

Power station, Germany

≈260 kg/h of flash steam recovered for the water heaters

A power station's condensate collecting vessel vented its flash steam through the roof. A Jetomat® now draws about 260 kg/h of it into the new clean-water heating stations: about 22 % of their steam is recovered flash.

≈260 kg/h

flash steam recovered

once vented through the roof

≈22 %

of the heating steam

260 of 1,170 kg/h

2 t/day

flash steam reused

heating runs 8 hours a day

4 bar g

to the heating stations

1,170 kg/h; water at 60 °C

01 The plant and the duty

PLANT	Electricity producer, Germany
MOTIVE	8 bar g steam
SUCTION	About 260 kg/h of flash steam, around 102 °C, from the condensate vessel
DISCHARGE	4 bar g, about 1,170 kg/h, to the heating stations
EQUIPMENT	Jetomat® (Baelz 590), variable-nozzle steam jet pump

02 Before

The site needed new clean-water heating for the washrooms of a site building, supplied with steam from a central heating plant. The water had always been heated in large storage tanks with steam lances. At the same time, the condensate collecting vessel sent its flash steam into the open air through the roof, all day.

03 What changed

- The clean-water supply moved to steam-to-hot-water heating stations with condensate back-up control, with a Jetomat® (Baelz 590) upstream of them.
- Driven by 8 bar g motive steam, the Jetomat draws the vessel's flash steam (vapour compression) and feeds the mixture to the heating stations.

04 Results

- About 260 kg/h of flash steam that used to vent through the roof now heats water.
- About 22 % of the steam the heating stations use is recovered flash (260 of 1,170 kg/h).
- About 2 tonnes of flash steam a day reused, with the heating running 8 hours a day.
- The visible plume from the roof is considerably reduced.

05 Why it works

The Jetomat is a steam jet thermocompressor: high-pressure motive steam expands through its nozzle, draws in the low-pressure flash steam and recompresses the mixture in the diffuser to a pressure a consumer can use. The variable nozzle lets the motive-steam flow follow the heating load.

Wherever a condensate vessel vents flash steam and a steam consumer sits nearby, a Jetomat can lift the flash back into service. On this site it supplies more than a fifth of the steam for the clean-water heating.