

Butterfly Valve

MVF



10202511-IM008



© 2025 MST Stainless Steel Sdn Bhd (Minox)

All rights reserved. No part of this document may be reproduced or transmitted in any form without the prior written consent of MST (Minox).

This user guide is provided "as is." MST Stainless Steel Sdn Bhd (Minox) makes no representations or warranties, express or implied, regarding its accuracy or completeness. The company accepts no responsibility for any consequences arising from the use or misuse of this guide.

CONTENTS

1	General Description.....	5
1.1	Intended use	5
1.2	Storage	5
2	MINOX® Butterfly Valve	6
2.1	Purpose of use	6
2.2	Features	6
3	Technical Data	7
4	Installation.....	10
4.1	Unpacking/Delivery	10
4.2	General Installation.....	11
4.3	Installation of actuator or handle on the valve	12
4.4	Installation of position indication or control unit (optional)	13
4.5	Welding	14
5	Operation	15
5.1	Manual operation	15
5.2	Pneumatic operation	16
6	Maintenance	17
6.1	General maintenance	17
6.2	Recommended cleaning.....	19
7	Troubleshooting.....	20
8	Valve Assembly & Disassembly.....	21
8.1	Valve disassembly	21
8.2	Valve assembly.....	22
8.3	D85 actuator (SR) disassembly.....	23
8.4	D85 actuator (SR) assembly	24

CONTENTS

9	Spare Part List	25
9.1	Manual butterfly valve (Inch)	25
9.2	Manual butterfly valve (DIN)	27
9.3	D85 pneumatic butterfly valve (Inch)	29
9.4	D85 pneumatic butterfly valve (DIN)	31
9.5	A63 pneumatic butterfly valve (Inch)	33
9.6	A63 pneumatic butterfly valve (DIN)	35

1 General Description

This manual should be read carefully by all personnel involved in operation and maintenance.

Liability for any damages or issues resulting from non-compliance with these instructions will not be accepted.

It should also be noted that descriptions and specifications in this manual may be subject to technical changes.

1.1 Intended use

The butterfly valve is designed for the purposes outlined in Chapter 2.1. Any use beyond what is described in that chapter does not adhere to regulations, and MST (Minox) will not be held responsible for any resulting damages. The operator assumes full responsibility for risks.

Proper and safe operation of the butterfly valve requires appropriate transportation, storage, and professional assembly. Intended use also includes adherence to operating, service, and maintenance guidelines.

1.2 Storage

The butterfly valve should be stored in accordance with the following conditions:

- Storage area should be clean and dry at all times.
- Store the valve in a temperature-controlled area to protect gasket.
- Store the valve in a box and protect the inlet and outlet with end caps to prevent rust and contamination by foreign materials.
- Storage area should be checked periodically to ensure that these conditions are consistently maintained.

2 MINOX® Butterfly Valve

2.1 Purpose of use

MINOX® butterfly valves are used as shut-off valves and can be operated manually, pneumatically, or with a control device for fluid process applications.

In the food and beverage industry, they are commonly used to control the flow of liquids such as milk, juice, and beer. They are also compatible with clean-in-place (CIP) and sterilize-in-place (SIP) systems, ensuring hygienic operation. In the pharmaceutical and biotechnology sectors, sanitary butterfly valves are essential for maintaining sterile processing environments and ensuring product purity during the manufacture of drugs and other sensitive materials. Similarly, in the cosmetics industry, they help manage the flow of lotions, creams, and shampoos without compromising product quality.

The MINOX® butterfly valve is EHEDG-certified and features a smooth surface ($Ra \leq 0.8 \mu m$) along with a high-performance hygienic design, making it ideal for applications where contamination must be avoided.

2.2 Features

The key features of MINOX® butterfly valve include:

- Operation by manual turning handle or pneumatic actuator with air connection.
- Available in different actuator assemblies:
 - NC (normally close): Air-to-open, spring-to-close.
 - NO (normally open): Air-to-close, spring-to-open.
 - DA (double acting): Air-to-open, air-to-close (no spring return).
- Compatible with optional control head integration – *refer to MINOX® CS10 Instruction Manual*.
- Valve status display via LED in the control head.
- EHEDG certified.

3 Technical Data

Material

Body	SS 304L SS 316L
Seal	EPDM Silicone FKM

Working Condition

Maximum working temperature	-10 to 135°C (EPDM) -10 to 170°C (Silicone) -10 to 200°C (FKM)
Maximum working pressure	
1" – 4" (DN15 – DN100)	10 bar
DN125 – DN150	7 bar
DN200	5 bar

Physical Data

Internal surface finish	$Ra \leq 0.8\mu m$
Process connection	Weld end, clamp end, SMS or DIN ends
Size	1" – 4" DN15 – DN200 (available bigger size for powder process)

Operation Type

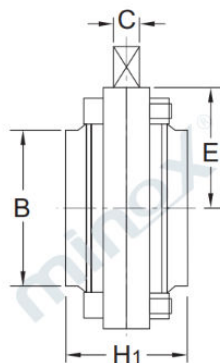
Manual	Pull handle with 3-position Gripper handle with 12-position
Auto	Pneumatic actuator Control unit (CS 10)

Pneumatic Data

Air quality	Class 3,3,3 acc. to DIN ISO 8573-1
Air pressure for actuator	5 – 7 bar
D85/A63	

3 Technical Data

Dimension



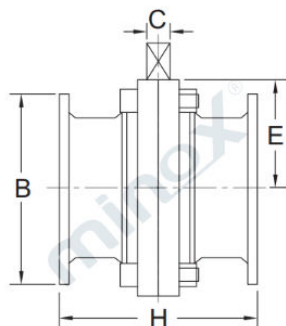
Butterfly Valve – Weld End

Size (Inch)	B (mm)	C (mm)	E (mm)	H1 (mm)
1.0"	25.4/22.4 x 1.5	8	32.0	46
1.5"	38.1/35.1 x 1.5	8	37.5	47
2.0"	50.8/47.8 x 1.5	8	44.0	52
2.5"	63.5/60.5 x 1.5	8	52.0	54
3.0"	76.2/73.2 x 1.5	10	57.5	62
4.0"	101.6/97.6 x 2.0	12	73.0	76

Size (DIN)	B (mm)	C (mm)	E (mm)	H1 (mm)
15	19/16 x 1.5	8	39.0	50
20	23/20 x 1.5	8	39.0	50
25	29/26 x 1.5	8	39.0	50
32	35/32 x 1.5	8	43.0	50
40	41/38 x 1.5	8	45.0	50
50	53/50 x 1.5	10	53.0	52
65	70/66 x 2.0	10	62.0	56
80	85/81 x 2.0	10	69.5	60
100	104/100 x 2.0	10	79.5	64
125	129/125 x 2.0	12	92.5	80
150	154/150 x 2.0	14	107.5	90
200	204/200 x 2.0	17	150.0	74

3 Technical Data

Dimension



Butterfly Valve – Clamp End

Size (Inch)	B (mm)	C (mm)	E (mm)	H (mm)
1.0"	50.5	8	32.0	90
1.5"	50.5	8	37.5	90
2.0"	64.0	8	44.0	95
2.5"	77.5	8	52.0	97
3.0"	91.0	10	57.5	105
4.0"	119.0	12	73.0	119

Size (DIN)	B (mm)	C (mm)	E (mm)	H (mm)
15	34.0	8	39.0	75.4
20	34.0	8	39.0	75.4
25	50.5	8	39.0	75.4
32	50.5	8	43.0	75.4
40	50.5	8	45.0	75.4
50	64.0	10	53.0	77.4
65	91.0	10	62.0	81.4
80	106.0	10	69.5	91.8
100	119.0	10	79.5	95.8
125	155.0	12	92.5	123.0
150	183.0	14	107.5	133.0
200	233.5	17	150.0	117.0

4 Installation

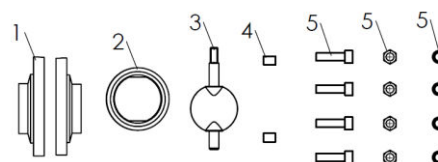
4.1 Unpacking/Delivery

Step 1 – Check the delivery

- Complete butterfly valve (see Step 2).
- Complete actuator, if supplied (see Step 3).
- Bracket and coupling for actuator, if supplied (see Step 3).
- Complete handle, if supplied (see Step 4).
- Delivery note.

Step 2 – Delivery of butterfly valve parts

- Two valve body halves (1).
- Valve gasket (2).
- Valve disc (3).
- Two bushes (4).
- Set of screws and nuts (5).

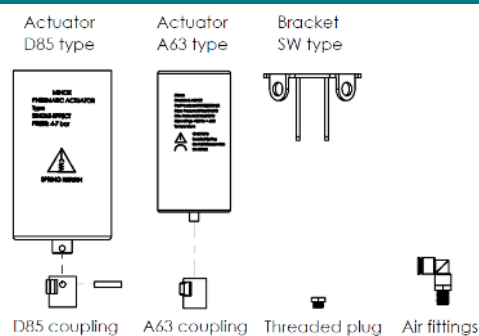


Notes:

1. Each box contains a complete butterfly valve.
2. The DIN butterfly valve does not include item (4).

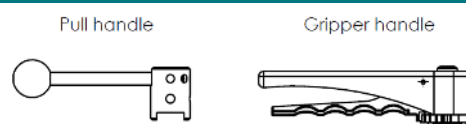
Step 3 – Delivery of actuator, bracket and coupling

- Actuator with coupling.
- Bracket with threaded plug.
- Air fittings.



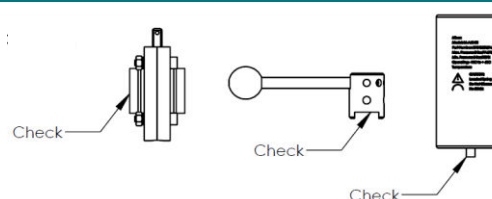
Step 4 – Delivery of handle

- Pull handle with socket screw set.
- Gripper handle with position wheel and screw.



Step 5 – Inspection

- Inspect the valve or valve's spare part for visible transport damage.
- Inspect the actuator/handle, if supplied.



4 Installation

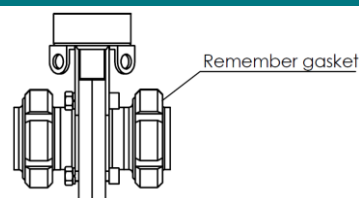
4.2 General Installation

Avoid stressing the valve during installation. Attention should be given to the following:

- Vibration on the pipeline.
- Thermal expansion of the pipeline during circulation of hot liquids.
- Excessive welding.
- Overloading on the pipeline.

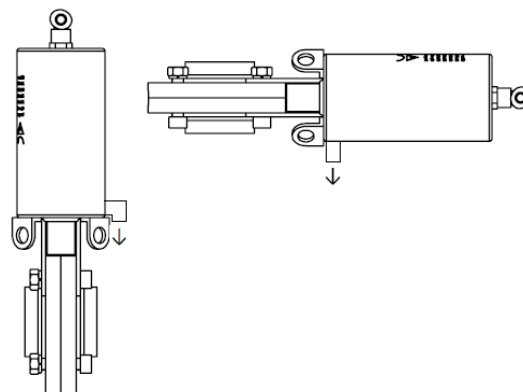
Step 1 – Fittings

- Ensure the connections are tight.



Step 2 – Position of actuator

- Always position the threaded plug facing downward.
- The actuator can be installed in any position.

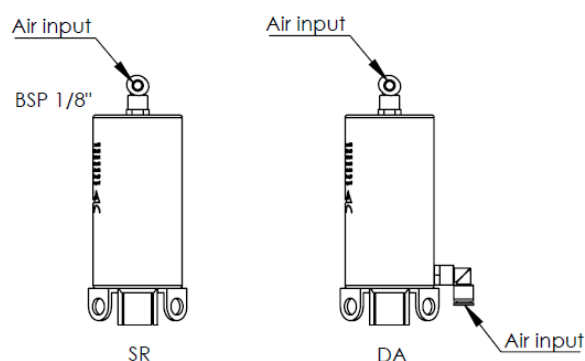


Step 3 – Air connection of actuator

- Connect compressed air correctly.

Pre-use check:

Open and close the valve several times to ensure that the valve disc moves smoothly against the gasket.

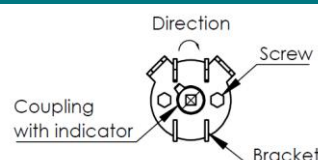


4 Installation

4.3 Installation of actuator or handle on the valve

Step 1 – Bracket and coupling with indicator

- Assemble the bracket and screw it in gently (do not fully tighten).
- Fit the coupling with the indicator pointing to the first position, as shown.

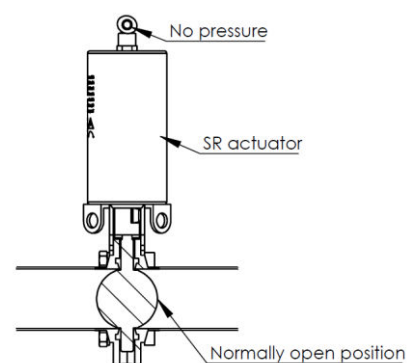
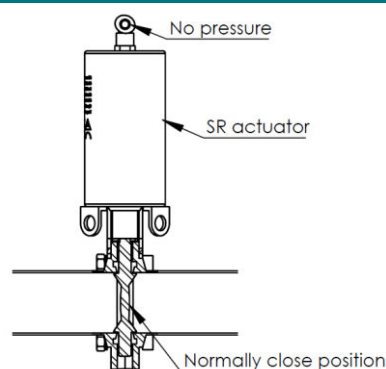


Step 2 – Normally close (NC) and normally open (NO) actuator

- Manually turn the valve disc to the closed (NC) or open (NO) position.
- Ensure that the valve is fully closed (NC) or open (NO) by checking the position of the valve disc, as shown.
- Assemble the actuator, bracket, and coupling onto the valve in accordance with Chapter 8.2 Valve Assembly.

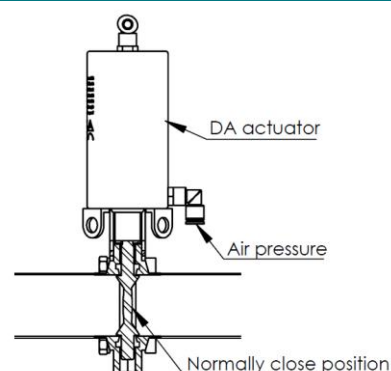
Note:

No pressure is required on the NC or NO actuator.



Step 3 – Double acting (DA) actuator

- Manually turn the valve disc to the closed position.
- Ensure that the valve is fully closed by checking the position of the valve disc stem, as shown.
- Assemble the actuator, bracket, and coupling onto the valve in accordance with Chapter 8.2 Valve Assembly.
- Supply compressed air to the actuator.



4 Installation

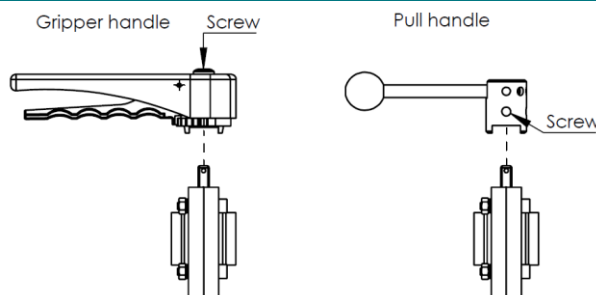
4.3 Installation of actuator or handle on the valve

Step 4 – Handle

- Assemble the gripper handle onto the valve and tighten the screws from the top.
- Assemble the pull handle onto the valve and tighten the screws from the side.

Pre-use check:

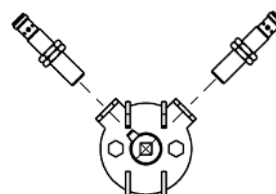
Open and close the valve several times to ensure that the valve disc moves smoothly against the gasket.



4.4 Installation of position indication or control unit (optional)

Step 1 – Position indication for valve with pneumatic actuator

- Pneumatic actuator valves equipped with a standard bracket are designed to accommodate two M12x1 proximity switches, which provide limit-position feedback for the valve disc.

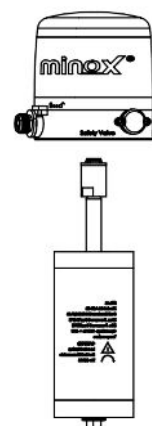


Step 2 – Control unit (CS 10)

- Actuator-mounted control unit (CS 10) with feedback switches for pneumatic valve operation are available in 24V DC and AS-I communication versions.

Note:

Refer to the MINOX® CS10 Instruction Manual for additional information.



4 Installation

4.5 Welding

1. Dismantle the valve insert from the housing according to Chapter 8.1 Valve Disassembly. Careful handling to avoid damage to the parts is necessary.
2. Weld the valve housing without sealing rings into the pipeline system in a stress-free manner to prevent deformation of the valve body during the welding process.



Caution!

After welding the valve housing and performing any work on the piping, do not operate the valves until the corresponding areas of the installation and piping have been thoroughly cleaned and all welding residues have been removed.

Failure to clean the piping before operation may result in welding residue and debris entering the valves, potentially causing damage to the valve components and seals.

3. TIG orbital welding is the most appropriate method.
4. After welding, assemble the valve according to Chapter 8.2 Valve Assembly.
5. If these welding instructions are not followed, any resulting damage will not be covered by the warranty.

5 Operation

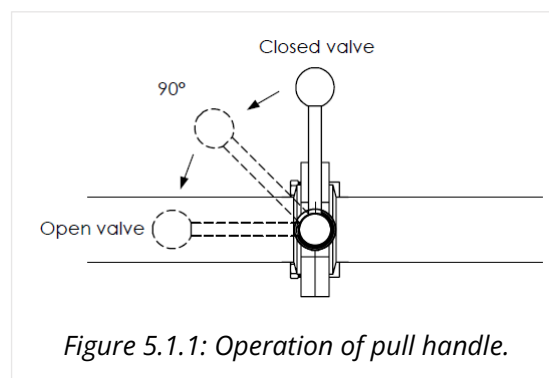
Before first start-up

1. Clean the piping system thoroughly to ensure that no foreign objects are trapped inside.
2. Verify the functionality of the control head or valve position indication, if installed.
3. Inspect for possible leakages during commissioning. Replace any defective seals immediately.

5.1 Manual operation

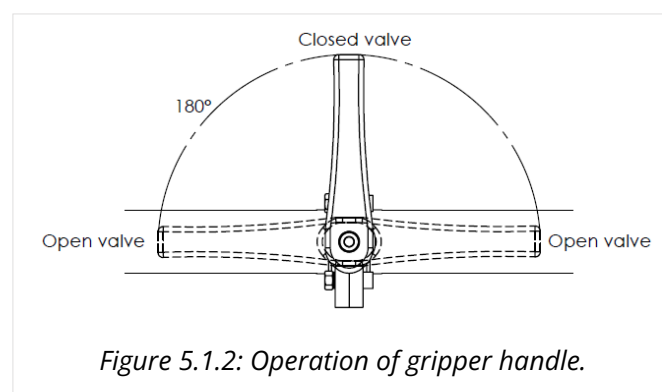
Pull handle

1. Pull the handle outward, then rotate it to open or close the valve, see *Figure 5.1.1*.



Gripper handle

1. Grip the handle and rotate it to the desired position, then release it.
2. The handle is adjustable within 180° for 12 positions, refer to *Figure 5.1.2*.

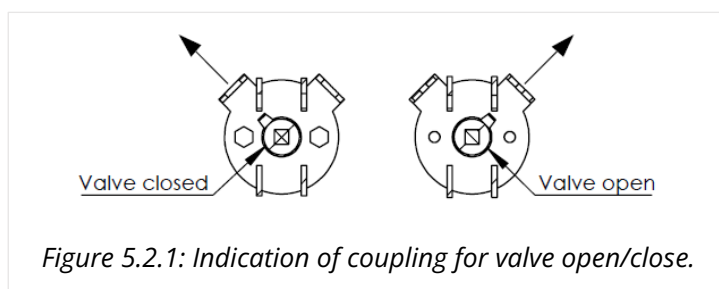


5 Operation

5.2 Pneumatic operation

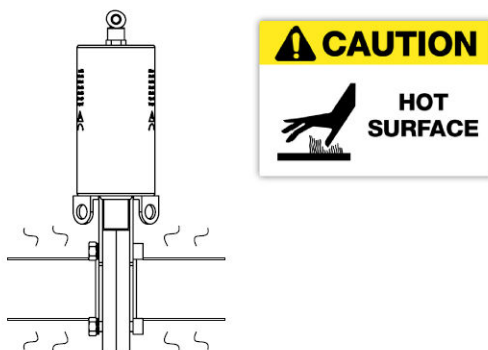
Pneumatic actuator with/without control head

1. Apply compressed air to the pneumatic actuator or control head, if installed.
2. Operate the valve by opening and closing it several times to ensure smooth and reliable movement, refer to *Figure 5.2.1*.



Notes:

1. Ensure smooth movement between the valve disc and gasket. If necessary, apply grease for lubrication.
2. Ensure smooth operation of the actuator (the actuator is pre-lubricated before delivery). Lubricate with appropriate oil if needed.



Caution!

- Do not touch the coupling between the valve body and the actuator when it is in charged with compressed air.
- Do not touch the valve or piping when handling hot liquids or during sterilization.
- Release the compressed air after use.

6 Maintenance

6.1 General maintenance

Read the maintenance instruction carefully. Always keep the spare service kits in stock for any necessary replacement. Always use MINOX genuine spare parts. Table 6.1.1 and Table 6.1.2 show the recommended action for maintenance.

Table 6.1.1: Maintenance guide for valve.

Recommended Action	Maintenance of Valve Gasket & Bushes
Preventive maintenance	- Replace after 12 months.
Maintenance after leakage	- Replace immediately.
Planned maintenance	- Regular inspection for leakage and smooth operation. - Keep a track record of the valve operation. - Use statistic for inspection planning. - Replace after leakage.
Lubrication	- Use FDA approved lubricant (e.g.: Dow Corning® 7 Release Compound).

Note:

Contact MINOX sales personnel to order spare service kits which can be found in the Chapter 9 Spare Part List.

6 Maintenance

6.1 General maintenance

Table 6.1.2: Maintenance guide for D85 actuator.

Recommended Action	D85 Actuator Seal Ring	D85 Actuator Bearing
Preventive maintenance	- Replace after 24 months.	- None.
Maintenance after leakage	- Replace when possible.	- None.
Planned maintenance	- Regular inspection for leakage and smooth operation. - Keep a track record of the valve operation. - Use statistic for inspection planning. - Replace after air leakage.	- Replace when they become worn.
Lubrication	- Molycote long term 2 Plus - Molycote 1132 (for aggressive environment)	- Molycote long term 2 Plus - Molycote 1132 (for aggressive environment)



Caution!

Before disassembling the valve's pipeline connections and clamps on the valve body, always take the following safety measures:

- Release the compressed air after use.
- Never service the valve when it is hot. Risk of burns!
- Never service the valve while the valve and pipeline are pressurized.
- Do not touch the coupling between the valve body and the actuator when it is in charged with compressed air.
- Do not stick your fingers through the valve ports if the actuator is supplied with compressed air.
- Disconnect electric and pneumatic connections.
- Ensure that no process operations are running in the relevant area during maintenance and repair.
- All pipeline system components connected to the valve must be completely drained.

6 Maintenance

6.2 Recommended cleaning

During CIP (clean-in-place) of the connected pipelines, the valve passages are cleaned by the circulating cleaning solution. The choice of cleaning agents, exposure time, and procedures should be based on the type and level of contamination. Ensure that the cleaning solution is chemically compatible with the sealing materials used.

1. Prepare 1% weight concentration of NaOH at 70°C.
For example,
NaOH (1kg) + water (100L) = alkaline cleaning agent
2. Prepare 0.5% weight concentration of HNO₃ at 70°C.
For example,
53% HNO₃ (0.7L) + water (100L) = acid cleaning agent

Note:

Use clean water free from chlorides.

3. The cleaning agent concentration should not be too high. Please add the cleaning agent gradually!
4. Adjust the cleaning agent flow rate according to the process. Increase the cleaning flow rate for milk/viscous liquid disinfection.
5. After cleaning, rinse with clean water.



Caution!

Always handle alkaline and acid with safety goggles and gloves.

Never touch the valve or pipeline when processing hot medium or sterilisation. Risk of burns!

Notes:

1. Cleaning agents must be stored/handled in accordance with current regulations/standard.
2. Above are the details on common CIP chemicals and general guidelines for use. It is recommended you contact your CIP engineering partner to purchase chemicals that are right for your needs.

7 Troubleshooting

Failures	Cause	Remedy
- External leakage - Internal leakage by closed valve (normal wear)	- Worn gasket	- Replace the gasket and the bushes
- External leakage - Internal leakage by closed valve (early stage)	- High pressure - High temperature - Aggressive liquids - Many activations	- Change the gasket with different rubber material - Change the operation conditions
- Difficult to open/close by manual operation - Damage of disc connection due to high torque	- Incorrect gasket cause to swelling	- Replace the gasket with different rubber material
- Difficult to open/close by pneumatic operation	- 90° displacement of the actuator - Incorrect actuator function (NC/NO) - Worn actuator bearings - Dirt penetration into the actuator	- Reassembly the actuator with bracket on the valve - Change from NC to NO or vice versa - Replace the actuator bearings - Service the actuator (D85 only)

Note:

Contact MINOX sales personnel if technical assistance is required.

8 Valve Assembly & Disassembly

8.1 Valve disassembly

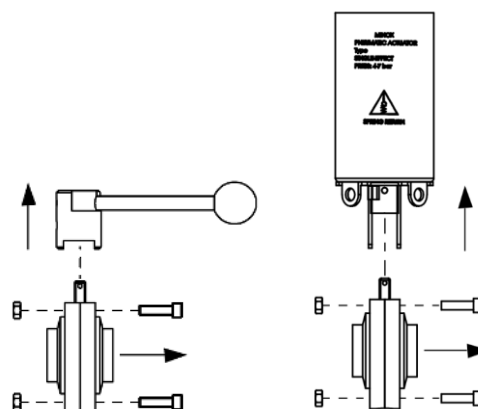
Step 1 – Handle or actuator

Valve with handle

- Detach the handle assembly from the valve body.
- Unscrew and remove the screw and nut from the valve body.

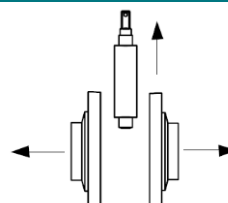
Valve with actuator

- Unscrew and remove the screw and nut from the valve body.
- Detach the actuator along with the mounting bracket from the valve.



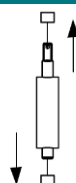
Step 2 – Disc

- Remove the gasket together with the valve disc.



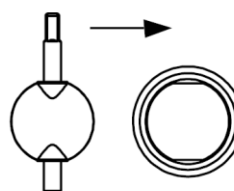
Step 3 – Bush

- Remove the bushes from the valve disc.



Step 4 – Gasket

- Detach the gasket from the valve disc carefully to avoid damaging the sealing surfaces.



8 Valve Assembly & Disassembly

8.2 Valve assembly

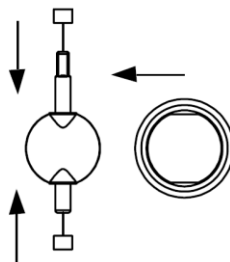
Step 1 – Gasket and bush

- Apply a suitable lubricant to the gasket hole.

Note:

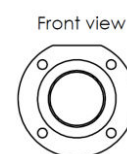
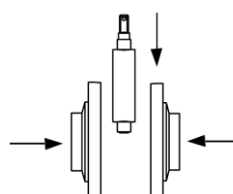
This step is especially important when using Silicone or FKM gasket.

- Align and assemble the gasket onto the valve disc.
- Insert the bushes securely into the designated positions on the valve disc.



Step 2 – Disc

- Position the valve body in the correct orientation as shown in the front view.
- Insert the valve disc with the gasket placed between the valve body halves. Ensure proper alignment before tightening.



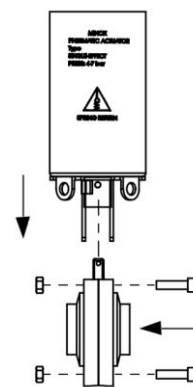
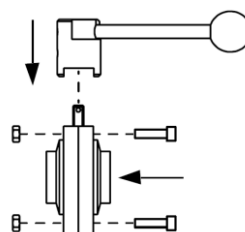
Step 3 – Handle or actuator

Valve with handle

- Rotate the valve disc to the open position before tightening the screws and nut.
- Attach the handle to the valve disc connection and securely tighten the screw.

Valve with actuator

- Assemble the actuator with bracket correctly. Refer to Chapter 4 Installation of actuator or handle on the valve for detailed instruction.
- Tighten the screw and nut to fix the bracket onto the valve. Finally, tighten the bracket screw to complete the assembly.



8 Valve Assembly & Disassembly

8.3 D85 actuator (SR) disassembly

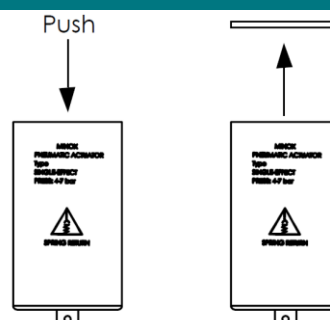
Step 1 – Retaining ring

Before disassembly, ensure that the compressed air is released.

- Press the end cap into the cylinder using the appropriate special tools.
- Remove the retaining ring.

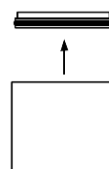
Note:

The DA actuator cannot be disassembled.



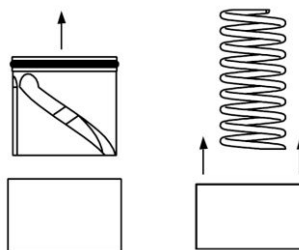
Step 2 – End cap

- Release the pressure on the end cap carefully and remove the end cap from the cylinder.



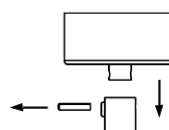
Step 3 – Piston and spring

- Remove the piston and spring from the cylinder.



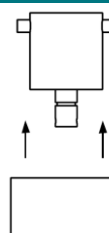
Step 4 – Pin and coupling

- Remove the pin and coupling from the rotating stem.



Step 5 – Rotating stem, bearing and O-ring

- Remove the rotating stem, bearing and O-rings from the cylinder.



8 Valve Assembly & Disassembly

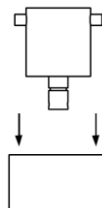
8.4 D85 actuator (SR) assembly

Step 1 – Rotating stem, bearing and O-ring

- Lubricate the rotating stem, bearing, and O-rings.
- Install the bearing and O-rings onto the rotating stem.
- Assemble the rotating stem into the cylinder.

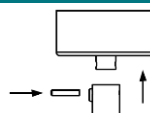
Note:

The DA actuator cannot be disassembled.



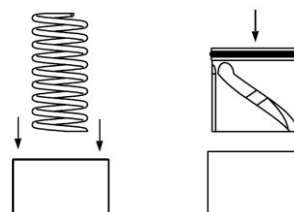
Step 2 – Pin and coupling

- Assemble the coupling onto the rotating stem and insert the pin to secure it.



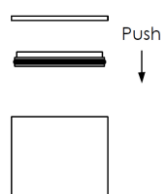
Step 3 – Piston and spring

- Install the spring onto the rotating stem and position the piston correctly.
- Align the piston threads according to the bearing orientation.



Step 4 – End cap and retaining ring

- Push the end cap into the cylinder and press down firmly using the appropriate special tools to allow installation of the retaining ring.
- Release the pressure on the end cap.



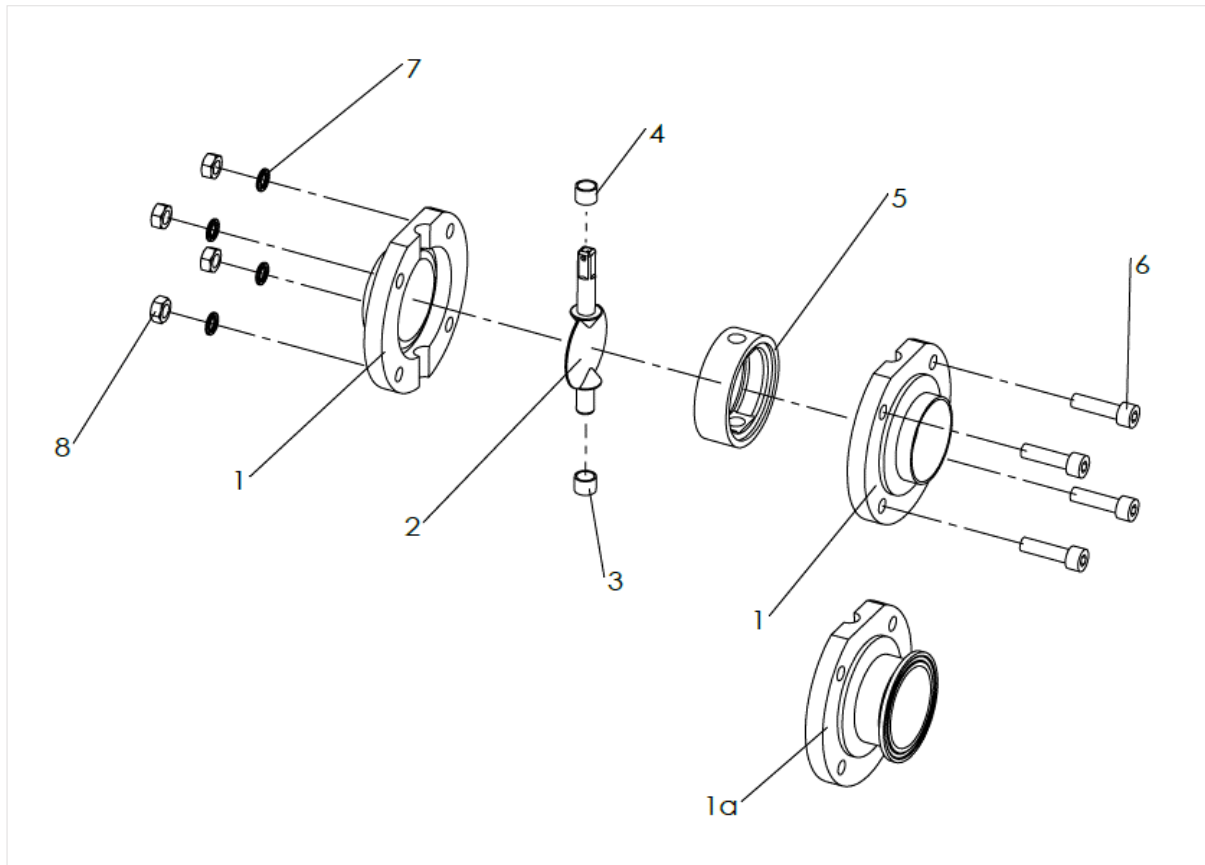
Step 5 – Pre-use check

- Supply compressed air to the actuator.
- Activate the actuator several times to ensure that it operates smoothly.



9 Spare Part List

9.1 Manual butterfly valve (Inch)



9 Spare Part List

9.1 Manual butterfly valve (Inch)

No.	Part Name	Qty.	Material
1	Valve body, half – weld end	2	304L 316L
1a	Valve body, half – clamp end	2	304L 316L
2	Disc	1	304L 316L
3* & 4*	Bush	2	PE PTFE
5*	Gasket	1	EPDM Silicone FKM
6	Screw	4 – 6	304
7	Spring washer	4 – 6	304
8	Nut	4 – 6	304

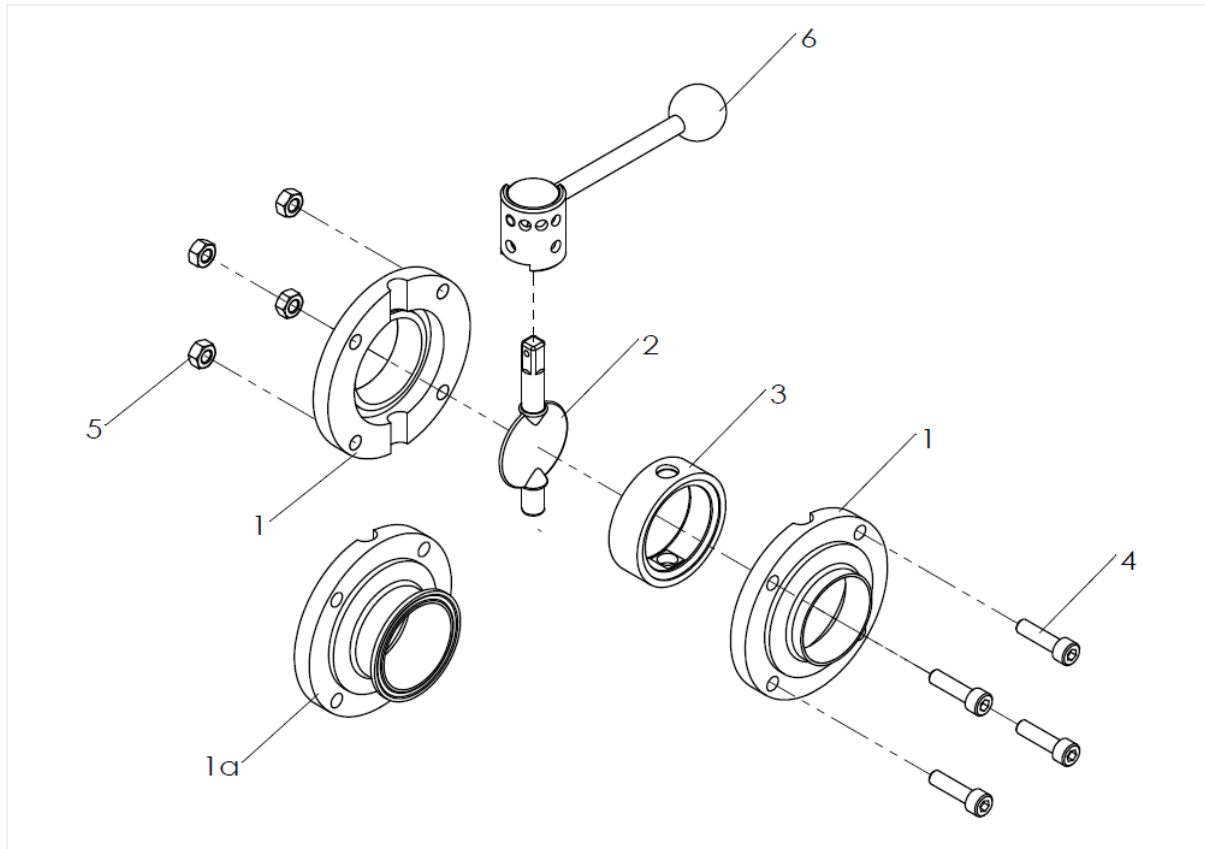
SERVICE KIT

Parts marked with * are the service kit.

SERVICE KIT	1" (25.4mm)	1.5" (38.1mm)	2" (50.8mm)	2.5" (63.5mm)	3" (76.2mm)	4" (101.6mm)
EPDM + PE	BU001-02508	BU001-02512	BU001-02516	BU001-02520	BU001-02524	BU001-02532
Silicone + PE	BU001-03508	BU001-03512	BU001-03516	BU001-03520	BU001-03524	BU001-03532
FKM + PE	BU001-07508	BU001-07512	BU001-07516	BU001-07520	BU001-07524	BU001-07532
EPDM + PTFE	BU001-12508	BU001-12512	BU001-12516	BU001-12520	BU001-12524	BU001-12532
Silicone + PTFE	BU001-13508	BU001-13512	BU001-13516	BU001-13520	BU001-13524	BU001-13532
FKM + PTFE	BU001-17508	BU001-17512	BU001-17516	BU001-17520	BU001-17524	BU001-17532

9 Spare Part List

9.2 Manual butterfly valve (DIN)



9 Spare Part List

9.2 Manual butterfly valve (DIN)

No.	Part Name	Qty.	Material
1	Valve body, half – weld end	2	304L 316L
1a	Valve body, half – clamp end	2	304L 316L
2	Disc	1	304L 316L
3*	Gasket	1	EPDM Silicone FKM
4	Screw	4 – 6	304
5	Nut	4 – 6	304
6	Pull handle	1	304

SERVICE KIT

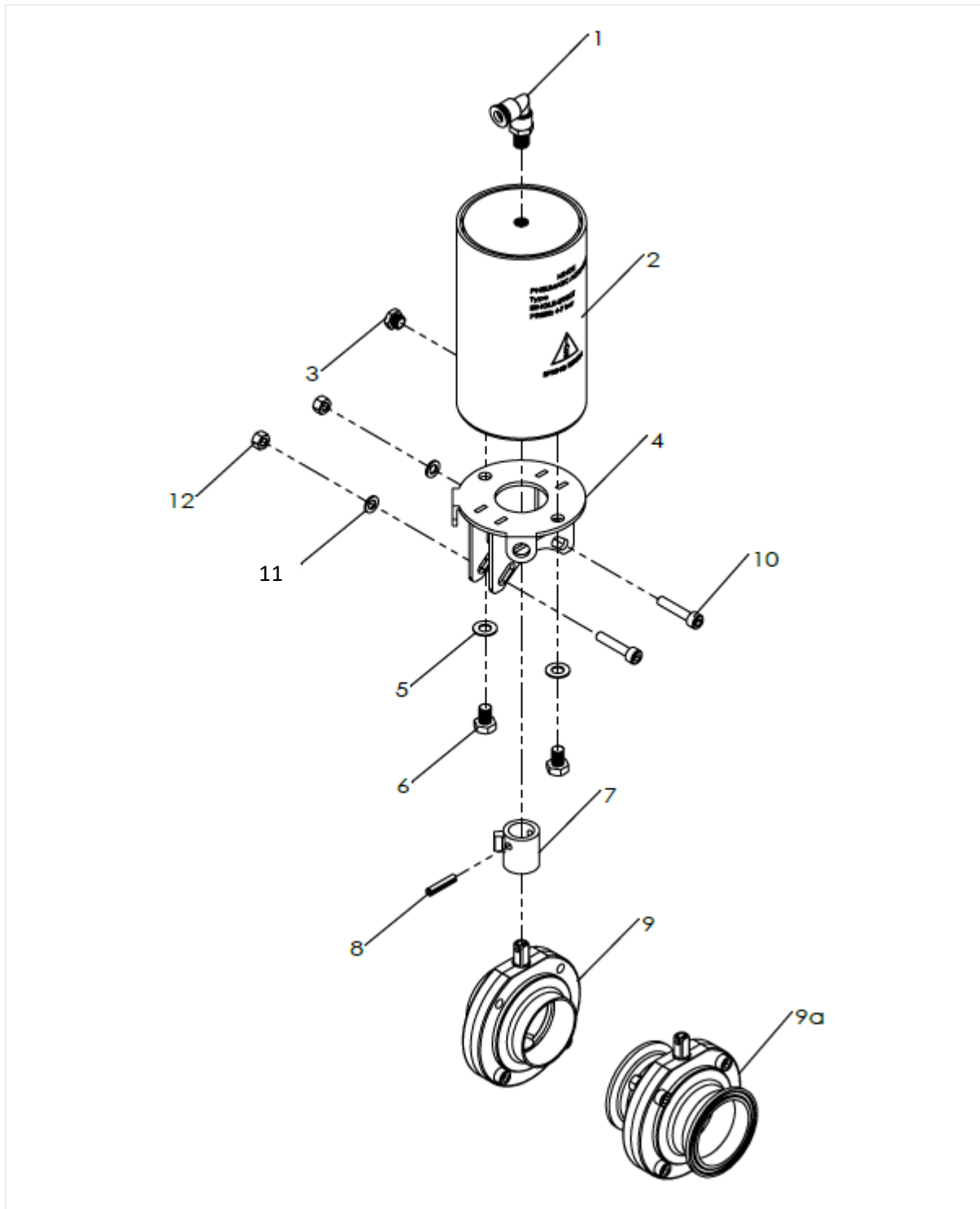
Parts marked with * are the service kit.

SERVICE KIT	DN15 (19mm)	DN20 (23mm)	DN25 (29mm)	DN32 (35mm)	DN40 (41mm)	DN50 (53mm)
EPDM	BU001-02019	BU001-02023	BU001-02029	BU001-02035	BU001-02041	BU001-02053
Silicone	BU001-03019	BU001-03023	BU001-03029	BU001-03035	BU001-03041	BU001-03053
FKM	BU001-07019	BU001-07023	BU001-07029	BU001-07035	BU001-07041	BU001-07053

SERVICE KIT	DN65 (70mm)	DN80 (85mm)	DN100 (104mm)	DN125 (129mm)	DN150 (154mm)	DN200 (204mm)
EPDM	BU001-02070	BU001-02085	BU001-02104	BU001-02129	BU001-02154	BU001-02204
Silicone	BU001-03070	BU001-03085	BU001-03104	BU001-03129	BU001-03154	BU001-03204
FKM	BU001-07070	BU001-07085	BU001-07104	BU001-07129	BU001-07154	BU001-07204

9 Spare Part List

9.3 D85 pneumatic butterfly valve (Inch)



9 Spare Part List

9.3 D85 pneumatic butterfly valve (Inch)

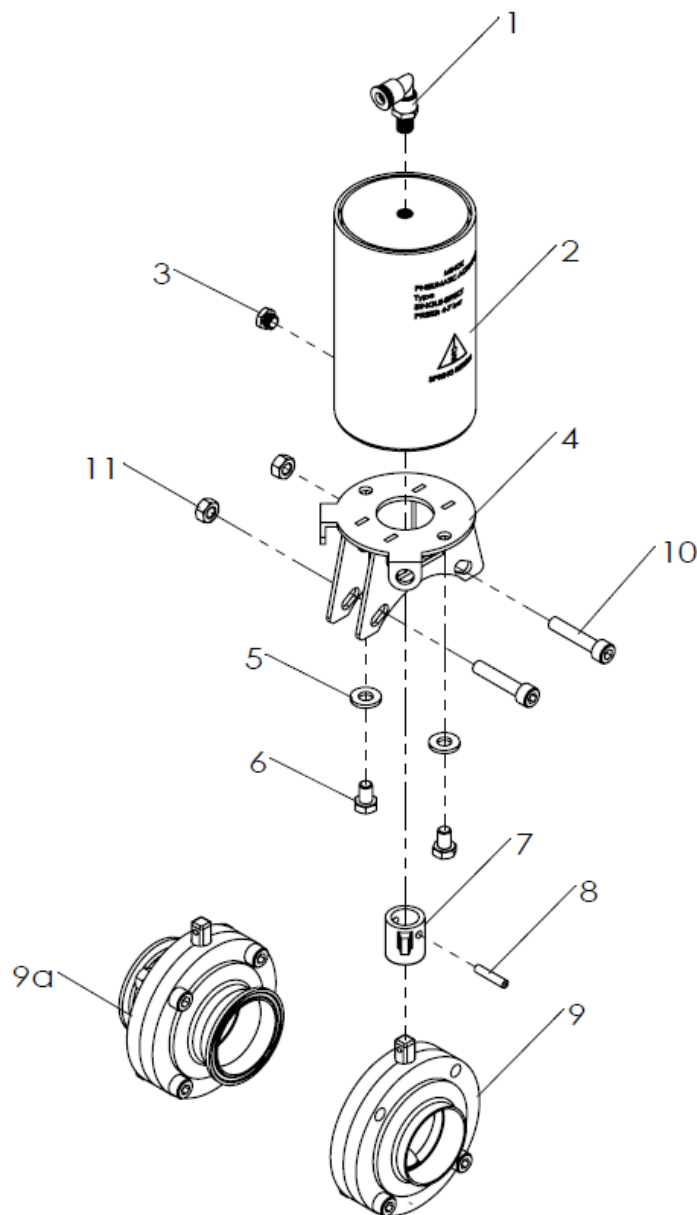
No.	Part Name	Qty.	Material
1	Air fitting	1	Nylon
2	Actuator-1, complete (NC/NO) Actuator-2, complete (DA)	1	304
3	Threaded plug	1	
4	Bracket	1	304
5	Washer	2	304
6	Hex screw	2	304
7	Coupling	1	304
8	Pin	1	
9	Butterfly valve – weld end	1	304L 316L
9a	Butterfly valve – clamp end	1	304L 316L
10	Screw	2	304
11	Spring washer	2	304
12	Nut	2	304

SERVICE KIT

Service kit for butterfly valve (9 & 9a) refer to page 26.

9 Spare Part List

9.4 D85 pneumatic butterfly valve (DIN)



9 Spare Part List

9.4 D85 pneumatic butterfly valve (DIN)

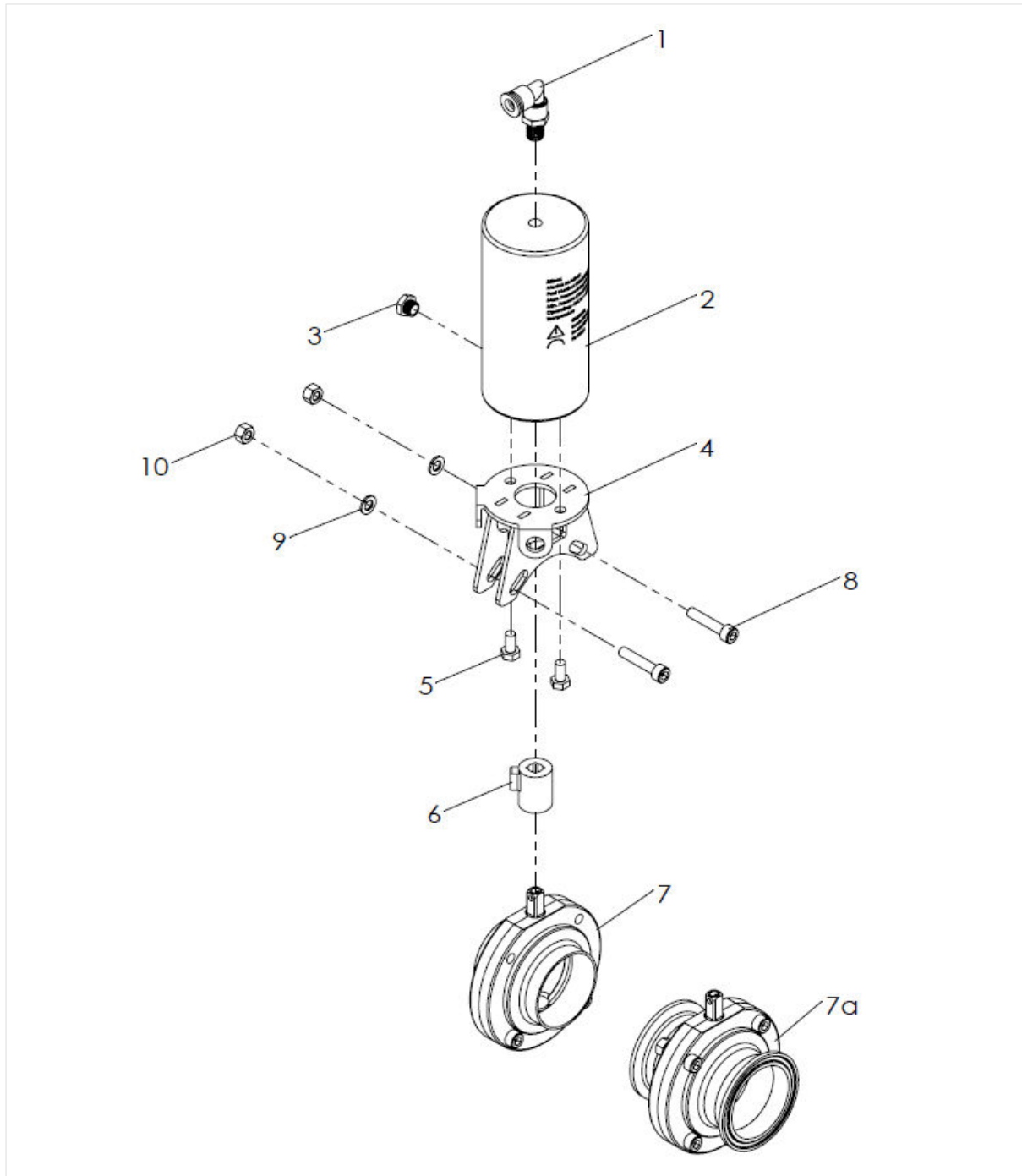
No.	Part Name	Qty.	Material
1	Air fitting	1	Nylon
2	Actuator-1, complete (NC/NO) Actuator-2, complete (DA)	1	304
3	Threaded plug	1	
4	Bracket	1	304
5	Washer	2	304
6	Hex screw	2	304
7	Coupling	1	304
8	Pin	1	
9	Butterfly valve – weld end	1	304L 316L
9a	Butterfly valve – clamp end	1	304L 316L
10	Screw	2	304
11	Nut	2	304

SERVICE KIT

Service kit for butterfly valve (9 & 9a) refer to page 28.

9 Spare Part List

9.5 A63 pneumatic butterfly valve (Inch)



9 Spare Part List

9.5 A63 pneumatic butterfly valve (Inch)

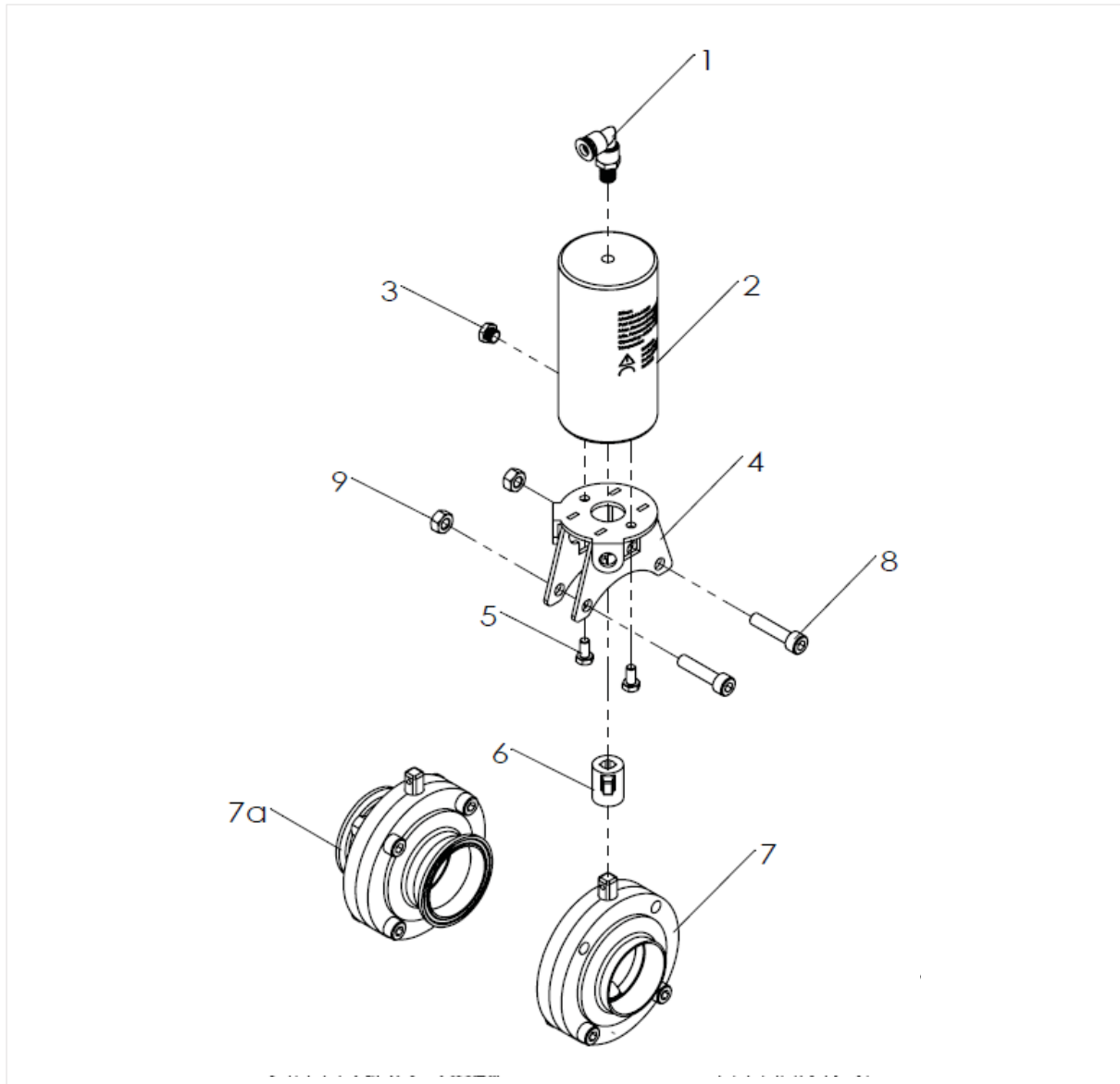
No.	Part Name	Qty.	Material
1	Air fitting	1	Nylon
2	Actuator-1, complete (NC/NO) Actuator-2, complete (DA)	1	304
3	Threaded plug	1	
4	Bracket	1	304
5	Hex screw	2	304
6	Coupling	1	304
7	Butterfly valve – weld end	1	304L 316L
7a	Butterfly valve – clamp end	1	304L 316L
8	Screw	2	304
9	Spring washer	2	304
10	Nut	2	304

SERVICE KIT

Service kit for butterfly valve (7 & 7a) refer to page 26.

9 Spare Part List

9.6 A63 pneumatic butterfly valve (DIN)



9 Spare Part List

9.6 A63 pneumatic butterfly valve (DIN)

No.	Part Name	Qty.	Material
1	Air fitting	1	Nylon
2	Actuator-1, complete (NC/NO) Actuator-2, complete (DA)	1	304
3	Threaded plug	1	
4	Bracket	1	304
5	Hex screw	2	304
6	Coupling	1	304
7	Butterfly valve – weld end	1	304L 316L
7a	Butterfly valve – clamp end	1	304L 316L
8	Screw	2	304
9	Nut	2	304

SERVICE KIT

Service kit for butterfly valve (7 & 7a) refer to page 28.



The information provided in this manual is intended for general guidance and should be used in accordance with the instructions provided.

MST Stainless Steel Sdn Bhd (Minox) reserves the right to make changes to the design and materials of this product at any time without prior notification.

For customer support or additional information, please contact our sales representative in your region or visit our website at www.minox.biz.



MST Stainless Steel Sdn Bhd (Minox)

(A Wholly-Owned Subsidiary of Minox International Group Berhad)

No. 3, Jalan Industri PBP 11,
Taman Industri Pusat Bandar Puchong,
47100 Puchong,
Selangor, Malaysia.