VACUUM PROCESS ENGINEERING

HIGH RELIABILITY

Compact Diffusion Bonded Microchannel Heat Exchangers

TECHNOLOGY BREAKTHROUGH

Process Intensification Heat Exchange Using Microchannels - Up to 50 kW of heat exchange with significant increases in effectiveness while maintaining reduced size and reliability.

COMPARE & REALIZE THE ADVANTAGES

Compare VPE's Diffusion Bonded Microchannel Heat Exchangers with any other Welded Plate or Shell & Tube Manufacturer:

- Diffusion bonded as opposed to brazed, providing high leak integrity and no braze alloy used
- Exceptional mechanical performance in terms of handling transients, thermal stress, (suitable for larger temperature differences)
- Readily customizable for multi-stream, ultra-high pressure, low MW gases, sCO2, etc.
- Higher geometry factor – pure counter flow
- Significantly more surface area
- Higher heat transfer coefficient
- Higher operating pressure capability
- Higher temperature capability – only limited by material
- Smaller footprint and weight
- Lower fluid inventory
- Corrosion resitant alloys
- Competitive pricing

APPLICATIONS

- Replacement for Shell & Tube Heat Exchangers
- Replacement for Brazed or Welded Plate Heat Exchangers
- Precise temperature control
- Organic solvent processing
- Cryogenics & Refridgeration
- Condensers & Evaporators
- Module Coolers
- Aftercoolers
- Saltwater Service
- Hydrogen Pre-Cooling

TYPICAL RATINGS & CONSTRUCTION

Pressure Rating (316 SS)	180 barg (2616 psig)
Temperature Rating (316 SS)	538°C (1000°F)
Sizes (W x L x H) (Min-Max)	1-4 x 10-30 x 1-2.5 in
Material	316 SS, Titanium, Aluminum, Duplex and Nickel Alloys

OFF-THE-SHELF MODELS AVAILABLE OR CUSTOM DESIGNED UPON REQUEST

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