



# ProTips

## Valve Chemical Compatibility

- Valworx [Chemical Compatibility](#) chart lists several commonly used gases and chemicals along with the valve materials. The valve materials are rated by suitability with each substance based on outside testing.
- Valve selection should be made by qualified users possessing an understanding of the components, [function](#), and materials.
- Compatibility with a chemical is one of *many* factors that should be considered before making a purchase, and Valworx Chemical Compatibility charts can be a valuable aid in product selection.

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### 2-Way & 3-Way Ball Valves

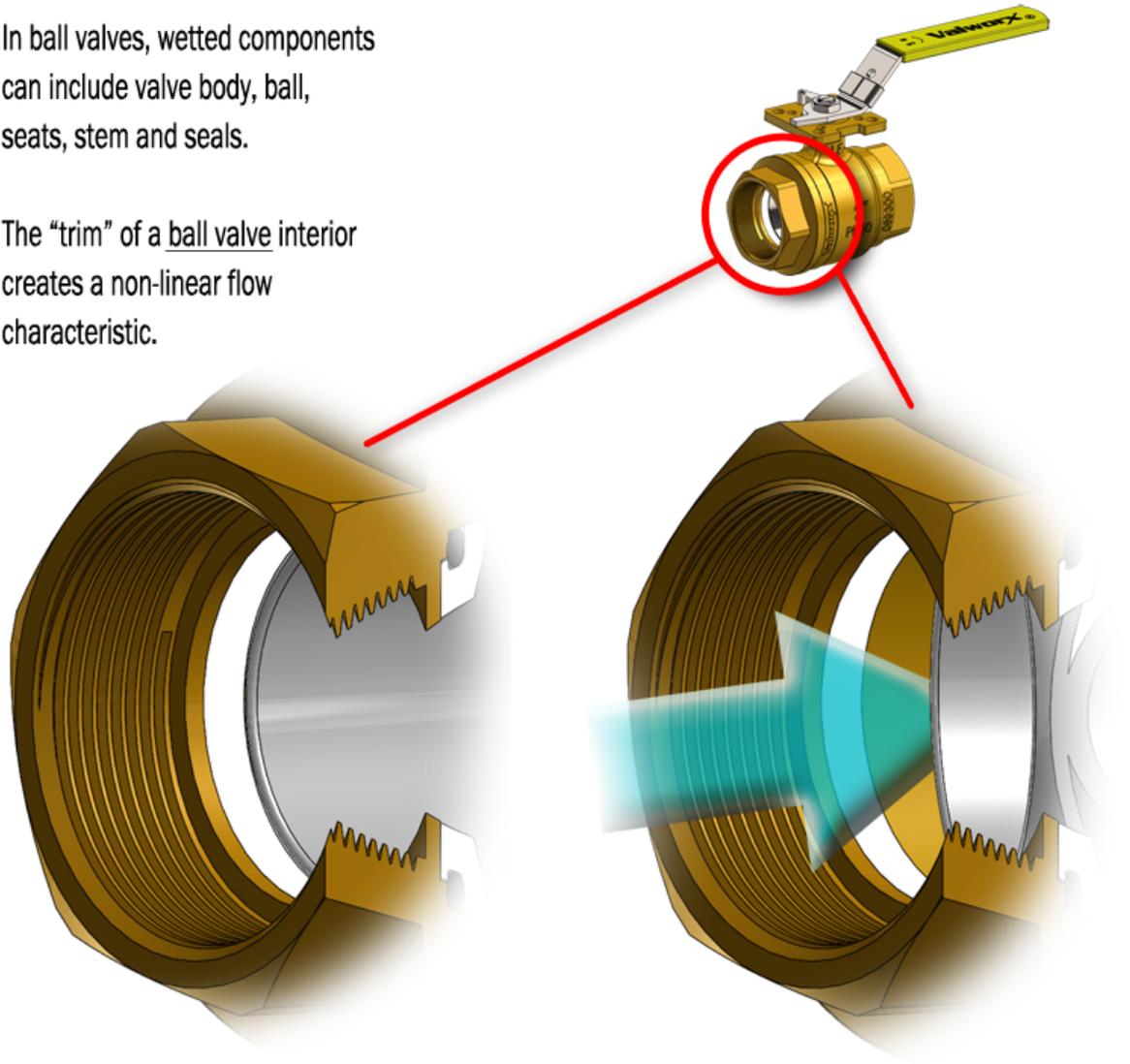
**All** components of a ball valve, including ball, stem seals, seats and the valve body can contact the fluid media. Improper material selection can lead to corrosion, pitting and seal damage. Therefore, media compatibility is extremely important to the valve lifespan. Below is an example of the interactions that occur inside a typical valve.

Valve surfaces subject to contact with media are typically known as “wetted components”.

In ball valves, wetted components can include valve body, ball, seats, stem and seals.

The “trim” of a ball valve interior creates a non-linear flow characteristic.

As the ball rotates to close in the below example (view exaggerated), some flowing media will contact walls of brass body behind and around ball surface.



Valworx offers many variations of ball valve materials and designs including Stainless, PVC & Brass materials for 2-Way (2-Piece), 3-Way, 3-Piece & Flanged designs.

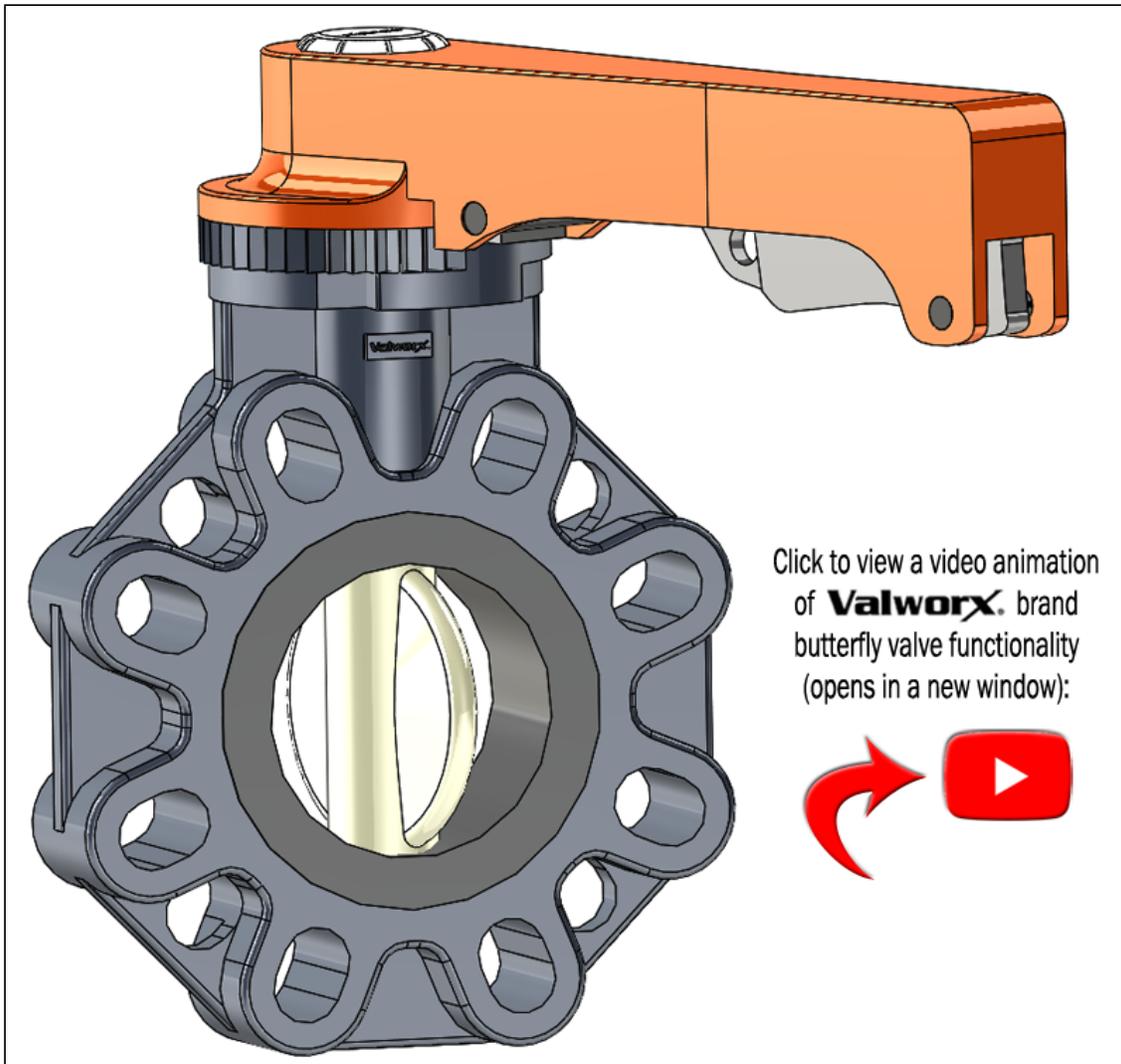
For each valve, all materials in our valve components are listed on our product pages under the tab marked "Specifications". All pertinent information can also be found on associated product [Data Sheets](#).

Ultimately, it is the end user's responsibility to ensure media compatibility. Valworx [Chemical Compatibility Charts](#) can be of valuable assistance for product selection.

[PVC Valve Compatibility Chart](#)[Metal Valve Compatibility Chart](#)

## Butterfly Valves

Butterfly valves allow fluid media to contact only the disc, seat and stem/seals of the valve. Under normal operation media does not come into contact with the valve body. The soft seat facing also acts as a flange gasket between international standard flanges.



Valve seat, disc and body material information are conveniently labelled on all of our butterfly valves. This aids in any future service, allowing maintenance personnel to instantly identify valve materials at a glance.

Valworx Butterfly Valves are offered in Wafer or Lug style mounting designs.

Butterfly Valves are sold in Ductile Iron (Lug & Wafer body style) & PVC (Wafer body style only, NSF rated for use with drinking water) materials.

[Shop for PVC Wafer Butterfly Valves](#)

[Shop for Cast Iron Wafer Butterfly Valves](#)

[Shop for Cast Iron Lug Butterfly Valves](#)

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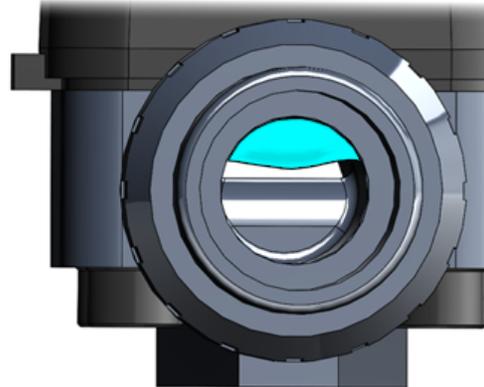
## PVC Diaphragm Valves

Diaphragm valves provide an economical and reliable method for controlling on-off flow in a pipe line. Due to the unique design of the valve, diaphragm valves have broad uses, including media that would typically be considered unsuitable for ball or butterfly valves.



Diaphragm valves are unique in their use of a rubber “Weir” design sealing method, providing better linear flow characteristics through evenly applied pressure on the seat, regulating flow.

In the close-up example of the port shown at right, the blue area represents the flexible diaphragm inside that seats and conforms to the PVC body.



In diaphragm valves, media contacts only the PVC body and diaphragm seal (diaphragm available in FPM, EPDM & PTFE). These components are isolated from all internal metal components which can make the valve suitable for many more harsh applications than a traditional valve.

Diaphragm valves are available in manually operated and actuated designs.

[Shop for Manual Diaphragm Valves](#)[Shop for Air Actuated Diaphragm Valves](#)

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Many conditions can affect the valve material choices, including: pressure, temperature, chemical mix, material compounding, viscosity and environment. Ultimately it is the user's responsibility to ensure valve materials are suitable for any specific purpose.

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