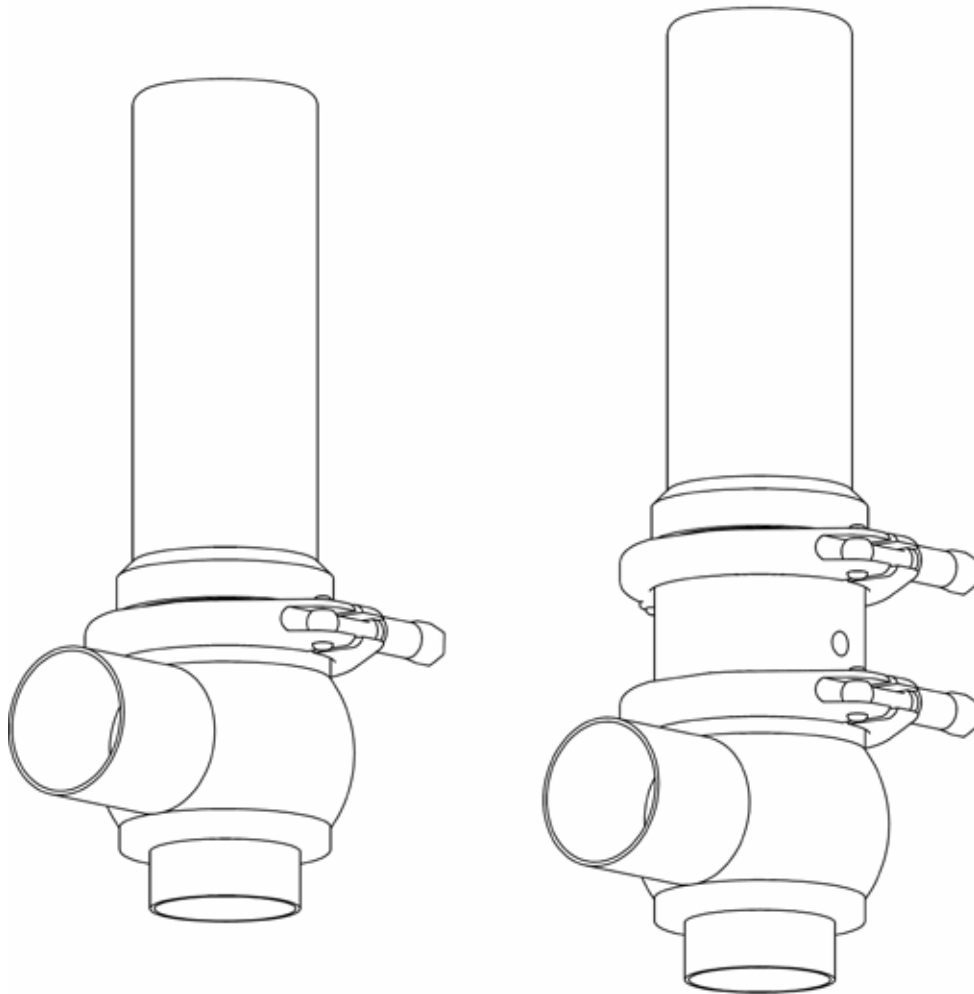


OPERATING AND MAINTENANCE INSTRUCTIONS

By-pass valve **BBZS1 - BBYS1**



BARDIANI
VALVOLE

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Foreword

This instruction manual is an integral part of the valve delivery.

- **To use the Atex valve model is obligatory to consult the appropriate manual.**
- **Always read it carefully before using the valve.**
- **Always keep it for future reference.**

All rights are reserved. It is forbidden to reproduce or transit any part of the instruction manual by any means, either electronic or mechanical, including photo copies, recording or any other memorisation or retrieval system for purposes other than the exclusively personal use by the purchaser – without prior written permission by the manufacturer.

This instruction manual is expressly intended for use by technicians. Therefore, some information which can easily be inferred by reading the text and examining the illustrations and drawings has not been further specified. The publisher is not responsible for any consequences of incorrect operations by the user.

The data and information in this instruction manual are subject to modifications or updates without any further notice or obligations on the part of the manufacturer.

1. Safety/Caution Signs



General WARNING sign, which indicates that special instructions **MUST** be followed to avoid serious personal injuries.



General CAUTION sign, which indicates that special instructions **MUST** be followed to avoid damage of equipment and environment.

NOTE! Indicates **IMPORTANT** information, which improves the understanding of the instructions.

2. General Safety Precautions



ALWAYS read the technical data before installation, operation and maintenance.

ALWAYS use authorised personnel to install, operate and service the valve. The personal should know the valve and the instruction manual thoroughly.

ONLY use the valve for the designed purpose.

ALWAYS handle heavy valves carefully and use lifting tools where necessary.

ALWAYS pay attention to possible loose valve parts when unpacking the delivery.

NEVER touch moving valve parts.

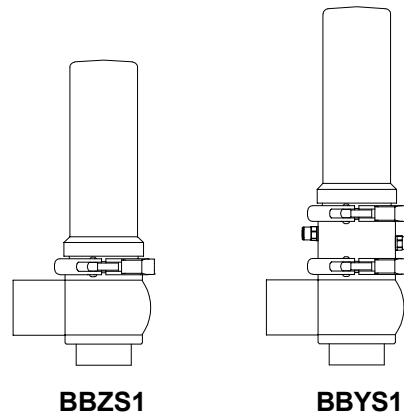
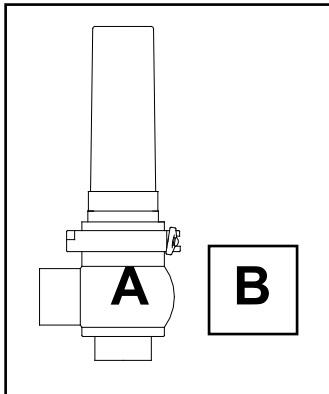
NEVER touch a hot valve.

ALWAYS handle cleaning agents carefully.

NEVER remove a valve from piping or disassemble it when the valve or piping are pressurised.

**We cannot be held liable for incorrect installation,
operation and maintenance!**

3. Receiving/Unpacking/Storage



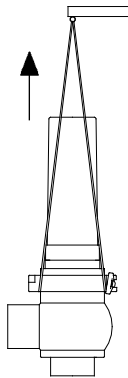
ATTENTION!

1. UNPACK AND CHECK VALVE DELIVERY:

- A. Complete valve.
- B. Instruction Manual.

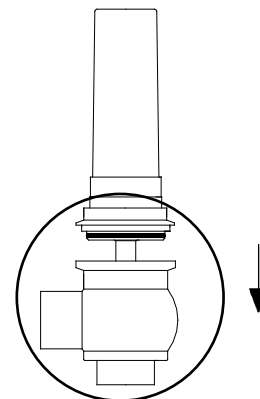
2. IDENTIFY VALVE TYPE SUPPLIED:

- BBZS1:** by-pass valve
- BBYS1:** by-pass valve with steam barrier



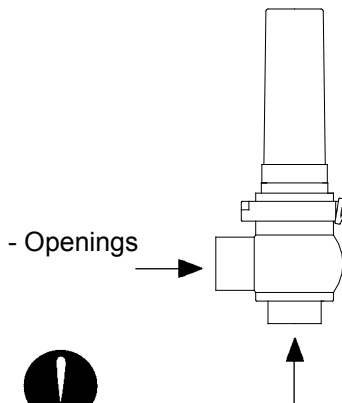
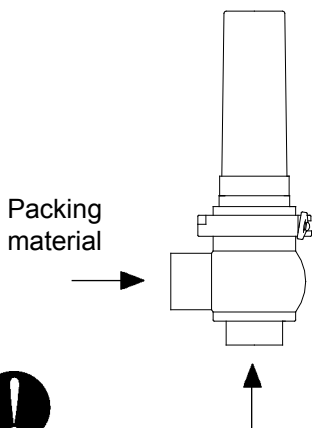
3. LIFTING OF WEIGHY VALVES:

- Use lifting tool, if necessary.
- Fix the valve to lifting tool.



4. HANDLING OF LOOSE VALVE PARTS:

- Avoid falling loose valve parts
- Assemble and tighten loose valve parts.



5. PACKING MATERIAL:

- Inspect the interior of the valve.
- Remove material and dispose of according to current directives.

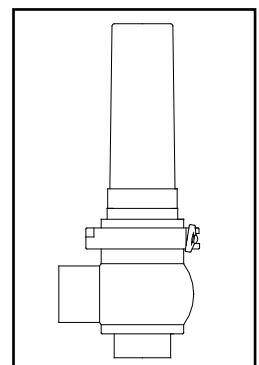


6. INSPECTION/CLAIMS:

- Document/check for damage, missing or wrong parts.
- Follow current claim procedures, if necessary.



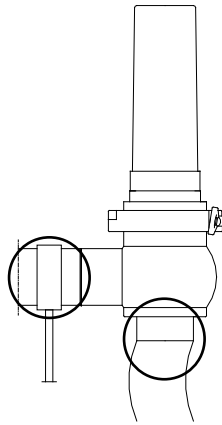
Valve safety guards!



7. STORAGE/PROTECTION:

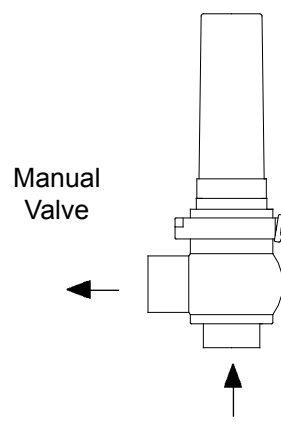
- Avoid dust, humidity, wet areas, heat etc.
- Avoid vibration.
- Min.: - 10 °C
- Max.: + 50 °C

4. Installation



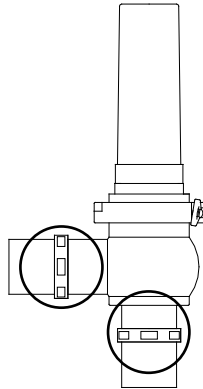
1. AVOID VALVE OVERLOADING AND COMPENSATE FOR:

- Vibration
- Thermal expansion



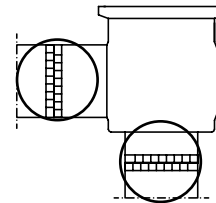
2. CORRECT FLOW DIRECTION:

- If possible, have flow against valve closing direction to avoid or minimise water hammer.



3. VALVE CONNECTIONS/UNIONS:

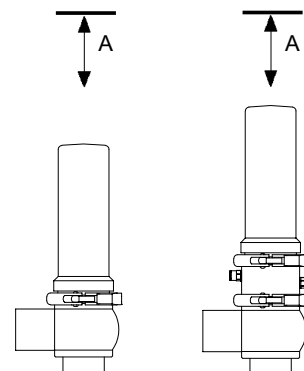
- Ensure tight connections between valve and piping.
- Remember gaskets and fit correctly.
- Tighten unions firmly and carefully.



4. WELDING VALVE BODY INTO PIPING:

- Remove inner valve parts.
- Weld body carefully into piping.
- Assemble valve.
- See assembly instructions.

VALVE SIZE	BBZS1 A (mm)	BBYS1 A (mm)
DN10-25	270	270
DN32-40	290	290
DN50	305	305
DN65	325	325
DN80	345	345
DN100	365	365



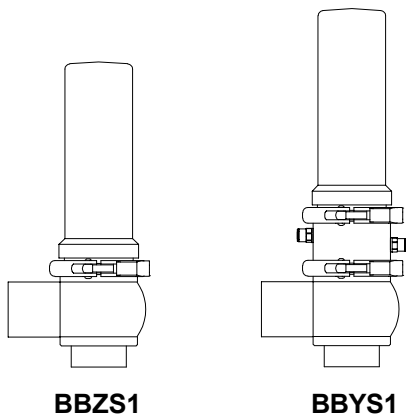
BBZS1

BBYS1

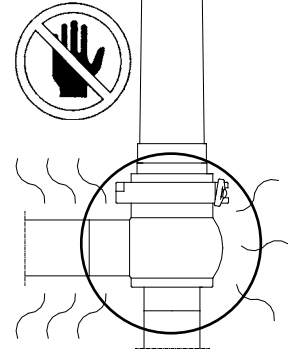
5. INSTALLING VALVE INTO PIPING:

- Ensure sufficient clearance for valve disassembly.

5. Operation



RISK of scalding



1. ONLY USE VALVE FOR DESIGNED PURPOSE

BBZS1: by-pass valve

BBYS1: by-pass valve with steam barrier



2. HOT VALVE/PIPING

- Never touch hot valve or piping, if possible.
- Alternatively use protective gloves.

6. Troubleshooting



1. TROUBLESHOOTING VALVE:

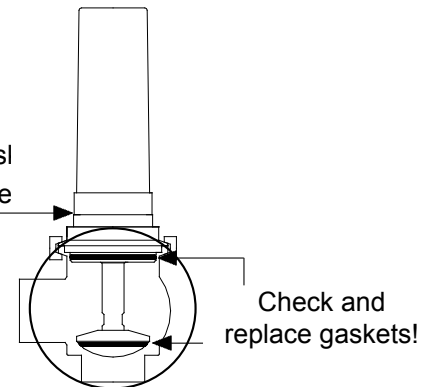
Always study operation and maintenance instructions carefully before troubleshooting.



2. REPLACING WORN VALVE PARTS:

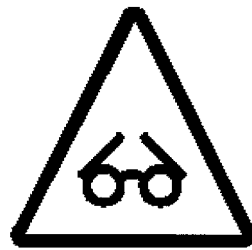
- See page 9 for spare parts ordering.

Corrosion risk
stainless ste



Problem	Possible cause	Possible remedy
External leakage	Worn out gasket	Replace gasket
Internal leakage with closed valve, caused by normal wear		
External leakage	Too high pressure	Replace with gasket of different elastomer type
	Too high temperature	
Internal leakage with closed valve occurring earlier than normal wear	Aggressive fluids	Modify operation conditions
	Too many active control	
Difficult opening and closing	Incorrect positioning of valve body	Disassemble and reposition valve body

7. Cleaning

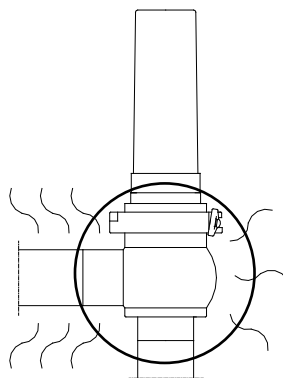


1. CLEANING VALVE WITH CLEANING AGENTS:

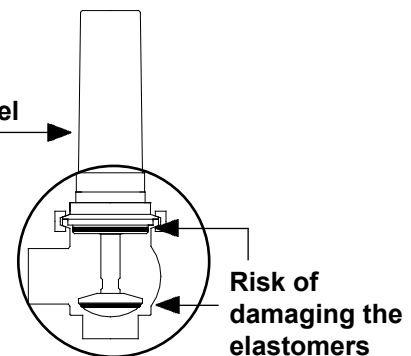
- Use authorised personnel to clean the valve.
- Observe concentrations of cleaning agents.
- Follow instructions of cleaning agent suppliers.
- Always use protective goggles and gloves



RISK of scalding



Risk of corrosion stainless steel



Risk of damaging the elastomers



3. HANDLING OF CLEANING AGENTS:

- Dose cleaning agents regularly to avoid excessive concentration.
- Always rinse carefully with clean water after cleaning.
- Check compatibility of valve materials.



2. HOT VALVE/PIPING:

- Never touch hot valve or piping, if possible.
- Alternatively use protective gloves

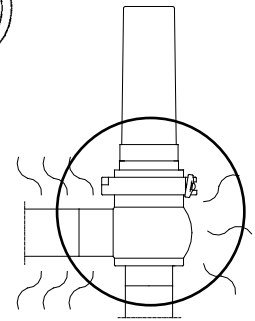
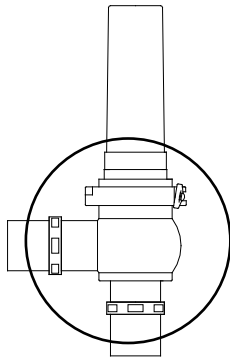
Example of suggested CIP		
Step	Temperature °C	Cip product
First rinsing	Atmosphere	Water without chlorine or chlorids
Washing	70°	Soda (NaOH) at 1%
Intermediate washing	Atmosphere	Water without chlorine or chlorids
Washing	70°	Nitric acid (HNO3) at 0,5%
Final rinsing	Atmosphere	Water without chlorine or chlorids

Recommended claning speed = 2 m/s

8. General Maintenance



RISK of scalding



1. PRESSURISED VALVE/PIPING:

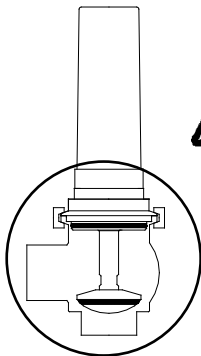
- Always release fluid pressure from valve and piping before disassembling the valve.



2. HOT VALVE/PIPING:

- Never touch hot valve or piping, if possible.
- Alternatively use protective gloves.

Wash and clean!



3. CLEANING OF DEPOSITS

- Wash and clean all valve parts thoroughly before disassembly and assembly!
- Pay attention to possible deposits of cleaning agents and other aggressive fluids!
- Always use protective goggles and gloves, if necessary.



4. REPLACING WORN VALVE PARTS:

- Always use original spare parts.
- See page 9 for spare parts ordering.

9. Planned Maintenance

Planned maintenance	Valve gaskets
Preventive	Replace after 12 months
In case of leak	Replace at the end of the day
Periodical	Check for proper operation and make sure there are no leaks
	Record all actions

10. Spare Parts Ordering Form



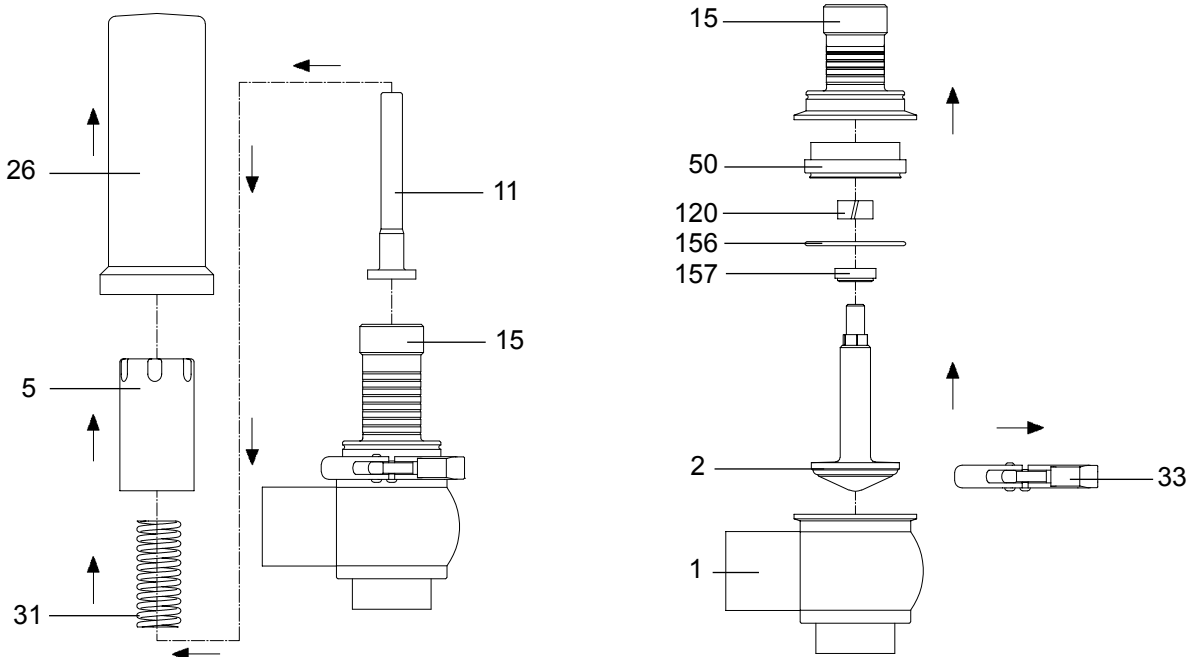
NOTE!

Please copy this page, fill it out and fax it to below address.

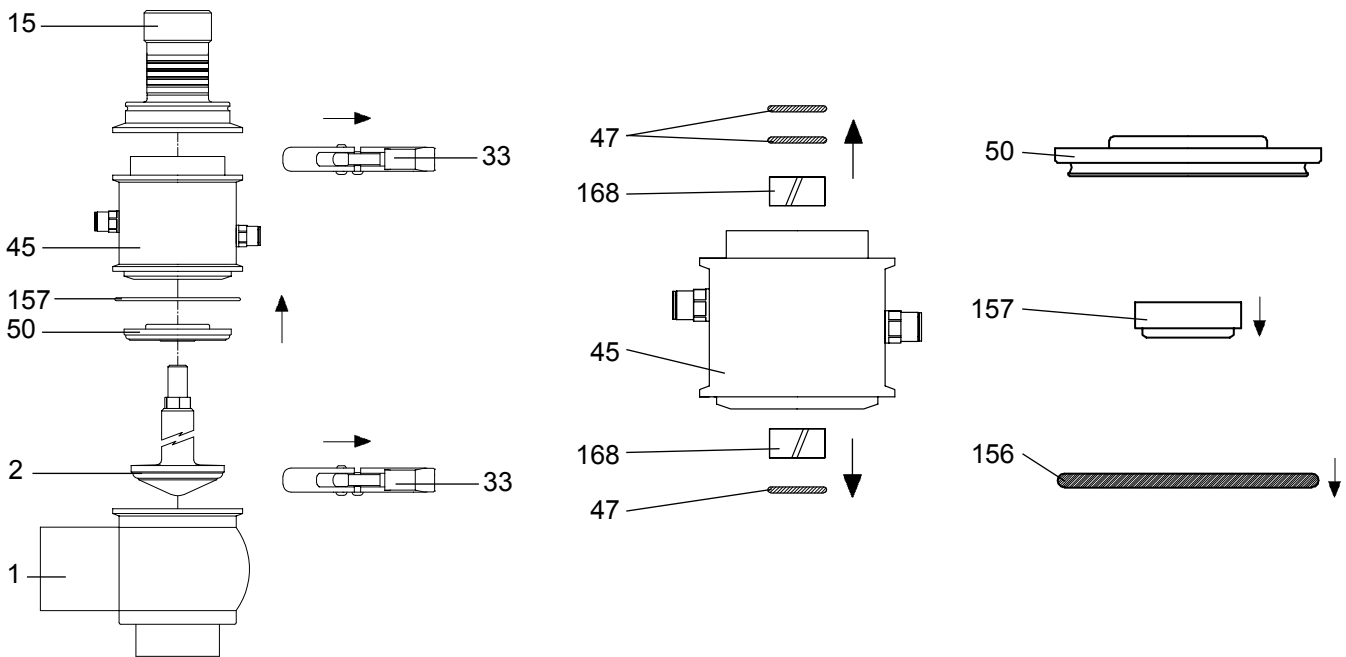
To:
BARDIANI VALVOLES S.P.A. – Ufficio Ricambi
Fax: +3905253408

From:			
Valve type:			
Serial number:			
Month/year of purchase:			
Shipping instructions:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			

11. Disassembly of the BBZS1 - BBYS1

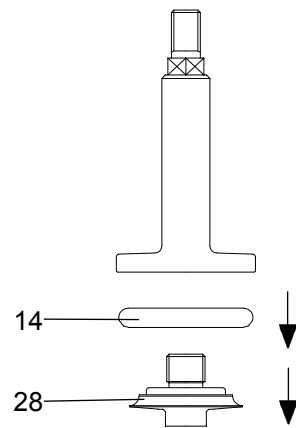
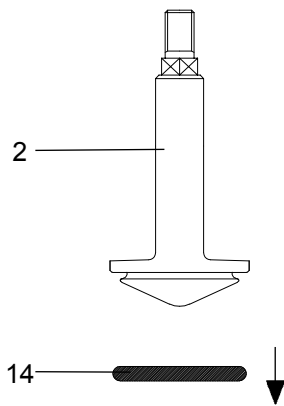


- 1.** Remove the cap (26), the adjusting sleeve (5), the spring (31) and the pivot (11) to the assembly part (15).
- 2.** Remove the clamp(33) between the assembly part (15) and valve body (1). Remove from the assembly part (15) the shutter (2) and the cap (80). Take away the seal ring (156,157) and the guide bushing from the plug (120).



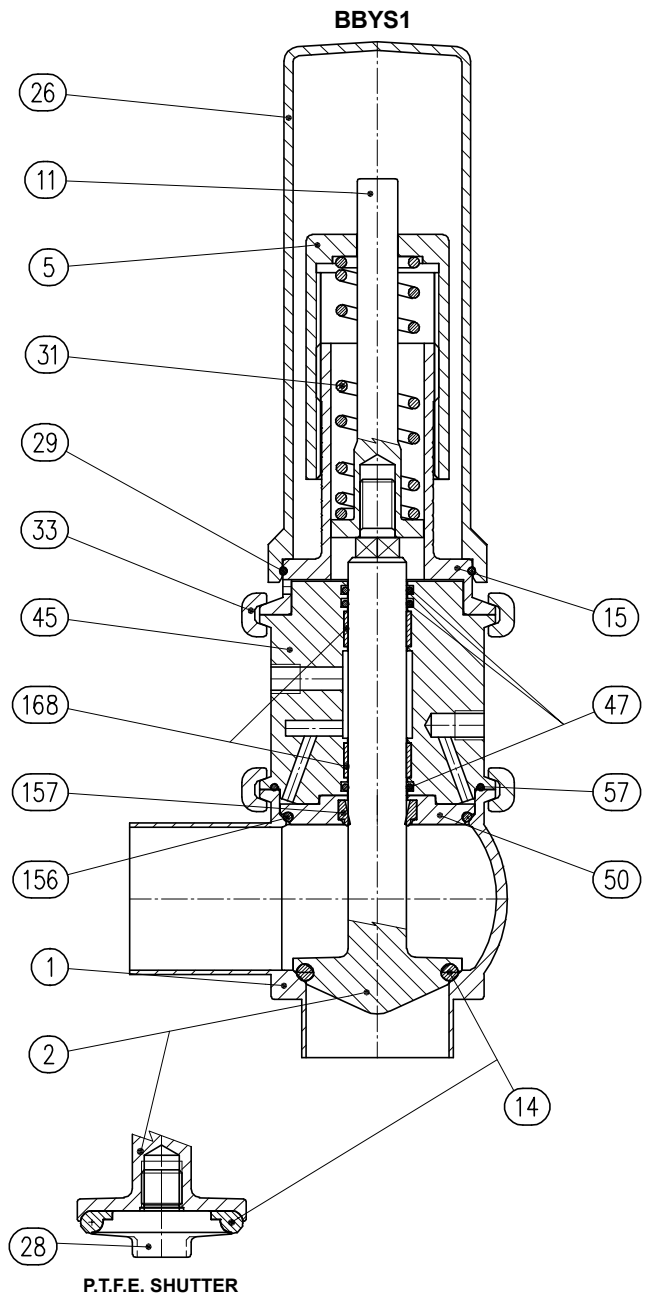
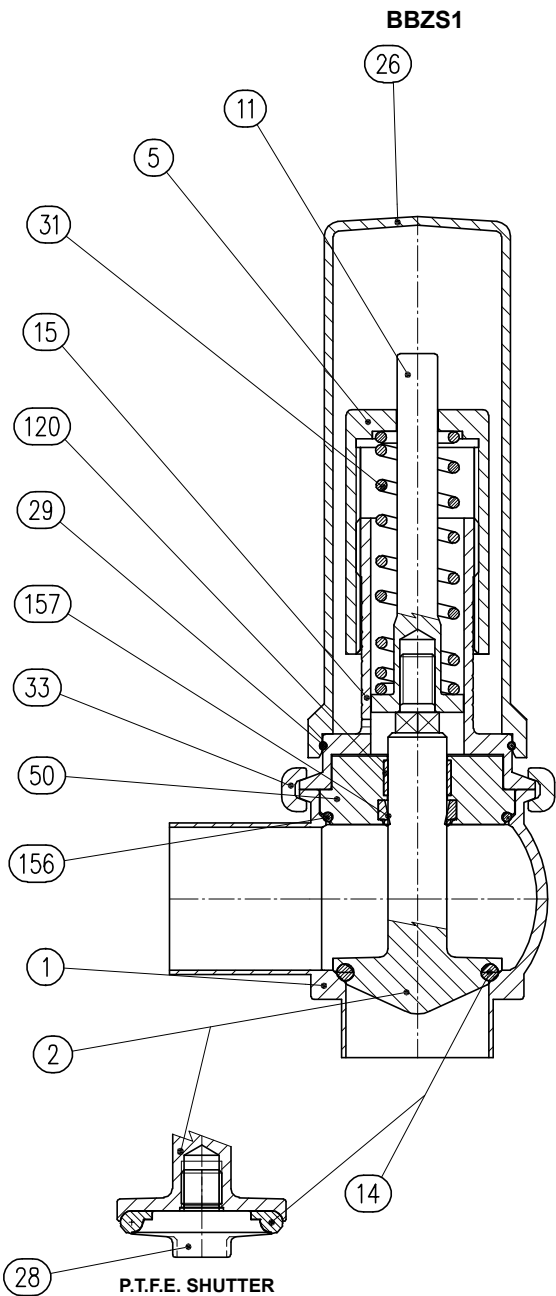
- 3. BBYS1.** Remove the clamp(33) between the steam barrier (45) and valve body (1). Remove the seal ring (157), the shutter (2), the steam barrier and the cap (50). Remove from the barrier the clamp (33).
- 4. BBYS1.** Remove seal rings (47, 156) and bushing (168) from steam barrier (45).
- 5. BBYS1.** Remove seal rings (156 and 157) from cap (50).

11. Disassembly of the BBZS1 - BBYS1

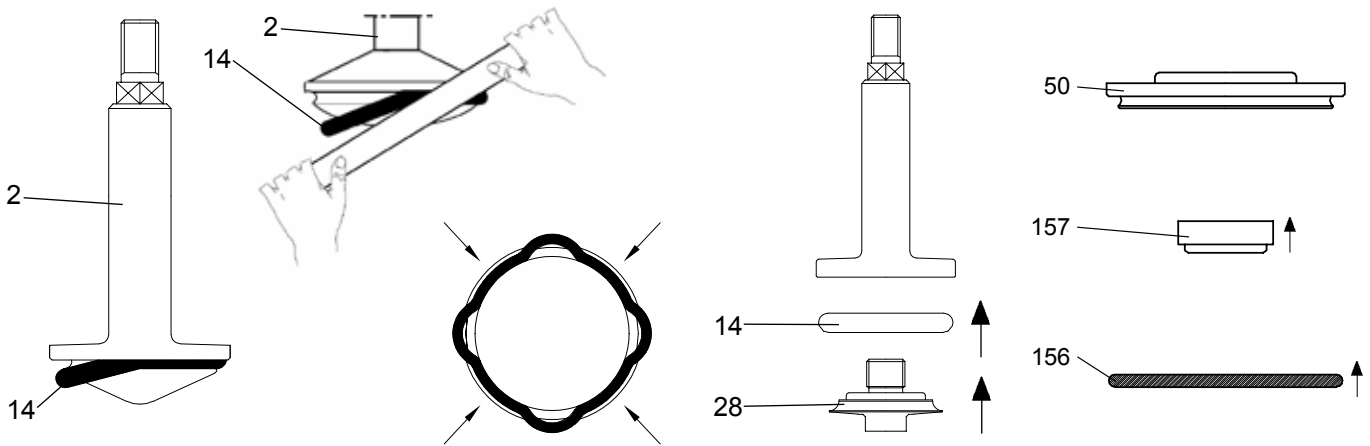


6. Remove shutter ring (14) to the shutter (2).

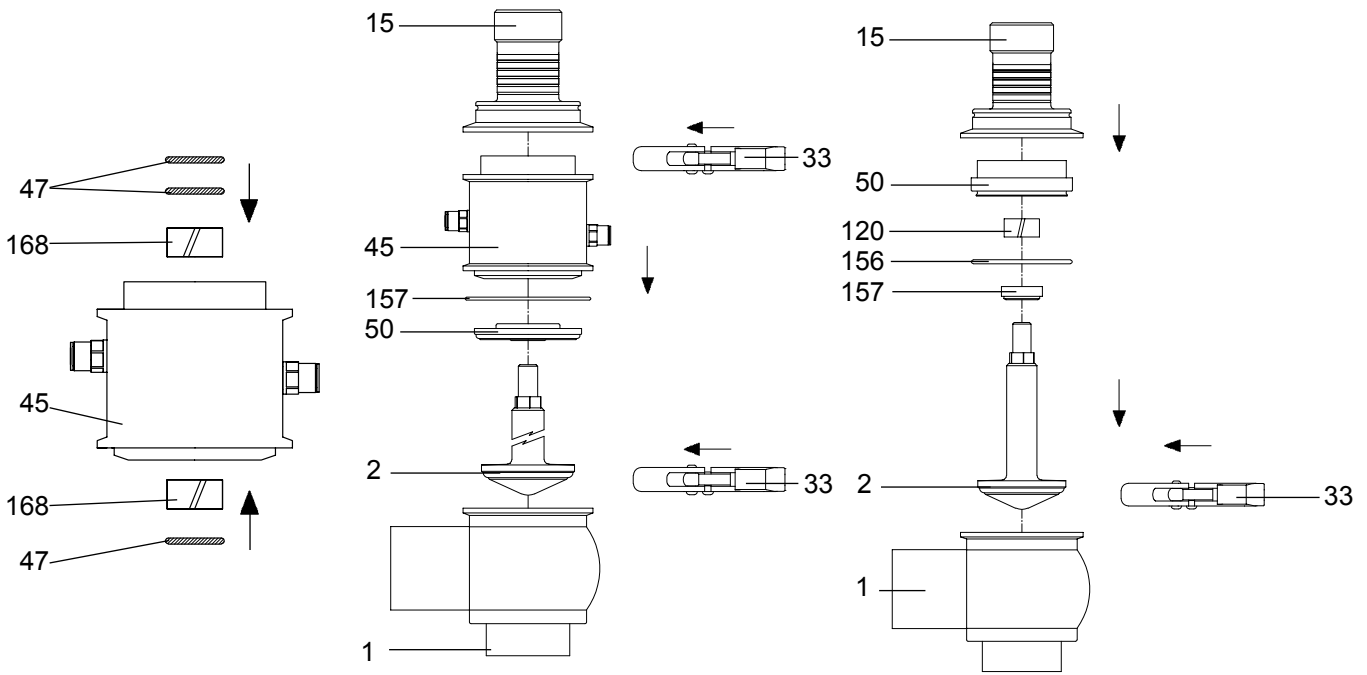
7. P.T.F.E. SHUTTER:
Unscrew shutter nut (28) and remove shutter ring (14).



12. Assembly of the BBZS1 - BBYS1

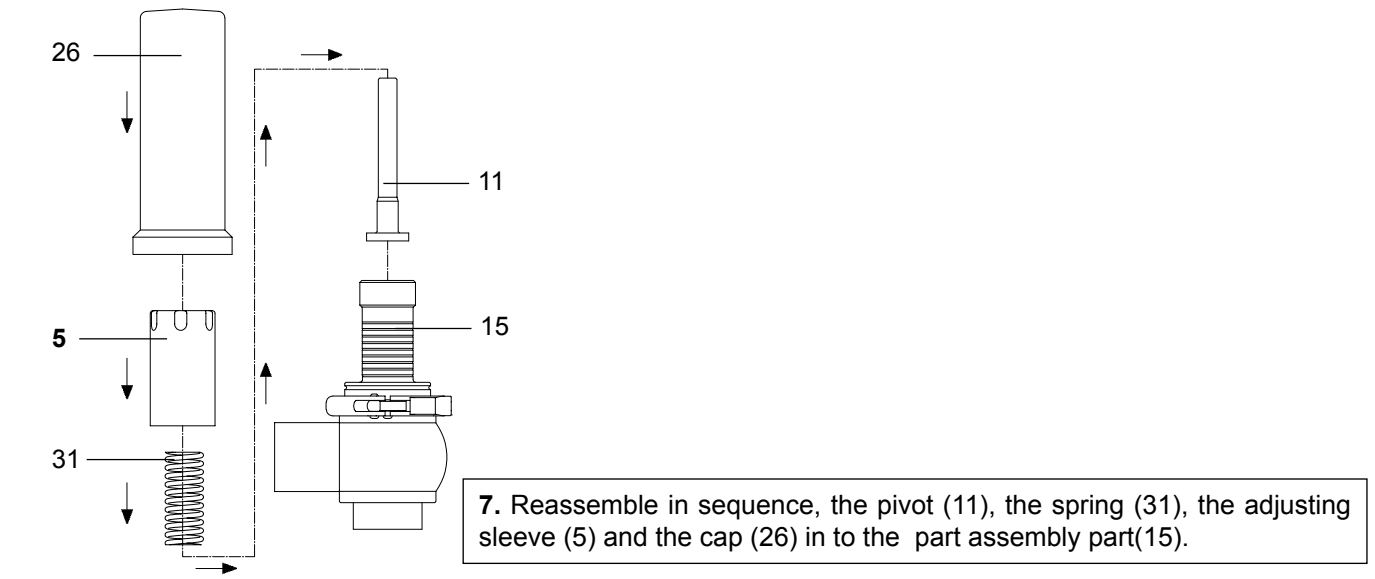


- | | | |
|---|--|---|
| <p>1. Pre-heat shutter ring (14)* to approx. 80°C to make it softer and insert it in shutter slot (2). Insert the ring in a crosswise manner using a plastic cylindrical tool.</p> | <p>2. PTFE SHUTTER:
Assemble the P.T.F.E. seal ring (14) on the shutter (2) and the shutter nut (28).</p> | <p>3. BBYS1. Insert seal rings (156*, 157*) into the cap (50).</p> |
|---|--|---|



- | | | |
|---|---|--|
| <p>4. BBYS1. Insert seal rings (47, 156)* and bushing (168) into steam barrier (45).</p> | <p>5. BBYS1. Assemble the steam barrier (45), the cap (50), the seal rings (157)*. Insert the shutter (2) in the steam barrier (45). Put the steam barrier (45), the cap (50) and the shutter (2) on the valve body (1) and close with the clamp (33).</p> | <p>6. Assemble on the plug (50) the seal rings (156*, 157*) and the guide bushing (120), put together the plug with the assembly part (15). Insert the shutter (2) with seal on the assembly part (15). Put it on the valve body (1) and close with the clamp (33).</p> |
|---|---|--|

12. Assembly of the BBZS1 - BBYS1



13. Spare Parts List

N°	Description	N°	Description
1	Lower body		
2	Shutter		
4	Seal ring		
5	Adjusting sleeve		
11	Pivot		
14	Seal ring		
15	Part assembling		
26	Cap		
28	Shutter nut		
29	Seal ring		
31	Spring		
33	Clamp		
45	Steam barrier		
47	Seal ring		
50	Cap		
57	Seal ring		
67	Piston upper		
120	Guide bushing		
156	Seal ring		
157	Seal ring		
168	Guide bushing		

14. Technical data

Valve technical specifications:

Max. working pressure:	10 bar (145 psi)
Min. working pressure:	0 bar (0 psi) vacuum is not recommended in aseptic applications.
Max. product temperature:	140° C (284° F)
Min. product temperature:	-10° C (14°F)
Material in contact with the product:	AISI 316L (1.4404)
Seals in contact with the product (FDA homologation):	EPDM, FKM, HNBR, P.T.F.E. (other seals available upon request).
Finish on surfaces in contact with the product:	Ra 0.8 µm (other types of surface finish on request).

Steam barrier specifications:

Connectors:	1/8" (BSP)
Max. steam temperature	130°C (266°F)
Seal / gasket material:	FKM

PED Directive 97/23/EEC, with special reference to Annex III, Module A regarding internal production control as Conformity Assessment Procedure in force valve sizes DN10--25 are not included in accordance with Article 3 paragraph 1.3:

Valves intended for gases, liquified gases, gases dissolved under pressure, vapours and those liquids whose vapour pressure at the maximum allowable temperature is greater than 0,5 bar above normal atmospheric pressure (1013 mbar) within the following limits

- For fluids in Group 1 with a DN greater than 25

Foreword

This "Instruction, Use and Maintenance Manual" forms an integral part of the valve.

Before proceeding with installation, use or maintenance of each type of valve it is compulsory to read and understand this manual.

Keep this manual for future reference.

When using valves which comply with ATEX Directive 94/9/EC (ATEX) it is compulsory to read the relative manual.

This "Instruction, Use and Maintenance Manual" has been drawn up expressly for expert technical personnel. Consequently any information which can easily be deduced from reading the text and/or examining the illustrations and/or drawings provided herein shall not be the object of further explanation.

It being understood that the essential characteristics of the valve type described herein shall remain the same, the manufacturer reserves the right to amend and/or integrate and/or update the data and/or information relative to use of the valve provided in the "Instruction, Use and Maintenance Manual", at any time and without prior notice.

The latest, updated version of the "Instruction, Use and Maintenance Manual" is always available at www.bardiani.com.

The manufacturer shall not in any way be held liable for any consequences resulting from failure to observe all the prescriptions provided in the relative manual concerning installation, use, maintenance and care of the product.

All rights are reserved. It is forbidden, without due written authorization from the manufacturer, to copy totally and/or partially and/or transfer and/or record any part of this "Instruction, Use and Maintenance Manual" using any means and/or support, including IT and/or electronic and/or mechanical and/or paper form or any other means or system for recording and/or reusing the information contained herein for any purposes other than for the purchaser's personal use.

Warranty

1. VALIDITY

Bardiani Valvole S.p.A. guarantees its own products against any design and/or construction and/or material defects and/or faults for a period of 12 (twelve) months from the date of delivery.

Notification of any product defects and/or faults must be sent in writing to Bardiani Valvole S.p.A. within 8 (eight) days of coming to light, providing adequate documentation of the defect/fault encountered can be provided as evidence.

Any repairs made during the warranty period do not extend said period over the stipulated 12 (twelve) months which remains definite.

2. CONTENTS OF THE WARRANTY

This warranty it to be intended as limited, at the discretion of Bardiani Valvole S.p.A., to the repair and/or replacement of the product and/or part of the product and/or its components which is/are found to be defective due to design and/or manufacturing and/or material faults.

In the event of repair and/or replacement of the product and/or any one of its parts and/or components, any returned item/s shall become the property of Bardiani Valvole S.p.A and the relative shipping costs shall be at the expense of Bardiani Valvole S.p.A.

Bardiani Valvole S.p.A., shall be under no obligation to compensate for any immaterial and/or indirect damages and shall in no way be held liable for consequential damages and/or losses, such as (by way of example only), damages due to loss of business, contracts, opportunities, time, production, profits, goodwill, image etc..

No retailer or distributor or dealer or agent or representative or employee or person appointed by Bardiani Valvole S.p.A. is authorized to make any amendments and/or integrations and/or extensions to this warranty.

3. EXCLUSIONS FROM THE WARRANTY

All purchaser rights, as established and recognized by law being understood and unaffected, elastomers and electrical components are expressly excluded from this warranty.

This warranty does not cover design faults whenever a product is built by Bardiani Valvole S.p.A. based on designs and/or technical specifications provided by the purchaser.

This warranty also does not cover:

- faults and/or defects resulting from incorrect and/or unsuitable and/or improper transport,
- faults and/or defects resulting from installation of the product which fails to observe the indications provided in the "Instruction, Use and Maintenance Manual" or in any case caused by incorrect and/or unsuitable and/or improper installation,
- faults and/or defects resulting from use and/or maintenance operations and/or storage of the products which fail to observe the prescriptions provided in the "Instruction, Use and Maintenance Manual" or in any case which are incorrect and/or unsuitable and/or improper,
- faults and/or defects ascribable to normal wear and tear of the product and/or its parts and/or its components,
- faults and/or defects in the product and/or its parts and/or its components whenever interventions and/or repairs have been performed by persons not authorized by Bardiani Valvole S.p.A. and/or who are not suitably qualified,
- faults and/or defects in the product and/or its parts and/or its components ascribable to it being dropped and/or banged and/or dented and/or misuse and/or tampering and/or breakage and/or accidents caused by negligence and/or lack of care by the purchaser and in general for any causes not ascribable to design and/or manufacturing and/or material defects,
- faults and/or defects in the product and/or its parts and/or its components ascribable to negligence and/or carelessness and/or lack of care by the purchaser,
- faults and/or defects in the product and/or its parts and/or its components caused by other events outside the control of Bardiani Valvole S.p.A. or determined by force majeure or mishap.

Recommendations

1. All the information, indications, statements and technical details provided herein are based on test data which Bardiani Valvole S.p.A. holds to be reliable but which cannot be expected to cover every possible use of the product.

2. The illustrations and drawings provided are all indicative and are not binding, consequently they may not fully match the real appearance of the products.

3. Being as the conditions of product use and applications cannot be controlled by Bardiani Valvole S.p.A., the purchaser must ascertain suitability of the use he intends to make of the product beforehand and assume all risks and liabilities which may result from the same.

4. Customers are strongly advised to consult Bardiani Valvole S.p.A.'s technical-commercial collaborators to request any specific information concerning the technical characteristics of the products.

5. The information provided in this document refers to standard production Bardiani Valvole S.p.A. products and therefore cannot be considered a basic reference for products built to meet specific requirements.