



**DEPARTMENT OF BUSINESS AND INDUSTRY  
DIVISION OF INDUSTRIAL RELATIONS  
MECHANICAL COMPLIANCE SECTION**

**OUTREACH B-25-0418**

**April 18, 2025**

**Brazed Plate Heat Exchanger Exemption NAC 455C.114 (13)**

The NAC 455C was updated and filed on 04/11/2025 to include the addition of temporary regulation NAC 455C.114 (13) which covers Brazed Plate Heat Exchangers.

A Brazed Plate Heat Exchanger (BPHE) is a multi-plate pressure vessel designed for efficient heat transfer between two media without contamination. The plates' outer edges are joined through a brazing process, ensuring a strong and leak-tight seal. Manufactured to industry standards, BPHEs are rated as pressure vessels in accordance with relevant codes, such as those specified by the American Society of Mechanical Engineers (ASME) and other governing bodies like the Nevada NRS and NAC, allowing them to safely contain pressure.

These heat exchangers are commonly used in various applications. The Mechanical Compliance Section (MCS) is exempting those found in autoclaves, chillers, heat pumps, or refrigeration applications when these heat exchangers are installed in the specified equipment:

**BPHE Installed Outdoors**

A BPHE that is installed outdoors in a specific chiller, heat pump, or refrigeration equipment is Exempt when:

- The unit is located outdoors and the refrigerant in use is limited to category A1 or A2L refrigerants.

There is no upper limit for cooling/heating capacity, mass of refrigerant, or rated pressure of the BPHE.

**BPHE Installed Indoors**

A BPHE that is installed indoors in a specific chiller, heat pump, or refrigeration equipment is Exempt when:

- The refrigerant in use is limited to a category A1 refrigerant,
  - The mass of refrigerant in the circuit doesn't exceed 50 pounds, and
  - The cooling capacity of the circuit doesn't exceed 50 tons.
- The refrigerant in use is limited to a category A2L refrigerant
  - The mass of refrigerant doesn't exceed 50 pounds per circuit,
  - The cooling capacity doesn't exceed 50 tons per circuit, and
  - The room/space where the equipment is located is not smaller than 500 square feet floor space.

**BPHE Installed in an Autoclave**

A BPHE installed in an Autoclave, indoors or outdoors, is Exempt.

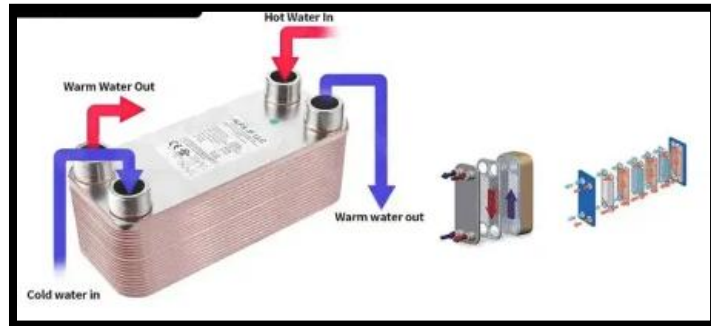
## Standard Brazed Plate Heat Exchanger

*The pictures below illustrate the operation of a brazed plate heat exchanger:*

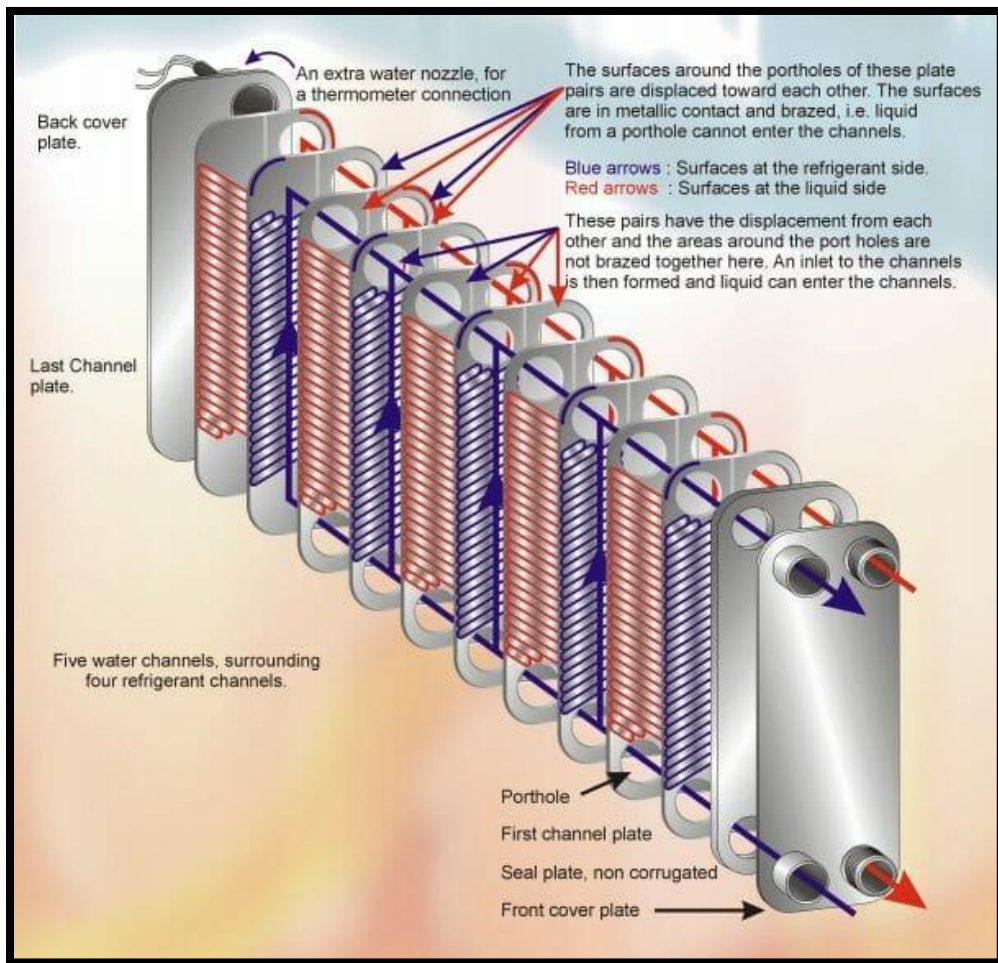
**Brazed Plate Heat Exchanger**



**Brazed Plate Heat Exchanger Principal**



### How a Brazed Plate Heat Exchanger Works



Please Direct all Questions and Inquires on *OUTREACH B-25-0419* to [mcs@dir.nv.gov](mailto:mcs@dir.nv.gov)