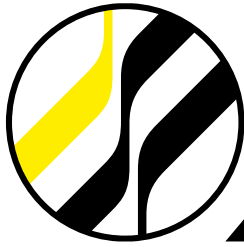


Kelvion



THERMAL SOLUTIONS

WAVE RECUPERATOR
FULLY WELDED
HEAT EXCHANGER

INDUSTRY: **GREEN TECH** • APPLICATION: **CCUS** • PROCESS: **GAS FIRED**

BOOST YOUR PLANT WITH HIGH EFFICIENT PLATE GAS COOLER

**GREEN
TECH**



DESIGN & FUNCTION

WAVE RECUPERATOR is a fully-welded heat exchanger that is used above all in the Green Tech industry as CCUS / CCS "Carbon Capture". The function of heat exchanger is flue gas cooling.

It provides excellent efficiency with lowest possible temperature differences for gas to gas heat exchange. So it can be used to cool down the flue gas with ambient air between 0 °C and 40 °C as cooling medium. By replacing low performing combustion air preheaters with WAVE RECUPERATOR you can boost the productivity and reduce the fuel consumption of your plant. At the same time CO₂ emissions can be reduced.

Fully welded plate modules for assembly into flexible housing, wavy shape with turbulation dimples and support dimples. Design for low pressure besides pressure design codes.

ADVANTAGES

- ▶ **VERY LARGE SURFACE IN SINGLE UNIT**
- ▶ **MOST COMPACT**
- ▶ **LOWEST WEIGHT**
- ▶ **COST SAVING FOR STAINLESS STEEL MOC**
- ▶ **LOW TEMPERATURE DIFFERENCES CAN BE REACHED (APPROACH TEMPERATURE)**
- ▶ **FLEXIBLE DESIGN**
- ▶ **ALL DUCT CONNECTIONS CAN BE DESIGNED FLEXIBLE**

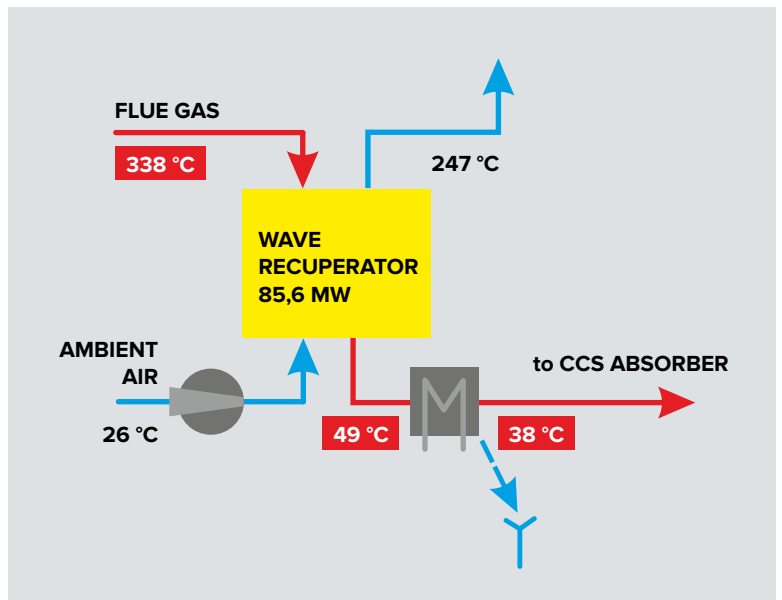
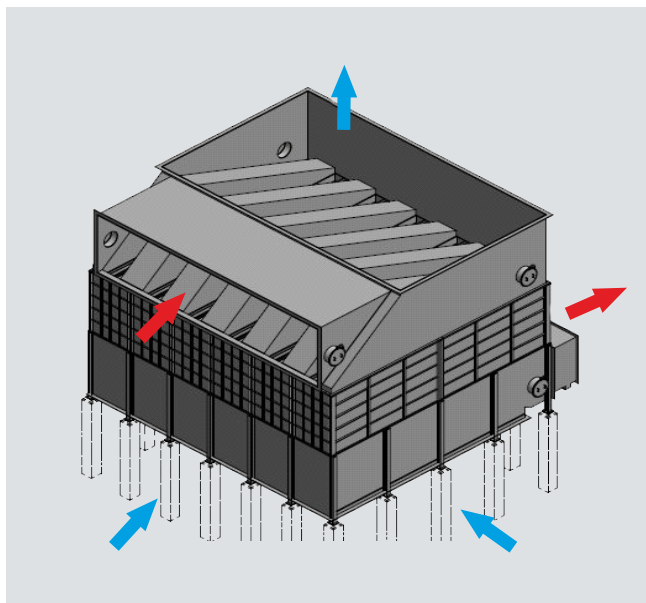
THERMAL DESIGN (TYPICAL RANGE)

FLUE GAS COOLER				
FLUID	COLD SIDE AIR		HOT SIDE FLUE GAS	
	INLET	OUTLET	INLET	OUTLET
OPERATING TEMPERATURE [°C]	0 - 40	80 - 200	135 - 200	45 - 80
OPERATING PRESSURE [kPa(g)]	0 - 10	-	-5 - 5	-
PRESSURE DROP [kPa]	1 - 5	-	1 - 5	-
HEAT DUTY (RANGE/AVERAGE) [MW]	0,5 - 85	-	0,5 - 85	-
WAVE RECUPERATOR SIZE RANGE [m ²]	200 - 50000	-	-	-
OPERATION	continuous	-	-	-

DESIGN LIMITS

LIMITS	PLATE SIDE		SHELL SIDE	
	MIN	MAX	MIN	MAX
OPERATING TEMPERATURE [°C]	-20	600	-20	600
MAX. OPERATING PRESSURE [barg]	-0,49	0,49	-0,49	0,49
MAX. DIFFERENCE PRESSURE PLATE/SHELL SIDE [bar]	0,4	-	-	-

PROCESS FLOW SHEET (SAMPLE)



MATERIALS

- ▶ **PLATES:** SS304, SS316L or higher
- ▶ **SHELL:** SS304, SS316L or higher or a combination of CS with SS lining

ENDUSERS

- ▶ GAS FIRED POWER PLANT OPERATORS
- ▶ REFINERIES
- ▶ DRYING PLANTS
- ▶ OTHERS