

## INSTALLATION AND MAINTENANCE INSTRUCTIONS BV BLOWDOWN EXPANSION VESSEL

### GENERAL

- These instructions must be carefully read before any work involving products supplied by VALSTEAM ADCA ENGINEERING S.A. is undertaken.
- The installation procedure is a critical stage in the life of equipment, so care should be taken to avoid any damage.

### Note:

- Current regional safety regulations should be taken into account and followed, while doing the installation and maintenance work.
- Handling, installation and maintenance work must be carried out by trained personnel. A supervisor must follow and check all activities.
- For the problems that cannot be solved with the help of these instructions, please contact the supplier or the manufacturer.
- The manufacturer reserves the right to change the design and material of this product without notice.

CE MARKING - GROUP 2 GASES CATEGORIES		
PRESSURE	MODEL	CATEGORY
7 bar	BV3	3
	BV4 to BV7	4

LIMITING CONDITIONS	
PS - Maximum Allow able Pressure	7 bar
TS - Maximum Allow able Temperature	180 °C
Minimum operating temp.: 20°C. Design code: AD-Merkblatt	
Other conditions on request.	



### ATTENTION

- If malfunction of any other equipment or system operation failure may result in a dangerous overpressure, over temperature or even vacuum condition, a safety device must be included in the system to prevent such situations.
- Do not touch the equipment without appropriate protection during working operation because it may conduct heat if the used fluid is at high temperature.
- Before starting maintenance be sure that the equipment is not pressurized or hot.
- The equipments must be used within the working temperature and pressure limits laid down for them, otherwise they may fail (refer to nameplate and/or IS- Information Sheet).
- Manual handling of products may present a risk of injury. You are advised to assess the risks taking into account the task, the individual, the load and the working environment.
- Do not remove the nameplate attached to the equipment. Serial number and other useful information are stamped on it.
- Do not apply the equipment for oxygen service, if it hasn't been specifically manufacture for that purpose.
- During the assembly work, apply protective measures against dirt.
- When connecting flanges, the bolts should be mounted from the counter flange side with the hexagon nuts from the equipment side and it must exist a perfect match between the connection flanges.
- Tighten flange connection bolts uniformly in a diagonal sequence.
- Correct installation of the equipment is full responsibility of the contractor
- BV are designed to be applied in places protected from exposure from weather.
- We recommend special constructions or protective measures for applications on the outside or in adverse environments like corrosion-promoting conditions (sea water, chemical vapors, etc).

## TRANSPORT AND STORAGE



ATTENTION

- Handling and lifting of materials should be made with adequate equipments.
- Do not damage the paint job. It protects against corrosion during transportation and storage.
- The equipment should be protected from impacts and forces during transportation and storage.
- The manufacturer doesn't assume the responsibility of damaged equipments due to inappropriate handling during the transportation and storage.

## INSTALLATION



ATTENTION

- Account for over pressure conditions, according with the local laws or standards.
- BV must not be used with other purpose than the one they were built for (e.g. climbing aids or as connecting points for lifting gear).
- For the problems that cannot be solved with the help of these instructions, please contact the supplier or the manufacturer.
- Account for over temperature conditions, provision of temperature monitoring devices.

### Installation area requirements:

- The installation area should have easy access and provide enough space for maintenance and removing operations.
- The pipework before and after the equipment, must be sized in order to avoid that the max flow speed recommended, for the fluid in question, is exceeded.
- In order to allow installation and maintenance work without emptying the system, stop valves should be installed upstream and downstream of the equipment.
- The installation area should have the necessary firing system to prevent damage of the equipment due to over temperature/pressure caused by fire.

### Procedure:

- Prior to install check that the product is suitable for the intended application: materials and pressure/temperature ratings.
- Before installing remove plastic covers placed on connection ends. The equipment has an arrow or Inlet/Outlet designations. Be sure that it will be installed on the appropriate direction.
- Take care with jointing material to ensure that none may be permitted to block or enter the equipment.
- The equipment must be installed in horizontal position always with the drain discharge pointing downwards to ensure that the best results are obtained.
- External stresses that may be induced by the system due to pipe expansion, etc, can affect this product. The necessary precautions are recommended during the systems design and equipment assembly.
- The equipment pipework should be properly supported and free from strain and it should not be subjected to undue surges of pressure. The start-up condition should be considered.

## START UP



### ATTENTION

- Current regional safety regulations should be taken into account and followed.
- Protective insulation and warning notice may be required.
- Until the start up of an existing or a new plant, the following must be checked:
  - All works are completed.
  - The equipment is correctly installed.
  - All the necessary safety devices (if applicable) have been installed.

### Procedure:

1. All stop valves should be closed.
2. Verify if the water supply is opened and if the cooling water control is activated, so it will guarantee the immediate cooling of the hot fluid.
3. Open slowly the stop valves, in order to avoid water hammer damaging, until the input pressure reaches its limit.
4. The equipment is ready.

### Periodical checking:

- 24 hours after the start up, it is recommended to check the pipe connections for leaks and retighten the connections if necessary.

## MAINTENANCE

- We recommend the BV to be serviced as necessary. The BV doesn't need any specific type of maintenance. Regular inspection may be recommended by local authorities according to specific or general pipe and/or vessels assembly procedures.
- When reassembling make sure that all gasket faces are clean and always use a new gasket. Tighten flange connection bolts uniformly in a diagonal sequence.
- Lubrication must be avoided for oxygen service. When it's necessary, only the lubricants recommended by the manufacture should be use.
- Estimated lifetime under satisfactory working conditions: 5 years; after this period we recommend the wall thickness examination using appropriated inspection equipment. Pour quality water or corrosive fluids will reduce this period.

## PRODUCTS RETURNING



ATTENTION

- Information regarding any hazards and precautions to be considered because of contaminating fluids and residues or mechanical damage that may represent a health, safety or environmental risk, must be provided in writing by the distributors and costumers when returning products to Valsteam ADCA engineering.
- Health and safety data sheets regarding substances identified as hazardous or potentially hazardous must be provided with the information mention above.



ATTENTION

- **LOSS OF WARRANTY:** Total or partial disregard of above instructions involves loss of any right to warranty.