

Food factory: an open condensate tank, closed

About **Rs 10.6 lakh** a year from steam that used to escape

For 50 years a 15 m³ condensate tank stood open to atmosphere. A motorised Jetomat® steam ejector (Baelz) closed it: it draws the re-evaporated steam out of the tank, mixes it with 10 bar g primary steam and heats the boiler-feed deaerator with the mix.

Rs 10.6 lakh

saved a year
as reported

15 m³

condensate tank, closed
open to atmosphere for 50
years

100 °C

waste steam recovered
at 0.1–0.2 bar g, from the tank

Deaerator

heated with the mix
recovered plus primary steam

01 The plant and the duty

PLANT	Food factory
TANK	15 m ³ (15,000 litres) condensate tank, open for 50 years, now closed
WASTE STEAM	0.1–0.2 bar g, about 100 °C; suction down to –0.3 bar g
MOTIVE	10 bar g steam main, DN 100
DISCHARGE	DN 100 to the deaerator, pressure-controlled (set point 0.25 bar g)
EQUIPMENT	Jetomat® steam ejector (Baelz), motorised, variable nozzle

02 Before

Condensate from the plant's steam traps collected in a 15 m³ tank that had stood open to atmosphere for 50 years. The steam it re-evaporated escaped from the open tank, while the deaerator took all its heating steam from the 10 bar g main.

03 What changed

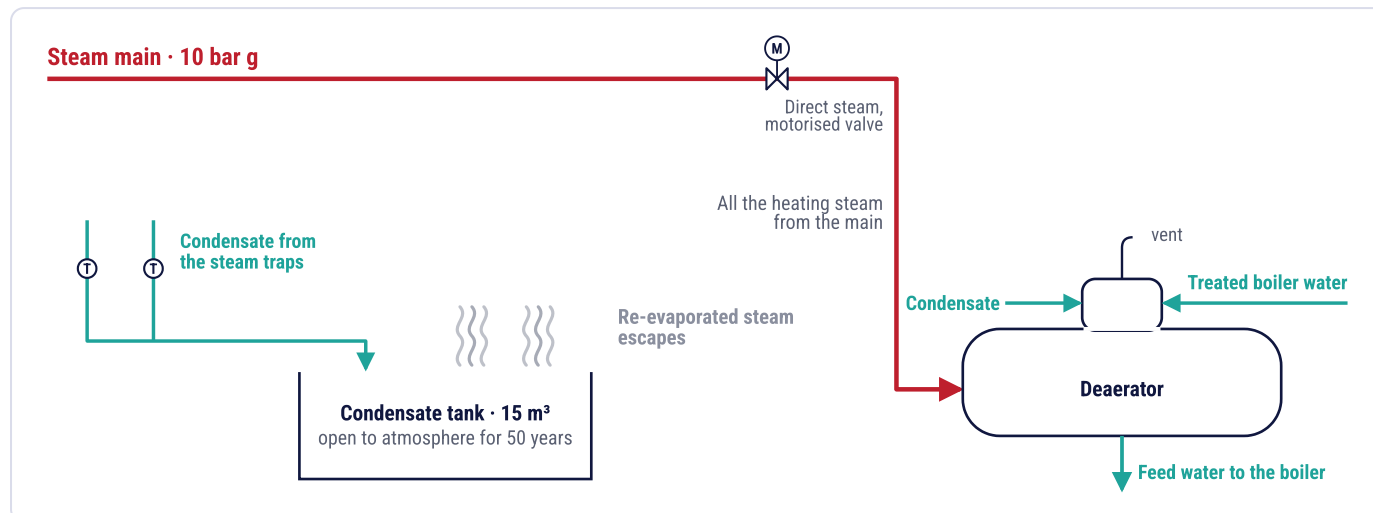
- The tank was closed.
- A motorised Jetomat® steam ejector (Baelz), driven by 10 bar g steam from the main, draws the re-evaporated steam out of the tank through a motorised shut-off valve.
- The mix leaves at DN 100 and heats the deaerator. A pressure controller on the deaerator (set point 0.25 bar g) sets the Jetomat's nozzle; pressure and temperature switches guard the suction line.
- The deaerator keeps its direct steam supply from the main, through a motorised valve.

04 Results

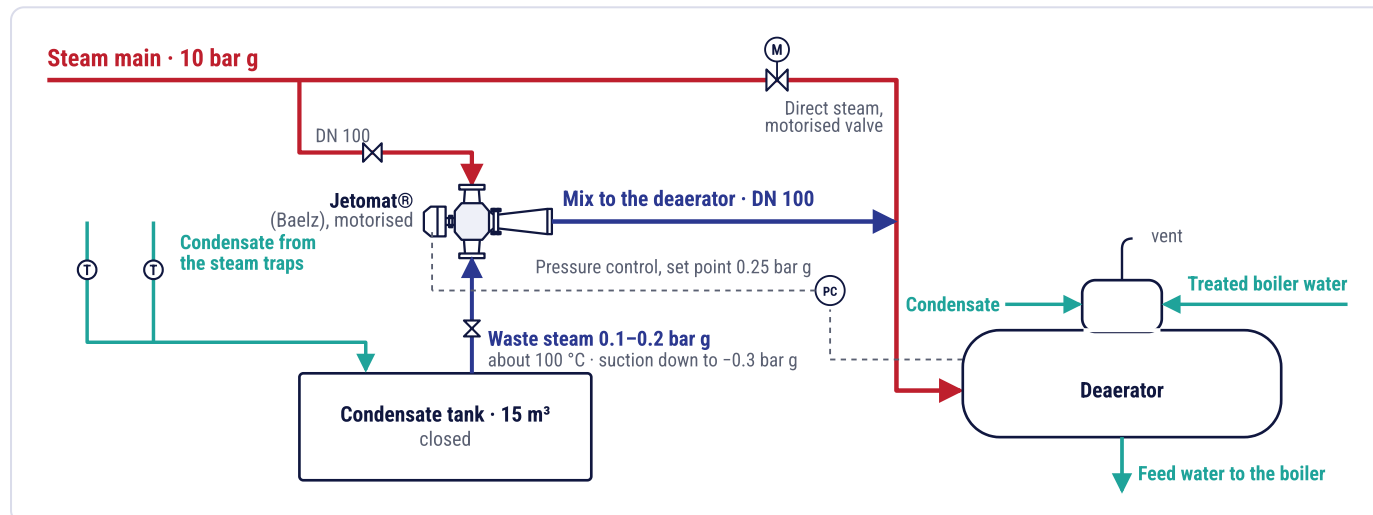
- Savings of about Rs 10.6 lakh a year.
- The re-evaporated steam from the condensate now heats the deaerator instead of escaping from an open tank.
- The installation had been in operation for several years when Baelz documented it as a reference.

05 The steam system, before and after

BEFORE



AFTER



— Live steam — Recirculated / recovered steam — Condensate - - - Control signal ⊗ Valve

 Jetomat (variable nozzle)

06 Why it works

Condensate collected at about 100 °C keeps releasing steam at 0.1–0.2 bar g: too low a pressure for any user, so an open tank simply loses it. The Jetomat uses the pressure energy of the 10 bar g motive steam to draw that steam out and deliver the mix at the deaerator's pressure. Because the closed tank already holds a little pressure, suction starts early in the nozzle stroke.

SOURCE Saving as reported in Baelz's technical documentation for the Jetomat, application examples; P&ID traced from the same page.