Bosal P3 thin walled exchangers for 400 – 1000°C / 750 – 1832°F

BOSAL Energy offers welded, compact plate heat exchangers for high temperature applications. The heat exchanger line is modular, and is available in high-end stainless steel or Inconel. They are highly effective and are suitable for high temperature (up to 1,000ºC/ 1,832ºF) with limited Cr evaporation and metal dusting.

Application

Suitable for a wide range of applications, such as:

- Fuel cell systems (SOFC, PEMFC, MCFC)
- Chemical Processes
- Gas turbines
- Micro turbines
- Stirling engines
- Internal combustion engines

Benefits
- Compact,
- Easy to install
- Designed for >40,000 field operating hours
- Inconel version for optimal chemical resistance
- Catalytic coating available for combined heat exchange and steam reforming

Design
- Secured quality with robotized welding (Laser, TIG, SP-Mag)
- Validation tested using highly sophisticated infrastructure
- Manufacturing and process engineering expertise
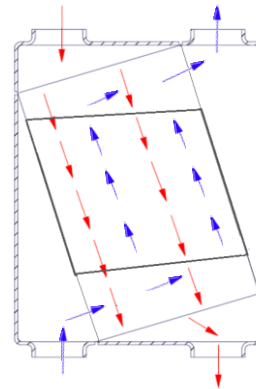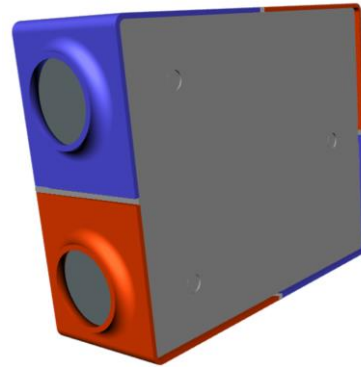
Schematics of the hot and cold flow direction

Pressure drop vs. mass flow
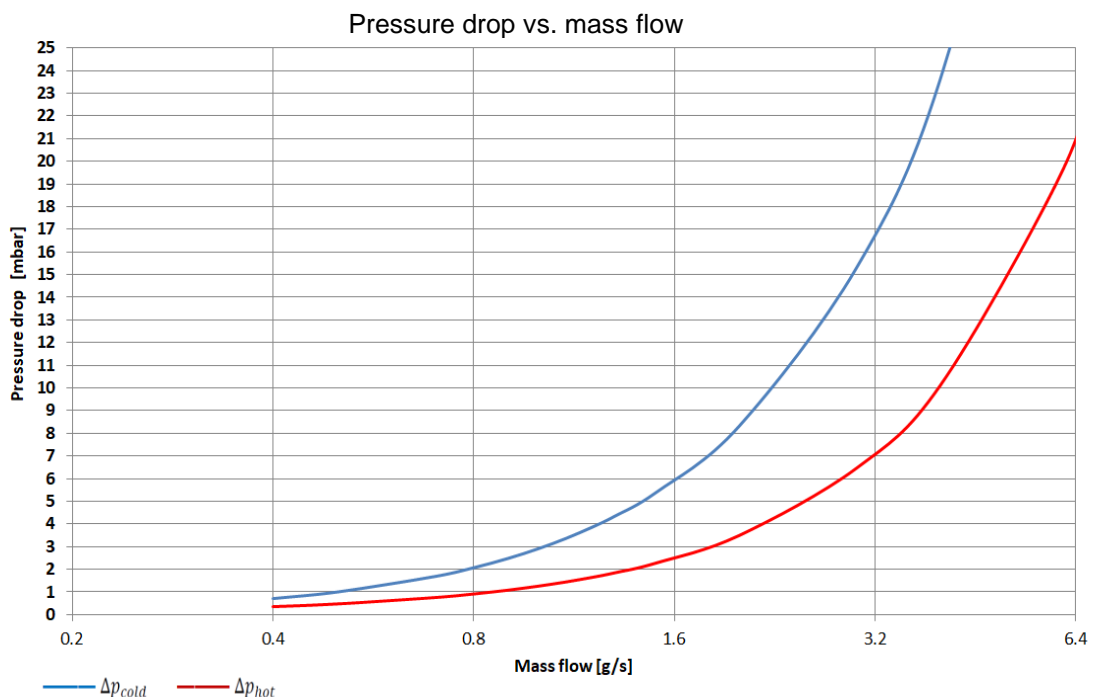
Boundary conditions: Air-air, $\dot{m}_{cold} = \dot{m}_{hot}$, $T_{cold_{in}} = 20\,°C$, $T_{hot_{in}} = 800\,°C$, $p_{cold} = p_{hot} = 1\,bar(a)$

Technical data

Housing material	Stainless steel Inconel (optional)
Foil material	Stainless steel Inconel (optional)
Max. flowrate m³/h (gpm)	24 (105)
Max. design gas temperature °C (°F)	900 (1652) 1000 (1832) (Inconel)
Flow directions	Counter flow or co flow
Oxidative coating (optional)	Heat exchanger with oxidizer function
Reductive coating (optional)	Heat exchanger with Steam reformer function

Dimensions and mass

# plate pairs (=n)	A (height) mm (inches)	B (Port OD) mm (inches)
16	44.2 (1.74)	22.75 (1.08)

# plate pairs (=n)	Weight kg (lb)	Volume l (gal)
16	1.1 (2.43)	0.5 (0.13)

Effectiveness vs. massflow
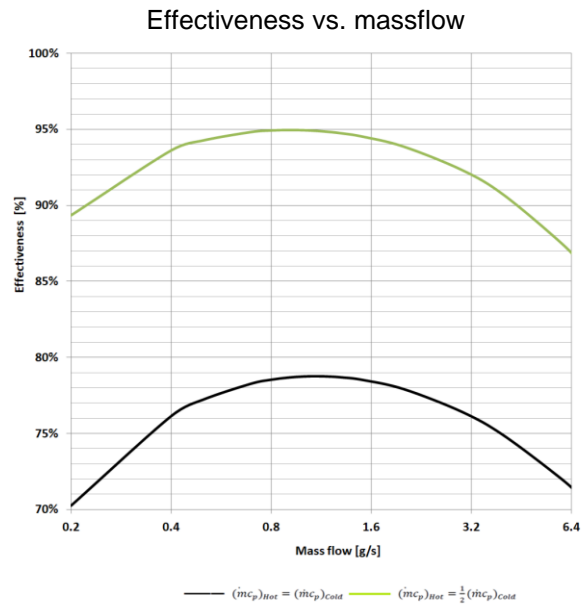
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Dimensional Drawing
mm (inches)