

ADCATHERM ATMOSPHERIC SEMI – DEAERATORS ADG

DESCRIPTION

Adcatherm atmospheric semi-deaerators are designed to heat boiler feed water and to reduce oxygen and carbon dioxide (oxygen values in the feed water of less than 1,6mg/l , can be achieved). Remaining oxygen can be completely removed using oxygen scavenging chemicals. Basically the complete system consists of a storage vessel, a deaeration head section and a vent.

OPERATION

Hot return condensate is injected in the bottom of the storage vessel using an adequate sparger pipe and softened make-up water is introduced in the deaerator head to be heated by a contact cascade flash steam heating system (counter-current flow) coming from the vessel. A part of the dissolved gases are liberated from the water at this point, and then to the atmosphere trough the flash steam vent line.

The semi-deaerated water then falls to the storage vessel below, where a steam injection system will provide an additional deaeration.

The complete unit ADG/V is supplied including all the necessary instrumentation for temperature and level control, to be described in our offer, depending on the operation conditions (see table 1).

MAIN FEATURES:

- Prevents energy wasting
- Easy to install
- Can be installed on new or existing systems
- Reduces the flow of flash steam from the vessel venting pipe
- Long life expectancy

OPTIONS:

- Complete stainless steel construction.
- Complete system including all the necessary equipments.
- Vent condenser for energy recover

USE: Steam boiler feed water

AVAILABLE MODELS:

- ADG – Deaerator head
- ADG/V – Complete deaerator dome and storage vessel

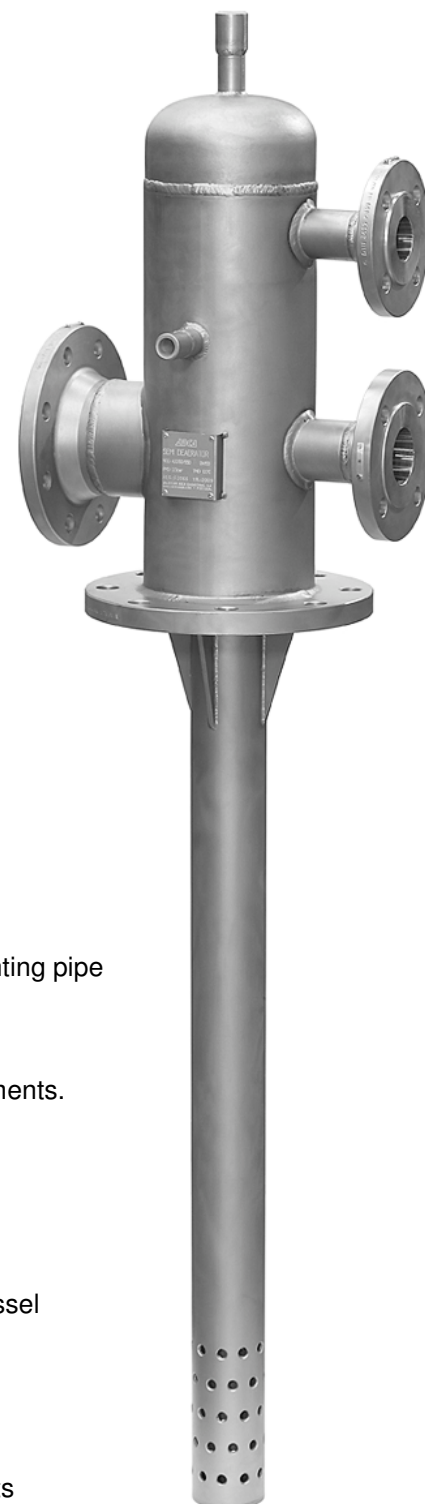
CONNECTIONS:

- Flanges EN1092-1 PN16 or ANSI.
- Sockets BSP or NPT
- Different connections on request.

CONSTRUCTION: Carbon steel with internal stainless steel components or complete stainless steel under request.

INSTALLATION:

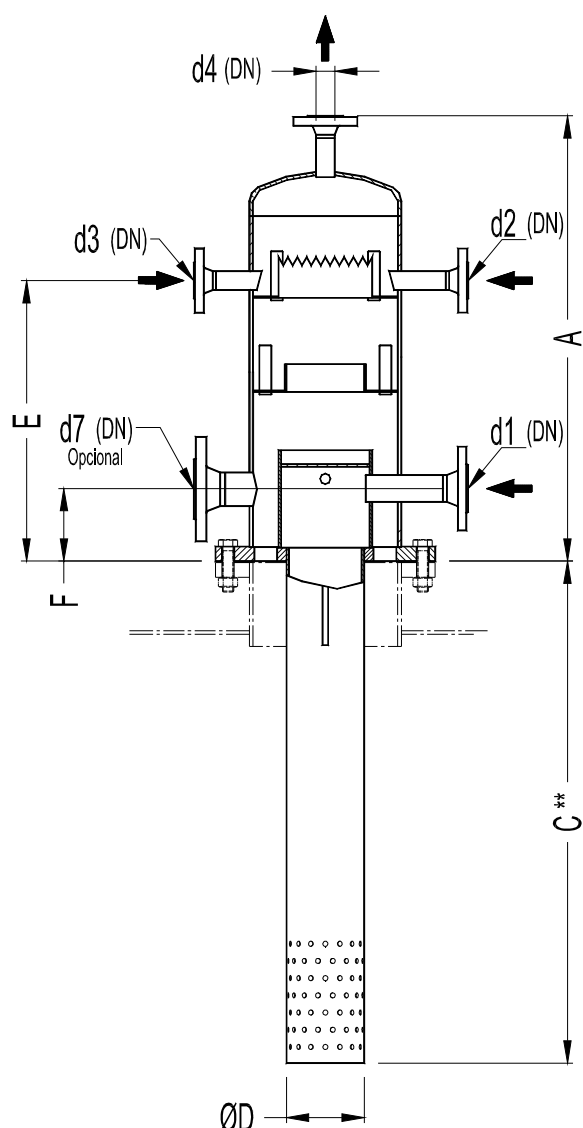
- Deaerator head - vertical installation.
- Storage vessel – cylindrical horizontal design
- Final dimensions and connections according to the drawing supplied after order confirmation.



DIMENSIONS														
Model	A mm	B mm	C mm	D Diam.	E mm	F mm	d1 DN	d2 DN	d3 mm	d4 DN	d5 DN	d6* DN	d7* DN	WEIGHT kgs
ADG150	585	184	**	80	310	100	50	25	25	40	1/2"	50	50	***
ADG200	670	210	**	120	350	120	80	32	25	50	1/2"	65	65	***
ADG250	760	237	**	140	360	150	100	50	25	65	1/2"	80	80	***
ADG300	720	425	**	170	400	150	100/150	65	40	80	1/2"	100	100	***
ADG400	780	510	**	220	490	180	150	80	40	100	1/2"	125	125	***

d1-Hot condensate inlet; d2-Cold water make-up; d3-Recirculating pump connection;d4-Vent;
d5-Pressure gauge connection; d6-Optional cold condensate return; d7-Flash steam.

*Optional; ** Dimensions on request (Standard: 950,1200,1600,2100mm); *** Weight to be confirmed
Sizes and dimensions approved after order confirmation.



SELECTION TABLE					
Max. Steam Generation (kgs/h)	5000	10000	20000	30000	50000
Model	ADG150	ADG200	ADG250	ADG300	ADG400

The length of immersion tube to be defined according to the vessel design.

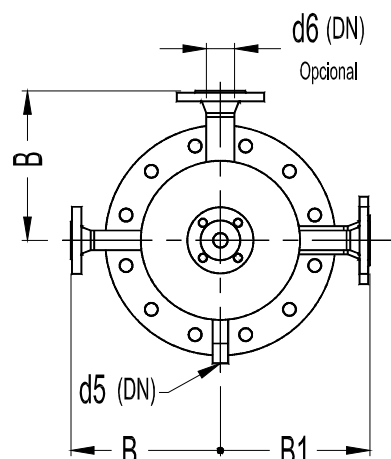
THERMAL DEAERATOR DATA INQUIRY		
Make-up water pressure		bar
Make-up water temperature		°C
Make-up water flow rate		Kgs/h
Condensate return pressure		bar
Condensate temperature		°C
Condensate flow rate		Kgs/h
Saturated heating steam pressure		bar
Feed water tank required capacity		m3
Max.deaerated water flow required		Kgs/h

Table 1

LIMITING CONDITIONS	
PS - Maximum Allow able Pressure	0,5 bar
TS - Maximum Allow able Temperature	120 °C

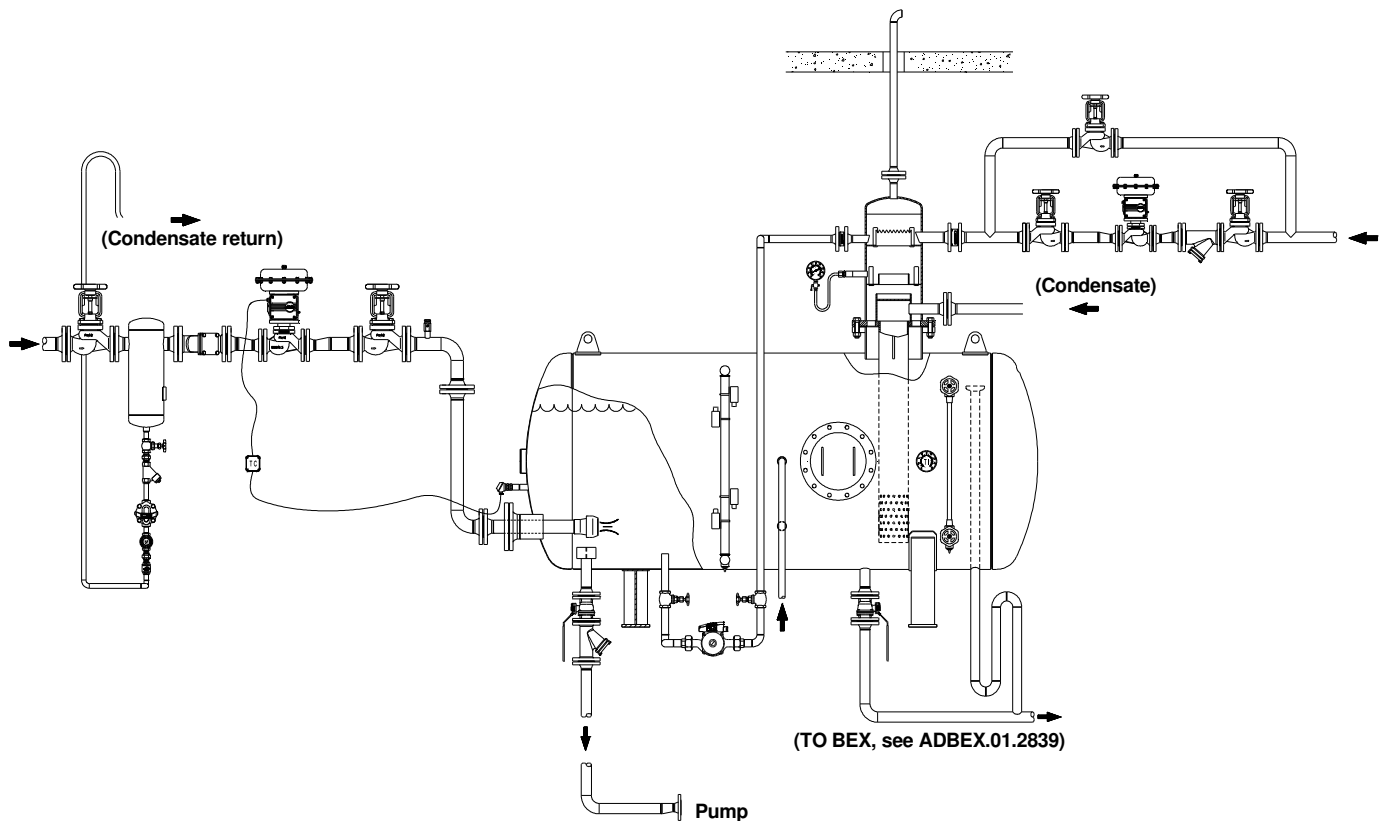
Minimum operating temp.: -10°C. Design code: AD-Merkblatt

Other conditions and CE marking on request.



TYPICAL INSTALLATIONS

SEMI - DEAERATOR SYSTEM WITH COLD MAKE UP WATER



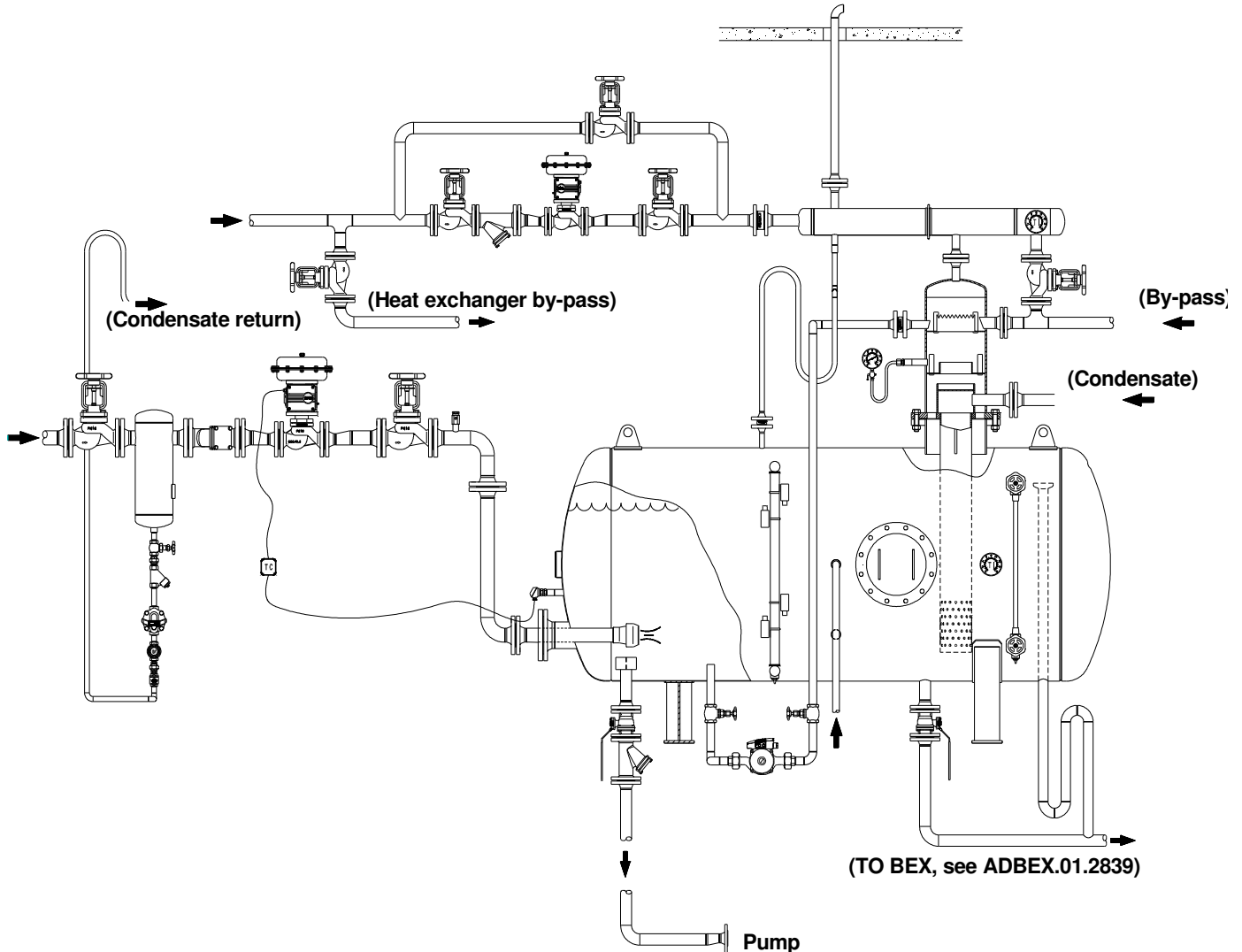
Atmospheric deaerator provides an economical system to preheat boiler feed water and drive off dissolved gasses.

The steam injector can be supplied with the flanges and pipe, ready to adapt to existing vessels.

The feed water is re-circulated using a low power re-circulating pump which will improve thermal efficiency by reducing the temperature stratification.

For more detailed information please see assembling drawing ADADGV.01.2844

SEMI-DEAERATOR SYSTEM WITH VENT CONDENSER



Atmospheric deaerator including Adcatherm-STS series complete stainless steel heat exchanger. Make up water crossing the heat exchanger will condense the flash steam, preventing energy waste and better performance of the whole system.

The steam injector can be supplied with the flanges and pipe, ready to adapt to existing vessels.

The feed water is re-circulated using a low power re-circulating pump which will improve thermal efficiency by reducing the temperature stratification.

For more detailed information please see assembling drawing ADADGV.02.2845