

Display-panel plant, South Korea (sludge dryer)

28.3 % less LNG per tonne of sludge dried

A Jetomat® (Baelz 590) on the dryer's steam supply, with the steam traps out and the condensate tank's flash steam drawn back as suction, cut the fuel for the sludge dryer from 106.52 to 76.37 m³ of LNG per tonne of sludge.

28.3 %**less LNG per tonne**

106.52 to 76.37 m³/t

Rs 2.2 crore**saving a year**

about, as calculated by the plant

510 t**sludge in the test week**

dried on 38,949 m³ of LNG

No plume**at the condensate tank**

flash steam now recovered

01 The plant and the duty

PLANT	Display-panel plant, South Korea
DRYER	Steam-heated sludge dryer, steam to the dryer body and its rotor shaft
SLUDGE	73 t a day
FUEL	LNG, for the steam
EQUIPMENT	Jetomat® (Baelz 590), variable-nozzle thermocompressor

02 Before

Main steam fed the dryer through a valve. Its two condensate outlets drained through steam traps, one with its bypass valve open, into a condensate tank, and the flash steam left the tank vent as a visible plume.

03 What changed

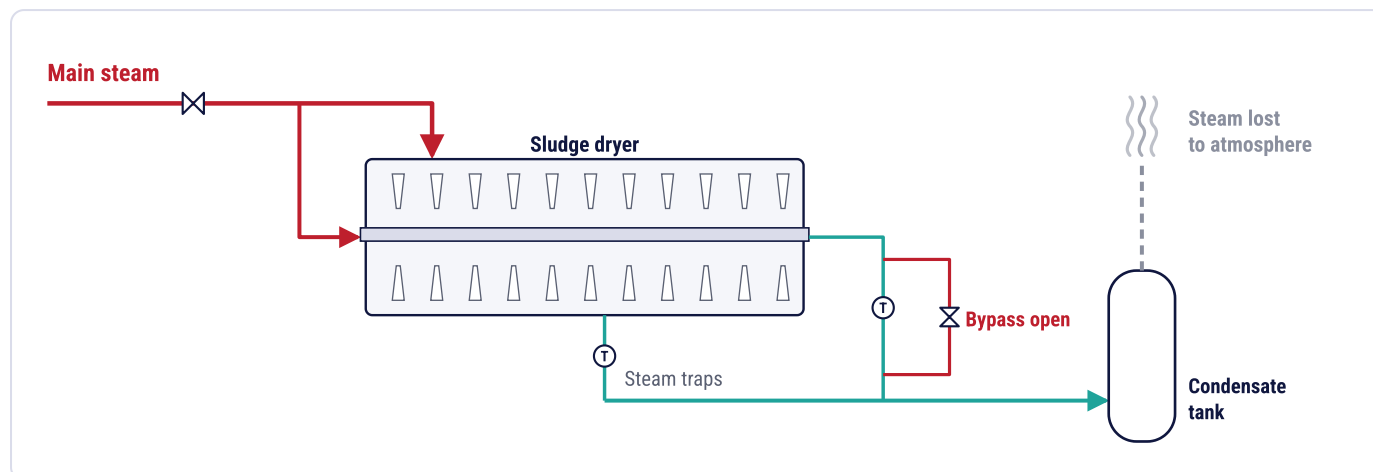
- A Jetomat® (Baelz 590) on the main steam supply now feeds the dryer.
- The steam traps came out: both outlets drain straight to the condensate tank.
- The tank's flash steam is the Jetomat's suction, so it goes back into the dryer instead of up the vent.

04 Results

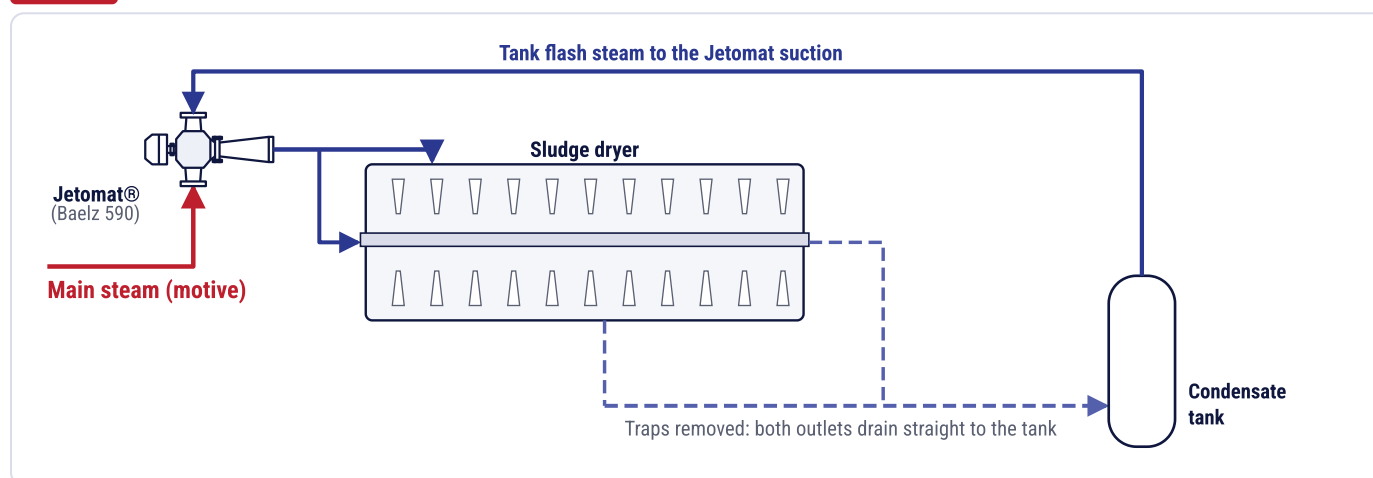
- LNG per tonne of sludge fell from 106.52 m³ (average of about 3 months before installation) to 76.37 m³ in the test week: 28.3 % less.
- Test week, 1 to 7 October: 510 t of sludge dried on 38,949 m³ of LNG.
- Saving calculated by the plant: 30.15 m³ less LNG per tonne × 73 t a day × 192 operating days × ~Rs 51.7 per m³, about Rs 2.2 crore a year.
- The steam plume at the condensate tank is gone.

05 The steam system, before and after

BEFORE



AFTER



— Live steam — Recirculated / recovered steam — Steam + condensate, untrapped — Condensate
- - - Steam lost to atmosphere T Steam trap X Valve Jetomat (variable nozzle)

06 Why it works

With a trap on each outlet, and one trap's bypass open, the dryer either held condensate back or passed live steam straight to the tank. The Jetomat keeps steam moving through the dryer at a steady rate and sweeps the condensate out continuously; the flash steam that forms in the tank is drawn back as suction and, driven by the main steam, returned to the dryer. More of each kilogram of steam does its work inside the dryer, so less LNG is fired per tonne of sludge.

SOURCE Measured by the plant: LNG per tonne of sludge, average of about 3 months before installation against a one-week test after (510 t of sludge, 38,949 m³ of LNG). Annual saving calculated by the plant.

07 On site

BEFORE



Before: flash steam from the condensate tank vent.

AFTER



After: the same vent, no plume.

PHOTOS Installation photos: Baelz installation partner.



Spend once. Use twice.

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