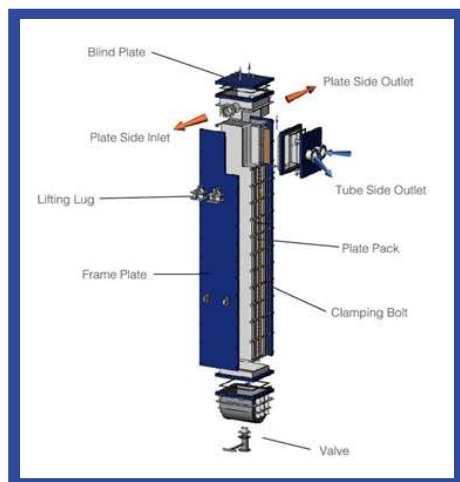


## Wide Gap Welded Plate Heat Exchanger Non-Newtonian • Laminar • Solid Content • High Viscosity

### Industries Using Wide Gap HX

- **Petroleum** – Refinery, MTBE, Oil & Gas, Alkylation, Dehydration & Desalting, Desulphurization, Crude Stabilization, Gas Dehydration, Gas Sweetening (i.e. Lean/Rich Amine)
- **Hydrocarbon Processing (HPI)** – Acetaldehyde, Acetylene, Acrylonitrile, Adipic Acid, Acetic Acid, Aniline, Bisphenol, Caprolactam, DMT, Ethylene Glycol, Ethylene Oxide, Ethylene-Propylene, Formaldehyde, Propylene Oxide, p-Xylene, Styrene, Terephthalic Acid, TDI & MDI, Vinyl Acetate, Vinyl Chloride (VCM)
- **Polymer Plants** – ABS, Acrylic Fiber, Formaldehyde Resins, Nylon (polyamides), Polyester, Polyethylene (LDPE, HDPE, LLDPE, PET), Polyol, Polypropylene, Polystyrene, Polyurethane, PVC, Viscose
- **Petrochemicals** - Ethylene Glycol or Oxide, Bisphenol, Phenol, Caprolactam
- **Steel Making** - Flushing Liquor Waste Heat Recovery, Light Oil and Wash Oil, Ammonia Recovery, Blast Furnace, Slag Quench, Primary and Final Cooler,
- **Metals, Mining, & Acids** – Alumina Precipitation, Soda Ash, Titanium Dioxide, Chlorine Alkaline, Alumina Bauxite, Copper, Zinc, Sulphuric Acid, Hydrochloric Acid, Hydrogen Peroxide
- **Pulp & Paper** - Black & White Liquor, Soap, Stripping, Reboiler, Mill Water, Wastewater
- **Cellulose** - Sugar, Fermentation, Raw Juice, Waste Water, Mill Water, Ethanol
- **Sewage & Sludge** - Non-Newtonian Fluids, Heat Recovery, Digestion, Fertilizer Waste Water Treatment



Vertical Welded Wide Gap Design

### Process Challenge

Certain process fluids contain fibers, particles or solid matter that can lead to clogging, deposits, or reduced thermal performance due to fouling. Management of high viscous, Non-Newtonian fluids can be achieved with a complete “free flow” process channel designed with a gap that can range from 3/8” to 1”.

Fabrication is fully welded, moreover, the free flow distribution channel contains no contact points reducing the risk of blockage and allowing complete access for easier cleaning. Fouling is reduced by maintaining a continuous velocity flow (i.e. turbulent or laminar) and uniform channel distribution eliminating dead zones or vortex.

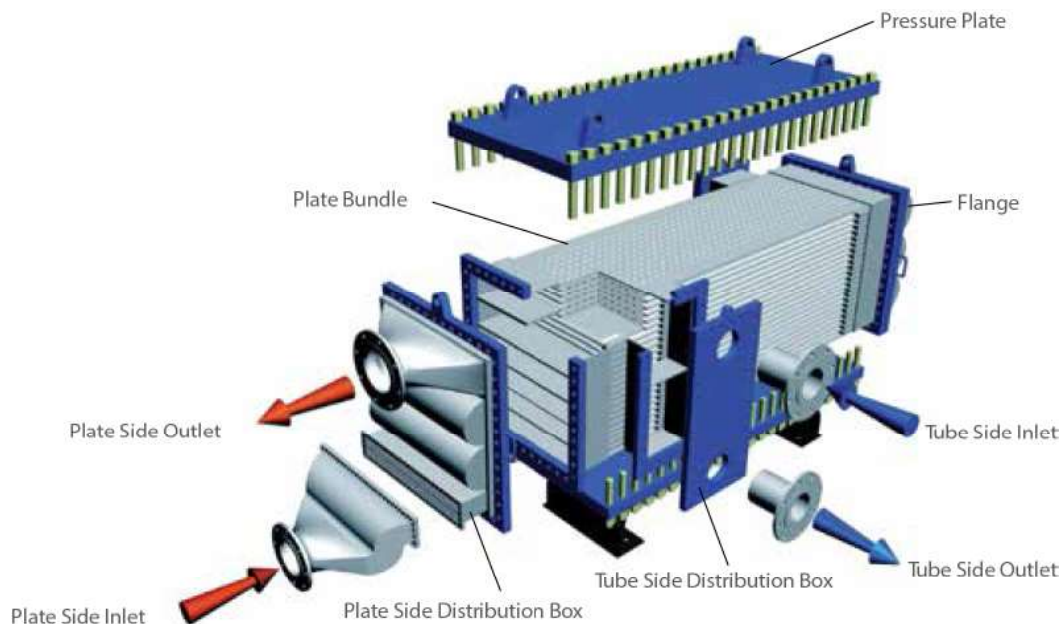
### Features Fully Welded Wide Gap Plate HX

- **Fully Welded Fluid Passages**
- **Pressure Design Up to 500 PSIG**
- **Temperature Design up to 660 °F**
- **100% Free Flow Process Channel - (Mechanical Cleaning)**
- **Complete Counter Flow**
- **Close Approaching Temperature: 1.8 °F**
- **Flexible Mechanical Design for Nozzle Orientations**
- **Large Thermal Capacity: 21,525 ft.<sup>2</sup> Plate Area Per Unit**
- **Compact Size with Small Footprint**
- **Vertical or Horizontal Orientation**
- **High Pressure Drop Design Options**
- **Unique Internal Plate Design (i.e. dimple and flat)**
- **ASME Sect. VIII PV “U” Stamp**



Fully Welded Wide Gap (4,000 sq.-ft. - Duplex SS)

# Fully Welded Wide Gap Heat Exchanger



**Exploded View**

Orientation Can Be Designed to be Horizontal (as shown) or Vertical to Reduce Footprint

Mechanical Specifications		Wide Gap	
Max Temperature:	660 °F		350 °C
Min Temperature:	-55 °F		-48 °C
Approach Temperature:	1.8 °F		1 °C
Max Pressure:	500 psi		3.50 MPa
Allowable Pressure Differential:	90 psi		0.62 MPa
Allowable Pressure Drop:	22.5 psi		0.16 MPa
Max Gap Distance:	1.2 in		30 mm
Plate Thickness:	0.10 in		2.5 mm
Max Channel Velocity:	10 ft./s		3 m/s
Max Surface Area Per Unit:	21,525 ft. <sup>2</sup>		2,000 m <sup>2</sup>
Avg. Heat Transfer Coefficient:	264 Btu/hr. ft. <sup>2</sup> °F		1,500 W/m. <sup>2</sup> °C
Available Materials:	ASME Sect. VIII "U" Stamp • 304 • 316L • 2205 Duplex • 254 SMO • Ni-Alloy		
Orientation:	Vertical • Horizontal		
Typical Fluid Applications:	Abrasive Media • High Viscosity • Non-Newtonian • Suspended Materials		
Benefits:	Multiple Inlet/Outlet Nozzle Configurations • 1 WG = 3 SHE's		
Typical Application:	Condenser • Evaporator • Re-Boiler		
Cleanability:	Process Fluid Side • Clean Fluid Side • CIP		
* Note:	Subject to Material, Application, and Fluid		



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