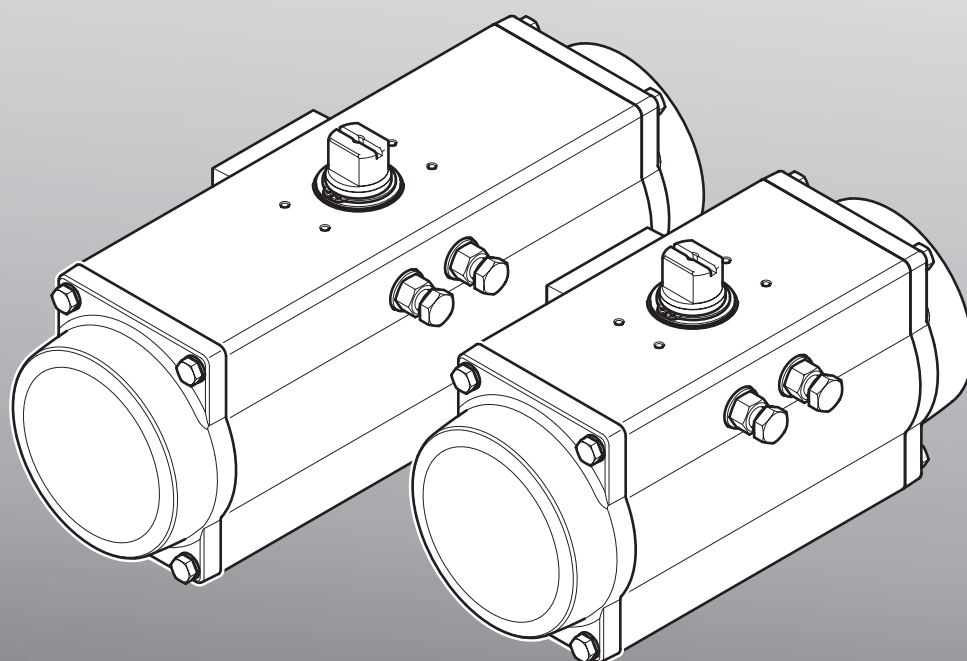


Quarter-turn actuator

DFPD

FESTO

Repair
instructions (en)



Imprint

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All technical data are subject to change according to technical updates.

Foreword

These repair instructions are valid for the quarter-turn actuator listed on the title page to the exclusion of any liability claims.

The general terms and conditions of business (Allgemeinen Geschäftsbedingungen - AGB) of Festo AG & Co. KG apply; these can be read on the Festo website (→ www.festo.com).

Differences compared to the descriptions in these repair instructions may arise depending on the design and/or modification status of the quarter-turn actuator. The user must check this prior to carrying out the repair and take the deviations into consideration if necessary.

These repair instructions have been prepared with care. Festo AG & Co. KG does not, however, accept liability for any errors in these repair instructions or their consequences. Likewise, no liability is accepted for direct or consequential damage resulting from incorrect use of the products.

The relevant regulations on occupational safety, safety engineering, and interference suppression as well as the stipulations contained in these repair instructions must be observed when working on the products.

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1 Important information

1.1 About these repair instructions

This document contains important information about proper repair of the quarter-turn actuator type DFPD.

Before carrying out a repair, these repair instructions must be read in full and followed.

Other documentation for this product:

- Operating instructions (→ www.festo.com/sp)
- Spare parts documentation (→ www.festo.com/spareparts)

1.2 Symbols used

1.2.1 Danger categories

The following symbol identifies text passages which draw attention to specific hazards.



Warning

Marking of special information

The following symbols identify text passages which contain special information.



Note

1.2.2 Repair steps

Familiarise yourself with the meaning of the symbols before starting the repair work.



Warning

There is a risk of injury due to uncontrolled movements of components.



Reference arrow

Symbol indicating the individual components to be noted.



Linear movement arrow

Carry out a linear movement



Slow movement

Carry out the dismantling / assembly step slowly and carefully.



Reference to repair steps

Follow the given repair steps.



Attention

Pay particular attention to notes and information.



Visual inspection

Perform a visual inspection.



Tools

Use suitable tools.



Functional test / start-up

Follow the functional test / start-up information in the brief instructions (→ www.festo.com).

1.2.3 Cleaning and greasing



Cleaning

The components must be thoroughly cleaned to remove all foreign particles, machining residues and old lubricants before they are greased.

Clean with a soft, lint-free cloth and non-abrasive cleaning agents. Check the compatibility of the cleaning agent with the materials to be cleaned.



Thin grease film outside

A film of grease covers the external surface so that the grease colour tarnishes the surface slightly.

Recommendation:

Apply the grease with a soft brush or similar.

1.3 Text designations used in these repair instructions

– General lists.

→ Reference to further information

Underlined, blue text indicates a cross-reference or hyperlink that you can click on in the PDF.

1.4 Tools

Among other things, the following standard tools are required to repair the quarter-turn actuator:

- Spanner
- Retaining ring pliers for external retaining rings
- Torque wrench

2 General safety instructions and information

2.1 General safety instructions



Warning

Read and follow all safety instructions and information. Failure to comply with these safety instructions and information can result in serious injuries.



Note

To achieve ATEX conformity, the toothed discs must be replaced each time the corresponding screws or bolts are loosened. When screwing back in, observe the tightening torques given for the screws.

- The control block may only be repaired by authorised and trained personnel acting in accordance with the requirements in these repair instructions and the brief instructions for the device.

- Pay attention to cleanliness while repairing the quarter-turn actuator. Do not allow dirt particles to get into the quarter-turn actuator.
- A shutdown must be performed before any repair work is carried out.
- Before repairing the quarter-turn actuator, any attachments on it must be dismantled.
- The control block must be completely depressurised and de-energised, and reliably secured against unauthorised restarting before starting any repair work is started.
- Accidental switching on or concealed pressure can trigger unexpected movements during dismantling of the quarter-turn actuator. Therefore, completely vent the quarter-turn actuator before each repair.
- Use original spare parts only to repair the quarter-turn actuator.
- Wear the necessary personal protective equipment.
- In the event of damage to the quarter-turn actuator caused by
 - unauthorised manipulation,
 - non-intended use (misuse),
 - use of non-original spare parts
 all warranty and liability claims against the manufacturer expire.
- The technical documentation required for installation and start-up (functional test) of the quarter-turn actuator must be available.

2.2 General information

- Standard tools are needed to repair the quarter-turn actuator, which must be available in a service workshop (→ [Chapter 1.4 on page 6](#)).
- Components and equipment replaced during repair must be disposed of in accordance with the relevant local environmental protection regulations.
- Where possible the repair should be carried out on a stable and flat work surface with space for small parts.
- The figures of the repair steps show size DFPD-300-...-D / S-...-60 (12 installed springs) by way of example. Individual minor differences between the quarter-turn actuator in hand and the illustrated example are possible.
- Depending on the temperature range (standard / T4 / T6), Festo recommends the following lubricants:
 - SYNTHY POLYMER 402/2 (standard variant)
 - HEVOLIT PE 280-1 FG (high-temperature variant T4)
 - RENOLIT SI 300 M (low-temperature variant T6)
- Individual components must be greased when installing the quarter-turn activator. The following table shows the recommended quantity of grease during the entire installation.

Size	Recommended quantity of grease for installation
DFPD-10	2 g
DFPD-20	3 g
DFPD-40	5 g
DFPD-80	7 g
DFPD-120	11 g
DFPD-160	15 g
DFPD-240	20 g
DFPD-300	30 g
DFPD-480	45 g
DFPD-700	55 g
DFPD-900	65 g
DFPD-1200	85 g
DFPD-2300	110 g

3

Sizes, part numbers and component lists with bills of material

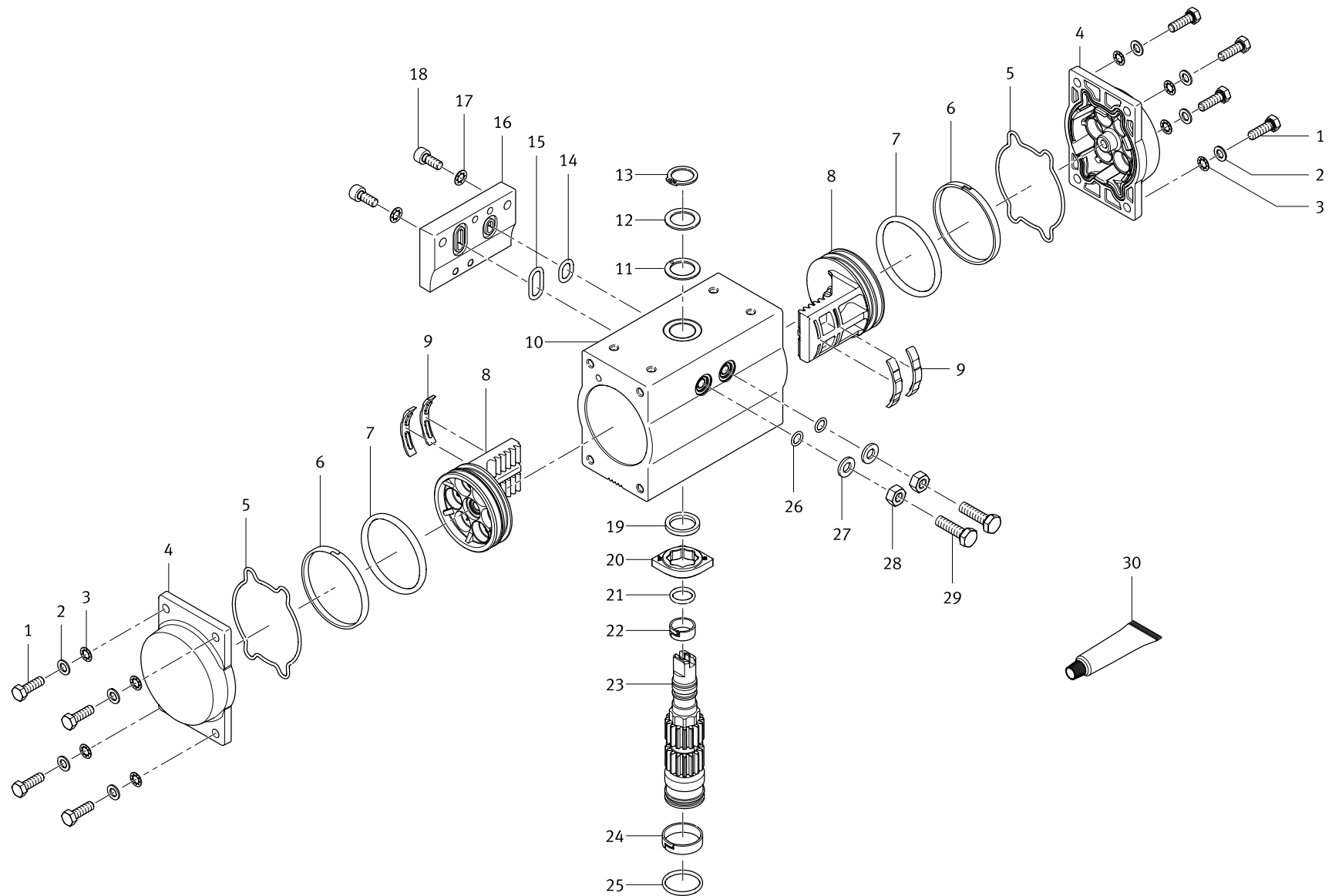
The component lists with corresponding bills of materials for the following quarter-turn actuators are listed on the following pages:

Size	Part number	Components list	Bill of materials
DFPD-10	8042184	→ Chapter 3.1 on page 10	→ Chapter 3.1.1 on page 11
DFPD-20-...-D	8042185	→ Chapter 3.2 on page 12	→ Chapter 3.2.1 on page 13
DFPD-20-...-S		→ Chapter 3.3 on page 14	→ Chapter 3.3.1 on page 15
DFPD-40-...-D	8042186	→ Chapter 3.4 on page 16	→ Chapter 3.4.1 on page 17
DFPD-40-...-S		→ Chapter 3.5 on page 21	→ Chapter 3.5.1 on page 22
DFPD-80-...-D	8042187	→ Chapter 3.4 on page 16	→ Chapter 3.4.2 on page 18
DFPD-80-...-S		→ Chapter 3.5 on page 21	→ Chapter 3.5.2 on page 23
DFPD-120-...-D	8042188	→ Chapter 3.4 on page 16	→ Chapter 3.4.3 on page 19
DFPD-120-...-S		→ Chapter 3.5 on page 21	→ Chapter 3.5.3 on page 24
DFPD-160-...-D	8042189	→ Chapter 3.4 on page 16	→ Chapter 3.4.4 on page 20
DFPD-160-...-S		→ Chapter 3.5 on page 21	→ Chapter 3.5.4 on page 25
DFPD-240-...-D	8042190	→ Chapter 3.6 on page 26	→ Chapter 3.6.1 on page 27
DFPD-240-...-S		→ Chapter 3.7 on page 30	→ Chapter 3.7.1 on page 31
DFPD-300-...-D	8042191	→ Chapter 3.6 on page 26	→ Chapter 3.6.2 on page 28
DFPD-300-...-S		→ Chapter 3.7 on page 30	→ Chapter 3.7.2 on page 32
DFPD-480-...-D	8042192	→ Chapter 3.6 on page 26	→ Chapter 3.6.3 on page 29
DFPD-480-...-S		→ Chapter 3.7 on page 30	→ Chapter 3.7.3 on page 33
DFPD-700-...-D	8042193	→ Chapter 3.8 on page 34	→ Chapter 3.8.1 on page 35
DFPD-700-...-S		→ Chapter 3.10.1 on page 41	→ Chapter 3.10.1 on page 41
DFPD-900-...-D	8042194	→ Chapter 3.8 on page 34	→ Chapter 3.8.2 on page 36
DFPD-900-...-S		→ Chapter 3.10 on page 40	→ Chapter 3.10.2 on page 42
DFPD-1200-...-D	8042195	→ Chapter 3.9 on page 38	→ Chapter 3.9.1 on page 39
DFPD-1200-...-S		→ Chapter 3.11 on page 44	→ Chapter 3.11.1 on page 45
DFPD-2300-...-D	8042196	→ Chapter 3.8 on page 34	→ Chapter 3.8.3 on page 37
DFPD-2300-...-S		→ Chapter 3.10 on page 40	→ Chapter 3.10.3 on page 43



The following diagrams are intended only to provide an overview of the individual components. To order spare and wearing parts, and sets of wearing parts please use the online spare parts catalogue on the Festo website (→ www.festo.com/spareparts).

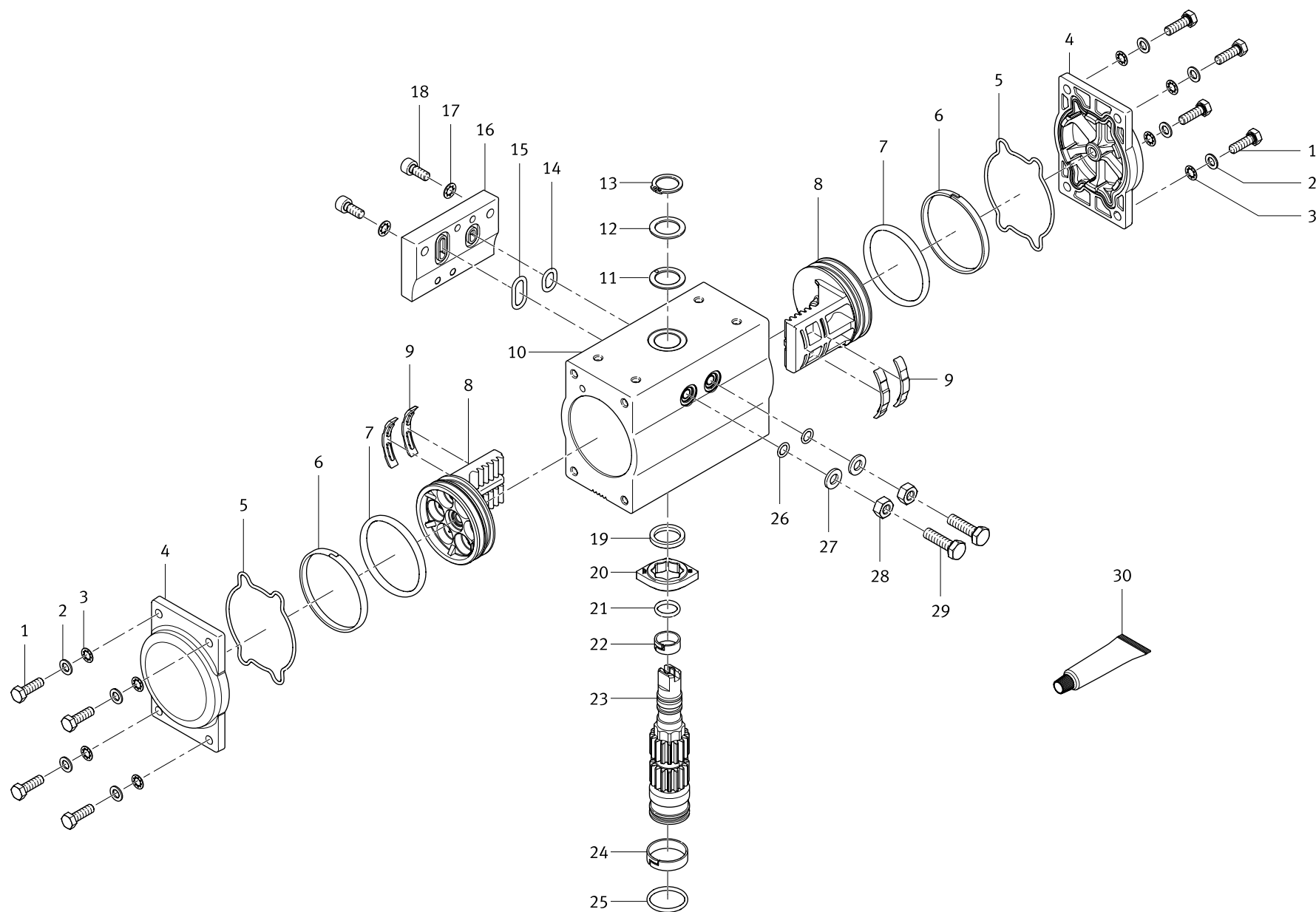
3.1 DFPD-10 components overview



3.1.1 DFPD-10 bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M5×16-A2-70
2	Ring, 5.2×9×1-1.4301
3	Toothed disc, DIN 6797-J-5,3-A2-70
4	End cap
5	Moulded seal
6	Sliding ring
7	O-ring, 33×3.5-N-NBR70
8	Piston
9	Slide element
10	Housing
11	Sliding ring
12	Shim, DIN 988-12×18×1-A2
13	Retaining ring, DIN 471-12×1-A2
14	O-ring, I3601 B-9×2-N-NBR70
15	O-ring, I3601 B-13×2-N-NBR70
16	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN912-M5×12-A2-70
19	Sliding ring
20	Cam
21	O-ring, I3601 B-11×2-N-NBR70
22	Sliding ring
23	Shaft
24	Sliding ring
25	O-ring, 3601 B-14.5×2-N-NBR70
26	O-ring, I3601 B-5.28×1.78-N-NBR70
27	Ring, 6.2×12×1.5-1.4301
28	Hex nut, DIN 934-M6-A2-70
29	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2

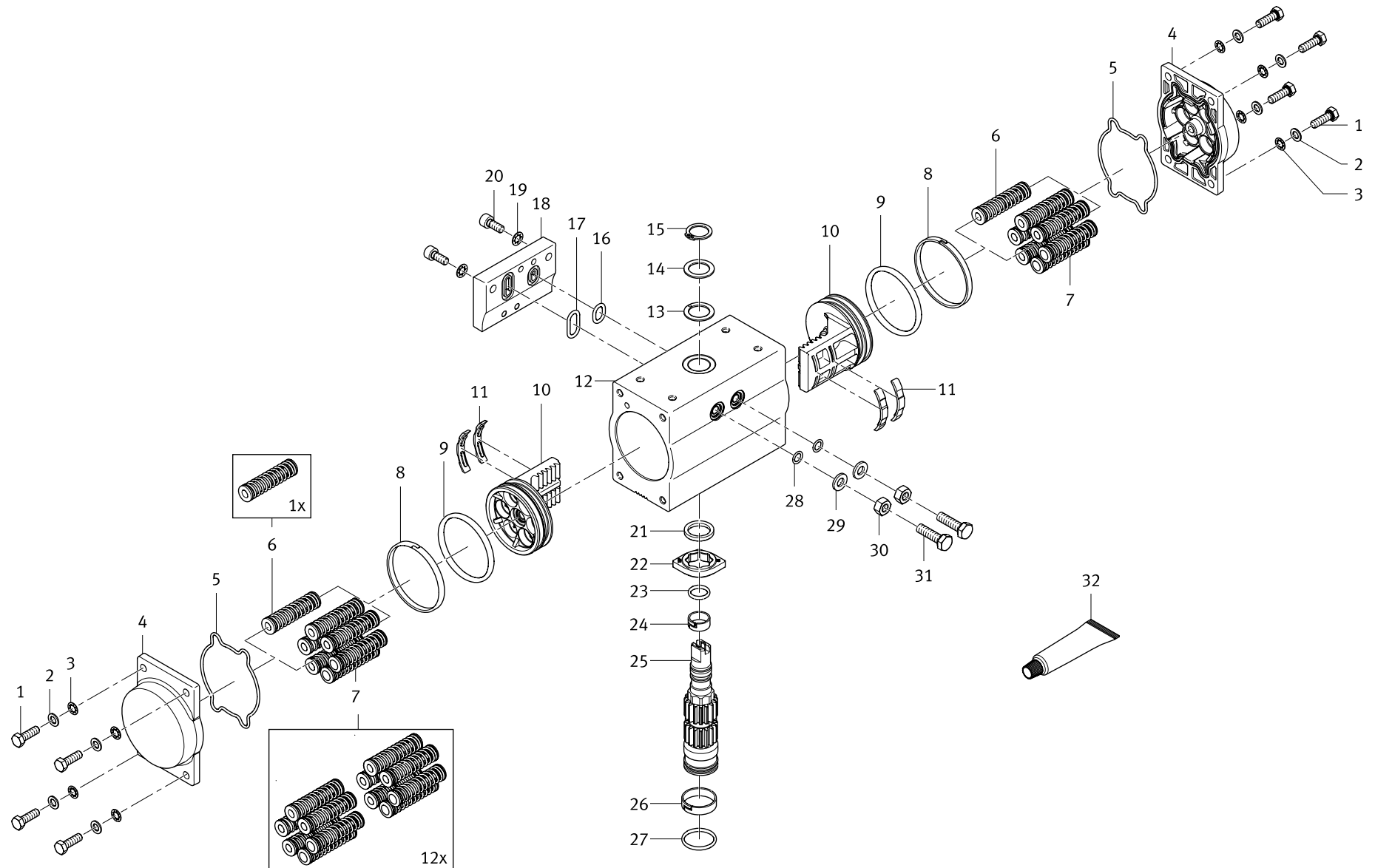
3.2 DFPD-20-...-D components list



3.2.1 DFPD-20-...-D bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M5×16-A2-70
2	Ring, 5.2×9×1-1.4301
3	Toothed disc, DIN 6797-J-5,3-A2-70
4	End cap
5	Moulded seal
6	Sliding ring
7	O-ring, 43×3.5-N-NBR70
8	Piston
9	Slide element
10	Housing
11	Sliding ring
12	Shim, DIN 988-14×20×1-A2
13	Retaining ring, DIN 471-14×1-A2
14	O-ring, I3601 B-9×2-N-NBR70
15	O-ring, I3601 B-13×2-N-NBR70
16	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×12-A2-70
19	Sliding ring
20	Cam
21	O-ring, I3601 B-11×2-N-NBR70
22	Sliding ring
23	Shaft
24	Sliding ring
25	O-ring, I3601 B-19×2-N-NBR70
26	O-ring, I3601 B-5.28×1.78-N-NBR70
27	Ring, 6.2×12×1.5-1.4301
28	Hex nut, DIN 934-M6-A2-70
29	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2

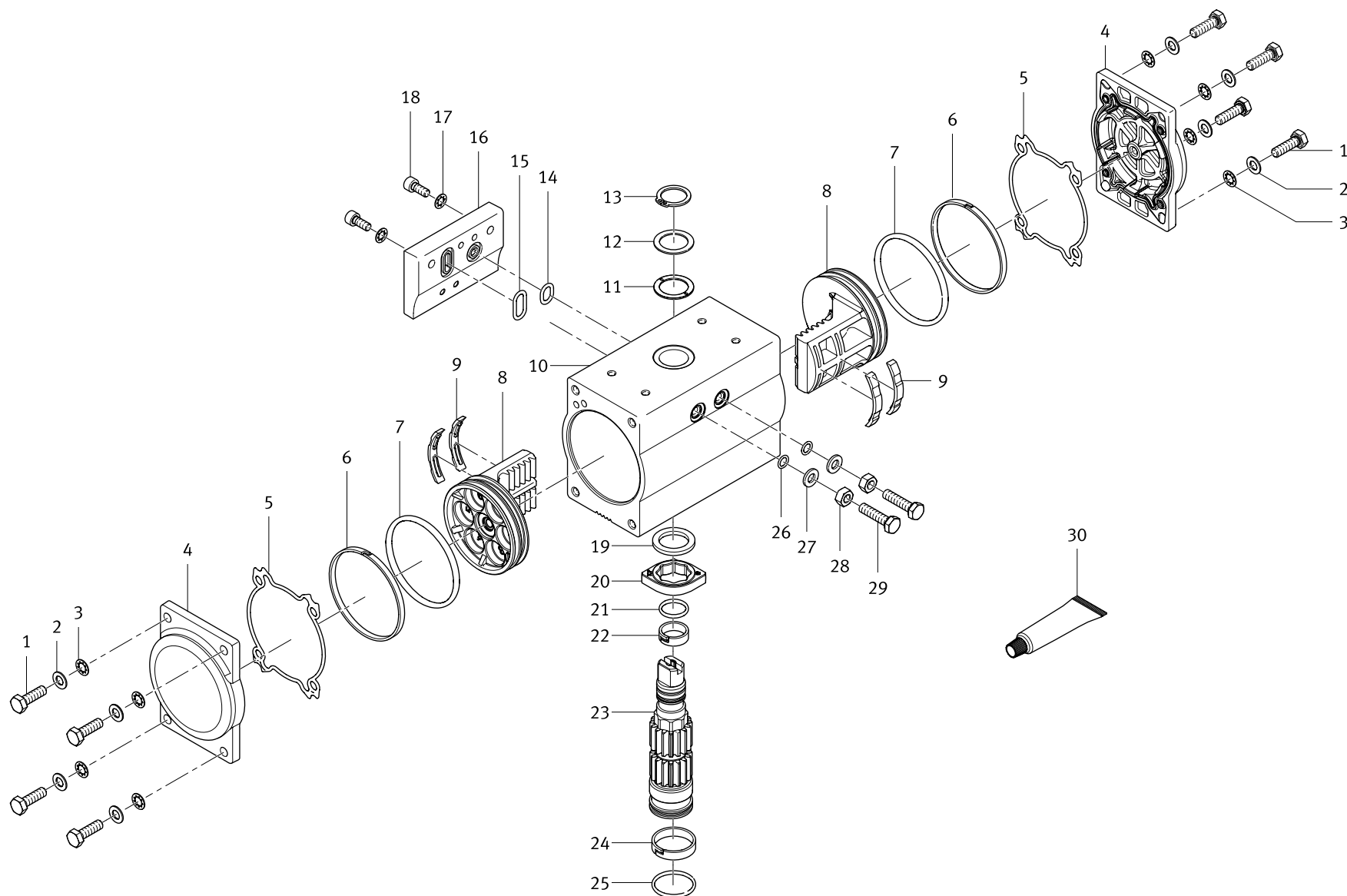
3.3 DFPD-20-...-S components list



3.3.1 DFPD-20-...-S bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M5×16-A2-70
2	Ring, 5.2×9×1-1.4301
3	Toothed disc, DIN 6797-J-5,3-A2-70
4	End cap
5	Moulded seal
6	Spring module
7	Spring module
8	Sliding ring
9	O-ring, 43×3.5-N-NBR70
10	Piston
11	Slide element
12	Housing
13	Sliding ring
14	Shim, DIN 988-14×20×1-A2
15	Retaining ring, DIN 471-14×1-A2
16	O-ring, I3601 B-9×2-N-NBR70
17	O-ring, I3601 B-13×2-N-NBR70
18	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×12-A2-70
21	Sliding ring
22	Cam
23	O-ring, I3601 B-11×2-N-NBR70
24	Sliding ring
25	Shaft
26	Sliding ring
27	O-ring, I3601 B-19×2-N-NBR70
28	O-ring, I3601 B-5.28×1.78-N-NBR70
29	Ring, 6.2×12×1.5-1.4301
30	Hex nut, DIN 934-M6-A2-70
31	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2

3.4 DFPD-40 / 80 / 120 / 160-...-D components list



3.4.1 DFPD-40-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70
2	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301
3	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 55×3.5-N-NBR70	O-ring, I3601 B-55×3.5-N-FPM75	O-ring, 55×3.5-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-18×25×1-A2	Shim, DIN 988-18×25×1-A2	Shim, DIN 988-18×25×1-A2
13	Retaining ring, DIN 471-18×1.2-A2	Retaining ring, DIN 471-18×1.2-A2	Retaining ring, DIN 471-18×1.2-A2
14	O-ring, I3601 B-9×2-N-NBR70	O-ring, I3601 B-9×2-N-FPM75	O-ring, 9×2-N-FVMQ70
15	O-ring, I3601 B-13×2-N-NBR70	O-ring, I3601 B-13×2-N-FPM75	O-ring, 13×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×12-A2-70	Socket head screw, DIN 912-M5×12-A2-70	Socket head screw, DIN 912-M5×12-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-14.5×2-N-NBR70	O-ring, I3601 B-14.5×2-N-FPM75	O-ring, 14.5×2-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-23×2-N-NBR70	O-ring, I3601 B-23×2-N-FPM75	O-ring, 23×2-N-FVMQ70
26	O-ring, I3601 B-5.28×1.78-N-NBR70	O-ring, I3601 B-5.28×1.78-N-FPM75	O-ring, 5.28×1.78-N-FVMQ70
27	Ring, 6.2×12×1.5-1.4301	Ring, 6.2×12×1.5-1.4301	Ring, 6.2×12×1.5-1.4301
28	Hex nut, DIN 934-M6-A2-70	Hex nut, DIN 934-M6-A2-70	Hex nut, DIN 934-M6-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.4.2 DFPD-80-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70
2	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301
3	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 71×4-N-NBR70	O-ring, I3601 B-71×4-N-FPM75	O-ring, 71×4-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-22×30×1-A2	Shim, DIN 988-22×30×1-A2	Shim, DIN 988-22×30×1-A2
13	Retaining ring, DIN 471-22×1.2-A2	Retaining ring, DIN 471-22×1.2-A2	Retaining ring, DIN 471-22×1.2-A2
14	O-ring, I3601 B-9×2-N-NBR70	O-ring, I3601 B-9×2-N-FPM75	O-ring, 9×2-N-FVMQ70
15	O-ring, I3601 B-13×2-N-NBR70	O-ring, I3601 B-13×2-N-FPM75	O-ring, 13×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-17.86×2.62-N-NBR70	O-ring, I3601 B-17.86×2.62-N-FPM75	O-ring, 17.86×2.62-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-31.42×2.62-N-NBR70	O-ring, I3601 B-31.42×2.62-N-FPM75	O-ring, 31.42×2.62-N-FVMQ70
26	O-ring, I3601 B-7.59×2.62-N-NBR70	O-ring, I3601 B-7.59×2.62-N-FPM75	O-ring, 7.59×2.62-N-FVMQ70
27	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301
28	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

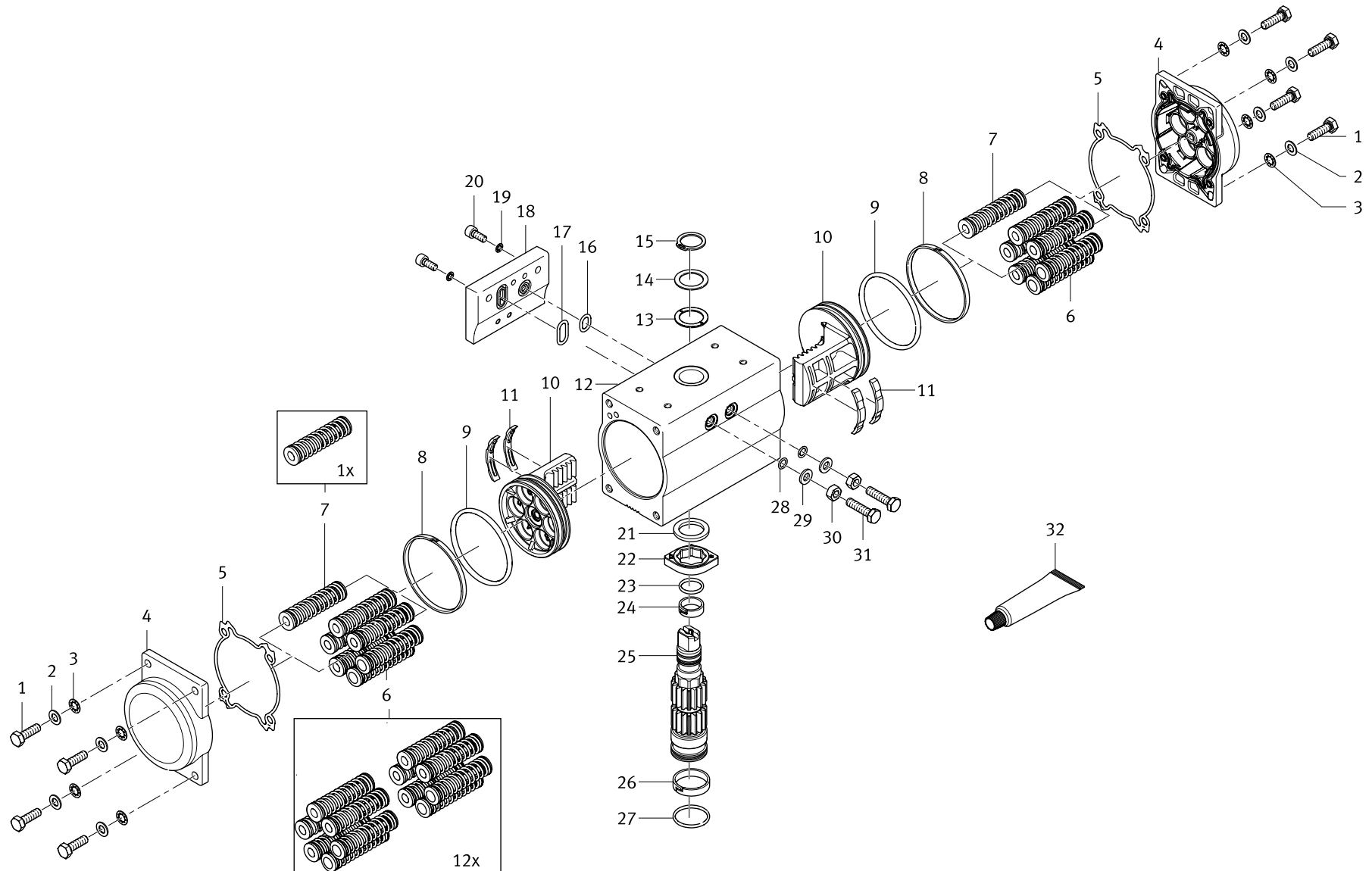
3.4.3 DFPD-120-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 80×4.5-N-NBR70	O-ring, I3601 B-80×4.5-N-FPM75	O-ring, 80×4.5-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2
13	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2
14	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
15	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-20.24×2.62-N-NBR70	O-ring, I3601 B-20.24×2.62-N-FPM75	O-ring, 20.24×2.62-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-36.14×2.62-N-NBR70	O-ring, I3601 B-36.14×2.62-N-FPM75	O-ring, 36.14×2.62-N-FVMQ70
26	O-ring, I3601 B-7.59×2.62-N-NBR70	O-ring, I3601 B-7.59×2.62-N-FPM75	O-ring, 7.59×2.62-N-FVMQ70
27	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301
28	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.4.4 DFPD-160-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 80×4.5-N-NBR70	O-ring, I3601 B-80×4.5-N-FPM75	O-ring, 80×4.5-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2
13	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2
14	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
15	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-20.24×2.62-N-NBR70	O-ring, I3601 B-20.24×2.62-N-FPM75	O-ring, 20.24×2.62-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-36.14×2.62-N-NBR70	O-ring, I3601 B-36.14×2.62-N-FPM75	O-ring, 36.14×2.62-N-FVMQ70
26	O-ring, I3601 B-7.59×2.62-N-NBR70	O-ring, I3601 B-7.59×2.62-N-FPM75	O-ring, 7.59×2.62-N-FVMQ70
27	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301
28	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.5 DFPD-40 / 80 / 120 / 160-...-S components list



3.5.1 DFPD-40-...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70
2	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301
3	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 55×3.5-N-NBR70	O-ring, I3601 B-55×3.5-N-FPM75	O-ring, 55×3.5-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-18×25×1-A2	Shim, DIN 988-18×25×1-A2	Shim, DIN 988-18×25×1-A2
15	Retaining ring, DIN 471-18×1.2-A2	Retaining ring, DIN 471-18×1.2-A2	Retaining ring, DIN 471-18×1.2-A2
16	O-ring, I3601 B-9×2-N-NBR70	O-ring, I3601 B-9×2-N-FPM75	O-ring, 9×2-N-FVMQ70
17	O-ring, I3601 B-13×2-N-NBR70	O-ring, I3601 B-13×2-N-FPM75	O-ring, 13×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×12-A2-70	Socket head screw, DIN 912-M5×12-A2-70	Socket head screw, DIN 912-M5×12-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-14.5×2-N-NBR70	O-ring, I3601 B-14.5×2-N-FPM75	O-ring, 14.5×2-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-23×2-N-NBR70	O-ring, I3601 B-23×2-N-FPM75	O-ring, 23×2-N-FVMQ70
28	O-ring, I3601 B-5.28×1.78-N-NBR70	O-ring, I3601 B-5.28×1.78-N-FPM75	O-ring, 5.28×1.78-N-FVMQ70
29	Ring, 6.2×12×1.5-1.4301	Ring, 6.2×12×1.5-1.4301	Ring, 6.2×12×1.5-1.4301
30	Hex nut, DIN 934-M6-A2-70	Hex nut, DIN 934-M6-A2-70	Hex nut, DIN 934-M6-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.5.2 DFPD-80-...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70	Hexagon head screw, ISO 4017-M6×20-A2-70
2	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301	Ring, 6.3×11.5×1-1.4301
3	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70	Toothed disc, DIN 6797-J-6,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 71×4-N-NBR70	O-ring, I3601 B-71×4-N-FPM75	O-ring, 71×4-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-22×30×1-A2	Shim, DIN 988-22×30×1-A2	Shim, DIN 988-22×30×1-A2
15	Retaining ring, DIN 471-22×1.2-A2	Retaining ring, DIN 471-22×1.2-A2	Retaining ring, DIN 471-22×1.2-A2
16	O-ring, I3601 B-9×2-N-NBR70	O-ring, I3601 B-9×2-N-FPM75	O-ring, 9×2-N-FVMQ70
17	O-ring, I3601 B-13×2-N-NBR70	O-ring, I3601 B-13×2-N-FPM75	O-ring, 13×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-17.86×2.62-N-NBR70	O-ring, I3601 B-17.86×2.62-N-FPM75	O-ring, 17.86×2.62-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-31.42×2.62-N-NBR70	O-ring, I3601 B-31.42×2.62-N-FPM75	O-ring, 31.42×2.62-N-FVMQ70
28	O-ring, I3601 B-7.59×2.62-N-NBR70	O-ring, I3601 B-7.59×2.62-N-FPM75	O-ring, 7.59×2.62-N-FVMQ70
29	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301
30	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

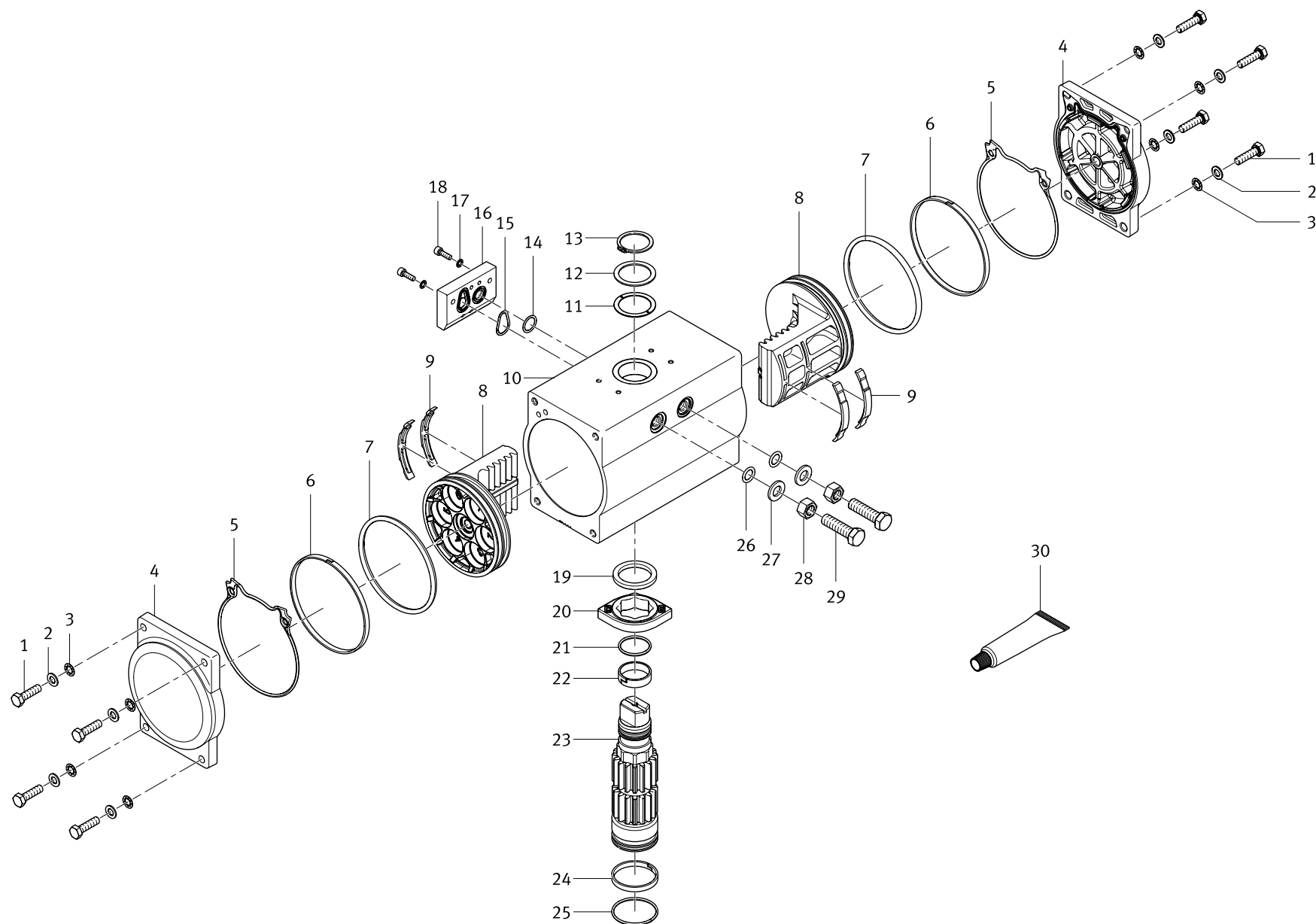
3.5.3 DFPD-120 -...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70	Hexagon head screw, ISO 4017-M8×25-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 80×4.5-N-NBR70	O-ring, I3601 B-80×4.5-N-FPM75	O-ring, 80×4.5-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2	Shim, DIN 988-25×35×1-A2
15	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2	Retaining ring, DIN 471-25×1.2-A2
16	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
17	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-20.24×2.62-N-NBR70	O-ring, I3601 B-20.24×2.62-N-FPM75	O-ring, 20.24×2.62-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-36.14×2.62-N-NBR70	O-ring, I3601 B-36.14×2.62-N-FPM75	O-ring, 36.14×2.62-N-FVMQ70
28	O-ring, I3601 B-7.59×2.62-N-NBR70	O-ring, I3601 B-7.59×2.62-N-FPM75	O-ring, 7.59×2.62-N-FVMQ70
29	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301	Ring, 8.2×16×1.5-1.4301
30	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70	Hex nut, DIN 934-M8-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.5.4 DFPD-160-...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 90×4.5-N-NBR70	O-ring, I3601 B-90×4.5-N-FPM75	O-ring, 90×4.5-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-28×40×1-A2	Shim, DIN 988-28×40×1-A2	Shim ring
15	Retaining ring, DIN 471-28×1.5-A2	Retaining ring, DIN 471-28×1.5-A2	Retaining ring, DIN 471-28×1.5-A2
16	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
17	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-23.47×2.62-N-NBR70	O-ring, I3601 B-23.47×2.62-N-FPM75	O-ring, 23.47×2.62-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-39.34×2.62-N-NBR70	O-ring, I3601 B-39.34×2.62-N-FPM75	O-ring, 39.34×2.62-N-FVMQ70
28	O-ring, I3601 B-9.19×2.62-N-NBR70	O-ring, I3601 B-9.19×2.62-N-FPM75	O-ring, 9.19×2.62-N-FVMQ70
29	Ring, 10.2×20×2-1.4301	Ring, 10.2×20×2-1.4301	Ring, 10.2×20×2-1.4301
30	Hex nut, ISO 4032-M10-A2-70	Hex nut, ISO 4032-M10-A2-70	Hex nut, ISO 4032-M10-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.6 DFPD-240 / 300 / 480-...-D components list



3.6.1 DFPD-240-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 101.14×5.33-N-NBR70	O-ring, I3601 B-104.14×5.33-N-FPM75	O-ring, 104.14×5.33-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2
13	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2
14	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
15	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-29.82×2.62-N-NBR70	O-ring, I3601 B-29.82×2.62-N-FPM75	O-ring, 29.82×2.62-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-44.12×2.62-N-NBR70	O-ring, I3601 B-44.12×2.62-N-FPM75	O-ring, 44.12×2.62-N-FVMQ70
26	O-ring, I3601 B-11×3.5-N-NBR70	O-ring, I3601 B-11×3.5-N-FPM75	O-ring, 11×3.5-N-FVMQ70
27	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301
28	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

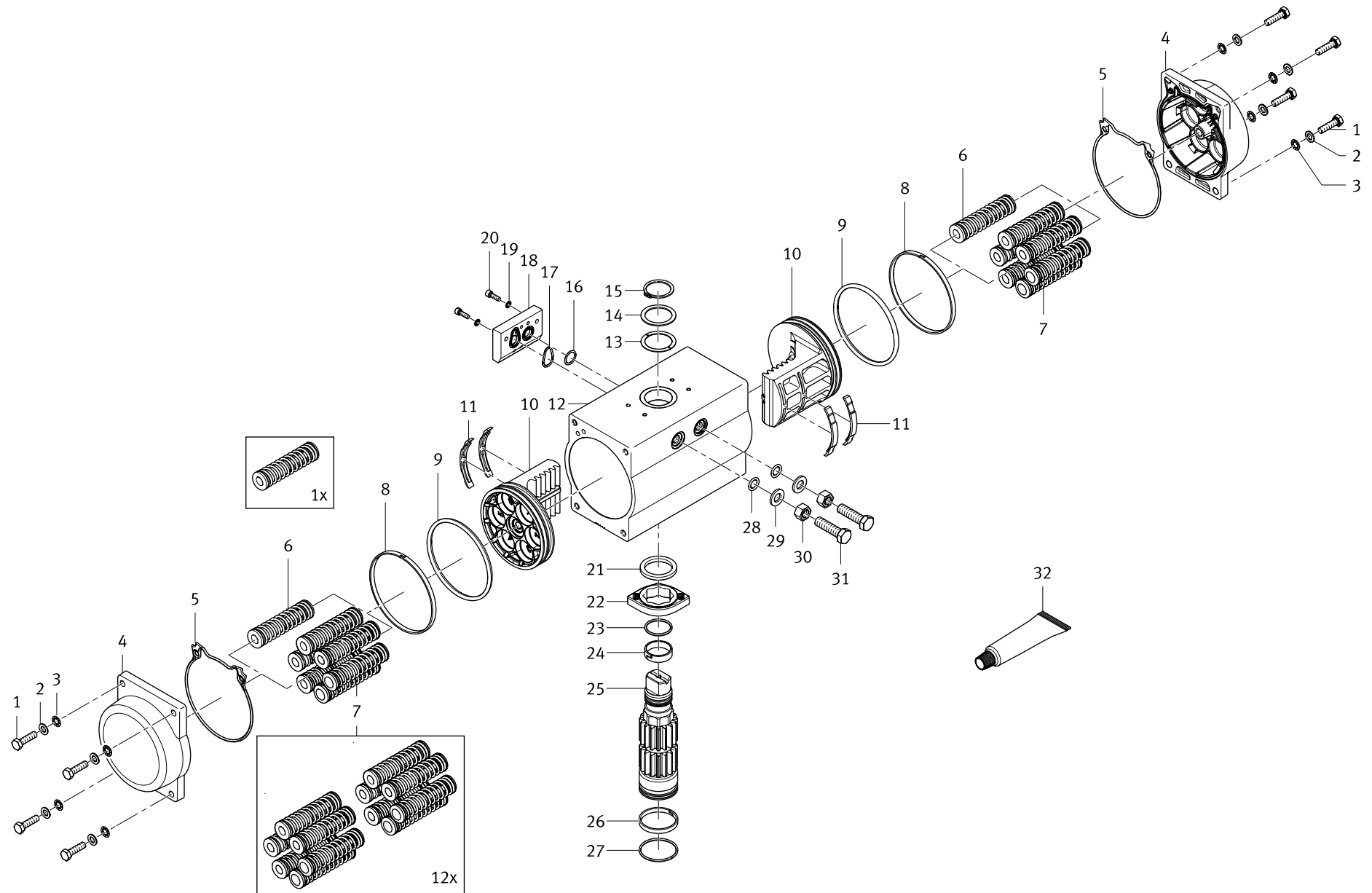
3.6.2 DFPD-300-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70
2	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301
3	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 113.67×5.33-N-NBR70	O-ring, I3601 B-113.67×5.33-N-FPM75	O-ring, 113.67×5.33-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2
13	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2
14	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
15	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-29.82×2.62-N-NBR70	O-ring, I3601 B-29.82×2.62-N-FPM75	O-ring, 29.82×2.62-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-47.63×3.53-N-NBR70	O-ring, I3601 B-47.63×3.53-N-FPM75	O-ring, 47.63×3.53-N-FVMQ70
26	O-ring, I3601 B-11×3.5-N-NBR70	O-ring, I3601 B-11×3.5-N-FPM75	O-ring, 11×3.5-N-FVMQ70
27	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301
28	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.6.3 DFPD-480-...-D bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70
2	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301
3	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Sliding ring	Sliding ring	Sliding ring
7	O-ring, 134×6-N-NBR70	O-ring, I3601 B-134×6-N-FPM75	O-ring, 134×6-N-FVMQ70
8	Piston	Piston	Piston
9	Slide element	Slide element	Slide element
10	Housing	Housing	Housing
11	Sliding ring	Sliding ring	Sliding ring
12	Shim, DIN 988-42×52×2-A2	Shim, DIN 988-42×52×2-A2	Shim, DIN 988-42×52×2-A2
13	Retaining ring, DIN 471-42×1.75-A2	Retaining ring, DIN 471-42×1.75-A2	Retaining ring, DIN 471-42×1.75-A2
14	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
15	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
16	Mounting plate	Mounting plate	Mounting plate
17	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
18	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
19	Sliding ring	Sliding ring	Sliding ring
20	Cam	Cam	Cam
21	O-ring, I3601 B-35×3.5-N-NBR70	O-ring, I3601 B-35×3.5-N-FPM75	O-ring, 35×3.5-N-FVMQ70
22	Sliding ring	Sliding ring	Sliding ring
23	Shaft	Shaft	Shaft
24	Sliding ring	Sliding ring	Sliding ring
25	O-ring, I3601 B-55.56×3.53-N-NBR70	O-ring, I3601 B-55.56×3.53-N-FPM75	O-ring, 55.56×3.53-N-FVMQ70
26	O-ring, I3601 B-13×3.5-N-NBR70	O-ring, I3601 B-13×3.5-N-FPM75	O-ring, 13×3.5-N-FVMQ70
27	Ring, 14.3×28×2.5-1.4301	Ring, 14.3×28×2.5-1.4301	Ring, 14.3×28×2.5-1.4301
28	Hex nut, ISO 4032-M14-A2-70	Hex nut, ISO 4032-M14-A2-70	Hex nut, ISO 4032-M14-A2-70
29	Regulating screw	Regulating screw	Regulating screw
30	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.7 DFPD-240 / 300 / 480-...-S components list



3.7.1 DFPD-240-...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70	Hexagon head screw, ISO 4017-M8×30-A2-70
2	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301	Ring, 8.3×15×1.5-1.4301
3	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70	Toothed disc, DIN 6797-J-8,4-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 101.14×5.33-N-NBR70	O-ring, I3601 B-104.14×5.33-N-FPM75	O-ring, 104.14×5.33-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2
15	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2
16	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
17	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-29.82×2.62-N-NBR70	O-ring, I3601 B-29.82×2.62-N-FPM75	O-ring, 29.82×2.62-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-44.12×2.62-N-NBR70	O-ring, I3601 B-44.12×2.62-N-FPM75	O-ring, 44.12×2.62-N-FVMQ70
28	O-ring, I3601 B-11×3.5-N-NBR70	O-ring, I3601 B-11×3.5-N-FPM75	O-ring, 11×3.5-N-FVMQ70
29	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301
30	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.7.2 DFPD-300-...-S bill of materials

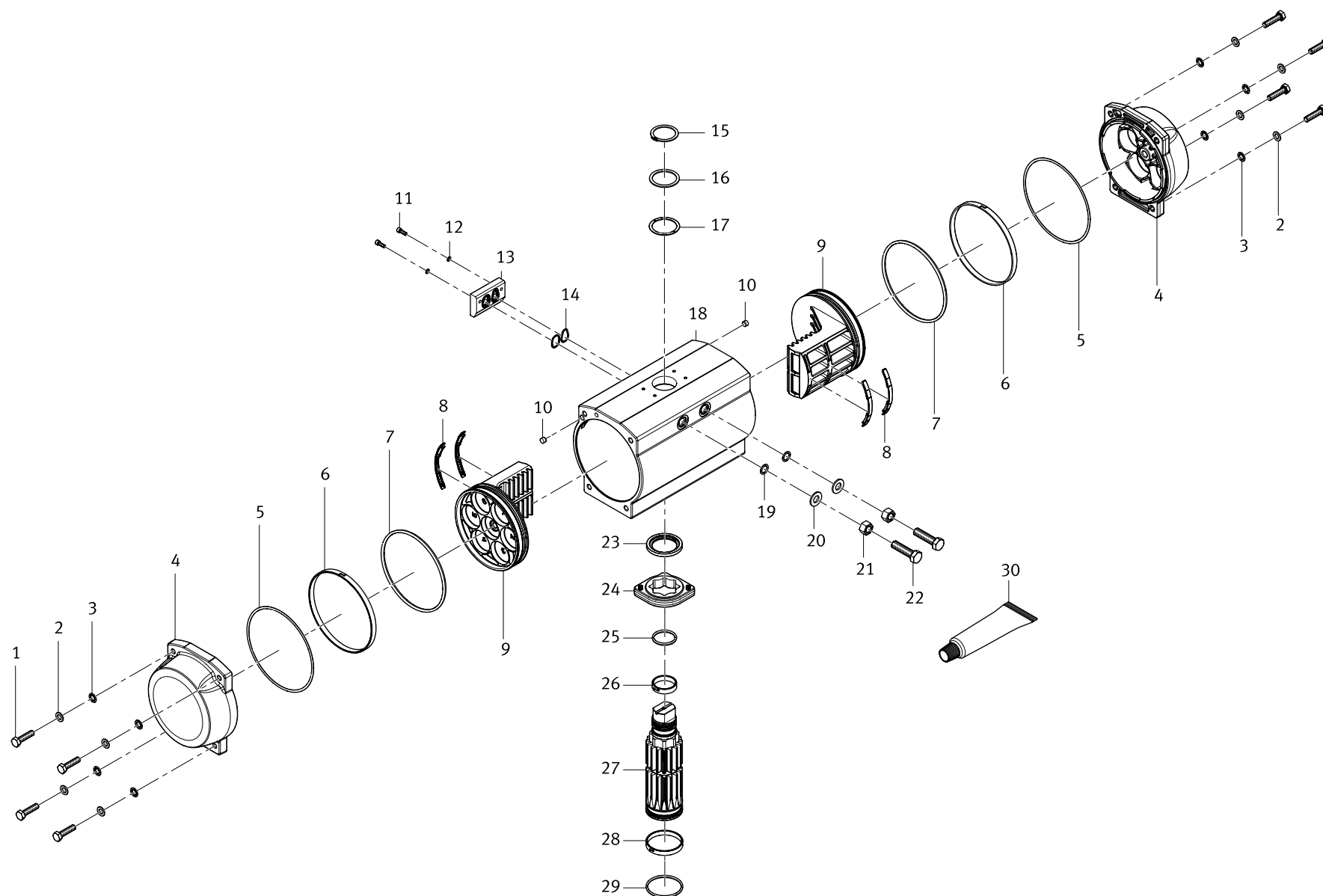
No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70
2	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301
3	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 113.67×5.33-N-NBR70	O-ring, I3601 B-113.67×5.33-N-FPM75	O-ring, 113.67×5.33-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2	Shim, DIN 988-35×45×1.5-A2
15	Retaining ring, DIN 471-35×1.5-A2	Retaining ring, DIN 471-35×1.5-A2,	Retaining ring, DIN 471-35×1.5-A2
16	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
17	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Sliding ring	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-29.82×2.62-N-NBR70	O-ring, I3601 B-29.82×2.62-N-FPM75	O-ring, 29.82×2.62-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-47.63×3.53-N-NBR70	O-ring, I3601 B-47.63×3.53-N-FPM75	O-ring, 47.63×3.53-N-FVMQ70
28	O-ring, I3601 B-11×3.5-N-NBR70	O-ring, I3601 B-11×3.5-N-FPM75	O-ring, 11×3.5-N-FVMQ70
29	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301	Ring, 12.3×23×2.5-1.4301
30	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70	Hex nut, ISO 4032-M12-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.7.3 DFPD-480-...-S bill of materials

No.	Standard Designation, type	T4 Designation, type	T6 Designation, type
1	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70	Hexagon head screw, ISO 4017-M10×35-A2-70
2	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301	Ring, 10.3×19×2-1.4301
3	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap	End cap	End cap
5	Moulded seal	Moulded seal	Moulded seal
6	Spring module	Spring module	Spring module
7	Spring module	Spring module	Spring module
8	Sliding ring	Sliding ring	Sliding ring
9	O-ring, 134×6-N-NBR70	O-ring, I3601 B-134×6-N-FPM75	O-ring, 134×6-N-FVMQ70
10	Piston	Piston	Piston
11	Slide element	Slide element	Slide element
12	Housing	Housing	Housing
13	Sliding ring	Sliding ring	Sliding ring
14	Shim, DIN 988-42×52×2-A2	Shim, DIN 988-42×52×2-A2	Shim, DIN 988-42×52×2-A2
15	Retaining ring, DIN 471-42×1.75-A2	Retaining ring, DIN 471-42×1.75-A2	Retaining ring, DIN 471-42×1.75-A2
16	O-ring, I3601 B-16×2-N-NBR70	O-ring, I3601 B-16×2-N-FPM75	O-ring, 16×2-N-FVMQ70
17	O-ring, I3601 B-21×2-N-NBR70	O-ring, I3601 B-21×2-N-FPM75	O-ring, 21×2-N-FVMQ70
18	Mounting plate	Mounting plate	Mounting plate
19	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70	Toothed disc, DIN 6797-J-5,1-A2-70
20	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70	Socket head screw, DIN 912-M5×16-A2-70
21	Gleitrings	Sliding ring	Sliding ring
22	Cam	Cam	Cam
23	O-ring, I3601 B-35×3.5-N-NBR70	O-ring, I3601 B-35×3.5-N-FPM75	O-ring, 35×3.5-N-FVMQ70
24	Sliding ring	Sliding ring	Sliding ring
25	Shaft	Shaft	Shaft
26	Sliding ring	Sliding ring	Sliding ring
27	O-ring, I3601 B-55.56×3.53-N-NBR70	O-ring, I3601 B-55.56×3.53-N-FPM75	O-ring, 55.56×3.53-N-FVMQ70
28	O-ring, I3601 B-13×3.5-N-NBR70	O-ring, I3601 B-13×3.5-N-FPM75	O-ring, 13×3.5-N-FVMQ70
29	Ring, 14.3×28×2.5-1.4301	Ring, 14.3×28×2.5-1.4301	Ring, 14.3×28×2.5-1.4301
30	Hex nut, ISO 4032-M14-A2-70	Hex nut, ISO 4032-M14-A2-70	Hex nut, ISO 4032-M14-A2-70
31	Regulating screw	Regulating screw	Regulating screw
32	Lubricant, SYNTHY POLYMER 402/2	Lubricant, HEVOLIT PE280-1 FG	Lubricant, ISOFLEX TOPAS NB5051

3.8

DFPD-700 / 900 / 2300-...-D components list



3.8.1 DFPD-700-...-D bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M10×40-A2-70
2	Ring, ISO 7092-10-200Hv-A2
3	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap
5	O-ring, 164,69×3,53-N-NBR70
6	Sliding ring
7	O-ring, 151,77×5,33-N-NBR70
8	Slide element
9	Piston
10	Plug
11	Socket head screw, ISO 4762-M5×16-A2-70
12	Toothed disc, DIN 6797-J-5,1-A2-70
13	Mounting plate
14	O-ring, I3601 B-21×2-N-NBR70
15	Retaining ring, DIN 471-45×1,75-A2
16	Shim, DIN 988-45×55×2-A2
17	Sliding ring
18	Housing
19	O-ring, I3601 B-13×3,5-N-NBR70
20	Ring, 14,3×28×2,5-1.4301
21	Hex nut, ISO 4032-M14-A2-70
22	Regulating screw
23	Sliding ring
24	Cam
25	O-Ring, I3601 B-37,69×3,53-N-NBR70
26	Sliding ring
27	Shaft
28	Sliding ring
29	O-ring, I3601 B-59,92×3,53-N-NBR70
30	Lubricant, SYNTHY POLYMER 402/2

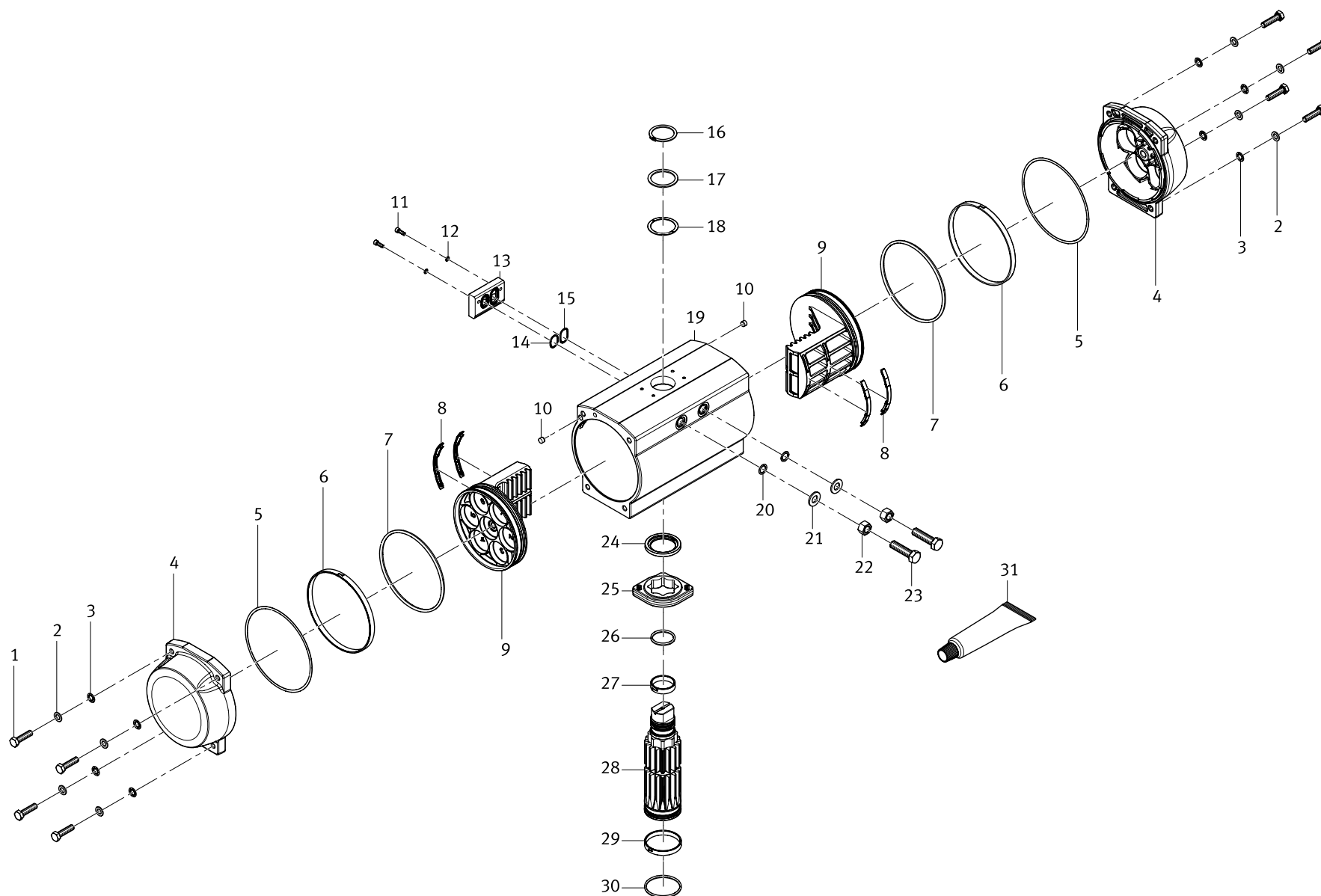
3.8.2 DFPD-900-...-D bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M12×45-A2-70
2	Ring, ISO 7092-12-200Hv-A2
3	Toothed disc, DIN 6797-J-13-A2-70
4	End cap
5	O-ring, 183,74×3,53-N-NBR70
6	Sliding ring
7	O-ring, 164,47×6,99-N-NBR70
8	Slide element
9	Piston
10	Plug
11	Socket head screw, ISO 4762-M5×16-A2-70
12	Toothed disc, DIN 6797-J-5,1-A2-70
13	Mounting plate
14	O-ring, I3601 B-21×2-N-NBR70
15	Retaining ring, DIN 471-48×1,75-A2
16	Shim, DIN 988-48×60×2-A2
17	Sliding ring
18	Housing
19	O-ring, I3601 B-15,47×3,53-N-NBR70
20	Ring, 16,3×30×3-1.4301
21	Hex nut, ISO 4032-M16-A2-70
22	Regulating screw
23	Sliding ring
24	Cam
25	O-ring, I3601 B-40,87×3,53-N-NBR70
26	Sliding ring
27	Shaft
28	Sliding ring
29	O-ring, I3601 B-66,27×3,53-N-NBR70
30	Lubricant, SYNTHY POLYMER 402/2

3.8.3 DFPD-2300-...-D bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M16×60-A2-70
2	Ring, ISO 7092-16-200HV-A2
3	Toothed disc, DIN 6797-J-17-A2-70
4	End cap
5	O-ring, 253,37×5,33-N-NBR70
6	Sliding ring
7	O-ring, 227,97×6,99-N-NBR70
8	Slide element
9	Piston
10	Plug
11	Socket head screw ISO 4762-M5×20-A2-70
12	Toothed disc, DIN 6797-J-5,1-A2-70
13	Mounting plate
14	O-ring, I3601 B-21×2-N-NBR70
15	Retaining ring, DIN 471-70×2,5-A2
16	Shim, DIN 988-70×90×1,5-A2
17	Sliding ring
18	Housing
19	O-ring, I3601 B-18,42×5,33-N-NBR70
20	Ring, 20,15×36×3-1.4301
21	Hex nut ISO 4032-M20-A2-70
22	Regulating screw
23	Sliding ring
24	Cam
25	O-ring, I3601 B-59,69×5,33-N-NBR70
26	Sliding ring
27	Shaft
28	Sliding ring
29	O-ring, I3601 B-88,27×5,33-N-NBR70
30	Lubricant, SYNTHY POLYMER 402/2

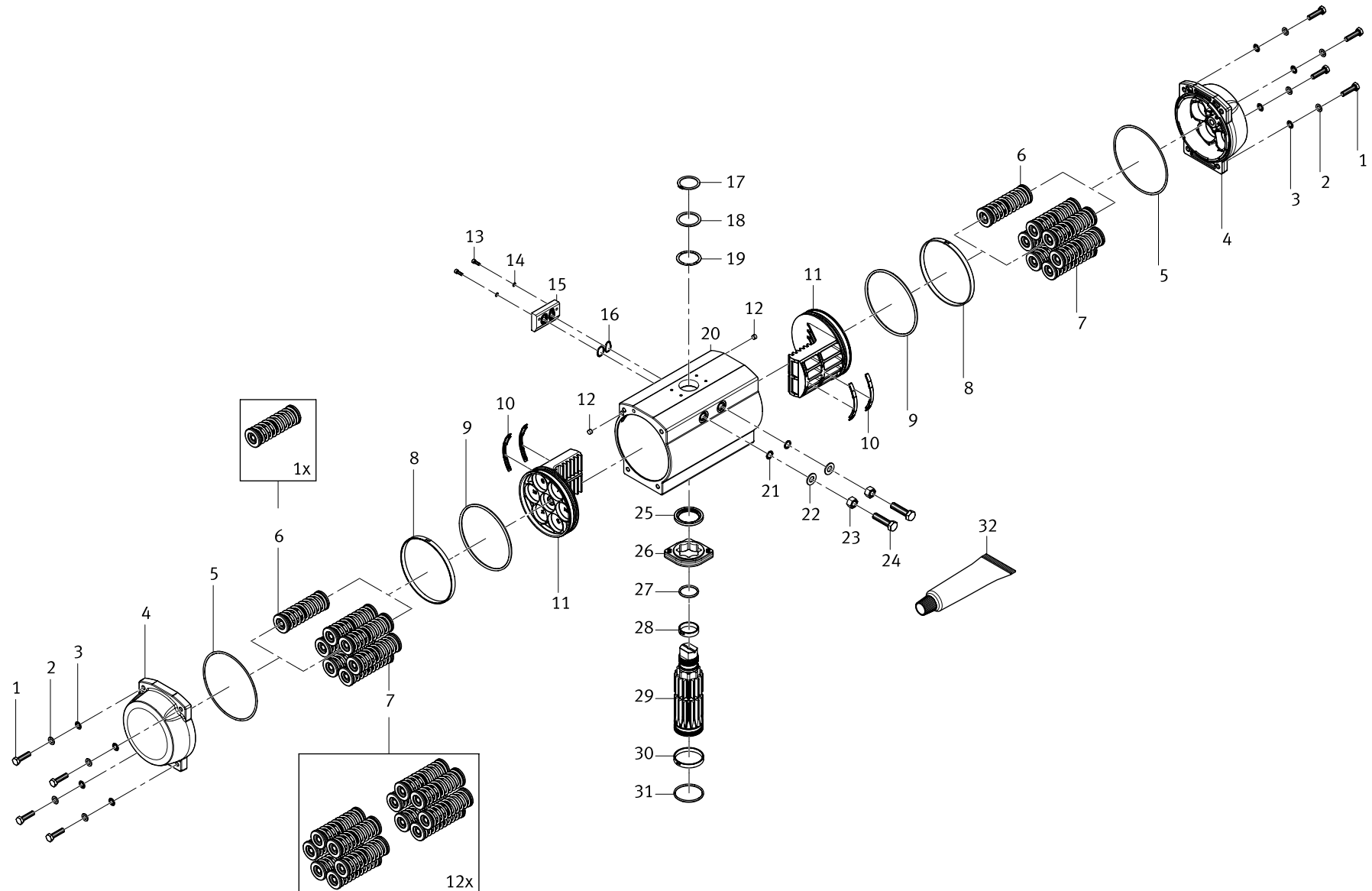
3.9 DFPD-1200-...-D components list



3.9.1 DFPD-1200-...-D bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M14×50-A2-70
2	Ring, ISO 7092-14-200Hv-A2
3	Toothed disc, DIN 6797-J-15-A2-70
4	End cap
5	O-ring, I3601 B-202,79×3,53-N-NBR70
6	Sliding ring
7	O-ring, 183,52×6,99-N-NBR70
8	Slide element
9	Piston
10	Plug
11	Socket head screw, ISO 4762-M5×16-A2-70
12	Toothed disc, DIN 6797-J-5,1-A2-70
13	Mounting plate
14	O-ring, I3601 B-21×2-N-NBR70
15	O-ring, 26×2-N-NBR70
16	Retaining ring, DIN 471-52×2-A2
17	Shim, DIN 988-52×65×2-A2
18	Sliding ring
19	Housing
20	O-ring, I3601 B-15,47×3,53-N-NBR70
21	Ring, 16,3×30×3-1.4301
22	Hex nut, ISO 4032-M16-A2-70
23	Regulating screw
24	Sliding ring
25	Cam
26	O-ring, I3601 B-44,04×3,53-N-NBR70
27	Sliding ring
28	Shaft
29	Sliding ring
30	O-ring, I3601 B-72,39×5,33-N-NBR70
31	Lubricant, SYNTHY POLYMER 402/2

3.10 DFPD-700 / 900 / 2300-...-S components list



3.10.1 DFPD-700-...-S bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M10×40-A2-70
2	Ring, ISO 7092-10-200HV-A2
3	Toothed disc, DIN 6797-J-10,5-A2-70
4	End cap
5	O-ring, 164,69×3,53-N-NBR70
6	Spring module
7	Spring module
8	Sliding ring
9	O-ring, 151,77×5,33-N-NBR70
10	Slide element
11	Piston
12	Plug
13	Socket head screw, ISO 4762-M5×16-A2-70
14	Toothed disc, DIN 6797-J-5,1-A2-70
15	Mounting plate
16	O-ring, I3601 B-21×2-N-NBR70
17	Retaining ring, DIN 471-45×1,75-A2
18	Shim, DIN 988-45×55×2-A2
19	Sliding ring
20	Housing
21	O-ring, I3601 B-13×3,5-N-NBR70
22	Ring, 14,3×28×2,5-1.4301
23	Hex nut, ISO 4032-M14-A2-70
24	Regulating screw
25	Sliding ring
26	Cam
27	O-ring, I3601 B-37,69×3,53-N-NBR70
28	Sliding ring
29	Shaft
30	Sliding ring
31	O-ring, I3601 B-59,92×3,53-N-NBR70
32	Lubricant, SYNTHY POLYMER 402/2

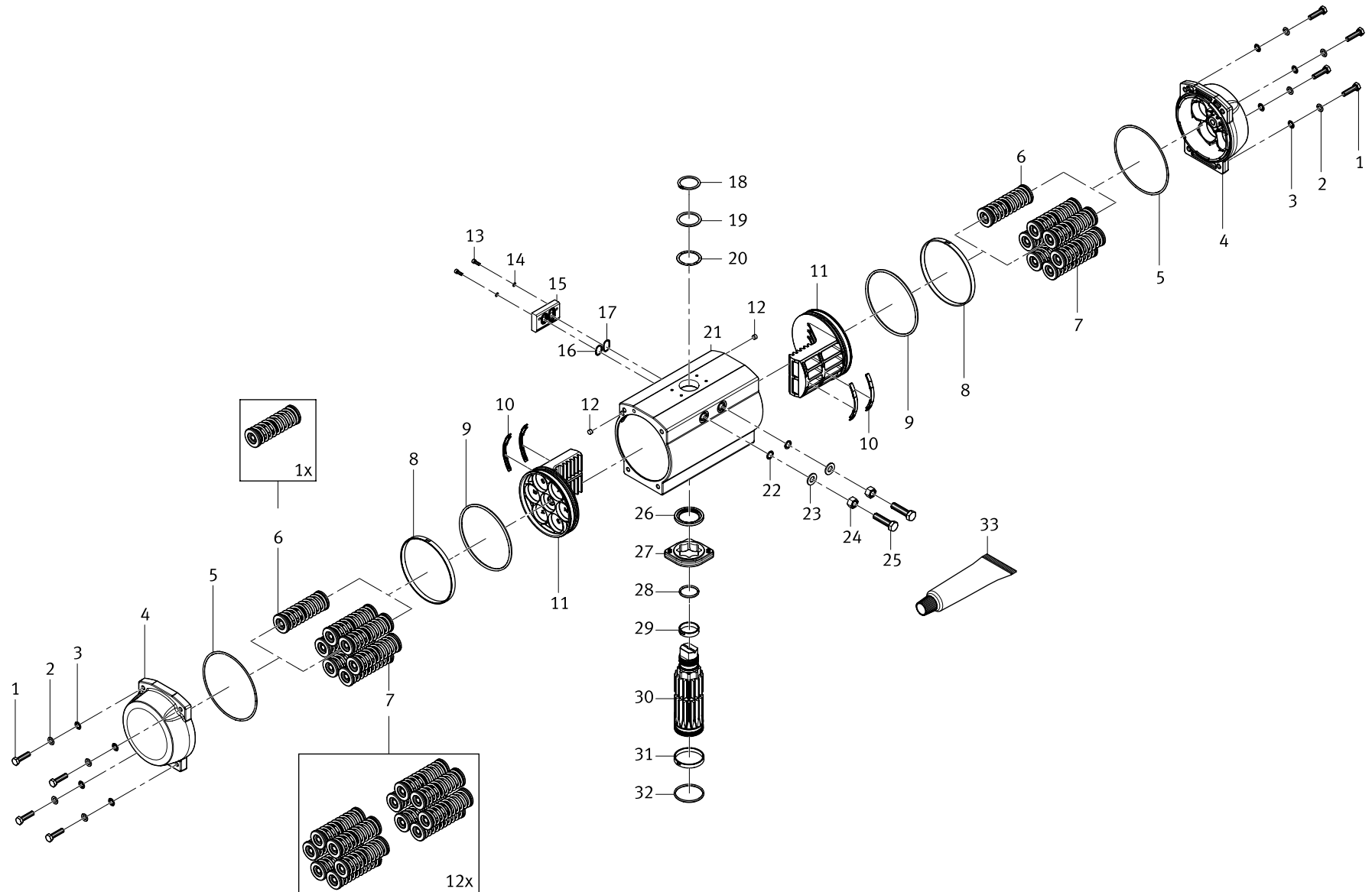
3.10.2 DFPD-900-...-S bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M12×45-A2-70
2	Ring, ISO 7092-12-200Hv-A2
3	Toothed disc, DIN 6797-J-13-A2-70
4	End cap
5	O-ring, 183,74×3,53-N-NBR70
6	Spring module
7	Spring module
8	Sliding ring
9	O-ring , 164,47×6,99-N-NBR70
10	Slide element
11	Piston
12	Verschluss
13	Socket head screw, ISO 4762-M5×16-A2-70
14	Toothed disc, DIN 6797-J-5,1-A2-70
15	Mounting plate
16	O-ring, I3601 B-21×2-N-NBR70
17	Retaining ring, DIN 471-48×1,75-A2
18	Shim, DIN 988-48×60×2-A2
19	Sliding ring
20	Housing
21	O-ring, I3601 B-15,47×3,53-N-NBR70
22	Ring, 16,3×30×3-1.4301
23	Hex nut, ISO 4032-M16-A2-70
24	Regulating screw
25	Sliding ring
26	Cam
27	O-ring, I3601 B-40,87×3,53-N-NBR70
28	Sliding ring
29	Shaft
30	Sliding ring
31	O-ring, I3601 B-66,27×3,53-N-NBR70
32	Lubricant, SYNTHY POLYMER 402/2

3.10.3 DFPD-2300-...-S bill of materials

No.	Designation, type
1	Hexagon head screw, ISO 4017-M16×60-A2-70
2	Ring, ISO 7092-16-200Hv-A2
3	Toothed disc, DIN 6797-J-17-A2-70
4	End cap
5	O-ring, 253,37×5,33-N-NBR70
6	Spring module
7	Spring module
8	Sliding ring
9	O-ring, 227,97×6,99-N-NBR70
10	Slide element
11	Piston
12	Plug
13	Socket head screw, ISO 4762-M5×20-A2-70
14	Toothed disc, DIN 6797-J-5,1-A2-70
15	Mounting plate
16	O-ring, I3601 B-21×2-N-NBR70
17	Retaining ring, DIN 471-70×2,5-A2
18	Shim, DIN 988-70×90×1,5-A2
19	Sliding ring
20	Housing
21	O-ring, I3601 B-18,42×5,33-N-NBR70
22	Ring, 20,15×36×3-1.4301
23	Hex nut, ISO 4032-M20-A2-70
24	Regulating screw
25	Sliding ring
26	Cam
27	O-ring, I3601 B-59,69×5,33-N-NBR70
28	Sliding ring
29	Shaft
30	Sliding ring
31	O-ring, I3601 B-88,27×5,33-N-NBR70
32	Lubricant, SYNTHY POLYMER 402/2

3.11 DFPD-1200-...-S components list

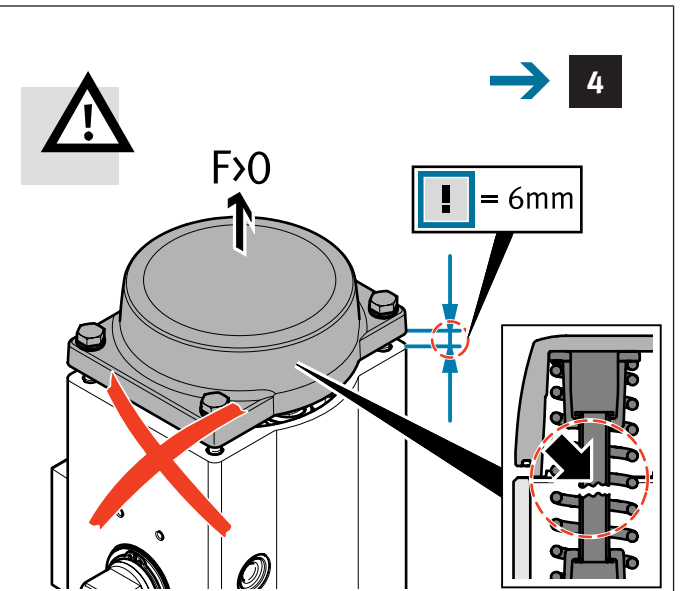
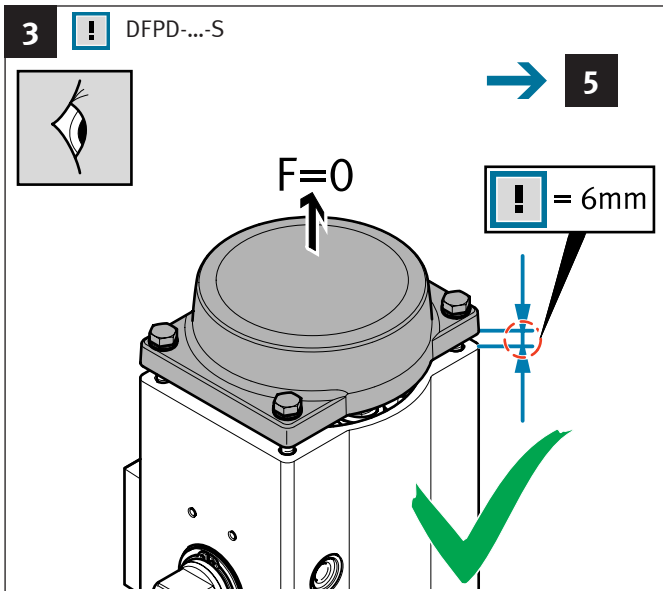
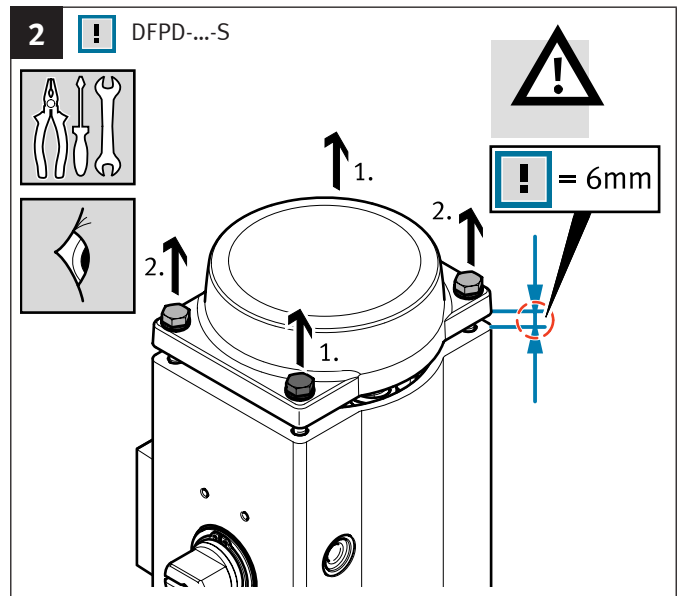
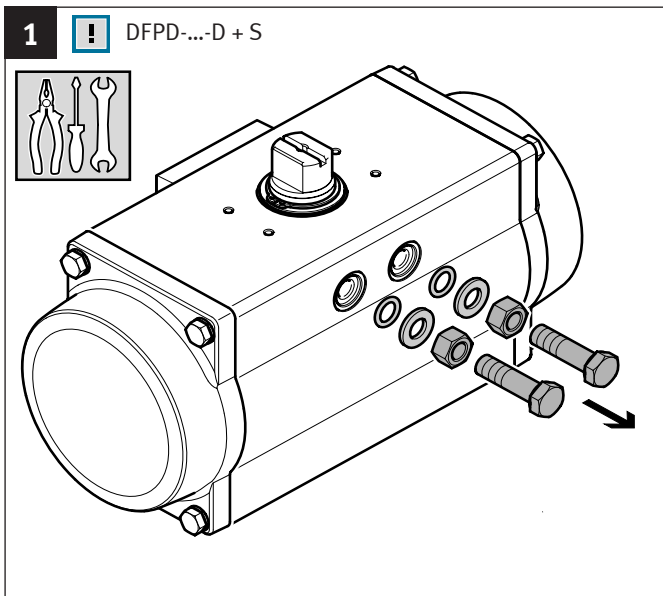


3.11.1 DFPD-1200-...-S bill of materials

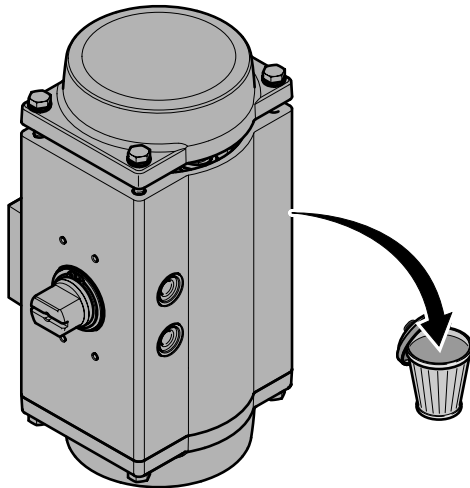
No.	Designation, type
1	Hexagon head screw, ISO 4017-M14×50-A2-70
2	Ring, ISO 7092-14-200HV-A2
3	Toothed disc, DIN 6797-J-15-A2-70
4	End cap
5	O-ring, I3601 B-202,79×3,53-N-NBR70
6	Spring module
7	Spring module
8	Sliding ring
9	O-ring, 183,52×6,99-N-NBR70
10	Slide element
11	Piston
12	Piston
13	Socket head screw, ISO 4762-M5×16-A2-70
14	Toothed disc, DIN 6797-J-5,1-A2-70
15	Mounting plate
16	O-ring, I3601 B-21×2-N-NBR70
17	O-ring, 26X2-N-NBR70
18	Retaining ring, DIN 471-52×2-A2
19	Shim, DIN 988-52×65×2-A2
20	Sliding ring
21	Housing
22	O-ring, I3601 B-15,47×3,53-N-NBR70
23	Ring, 16,3×30×3-1.4301
24	Hex nut, ISO 4032-M16-A2-70
25	Regulating screw
26	Sliding ring
27	Cam
28	O-ring, I3601 B-44,04×3,53-N-NBR70
29	Sliding ring
30	Shaft
31	Sliding ring
32	O-ring, I3601 B-72,39×5,33-N-NBR70
33	Lubricant, SYNTHY POLYMER 402/2

4 Repair steps

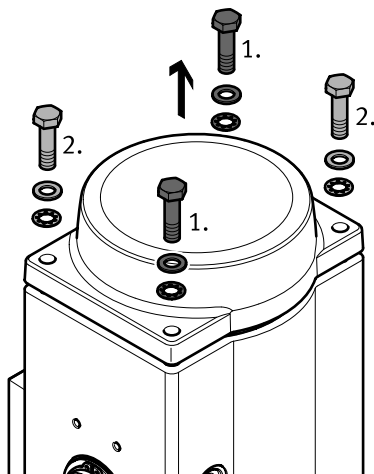
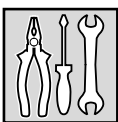
4.1 Dismantling



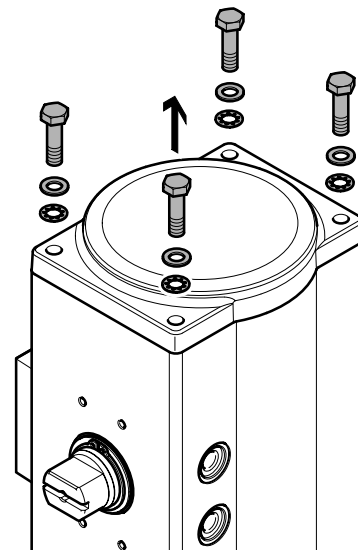
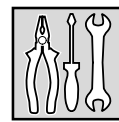
4 DFPD-...-S



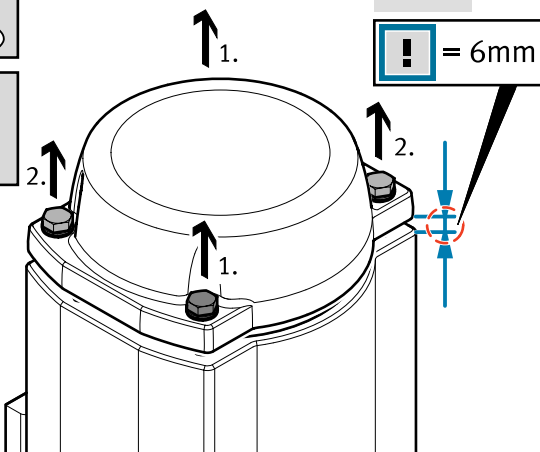
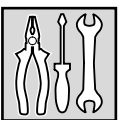
5 DFPD-...-S

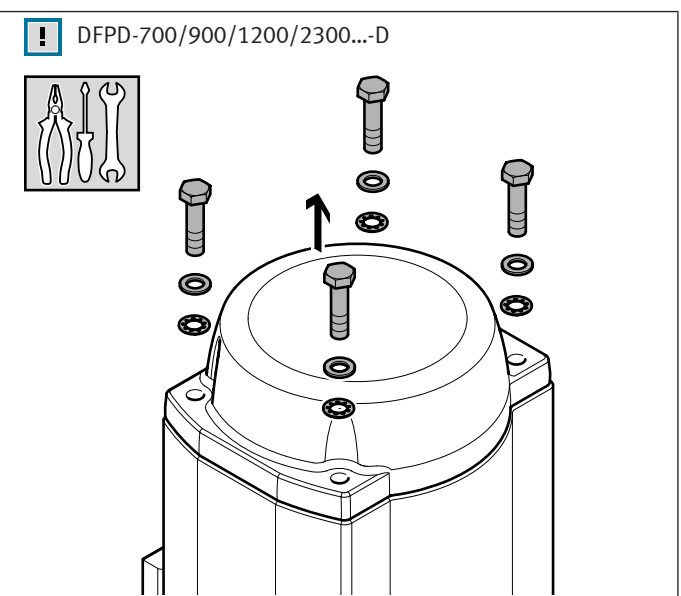
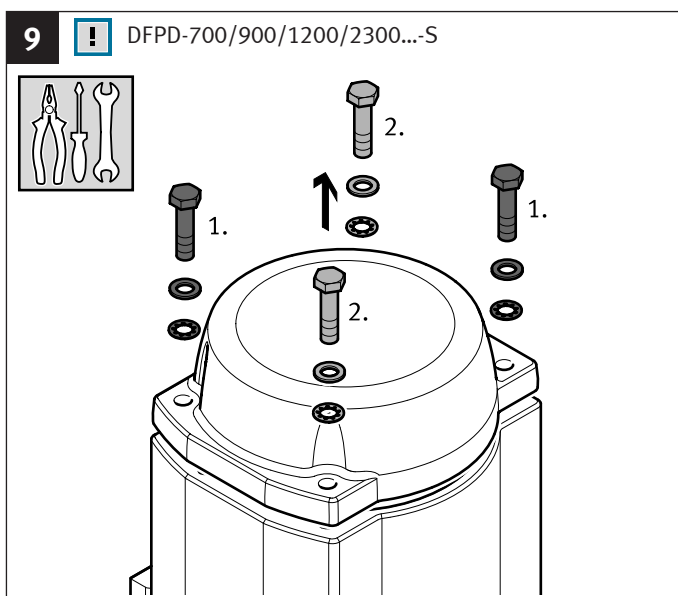
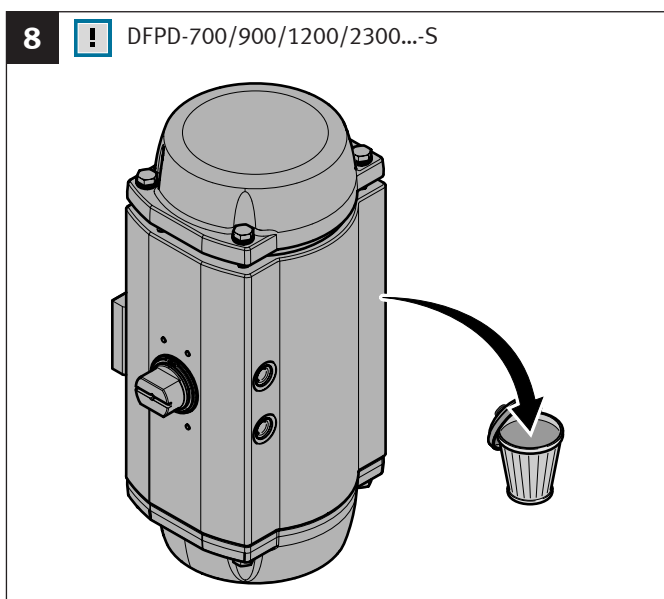
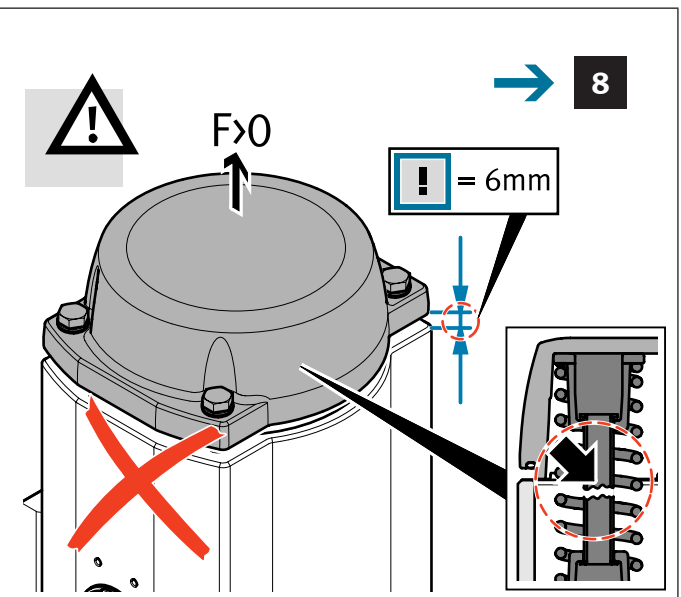
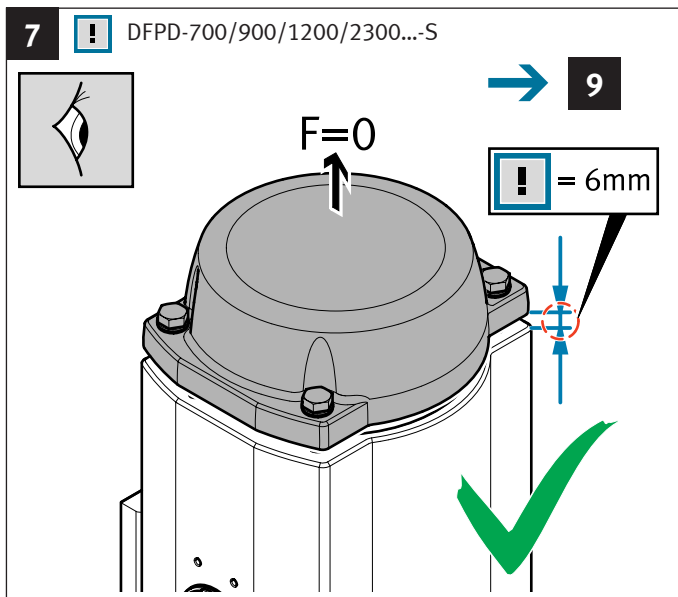


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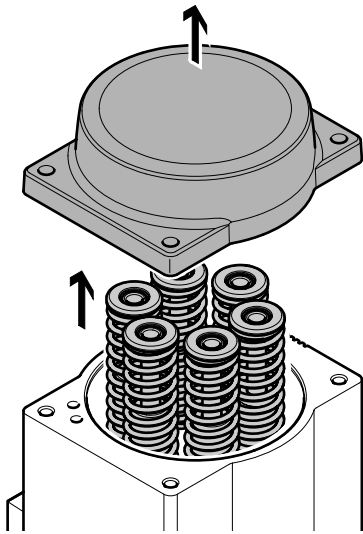


6 DFPD-700/900/1200/2300...-S

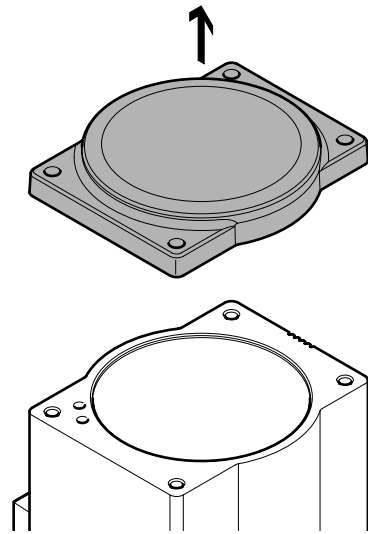




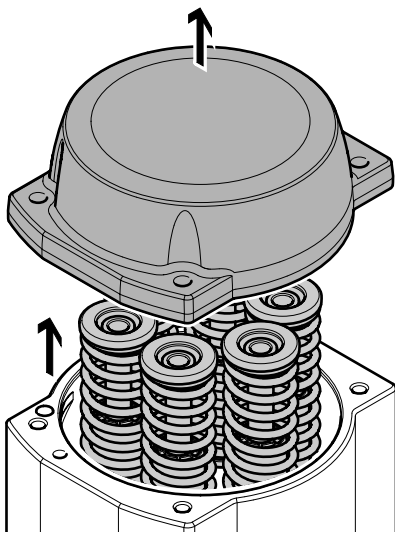
10a ! DFPD-...-S



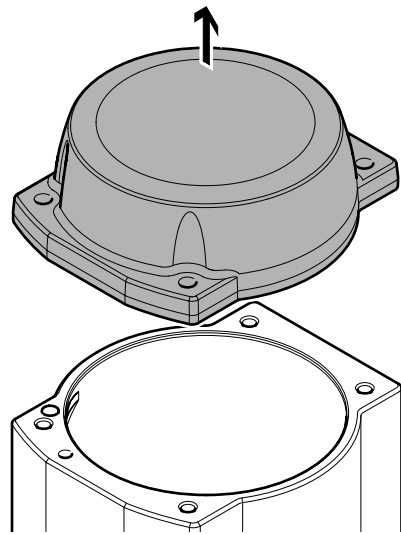
! DFPD-...-D



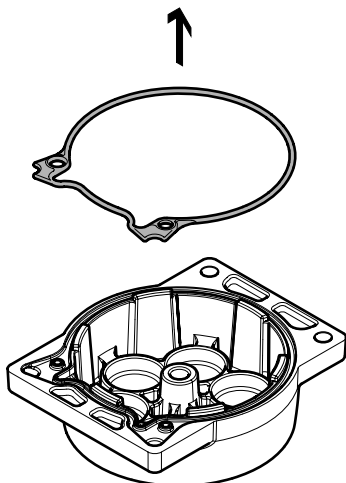
10b ! DFPD-700/900/1200/2300...-S



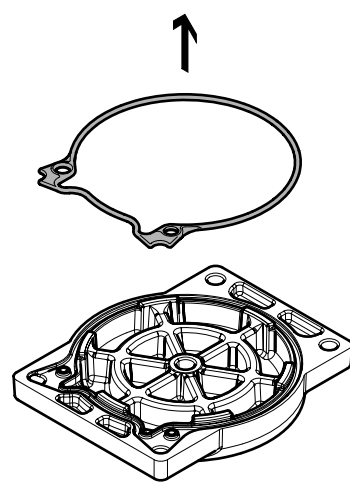
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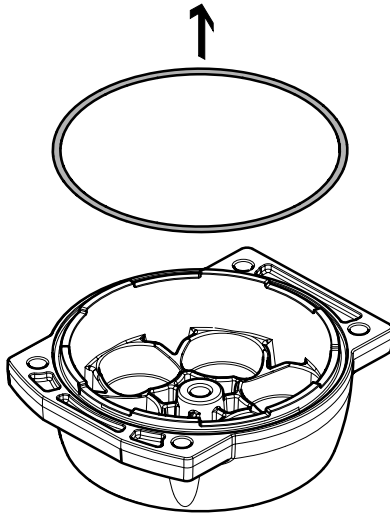
11a ! DFPD-...-S



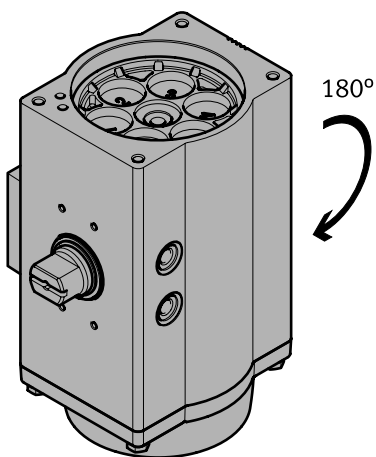
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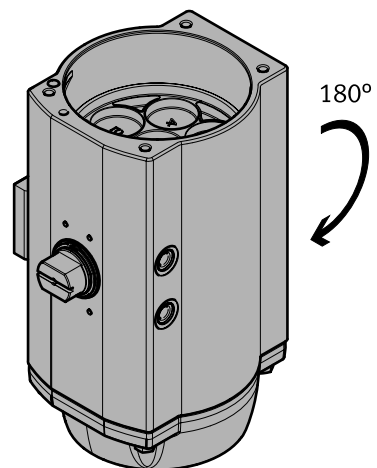
11b DFPD-700/900/1200/2300...-D+S



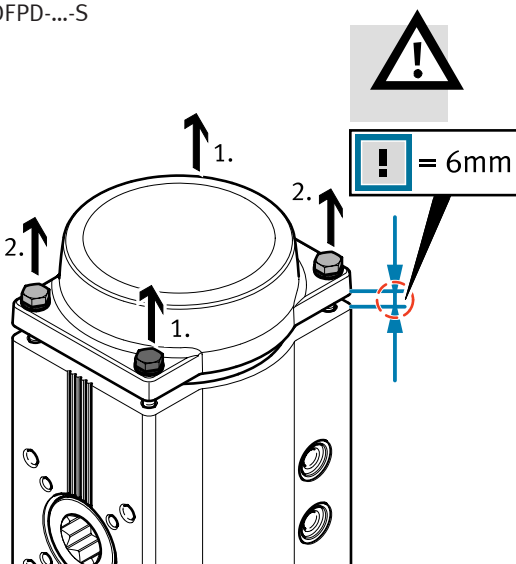
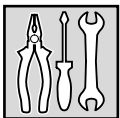
12 DFPD-...



 DFPD-700/900/1200/2300...



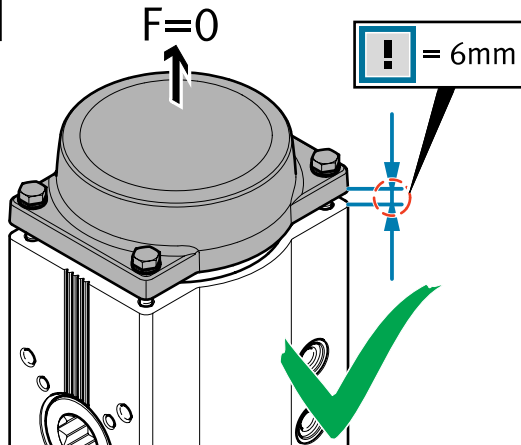
13 DFPD-...-S



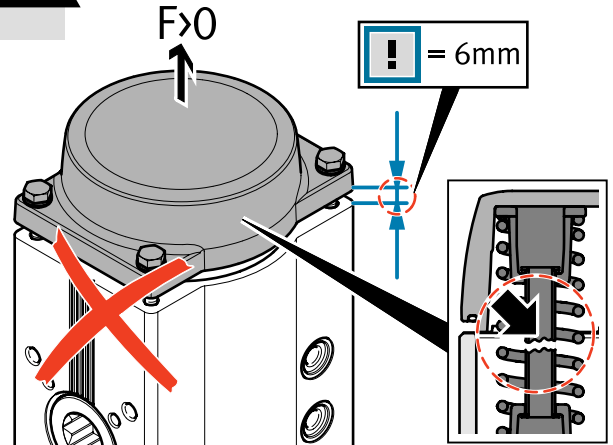
14 ! DFPD-...-S



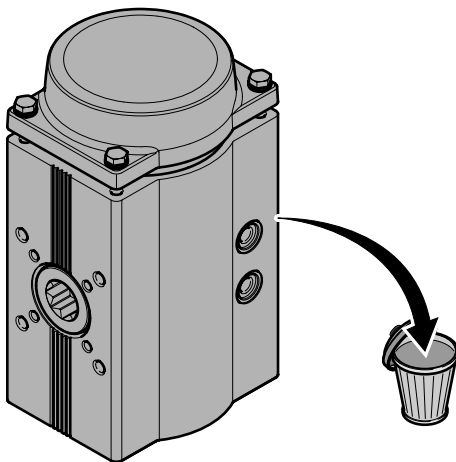
→ 16



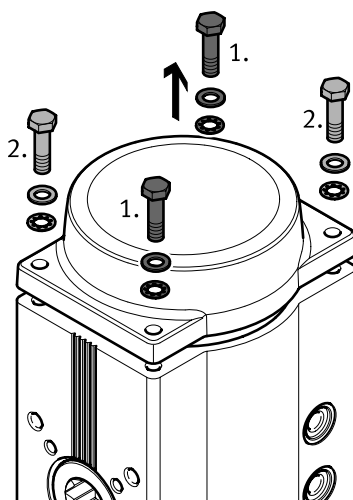
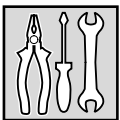
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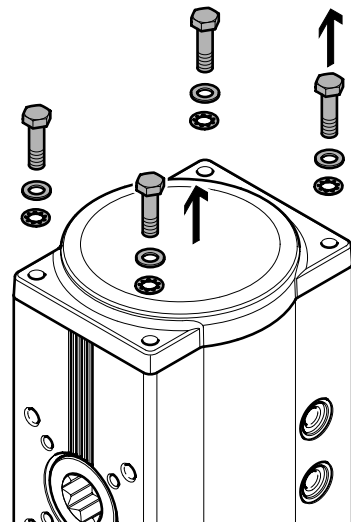
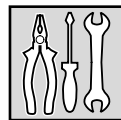
15 ! DFPD-...-S



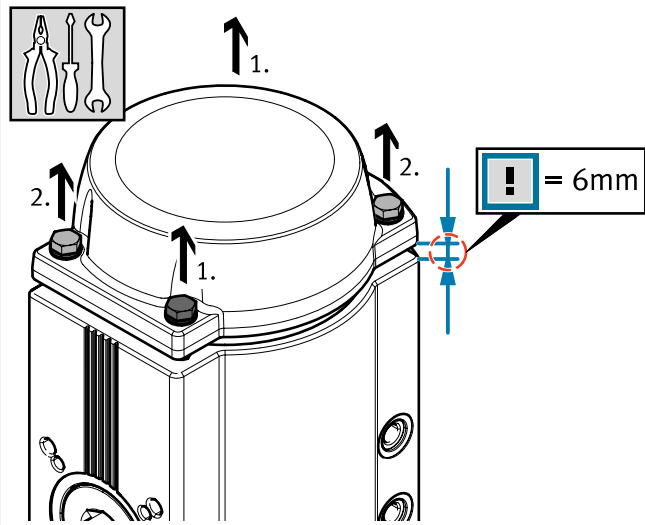
16 ! DFPD-...-S



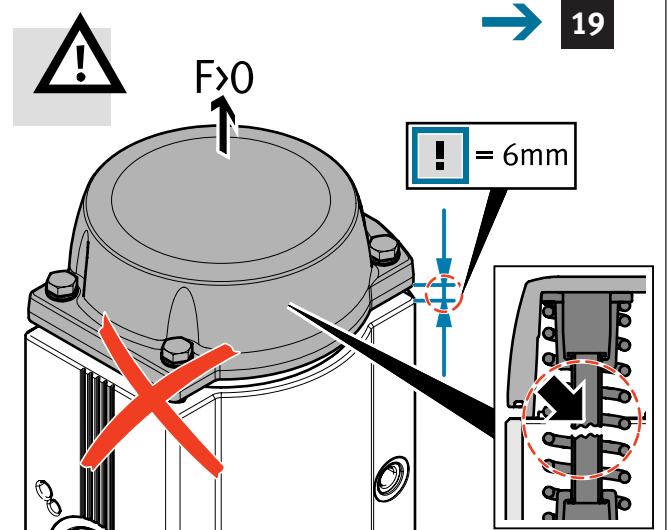
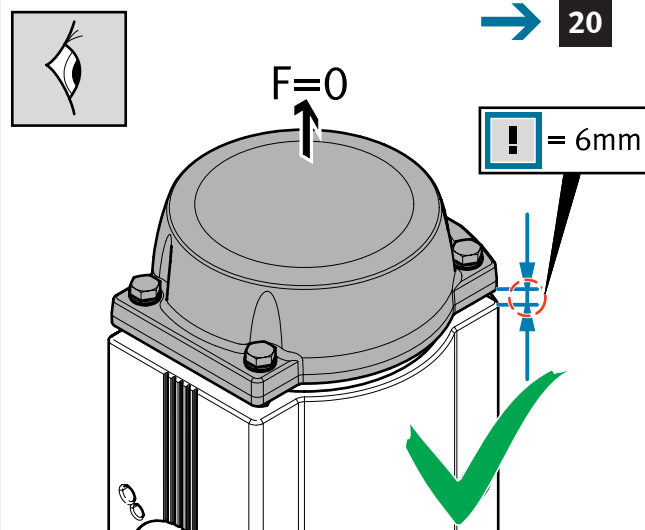
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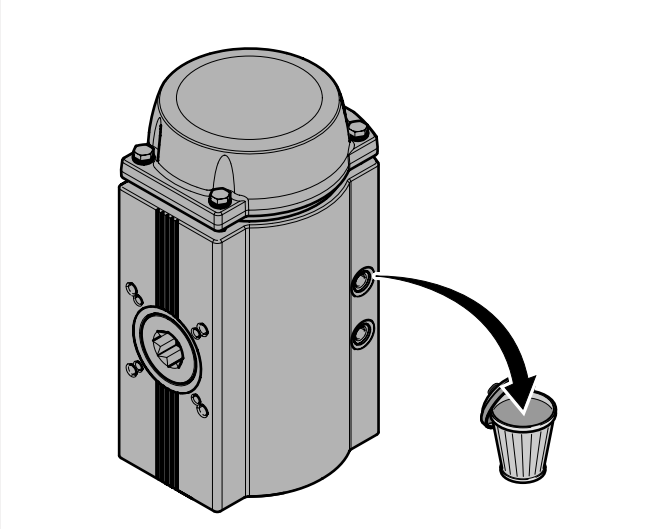
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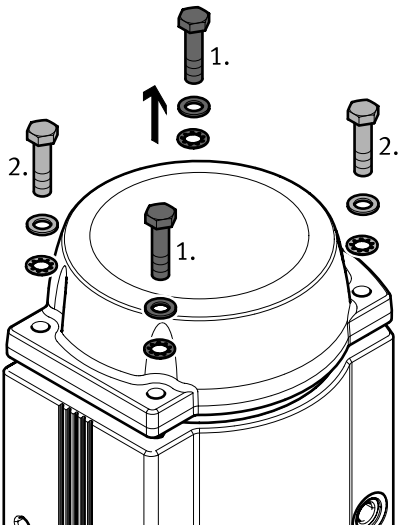
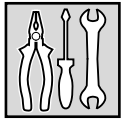
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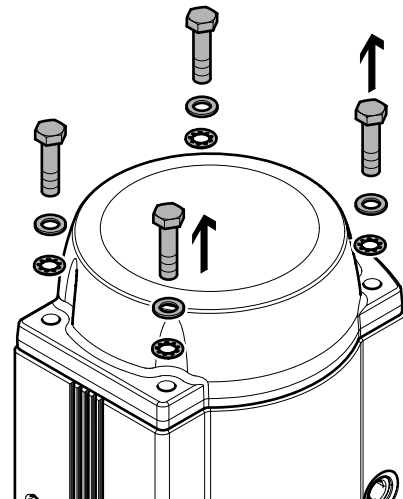
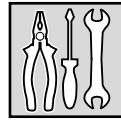
19 DFPD-700/900/1200/2300...-S



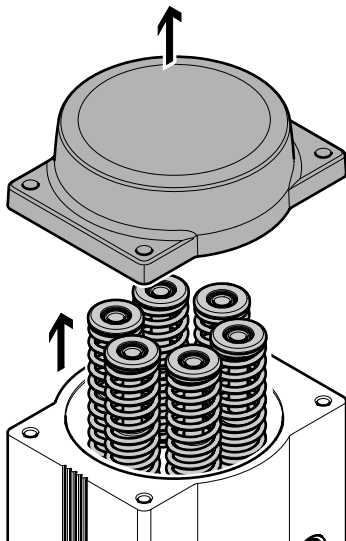
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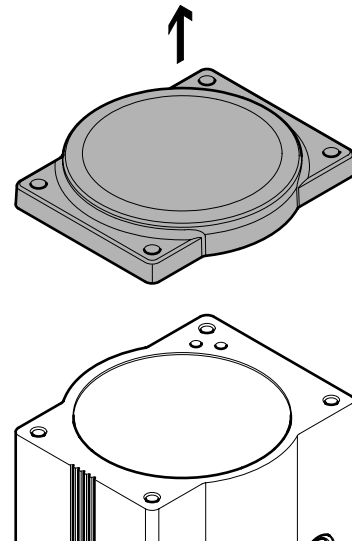
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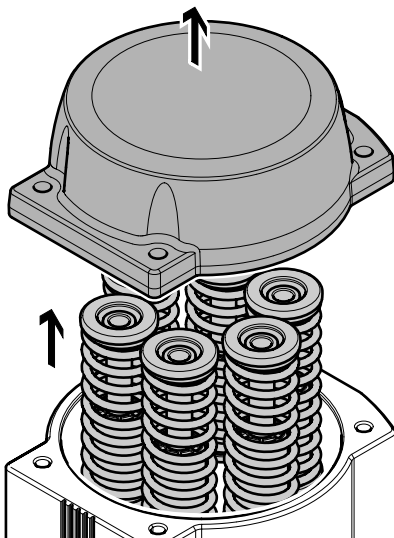
21a DFPD...-S



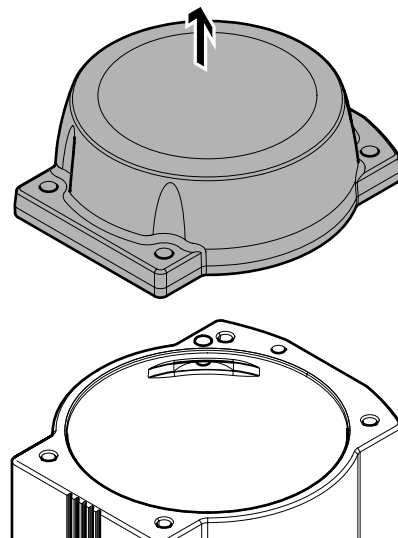
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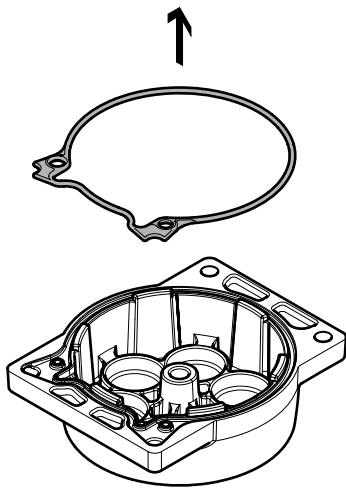
21b DFPD-700/900/1200/2300...-S



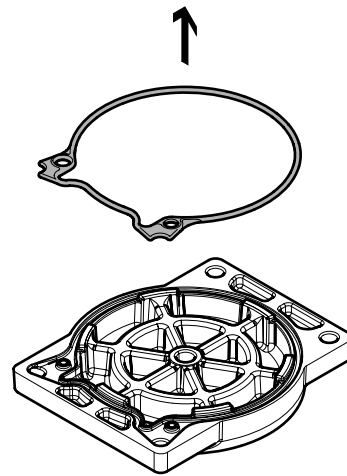
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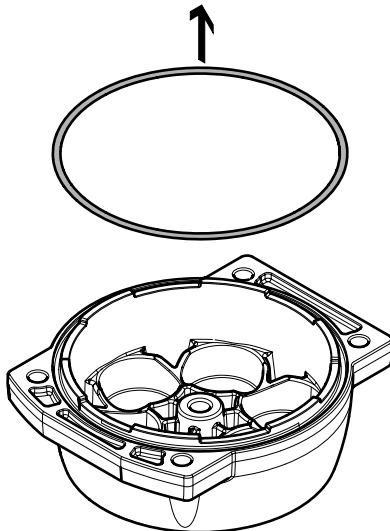
22a ! DFPD-...-S



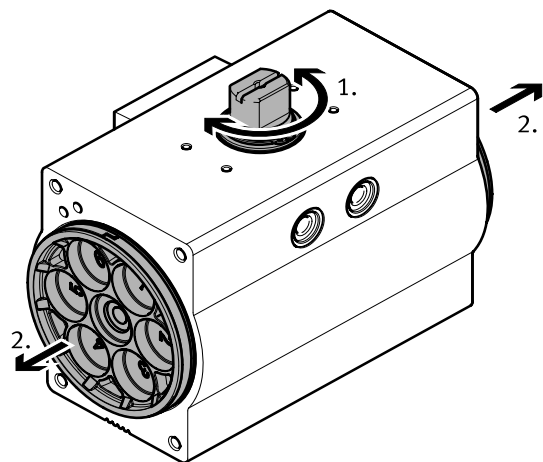
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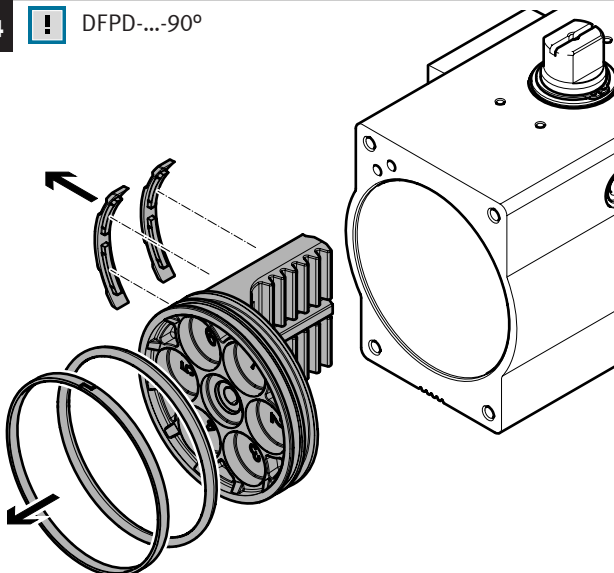
22b ! DFPD-700/900/1200/2300...-D+S



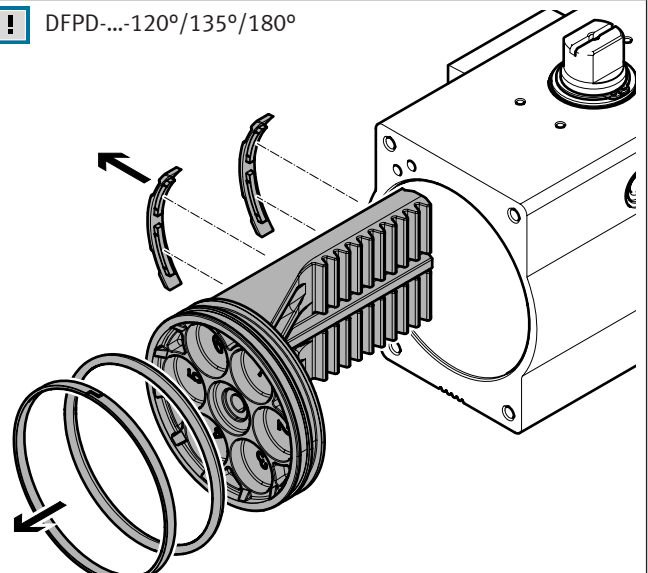
23 ! DFPD-...-D + S



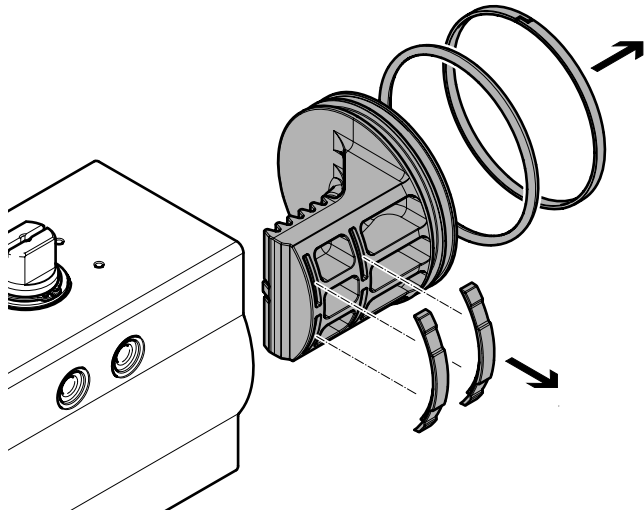
24 ! DFPD-...-90°



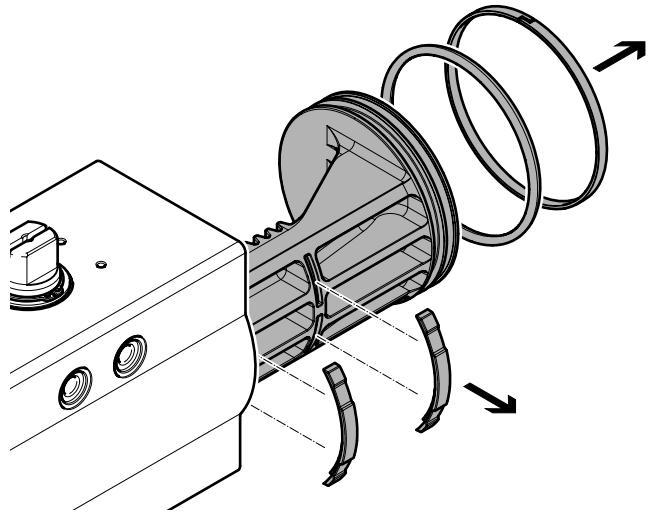
! DFPD-...-120°/135°/180°



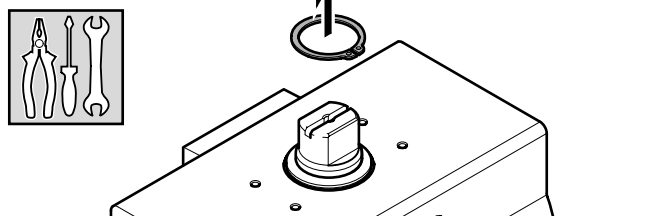
25  DFPD-...-90°



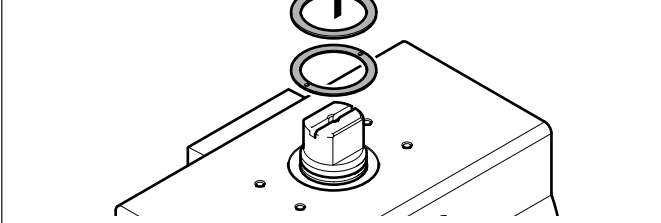
26  DFPD-...-120°/135°/180°



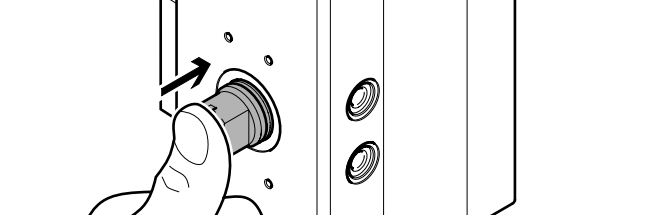
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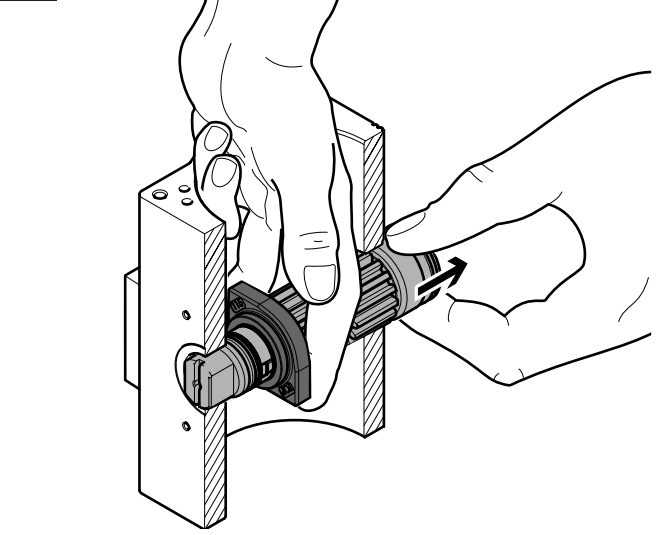
27



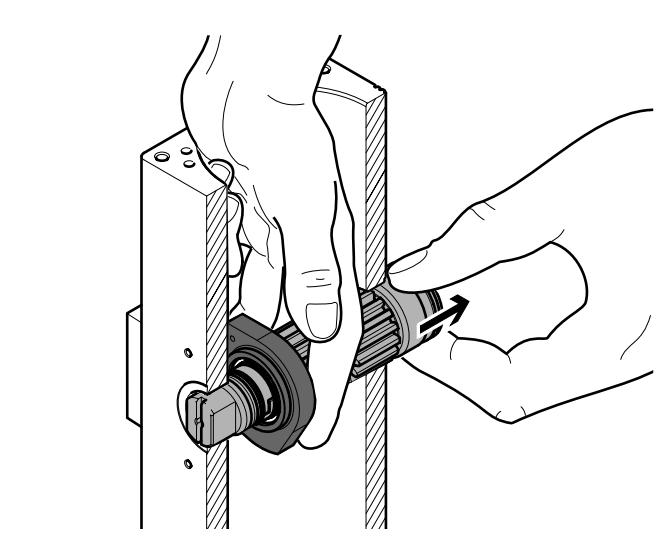
28



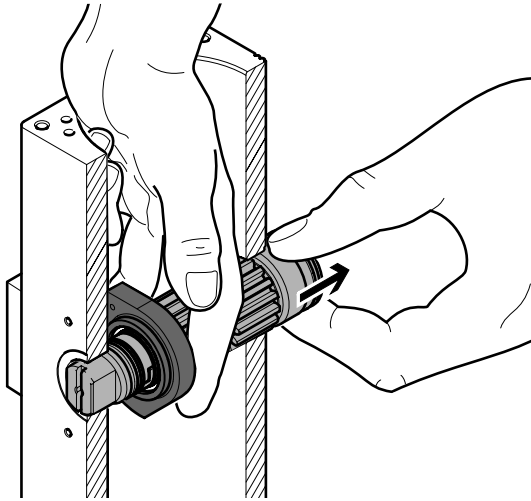
29a  DFPD-...-90°



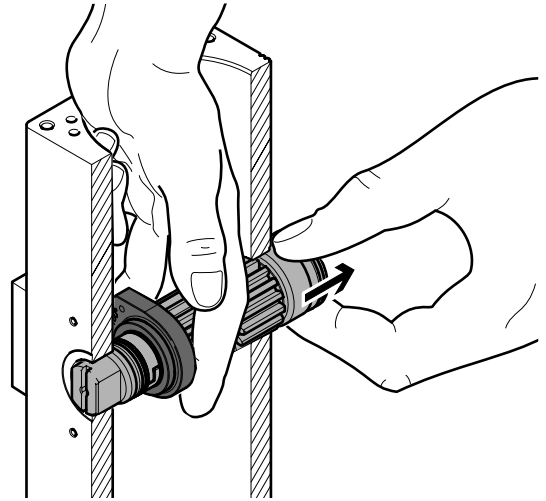
29b  DFPD-...-120°



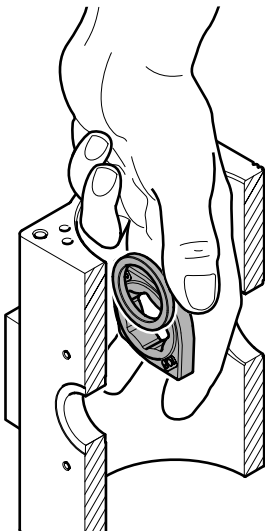
29b ! DFPD-...-135°



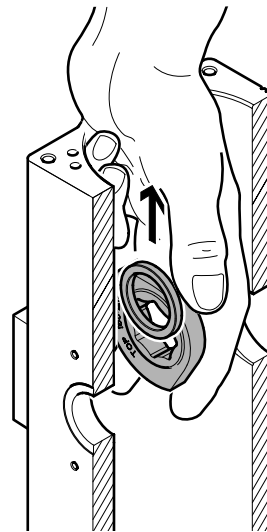
! DFPD-...-180°



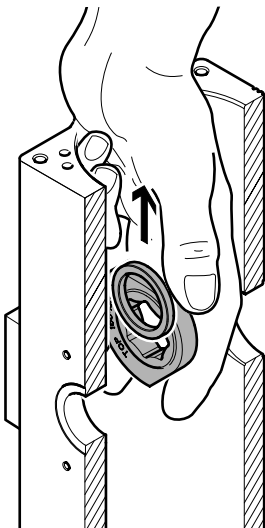
30a ! DFPD-...-90°



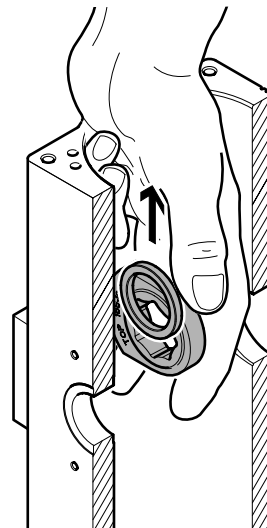
! DFPD-...-120°



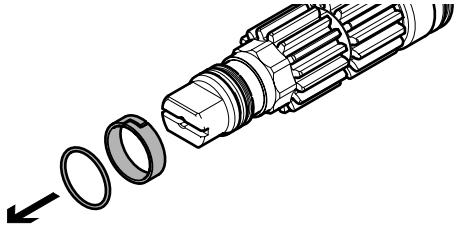
30b ! DFPD-...-135°



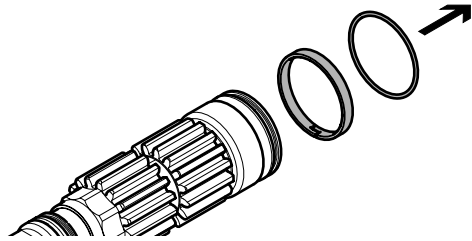
! DFPD-...-180°



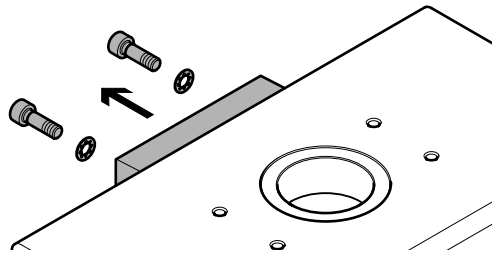
31



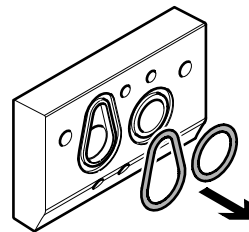
32



33

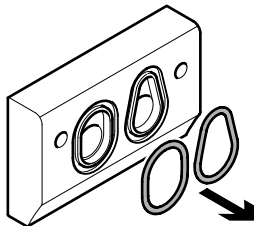


34a

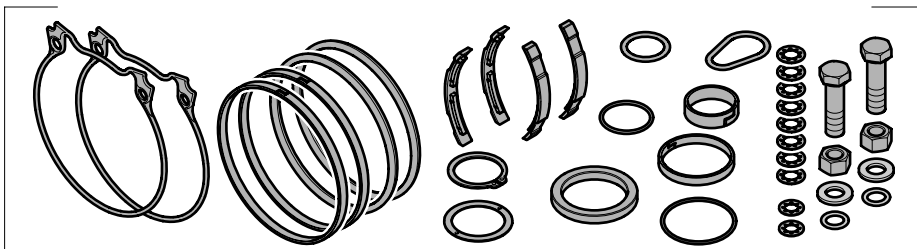


34b

! DFPD-700/900/1200/2300

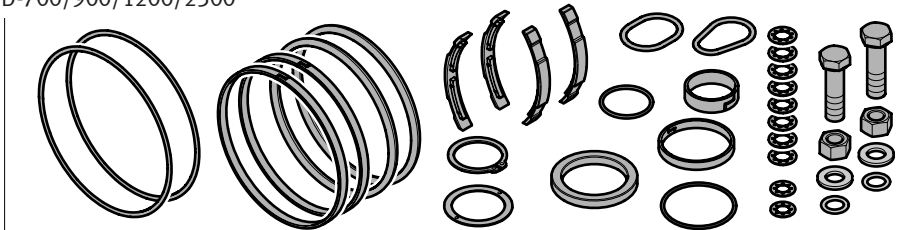


35a

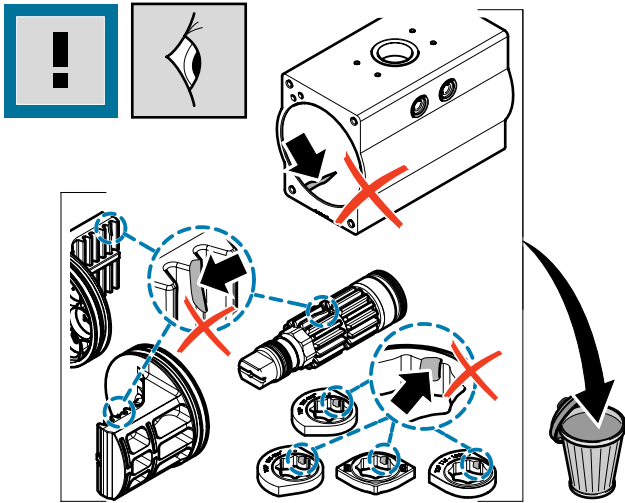


35b

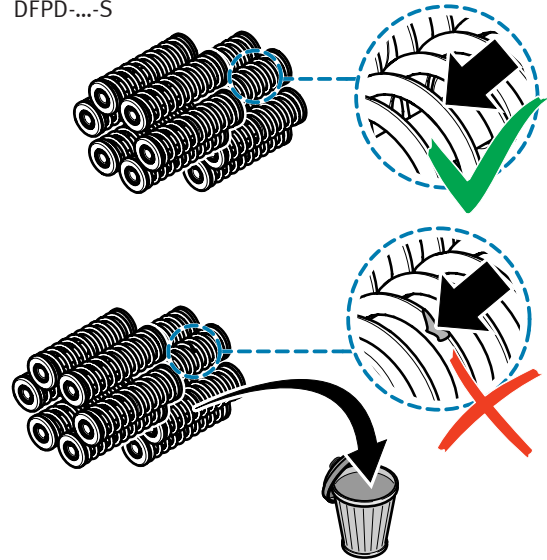
! DFPD-700/900/1200/2300



36

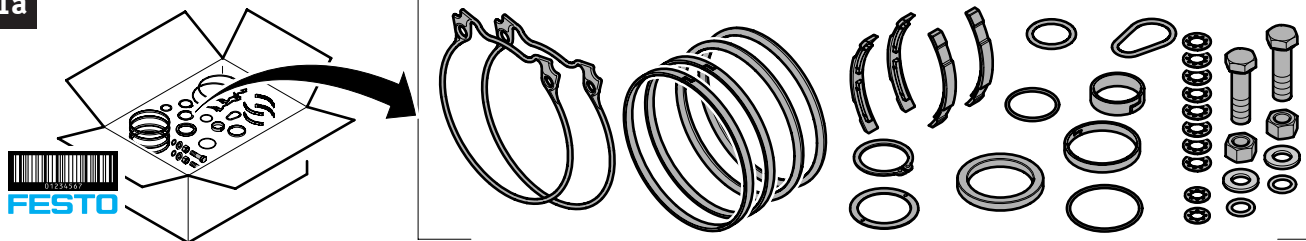


! DFPD-...-S



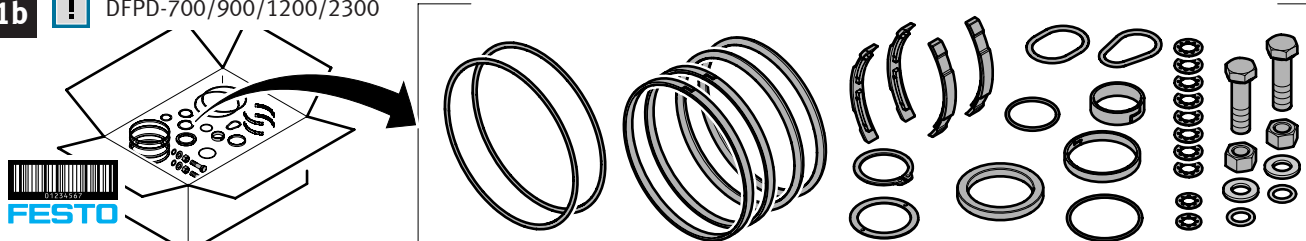
4.2 Assembly

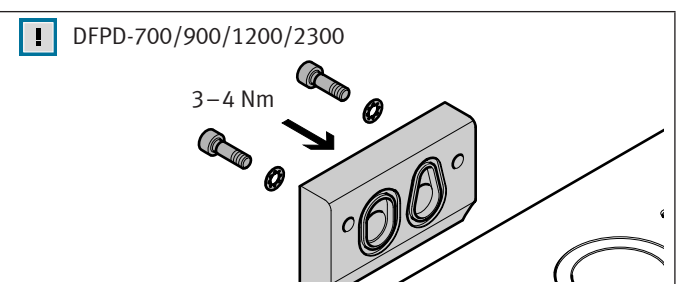
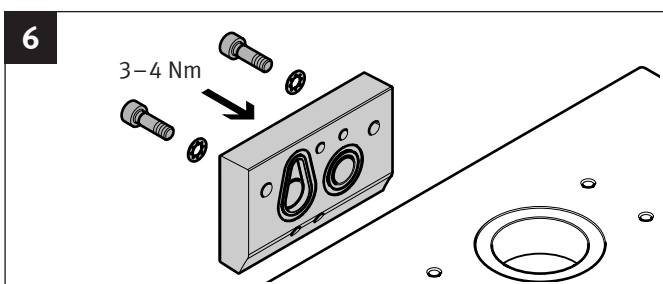
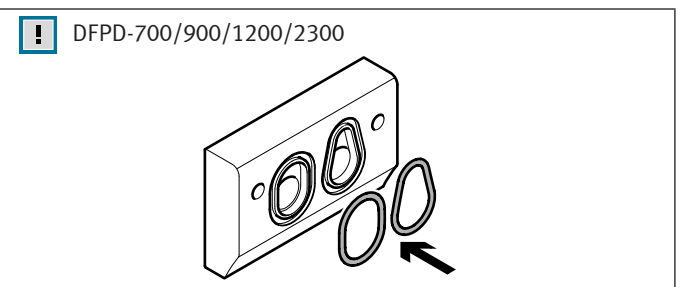
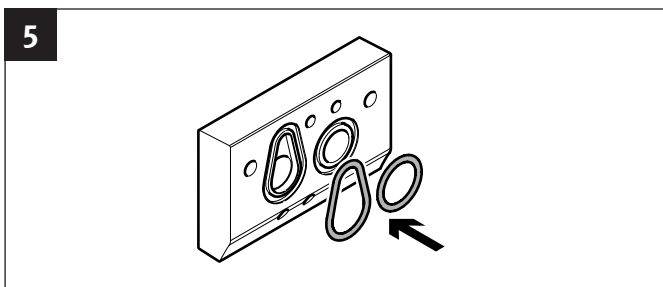
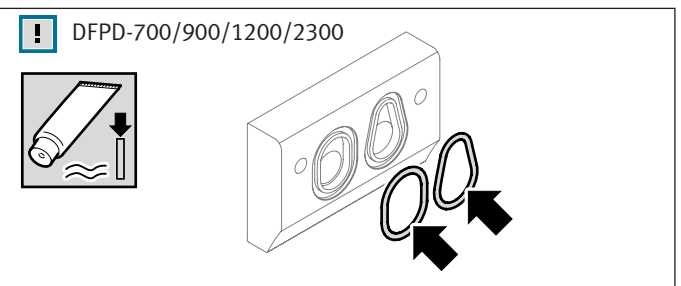
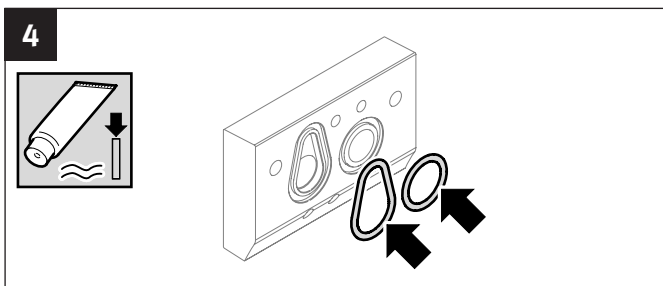
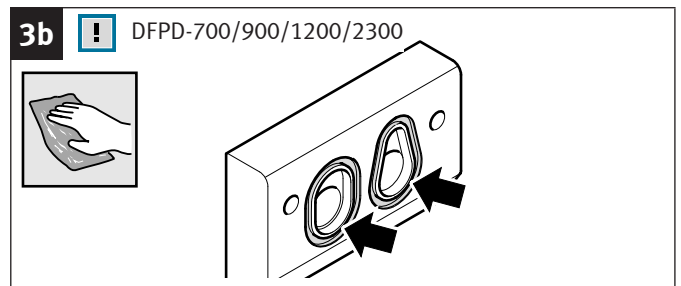
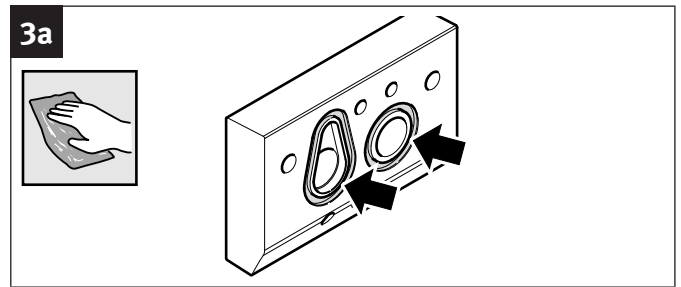
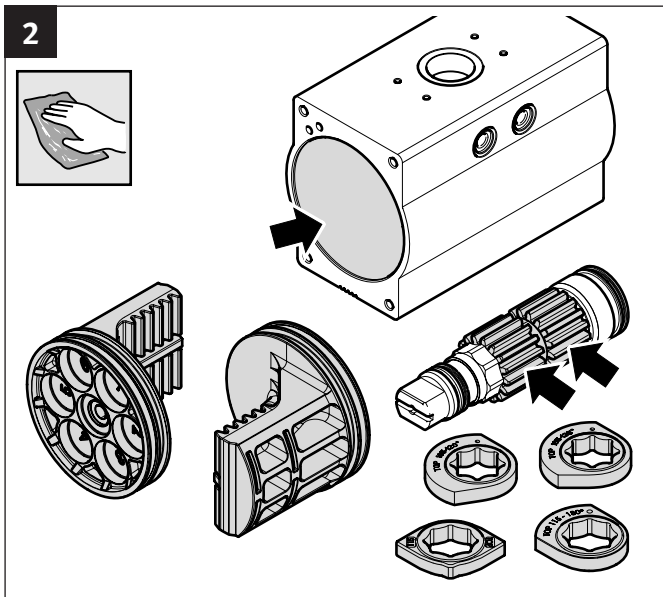
1a

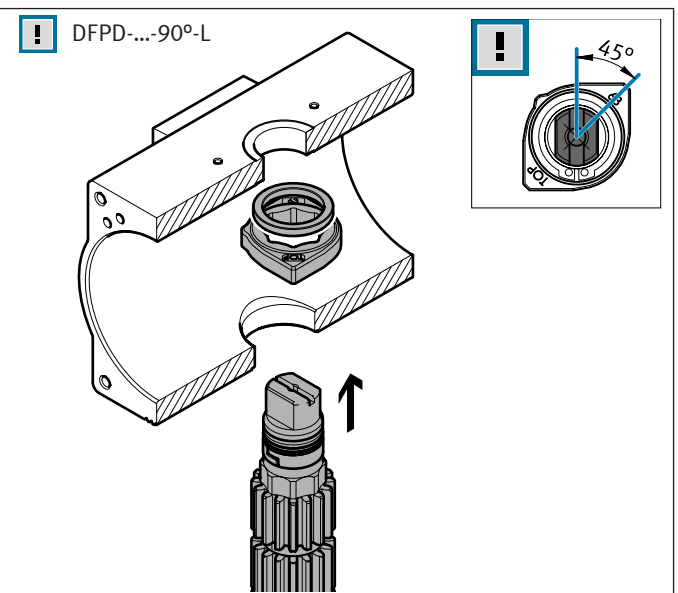
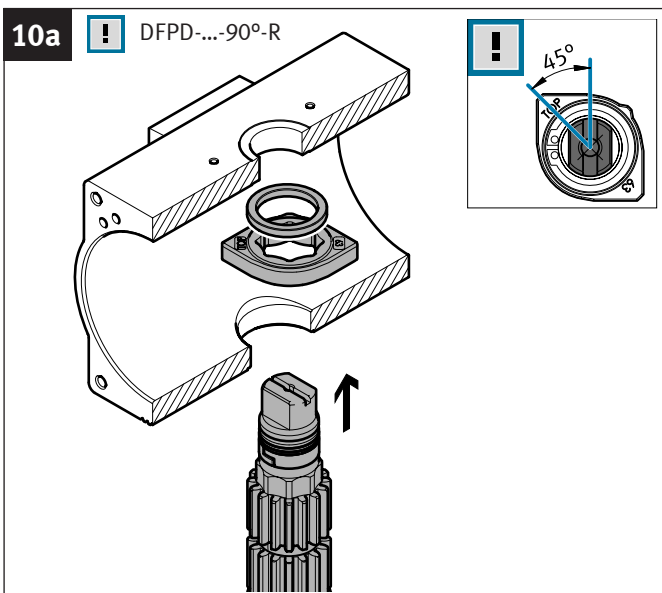
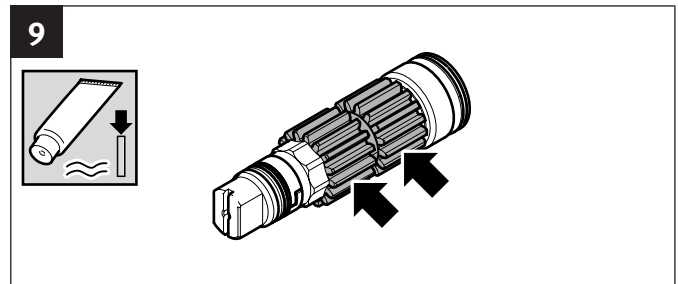
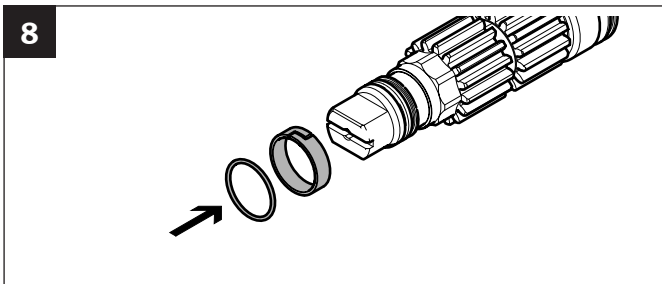
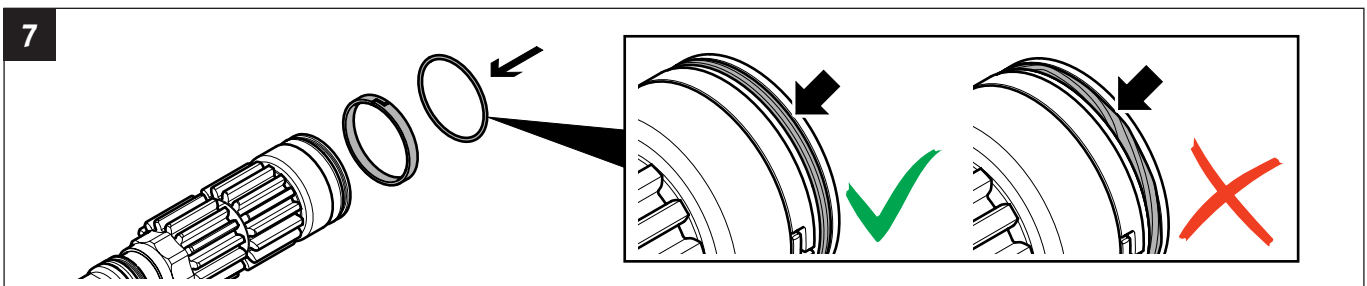
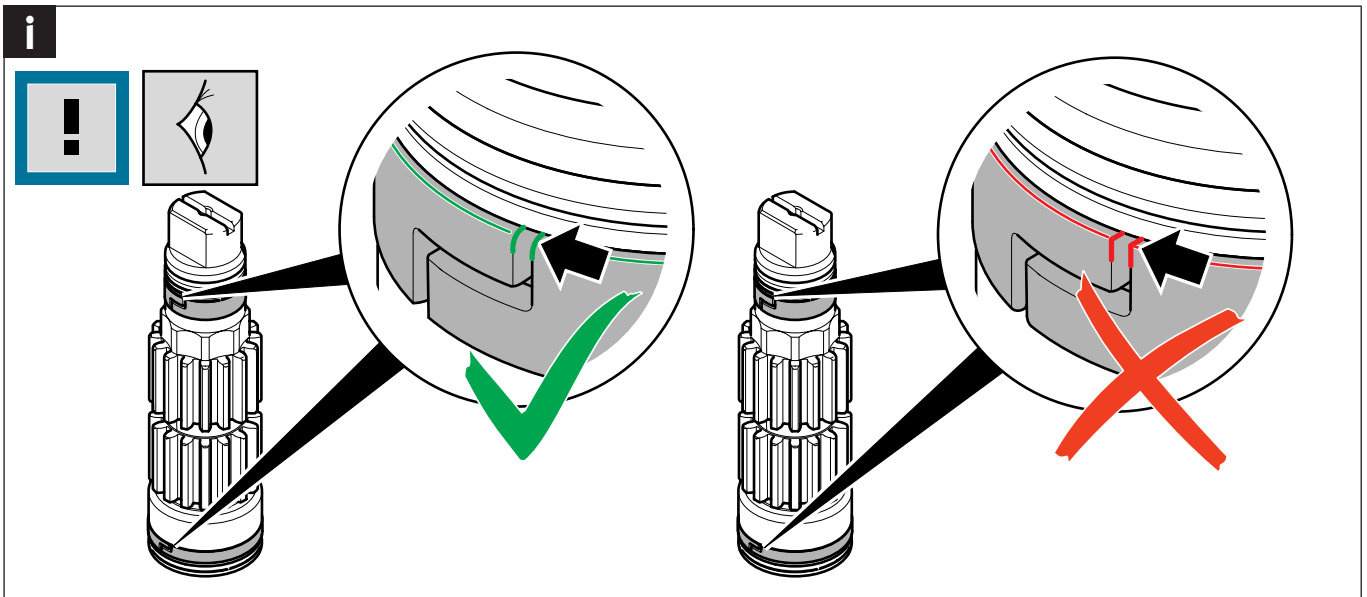


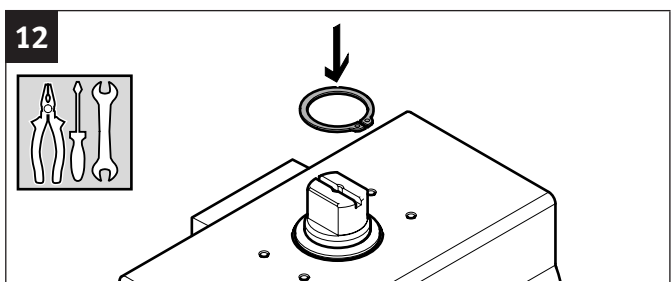
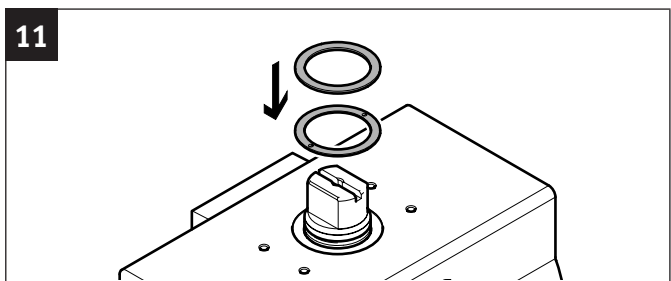
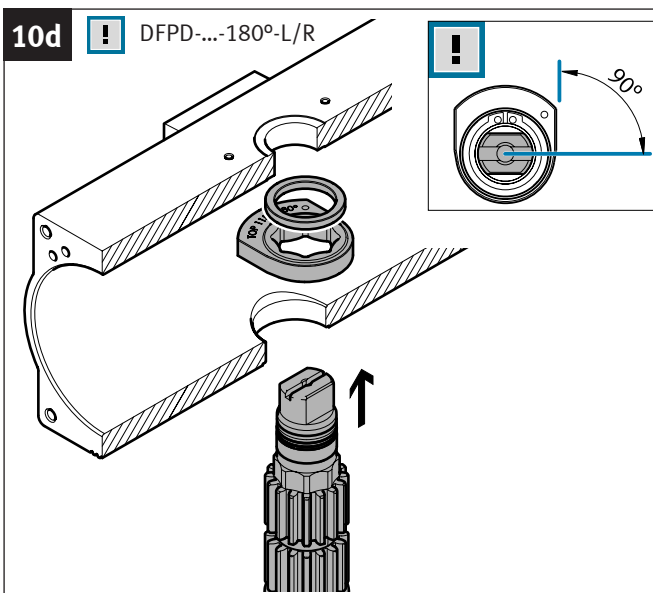
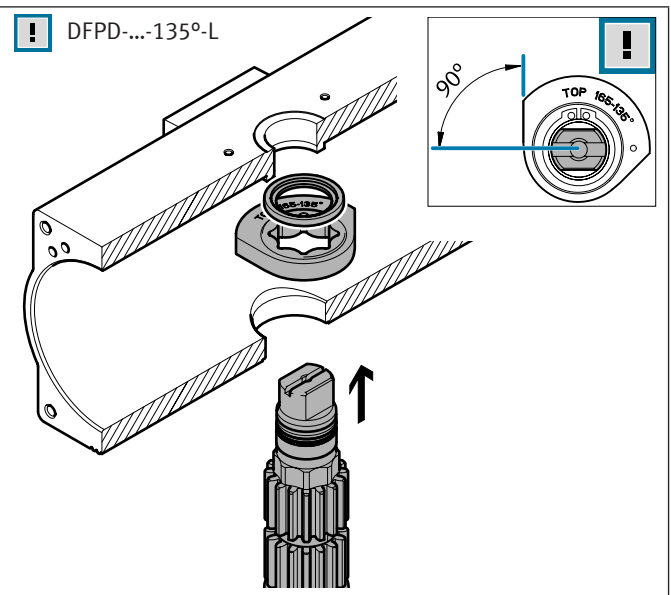
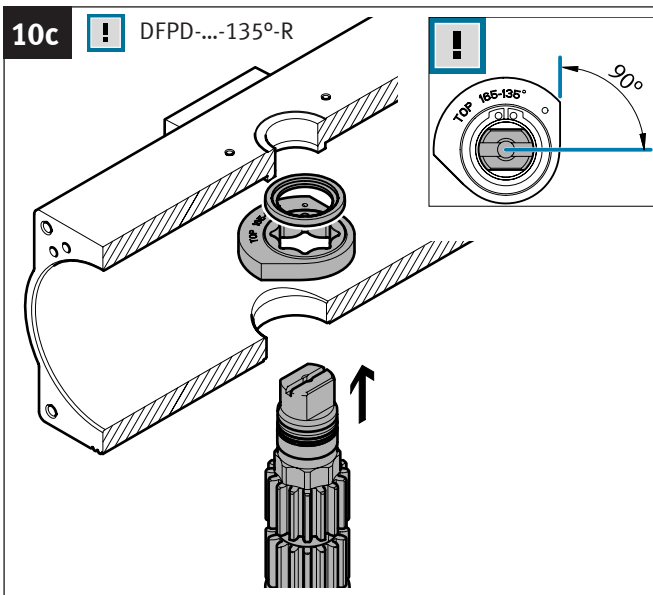
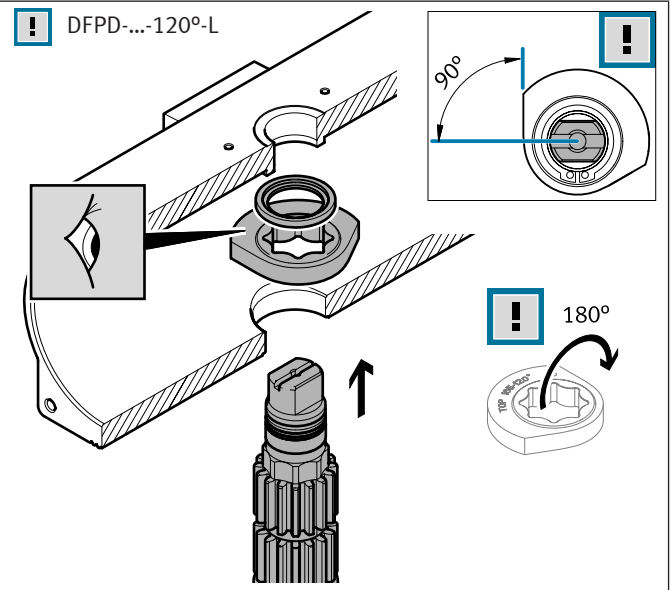
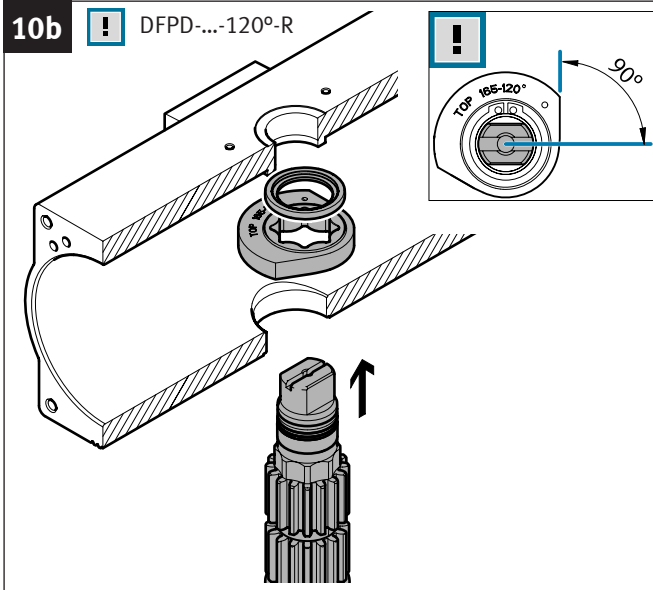
1b

! DFPD-700/900/1200/2300

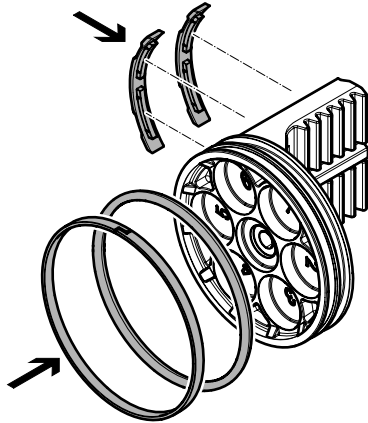




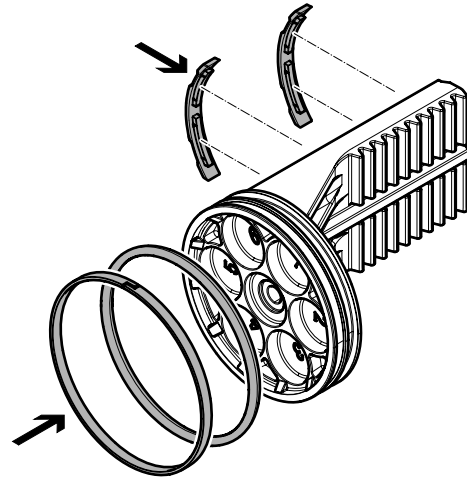




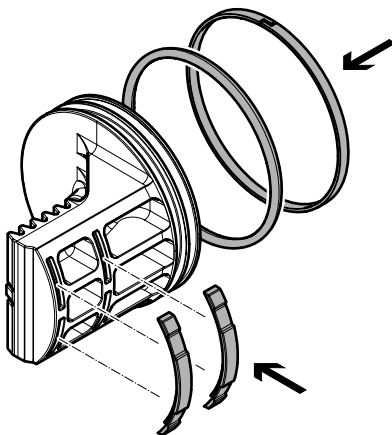
13 ! DFPD-...-90°



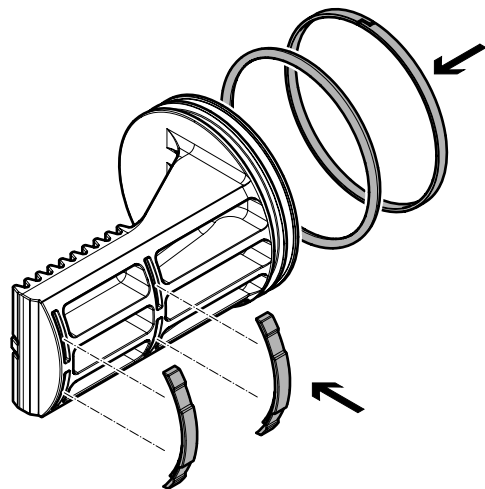
! DFPD-...-120°/135°/180°



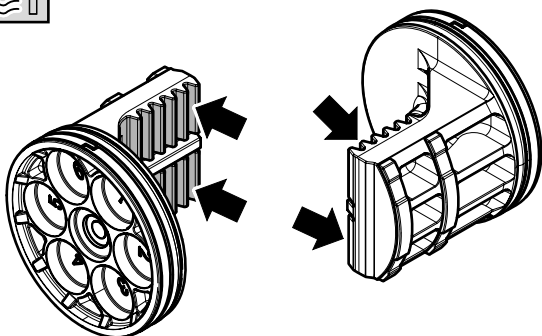
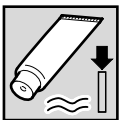
14 ! DFPD-...-90°



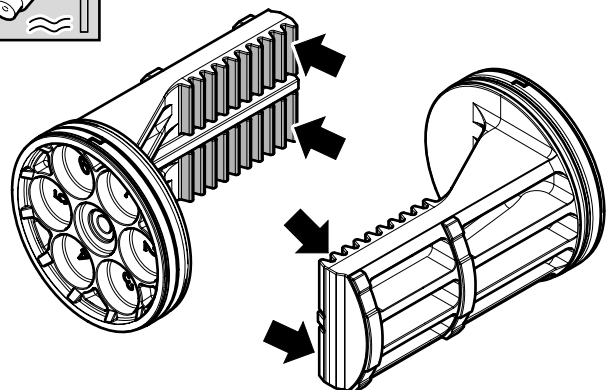
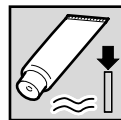
! DFPD-...-120°/135°/180°



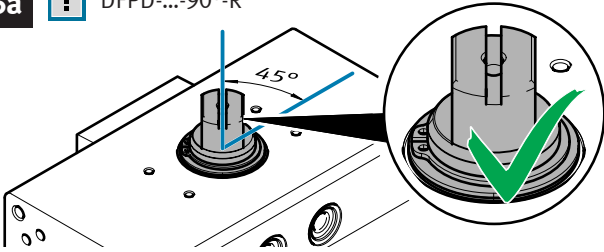
15 ! DFPD-...-90°



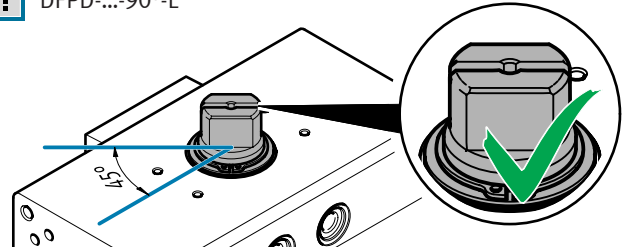
! DFPD-...-120°/135°/180°



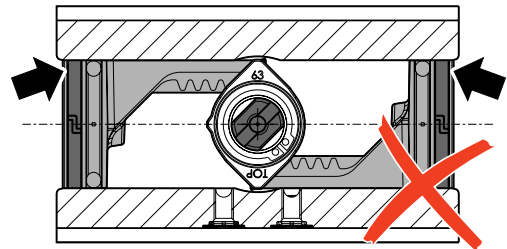
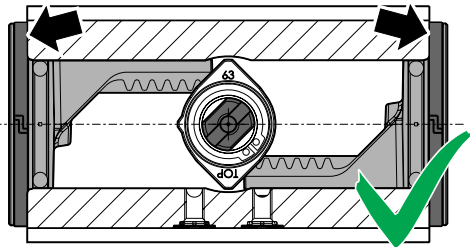
16a  DFPD-...-90°-R



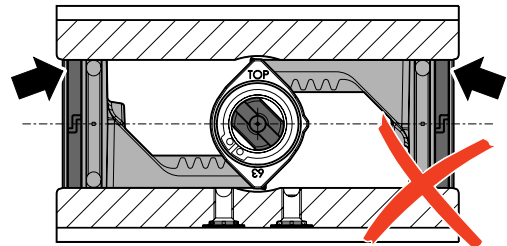
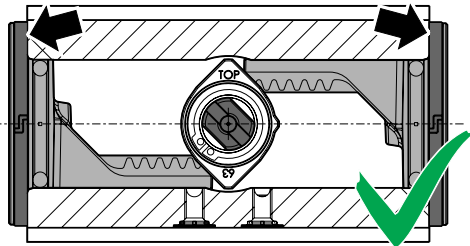
 DFPD-...-90°-L



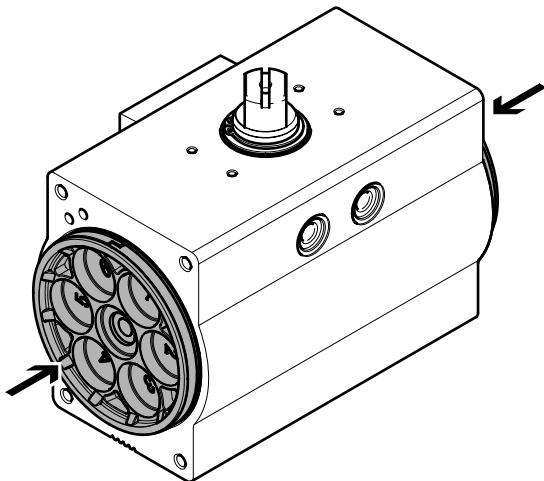
  DFPD-...-90°-R



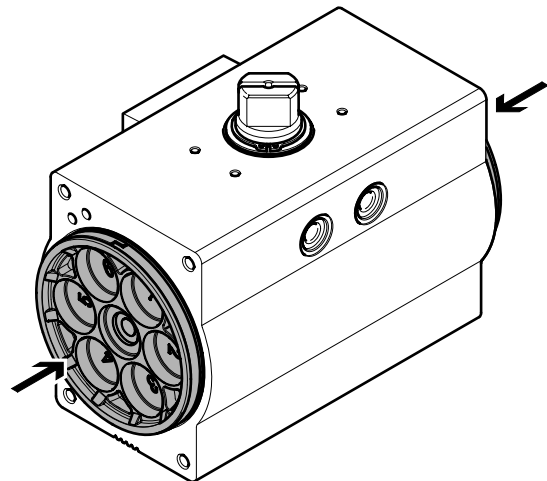
  DFPD-...-90°-L

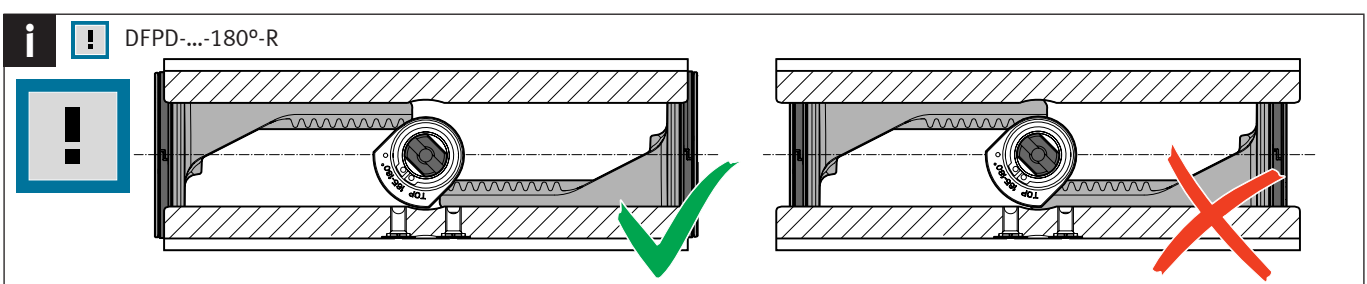
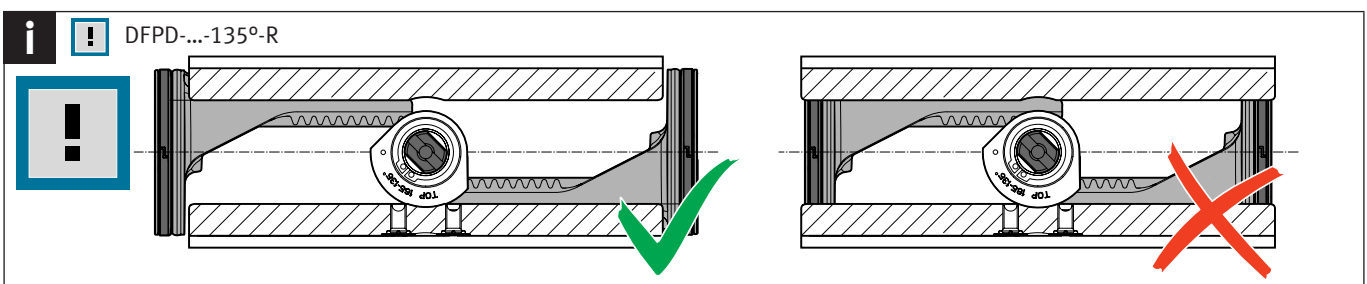
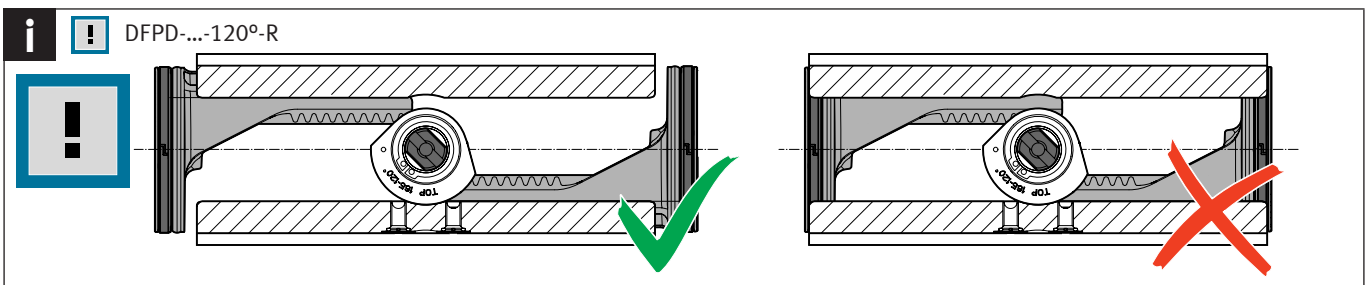
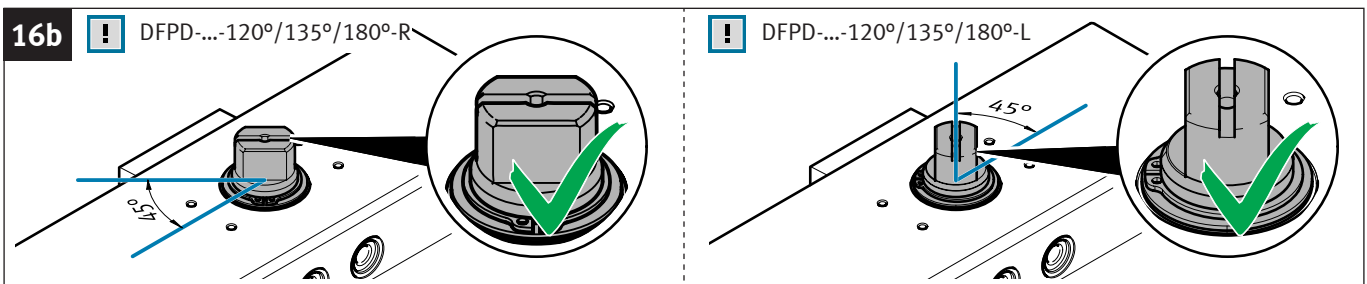
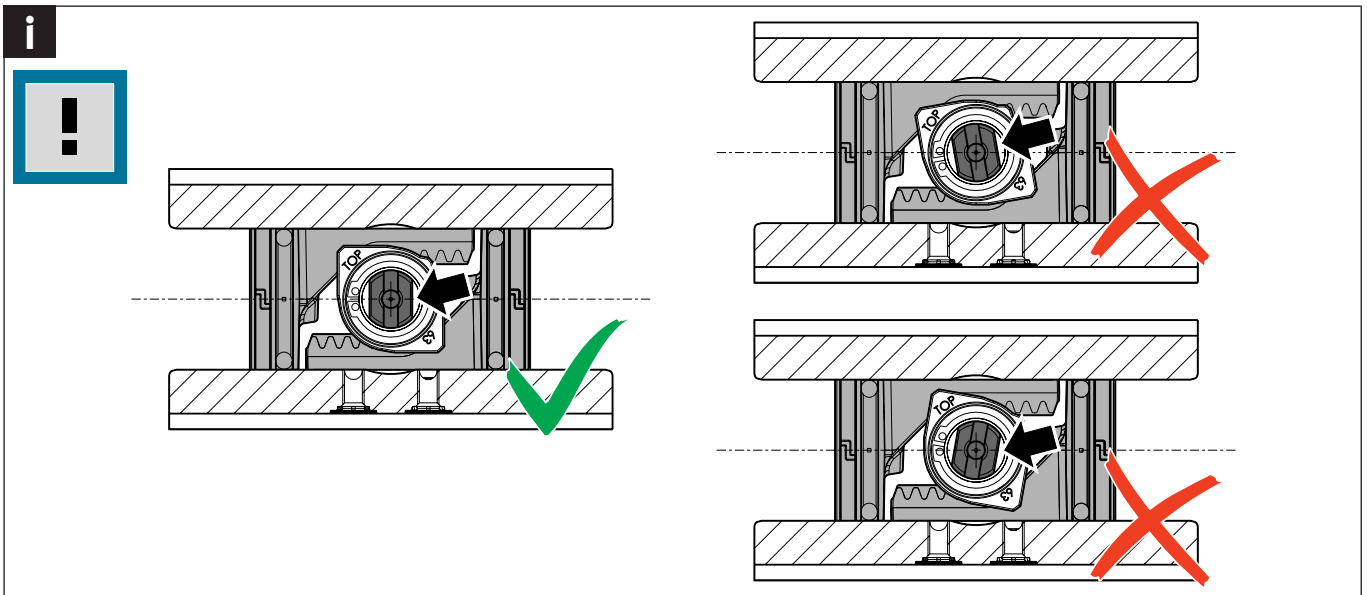


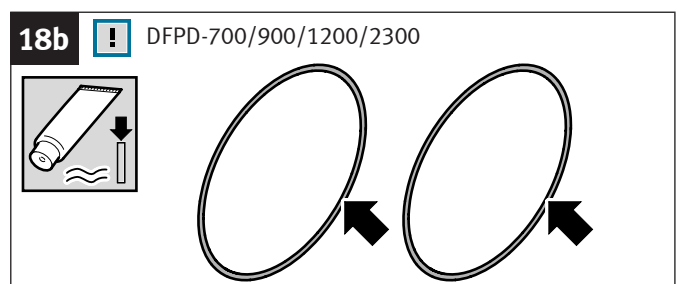
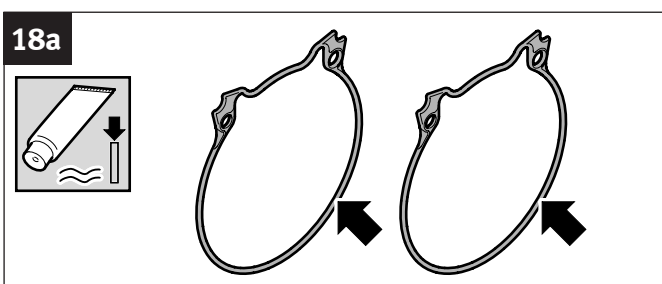
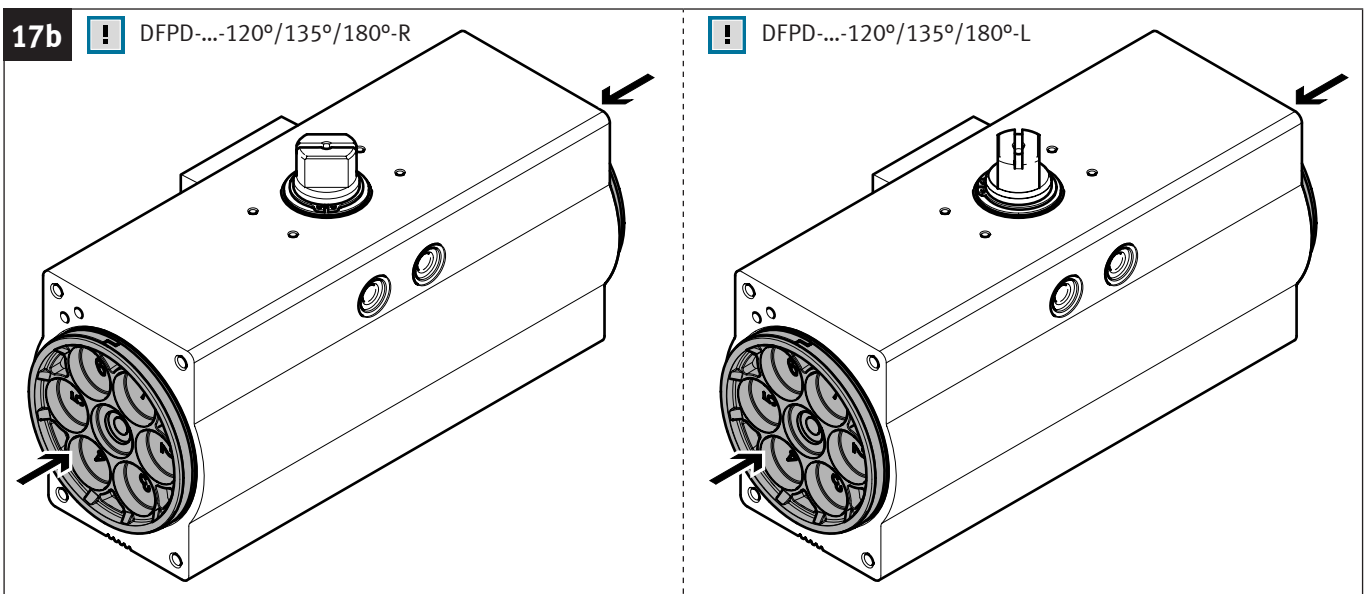
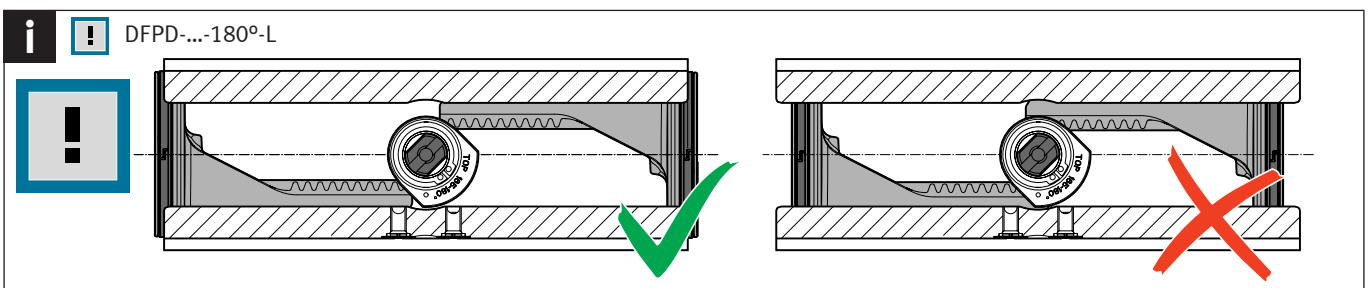
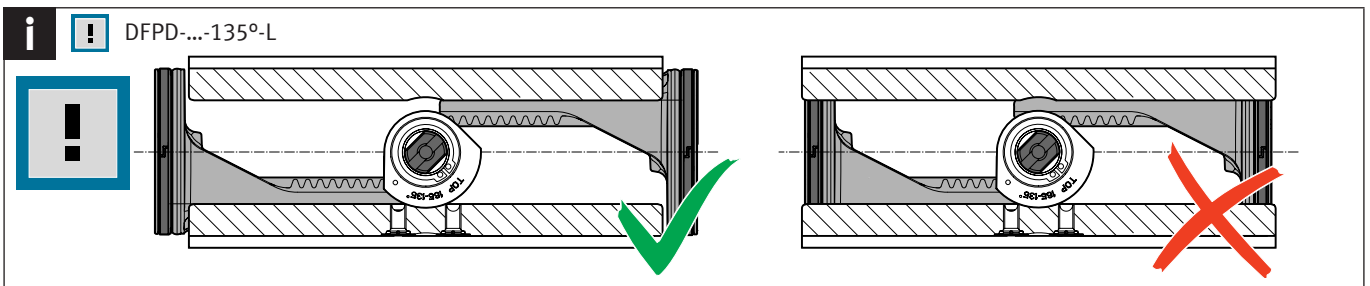
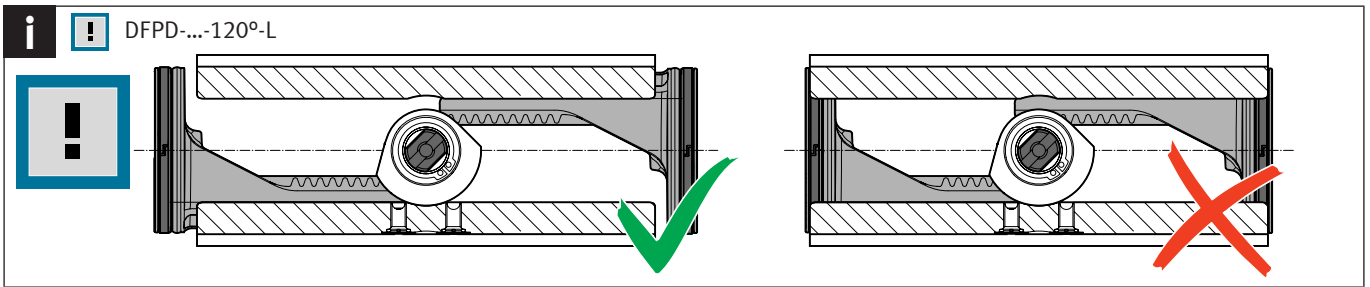
17a  DFPD-...-90°-R



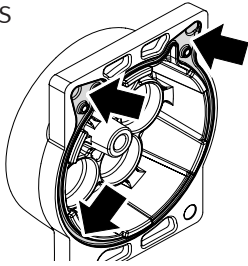
 DFPD-...-90°-L



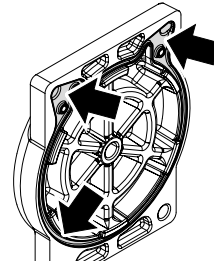




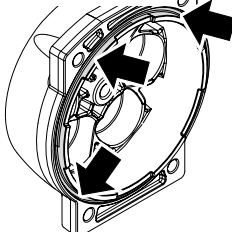
19a DFPD-...-S



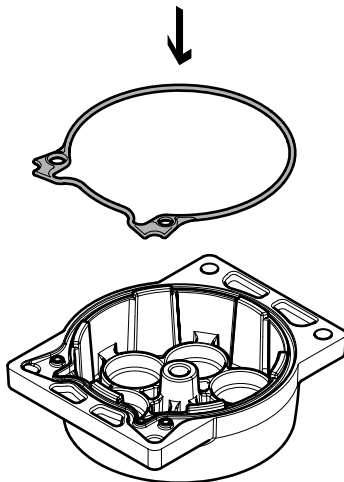
! DFPD-...-D



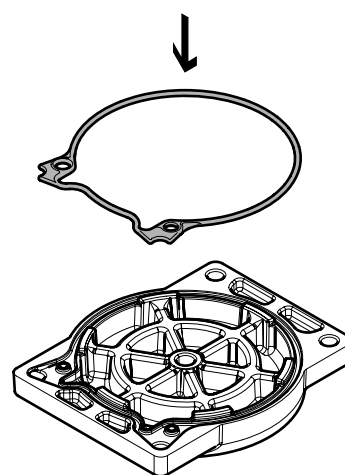
19b DFPD-700/900/1200/2300



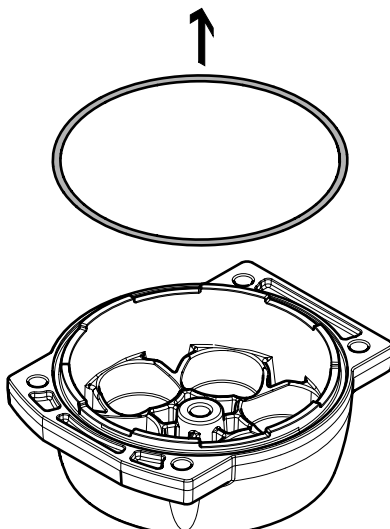
20a DFPD-...-S



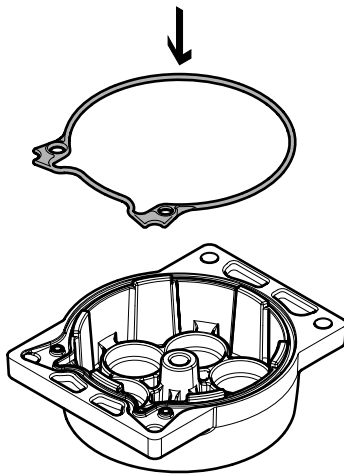
! DFPD-...-D



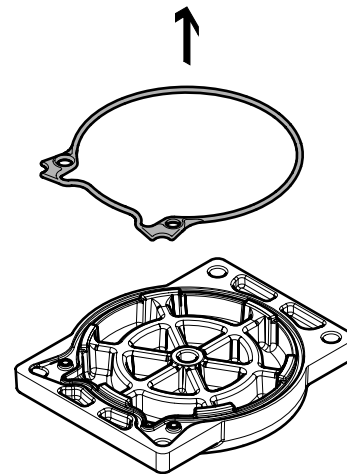
20b DFPD-700/900/1200/2300...-D+S



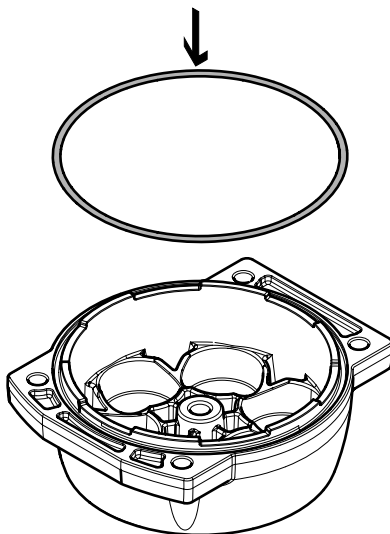
21a DFPD-...-S



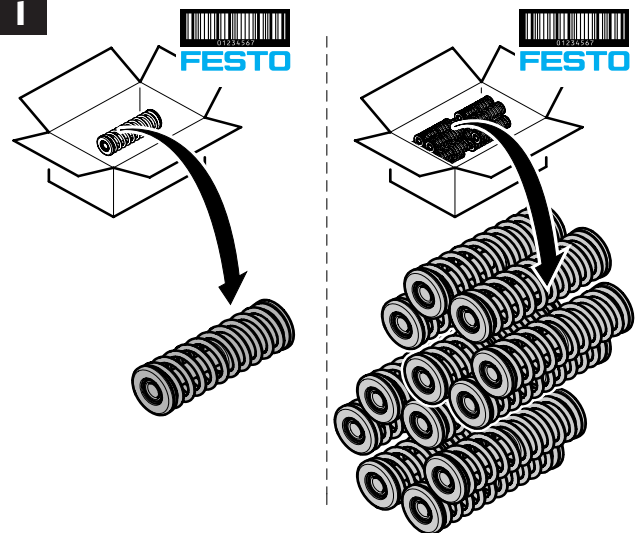
! DFPD-...-D



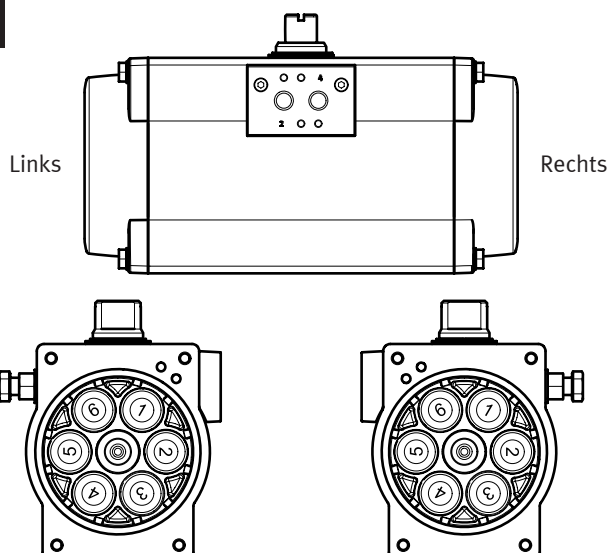
21b DFPD-700/900/1200/2300...-D+S



i

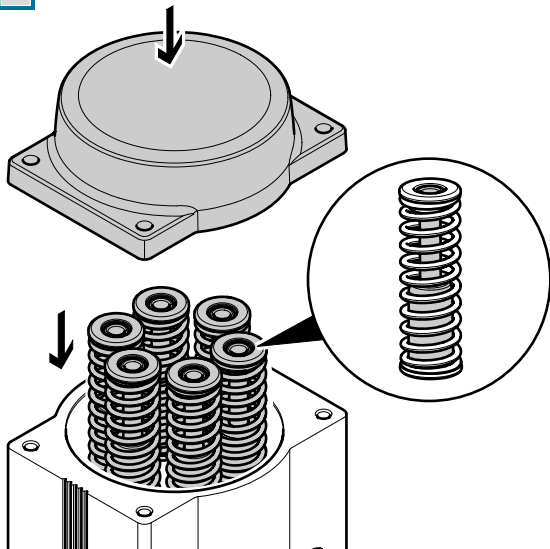


i

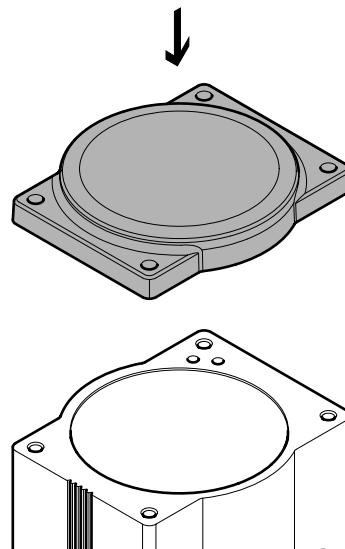


Type code	Positioning springs		Number of springs
	Left	Right	
20	2-5	2-5	4
25	2-5	2-4-6	5
30	2-4-6	2-4-6	6
35	2-4-6	1-3-4-6	7
40	1-3-4-6	1-3-4-6	8
45	1-3-4-6	1-3-4-5-6	9
50	1-3-4-5-6	1-3-4-5-6	10
55	1-3-4-5-6	1-2-3-4-5-6	11
60	1-2-3-4-5-6	1-2-3-4-5-6	12

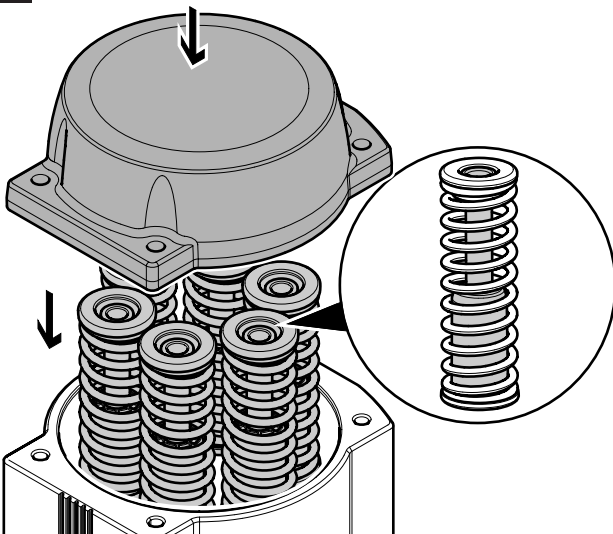
22a ! DFPD-...-S



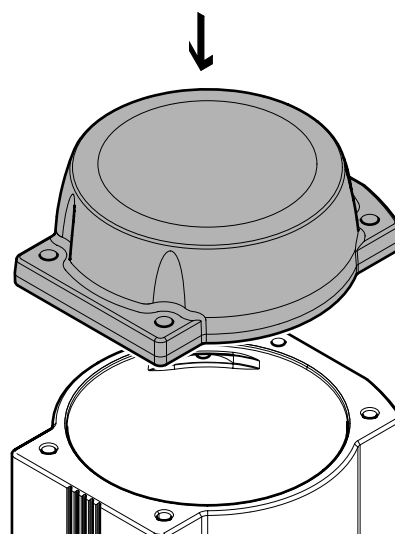
! DFPD-...-D



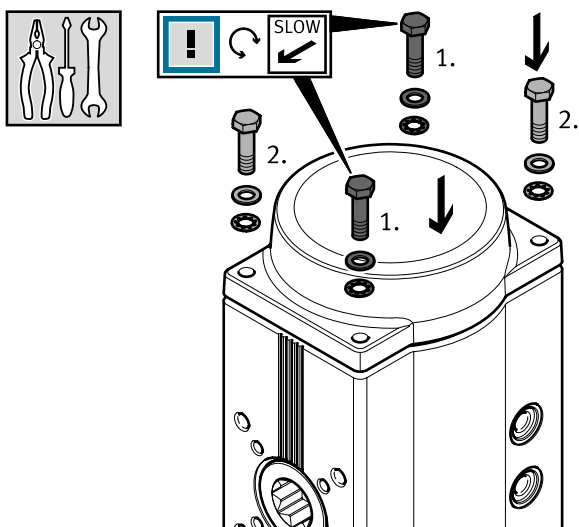
22b ! DFPD-700/900/1200/2300...-S



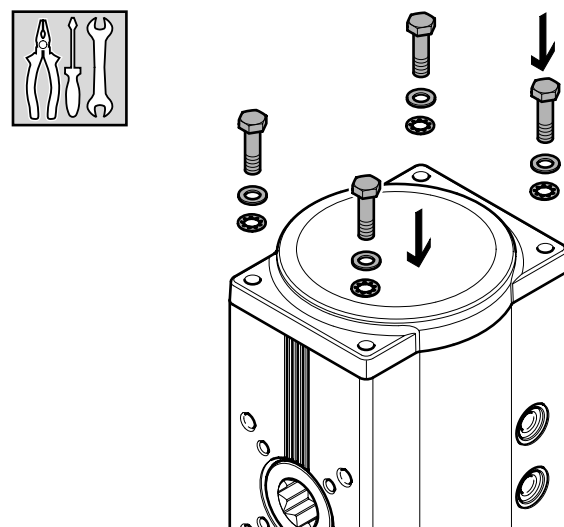
! DFPD-700/900/1200/2300...-D



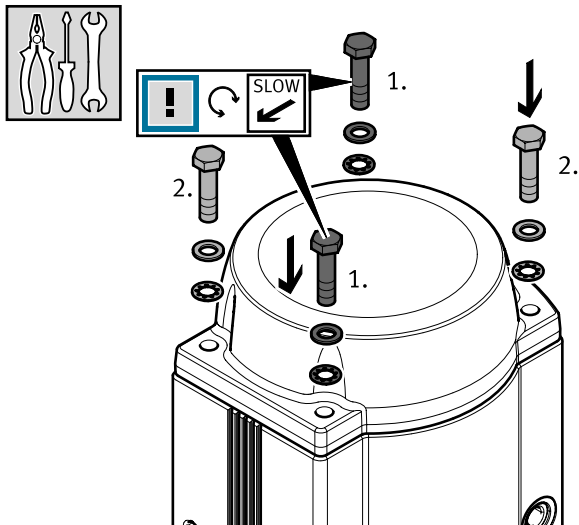
23a ! DFPD-...-S



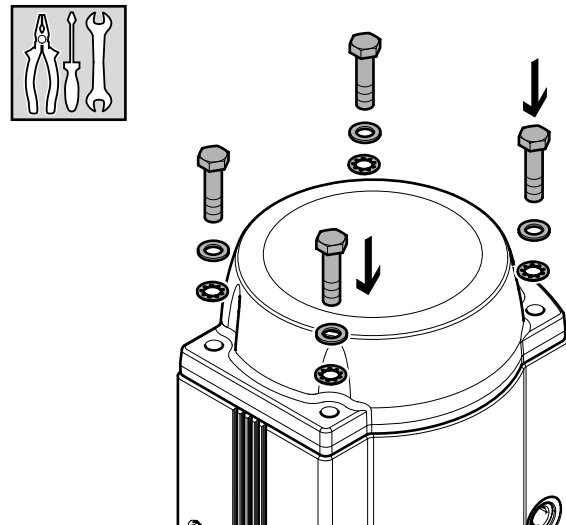
! DFPD-...-D



23b DFPD-700/900/1200/2300...-S



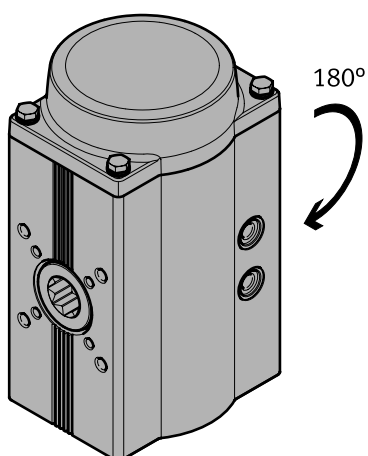
! DFPD-700/900/1200/2300...-D



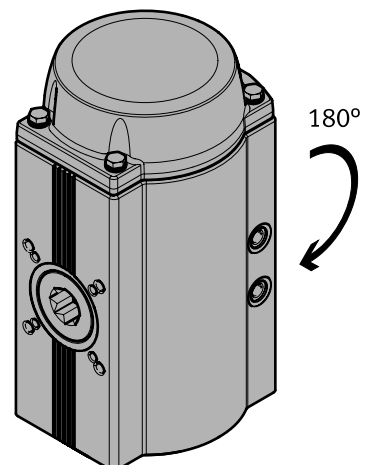
i

	 Nm
DFPD-10	3–4 Nm
DFPD-20	3–4 Nm
DFPD-40	10–11 Nm
DFPD-80	10–11 Nm
DFPD-120	22–25 Nm
DFPD-160	22–25 Nm
DFPD-240	22–25 Nm
DFPD-300	38–43 Nm
DFPD-480	38–43 Nm
DFPD-700	38–43 Nm
DFPD-900	60–70 Nm
DFPD-1200	70–80 Nm
DFPD-2300	115–125 Nm

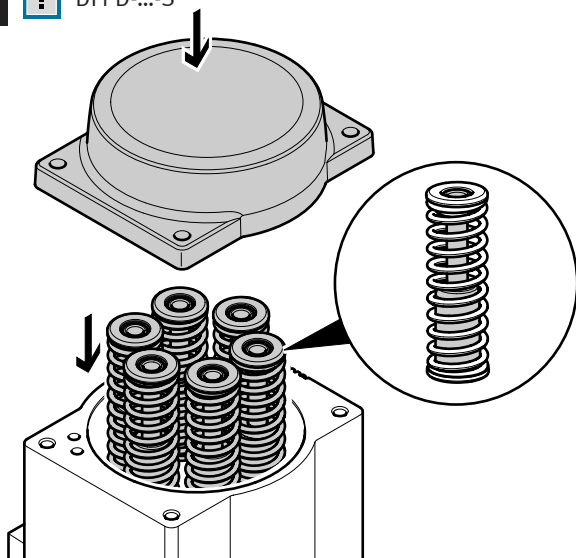
24 DFPD-...



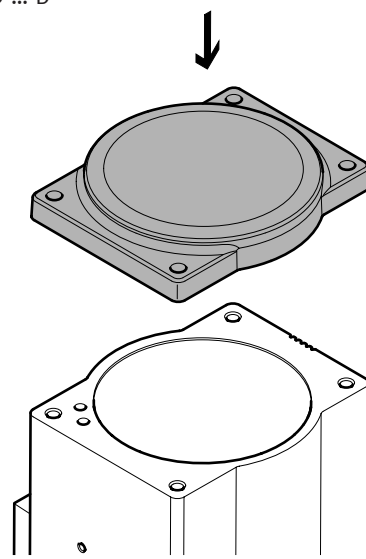
! DFPD-700/900/1200/2300...



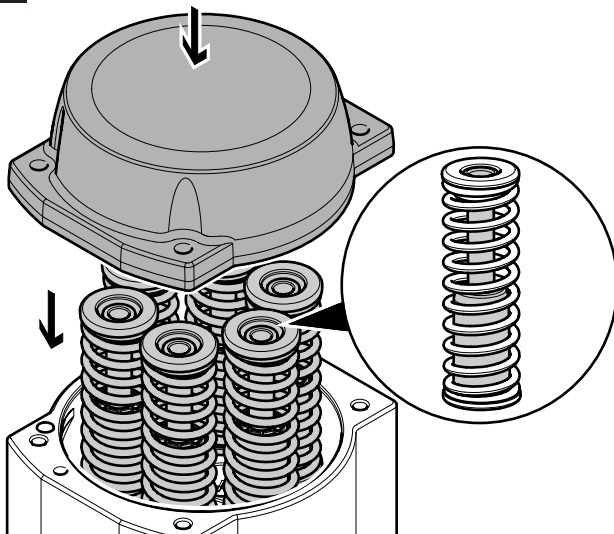
25a  DFPD-...-S



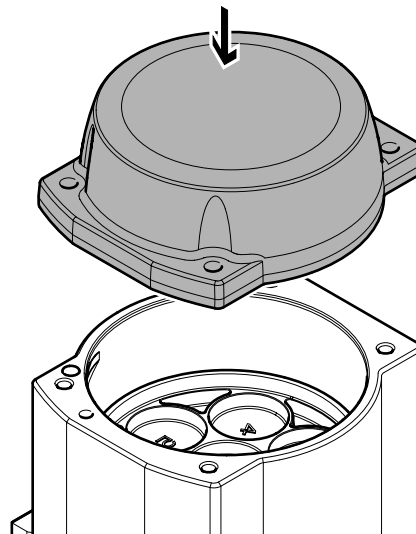
! DFPD-...-D



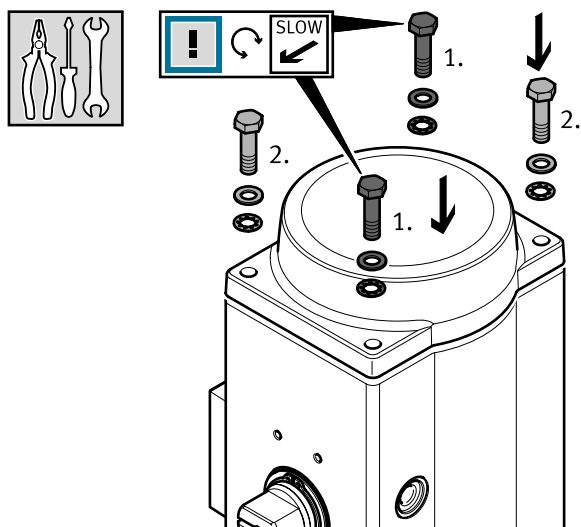
25b  DFPD-700/900/1200/2300...-S



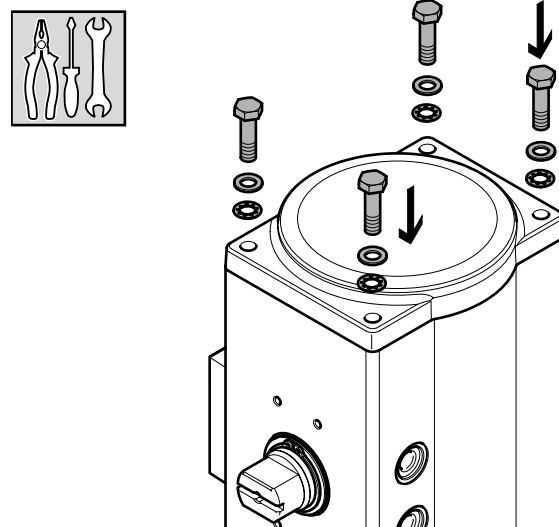
! DFPD-700/900/1200/2300...-D



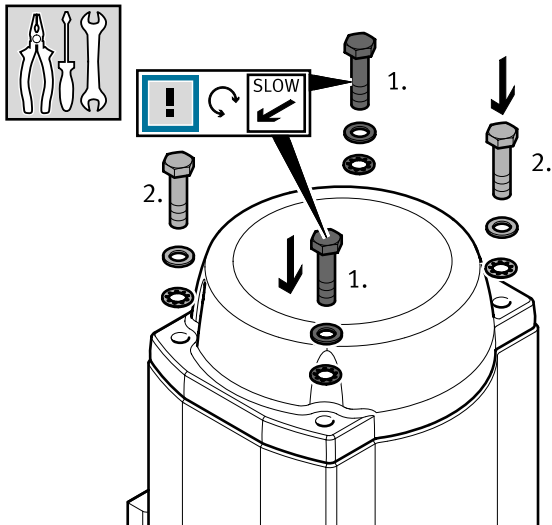
26a  DFPD-...-S



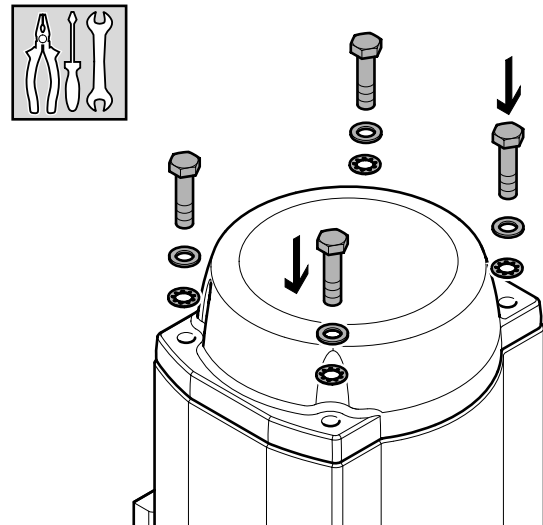
! DFPD-...-D



26b DFPD-700/900/1200/2300....-S



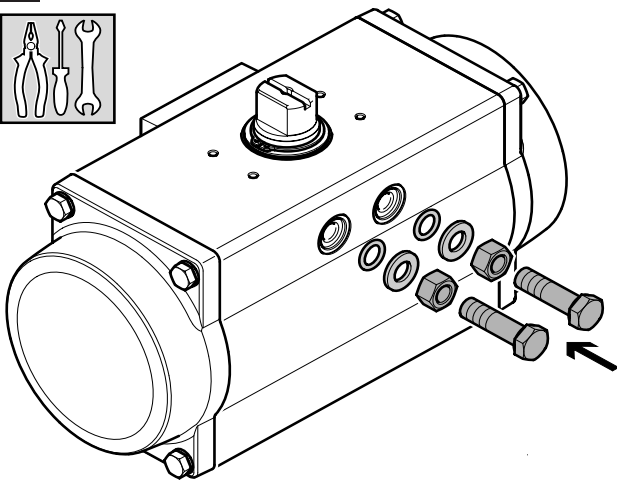
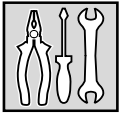
! DFPD-700/900/1200/2300....-D



i

	 Nm
DFPD-10	3–4 Nm
DFPD-20	3–4 Nm
DFPD-40	10–11 Nm
DFPD-80	10–11 Nm
DFPD-120	22–25 Nm
DFPD-160	22–25 Nm
DFPD-240	22–25 Nm
DFPD-300	38–43 Nm
DFPD-480	38–43 Nm
DFPD-700	38–43 Nm
DFPD-900	60–70 Nm
DFPD-1200	70–80 Nm
DFPD-2300	115–125 Nm

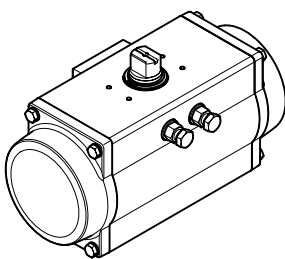
27



	 Nm
DFPD-10	10–11 Nm
DFPD-20	10–11 Nm
DFPD-40	10–11 Nm
DFPD-80	22–25 Nm
DFPD-120	22–25 Nm
DFPD-160	38–43 Nm
DFPD-240	65–70 Nm
DFPD-300	65–70 Nm
DFPD-480	85–90 Nm
DFPD-700	85–90 Nm
DFPD-900	175–180 Nm
DFPD-1200	175–180 Nm
DFPD-2300	345–355 Nm

5 Start-up

1



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