


 IESPress

## INTEGRATED ENGINEERING SOLUTION



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### Product Development -

#### IES Double Wall Plate Heat Exchanger

A double wall heat transfer plate consists of two identical regular heat transfer plates laser-welded together in port areas to form an integrated plate pair. The loose contact between the two paired plate creates a safety zone in case any of the two plates were to fail. In such an event, the fluid that leaks through the failed plate would flow between the plates and eventually out to the ambient via the heat exchanger periphery. This mechanism effectively eliminates any chance of cross contamination between the two working fluids. An added advantage is that because the fluid leaks directly to the outside of a double wall heat exchanger, the location and degree of the leakage can be easily detected by visual inspection. Double wall plate heat exchangers are widely used in applications such as pharmaceutical, potable water, brewery, food and beverage out of safety concerns and regulatory requirements.



IES has developed and started production of our own high quality Double Wall Plate Heat Exchangers. To avoid creating air gap between the plates, IES double wall plates are always pressed, stored, and handled in pairs until the laser welding is completed. This ensures the

minimum thermal contact resistance and highest possible thermal efficiency. Our double wall plates are pressed in IES Dongguan factory, and transported to HK factory for laser welding using our proprietary welding facilities. Final assembly and T&C are completed in Dongguan Factory before delivering to customers. Currently, IES can produce double wall plate heat exchangers with ports sizes from DN50 to DN100.



To ensuring highest quality of IES double wall plates, Welding Width Examination and Hydraulic Pressure Test are conducted.

#### **Welding Width Examination**

The welding width examination is critical to determine the laser weld quality of our double wall plate heat exchangers. By using an industrial microscope, we can observe and evaluate the width and distribution of the molten pool, so that any defect weld will not pass through the production process undetected.

#### **Hydraulic Pressure Test**

Additional hydraulic pressure test is performed after the double wall plates are assembled into a complete heat exchanger. Water pressure is applied up to 1.5 times of the working pressure, and then observation is made to ensure there is no leakage or pressure loss within a certain period of time. Performing such a test is one of the many quality control steps we take to ensure the quality of our product and the longevity of our heat exchangers in the field.

#### **Performance Rating Test**

Thermal-hydraulic performance rating test of double wall plate heat exchanger (According to AHRI Standard 400/401: Performance Rating of Liquid to Liquid Heat Exchanger) is conducted in our own AHRI Certified Heat Exchanger Test Centre located in IES Taipo Factory. Performance

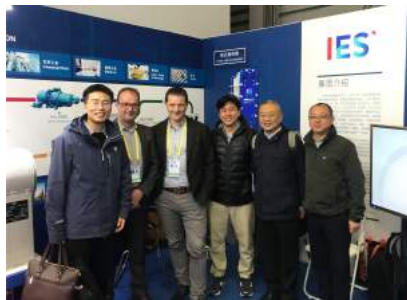
test includes accurate measurement of heat transfer efficiency and pressure drops. Test data are systematically analyzed and used for our future plate design improvement and continuous optimization of our selection software tool- IESPro.



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### Exhibitions Reviews



IES successfully participated in China Refrigeration Exhibition 2019 in Shanghai, and draw attention from audience from all around the world to our IES Plate and Shell Heat Exchanger and online selection software.