

Flue Gas Condenser

HEAT RECOVERY FROM DUST LOADED EXHAUST AIR

PROCESS THERM

ATHCO-Engineering A/S (ATHCO) tailored Flue Gas Condenser and based on Thermo plates and recovers heat from dust loaded stack air. The recovered heat is typically used for district heating network but can also be used for other purposes such as heat pump.

The free gap between the thermo plates ensures that the Flue Gas Condenser (FGC) operates well taking highly dust loaded air. The FGC is designed to operate with very low air pressure drop, typically less than 1000-2000 KPa. The FGC is an excellent fit for moisture condensation which significantly increases heat recovery and accordingly decreases pay-back time.

The CIP nozzles on top of the exchanger ensure that plates are easy to clean without expensive shutdowns during production.

ATHCO Scope of delivery may include:

- CFD flow verification
- Design and fabrication of inlet ducting
- Consoles for mounting
- CIP on top of the condensers
- Fabrication of condensate tank below FGC
- Expansion joint/bellow between FGC and tank

ATHCO can deliver the Flue Gas Condenser and also supplies resources for installation supervision.

PRODUCT ADVANTAGES

- Maintenance-free in dust loaded air
- No expensive shut-downs as cleaning is done during normal production through the dedicated CIP system
- Investment with short return of investment
- Low maintenance costs
- Compact design and simple installation
- High thermal operating efficiency due to high heat transfer coefficients

- Enhanced heat recovery through condensation of moisture
- Long life due to stable and durable corrosion resistant materials

FIELDS OF APPLICATION

- All processes with the presence of large amounts of dust in the discharge air (such as spray dryers)
- Typical industries: Food, dairy, chemical, wood, incineration plants air preheating, paper and textile industries

