

New Plate Pack or Plate Refurbishment Service Options

Customers often ask should I refurbish plates or install a new plate pack. When choosing the following should be considered:

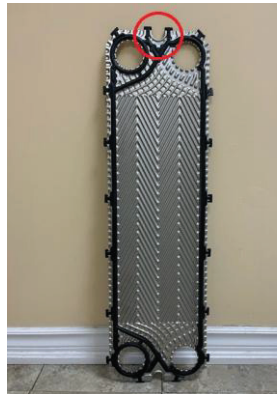
- Age of the PHE.
- Make & model.
- Operating pressures & temperatures.
- What fluids are inside the HX
- Thickness & plate material.
- Number & size of the plates.
- How long can the PHE be out of service.
- How critical is the HX for heating, cooling, or production.

Note:

Regardless of the age of heat exchanger plates, there is always a risk that when refurbished, the plate pack may leak when assembled. Factoring in the aforementioned parameters, can provide an accurate assessment of the level of risk servicing, verses installing new plates.



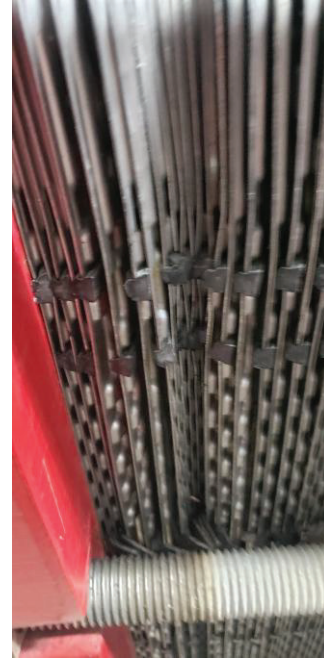
0.4mm Plate Pack
Deformed & Misaligned



Omega Style Plates are
prone to stretch &
deform



Dished gasket track



Old Pack shifted when
tightened



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Checking Plate Pack Count

When an existing plate pack is refurbished, the process is as follows:

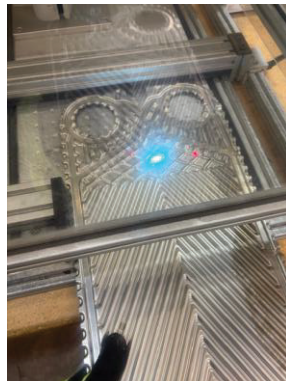
- Technicians travel to site to dismantle the PHE.
- The amount of play between the carrying bar is checked, as well as the amount of dishing in the gasket track on the plate.
- If there is too much play or dishing, the plate can become misaligned during tightening, and the gasket can shift. If this occurs the HX usually leaks.
- The plates are acid cleaned, dye tested, & new gaskets are installed.
- After quality control inspection, the technicians return to site, install the refurbished plates & hydrotest.
- Typically, the HX will be out of service for 4-6 weeks.
- Depending on the size, make/model & number of plates, it can be less money to install a new plate pack.
- Although not common, on occasion a serviced plate pack may not seal when installed.
- It is difficult to predict with 100% accuracy; how much life remains in a plate.



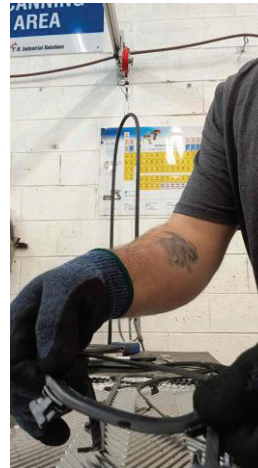
Nitron x-ray gun to verify material



Caliper confirming plate



Laser engraving plates with Job number for QC and tracking



Visually checking gaskets for defects



Gasket Quality Control: Tug Test & Inspection for defects



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If a new plate pack is installed this is the typical scope of work:

- Gaskets & plates are quality control inspected at the shop before transporting to site.
- The pack normally can be installed in one day.
- The PHE is usually out of service 3-8 hours, depending on the size and number of plates.
- Since most of the other components on a heat exchanger don't wear, you basically are getting a new PHE when a new plate pack is installed.
- There is virtually no risk when new plates are installed.
- Often the replacement plates are of a higher grade of stainless steel, are thicker, & have higher temperature rated gaskets.

This combination ensures the PHE will operate longer, with less frequency of leaks.



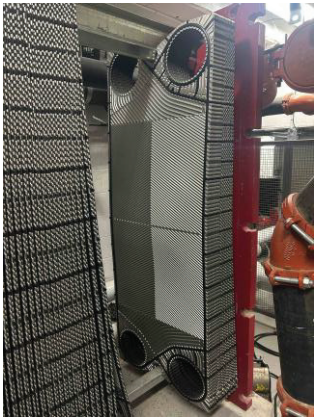
Applying 3M #1099 Rubber Adhesive



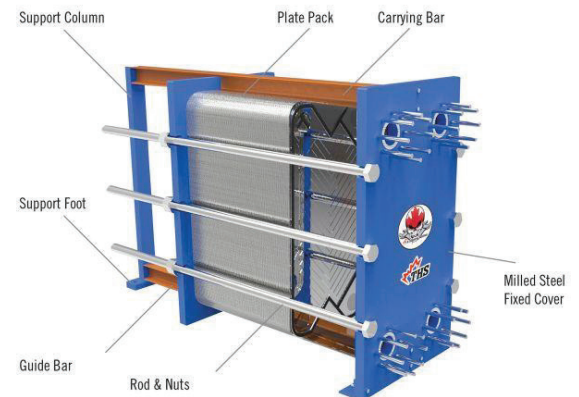
Rolling New Gasket

Regardless if you choose to refurbish an existing plate pack, or purchase new plates, the following quality control procedures are completed by THS:

- Material, plate thickness, & number of plates are verified.
- All gaskets are visually checked for defects, and a tug test is performed to check for weak areas.
- All gaskets are fully glued with 3M #1099 rubber adhesive.
- For high pressure applications, a 2-part epoxy can be used instead of rubber adhesive.
- Every plate is laser engraved with the job number for tracking & QC.
- All procedures completed are documented and recorded in a service report which is provided to the customer.



Loading new plate pack into frame



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