

APV Products

The Next 100 Years of Innovation



Heat Transfer

Homogenizers

Pumps and Valves



For more than 75 years, APV technology and process expertise have helped thousands of companies around the world improve operational efficiencies and product quality, while facilitating new product development.

APV established itself as a leading innovator with its invention of the homogenizer in 1899 and the plate and frame heat exchanger in 1923. Today, APV continues the legacy of innovative leadership by applying unmatched application experience and a



extensive product portfolio to meet the needs of a wide range of applications. No single company offers a larger selection — or better selection — of pumps, valves, homogenizers,

heat exchangers and mixers. Plus, APV's state-of-the-art pilot plant testing capabilities give large and small companies the opportunity to test before they invest in full-scale productions.

Superior Customer Service

Your relationship with APV Products doesn't end with the sale. We have the people with the skills to keep your equipment running at optimal levels. Plus, with APV Express you have 24-hour access to the spare parts you need to ensure maximum uptime.

Performance: Buy Or Rent

APV Products' rental program offers the flexibility to scale your equipment up or down as your process requirements change.



Additionally, the rental program provides a solution for equipment upgrades and

process improvement when capital budgets are limited. Whether you buy or rent, APV Products delivers the equipment you need to optimize your production performance.

DISCOVER A WORLD OF INNOVATION

DISCOVER THE WORLD OF APV



APV HEAT TRANSFER PRODUCTS



Always Innovative

APV plate heat exchangers have an outstanding reputation for delivering highly reliable and efficient service — even under the most severe operating conditions. Plus, APV's unmatched process knowledge ensures the development of a customized solution that's perfectly suited for your application.

Always An Advantage Over Tubular Designs

APV plate heat exchangers provide film coefficients three- to

five-times greater plus highly efficient operation with up to 95% heat recovery or regeneration. Low liquid hold-up enables faster reaction times to change in process.

- Floor space requirements are reduced by 90%
- Lower capital, installation, and maintenance costs.



- Patented design of heat transfer area reduces fouling caused by dirt and debris.
- Full access to both sides of the heat transfer surface for inspection, maintenance and cleaning.
- Molded gaskets in the through-port area of the plate provide a double seal between the fluid streams and prevent intermixing.

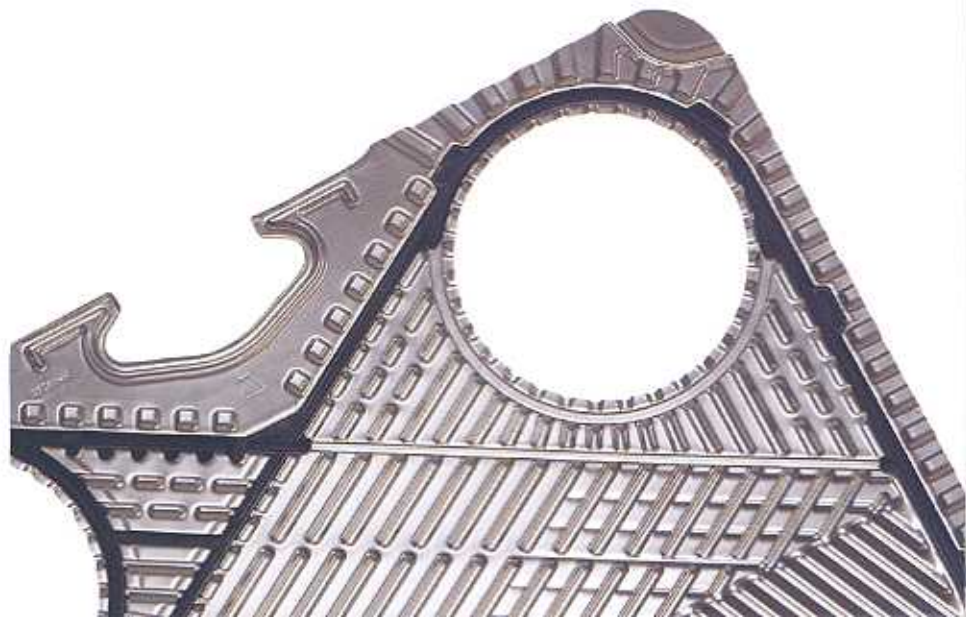
Always Flexible

APV's modular design lets you expand your heat exchanger as your process requirements grow. Units can easily be reconfigured to meet changing process needs, and are configured to handle multiple duties and fluid streams in a single unit.

Always Here For You

APV's skilled service technicians are available to make on-site repairs at your request. Or you can send your plates to one of our strategically located service centers.

- Plate Exchange Program minimizes downtime by ensuring replacement plates at the customer site prior to taking the unit offline.
- Testex — plate integrity analysis — determines the integrity of the plate without disassembling the heat exchanger.



APV FLUID HANDLING: PUMPS AND VALVES



Always Meeting Your Needs

APV's expertise and experience in fluid handling technology is reflected in the world's most advanced portfolio of hygienic centrifugal pumps, positive displacement pumps and valves.

Centrifugal Pumps

- All centrifugal pumps meet 3-A, FDA, USDA and BISSC requirements, among others.
- W+ pumps are specially designed for demanding applications requiring the highest levels of efficiency, cleanability and serviceability.
- W+ Universal Inducers are designed to lower NPSH by 50% to 70% while improving pumping of viscous products.
- Wa+ Aseptic series pumps feature a double-mechanical seal with media barrier for use in systems requiring bacteria-free operations.
- WHP+ High Pressure series pumps feature a close coupled, compact design for use in systems with high operating pressures.
- V2 pumps provide an economical and low-maintenance solution for a wide range of sanitary and industrial applications.



Positive Displacement Pumps

- The ultra-hygienic and super fast DW rotary lobe pump can be used as a product and CIP pump, and is the most technologically advanced design on the market.
- R series range of sanitary rotary pumps is optimized for products that have viscous, shear-sensitive particulate or high foam characteristics.
- Stainless steel tanker pumps provide reliable and efficient pumping in and out of tanker trucks.
- Rectangular Inlet (RI) pumps feature a large rectangular inlet for efficient pumping of a wide range of viscous and particulate products.



Valves

- APV offers a full range of 3-A compliant sanitary valves, including the Delta series SW4 single seat, M4 aseptic single seat, and DF+2 double seat. In addition, manual and butterfly valves are now available in either convenient modular kits (SV1 and SVS1F) or fully assembled valves (B10 and BF11).
- DE3 and DA3+ series double seat valves provide safe isolation of product between product and CIP solutions for sanitary

process industries. Elimination of product swing panels and hose connections permits a totally enclosed, hardpiped and automated system.

- For specialty applications, APV also offers a wide range of sanitary regulating, pressure relief, constant pressure, vacuum relief, check and sampling valves.
- The Delta CU family of control units features a variety of fully integrated fieldbus possibilities, including ASI and the intelligent valve control system — Valve-Net DeviceNet.



APV HOMOGENIZERS



Always The Right Solution For Any Emulsion And Dispersion Application

APV offers the widest selection of laboratory, pilot plant and production homogenizers for specialized



applications — no matter how viscous or abrasive your product, or whether you require aseptic conditions or emission containment.

- Capacities up to 15,800 GPH and operating pressures as high as 21,750 PSI.

Always The Right Valve

APV's industry-leading selection of advanced homogenizing valves provides superior cell disruption and processing of ultra-fine emulsions and dispersions.

- Patented Super Micro-Gap® (SMG) Homogenizing Valve Assembly provides optimal performance for milk processing. The SMG requires less operating pressure to achieve desired particle size, while delivering increased product stability and energy savings plus reduced maintenance costs.
- A choice of easy to maintain Gaulin mono-block design or Rannie three-piece valve housing for ultra high-pressure processing.

Always Engineered For The Environment And Ergonomics

The power end of APV homogenizers incorporates a durable slow-speed drive with adjustable stainless steel feet and dampeners to minimize noise and vibration.

- No external oil piping.
- Push button start/stop.
- Extended 2,000 hour/six month oil change interval.
- Common power end for Gaulin and Rannie machines.
- Available automation packages let you integrate your homogenizer into your process control system.





APV PILOT PLANT TESTING

Always Test Before You Invest

APV's advanced Lake Mills, Wisconsin, Pilot Plant Testing Lab assists the world's leading manufacturers in developing new and improved products, while streamlining processes to boost productivity and profitability. Product processes include:

- Mixing
- Blending
- Pumping
- Heating
- Cooling
- Homogenizing
- Freezing



**TO PUT YOUR PROCESS TO
THE TEST, CONSULT WITH YOUR
APV REPRESENTATIVE, OR CALL**

1-800-554-5290

In addition, APV's pilot plant facility in Tonawanda, NY, specializes in separation technologies including evaporation, membrane filtration, drying and distillation. APV's Grand Rapids, MI, laboratory provides targeted testing for bakery and snack products.

APV Products – Fluid Handling and Homogenizer

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