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VELOCITY CHECK VALVES

REF 3000 SERIES

USE AND MAINTENANCE MANUAL

VELOCITY CHECK VALVES REF 3000 SERIES

*The **REF 3000** Series velocity check valve is used to automatically block the flow of the line on which it is installed in the case of an increase in speed due to the opening of the circuit downstream because of the maneuver, the collapse of a plug fuse, the breakdown of a seal of any other motive which causes the downstream fluid to escape.*

The commonest installation is on service lines equipped with plug fuses.
*At the outbreak of a fire or as a result of a strong increase in the temperature in the installation protected, one or more plug fuses collapse and let the fluid escape causing the **REF 3000** to come into action*

OPERATIONAL PRINCIPLE

Under normal working conditions the ball-shatter is kept away from its seat by a spring and allows the fluid for replacing small losses, expansion, etc..to pass.

When, for any reason, between the valve upstream and downstream, there is a difference of pressure, the speed of the fluid around the ball increases because the narrowing.
The ball is dragged into it's seating and interrupts the passage of the fluid.

The reactivation (or putting into operation) is obtained by manual resetting which by-passes the flow and cancels the pressure differential and permits the spring to move the ball away from it's seating.

The by-pass closure is automatic.

The reduced section of passage around the ball gives the valve a high sensitivity, closing it at a very slight drop in pressure.

CHARACTERISTICS

Connections	:	*1/2" **NPT** female*
Maximum line pressure	:	*100 bar*
Differential break pressure	:	*0.035 bar, minimum*
Reset	:	*manual, with spring reset*
Execution	:	***AISI 316** ; soft seat in **FPM** rubber.*

1. SETTING UP

Before dispatch all the valves are tested on bench and calibrated to the set pressure requested by the Customer.
Therefore no further adjustement should be required.
However if it should be necessary to modify the previous set pressure, the following instructions should followed:

1.1 Increased the differential break pressure

Positioning the valve with the exit turned up over, in orther to sum up the strenght of the spring with the weight of the ball-shatter.

1.2 Decreased the differential break pressure

Positioning the valve with the exit turned down over, in orther to deduct the weight of the ball to the strenght of the spring.

2. DISASSEMBLING

For disassembly carry out the following operations progressively:

CAUTION : ***before disassembling the valve make sure that the plant on which it is mounted is not "under pressure" and that no pressure inside the valve itself has remained.***

- *Remove the ring (9), the pin (8) and the lever (7);*
- *Remove plug (2) with o-ring (21);*
- *to hold the guide disc (4), loosen the disc (3) and remove the gasket (16) with the bell (17);*
- *remove the spring (12) and the gaskets (14-15);*
- *remove the elastic ring (10) from the body (1) , remove the ball (18) and the spring (11);*
- *with a tools remove the ring (13) from the boby (1) and remove a group seat;*
- *to devide the bush (5) from the seat (6) and remove l'o-ring (20).*

3. ASSEMBLING

For assembling carry out the disassembling operations in reverse order, first assembling the reset group and be careful to mount the extrusion gasket (15) outwards respect to the o-ring (14).

4. INSTALLATION AND MAINTENANCE

Before the installation of the valve on the plant, make sure that the inlet pipe be clean.
The discharge pipe must be designed in such a way that the loss of pressure be very low.

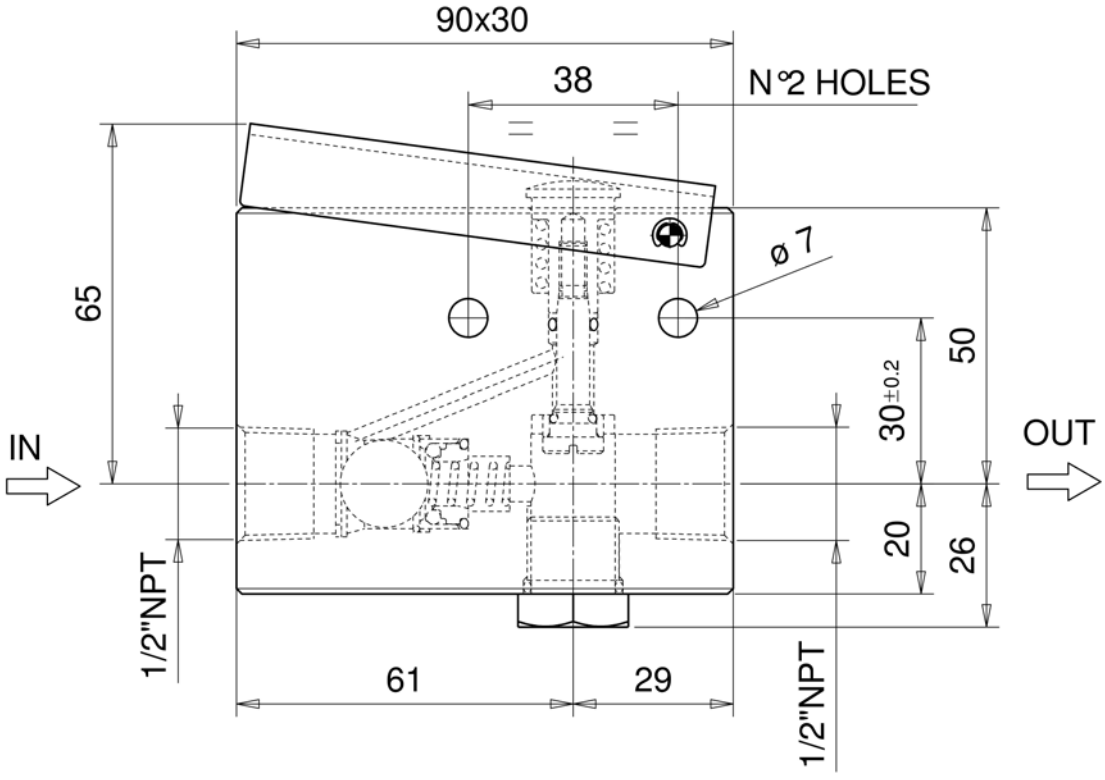
Proceed to the installation by making sure not to force the threaded couplings and using the body drilling for fixing to the panel. After installation, make sure that the reset lever is free to return to rest position without being prevented by pipes, brackets or other neighboring components

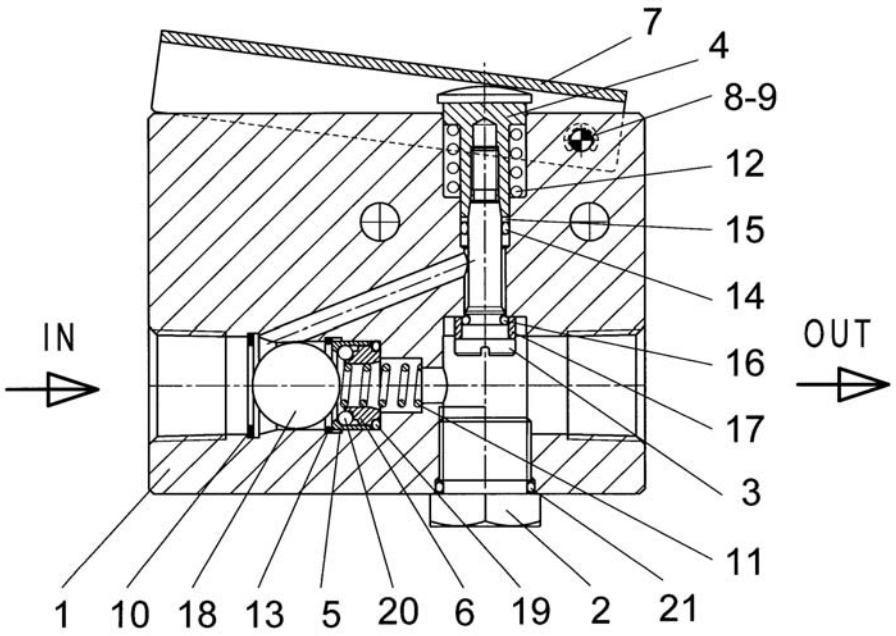
*The velocity check valves requires an ordinary but careful maintenance and in case it would be necessary , follow the operation stated in point **2)** for disassembling and in point **3)** for assembling.*

If the soft seat (20) and the disc (2) are damaged it is necessary to sobstitute it with genuine spare parts.

WARNING

- ***The velocity check valve should not be subjected to bumps or such stresses that could compromise the working;***
- ***The velocity check valve must be used only exclusively for the use stated in the construction declaration;***
- ***The velocity check valves revised within one year from installation independently from the number of interventions executed by the valve.***





Material List		
ITEM	**DESCRIPTION**	**MATERIAL**
1	Body	AISI 316L
2	Plug	AISI 316L
3	Disc	AISI 303
4	Guide disc	AISI 303
5	Bush guide	AISI 303
6	Seat	AISI 316L
7	Lever	AISI 304
8	Pin	AISI 304
9	Elastic ring	AISI 420
10	Elastic ring	AISI 420
11	Spring	AISI 316
12	Spring	AISI 316
13	Stop ring	AISI 316
14	Gasket	FPM rubber
15	Gasket	Rubber
16	Gasket	FPM rubber
17	Bell	AISI 303
18	Ball	AISI 316
19	Gasket	FPM rubber
20	Gasket	FPM rubber
21	Gasket	FPM rubber