Incosteam

Conserving Energy, Preserving Tomorrow

INCOMPARABLE ENERGY RECOVERY SOLUTIONS

Let’s redefine energy conservation and pave the way for a world where efficiency and environmental responsibility go hand in hand.

WHY STEAM CONDENSATE AND FLASH STEAM RECOVERY MAKES ALL THE SENSE

Significant Energy Savings:

- Condensate and flash steam recover over 20% of the boiler's energy.
- Reusing this energy lowers energy bills : every 6°C rise in feedwater temperature due to recovery leads to 1% fuel savings.

Cost Reduction:

- Recovered condensate reduces the need for fresh water.
- Minimizes effluent load and treatment expenses.
- Less dependence on condensate as cooling tower make-up.

Improved Efficiency:

- Preheating feedwater reduces thermal shocks and improves boiler efficiency.
- Optimal conditions enhance system reliability.

Environmental Benefits:

- Reduced fuel consumption lowers greenhouse gas emissions.
- Efficient reuse conserves water resources.

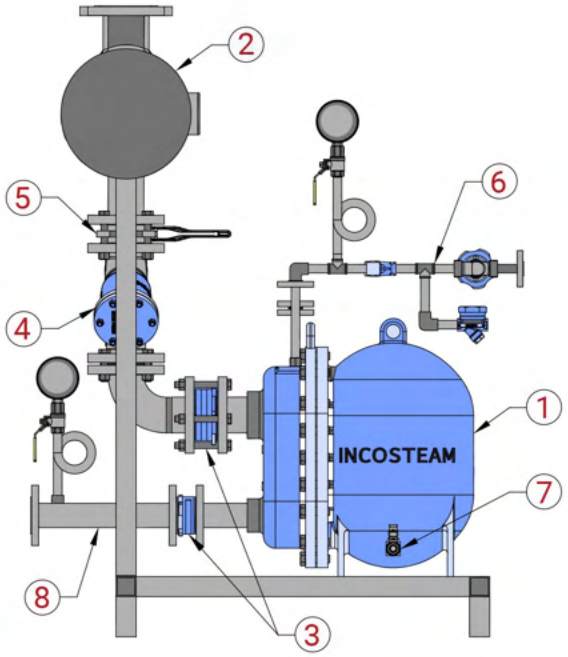
Enhanced Reliability:

- Elevated temperatures reduce boiler stress.
- More reliable systems have fewer interruptions.

Quick Return on Investment:

- Typical ROI ranges from 6 months to 1 Year due to energy and cost savings.

INCOSTEAM CONDENSATE RECOVERY PUMP



NO	DESCRIPTION	MATERIAL	QTY
1	CONDENSATE PUMP	C.I. IS210 FG260	1
2	RECIEVER TANK	CARBON STEEL	1
3	NON RETURN VALVE (DCV)	STAINLESS STEEL	2
4	Y–STRAINER	CAST IRON/CARBON STEEL	1
5	BUTTERFLY VALVE	CARBON STEEL	1
6	INLET MOTIVE MODULE	CARBON STEEL	1
7	DRAIN VALVE	STAINLESS STEEL	1
8	INTERCONNECTING PIPES	CARBON STEEL	1

WHY CHOOSE INCOSTEAM

- **Expertise and Experience:** Decades of experience in steam system optimization.
- **Innovative Technologies:** Cutting-edge solutions for maximum efficiency.
- **Sustainability Commitment:** Dedicated to reducing environmental impact.
- **Customer Support:** Comprehensive support from consultation to implementation.
- **Return on Investment:** Considering all the benefits, the typical return on investment for condensate recovery systems ranges from 6 months to 1 year.

INCOSTEAM SPECIALIZES IN GIVING CUSTOMIZED CONDENSATE AND FLASH STEAM RECOVERY SOLUTIONS :-

- Tailored solutions to meet specific industrial requirements.
- Integration with existing systems for seamless operation.

1. Condensate Return Systems:

- Efficiently transport condensate back to the boiler feedwater system, reducing energy and water consumption.
- Address issues of contamination and pumping distance to maximize recovery.

FLASH VESSEL SIZES	DEAERATOR HEAD SIZES
DN150	DN150
DN200	DN200
DN300	DN250
DN400	DN300

2. Flash Steam Recovery:

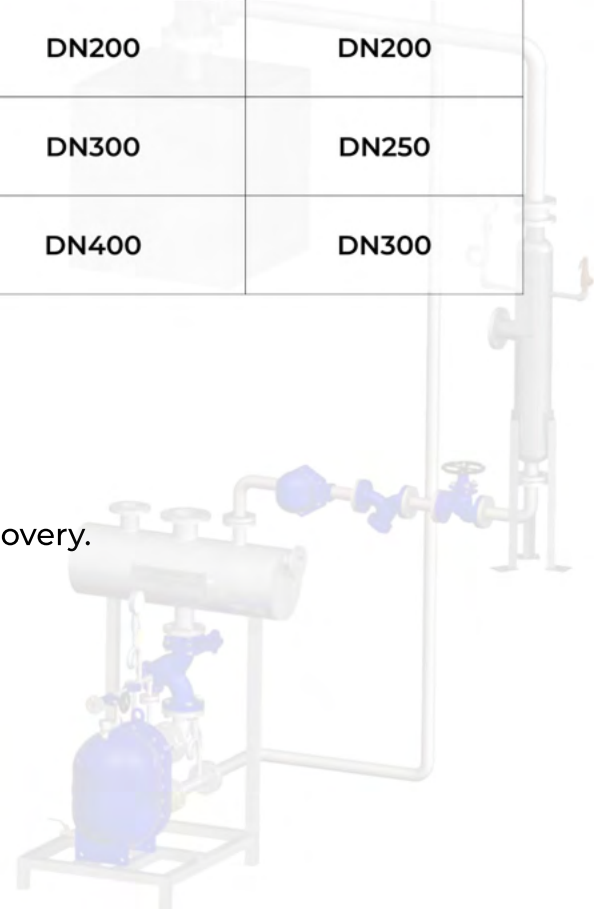
- Capture and reuse flash steam from high-pressure condensate, improving overall system efficiency using Flash Vessels.

3. Deaerator Head for Boiler Feed Tank:

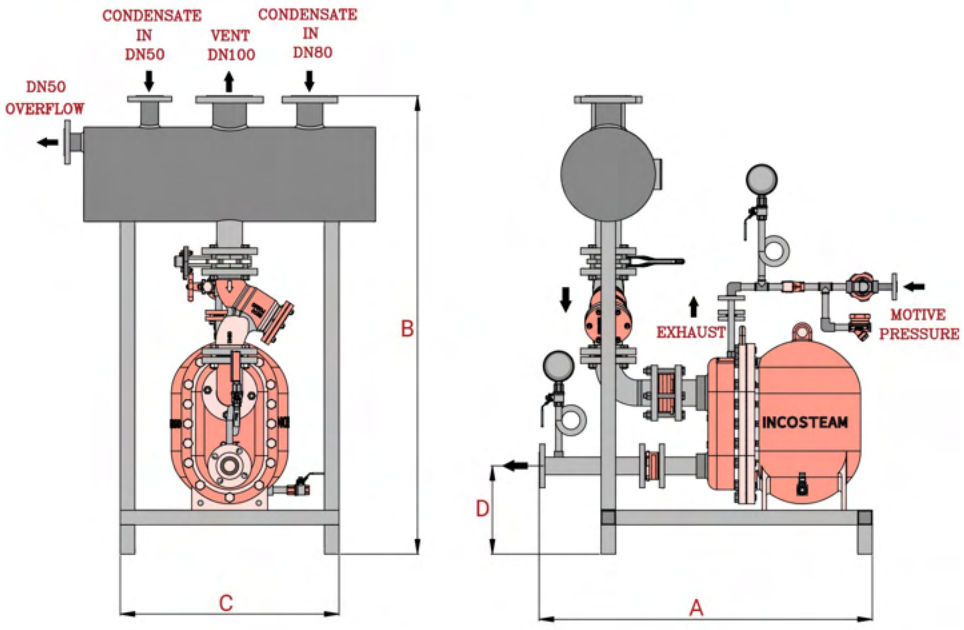
- Combines condensate, fresh feedwater, and flash steam to optimize heat recovery and improve feedwater quality.

4. Monitoring and Control Systems:

- Advanced monitoring and control solutions for optimal condensate recovery.
- Real-time data and analytics for proactive system management.



DIMENTIONAL TABLE



SIZE	A (mm)	B (mm)	C (mm)	D (mm)
DN80x50	1145	1580	750	303
DN40x40	840	1120	550	195
DN40x25	840	1120	550	195

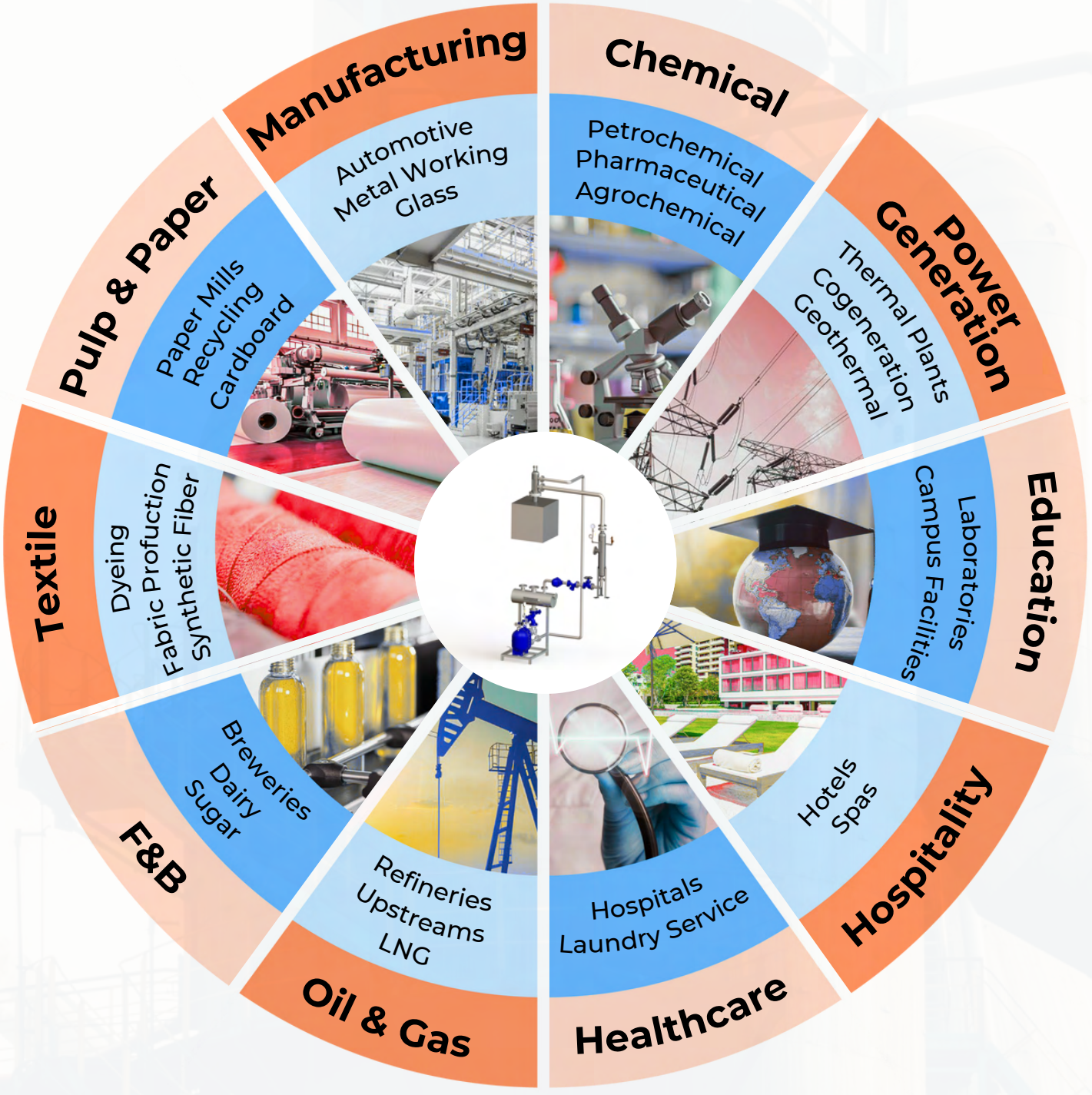
MAXIMUM OPERATING PRESSURE – 10.5 Kg/cm2(g)
MAXIMUM OPERATING TEMPERATURE – 186 °C
MATERIAL OF CONSTRUCTION – C.I. IS210 FG260

SIZE	CONDENSATE INLET	CONDENSATE OUTLET
DN80 x DN50	DN80 #150	DN50 #150
DN40 x DN40	DN40 #150	DN40 #150
DN40 x DN25	DN40 #150	DN25 #150

CAPACITY CHART

MOTIVE PRESSURE Kg/cm2(g)	BACK PRESSURE Kg/cm2(g)	PUMP SIZE		
		DISCHARGE CAPACITY (Kg/hr)		
		DN40 x DN25	DN40 x DN40	DN80 x DN50
8	1	2250	2800	6800
	1.5	1820	2500	6500
	3	1300	1800	5100
	4	1000	1350	4200
6	1	1650	2450	6300
	1.5	1550	2100	5900
	3	1050	1400	4050
	4	850	1000	3100
4	1	1500	1950	5000
	1.5	1260	1630	4300
	3	800	1300	3100
3	1	1400	1710	4100
	1.5	1240	1415	3800
	2	750	850	3200

INDUSTRIES AND APPLICATIONS



ENERGY SAVINGS ILLUSTRATION WITH MULTIPLE FUEL TYPES :-

Case 01: Boiler using Furnace Oil as Fuel

Assumptions:

- Energy Content of Furnace Oil: 1 kg of Furnace Oil = 10,200 kcal
- Conversion: 1 kcal = 4.186 kJ
- Operating Hours: 8000 hours per year
- Cost of Furnace Oil: ₹50 per kg
- Boiler Efficiency: 85% (typical efficiency)

Energy recovered per hour:

= Mass × Specific Heat × ΔT
= 1000 kg × 4.186 kJ/kg°C × (100–25) °C
= 313950kJ ≈ 75000kcal

Annual Energy Savings

= 75000kcal/hour × 8000hours/year
= 600,000,000kcal/year

Fuel savings (in kg of Furnace Oil):

= 10200 kcal/kg × 0.85 ≈ 50000 kg/year
= **600,000,000 kcal / year**

Cost savings in INR:

= 50000 kg/year × 50 INR/kg
= **2,500,000 INR**

By recovering 01 ton per hour of condensate at 100°C, you can save approximately ₹2,500,000 per year in fuel costs when using Furnace Oil in boiler.

Case 02: Boiler using HSD as Fuel

Assumptions:

- Operating Hours: 8000 hours per year (typical for continuous operation)
- Energy Content: 1 liter of HSD = 10,000 kcal
- Conversion: 1 kcal = 4.186 kJ
- Cost of HSD: ₹80 per liter
- Boiler Efficiency: 85% (typical efficiency)

Energy recovered per hour:

= Mass × Specific Heat × ΔT
= 1000kg× 4.186kJ/kg°C ×(100–25)°C
= 313950kJ ≈ 75000kcal

Annual Energy Savings

= 75000kcal/hour × 8000hours/year
= 600,000,000kcal/year

Fuel savings (in kg of HSD):

= 10200 kcal/litre × 0.85 ≈ 51000 litre/year
= **600,000,000 kcal / year**

Cost savings in INR:

= 51000 litre/year × 80 INR/kg
= **4,080,000 INR**

By recovering 01 ton per hour of condensate at 100°C, you can save approximately ₹4,080,000 per year in fuel costs when using HSD in boiler

Case 03: Boiler using Wood as Fuel

Assumptions:

- 5. Operating Hours: 8000 hours per year (typical for continuous operation)
- Energy Content: 1 kg of wood = 3500 kcal
- Conversion: 1 kcal = 4.186 kJ
- Cost of Wood: ₹5 per kg
- Boiler Efficiency: 85% (typical efficiency)

Energy recovered per hour:

= Mass × Specific Heat × ΔT
= 1000 kg × 4.186 kJ/kg°C × (100–25) °C
= 313950kJ ≈ 75000kcal

Annual Energy Savings

= 75000kcal/hour × 8000hours/year
= 600,000,000kcal/year

Fuel savings (in kg of Wood):

= 3500 kcal/kg × 0.85 ≈1 45714 kg/year
= **600,000,000 kcal / year**

Cost savings in INR:

= 145714 kg/year×5 INR/kg
= **728,570 INR**

By recovering 01 ton per hour of condensate at 100°C, you can save approximately ₹7,28,570 per year in fuel costs when using Wood in boiler.

About Us

Incosteam International is a leading solution provider supplying Energy Conservation steam products for the process industries.
As pioneers in the realm of energy conservation, we take pride in revolutionizing the way industries harness and preserve energy. Our mission is simple yet impactful to engineer a sustainable future by providing cutting-edge steam solutions. Established with a vision to reshape energy efficiency, we specialize in the manufacturing of state-of-the-art steam products. At Incosteam, we understand the crucial role steam plays in various industrial processes. Our meticulously crafted steam solutions not only ensure optimal performance but also contribute significantly to environmental conservation. What sets us apart is our unwavering commitment to innovation. Our team of dedicated engineers works tirelessly to develop and refine steam products and solutions that redefine industry standards. We believe in pushing boundaries and constantly strive to exceed expectations, providing our clients with solutions that are not just efficient but also cost-effective. **Incosteam – Conserving Energy, Preserving Tomorrow.**

Get in Touch

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