Ci-NERGY
Compact Intelligent Energy Recovery

Recovers condensate – saving fuel, raw water and water treatment.

The Ci-NERGY series of condensate recovery units are purposely designed with a small footprint for easy access and installation. They offer intelligent, efficient pumping technology that varies the suction head and pump speed to match the condensate return load. Long, reliable, trouble free operation is provided for duties from 1,000 kg/hr to 30,000 kg/hr.

Variable Speed Control
Variable speed control provides maximum efficiency under all load conditions.

Can reduce electricity consumption by up to 60%.

Extends pump life compared with on/off control.

Pumps hot condensate without cavitation.

Easy Installation
Alternate service connections with stand-off allowance for insulation of receiver.

Durable
Stainless steel receiver gives long service life.

Simple Selection
High single pump load turndown means fewer units are required to cover the range, which makes selection easier.

Simple Operation
Microprocessor control provides simple adaptable set up and operation.

Compact Design
Small footprint enables assembled unit to fit easily through standard door and takes less plant room space.

Energy Efficient
Small receiver ensures condensate is returned at a higher temperature, increasing energy recovery.

Complete System
Factory tested complete assembly with level gauge and high level alarm supplied as standard.

Pumps, sensors and control panel all pre-wired.

Easy Servicing
Simplified pump replacement and repair.

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Energy Recovery – Can you afford not to?

An effective condensate recovery system will collect hot condensate from the steam system and return it back to the boiler plant to be used as boiler feed.

Condensate is effectively hot, distilled treated water. Recovering it therefore saves energy, water and chemicals.

To estimate your potential annual savings, use the following:

Average condensate flowrate (kg/hr) (A)
Annual hours of operation (hr/year) (B)
Water cost (£/m³) (C)
Chemical cost (£/m³) (D)
Condensate return temperature (ºC) (E)
Cold water make up temperature (ºC) (F)
Cost of fuel (gas p/kWh) (G)
Boiler efficiency (e.g. 0.8 = 80%) (H)

Fuel saved = $\frac{A \times B \times (4.2\ kJ/kg^{\circ}C) \times (E-F) \times G}{3600 \times H \times 100}$

Water saved = $\frac{A \times B \times C}{1000}$

Chemicals saved = $\frac{A \times B \times D}{1000}$

Example: A plant recovers an additional 3,000 kg/hr of condensate operating 6,000 hours per year with an average condensate temperature of 90ºC. Make-up water is (£1/m³) at 10ºC and boiler efficiency is 80%. Chemical cost is £0.2/m³, and the fuel is gas which costs 2p/kWh.

1. Fuel saved = $\frac{3000 \times 6000 \times 4.2 \times 80 \times 2}{3600 \times 0.8 \times 100}$ = £42,000

2. Water saved = $\frac{3000 \times 6000 \times 1}{1000}$ = £18,000

3. Chemicals saved = $\frac{3000 \times 6000 \times 0.2}{1000}$ = £3,600

Total savings = 1 + 2 + 3 = £63,600 per year

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