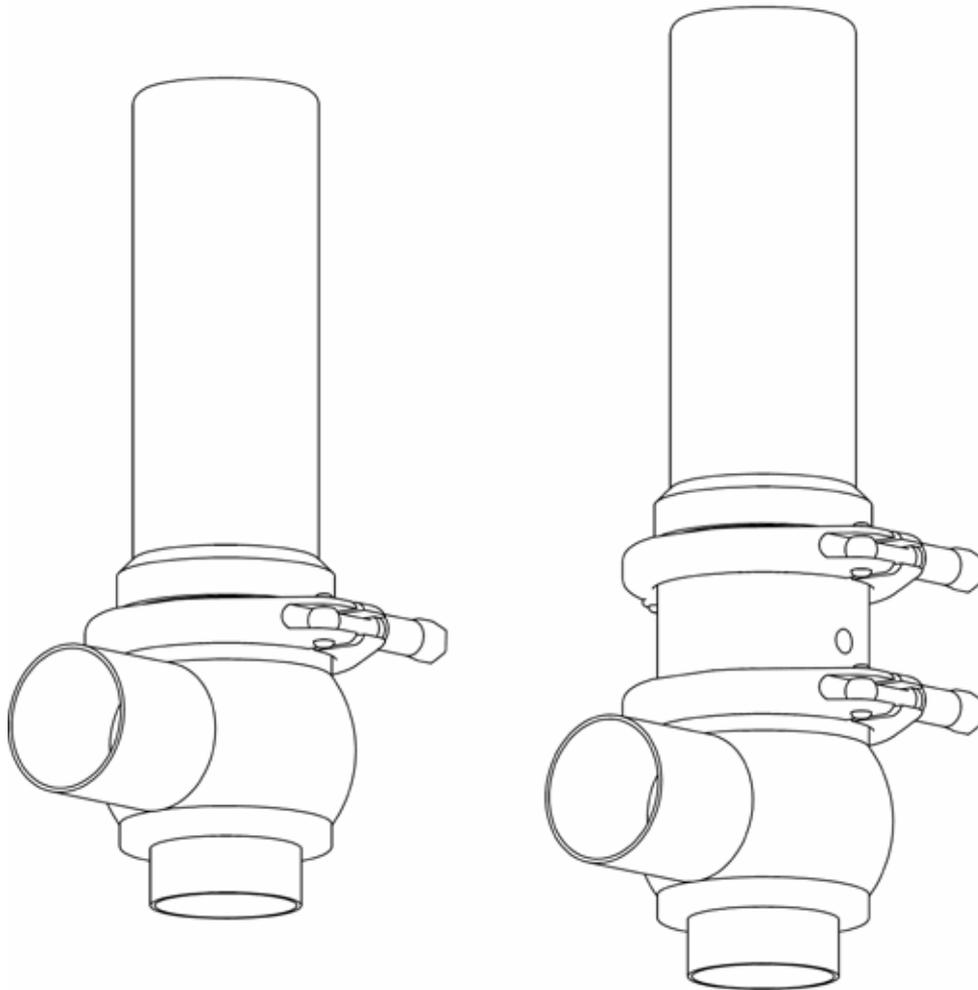


OPERATING AND MAINTENANCE INSTRUCTIONS

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.**

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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.

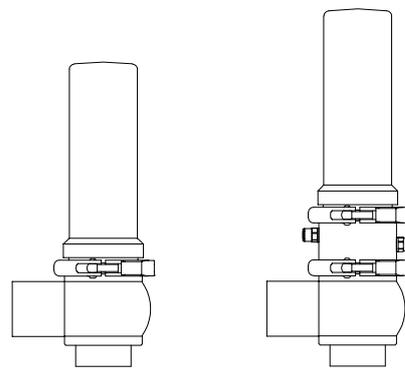
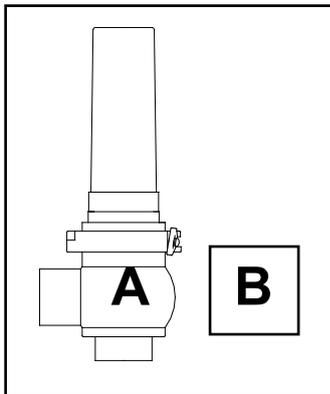
NEVER touch a hot valve.

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



BBZS1

BBYS1

ATTENTION!

1. UNPACK AND CHECK VALVE DELIVERY:

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

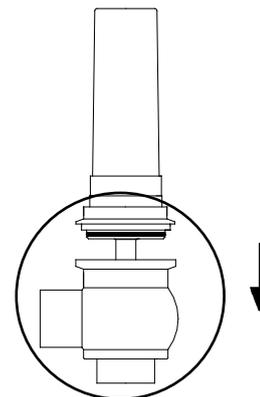
2. IDENTIFY VALVE TYPE SUPPLIED:

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



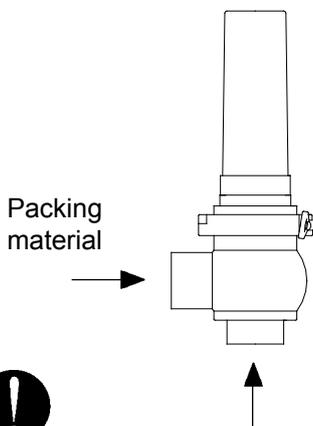
3. LIFTING OF WEIGHY VALVES:

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

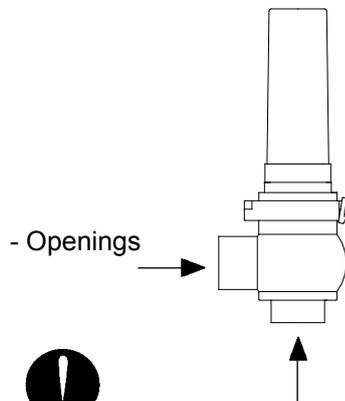


4. HANDLING OF LOOSE VALVE PARTS:

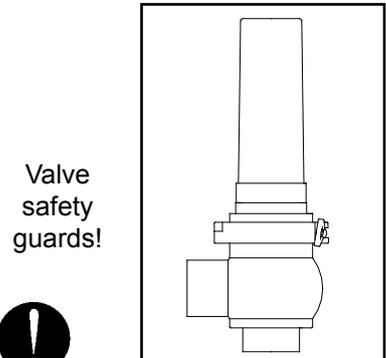
- Avoid falling loose valve parts
- Assemble and tighten loose valve parts.



Packing material



- Openings



Valve safety guards!



5. PACKING MATERIAL:

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



6. INSPECTION/CLAIMS:

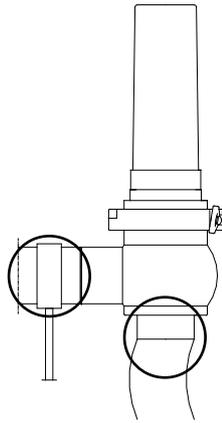
- Document/check for damage, missing or wrong parts.
- Follow current claim procedures, if necessary.



7. STORAGE/PROTECTION:

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

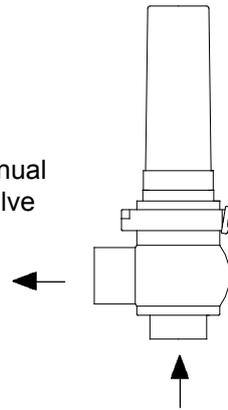
4. Installation



1. AVOID VALVE OVERLOADING AND COMPENSATE FOR:

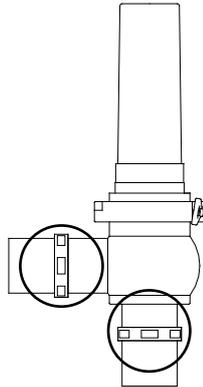
- Vibration
- Thermal expansion

Manual Valve



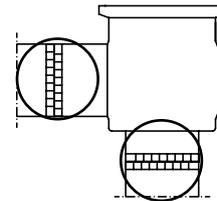
2. CORRECT FLOW DIRECTION:

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



3. VALVE CONNECTIONS/UNIONS:

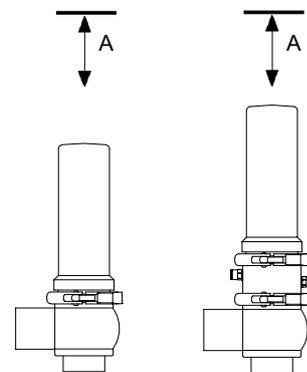
- Ensure tight connections between valve and piping.
- Remember gaskets and fit correctly.
- Tighten unions firmly and carefully.



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



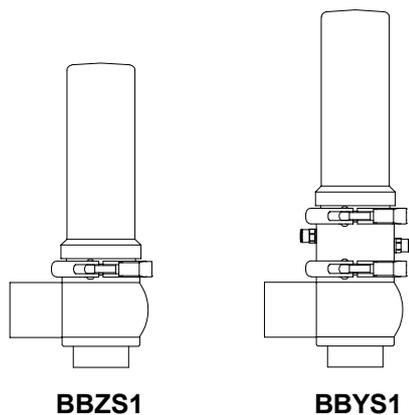
BBZS1

BBYS1

5. INSTALLING VALVE INTO PIPING:

- Ensure sufficient clearance for valve disassembly.

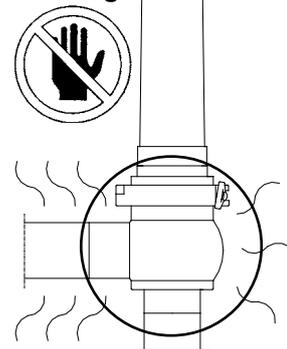
5. Operation



BBZS1

BBYS1

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

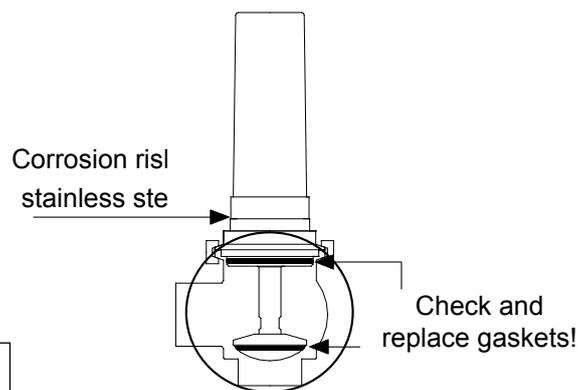
- Never touch hot valve or piping, if possible.
- Alternatively use protective gloves.

6. Troubleshooting



1. TROUBLESHOOTING VALVE:

Always study operation and maintenance instructions carefully before troubleshooting.

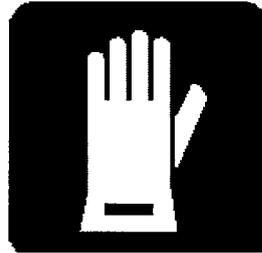


2. REPLACING WORN VALVE PARTS:

- See page 9 for spare parts ordering.

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

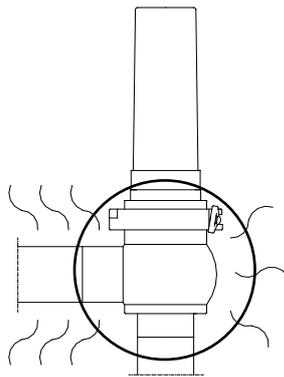


1. CLEANING VALVE WITH CLEANING AGENTS:

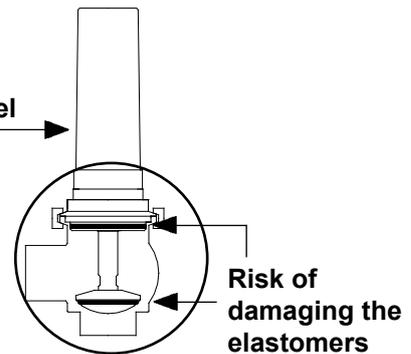
- Use authorised personnel to clean the valve.
- Observe concentrations of cleaning agents.
- Follow instructions of cleaning agent suppliers.
- Always use protective goggles and gloves



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

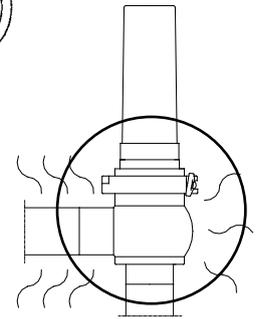
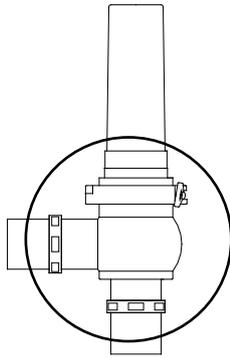
Example of suggested CIP		
Step	Temperature °C	Cip product
First rinsing	Atmosphere	Water without chlorine or chlorids
Washing	70°	Soda (NaOH) at 1%
Intermediate washing	Atmosphere	Water without chlorine or chlorids
Washing	70°	Nitric acid (HNO3) at 0,5%
Final rinsing	Atmosphere	Water without chlorine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

Recommended claning speed = 2 m/s

8. General Maintenance



RISK of scalding



1. PRESSURISED VALVE/PIPING:

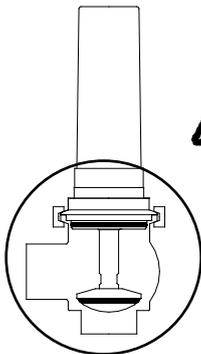
- Always release fluid pressure from valve and piping before disassembling the valve.



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



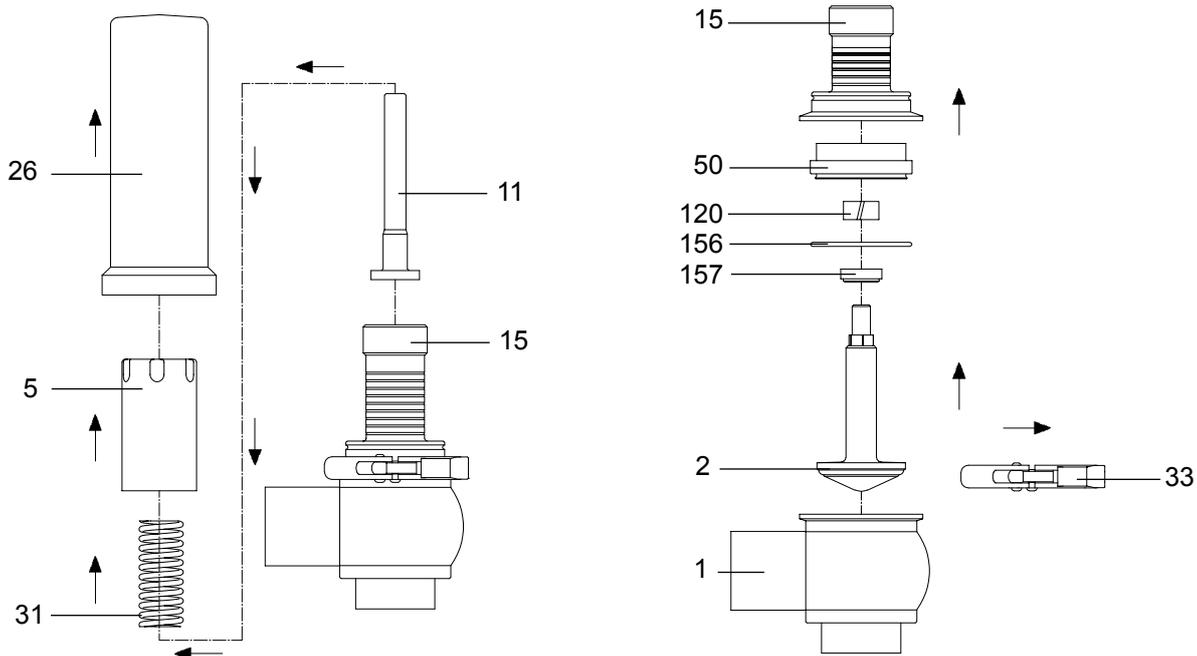
NOTE!

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

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

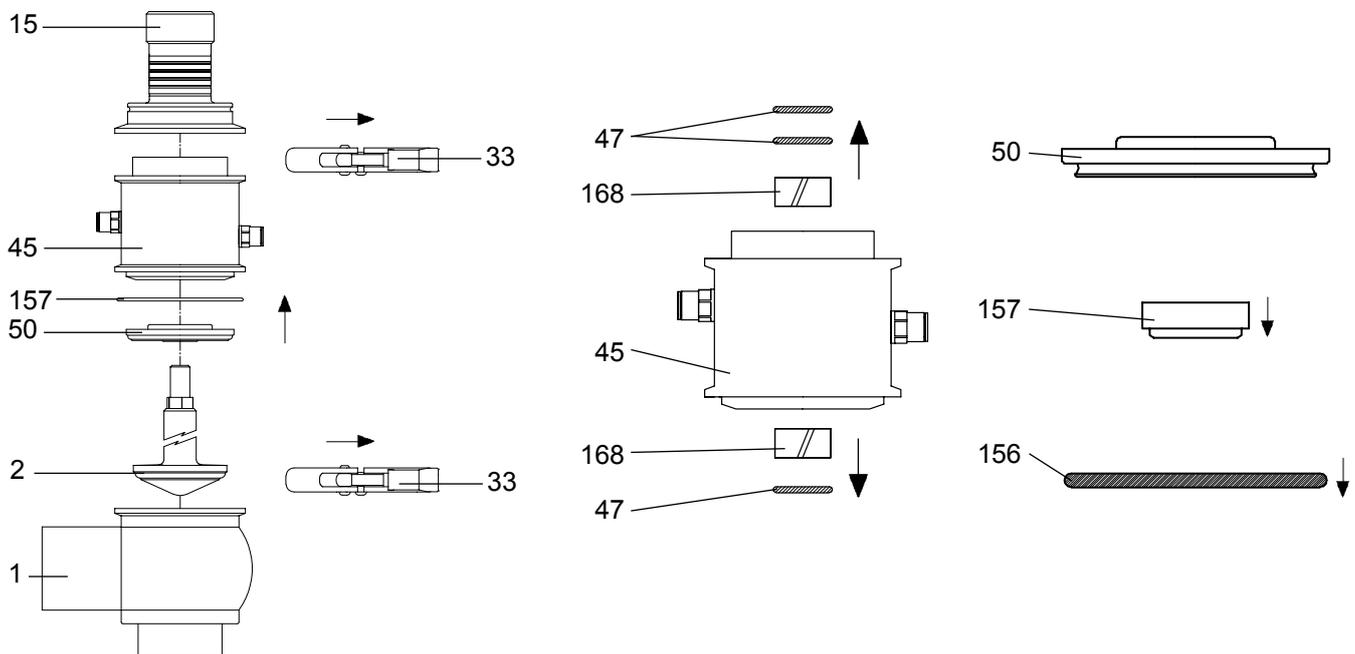
From:			
Valve type:			
Serial number:			
Month/year of purchase:			
Shipping instructions:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			
Quantity:		Position No.:	
Description:			

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).

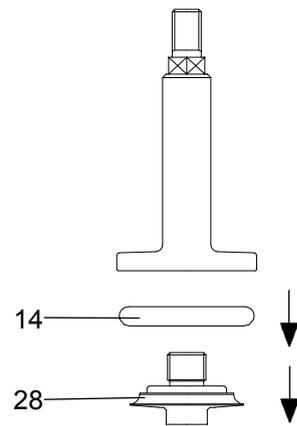
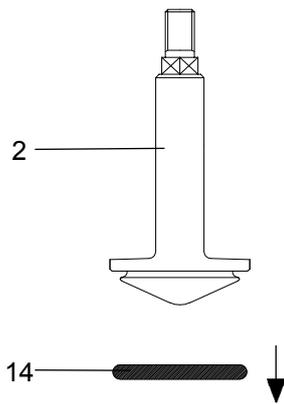


3. BBYS1. Remove the clamp(33) between the steam barrier (45) and valve body (1). Remove the seal ring (157), the shutter (2), the steam barrier and the cap (50). Remove from the barrier the clamp (33).

4. BBYS1. Remove seal rings (47, 156) and bushing (168) from steam barrier (45).

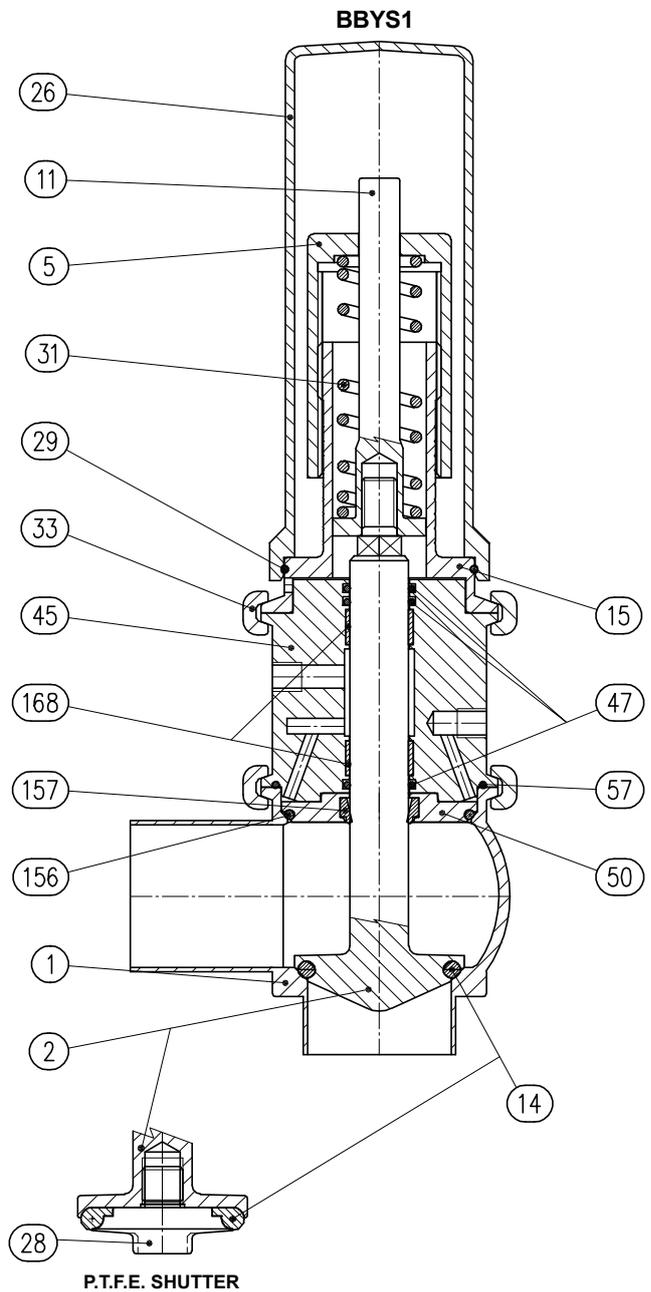
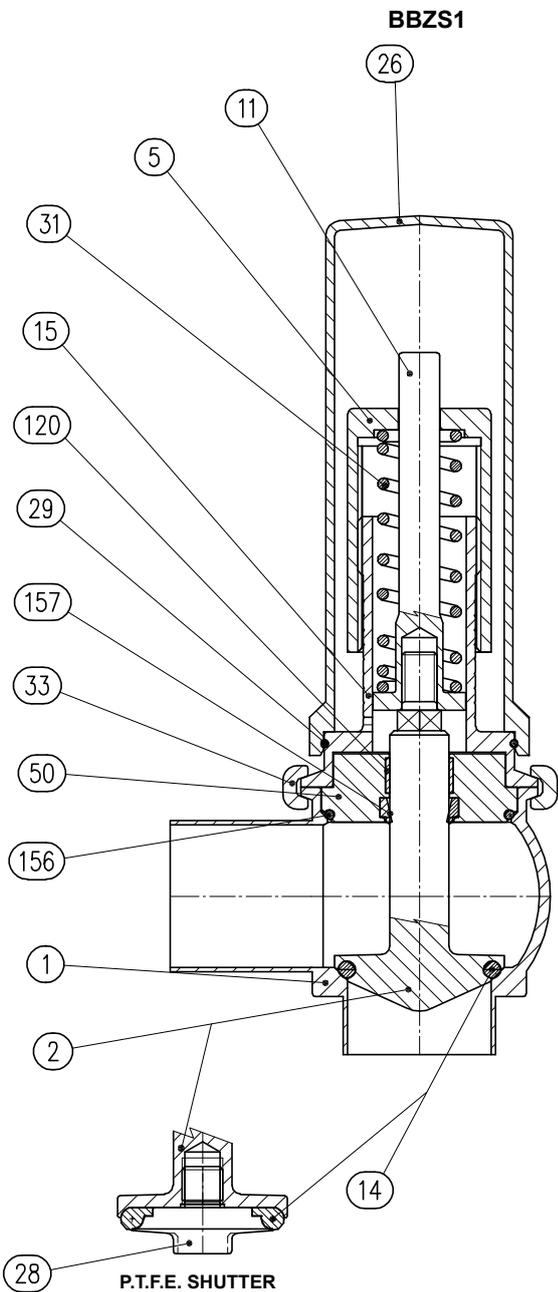
5. BBYS1. Remove seal rings (156 and 157) from cap (50).

11. Disassembly of the BBZS1 - BBYS1

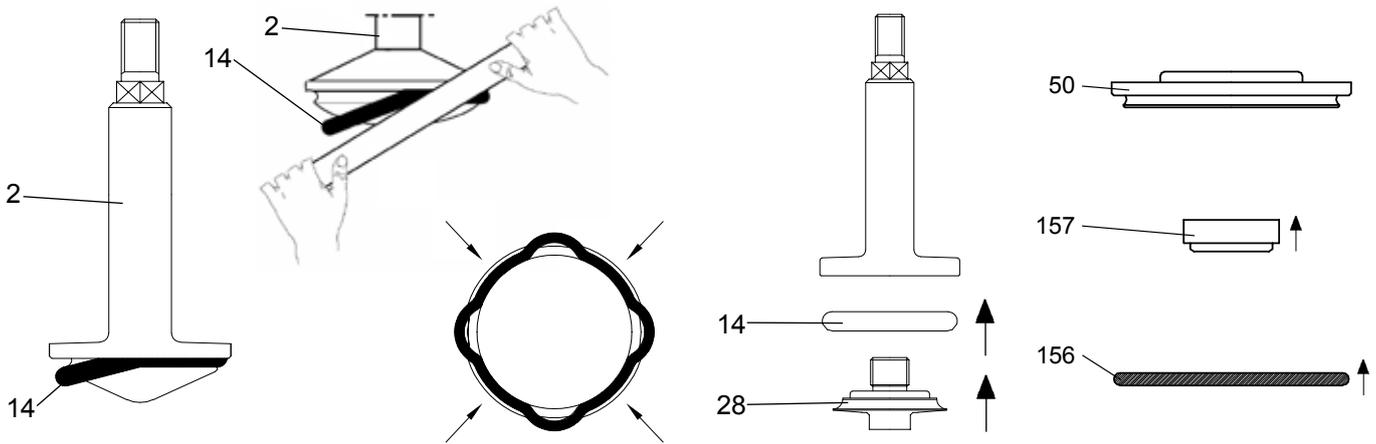


6. Remove shutter ring (14) to the shutter (2).

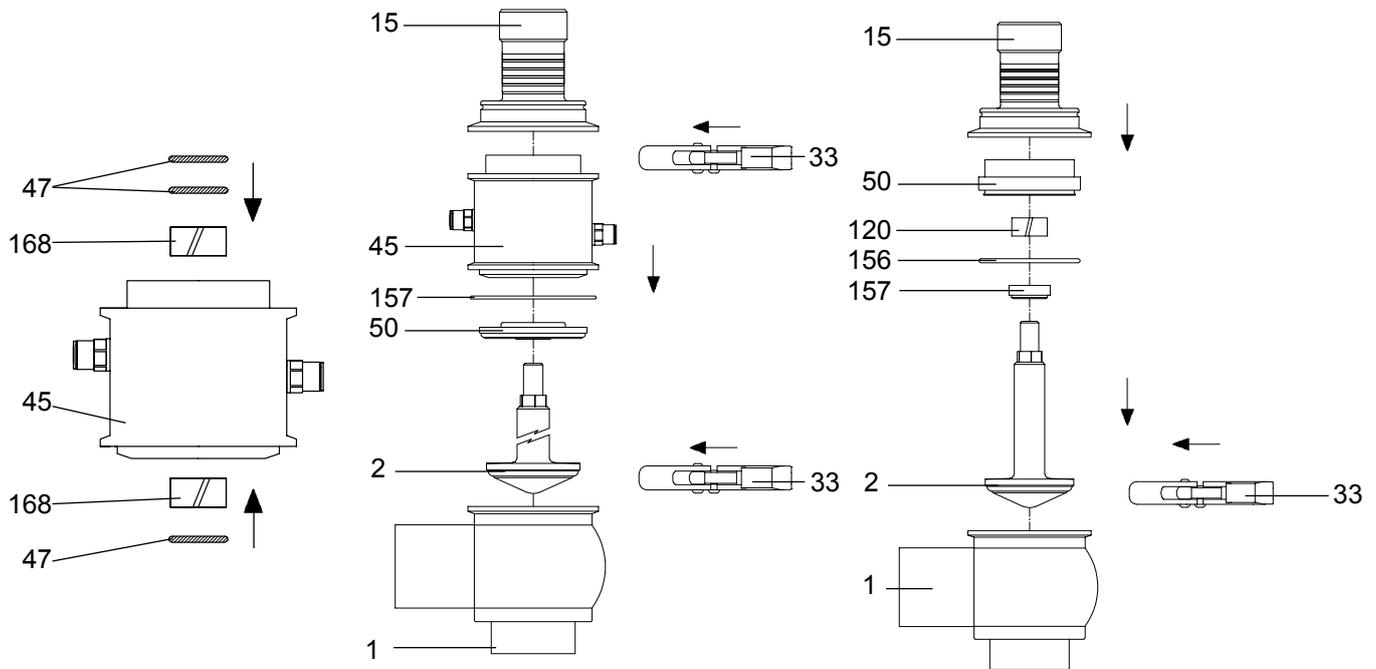
7. P.T.F.E. SHUTTER:
Unscrew shutter nut (28) and remove shutter ring (14).



12. Assembly of the BBZS1 - BBYS1



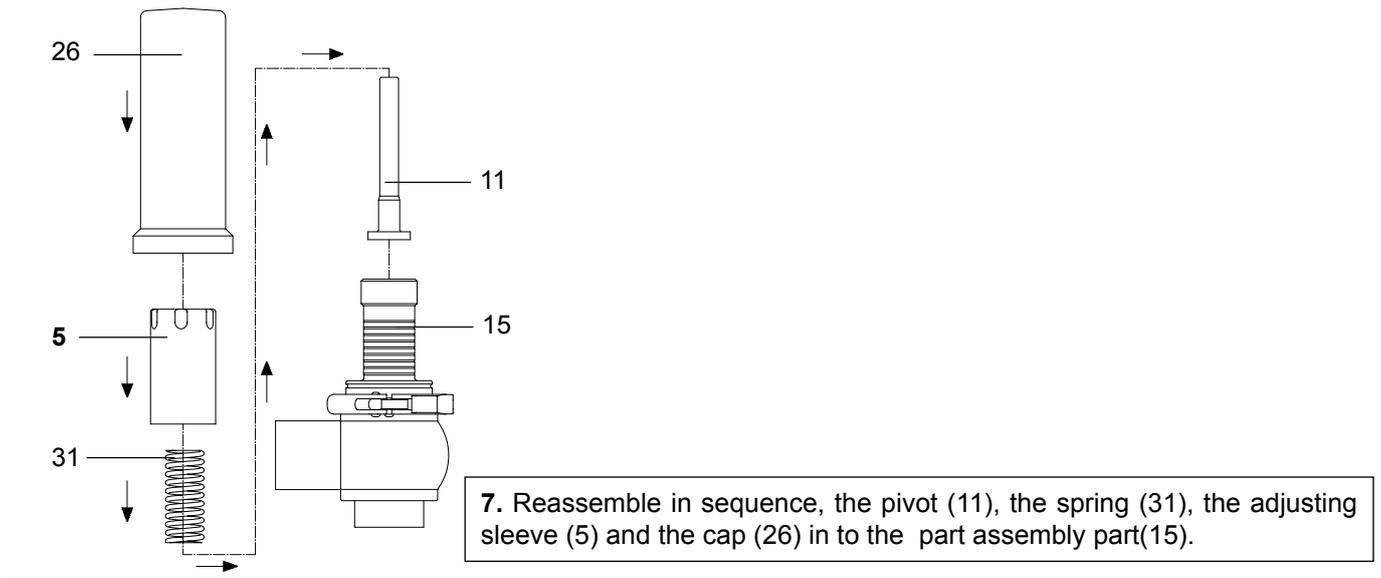
- | | | |
|---|--|---|
| <p>1. Pre-heat shutter ring (14)* to approx. 80°C to make it softer and insert it in shutter slot (2). Insert the ring in a crosswise manner using a plastic cylindrical tool.</p> | <p>2. PTFE SHUTTER:
Assemble the P.T.F.E. seal ring (14) on the shutter (2) and the shutter nut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

DISCLAIMER

1. CONTRACTUAL WARRANTIES AND LIABILITY

- 1.1 Bardiani Valvole S.p.A. warrant that their products are free from defects in design, material and workmanship. Bardiani Valvole S.p.A. shall be liable should any such defects be found within 12 (twelve) months from the date of delivery of the products.
- 1.2 Any claim regarding defects and/or faults found in the products shall be notified in full and in writing to Bardiani Valvole S.p.A. within 8 (eight) days from the date they were found. Adequate documentation shall be provided as evidence of said defects at the time the claim is filed.

2. LIMITATION IN LIABILITY

- 2.1 Without prejudice to any statutory right of the Buyer, Bardiani Valvole S.p.A. shall be under no liability in respect of electric components or elastomers that are part of their products.
- 2.2 The Seller shall be under no liability in respect of defects/faults specified in the following points:
 - defects and/or faults arising from failure to follow the instructions contained in the "Manual of Instruction for the Use and Maintenance of the Product" as to the use and storage of the products by the Buyer;
 - defects and/or faults arising from fair wear and tear of the products or their parts or their components;
 - defects and/or faults arising from repairs or interventions of the goods carried out by unauthorized or unqualified staff;
 - defects and/or faults arising from misuse, accidents, negligence and abnormal working conditions caused by the Buyer.

3. WARRANTY

- 3.1 Bardiani Valvole S.p.A. shall, at their discretion, repair or replace the products that are acknowledged to be defective.
- 3.2 Should repair or replacement of the product or of its components occur, the parts returned shall become the property of Bardiani Valvole S.p.A. The relevant freight costs involved in the return of the goods or their components shall be entirely met by Bardiani Valvole S.p.A..
- 3.3 Under no circumstance shall Bardiani Valvole S.p.A. be liable to indemnify immaterial or indirect damages such as damages or consequential loss, whether loss of profit, loss of business, loss of business opportunities, loss of time, loss of goodwill and damage to corporate image, etc.
- 3.4 The performance of repair or replacement under the above warranty shall not entail any extension of the warranty period of 12 (twelve months), such term being unconditional.
- 3.5 No distributor, agent or staff to Bardiani Valvole S.p.A. is entitled to make any amendment, extension or addition to the above warranty.

WARRANTY

1. All the statements, indications and technical data listed in this document are based on technical tests carried out by Bardiani Valvole S.p.A.. However accurate and reliable, such tests do not reflect all possible circumstances under which the products may be used.
It is therefore advisable that the Buyer should always ascertain the suitability of the product in its application. The Buyer will be entirely liable for all risks and damages incurred by said products.
Bardiani Valvole S.p.A. are not liable for any accident, loss or damage incurred, whether they be directly or indirectly caused by the use or misuse of the products.
No further guarantees other than those stated in this document shall be granted.
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7. Bardiani Valvole S.p.A. cannot accept any liability for any faults or damages deriving from mishandling of the products and/or interventions carried out by unqualified personnel. No liability is accepted for damages caused by hits, dents, carelessness, negligence or any other any acts that cannot be considered as construction faults or faults related to the materials used in production.

