

Coating line, South Korea (air heating)

6.6 % less steam on seven air-heating units

A Jetomat® steam ejector (Baelz) on the supply to seven air-heating units, with every coil draining untrapped to a flash vessel whose steam it draws back, took the line from 900–910 to 840–850 kg/h of steam on the same product.

6.6 %**less steam**

900–910 to 840–850 kg/h

60 kg/h**steam saved**

on the supply flowmeter

Rs 18 lakh**saving a year**

about, as calculated by the plant

60 days**trend recorded**

November 2013 to January 2014

01 The plant and the duty

PLANT	Coating line, South Korea
DUTY	7 steam air-heating units, two coil outlets each
STEAM	15.7 bar g, reduced to 6.9 bar g
METERING	Steam flowmeter on the supply
EQUIPMENT	Jetomat® steam ejector (Baelz), variable nozzle, under discharge-pressure control

02 Before

Steam at 15.7 bar g was reduced to 6.9 bar g, metered, and fed to the seven air-heating units, each on its own control valve. Every unit's two coil outlets drained through a steam trap station to the condensate return.

03 What changed

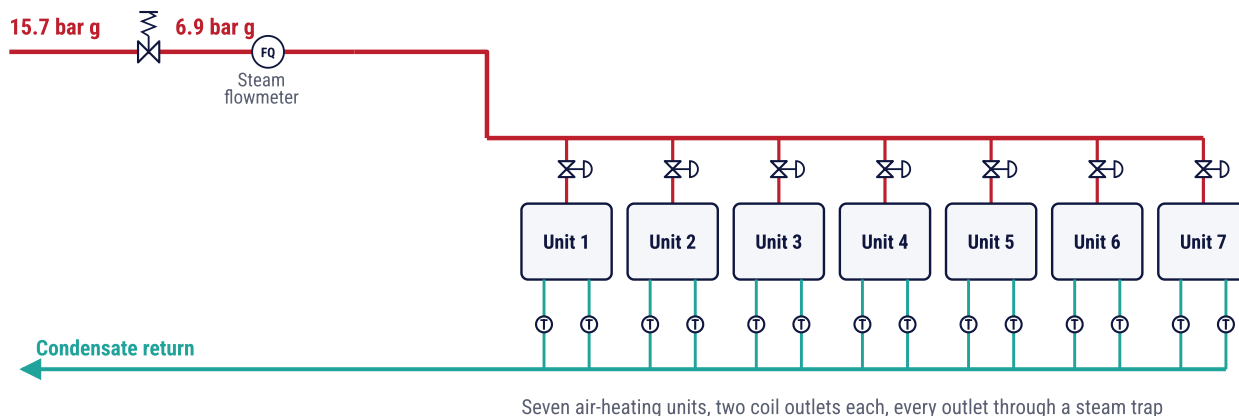
- A Jetomat® steam ejector (Baelz) on the metered 6.9 bar g supply now feeds the seven units.
- Each trap station has a bypass with a check valve: every coil drains straight to a new flash vessel.
- The flash vessel's steam is the Jetomat's suction; a level controller passes its condensate to the return.
- A pressure controller on the discharge sets the Jetomat's actuator.

04 Results

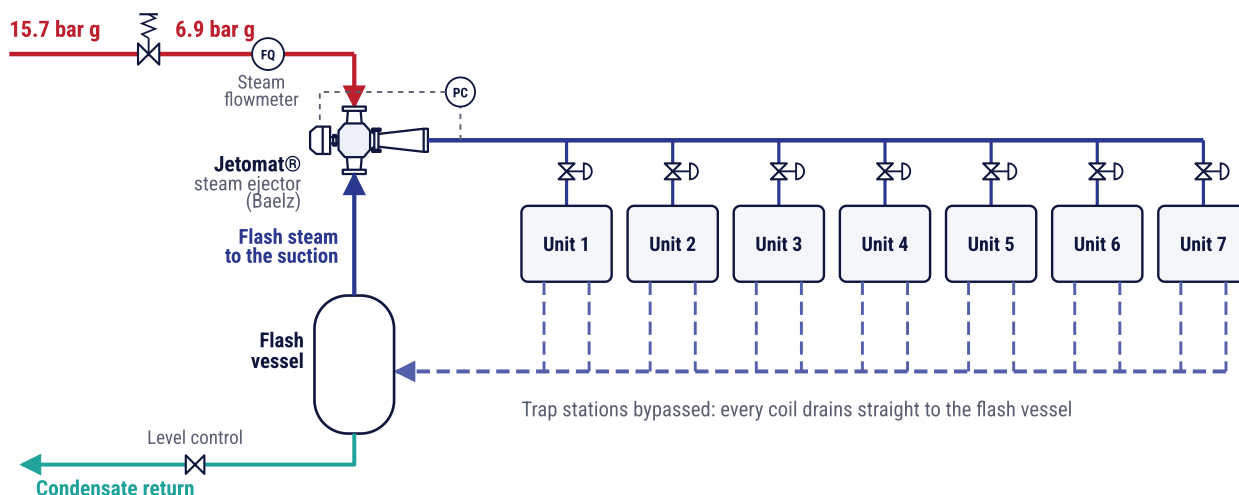
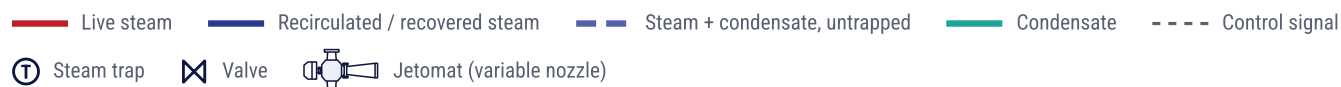
- Steam on the supply flowmeter: 900–910 kg/h before, 840–850 kg/h after: 6.6 % less.
- The plant compared steam use on the same product grade; coating thickness made no visible difference to steam use.
- Saving calculated by the plant: 60 kg/h × 24 hours × 360 days × ~Rs 3,550 a tonne, about Rs 18 lakh a year.

05 The steam system, before and after

BEFORE



AFTER



06 Why it works

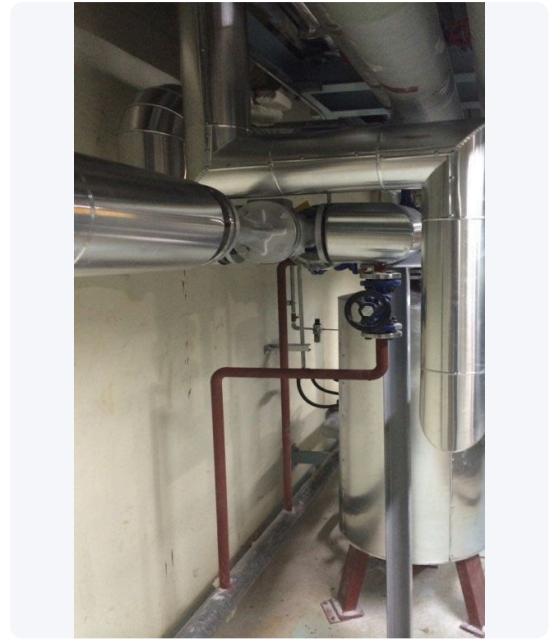
Behind a trap, an air-heating coil holds condensate back whenever the load changes, and the flooded part of the coil gives little heat to the air. With the coils draining freely to the flash vessel and the Jetomat returning the vessel's steam to the supply, steam moves through every coil continuously and the heating surface stays clear. The variable nozzle, under pressure control, matches the motive steam to the load, so the units draw less fresh steam for the same heat.

SOURCE Measured on the line's steam flowmeter, 60-day trend, November 2013 to January 2014, same product before and after. Annual saving calculated by the plant. Pressures converted from kg/cm² to bar g.



The installation: the new flash vessel and its piping.

PHOTOS Installation photos: Baelz installation partner.



The flash vessel, with the steam line overhead.