

Industrial laundry, Spain

230 MWh saved in the first four months

A Jetomat® steam ejector (Baelz) on a recompression skid lifts the flash steam of two 10.5 bar g processes to 4 bar g and feeds it to a low-pressure user. Started in May 2024; design saving 495 MWh a year.

495 MWh

saved a year (design)

boiler steam to the user: -36.35 %

230 MWh

saved by 4 September 2024

four months after start-up

Rs 17.6 lakh

saving a year (design)

at ~Rs 3,560 per MWh saved

01 The plant and the duty

PLANT	Industrial laundry, Spain
MOTIVE	Boiler steam, 10.5 bar g
FLASH FROM	Condensate of two processes at 10.5 bar g (651.68 and 559.28 kg/h of steam), flashed at 2.5 bar g
DELIVERED	4 bar g, to a user taking 326.42 kg/h
DESIGN	108.65 kg/h of flash steam recovered on average
EQUIPMENT	Jetomat® steam ejector (Baelz), variable nozzle, on a skid with flash vessel, level control and its own panel
STARTED	May 2024 · 18 h a day, 300 days a year

02 Before

The 4 bar g user took all its steam, 326.42 kg/h, from the boiler. The two processes at 10.5 bar g released flash steam from their condensate, and nothing in the plant used it.

03 What changed

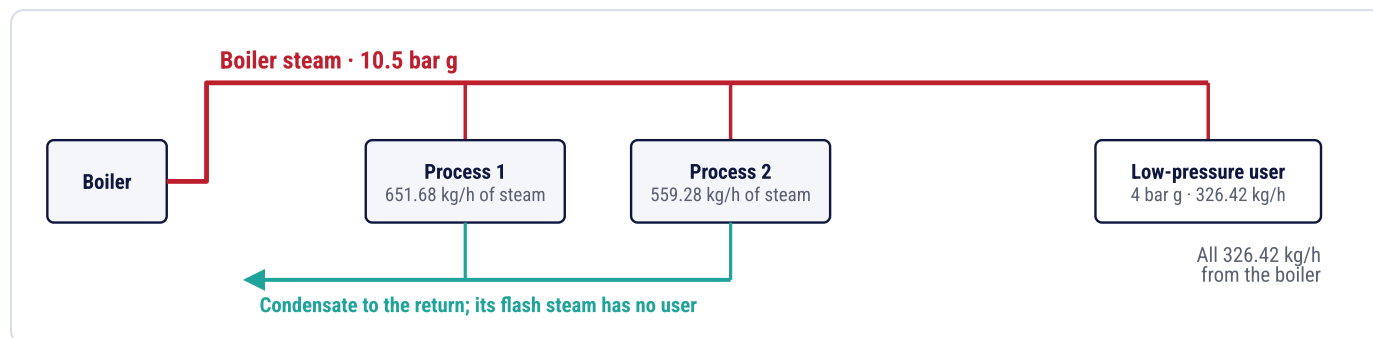
- A recompression skid went in. Its flash vessel takes the condensate of the two 10.5 bar g processes and releases flash steam at 2.5 bar g.
- A Jetomat® steam ejector (Baelz), driven by 10.5 bar g boiler steam, draws that flash steam and delivers the mix at 4 bar g to the low-pressure user.
- Level control on the flash vessel sends only hot water to the condensate return.
- The skid's touch-screen panel runs it in automatic and totals the steam, energy and CO₂ saved.

04 Results

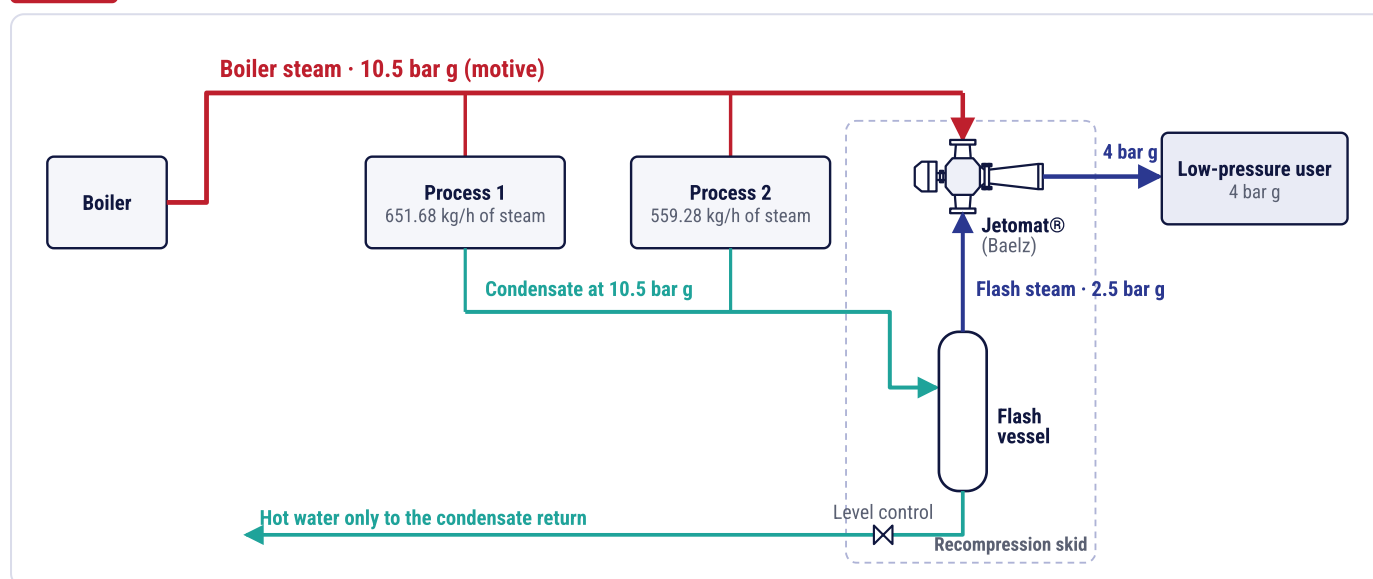
- Design figures: boiler steam to the 4 bar g user down from 326.42 to 207.77 kg/h (-36.35 %); 495 MWh and about Rs 17.6 lakh saved a year; CO₂ down from 475.33 to 302.56 t a year (-172.77 t).
- Design saving 495 MWh a year; 230 MWh reached in the first four months. On 4 September 2024 the skid's panel showed 230.34 MWh of energy, 286.94 t of steam and 71.98 t of CO₂ saved since the May start-up.

05 The steam system, before and after

BEFORE



AFTER



— Live steam — Recirculated / recovered steam — Condensate Valve Jetomat (variable nozzle)

06 Why it works

Condensate leaving a 10.5 bar g process flashes when its pressure falls: here, to steam at 2.5 bar g. That is below the 4 bar g the user needs, so on its own it is of no use. The Jetomat uses the pressure energy of the 10.5 bar g motive steam to entrain the flash steam and deliver the mix at 4 bar g. Its variable nozzle follows the flash steam actually available, so the user's pressure holds while the boiler supplies only the difference, and only hot water goes back to the return.

SOURCE Saving to date: totals logged on the skid's control panel, 4 September 2024, as reported by the installer. Annual figures: the installer's design figures.



The recompression skid as installed: the flash vessel with its level gauge, the Jetomat and the valve trains, all on one frame. Started in May 2024.

PHOTOS Installation photos: Baelz installation partner.