A simple low cost solution for deaerating boiler feedwater at atmospheric pressure

- Mixes hot and cold incoming flows
- Liberates oxygen and other gases
- Stainless steel for long maintenance free life
- Easy to install

Description
Spirax Sarco flash condensing deaerator head is designed to mix incoming flows of cold make-up, condensate return and flash steam to the boiler feedtank. This mixing action is achieved by directing the downward flow through a baffle arrangement within the unit. This liberates dissolved gases from the cold make-up, which are vented to atmosphere. The cold make-up inlet is fitted with a spray screen which diffuses the flow, increasing its surface area to promote thorough mixing with the condensate and flash steam.

A Spirax Sarco flash condensing deaerator head consists of three parts:
- A mixing unit, which is bolted to the top of the tank and is supplied with connections to customer specification for cold make-up, condensate return, flash steam from blowdown etc.
- An immersion tube, which distributes the mixed fluids into the tank and has an integral plate flange which is sandwiched between the tank and mixing unit flanges. Immersion tubes are fully described in separate literature.
- Gaskets. Two gaskets are required, one fitted each side on the immersion tube flange. They are ordered separately.

Available types
The mixing unit is available in five nominal diameters (DN150, DN200, DN250, DN300 and DN400) flanged to BS 4504 PN16 or BS 1560 Class 150.
Immersion tubes are available in diameters to suit the deaerator heads and lengths of 950, 1200, 1600 and 2100 mm to suit TM metric feedtanks. Since each deaerator head is built to suit specific plant requirements we recommend that your local Spirax Sarco Engineer is contacted for a connection layout sheet and to discuss your requirements.

Selection table

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<tr>
<th>Total steam generation rate (kg/h)</th>
<th>Mixing unit</th>
<th>Tank depth</th>
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<td>Mixing unit/immersion tube selection</td>
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<tr>
<td>50 000</td>
<td>DN400</td>
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Limiting conditions
PN2.5 rating. Suitable for saturated steam 1 bar g, 120°C. The mixing unit only is hydraulically tested to 2 bar g.

Application
Spirax Sarco flash condensing deaerator heads are ideal for boiler feedtank applications. They are suitable for both new and retrofit applications. Each head is fitted with a connection for air vent and recirculating feedwater spray nozzle. The air vent is for the immediate venting of liberated gases (the connection should also include a vacuum breaker). For further details on the RFS recirculating feedwater spray systems see separate literature.
How to specify
Atmospheric deaerator head in austentic stainless steel consisting of mixing unit, immersion tube, and two gaskets. DN150, DN200, DN250, DN300, and DN400. Flanged BS 4504 PN16 / BS 1560 Class 300.

How to order
To specify a 150 mm flash condensing deaerator head flanged BS 4504 PN16 (mixing unit plus immersion tube and gaskets to suit a 1250 mm deep feedtank):
- MU150 - PN16
- IT150 - 950 PN16
- 2 off gaskets to suit IT150 - 1200 PN16
Connection details also need to be specified.