AIR ADMISSION VALVES

GROUP 18

INDEX

INTRODUCTION

The Air Admission Valve is made of AISI 316 steel and is used to avoid collapses (of storage tanks) caused by vacuum conditions. A sensitive plug, operating in the NC position, reacts when vacuum is generated inside the tank. The operating principle is very easy: when the difference between the external atmospheric pressure and the pressure inside the tank reaches a value capable of overcoming the pressure exerted by the spring on the plug, the latter opens thus allowing air to enter the tank and restoring the balance between the two pressures. Furthermore, when the tank is full, the valve prevents liquid and vapor contained inside it from flowing out.

TECHNICAL DATA

- Available ND: ND 50
- The tank connection is weld type. Other types of connections can be supplied on request.
- The Air Admission Valve can be installed in all environments in which the elements that may come in contact with it are compatible with the following materials: AISI 316, TEFLON, VITON.
- The valve can be used in environments with a temperature ranging from 0 °C to 145 °C .
- Maximum operating pressure must be 4 Bar.
- The valve opens when the difference between the external pressure and the internal pressure reaches 0.025 Bar.

TRANSPORT AND STORAGE

- The protection plug located on the valve connection must not be removed during transport or storage (to avoid entrance of foreign bodies).
- Avoid any impacts to the valve since they may compromise its operation.

MAINTENANCE AIR ADMISSION VALVES (page 3)

The numbers in parentheses refer to the number of the part shown on the cutaway drawing of the valve.

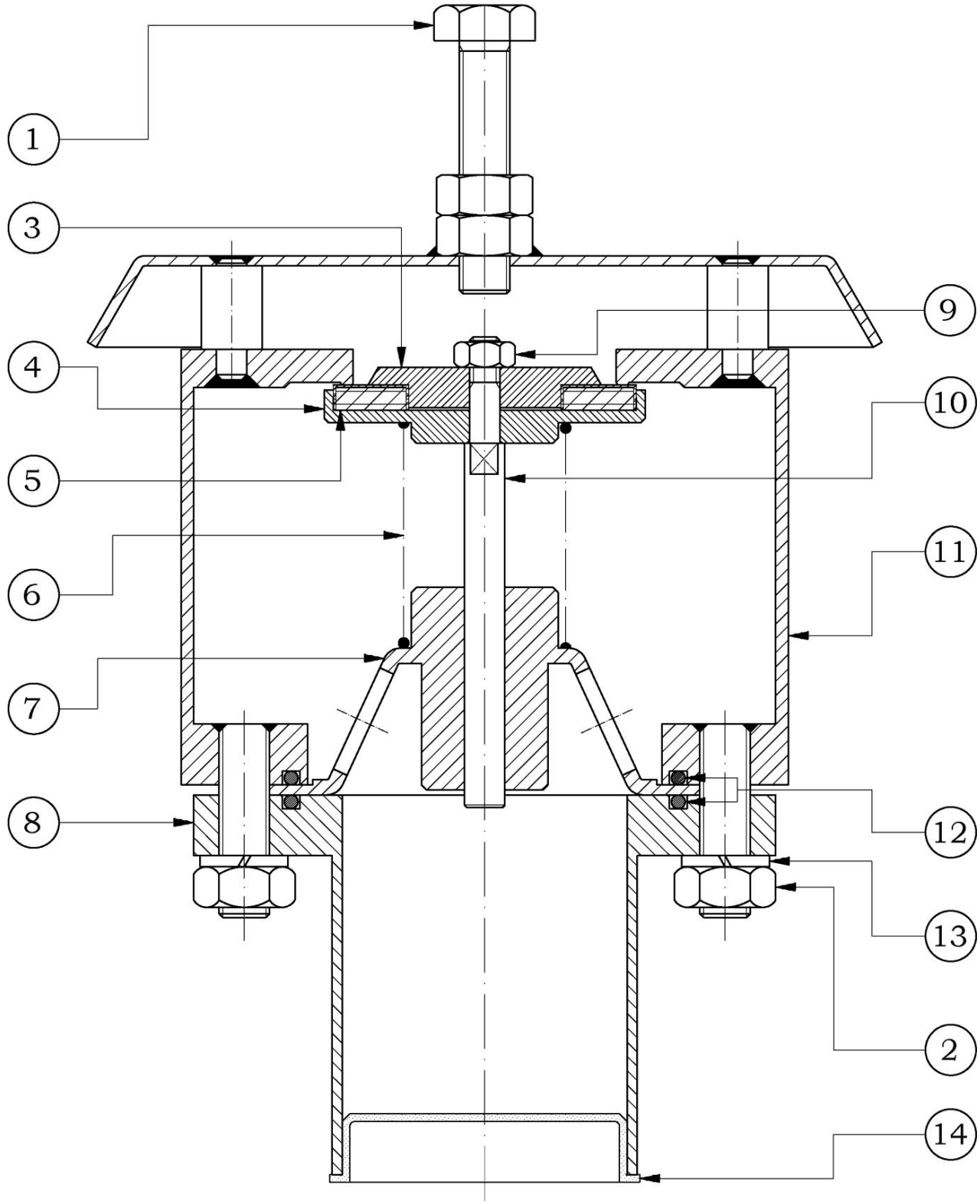
DISASSEMBLY

- Loosen Nuts (2).
- Extract Washers (13).
- Disconnect Valve Body (11) from Base (8).
- Disconnect Intermediate Body (7) from Valve Body (11).
- Remove Orings (12) and throw them away.
- Disconnect Intermediate Body (7) from Plug (10 + …).
- Extract Spring (6).
- Loosen Nut (9).
- Extract Plug Guide (3).
- Remove Plug (5).

MAINTENANCE AND ASSEMBLY

- Carefully clean all parts.
- Fit Plug Holder (4) on Stem (10).
- Insert Plug (5) into Plug Holder (4).
- Fit Plug Guide (3) on Stem (10).
- Screw Nut (9) and punch Stem (10) in its threaded end to avoid loosening of Nut (9).
- Insert Spring (6) on Plug (10 + …).
- Insert Plug (10 + …) into Intermediate Body (7).
- Insert Intermediate Body (7) into Valve Body (11) after replacing the first Oring (12).
- Connect Valve Body (11) to Base (8) after replacing the second Oring (12).
- Insert Washers (13).
- Screw Nuts (2).

CUTAWAY VIEW AIR ADMISSION VALVE - ND 50



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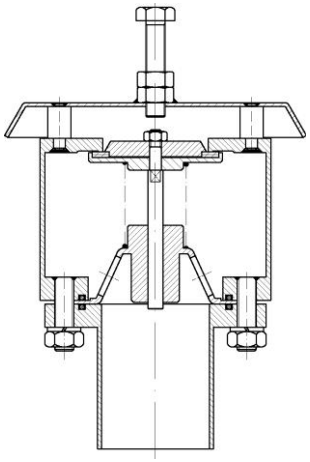
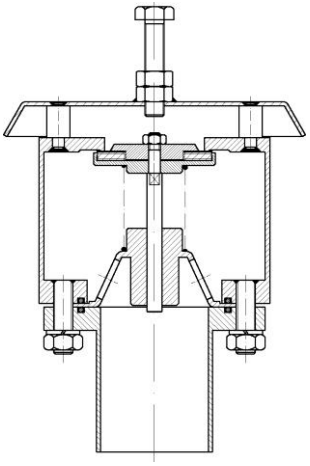
HISTORICAL AIR ADMISSION VALVE – ND 50



POSITION 1

ND 50 Air Admission Valves produced until 1999

The Air Admission Valves produced until 1999 were characterized by the type of seal which consisted of a silicone plug (only for a very short period they were provided with a red EPDM plug which could be used instead of the silicone plug). The spare parts of these valves use the red EPDM plug.



POSITION 2

ND 50 Air Admission Valves produced since 1999

The Air Admission Valves manufactured since 1999 are equal to the previous valves, except for the seal plug which is now made of EPDM HT coated with PTFE. Since the size of the plug has changed, the sizes of all related parts have also been changed (e.g. the plug holder, the valve body seat and the plug guide).

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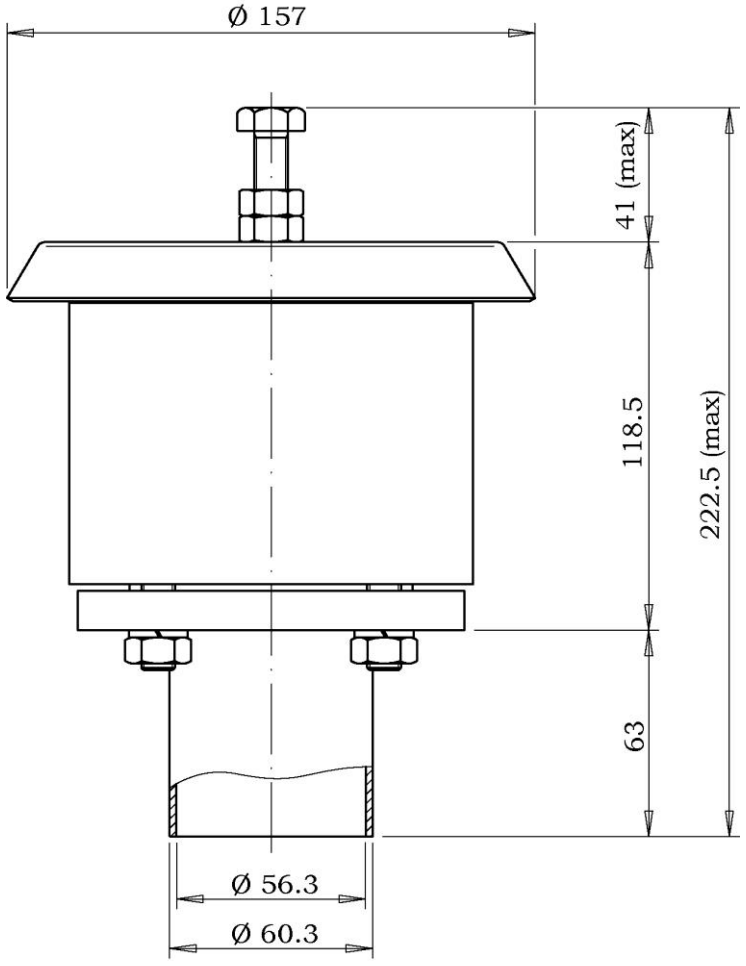
ND 50 AIR ADMISSION VALVE – OVERALL DIMENSIONS



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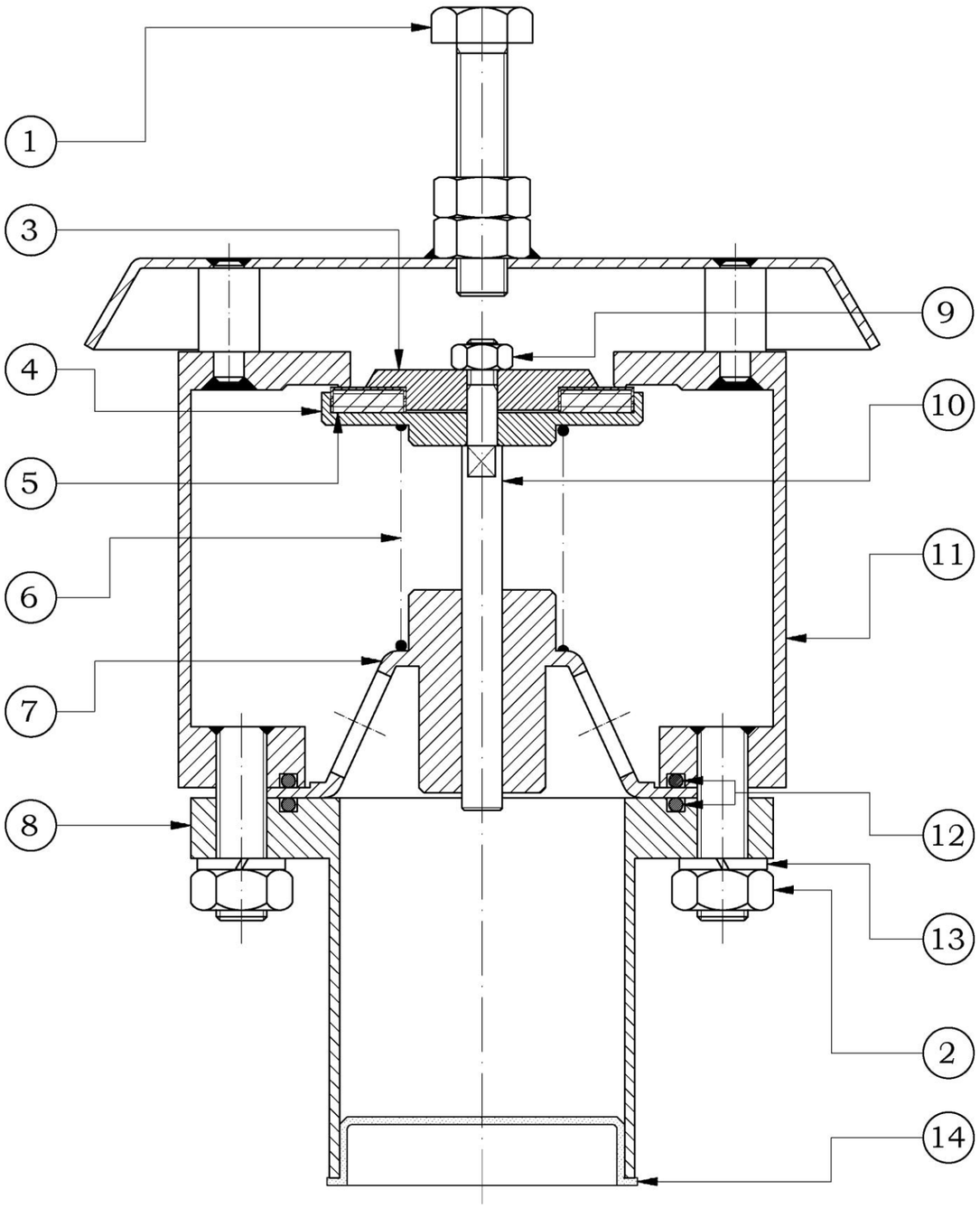

ND 50 AIR ADMISSION VALVE – PARTS AND SPARE PARTS

PART	Q.ty	DESCRIPTION	MATERIAL	GROUP	CODE
1	1	HEXAGON HEAD SCREW	AISI 304	500	VTE105004
2	5	HEXAGON NUT	AISI 304	501	D10055884
3	1	PLUG GUIDE	AISI 316	802	GOTT950435
4	1	PLUG HOLDER	AISI 316	527	PTAP950435
5	1	PTFE COATED PLUG	EPDM 80 TEFLON	818	TDRD90336
6	1	SPRING	AISI 316	552	MTD000932
7	1	INTERMEDIATE BODY	AISI 316	632	CINT950440
8	1	ALL-PURPOSE BASE	AISI 316	829	FUS3950441
9	1	HEXAGON NUT	AISI 316	501	D06055896
10	1	PLUG STEM	AISI 316	596	STOT950438
11	1	VALVE BODY	AISI 316	690	CPCE950443
12	2	ORING	VITON	548	OR04287VI
13	4	SPRING WASHER	AISI 304	503	RE1000304
14	1	CYLINDRICAL PLUG	POLYETHYLENE	505	T01ST00575

GROUP 106 (spare parts of pumps)

Position 1

Air Admission Valves produced until 1999

Complete set of spare parts

		ND 50
SPARE PART CODE		**6182**
PART. No.	Q.ty	
5	1	GUAR950439
12	2	OR04287VI

Position 2

Air Admission Valves produced since 1999

Complete set of spare parts

		ND 50
SPARE PART CODE		**6183**
PART. No.	Q.ty	
5	1	TDRD90336
12	2	OR04287VI