

Features

- 100% condensate heat and water recovery
- No flashing at feed water tank
- Enhanced boiler operating capacity
- Eliminates steam pressure fluctuations
- Improved steam dryness fraction
- Better boiler response to varying steam demand
- Water Saving by Flash recovery
- Reduced Scaling of boiler tubes and wetted surfaces

Our Customer Speaks



HIGH PRESSURE CONDENSATE RECOVERY SYSTEM

HPCRS

Saving Potential

Conventional System
(with Electrical Pump)

Standard System
(with Condensate Pump)

Thermax HPCRS

	1000 kg/hr 7 kg/cm ²	1000 kg/hr 7 kg/cm ²	1000 kg/hr 7 kg/cm ²
Condensate Load	1000 kg/hr	1000 kg/hr	1000 kg/hr
Condensate Pressure at outlet of Equipment	7 kg/cm ²	7 kg/cm ²	7 kg/cm ²
Condensate Return Temperature at Feed Water Tank	60-70°C	95°C	160°C
Annual Monetary Saving (Rs. Approx)	4 Lacs	6 Lacs	12 Lacs



National Award for HPCRS
by CII for Excellence in
Energy Management-2018

THERMAX - STEAM ENGINEERING

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Note : Fuel-Wood (GCV:3000kcal/kg; Cost:Rs.4/kg); Boiler Efficiency:68%;

Case Study

HPCRS IN PLYWOOD INDUSTRY AT YAMUNANAGAR, HARYANA

Existing System

In plywood industry about 80% condensate is recoverable. Condensate coming out at high pressure flashes into atmosphere releasing about 12-15% of flash steam without effective usage of heat for feed water heating.

THERMAX HPCRS



Benefits



Comparison

Parameters	Conventional / Standard CRS	Thermax HPCRS
Condensate Temperature	90 - 95 Deg. C.	120 - 160 Deg. C.
System Configuration	Simple	Advanced
Initial Cost	Low	High
Operating Cost	Varies	Varies
Pipeline & Fittings Corrosion	Significant (Condensate comes into contact with air)	Negligible (No contact with air)
Flash Steam Loss	Significant	Negligible
Recovery Applications	Preheating boiler makeup water process water heating	Direct recovery to Boiler

Best Savings Achieved in

- Corrugated Box Manufacturing
- Plywood Industry / Laminates Industry
- Tyre Manufacturing / Rubber Vulcanizing / Tyre Retreading / Rubber belt Manufacturing
- Rice Mills (Dryers)
- Tea Industry (Dryers)
- Paper Industry
- Fried Food Industry using Steam (Chips/Potato Products)
- Chicken Feed Manufacturing Plants with Fish Meal

Fuel Savings	Fuel consumption reduced by 20-25%
Increased Boiler feed water temperature	Boiler feed water temperature earlier around 95 Deg.C is increased to 175 Deg.C. Boiler load variation in Winter & Summer season is effectively addressed. Loading time in seasoning chamber & heating press reduced.
Water Savings	Make up water savings : Before installation of system, Customer used to run Softner plant daily. Now softner plant is run after 4-5 days. Condensate recovery has been improved from 80% to 98%
Reduction in chemical dosig	Reduced blow down has resulted into significant reduction in makeup water consumption & hence softening cost.
Increased production rate	Increased production rate due to reduction in heating time in process.