



# INSTALLATION AND MAINTENANCE INSTRUCTIONS CLEAN STEAM SEPARATOR S-10 – S-11

## 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.
- The clean separators must be used when wet steam is used in sterilization, in order to remove from steam pipelines the moisture in suspension that reduces the heat transfer's efficiency and compromises the validity of sterilization. They give their maximum performance only when the equipment associated with them is correctly sized and installed in accordance with our recommendations.

### Note:

- Current regional safety regulations should be take in to 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 CAT.		
RATING	SIZE	CAT.
PN10	DN1/2" to DN2"	SEP

**CE Marking:** This product has been designed for use on water, steam, air and other gases which are in Group 2 of the European PED-Pressure Equipment Directive in use and it complies with those requirements. The product carries the CE mark when falling in category 1 and above.

LIMITING CONDITIONS		
Rating	Press. bar	Temp. °C
PN10	10	50
	8 *	175
	7,4	200

\*PMO-Max.operating pressure for saturated steam.

Minimum operating temp.: -10°C.

Design code: AD-Merkblatt

**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. Even if upstream and downstream isolating valves have been closed care should be taken since fluid under pressure may be trapped between them.
- 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 information attached to the equipment. Serial number and other useful information is stamped on it.
- Do not apply the equipment for oxygen service, if it hasn't been specifically manufacture for that purpose.
- If the optional top vent connection is not being used, it must be closed with an appropriate stainless steel blank cap according to ASME BPE or required standard.
- During the assembly work, apply protective measures against dirt.
- The equipment should be carefully handled, to prevent any damage on the machined surfaces.
- Correct installation of the equipment is full responsibility of the contractor
- Separators are designed to be applied in places protected from exposure to 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).

**CLEANING AND PACKING**

- This equipment is packed by proper machine with a special film used by food industry.
- These equipments are degreased and cleaned ultrasonically.

**TRANSPORT AND STORAGE****ATTENTION**

- Handling and lifting of materials should be made with adequate equipments.
- The separators and equipments 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.
- Separators 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.

### 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 separator, 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 separator.
- **If the system cannot be stopped for maintenance it is recommended that isolating valves are installed upstream and downstream of the separator together with a by-pass manual regulating valve. If necessary, the process can be then controlled manually during the separator maintenance/changing. The by-pass must be kept close during the normal operation.**

### 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 separator.
- The separator must be installed in horizontal position always with the drain discharge pointing downwards to ensure that the best results are obtained. A manual valve should be installed for the manual cleaning.
- An ADCAPure clean steam trap or a drain device should be installed in the separator drain connection, to allow a quick drainage (according to assembling drawing).
- Do not over-tighten clamps because that can damage the gasket.
- 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 separator 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 take in to 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 separator is correctly installed.
  - All the necessary safety devices (if applicable) have been installed.

**Procedure:**

1. All stop valves should be closed.
2. Open slowly the stop valves, in order to avoid water hammer damaging, until the input pressure reaches its limit.
3. The separator is ready.
4. The drain valve should be operated in order to guarantee that initial dirt accumulated during the assembling process is removed.

**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 separators to be serviced as necessary. The separator 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.
- 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.
- Maintenance should proceed as follows:
  1. Isolation valves should be closed and the pressure and temperature must be atmospheric.
  2. Remove sanitary clamps or other type of connection used.
  3. Execute the maintenance work.
  4. Replace and tighten the clamps. (Don't forget to substitute the gasket).
  5. Consider the start up conditions.

**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.



STEAM EQUIPMENT