

## Vernay® Part and Function Integration Capabilities

Vernay specializes in the innovative design and high volume manufacture of precision elastomeric products. Vernay's strength and expertise in part design, material development, rubber-to-substrate bonding and manufacturing can provide our customers a unique opportunity for part and function integration. This means we can combine two or more functions in one part, such as:

- Sealing
- Damping  
(vibration, noise)
- Checking
- Flow Control
- Friction
- Conversion of pressure to  
mechanical force



*Elastomeric  
Fluid Controls*





*your applications + (our designs + materials) = new opportunities*



## Co-design

We work with your engineers in the early design phase to provide the best solution by integrating parts and functions to save cost and improve the function of your product.

## Part and function integration

Integration will help you to eliminate components & assembling steps.

Providing part and function integration requires understanding of your product requirements and its total function and application.

Part and function integration does minimize manufacturing variability because all components are toleranced together.

## Material development/selection

A critical aspect of any functional part is the selection of a suitable elastomeric material for the application. Vernay's expertise in compounding will support you in selecting the right material.

## Integration techniques provided

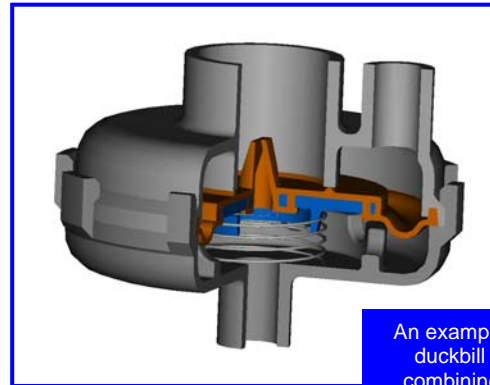
**Creativity:** By functional understanding of your application, Vernay designs together with your engineers, the optimal solution in performance and cost through creativity.

**Bonding:** When your part integration requires a durable and strong bond between rubber and insert substrate, Vernay's expertise plays an important role. Our extensive patented knowledge in insert materials, pre-treatment, rubber-to-metal/plastic interaction, selection of suitable bonding cement, ability to perform durability testing, and process controls on our manufacturing process, can create a robust design you can rely on.

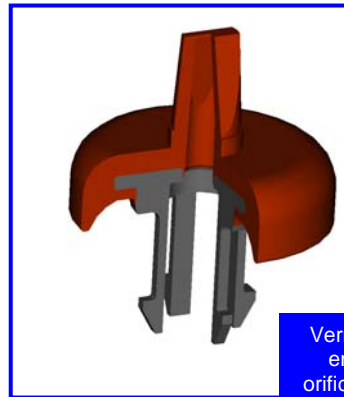
Furthermore, Vernay proprietary patented bonding agents can solve the most difficult rubber-to-metal and plastic adhesion problems.

**Assembly/Sub-assembly:** We can assemble the various components of your part into sub-assemblies to offer you convenient, ready-to-use products that are more cost effective (lower total cost) solutions.

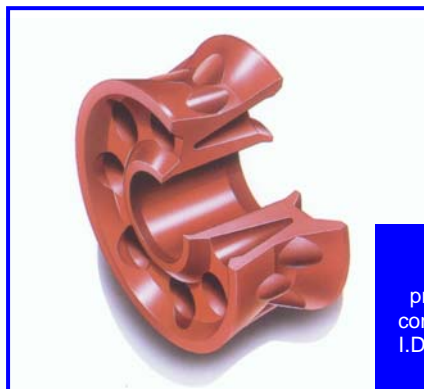
We provide cleanliness control, reduced product variation, valve/seat performance.



An example of an integrated duckbill and diaphragm, combining the functions of checking, sealing and damping.



Vernay's Continuous Flow Venturi is engineered to provide a variable orifice combined with a duckbill check valve and an umbrella, molded around an insert body that is designed for part rigidity and easy assembly.



Vernay's Pulsator seal is a flexible, fuel resistant connection for in-tank fuel pumps, engineered to prevent leakage and helps isolate pump vibration. It combines vibration damping function with an O.D. and I.D. sealing function in a design that allows automated assembly and volume swell up to 25% without extrusion from its housing.



## Quality commitment





Vernay is committed to the philosophy of continuous improvement in everything we do. Product quality is achieved through the stabilization and continuous improvement of all processes and activities that impact quality.

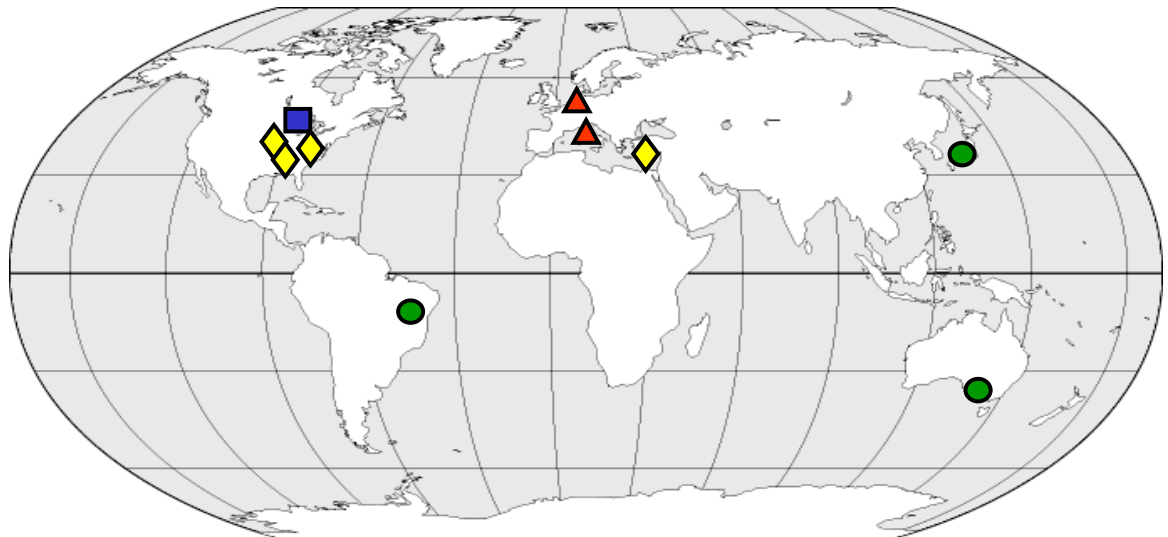
The Vernay Quality System has been established to enforce the vital component of the customer-supplier relationship.

The Vernay Quality System is based on the ISO-9001

Quality System Standards, the Automotive QS-9000 and TS16949 System Requirements, the FDA Quality System Regulations, and the ISO-14001 Environmental Quality Standard.

Actual quality certifications for each of our global locations can be downloaded in PDF format on our website at [www.vernay.com](http://www.vernay.com)!

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-  Development & Production
-  Production
-  Representation



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