



NOVIMPIANTI
DRYING TECHNOLOGY

YANKEE ECOSTEAM GENERATOR

ENERGY SAVING PLATFORM

YES STEAM GENERATOR: TARGET

Energy saving is the goal of this proposal.

Energy is nowadays without any doubt one of the most important trends in the paper industry, as its impact in tissue production process is over the 20% of the overall costs.

Efficient energy use allows to reduce emissions in the atmosphere granting the compliance to local environmental regulations and helping to improve the green image of the company.

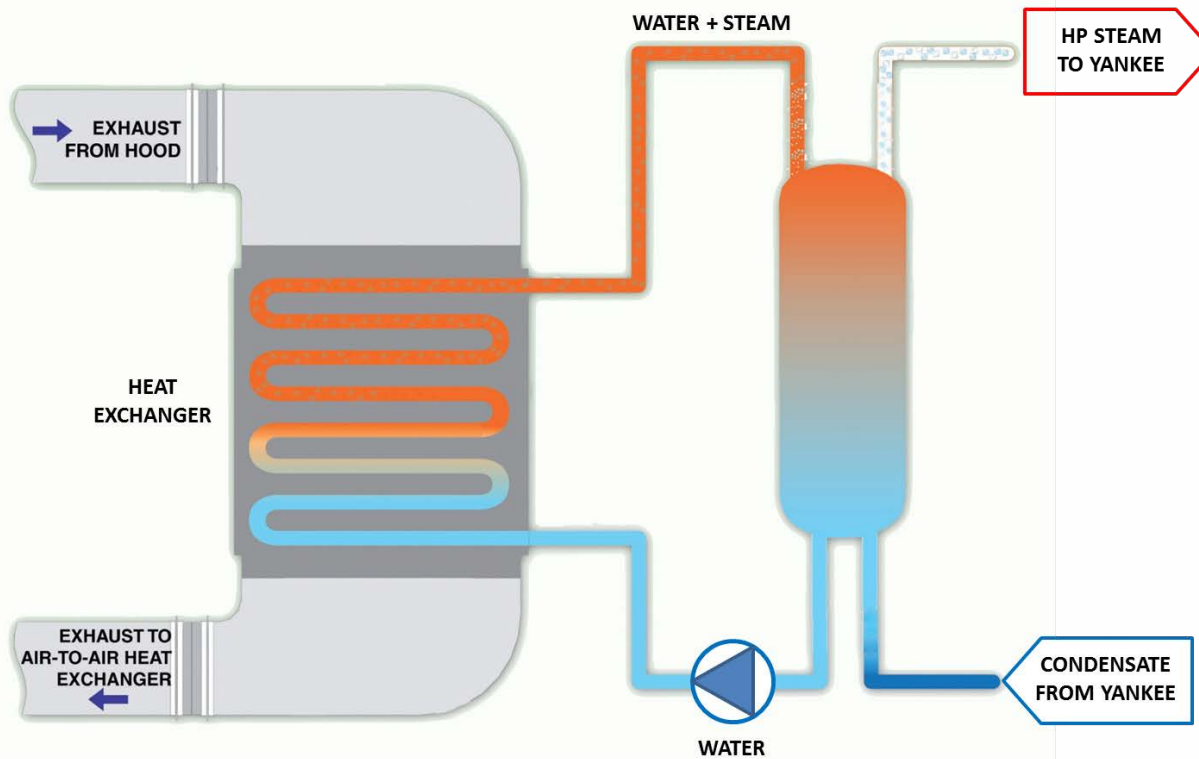
The Solution we propose takes advantage on the energy recovery contained in the exhaust gases from the Yankee Hood to:

- **generate high pressure steam to be used to feed the Yankee dryer.**
- As option the proposal can include a **post-burner** to increase hood exhaust temperature and generate all the steam needed by Yankee dryer.

YES STEAM GENERATOR: DESCRIPTION

The solution we propose takes advantage on the energy recovery contained in the exhaust gases and includes the installation on the hood exhaust line of the following system:

Yankee Eco Steam System (YES) to generate high pressure steam recovering energy from the hood exhaust.



YES STEAM GENERATOR: DESCRIPTION

Yankee Eco Steam System (YES) generates high pressure steam recovering energy from the hood exhaust.

The system uses the condensate from the Yankee pressurized steam separator vessel and through a high temperature and pressure transfer pump sends it to the heat recovery unit where it is heated by the exhaust gases.

The steam and condensate generated in the heat exchanger are collected and separated in a vessel.

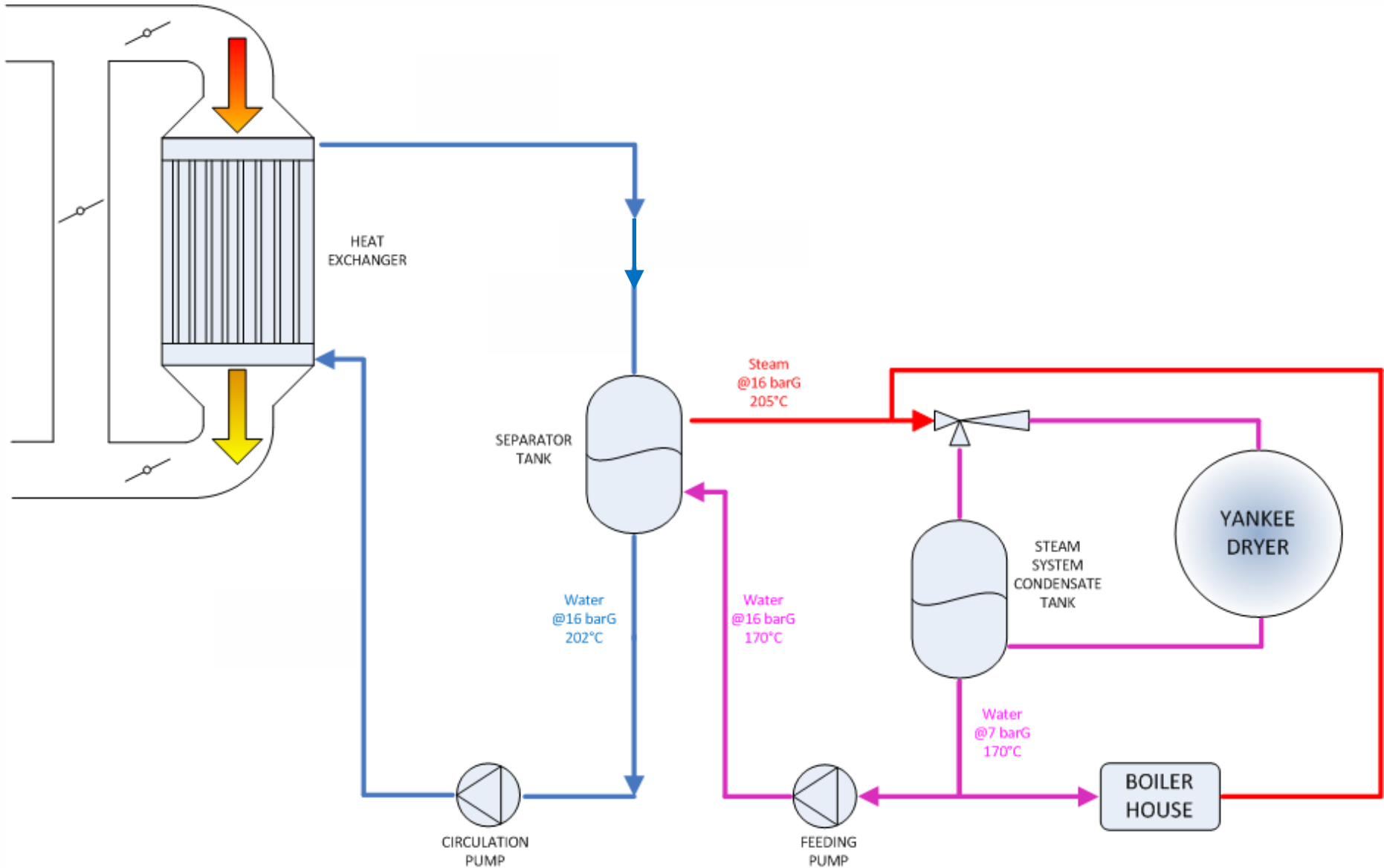
From the separator tank the steam is directly sent to manifold to be used as motive steam or, in case of temporary excess, spilled into the atmosphere.

The proposed system is completely independent from the steam & condensate system.

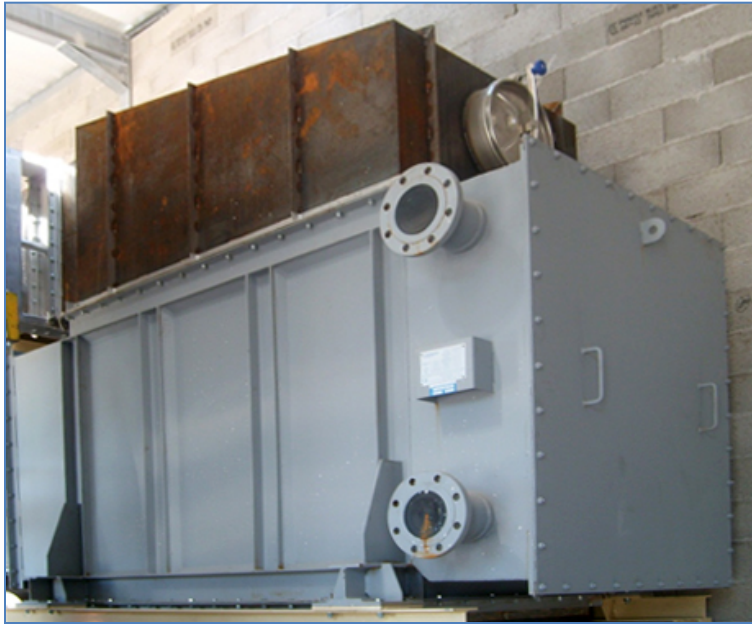
As an option three diverter dampers can be included in the scope of supply. The dampers are automatically controlled by DCS allows to switch the exhaust gas to the heat recovery unit or to bypass directly to the existing air to air heat exchanger.

In this way the proposed system is also completely independent from the Yankee hood system.

YES STEAM GENERATOR: P&I



YES STEAM GENERATOR: MAIN FEATURES



Heat recovery boiler **can be positioned in mezzanine area on Hood exhaust line** with:

- Compact dimensions and lower weight than competitor's "smoke tube" recovery boilers (allowing easy installation on existing machines)
- Reliable construction (same design code and technology as gas turbine recovery boilers)
- Easy maintenance (water pipe design avoids possibility of paper jamming)

All other system equipment and control shall be supplied on a dedicated skid in order to cut-down erection and machine shut-down time



AN APPLICATION CASE: CONFIDENTIAL MILL (France)

YES steam generator to increase thermal efficiency of the tissue machine.

Application case

Tissue machine data

Production	99 T/day
Basis weight	15-22 gsm
Paper width	2.8 m
Machine speed	1800 m/1'
Yankee diameter	3660 m
Steam operative pressure	9 bar

YES steam generator by Novimpianti

Start Up	2012
Hood blowing temp.	500°C
Exhaust temp at YES inlet	350 C°
Exhaust temp at YES outlet	225 C°
Recovered energy	650 kW
Generated steam flow	1100 kg/h
Generated steam pressure	15 barg



The YES system is part of a complete energy recovery chain installed on the machine exhaust line.

YES STEAM GENERATOR: BENEFITS

The YES steam production system is designed to satisfy the following requirements:

- **Maximize the energy saving**
the System generates high pressure steam to be directly used as motive steam for the Yankee dryer. As option the proposal can include a **post-burner** to increase hood exhaust temperature and generate all the steam needed by Yankee dryer.
- **User friendly and reliable**
the operator has just the duty to switch the bypass during transitory conditions furthermore the system does not require maintenance just inspection from time to time
- **Completely independent** from steam & condensate system
- **Completely independent** from the Yankee hood system equilibrium thanks to the automatic air dampers offered as an option.
- **Safety** during emergency or transitory conditions
- Satisfy **eco-compatibility** lowering CO₂ consumption
- Accordance to PED rules
- This steam generator is a flameless heat exchanger and is **not covered by the boilers regulations**

Novimpianti thanks you for the attention!

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