

Tyre plant, China

23 % less steam on one steam main

A Jetomat® (Baelz 590) recirculation loop on the steam main, with every machine draining untrapped and the condensate's flash steam reused in a cascade, took the plant from 13 t/h to 10 t/h of steam.

23.1 %**less steam**

13 t/h before, 10 t/h after

16 bar g**supply pressure needed**

was 18 bar g (–11.2 %)

Rs 35 lakh**cost saving a year**

as reported by the plant

No plume**at the condensate tank**

flash steam now reused

01 The plant and the duty

PLANT	Tyre plant, China
STEAM MAIN	23 bar g
ON THE MAIN	8 bladder curing presses · 4 heating chambers (ovens, 150–160 °C) · a drum dryer
EQUIPMENT	Jetomat® (Baelz 590), variable-nozzle thermocompressor
JETOMAT DUTY	Suction 16 bar g · discharge 17 bar g

02 Before

Every press and oven ran on its own control valve, with a steam trap on every outlet. The traps discharged condensate to an open condensate tank, and the flash steam vented to atmosphere in a visible plume.

03 What changed

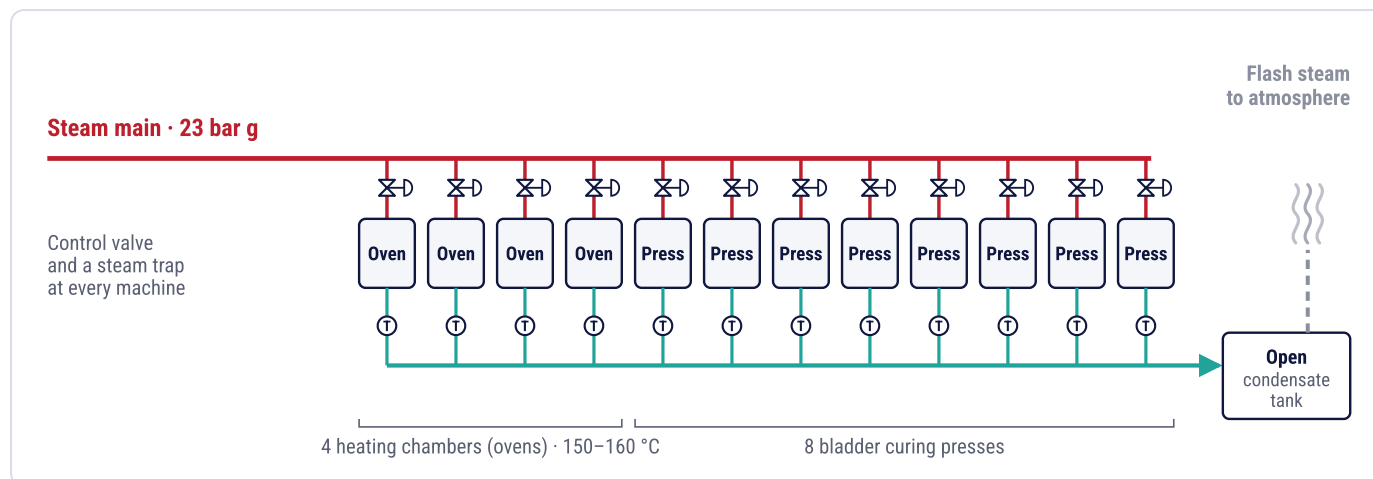
- A Jetomat® (Baelz 590) on the 23 bar g main steam line recirculates the consumers' steam: suction at 16 bar g, discharge at 17 bar g.
- The steam traps at each machine came out.
- All condensate is recovered, and its re-evaporated (flash) steam is reused in a cascade: the 2nd flash vessel supplies 3–6 bar g LP steam for preheating; the 3rd, at about 1 bar g, supplies the shower room and canteen.

04 Results

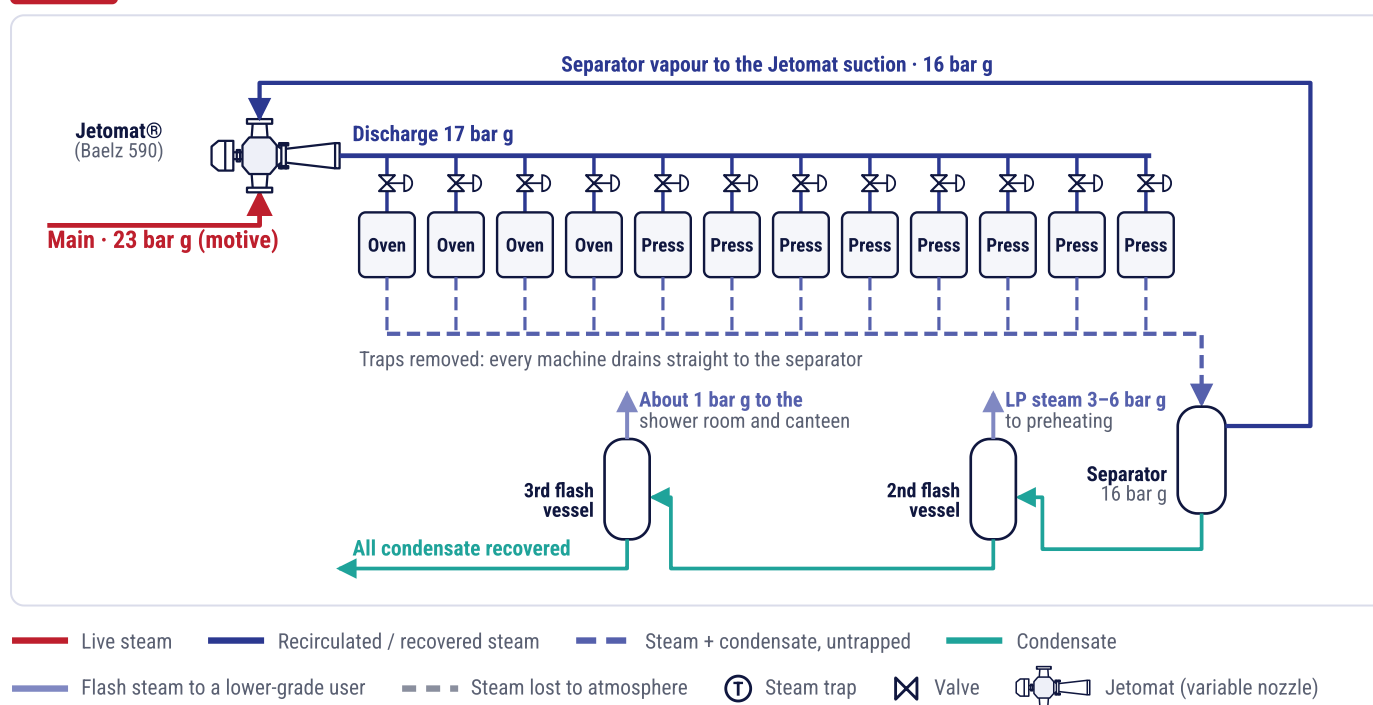
- Steam consumption fell from 13 t/h to 10 t/h: 23.1 % less.
- The supply pressure the consumers need fell from 18 to 16 bar g (–11.2 %); the operating temperature from 207 °C to 198 °C.
- Cost saving reported: about Rs 35 lakh a year, credited to the recycled flash (re-evaporated) steam and condensate, plus higher production.
- No steam plume at the condensate tank, and fewer steam traps in the plant.
- On the drum dryer: a higher, more even surface temperature.

05 The steam system, before and after

BEFORE



AFTER



06 Why it works

With the traps gone, steam keeps moving through every press and oven instead of backing up behind a trap. The Jetomat draws the outlet steam back at 16 bar g and, driven by motive steam from the 23 bar g main, returns it to the consumers at 17 bar g, so condensate is swept out continuously and the heating surfaces stay clear. What the condensate still holds is not vented: each flash stage releases it at a lower pressure to a lower-grade user before the condensate is recovered.

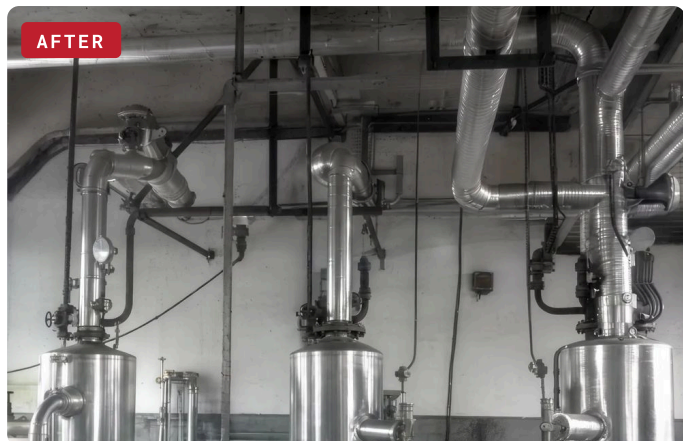
SOURCE Figures as reported by the plant after commissioning (Baelz installation partner's report).

07 On site, before and after

THE STEAM MAIN



Control-valve stations on the steam main.



The recirculation station, with its separator and flash vessels.

THE CONDENSATE TANK

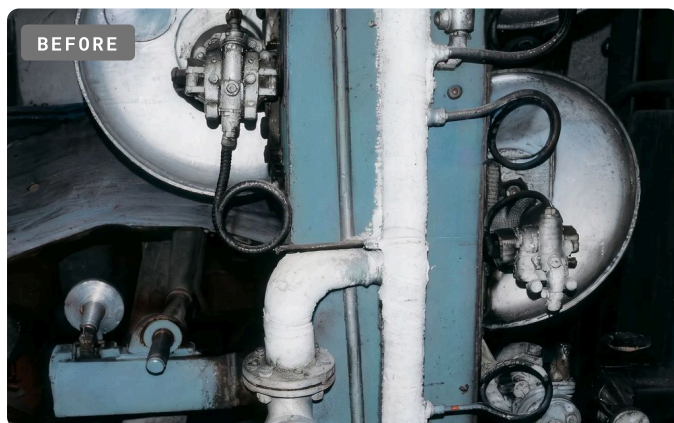


Flash steam venting to atmosphere above the condensate tank.



No plume: the flash steam is now reused.

THE DRUM DRYER



The drum dryer's steam connections before the retrofit.

Installation photos: Baelz installation partner



After the retrofit: a higher, more even surface temperature.



Spend once. Use twice.

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