

HOVAP SERIES 9640 BASICFLOW DOUBLE SAFETY VALVES INSTALLATION AND MAINTENANCE INSTRUCTIONS

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HOVAP SERIES 9640 BASICFLOW DOUBLE SAFETY VALVES

INSTALLATION AND MAINTENANCE INSTRUCTIONS

2 INTRODUCTION

2.1 Valve use

The Hovap Basicflow double safety valve series 9640 is a valve with a double seat. Product mixing because of a defective valve sealing must be prevented. Leaked product is drained outside the valve.

2.2 Application area

The valve has been designed for use in the food and beverage and pharmaceutical industries.

2.3 Incorrect use

The valve is not suitable for use in gas systems. Liquids with hard solid parts cause increased wear to the gaskets.

3 SAFETY

The valve must be positioned such that cleaning liquid or leaked product from the valve cannot harm or damage individuals or the environment.

There must be a free space of at least 150 mm above the valve. This prevents the jamming of parts of the body during opening/closing of the valve.

Prevent that, during maintenance, liquids can pressurize the pipework in which the valve has been installed.

Prevent that fingers or hand get jammed between valve and seats during operation of a disconnected valve.

During cleaning at elevated temperatures, the valve can become so hot that touching the surface causes burning.

Do not open the actuator. Actuator is spring loaded!

4 TRANSPORT AND STORAGE

The valve has been wrapped in plastic. This prevents dust and dirt entering the valve interior.

Re-wrap the interior when the valve is unpacked for installation of the body into the pipework.

5 INSTALLATION INSTRUCTIONS

5.1 Mounting

For proper operation, the leak detector must be placed vertically, with the air cylinder pointing up.

5.2 Installation into pipework

The valve can be welded in the pipework directly. Remove the valve internal parts, together with O-rings and gaskets, before welding.

5.3 Operating space

A free space is required above the valve of at least:

Valve 1½":	25 mm
Valve 2":	30 mm
Valve 2½":	35 mm
Valve 3":	35 mm
Valve 4":	40 mm

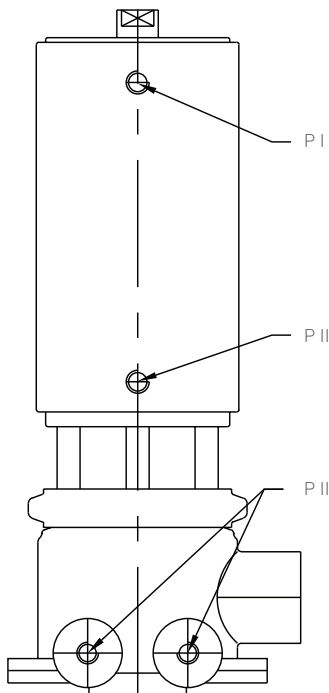
5.4 Mounting space

To allow valve assembly and disassembly, a free space is required above the actuator of at least:

Valve 1½":	90 mm
Valve 2":	100 mm
Valve 2½":	110 mm
Valve 3":	130 mm
Valve 4":	155 mm

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6 OPERATION

6.1 Operation with air

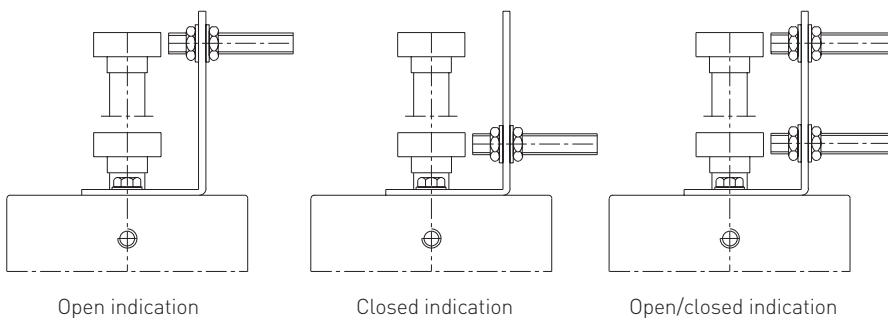
The valve is provided with two air connections with 1/8" BSP female thread.

- P I: Close valve (for spring-to-open and double-acting valves).
- P II: Open valve (for spring-to-close valves).
- P III: Close CIP valves with valve in open position.

Air connections that are not in use must be fitted with bleeding nipples.

6.2 Indication of valve position

The valve can be provided with a bracket for proximity switches. Following positions are possible:



6.3 Control unit

The valve can also be provided with a control unit. Most commercially available units can be fitted.

7 CLEANING AND MAINTENANCE

7.1 Cleaning

The valve is suitable for CIP cleaning. If the valve is in closed position, the cavity between both valve sealing rings can be cleaned by flushing one of the two CIP valves. Both CIP valves must be in the open position. The valve material is resistant to detergents that are commonly used in the food industry, such as a lye (NaOH) or acid (HNO₃) solution of about 1% at a temperature of about 80°C. After cleaning, the system must be rinsed with clean water to prevent corrosion.

7.2 Lead-time

Sealing and wearing parts of the valve must be checked once a year. For special applications (such as highly viscous or crystallizing liquids) the lead-time must be adjusted in consultation with the manufacturer.

7.3 Safety measures during maintenance

Before starting disassembly of the valve, the piping must be fully drained. When the valve is disassembled or removed from the line, pressurizing of the line, e.g. by (remote) operation of a pump or a valve, must be prevented.

Before assembly or disassembly of spring-return valves, compressed air must be used to move valve in open position. This prevents that the closing force of the spring opens the valve.

7.4 Grease to be used

Wetted O-rings must be greased with grease that has been approved for use in the food industry.

We recommend Molykote 111.

7.5 Disassembling the valve

See Appendix B

- A - Remove, if present, the indicators.
- B - For spring-to-close valves, supply pressurized air to P II.
- C - Loosen clamp 12.
- D - Pull actuator 8, together with interior, from valve body 1.
- E - For spring-to-close valves, remove air pressure from P II.
- F - Loosen insert 78 (for 1 1/2" valves) or nut 79 (other sizes).
- G - Loosen cover of CIP valve 2.
- H - Check all O-rings.

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INSTALLATION AND MAINTENANCE INSTRUCTIONS

7.6 Assembling the valve

See Appendix B

- A - Mount insert 78 (for 1½" valves) or nut 79 (other sizes) with valve part 77 and O-rings 20, 27, 28, 29 and 38 onto stem valve and shaft 76.
O-rings 20 and 29 both should be replaced at the same time and are delivered as one set.
- B - Mount stem valve plate 6 with O-rings 21 and 22 over stem valve and shaft 3.
- C - Screw stem valve and shaft 76 onto the actuator shaft.
- D - For spring-to-close valves, supply pressurized air to P II
- E - Install actuator 8, together with valve interior in valve body 1.
- F - Fasten clamp 12.
- G - For spring-to-close valves, remove air pressure from P II.
- H - Check if the valve operates smoothly.
- I - Mount internals of CIP valves 2.
- J - Install, if required, the indicators.

7.7 Actuator

Actuator is spring loaded. Never try to open the actuator. The O-rings 26 can be changed by dismounting the O-ring retainer 19 and top cover 18. The spring action of the valve can be changed by reversing the complete actuator.

7.8 Failures

See Appendix B

Valve closes with great force

Valve closes in the flow direction. Try to install the valve such that the valve closes in the opposite direction. If this is not possible, install a 'throttling' actuator on top of the main actuator.

Valve is opened by liquid pressure

Liquid operating pressure is above 6 bar.
Air supply pressure is below 6 bar.

Leakage along valve stem

Check O-rings 21.

Leakage at clamp 12

Check O-rings 22.

Leakage from CIP valves 2

Check O-rings 20, 29, 30 and CIP valve 13.

Air leakage via actuator shaft

Check O-rings 26.

Air leakage via air connections of actuator

Send actuator to Hovap for repair.

Air leakage via CIP valve 2

Check the O-rings inside the CIP valves.

Valve opens/closes slowly

Air supply pressure is below 6 bar.
Air tube is too long, is pinched, or the diameter is too small.
Liquid in the actuator.

Valve opens/closes with irregular movement

Check if there is liquid in the actuator.

Liquid in actuator

Put a water separator in the air supply.

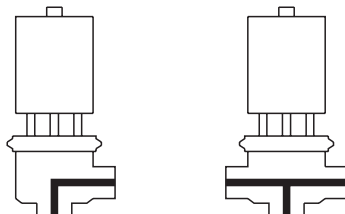
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APPENDIX A – TECHNICAL SPECIFICATION

VERSION AND ORDERING CODE

The following versions are available:

VERSION



ORDERING CODE

9641

9642

VALVE MATERIAL

All metal parts that come into contact with the liquid are made of stainless steel according to W.Nr. 1.4404. The metal parts that do not come into contact with the liquid are made of stainless steel W.Nr. 1.4301 or plastic. The actuator bearings are made of self-lubricating bronze.

Gasket material

The O-rings that come into contact with the liquid are made of EPDM. Alternatives are available.

Air supply pressure

The air supply pressure must be between 6 and 10 bar. We recommend dry air of 6 bar.

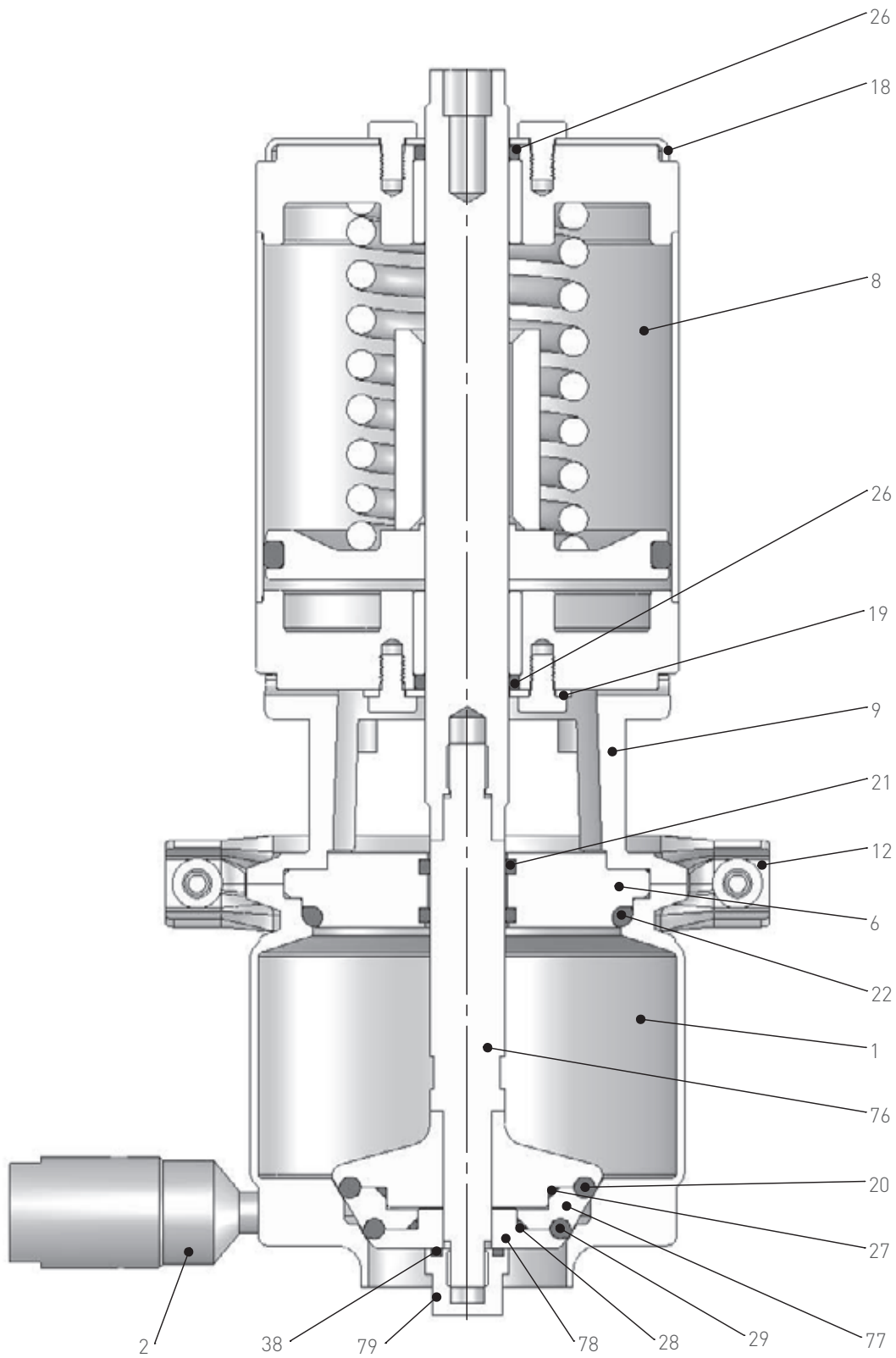
Air consumption

The air consumption in nl. per stroke is given in the table below. The consumption is calculated at 6 bar air pressure.

Dimension	Spring-to-close	Double acting
1½"	1.3	4.3
2"	1.3	4.4
2½"	2.8	12.3
3"	3.3	13.1
4"	5.4	26.5

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APPENDIX B - CROSS-SECTION



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APPENDIX C - PARTS AND SPARE PARTS

PARTS

Ref. no.	Qty.	Material	Description
1	1	W. Nr. 1.4404	Valve body
2	1	W. Nr. 1.4404	CIP valve
6	1	W. Nr. 1.4404	Stem valve plate
8	1	W. Nr. 1.4301	Actuator
9	1	W. Nr. 1.4301	Connecting piece
12	1	W. Nr. 1.4301	Clamp
18	1	W. Nr. 1.4301	Top cover
19	1	W. Nr. 1.4301	O-ring retainer
20+29	1	EPDM-FDA	O-ring set
21	2	EPDM-FDA	O-ring
22	1	EPDM-FDA	O-ring
26	2	FPM	O-ring
27	1	EPDM-FDA	O-ring
28	1	EPDM-FDA	O-ring
38	1	EPDM-FDA	O-ring
76	1	W. Nr. 1.4404	Stem valve and shaft
77	1	W. Nr. 1.4404	Valve part
78	1	W. Nr. 1.4404	Insert
79	1	W. Nr. 1.4404	Nut

SPARE PARTS

Ref. no.	Descr.	1½"	2"	2½"	3"	4"
		DN 40	DN 50	DN 65	DN 80	DN 100
2	CIP valve					
20+29	O-ring set	37.47 x 5.33 26.34 x 5.33	50.17 x 5.33 37.47 x 5.33	62.87 x 5.33 50.17 x 5.33	75.57 x 5.33 66.04 x 5.33	97.79 x 5.33 88.27 x 5.33
21	O-ring	18 x 3	18 x 3	18 x 3	22 x 3	22 x 3
22	O-ring	56.52 x 5.33	66.04 x 5.33	75.57 x 5.33	94.62 x 5.33	113.67 x 5.33
26	O-ring	18 x 3	18 x 3	18 x 3	22 x 3	22 x 3
27	O-ring	28 x 2	39 x 2	50 x 2	60 x 2	80 x 2
28	O-ring	12 x 2	24 x 2	30 x 2	40 x 2	60 x 2
38	O-ring	-	12 x 2	12 x 2	18 x 2	18 x 2

NOTE

O-rings 20 and 29 both should be replaced at the same time and are delivered as one set.

ORDERING SPARE PARTS

When ordering spare parts, please include the following information:

- The valve number.
- The valve ordering code. See Appendix A.
- The valve size.
- The valve part position number.
- The quality of O-rings.



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