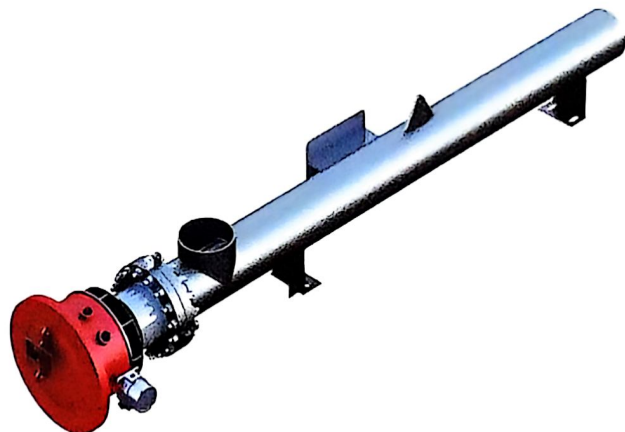




OPTIMAX® Heat Exchanger

High Efficiency Heat Exchanger Helps You Achieve a More Efficient CAPEX



Watlow® has over 40 years of experience designing and manufacturing heat exchangers, and we have the knowledge, experience and expertise required to create optimal heating solutions. Watlow has taken tried and true, critical design criteria and improved it to create a new generation heating technology – the OPTIMAX® heat exchanger.

Watlow's new OPTIMAX technology combines optimal fluid dynamics, efficient heat transfer, low pressure drop and a compact and reliable package to create a world-class system solution.

Watlow's EFD (enhanced fluid dynamics) technology provides advanced flow throughout the system without compromising the integrity of the fluid, heating elements and/or vessel. Fluid temperatures are further optimized through the use of OFT (optimized film temperature) technology in the heating elements. These, coupled together, provide an accelerated heat transfer rate, allowing the vessel to perform consistently at shorter lengths, or smaller shell diameters. In addition, the OPTIMAX can be designed for backwards compatibility with existing designs.

Watlow has validated these technologies through CFD/FEA modeling, as well as over 5,000 hours of laboratory testing.

In addition, OPTIMAX is compatible with Watlow's WATCONNECT® control panel systems.



Features and Benefits

Smaller and lighter than traditional heat exchangers

- Helps reduce overall footprint by almost 50 percent

Enhanced fluid dynamics (EFD) and optimized film temperature (OFT) proprietary technologies

- Provides advanced flow throughout the system improving heat transfer
- Allows vessel to perform consistently at shorter lengths

Over 5,000 hours of laboratory testing

- Validates proprietary technologies

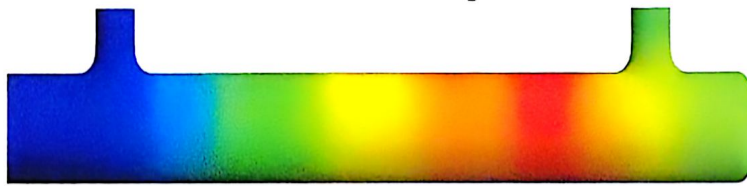
Performance Capabilities

- Wattages up to 3 megawatts
- UL® and CSA component recognition up to 600VAC and IEC and ATEX recognition up to 690VAC
- ANSI compatible 3 through 48 inch flanges
- Hazardous area ratings:
 - ATEX 2 G Ex d IIC, T1 – 6 Gb
 - IEC Ex d IIC: T1 – 6 Gb
 - ATEX 2 G Ex e IIC T1 – 6 Gb
 - IEC Ex e IIC T1 – 6 Gb
 - Class 1, Divisions 1 & 2, Groups B, C & D
 - PESO, Zone 1 Group IIC
- ASME code welding
 - Flange assemblies and pressure vessels can be provided with an ASME Section VIII, Div. 1 or Section IV code stamp upon request
- OPTIMAX is compatible with Watlow's WATCONNECT control panel systems
 - Contact your Watlow representative for more details

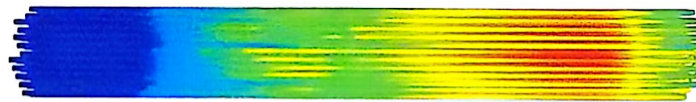


Conventional Heat Exchanger

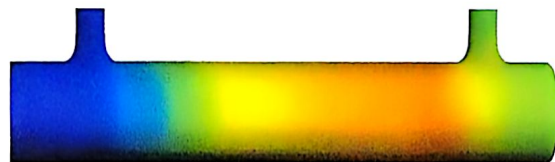
Conventional Heat Exchanger Size



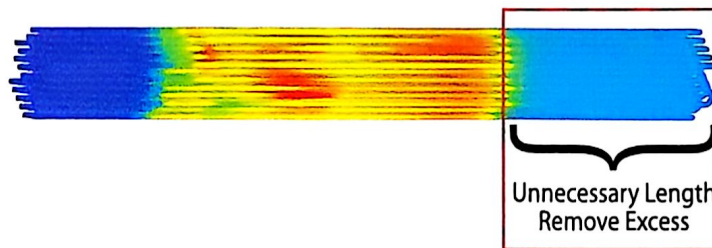
Conventional Element Sheath Temperatures



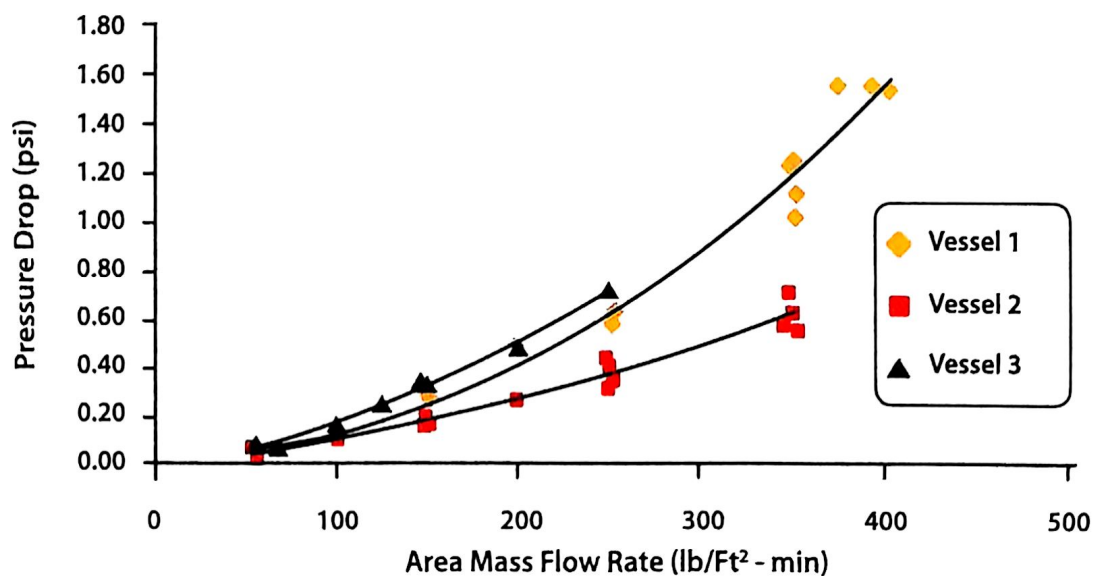
New OPTIMAX



Smaller
and
Lighter



Pressure Drop Graph*



* The Pressure Drop Graph shown above is for example only. The estimated pressure drop for your specific OPTIMAX product must be calculated. Watlow will provide the estimated pressure drop with all OPTIMAX quotations.