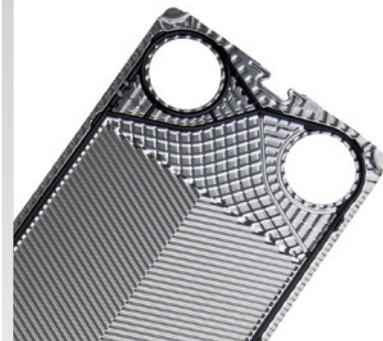


Service & Support

MAXIMIZE LIFETIME PERFORMANCE



SPX FLOW provides advanced APV heat transfer solutions for cooling, heating, condensing and evaporation of process fluids as well as for utility applications. Our solutions are designed to meet heat transfer process challenges in a vast array of industries and in demanding process conditions. The reliability and energy efficiency of APV heat transfer solutions enable customers worldwide to run their heat transfer processes safely and economically.

Since APV invented the plate heat exchanger in 1923, we have pioneered new designs based on innovative steel pressing, shaping, welding, sealing and testing technologies. Dedicated and specialized SPX FLOW experts around the world are committed to providing efficient and durable heat transfer solutions as well as expert service and support to help customers optimize profitability through maximum uptime and efficient energy utilization.

About SPX FLOW, Inc.:

Based in Charlotte, North Carolina, SPX FLOW is a leading global supplier of highly engineered flow components, process equipment and turn-key systems, along with the related aftermarket parts and services, into the food and beverage, power and energy and industrial end markets. SPX FLOW has more than \$2 billion in annual revenues and approximately 8,000 employees with operations in over 35 countries and sales in over 150 countries around the world. To learn more about SPX FLOW, please visit our website at www.spxflow.com



The Key to a Long & Healthy Life

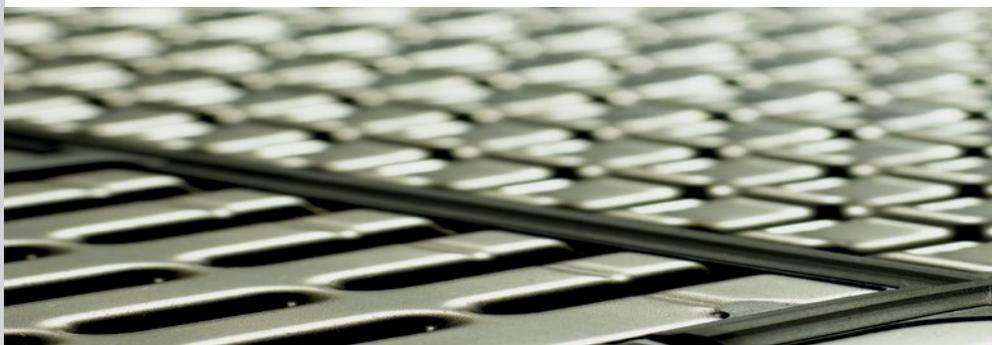
High-performing heat exchangers are the heart of many heating and cooling processes in a wide variety of industries. They play a critical role in ensuring maximum output and product quality at the lowest possible cost.

Several issues can affect heat exchanger performance. For example, changes in flow rate, fouling, defective parts and leakage are all factors that can impact your return on investment over a period before they become critical problems.

Expert service and support

SPX FLOW is committed to helping you maximize the performance of your heat transfer solutions throughout their lifetime. We do this via service agreements that can be customized to your specific needs or by providing service and support as the need arises.

A service agreement with SPX FLOW involves periodic visits by SPX FLOW service specialists to inspect your heat transfer equipment at one or multiple sites. Your heat transfer equipment will be trimmed to deliver maximum performance and any issues that might cause problems before the next service visit will be rectified on the spot.





Save Money with a Customized SPX FLOW Service Agreement

Customized SPX FLOW service agreements are designed to reduce the impact of sub-optimal heat transfer performance on your production, resulting in a lower total cost of ownership of your SPX FLOW heat exchanger solution.

A customized SPX FLOW service agreement ensures lower total cost of ownership in eight different ways:

1. Maximum heat transfer performance round the clock
2. Lower risk of production loss due to unexpected stoppages
3. Availability of original spare parts whenever needed
4. Higher return on investment
5. Predictable service and maintenance budgeting
6. Preventive planning of refurbishment or replacements
7. Proactive planning of re-design as your needs evolve
8. Knowledge sharing with SPX FLOW process experts



Multiple Industries & Applications

SPX FLOW provides advanced APV heat transfer solutions for cooling, heating, condensing and evaporation of process fluids, and for utility applications, in many different industries.

Dairy, Food & Beverage



Pharmaceutical & Personal Care



Oil & Gas



Petrochemical & Chemical



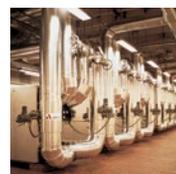
Industrial Process



Power

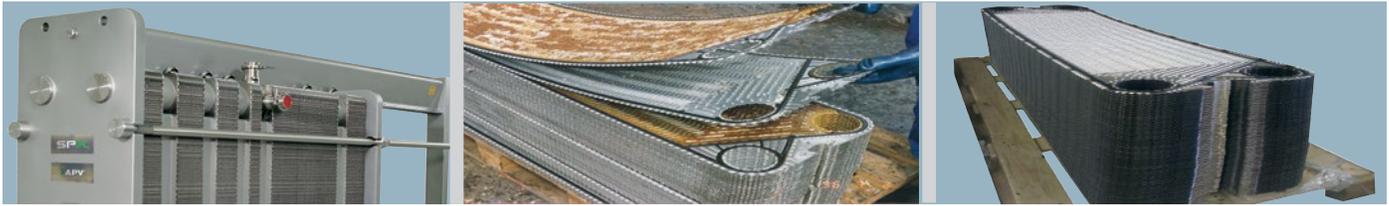


HVAC



Marine





Service Offerings for Lifetime Performance

Equipment audit – diagnosis

An on-site equipment audit based on an inspection by an SPX FLOW specialist will quickly reveal whether a heat exchanger is in good enough condition to deliver the consistently high performance you both need and expect.

Purpose

- Improve process and energy efficiency
- Reduce operating and maintenance costs

Method

We offer different levels of inspection to match specific applications, types of duty and operating conditions. These include:

- Non-intrusive inspection – minimum disruption of production
- Traditional inspection – opening of the equipment in order to analyze the condition of plates, gaskets and the frame

Result

The equipment audit results in a number of items for discussion:

- Objective assessment of the condition of your plate heat exchanger
- Recommendation of how best to maintain heat transfer performance
- Preventive maintenance schedule
- Original spare parts program to ensure a local stock of critical spare parts while minimizing your capital outlay

Reconditioning – new life

For most equipment, wear and tear are unavoidable, and at some point during its service life, maintenance and possibly reconditioning is required to maintain its performance.

Purpose

Reconditioning of plate heat exchangers restores thermal performance and operating efficiency.

Methods

Reconditioning includes cleaning of plates and regasketing:

- Mechanical cleaning or/and
- Chemical cleaning using selected cleaning solutions
- Inspection of plates, replacing plates where necessary
- Regasketing and replacing plates where necessary

Reconditioning can take place either on-site or at an SPX FLOW service centre.

Result

Thermal performance and operating efficiency are restored to original levels.

Platepack replacement – rapid recovery

Purpose

A platepack replacement means rapid reconditioning with minimum downtime.

Method

The worn platepack is replaced by a new platepack with identical specifications that match process conditions.

Result

Cost-effective reconditioning with minimum impact on production and no risk of further issues caused by the old platepack.

Did you know:

Most APV plate heat exchangers have unique plate-locking features. This ensures that the plates easily interlock to form an aligned and stable plate pack - avoiding misassembling and reducing service downtime. The excellent plate pack stability prevents against misalignment and possible “snake-effect” as consequence of pressure shocks or pulsation impact.



Leakage detection – restoring efficiency and safety

External leakage is visible, making visual inspection straightforward. Internal leakage can be hard to detect without dismantling the equipment.



Purpose

Leakage detection and the resulting repair restore energy efficiency, reduce pressure drop, and reduce the risk of product contamination.



Methods

- Regular inspection with observation of changes in flow rate and pressure can detect leakage at an early stage.
- Dye penetrant testing is a reliable method of locating cracks and pinholes that are not visible to the naked eye.
- SPX FLOW Testex technology offers a unique method of accomplishing extremely precise leakage detection without the need for dismantling the heat exchanger. Defective plates are detected through Electrolytic Differential Analysis. One Side of the plate is filled with an electrolyte, usually sodium sulfate and the other side filled with water. Solutions are circulated using pumps and the pressure of the electrolyte is increased to create a pressure differential of 60 PSI. The conductivity of the water is monitored and recorded in the laptop program. A consistent rise in conductivity of the water indicates the presence of defective plates.



Result

In the case of visual inspection and dye penetrant testing, leakage volume may be too small to register, yet still enough to impact performance or product integrity.

After an SPXFLOW Testex inspection results are supplied in an electronic file which can be printed.

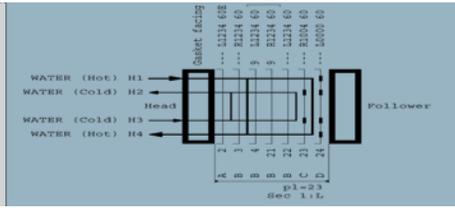
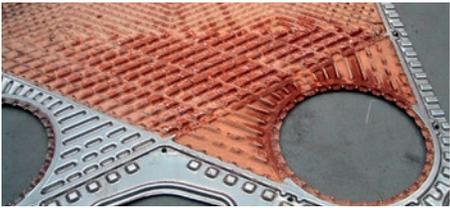
Did you know:

When Testex was first introduced it was found that more than 30% of heat exchangers were shown to have defective plates.

The Testex process is principally aimed at the hygienic market, where customers are particularly concerned with cross contamination. The tests are performed at the customer's site and can be performed in as little as four hours.

With the use of state-of-the-art electronic monitoring equipment, each plate pack can be analyzed and hard copy results produced along with a test certificate providing a full audit trail.





Meeting evolving needs – upgrade within existing layout

? Purpose

Upgrading within an existing layout increases performance to match evolving needs.

🔧 Methods

An equipment review by SPX FLOW heat exchanger service specialists and application engineers results in an upgrade solution recommendation that matches your specific needs. The following upgrade options can be implemented either on-site or at an SPX FLOW service centre:

- Plate upgrading - materials and/or plate design for new process or media requirements
- Changing gasket types to match changed temperature requirements
- Additional accessories such as in-line filter or changed liners

✅ Result

The result is an upgrade of existing equipment that protects your existing investment while matching your changed requirements. Updated equipment documentation is provided.

New needs – redesign

? Purpose

Gasketed heat exchangers can be redesigned in order to enable increased capacity, a modified process, or production of a new product. This can involve a performance and/or capacity increase as well as more or fewer passes.

🔧 Methods

APV gasketed plate heat exchangers are designed with the flexibility to re-configure the equipment to meet changing needs in a number of ways. SPX FLOW process experts, service specialists and application engineers review the equipment and recommend redesign solutions to match your particular requirements, for example:

- Extension of the platepack to match increased capacity needs.
- Replacing with new plate designs or materials
- Changing plate sequence and combinations
- Redesign to include more or fewer passes

It may be possible to re-design with minimum alterations to your existing installation setup.

✅ Result

The redesign can be implemented on-site or at an SPX FLOW service centre and is accompanied by updated or new equipment documentation.

Contingency planning – spare parts & inventory management

The availability of robust and reliable spare parts is essential for heat transfer solutions handling critical process and utility applications. By using original spare parts, you minimize the risk of unscheduled stoppages due to premature failure of non-original components and parts.

? Purpose

Original spare parts and inventory management mean you have the right number of spare parts of the right type and quality at hand whenever you need them, thus balancing risk against capital outlay.

🔧 Methods

- SPX FLOW can recommend a spare parts programme including supply of critical parts for your on-site inventory that is aligned with your maintenance schedules.
- SPX FLOW service agreements include spare parts supply along with plate heat exchanger audits and assistance from service specialists.

✅ Result

- You can be sure of robust and reliable original spare parts that will not let you down.
- Critical spare parts are always at hand when you need them.
- Other spare parts are always at hand for scheduled maintenance.
- Your capital outlay and storage requirements are balanced against reasonable risk.



Service & troubleshooting – fast diagnosis and cure

SPX FLOW provides rapid service and troubleshooting assistance whenever and wherever you need it via the global network of SPX FLOW Service Centres and local service capabilities.

Purpose

Based on the solid experience, product insight and efficiency of our service specialists, the purpose of service and troubleshooting is to:

- Assist in maintaining or improving your heat exchanger performance
- Minimize production loss due to an urgent problem

Methods

There are two service and troubleshooting scenarios:

- On-site audits in order to identify areas of improvement that can further lower cost of ownership
- Urgent visits by field service technicians to troubleshoot and rectify any problems, and minimize unscheduled downtime

Result

- Audits show the way towards improving heat exchanger and process efficiency, thus reducing operating and maintenance costs.
- Troubleshooting based on urgent service visits identifies and rectifies a problem as fast as possible in order to minimize your production loss.

Getting started – installation and start-up

Installation and start-up services apply primarily to the Food & Beverage industry.

Purpose

Our aim is to ensure that all SPX FLOW solutions operate at maximum performance from day one with minimum inconvenience for you.

Methods

We perform Installation and start-up services on-site. These include:

- Plate heat exchanger installation
- Piping and welding work and related component installations (Food & Beverage industry only)
- Final process documentation

We have extensive experience with large installation assignments in which we supervise SPX FLOW staff as well as 3rd party installation teams.

Result

The result is competent, reliable and efficient installation and start-up with maximum performance from day one.

Find out more

Please see contact details on the back of this brochure or visit www.spxflow.com to find your nearest SPX FLOW office. If possible, please have details of your APV heat exchanger at hand.

For more details on SPX FLOW APV heat transfer solutions and services, please visit www.spxflow.com to find your nearest SPX FLOW representative.

Please note that SPX FLOW service scope may differ subject to local conditions.



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