

Tissue mill, South Korea (Yankee dryer)

32 % less steam, and 13 % more machine speed

A Jetomat® (Baelz 590) on the Yankee dryer cut the boiler's steam flow from 6,000 to 4,100 kg/h and its B-C oil from 660 to 440 litres an hour, while the machine ran faster.

31.7 %**less steam**

6,000 to 4,100 kg/h

33.3 %**less B-C oil**

660 to 440 L/h

+12.7 %**machine speed**

1,100 to 1,240

Rs 1.1 crore**fuel saved a month**

220 L/h, 720 h, ~Rs 71/L

01 The plant and the duty

PLANT	Tissue mill, South Korea
DRYER	Yankee dryer
BOILER	B-C (bunker) oil-fired
EQUIPMENT	Jetomat® (Baelz 590), variable-nozzle thermocompressor, on the Yankee dryer
RECORDED	Boiler-house trend records, 2008

02 Before

The Yankee dryer ran on steam straight from the boiler: 6,000 kg/h, raised by burning 660 litres of B-C oil an hour, at a machine speed of 1,100.

03 What changed

- A Jetomat® (Baelz 590) steam ejector went in on the Yankee dryer's steam supply.
- Boiler steam now enters as the Jetomat's motive steam, and the Jetomat returns the Yankee's blow-through steam to the dryer with it.

04 Results

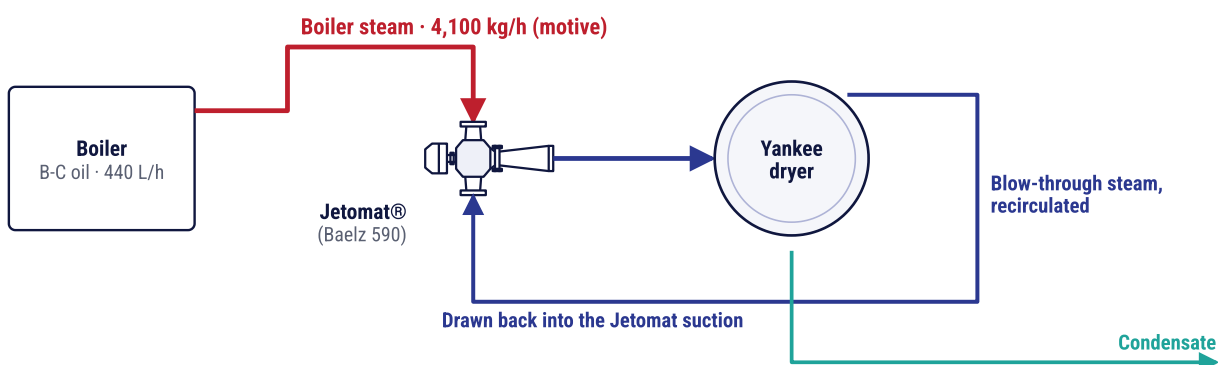
- Boiler steam flow fell from 6,000 to 4,100 kg/h: 31.7 % less.
- B-C oil fell from 660 to 440 litres an hour: 33.3 % less.
- Machine speed rose from 1,100 to 1,240: 12.7 % more, on less steam.
- Fuel saved: 220 L/h × 720 operating hours a month × ~Rs 71 per litre = about Rs 1.1 crore a month, on the plant's own basis (24 h × 30 days; B-C oil at ~Rs 71 per litre).

05 The steam system, before and after

BEFORE



AFTER



— Live steam — Recirculated / recovered steam — Steam + condensate, untrapped — Condensate



Jetomat (variable nozzle)

06 Why it works

A Yankee needs a steady flow of steam through it to clear its condensate, so part of the steam always leaves as blow-through steam. Without recovery, that steam has to be made good with fresh boiler steam. The Jetomat uses the pressure of the boiler steam as motive to draw the blow-through steam back and return the mix to the Yankee. The boiler then supplies only the steam that condenses on the shell, so steam and fuel fall while the drying surface stays clear and the machine can run faster.

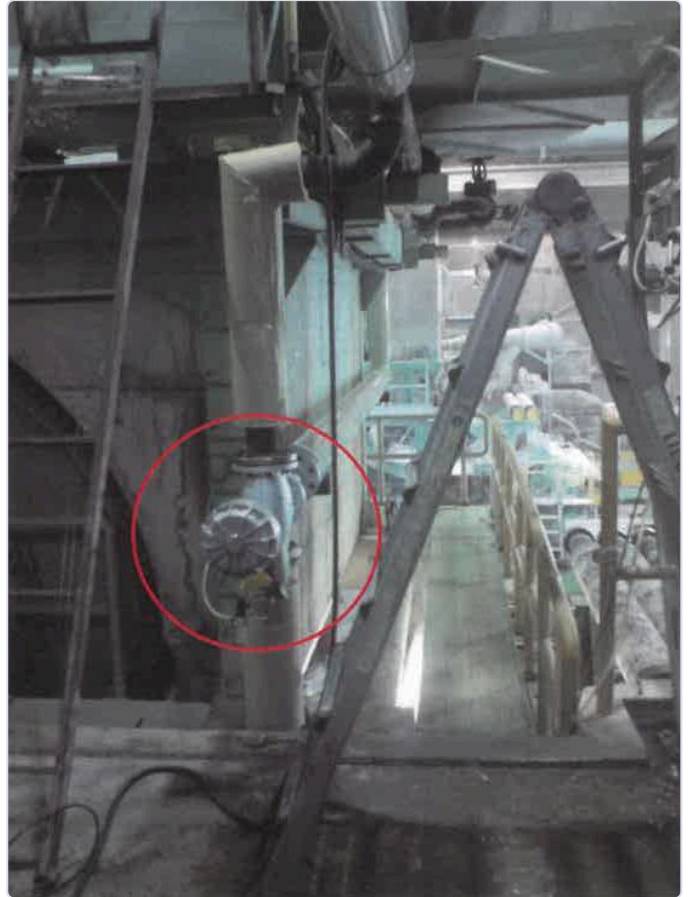
SOURCE Steam and B-C oil flows read from the plant's boiler-house trend records before and after installation (2008); machine speed and fuel price as reported by the plant.

07 The installation

AFTER



The Yankee dryer; the Jetomat is circled



The Jetomat on the Yankee steam supply (circled)

PHOTOS Installation photos: Baelz installation partner.



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