Brazed Plate Heat Exchanger
Installation Manual

202-012

SUPERSEDES: New

EFFECTIVE: March 1, 2013

APPLICATION WARNINGS

SWIMMING POOLS AND SPAS:

The use of chlorinating devices requires that all chemical feeds **MUST** be downstream from the heat exchanger, and a check valve should be installed to prevent back flow of chemicals into the heat exchanger whenever the pump is not in operation.

NOTE: Taco Brazed Plate Heat Exchangers are **NOT** suitable for applications utilizing electronic chlorinators.

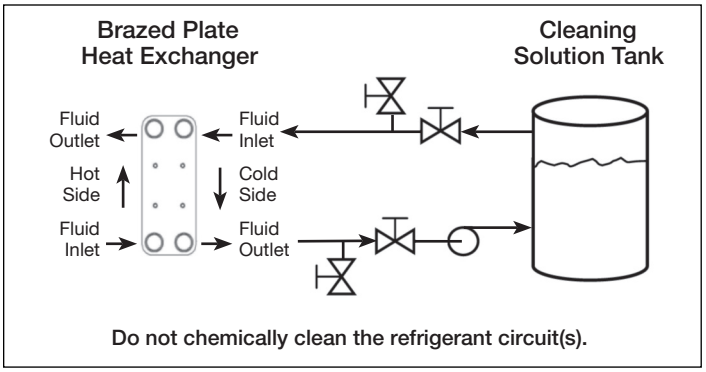
CLEANING:

In some applications the heat exchanger may be subjected to severe fluid conditions, including high temperature and/or hard water, causing accelerated scaling and corrosion rates and penalizing the performance of the heat exchanger.

Because of these factors, it is important to establish regular cleaning schedules. Chemical cleaning is a very simple and effective process for removal of fatty and calcium deposits and other forms of scaling from brazed plate heat exchangers. Proper maintenance schedules will result in continued excellent performance and extended life.

Cleaning solutions, such as a commercially available De-scaler can be obtained from your local wholesaler. Make sure the cleaning solution is applicable for stainless steel and copper or nickel, depending on the model, and that the manufacturer's directions are followed. A 5% solution of Phosphoric Acid or Oxalic Acid may be considered.

Do not heat the cleaning solution when back flushing through the heat exchanger. Flush the heat exchanger with fresh water after cleaning.



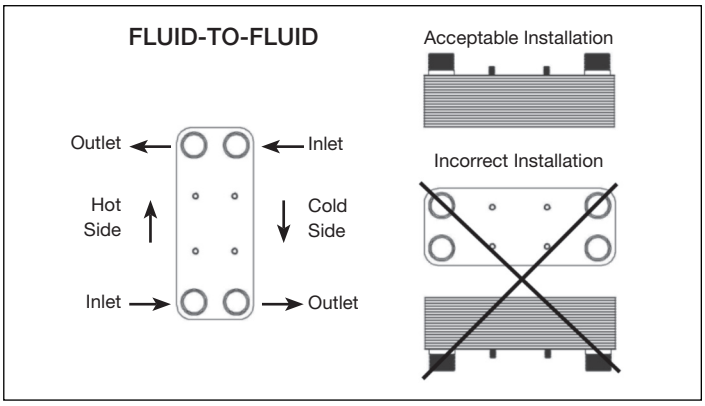
GENERAL INSTRUCTIONS

INSTALLATION:

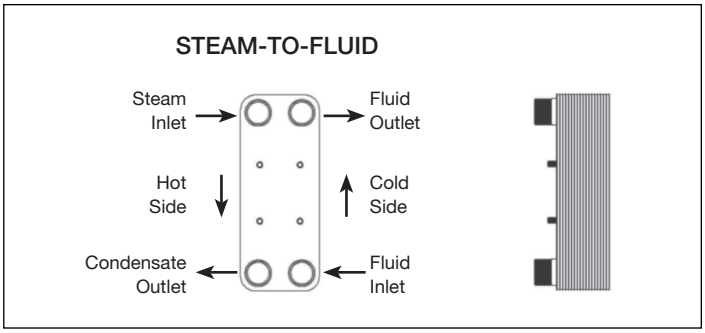
With extensive experience in hydronic heat exchanger design, Taco recommends a few key application tips when applying "Brazed Plate Heat Exchangers" to your systems.

Fluid Applications – Brazed Plate Heat Exchanger may be installed in either a vertical or horizontal position.

If the application requires the heat exchanger to be mounted on its back, it is possible in this orientation for the heat exchanger to collect sediment and to be rendered useless in the system. Warranty claims due to sediment deposits will not be covered under warranty.

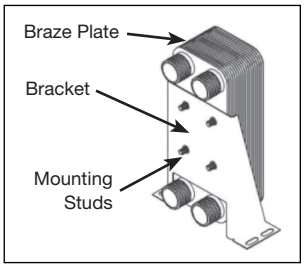


Steam Applications – Unit should be installed in a vertical position to ensure the condensate properly drains from the heat exchanger.



MOUNTING:

Small units may be mounted by the base of the unit or steel clamps. Larger units should use a mounting bracket (See illustration to the right). If there is a risk of vibration, use an anti-vibration device. Do not over tighten mounting nuts. Do not braze or weld mounting bracket to heat exchanger.

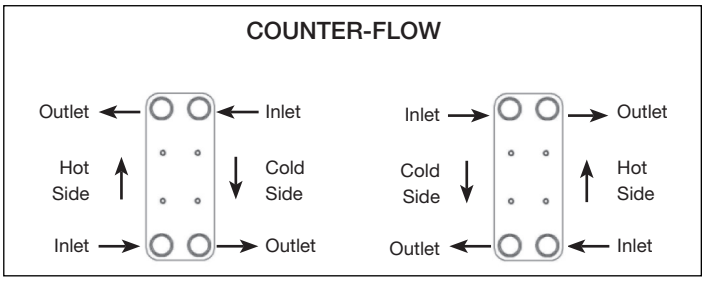


SAFETY:

Each side of the heat exchanger should be properly protected from over pressurization through the use of an appropriate safety relief device.

PIPING INSTALLATION:

Heat exchanger should be piped in counter-flow.



Thread Connections – Use Teflon tape or other sealant on male threaded part of connection to prevent leakage. Always use two wrenches when installing piping to heat exchanger connections to prevent over-torque stress and damage when tightening.

Solder/Sweat Connections – Use 45% silver solder (minimum), AWS grade BAg-24 or equivalent. Brazing flux should be AWS specification FB3C, AMS no. 3411 or equivalent. Use wet rag around base of connector. **DO NOT OVERHEAT.** Purge unit with nitrogen. Do not braze unit in the horizontal, sitting flat, position as braze material may fall into the heat exchanger.

Welding – Should only be done to a supplied butt weld or socket weld connector. Prepare the edge of the piping with an appropriate bevel. **DO NOT OVERHEAT.** Purge unit with nitrogen.

Water Strainer – A water strainer should be installed in the water inlet circuit to protect the heat exchanger from partial or complete blockage with a 16 – 20 mesh minimum, 20 – 40 mesh is a better choice.

WATER QUALITY:

The water media pH value should be maintained at 7.4 (and not less than 7.0 and no higher than 8.0) for proper heat exchanger life expediency. For pH values outside this range, the Taco TMPN series can tolerate a pH value as low as 2.0.

Highly chlorinated water (pools and spas), ground water with high sulfur content or sulfuric acid, and low pH, should use the Taco TMPN series. The standard series of heat exchangers, copper braze, will experience gradual copper erosion and premature failure of the heat exchanger.

GLYCOLS:

Ethylene or Propylene Based Glycols – may be used with brazed plate heat exchangers. The glycol should be tested annually, or more often if required, to be sure the fluid still retains the desired properties and protection. No permanent connection should be made between a system containing ethylene glycol and a drinking water supply.

Automotive Glycols – not recommended. Usage may result in reduced thermal performance of the heat exchanger.

FREEZE PROTECTION:

It is not recommended to cool water below 33°F (0.6°C) due to the tolerances of the measuring equipment. For freeze protection it is recommended to use thermostats and / or temperature controls in the connections or piping opposite to the liquid inlet and outlet.

LIMITED WARRANTY STATEMENT

Taco, Inc. will repair or replace without charge (at the company's option) any product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local Taco stocking distributor or Taco in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local Taco stocking distributor or Taco. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subject to misuse, misapplication, the addition of petroleum-based fluids or certain chemical additives to the systems, or other abuse, will not be covered by this warranty.

If in doubt as to whether a particular substance is suitable for use with a Taco product or part, or for any application restrictions, consult the applicable Taco instruction sheets or contact Taco at [401-942-8000].

Taco reserves the right to provide replacement products and parts which are substantially similar in design and functionally equivalent to the defective product or part. Taco reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

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Taco, Inc., 1160 Cranston Street, Cranston, RI 02920 | Tel: (401) 942-8000 | FAX: (401) 942-2360
Taco (Canada), Ltd., 8450 Lawson Road, Suite #3, Milton, Ontario L9T 0J8 | Tel: (905) 564-9422 | FAX: (905) 564-9436
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