



Vacuum deaerator

The risk of corrosion in the district heating system can be minimized significantly by reducing the content of oxygen and CO₂ in the water. This will ensure a long life for your plant, high reliability of operation, and minimum need of maintenance. EUROWATER vacuum deaerators are manufactured in both galvanized and stainless steel with a flow of up to 22 m³/h.

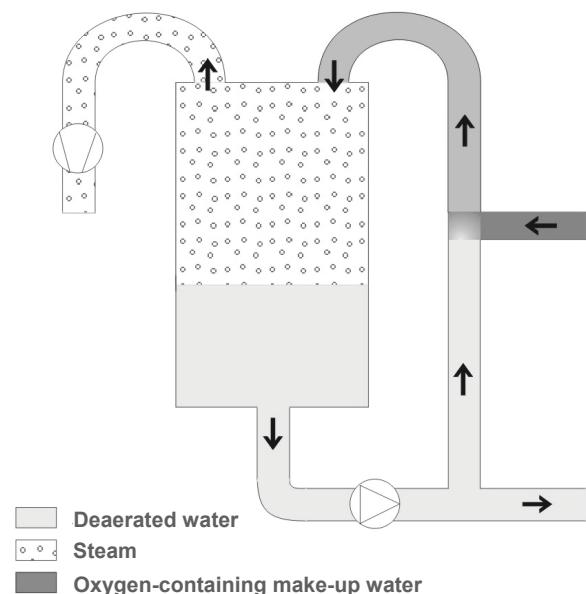


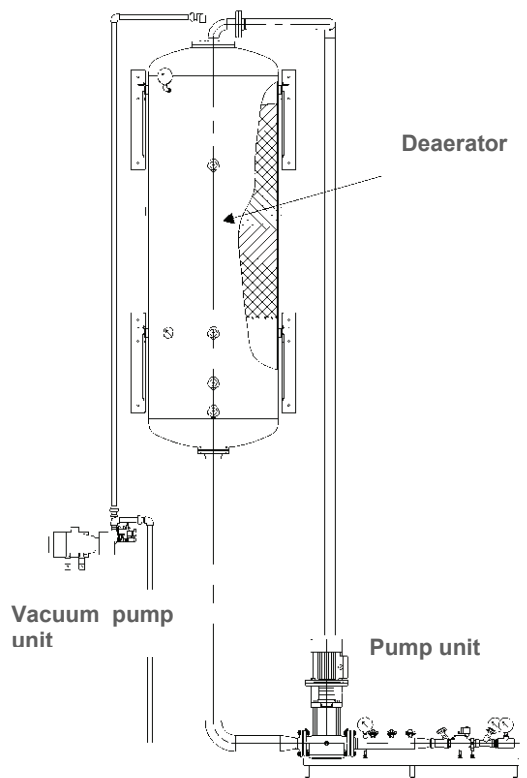
Application

A vacuum deaerator is used for treatment of circulating water in heating plants. The circulating water should not contain oxygen as this increases the risk of corrosion on the system. For every m³ untreated make-up water, 10-15 g of iron will be converted by corrosion. Untreated make-up water contains 8-10 mg/l oxygen but with a vacuum deaerator, the oxygen content can be reduced to less than 0.2 mg/l.

Theory of operation

The oxygen-containing make-up water, preheated to 40-90 °C, is led to the upper section of the deaeration tank. In order to optimize the removal of oxygen, the deaeration tank is equipped with fillers for division of the water into fine particles. The vacuum pump creates the necessary vacuum so that the make-up water boils. When the water boils, the oxygen is liberated and removed by means of the vacuum pump. The deaerated water is separated into two streams, which are pumped partly into the district heating network, partly recycled over the deaeration tank.





Plant description

A vacuum deaerator consists of three main components:

- a vacuum deaerator
- a vacuum pump unit
- A pump unit

Deaeration tank

The deaeration tank is delivered in galvanized or stainless steel. Inside the tank is equipped with an intermediate bottom, under which a reservoir for deaerated water is mounted. Fillers are installed on top of the intermediate bottom. The plant is provided with switches for level control and is delivered with bracket for wall-mounting.

Vacuum pump unit

The vacuum pump unit consists of a vacuum pump (liquid ring pump) as well as a valve arrangement for setting of cooling water quantity and vacuum force. The vacuum pump is delivered on bracket for wall-mounting.

Pump unit

The pump unit consists of a centrifugal pump and of a pipe system with valves for setting of the make-up water quantity and the circulating quantity. The pipe system can be delivered in galvanized or stainless steel, and the pump in stainless steel.

Specifications

Type	Flow, max m ³ /h	Space requirements		
		Height [m]	Depth [m]	Width [m]
VA 1B	2	5.5	0.8	2.5
VA 3B	6	5.6	1.0	2.7
VA 5B	10	5.6	1.1	2.9
VA 7B	14	5.6	1.2	3.1
VA 9B	18	5.6	1.3	3.3
VA 11B	22	5.7	1.4	3.4