

INSTALLATION AND MAINTENANCE INSTRUCTIONS S25 AND S16 SEPARATORS

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.
- Water is present in all steam and compressed air distribution pipelines systems. For maximum efficiency, steam must be saturated and dry. Careful draining and trapping will remove most of condensate but not all. The use of separators and appropriate condensate traps can solve the problem. 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 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.
- If necessary to perform hydrostatic test on the equipment/installation be aware of the limits according to the table below or in case of special equipments, the test pressure value will be stated on the name plate under "PT-test pressure".

CE MARKING - GROUP 2 GASES CATEGORIES								
RATING	SIZE	CAT.	RATING	SIZE	CAT.	RATING	SIZE	CAT.
PN16	DN15 to DN25	SEP	PN40	DN15 to DN32	1	PN63	DN15 to DN25	1
	DN32 to DN50	1		DN40 to DN80	2		DN32 to DN50	2
	DN65 to DN125	2		DN100 to DN150	3		DN65 to DN100	3
	DN150 to DN200	3		DN200 to DN300	4		DN125 to DN200	4
	DN250 to DN300	4		-	-		-	-

PRESSURE TEST [bar] 20°C			
RATING	S16/S	S25/S	S25/SS
PN 16	23 bar	23 bar	26 bar
PN 40	-	57 bar	70 bar
PN 63	-	91 bar	-

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.

- In case of special equipments that do not follow these rating tables, the PS (maximum allowable pressure) and TS (maximum allowable temperature) is written on the name plate of the equipment.

LIMITING CONDITIONS S16 - S25/S **								
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI Cl.150 lbs	16	50	PN40	40	50
	14	100		14	100		ANSI	37
	13 *	195		13 *	195	CL.300lbs	31 *	239
	12	250		-	-		27	300

*PMO-Max.operating pressure for saturated steam. Minimum operating temp.: -10°C.

Design code: AD-Merkblatt

** Rating according to EN1092:2007.

LIMITING CONDITIONS **		
Rating	Press. bar	Temp. °C
PN63	58	100
ANSI	47 *	261
CL.600lbs	43	300

*PMO-Max.operating pressure for saturated steam. Minimum operating temp.: -10°C.

Design code: AD-Merkblatt

** Rating according to EN1092:2007.

LIMITING CONDITIONS S25/SS **								
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI Cl.150 lbs	16	50	PN40	40	50
	16	100		16	100		ANSI	40
	13 *	195		13 *	195	CL.300lbs	32 *	240
	12	250		-	-		30	300

*PMO-Max.operating pressure for saturated steam. Minimum operating temp.: -10°C.

Design code: AD-Merkblatt

** Rating according to EN1092:2007.



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 nameplate 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 carbon steel or stainless steel plug.
- During the assembly work, apply protective measures against dirt.

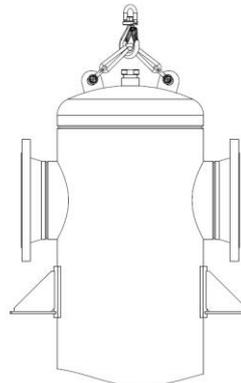
- When connecting flanges, the bolts should be mounted from the counter flange side with the hexagon nuts from the separator side and it must exist a perfect match between the connection flanges.
- Tighten flange connection bolts uniformly in a diagonal sequence.
- Correct installation of the equipment is full responsibility of the contractor
- 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).

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 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.
- If the equipment has lifting lugs, this should be used for transport and move the equipment (see the drawing above). It should be use EN13889 standard shackles with the PIN dimensions according to the hole size of the lifting lug. In case of any questions regarding the lifting and movement, please contact the supplier or manufacture.



Position for lifting

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. The process can be then controlled manually during the separator maintenance/changing. The by-pass must be kept close during the normal operation.
- The installation area should have the necessary firing system to prevent damage of the equipment due to over temperature/pressure cause 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 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 steam or compressed air trap is recommended to automatically discharge the condensate. A balancing pipe is recommended to be fitted with the compressed air trap.
- 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 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 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 damage, 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. 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.