Textile drying tower, Spain

~Twice the fabric speed on the same steam

A recirculating Jetomat® steam ejector (Baelz) on a tower of eight drying cylinders brought the two cold bottom cylinders to 150 °C. The plant reported production and steam use fabric by fabric.

+100 %
fabric speed, same steam
fabric 3: 25 to 50 m/min

+91.67 %
fabric speed, same steam
fabric 1: 12 to 23 m/min

−23.65 %
steam, same speed
fabric 2 at 2 bar g, not 3

150 °C
on all eight cylinders
the lowest two ran at 100 and 80 °C

01 The plant and the duty

PLANT	Textile plant, Spain
MACHINE	Drying tower of 8 steam-heated cylinders
STEAM	8 bar g supply, reduced to the cylinder header; 3 bar g before, 2–3 bar g after, by fabric
EQUIPMENT	Jetomat® steam ejector (Baelz) with actuator, separator and one steam trap
INSTALLED	2022

02 Before

The cylinders were fed from a pressure-reduced header at 3 bar g, each draining through its own steam trap. Six cylinders reached 150 °C; the seventh ran at 100 °C and the eighth, at the bottom of the tower, at 80 °C.

03 What changed

- A recirculating Jetomat® steam ejector (Baelz), driven by 8 bar g steam taken ahead of the pressure-reducing valve, discharges into the cylinder header.
- The eight cylinder traps came out. Every cylinder drains untrapped into one separator.
- The separator's vapour is the Jetomat's suction: a closed recirculation loop. Condensate leaves through a single trap.

04 Results

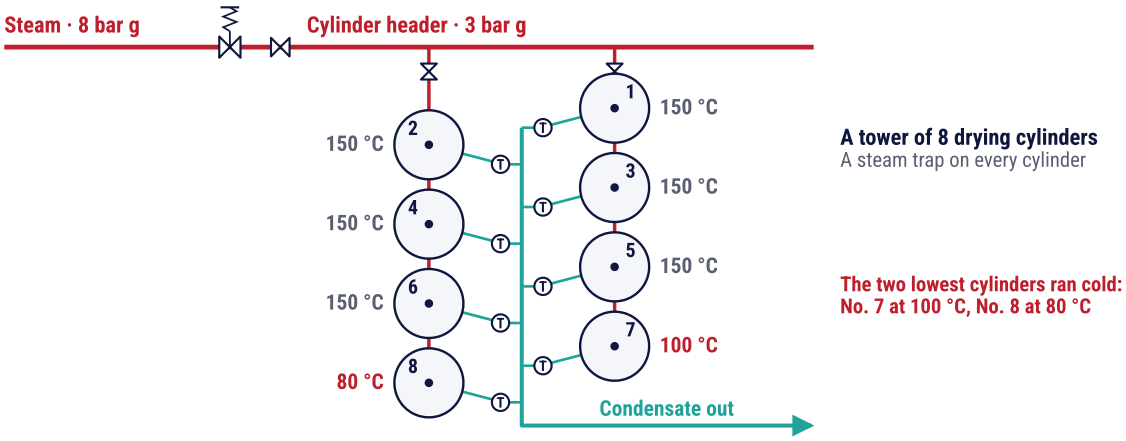
- All eight cylinders now run at 150 °C.
- On the same steam, ~twice the speed (fabric 3: 25 to 50 m/min); or the same speed on less steam (fabric 2: −23.65 % at 2 bar g). Fabric by fabric, as reported by the plant:

PER FABRIC · STEAM PRESSURE AND FABRIC SPEED

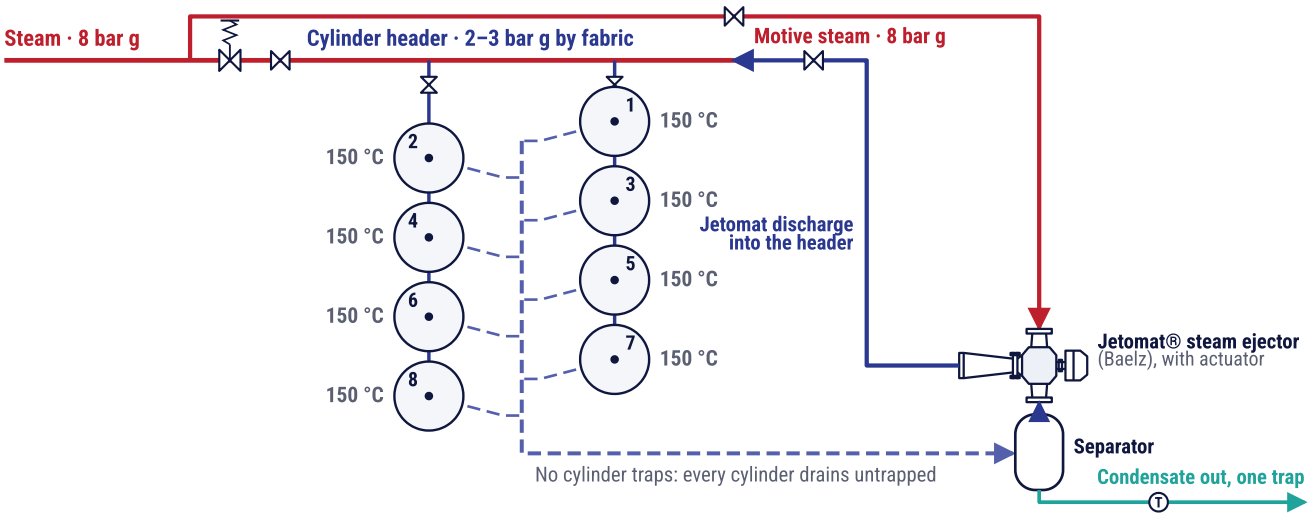
Fabric	Before	After	Speed	Steam use
Fabric 1	3 bar g · 12 m/min	3 bar g · 23 m/min	+91.67 %	0.00 %
Fabric 2	3 bar g · 12 m/min	2 bar g · 12 m/min	0.00 %	-23.65 %
Fabric 3	3 bar g · 25 m/min	3 bar g · 50 m/min	+100 %	0.00 %
Fabric 3	3 bar g · 25 m/min	2.5 bar g · 50 m/min	+100 %	-13.41 %

05 The drying tower, before and after

BEFORE



AFTER



Live steam · Recirculated / recovered steam · Steam + condensate, untrapped · Condensate · Steam trap · Valve · Jetomat (variable nozzle)

06 Why it works

In a trapped cylinder, condensate builds up until the trap opens, and a film of water and droplets on the shell becomes a thermal barrier. In a tall tower the lowest cylinders suffer most, which is why No. 7 and No. 8 ran at 100 °C and 80 °C. With recirculation, steam blows through every cylinder continuously and sweeps the condensate out, so all eight heat at full temperature. The variable nozzle holds the header at the pressure each fabric needs: the plant can run faster on the same steam, or at the same speed on lower pressure and less steam. With no cylinder traps, there are fewer parts to maintain.

SOURCE Production and steam-use changes as reported by the plant (customer feedback), per fabric type; cylinder temperatures from the installer's before-and-after drawings.

07 On site

The tower of eight drying cylinders, with its steam and condensate piping.

The recirculation station: the Jetomat with its actuator, above the separator and its level gauge.

PHOTOS Installation photos: Baelz installation partner.

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