



MicroHeat Brazed Plate Heat Exchangers

Engineered to be Efficient and Compact



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High performance

The MicroHeat has a heat transfer surface that maximizes performance and minimizes all else. The corrugated heat transfer plates create a highly turbulent fluid flow that results in maximized heat transfer rates and the most efficient performance. The hot and cold fluids flow in opposite directions to each other in a pure counter-current direction which yields smaller temperature approaches and more heat recovery than any other type of heat exchanger.

Heavy duty

In the construction process, the corrugated surface of the heat transfer plates become bonded together by the brazing material at thousands of contact points. The result is an ultra strong pressure vessel that can resist pressure cycling for a long and dependable life. The materials of construction are corrosion resistant 316 stainless steel plates and connections, and copper or nickel braze. The brazing process eliminates gasketed or rolled tubesheet joints found in other types of heat exchangers resulting in higher design pressures and temperatures - no maintenance, no leaks.

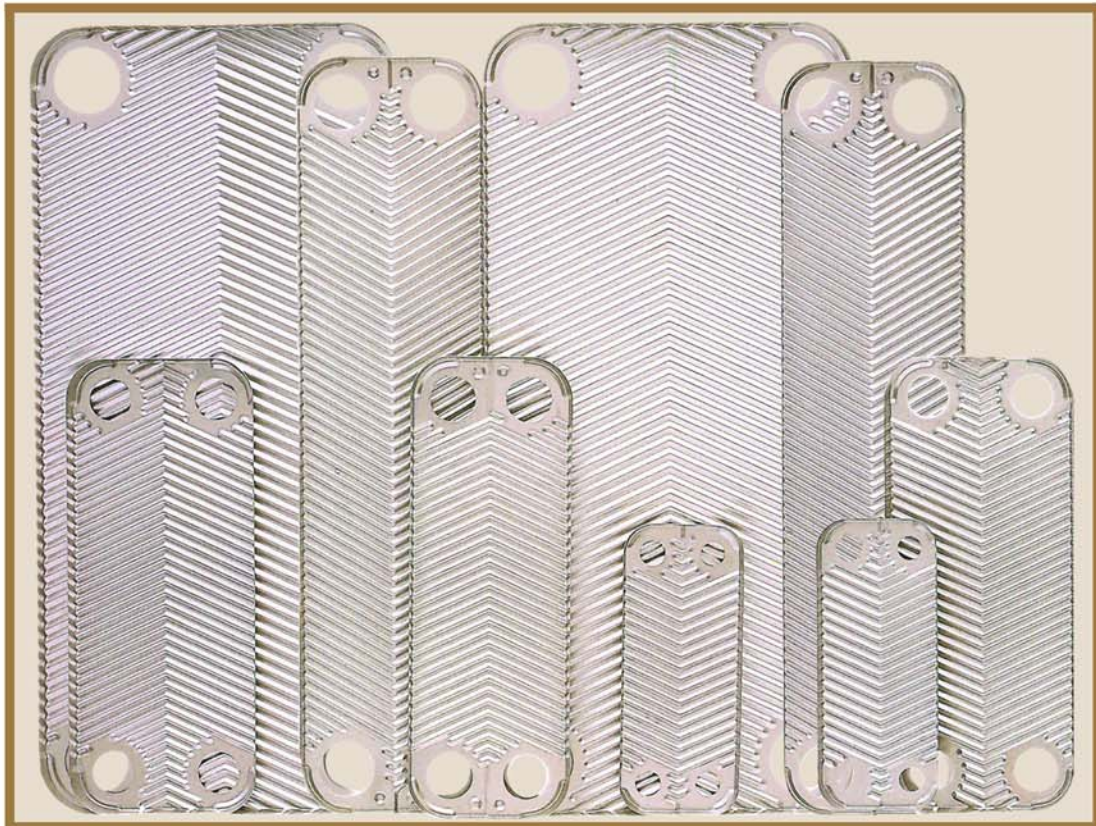
Compact

High efficiency and brazed construction, which eliminates the need for heavy pressure retaining parts, make the MicroHeat as much as five times smaller and lighter than conventional heat exchangers. Most units have all connections on one end and in the same plane, resulting in an easier and less costly installation. The volume of liquid in the unit is also much less than conventional type heat exchangers, yielding a quicker response time to performance changes and the smaller amount of expensive heat transfer fluids makes it less expensive to operate.



Quality

Since almost 100% of the parts for the MicroHeat are machine-formed, the highest standard for quality and repeatability is achieved. From the receipt of raw materials to the shipment of the final product, quality inspections occur to guarantee compliance with the unit specifications and dimensional tolerances. Graham engineers use their decades of heat transfer experience in many different applications to make certain the MicroHeat is the best heat transfer choice for the application.



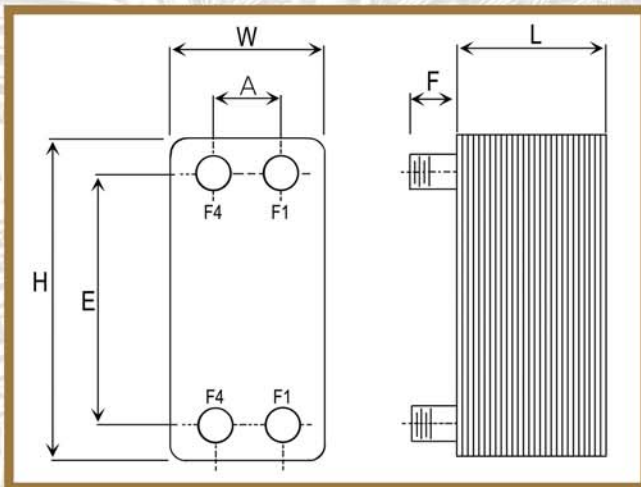
Low cost

MicroHeat is the low cost solution for important cooling or heating applications. The low capital cost results from its thermal efficiency, resulting in a compact size. The unit is constructed of very few parts, which minimizes assembly and manufacture time, resulting in a much lower end user cost.

Construction

Materials: Heat transfer plates - 316 SS
End plates - 316 SS
Connections - 316 SS

Braze material - Copper
Optional - Nickel



Operating conditions

Pressure (max.) - Copper braze 450 psi / Nickel braze 220 psi
Temperature - 430° F. (max.) / -320° F. (min.)

Connections

NPT externally threaded (standard)
Solder type (standard)
Optional - NPT internally threaded, SAE flanged

Approvals

UL for refrigerant applications

Graham Model Type	Dimensions in inches						Weight empty (lbs.)	Maximum no. of plates	Plate area (sq.ft.)	Maximum flow gpm	Connection size (std) inches
	H	E	W	A	L	F					
GB30	7.64	6.06	3.15	1.58	0.39+0.09N	1.0	2+0.11N	60	0.13	30	0.75
GB50	12.05	9.84	4.17	1.97	0.49+0.09N	1.0	4+0.30N	100	0.29	65	1.00
GB70	11.97	9.84	4.88	2.76	0.49+0.09N	1.0	5+0.30N	100	0.34	75	1.00
GB95	20.55	18.35	4.17	1.97	0.39+0.09N	1.0	7+0.48N	120	0.54	50	1.00
GB105	19.84	17.48	4.88	2.52	0.49+0.09N	1.0	8+0.56N	120	0.62	65	1.00
GB205	20.79	17.95	9.69	6.85	0.51+0.09N	1.0	16+1.1N	160	1.22	120	1.50
GB210	20.75	16.93	9.65	5.83	0.45+0.11N	1.0	19+1.1N	140	1.12	235	3.00

N = Number of Plates

Other products from Graham

Graham designs and manufactures two distinct lines of products: vacuum systems and heat transfer equipment. Contact us for more information on any of the following:

- UltraHeat plate and frame heat exchangers.
- MicroMix® II and MicroMax water heaters.
- Clean steam generators.
- Desuperheaters: Venturi and steam-atomizing.
- Ejectors: Steam jet and organic motivated ejectors, thermocompressors and steam vacuum refrigeration systems.
- DryFlo™ pumps: Dry vacuum pump and standard booster systems.
- Liquid ring pumps: Vacuum, compressors, packaged vacuum systems and hybrid systems.
- Process vacuum condensers.
- Steam surface condensers: Turbine-generator condensers and mechanical drive condensers.
- Heliflow® heat exchangers: Cryogenic vaporizers and coolers, vent condensers, vaporizers, gas coolers, liquid to liquid, sample coolers and seal coolers.

Graham Corporation
20 Florence Avenue
Batavia, New York 14020 USA
Phone: 585-343-2216 Fax: 585-343-1097
Visit: www.graham-mfg.com

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