

Innovative solutions for advanced safety with plastic valve designs

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What affects the safety / function of valves adversely?

What affects the safety (function) of valves adversely?

à **Corrosion**

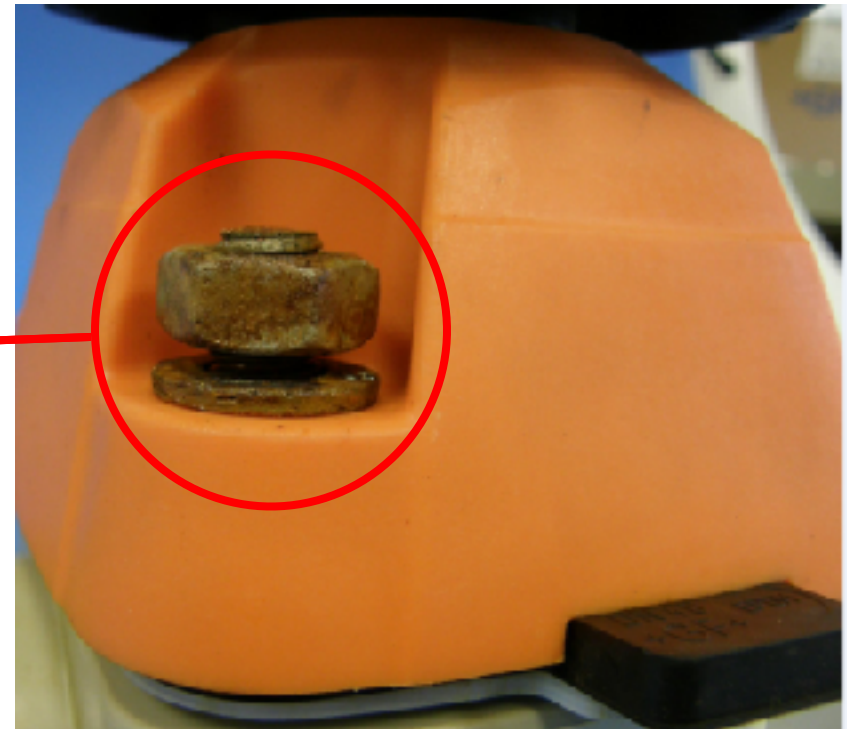
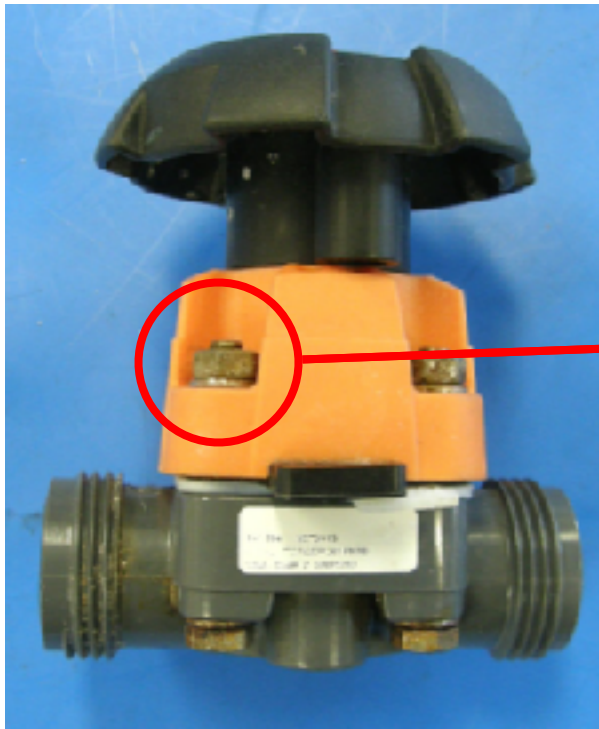
US\$2.5 trillion*

Global cost of corrosion

* [Source: NACE International]

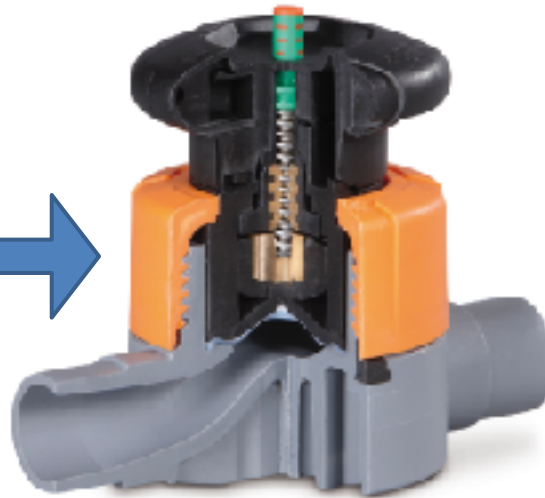
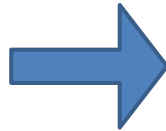
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à Corrosion



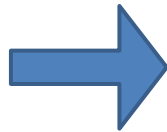
What affects the safety (function) of valves adversely?

à **Corrosion resistant solutions**



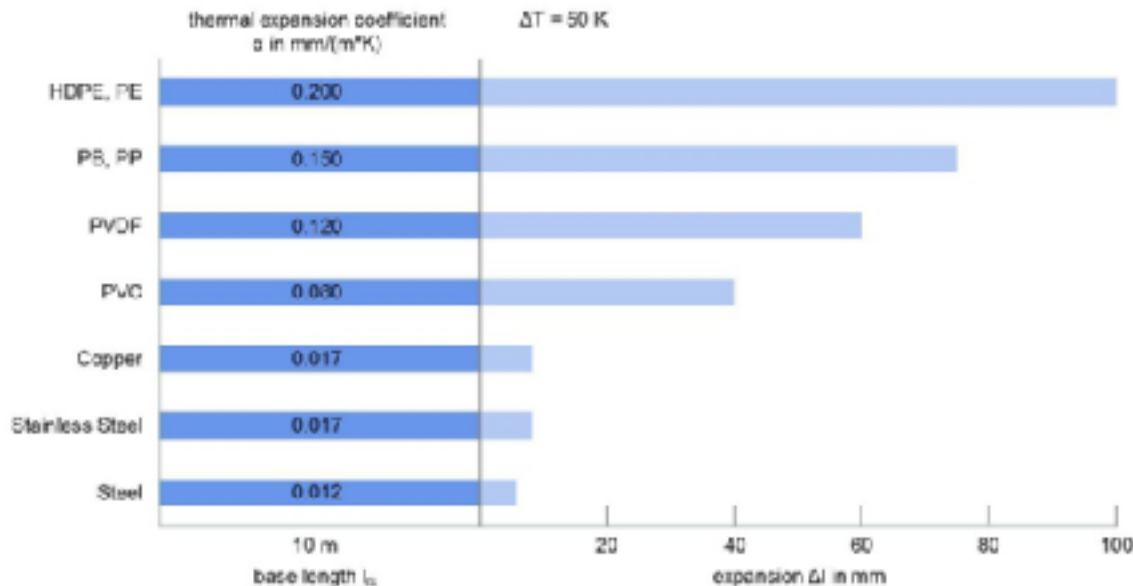
What affects the safety (function) of valves adversely?

à Corrosion resistant solutions



What affects the safety (function) of valves adversely?

à Metal screws vs. Temperature Cycles = additional costs



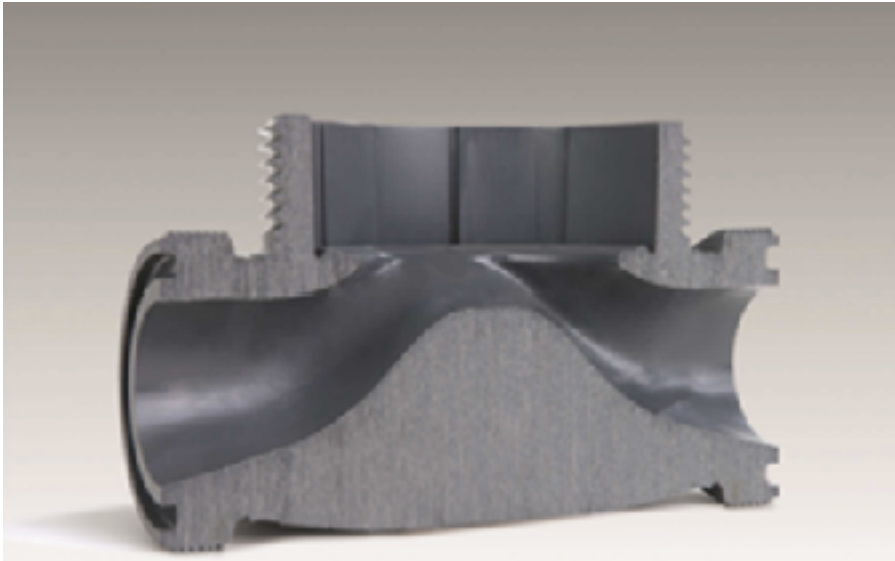
[Thermal expansion coefficients]

Qualification Method PVDF Diaphragm Valve

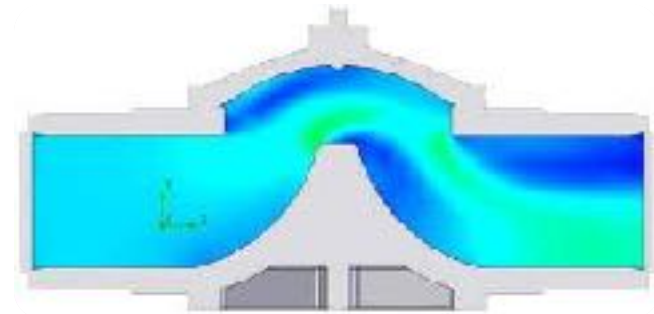
240 minutes at 20°C followed by 240 minutes at 120°C for 60 cycles while opening and closing the valve.

Innovative solutions with plastic valve designs

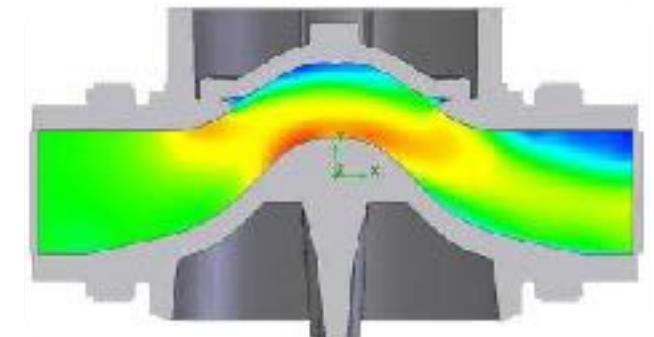
à **Flow-optimized valve design offers an increased flow rate of more than 50%**



[Optimized flow geometry]



[Conventional design]



[New innovative design]

What affects the safety (function) of valves adversely?

à Operating- / installation error



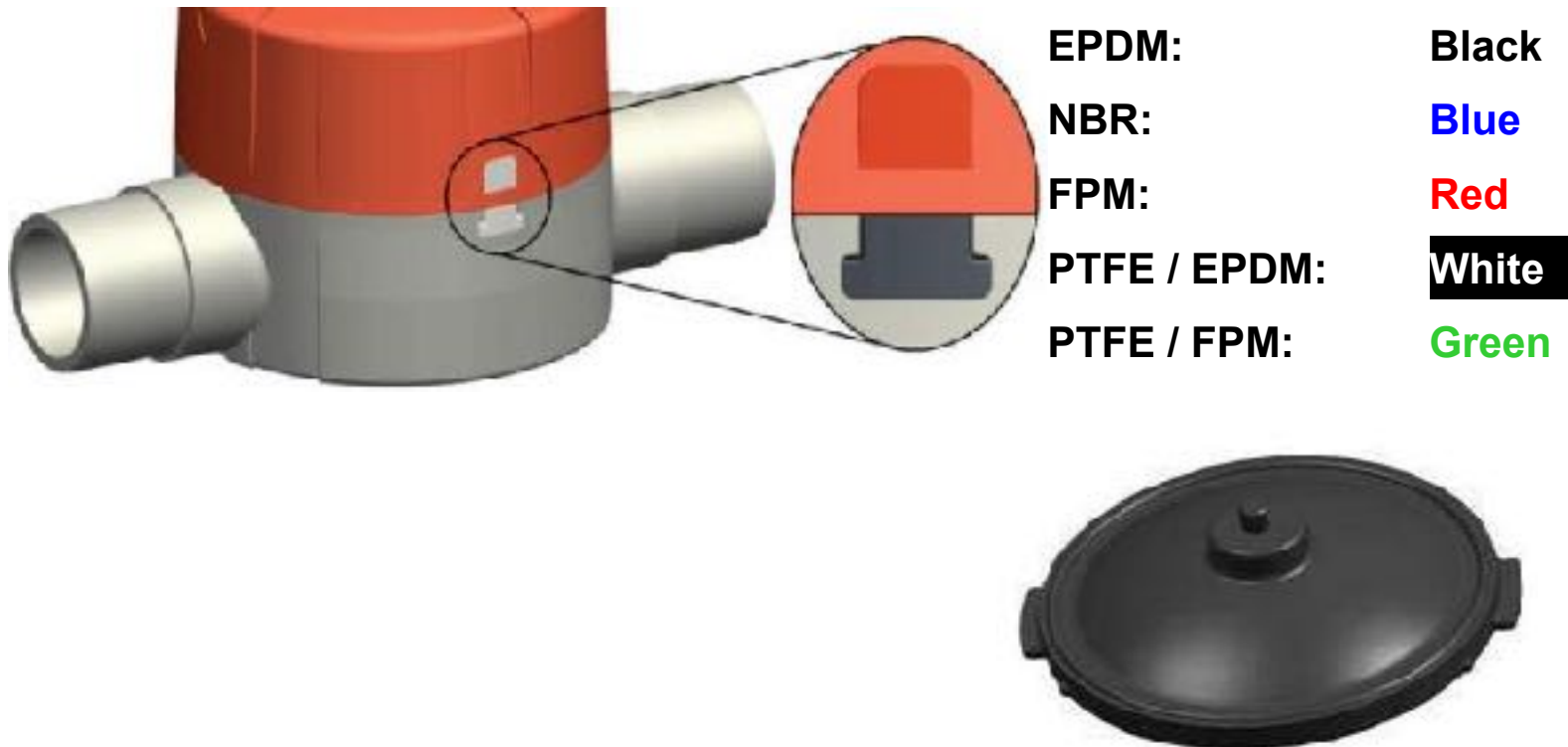
[Injection-molded flow arrow
to indicate direction of flow]



[Injection-molded direction arrow on valve housing
to indicate pressure
increase / decrease adjustment]

What affects the safety (function) of valves adversely?

à Clear product information



To sum up ...

Valves can be designed tailored to plastic to achieve advanced safety and added value

- Maximum corrosion protection
- Safe operation with high cycle numbers
- Reduced maintenance costs
- High user friendliness

Since plastic valves have a very young age, the best is yet to come...

