



GENERAL INFORMATION

Process line equipment in accordance with European pressure equipment directive 97/23/CE paragraph 3.3. The multiway valve is stamped with a SERVINOX self adhesive and marked with the manufacture serial number. This manual corresponds to the instructions for use of the multiway valve.

OPERATION

Those valves are used to close one or several process lines or to dispatch the liquid to one or several ways. The valve is sealed with PTFE rings.

CAUTION FOR USE

The multiway valve must be used for clear liquid products from group 2 (see article 9 of European directive no. 97/23/CE). The maximum working pressure is 6 bars and the maximum working temperature is 80°C.

When use at high fluid temperature, high temperature can be reached on the surface of the body: risk of severe burning.

This type of valve cannot be used as regulating valve.

TECHNICAL DATA

Materials

Product wetted steel parts : 1.4404 (316L)
 Other steel parts : 1.4301 (304)
 Product wetted seals : Teflon
 Other seals : EPDM

Data

Product pressure : 6 bar maxi
 Product temperature : 80°C maxi

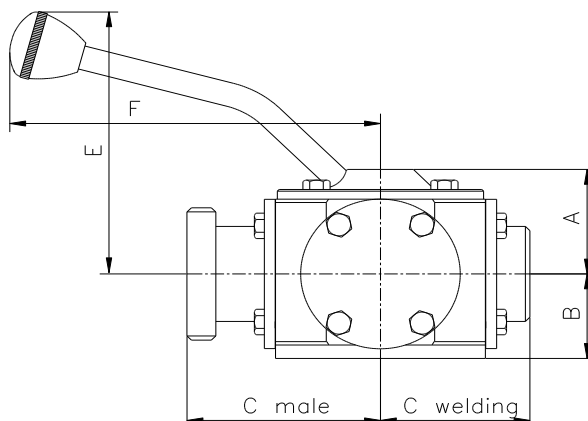
DIMENSIONS

Sizes

The valve is available in the following sizes :

- SMS : 25 mm (1"), 38mm (1.1/2"), 51 mm (2"), 63.5 mm (2.1/2"), 76.1 mm (3") et 104 mm (4").
- DIN 11851: ND10, ND15, ND20, ND25, ND32, ND40, ND50, ND65, ND80 and ND100.

Dimensions (mm)



Sizes	ND10	ND15	ND20	ND25 25mm	ND32	ND40 38mm
A	25	28.5	31.5	34	40.5	49
B	20	24.5	26	29.5	35.5	43
C welding	38	50.1	53.1	53.5	59.1	71.1
C male	55	63.6	78.1	78	78	96.2
E	64	55	98	115	101	155
F	71	71	110	135	146	160

Sizes	ND50 51mm	63mm	ND65	ND80 76.1mm	ND100 104mm
A	57.5	65.5	65.5	78.5	89
B	50	58	58	67.5	81.5
C welding	79.2	92	87	110.7	122
C male	107	123	117	139.7	160
E	155	198	198	250	265
F	205	265	265	295	295

Torque (Nm)

Sizes	ND10	ND15	ND20	ND25 25mm	ND32	ND40 38mm
2 ways	2.3	5.2	9.4	15	21	38
3-4 ways	3.9	8.8	16	25	35	63

Sizes	ND50 51mm	63mm	ND65	ND80 76.1mm	ND100 104mm
2 ways	59	90	100	150	240
3-4 ways	98	150	166	260	390

Plane for normalised base

Double acting actuator

Sizes	ND10	ND15	ND20	ND25 25mm	ND32	ND40 38mm
2 ways	F05	F05	F05	F05	F05	F07
3-4 ways	F05	F05	F05	F07	F07	F07

Sizes	ND50	63mm	ND65	ND80 76.1mm	ND100 104mm
2 ways	F07	F07	F07	F07	F10
3-4 ways	F07	F10	F10	F10	F10

Single acting actuator

Sizes	ND10	ND15	ND20	ND25 25mm	ND32	ND40 38mm
2 ways	F05	F05	F07	F07	F07	F07
3-4 ways	F05	F07	F07	F07	F07	F07

Sizes	ND50	63mm	ND65	ND80 76.1mm	ND100 104mm
2 ways	F07	F10	F10	F10	F10
3-4 ways	F10	F10	F10	F10	F12

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STORAGE CONDITIONS

The valve must be kept in a clean and dry storage under non-corrosive atmospheric conditions.

INSTALLATION

A means of lifting must be used to handle large diameters valves. Slings by lever or automatic control is forbidden. Textile slings around the valve body must be used.

Before mounting of the valve, the following points must be checked:

- Parallelism of the ends.
- Correct alignment of piping.
- Quality of the span of the ends.

Valve spatial requirement must be established by provisionally installing the valves on piping.

Multiway valve with butt weld ends

Weld ends must be dismantled in order to proceed with their welding. For the correct operation of the valves, following precautions must be followed when proceeding of the disassembling and the reassembly of the ends:

- Identify the position of the end connections in order to replace them as they were at delivery.
- Above all take care that the small pure PTFE blocks (Ref.23 and 24) are exactly replaced where they were; so that the thickness of fastener originally defined is restored (this chock might not be identical on all the ways).
- In any case dismantle the pure PTFE sealing rings (Ref. 7) that are mounted in the body openings (Ref. 1) and that support the key (Ref. 2). If one of these rings gets out of its place during dismantling of the valve; very carefully replace it in its initial position.

To dismantle the weld ends (Ref. 14), the 4 screws (Ref. 12) must be first unscrewed. The ends can then be released from the body (Ref. 1). The valve must be then put on the side.

The ends must be now welded on the piping.

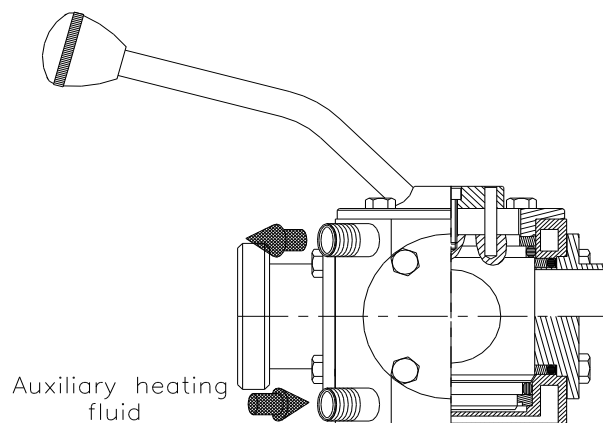
When installing the valve and in order to respect its correct sealing, the following operations must be carried out before mounting the body of the valve:

- Remove any foreign matter from pipes (filings, burr, etc...).
- Make sure that gaskets (Ref. 9) and rings (Ref. 7) are in the correct position.
- Carefully replace body (Ref. 1) of the valve between the ends.
- Screw all 4 screws (Ref. 12) of each end.

Heating multiway valve : Fitting auxiliary heating fluid

Sizes	ND10	ND15	ND20	ND25 25mm	ND32	ND40 38mm
Male pdg	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"

Sizes	ND50 ND51	63mm	ND65	ND80 76.1mm	ND100 104mm
Male pdg	3/4"	3/4"	3/4"	3/4"	3/4"



For a heating multiway valve, the dimensions that figure in the table of dimensions are not valid.

APPLICATION USE

Once the valves are mounted, they must undergo the same tests than the piping. The tightness of both the body and the ends must be checked. The manoeuvrability must also be verified. A resistance might be observed during the first utilisations.

After the first operating hours, the tightening (ends, hat) must be checked in pressure and temperature.

For an automatic multiway valve, several points have to be checked: specifications of driving compressed air and command, pneumatic connection directions, as well as the correct rotation of the valve (identified by a mark on the hat).

When the valves are equipped with electro-distributor or position sensor, the nature of the electric tensions and the classification of the distributors and indications have to be checked.

MAINTENANCE

The maintenance of the valve needs to be done on a regular basis. The inspection frequencies shall depend on the conditions of use and shall be individually determined in each case.

We can provide you with spare kits according to the spare part list. We advise you to always keep some in stock in case of emergency.

Dismantling of the valve

For an automatic valve, first of all air flows and electric wire from the proximity switches must be disconnected. Then actuator and its yoke must be disassembled by unscrewing the yoke fixation screws (Ref. 11).

For manual valve equipped with a limit stop and proximity switches, first of all electric wire from the proximity switches must be disconnected and then the limit stop must be disassembled by unscrewing the fixation screws (Ref. 11).

These instructions should be followed to dismantle the valve:

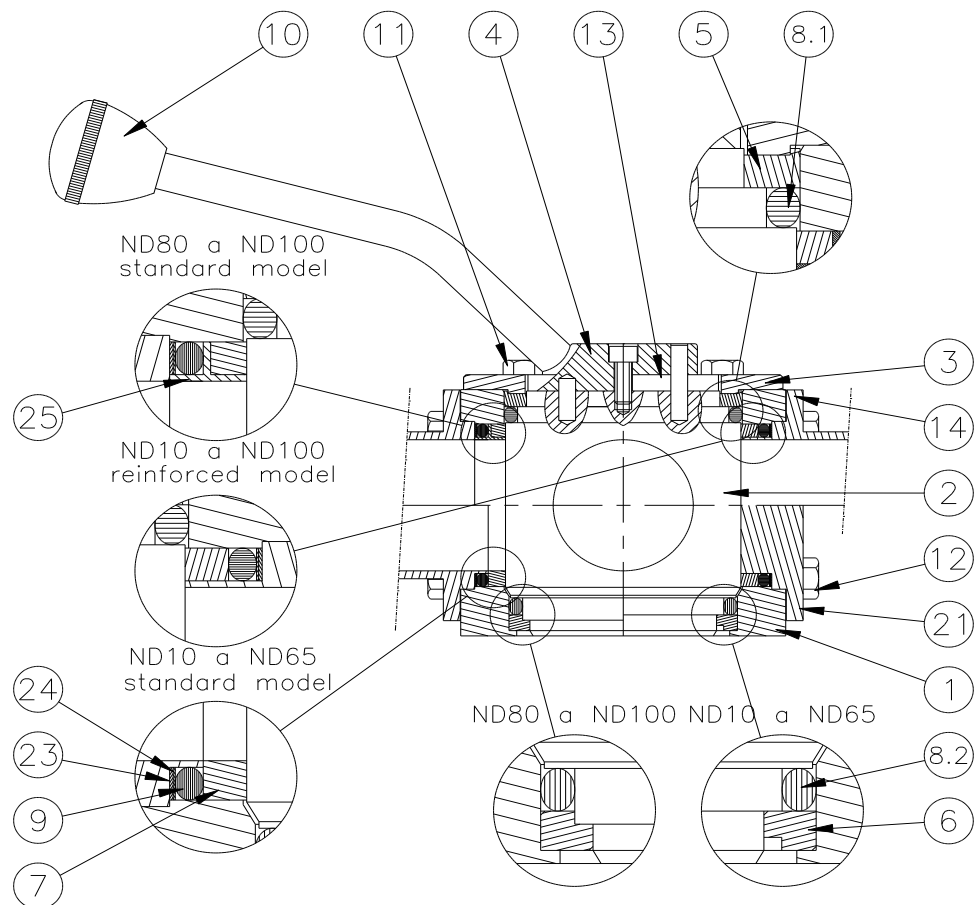
- Identify the position of the valve on the pipe and the position of the end connections (Ref. 14).
- Unscrew the screws (Ref. 12) of the end connections (Ref. 14), and the plain end in case of three ways valve.
- Remove the body (Ref. 1) of the valve from the pipes.
- It is necessary to identify if there are PTFE sealing rings (Ref. 23 et 24).

- Remove the screws (Ref. 11) and dismantle the cap (Ref. 3).
- Extract the plug (Ref. 2).
- Remove the upper packing ring (Ref. 5).
- Remove the lower and upper gaskets (Ref. 8.1 and 8.2).
- Take out the connection gaskets (Ref. 9) and the PTFE sealing rings (Ref. 7).
- Remove the lower packing ring (Ref. 6).
- Replace the gaskets and the PTFE rings.

Assembling of the valve

These instructions should be followed to assemble the valve:

- Place the lower packing ring (Ref. 6) at the bottom of the body (Ref. 1). Be careful with the position of this ring.
- Place the lower and upper gaskets (Ref. 8.1 and 8.2) on the plug.
- Introduce the plug (Ref. 2) into the body (Ref. 1).
- Place the upper packing ring (Ref. 5). Be careful with the position of this ring.
- Place the cap (Ref. 3) and tighten the screws (Ref. 11).
- Introduce the PTFE sealing rings (Ref. 7).
- Replace the connection gaskets (Ref. 9).
- Place the valve in a right position by introducing the ends connections (Ref. 14) into the body (Ref. 1).
- Tighten the screws (Ref. 12).



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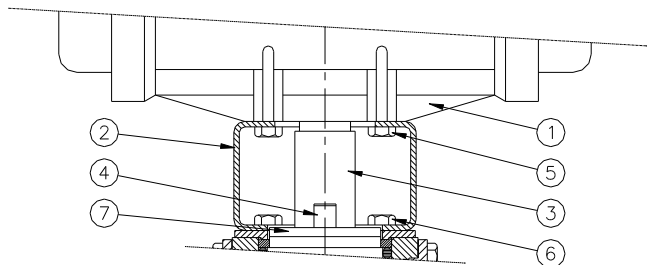
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Actuation of the valve with pipe-shaped yoke

To dismantle the actuator and its yoke, screws (Ref. 6) must be first unscrewed. Then the unit must be vertically released in order to set the driver (Rep. 3) free.

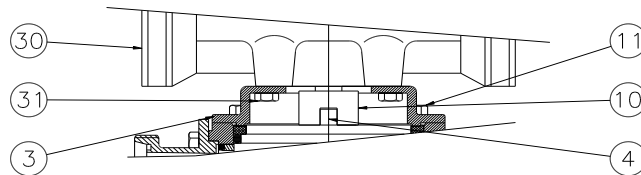
The actuation part of the valve is dismantled.



Actuation of the valve with hat-yoke

To dismantle the actuator and its yoke, screws (Ref. 11) must be first unscrewed. Then the unit must be vertically released in order to set the driver (Rep. 10) free. And finally the screws (Ref. 31) must be unscrewed.

The actuation part of the valve is dismantled.



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