

ADCATHERM TRAY TYPE DEAERATORS TDG

DESCRIPTION

Adcatherm thermal deaerators are designed to heat boiler feed water and to reduce oxygen and carbon dioxide (oxygen values in the feed water of less than 0,02mg/l - 0,02 ppm, can be achieved). Remaining oxygen can be completely removed using oxygen scavenging chemicals. Basically the complete system consists of a storage vessel, a deaeration section and a vent.

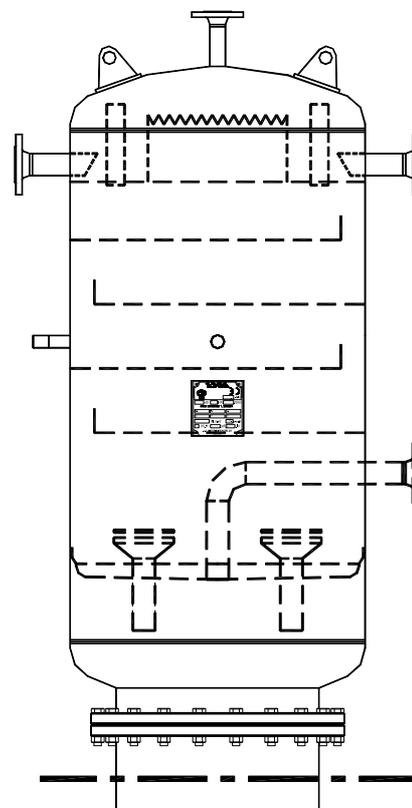
OPERATION

Return condensate and softened make-up water are introduced in the deaerator dome to be heated by a contact cascade steam heating system (counter-current flow). The majority of dissolved gases are liberated from the water at this point and they are liberated to atmosphere through the flash steam vent line.

The deaerated water then falls to the storage vessel below, where a steam blanket ensure that no gases are reabsorbed.

A sparger pipe is installed inside the tank at the bottom level providing the necessary heating energy. A second low pressure steam supply can also be necessary.

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



MAIN FEATURES: Turndown (max./min flow) – 100:1
Long life expectancy

OPTIONS: Complete stainless steel construction.
Complete system including all the necessary equipments.
Two stage deaerators
Vent condenser for energy recover

USE: Steam boiler feed water

AVAILABLE MODELS: TDG – Deaerator dome
TDG/V – Complete deaerator dome and storage vessel

CONNECTIONS: Flanges EN 1092-1 or ANSI.
Sockets BSP or NPT
Different connections on request.

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

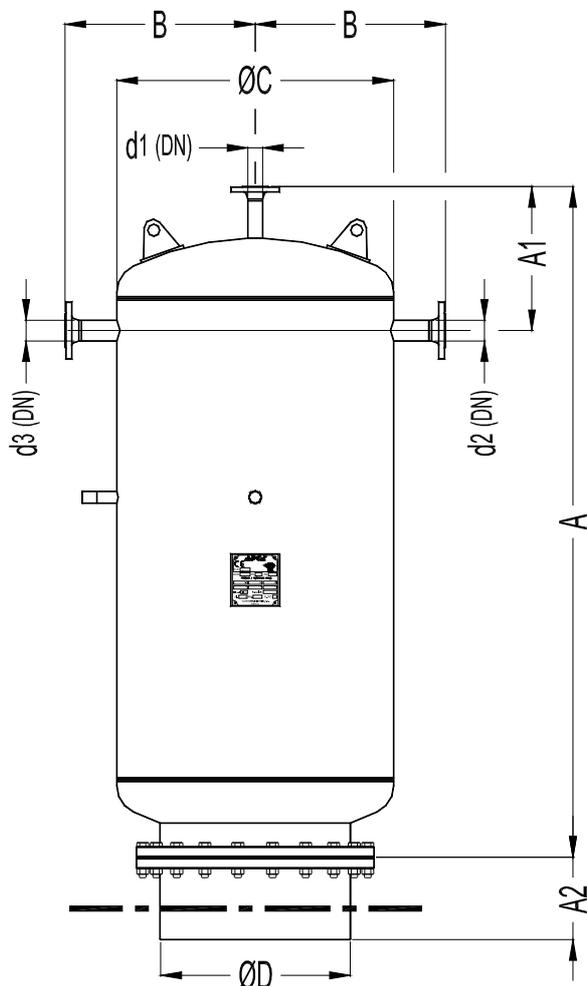
INSTALLATION: Deaerator dome - vertical installation.
Storage vessel – cylindrical horizontal design
Final dimensions and connections according to the drawing supplied after order confirmation.

| DIMENSIONS (mm) | | | | | | | | | |
|-----------------|--------|------|-----|-----|-----|-----|-----|------|--------|
| MODEL | FLOW * | A | A1 | A2 | B | C | D | d1 | WEIGHT |
| TDG-10 | 1 | 950 | 265 | 250 | 260 | 220 | 220 | DN15 | ** |
| TDG-20 | 2 | 950 | 265 | 250 | 290 | 280 | 220 | DN20 | ** |
| TDG-40 | 4 | 1100 | 300 | 300 | 325 | 350 | 220 | DN20 | ** |
| TDG-60 | 6 | 1250 | 320 | 300 | 380 | 460 | 350 | DN32 | ** |
| TDG-100 | 10 | 1400 | 355 | 300 | 425 | 550 | 350 | DN32 | ** |
| TDG-140 | 14 | 1550 | 380 | 300 | 475 | 650 | 550 | DN32 | ** |
| TDG-200 | 20 | 1950 | 410 | 300 | 550 | 800 | 550 | DN32 | ** |

*Maximum flow rate in m³/h (heating from 10° - 105 °C)

** Weight in kgs to be confirmed .

d1, d2 and certified dimensions supplied after complete data evaluation.



Deaerator dome

| 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 | | m ³ |
| Max.deaerated water flow required | | Kgs/h |

Table 1

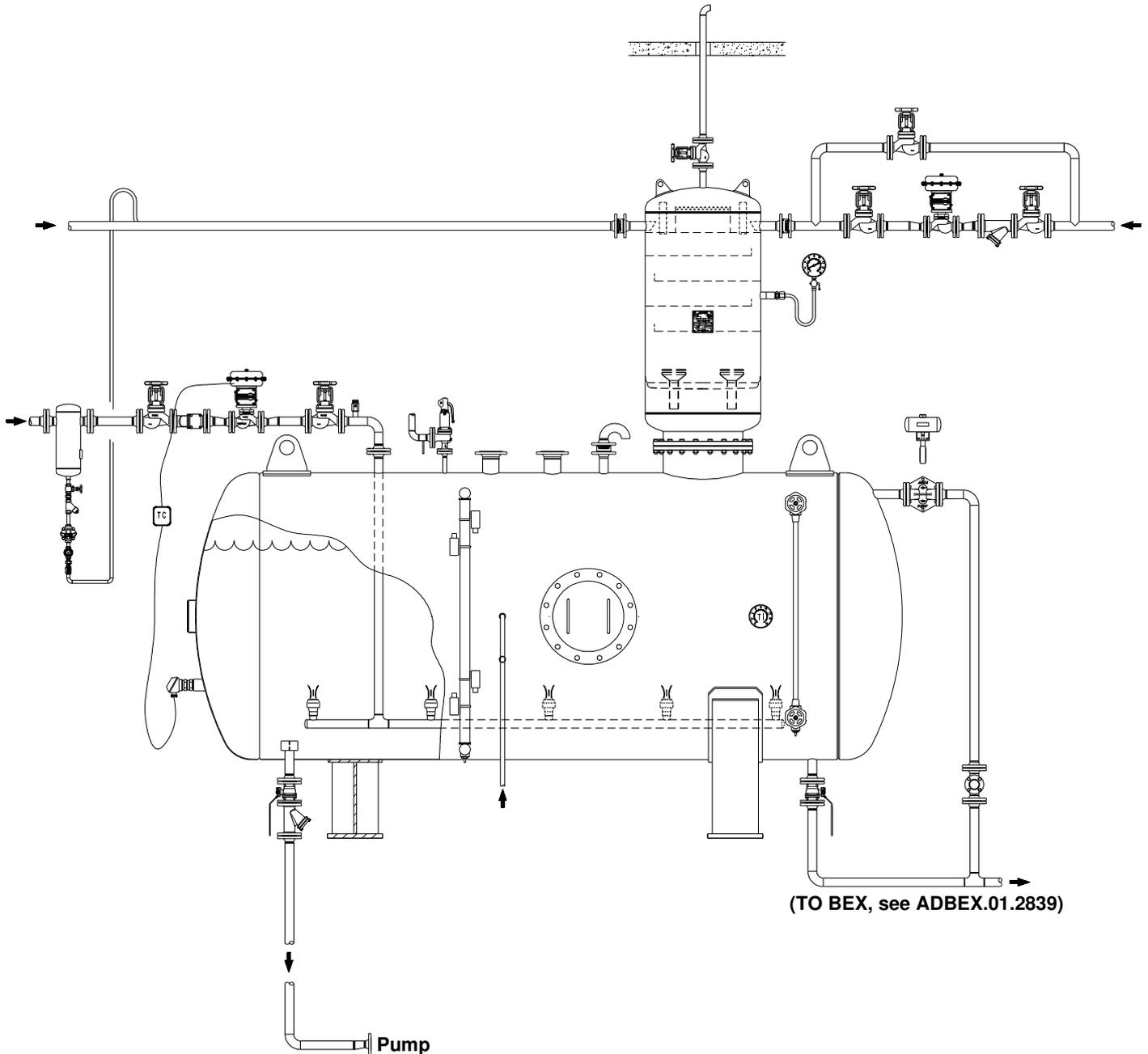
| LIMITING CONDITIONS | |
|-------------------------------------|---------|
| PS - Maximum Allow able Pressure | 0,5 bar |
| TS - Maximum Allow able Temperature | 120 °C |

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

Other conditions and CE marking on request.

TYPICAL INSTALLATIONS

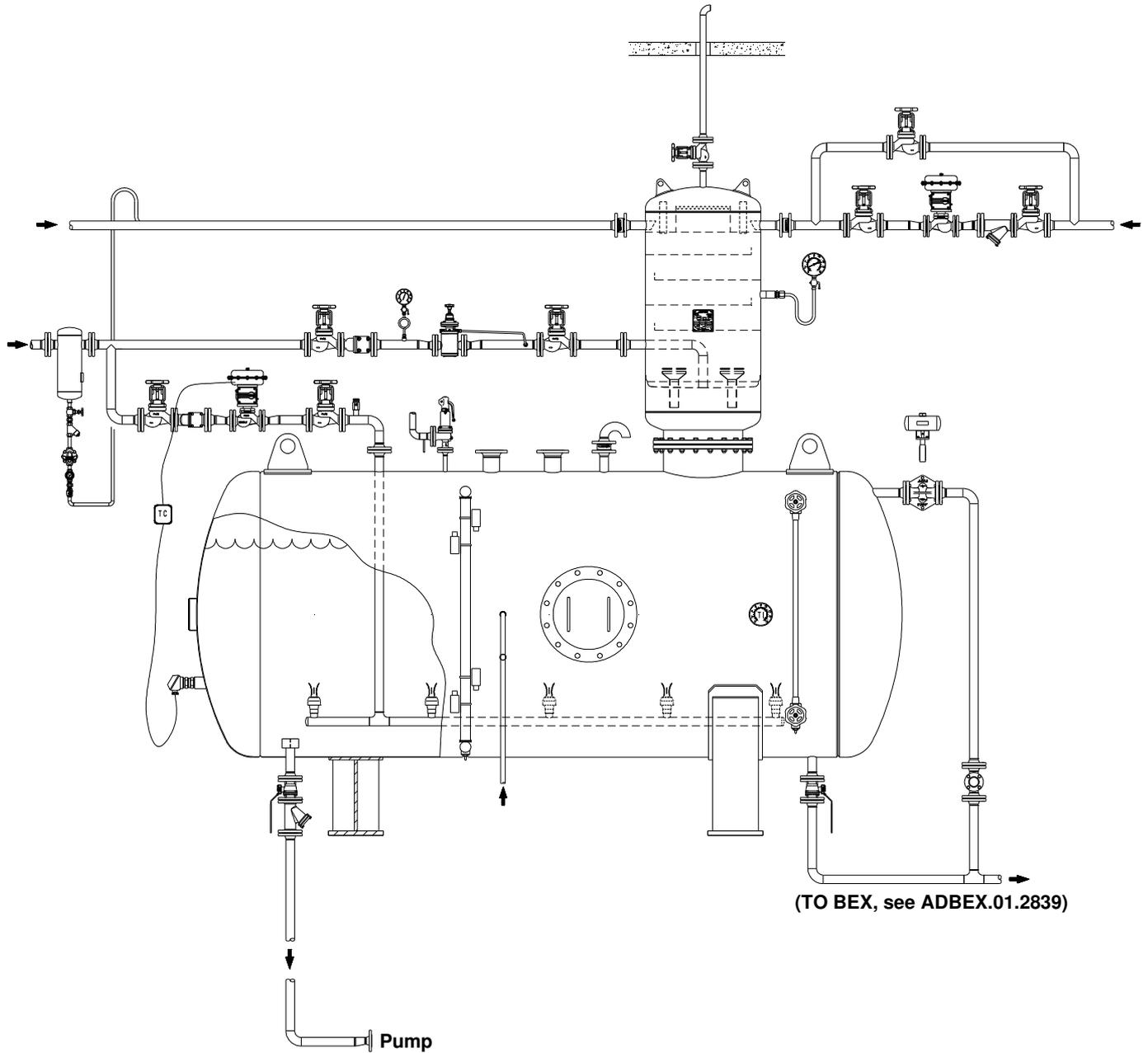
THERMAL DEAERATOR SYSTEM WITH COLD MAKE UP WATER (without steam dome injection)



If a high percentage of hot condensate is recovered the direct steam injection in the deaerator tower is normally unnecessary, the heating steam supplied through the steam injection system is in most cases enough.

For more detailed information please see assembling drawing ADTDGV.04.2843

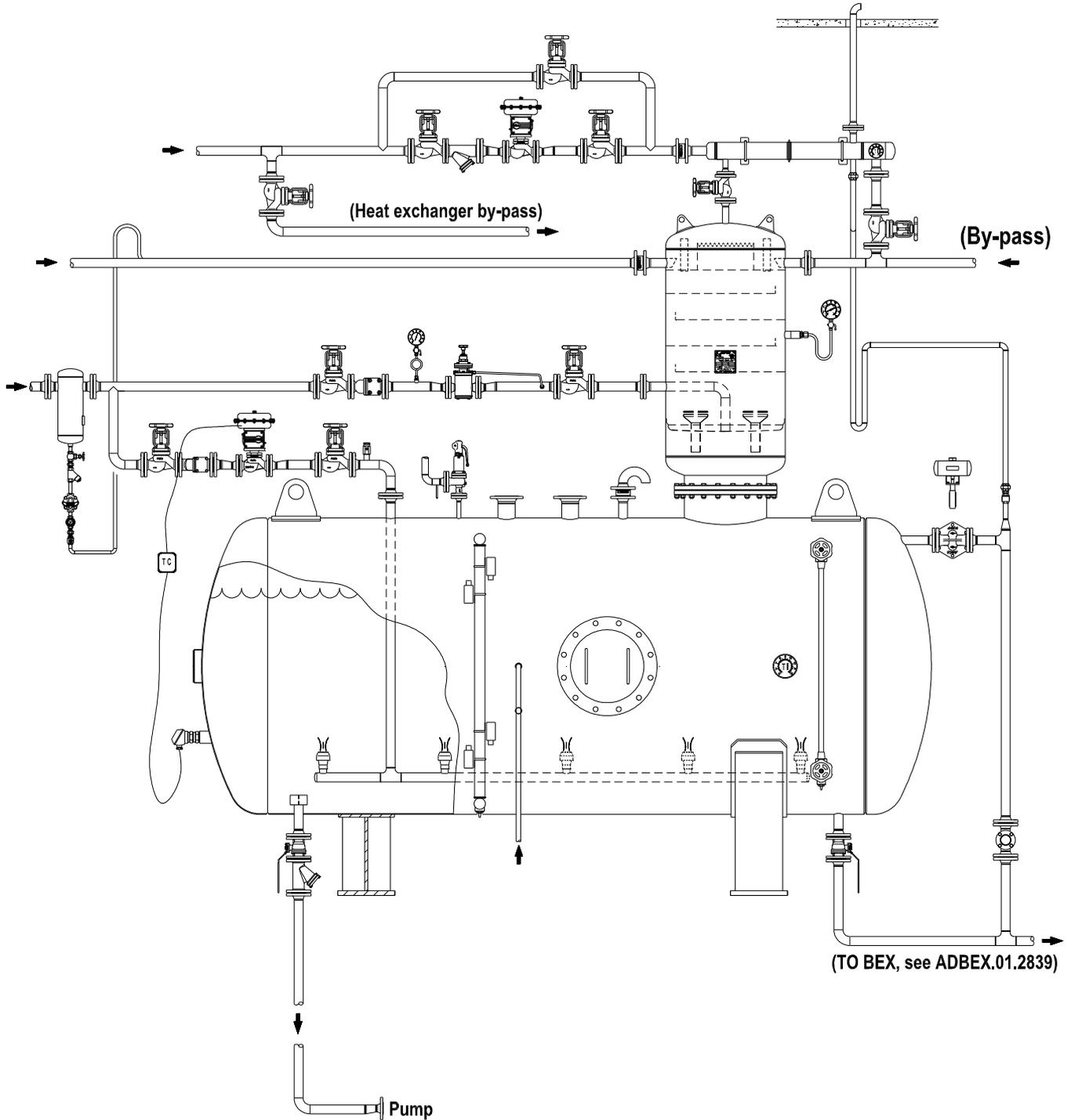
**THERMAL DEAERATOR SYSTEM WITH COLD MAKE UP WATER
(with dome steam injection)**



In those systems where condensate return is negligible and or high flow rates are involved an additional dome steam injection should be provided.

For more detailed information please see assembling drawing ADTDGV.01.2597

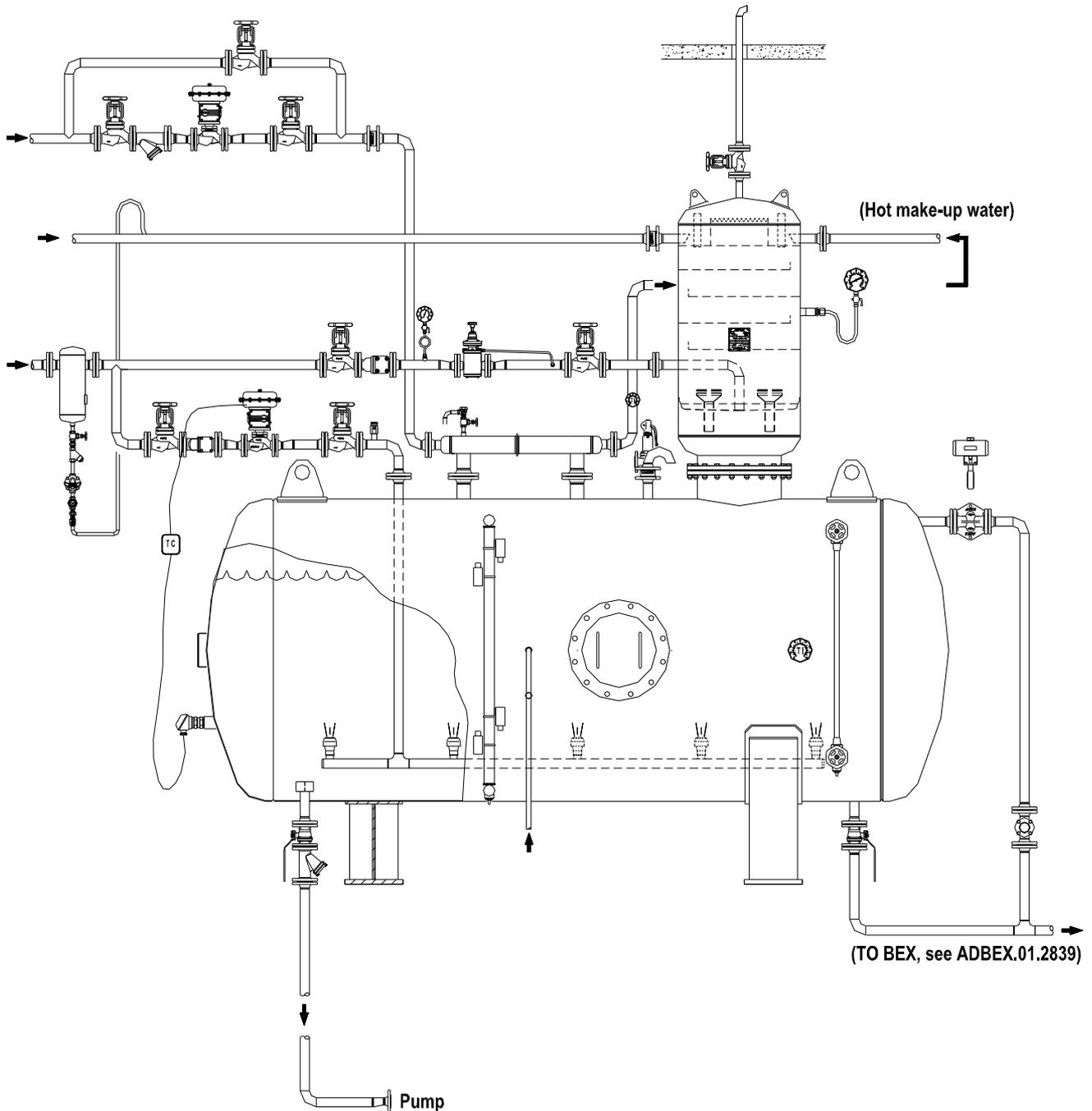
THERMAL DEAERATOR SYSTEM WITH VENT CONDENSER



Thermal 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.

For more detailed information please see assembling drawing ADTDGV.02.2841

THERMAL DEAERATOR SYSTEM WITH PRE-HEATING MAKE UP WATER HEAT EXCHANGER



Thermal deaerator with low pressure steam to water Adcatherm-STS complete stainless steel heat exchanger, providing make up water heating.

For more detailed information please see assembling drawing ADTDGV.03.2842