Consolidated
a Baker Hughes business

# Triple Media Certification
## for Consolidated Pilot-Operated SRVs

## Combining Capacity Certifications

### Code and Standard Changes

Recent changes to codes and standards have made it possible to combine capacity certifications for pressure relief valves (PRVs). In the past, ASME Section VIII B&PVC PRV capacity tests and certifications were split between incompressible and compressible fluids. With the changes to API Standard 520, Part I – 10th Edition, and the introduction of ASME B&PVC Code Case 2787, PRVs can now be "Multi-Media or Dual Certified" for multiple fluid types.

### Dual/Multi Certified

As with most POSRV designs, our 2900 & 3900 Series trim designs and pilots are universal when it comes to media type. Therefore, it is possible to have up to three media included in one capacity certification per Code Case 2787. Our 2900 TM and 3900 TM Series POSRVs require no component changes and are engineered to perform on liquid, gas, and **steam** media, and under certain conditions (see nameplate capacity section), they will have multiple media (liquid, gas, and steam) nameplate capacity stamping per ASME B&PVC Code Case 2787.

The 2900 TM and 3900 TM are both Dual Certified, as defined by API 520, Part I; pressure relief valves that are both vapor/gas flow certified, and liquid flow certified where dual certification is achieved without making any modifications or adjustments to the relief device when switching fluids during the flow testing.

## Paving the Way in POSRV Technology

### 2900 Triple Media Series

Following our launch of the industry's first to market 1900 Dual Media (DM) Series Spring-Loaded Safety Relief Valve, our 2900 Series Pilot-Operated Safety Relief Valve (POSRV) is now multi-media certified per ASME Boiler and Pressure Vessel Code (B&PVC) Code Case 2787. The 2900 Triple Media (TM) Series is now the industry's first and only multi-media certified full-nozzle POSRV. The 2900 TM Series continues to pave the way in POSRV technology, offering innovative features such as our patented Integral Sense Full Nozzle, True Zero Leakage Pilot, and our patented Cryodisc.

### 3900 Triple Media Series

In addition to the 2900 Series, the 3900 Series POSRV has also successfully achieved multi-media certification per ASME B&PVC Code Case 2787. The 3900 TM Series is one of the few multi-media certified semi-nozzle POSRVs in the industry today. Combining proven field experience and reliable performance, the 3900 TM Series expands on the capability of our premium API 526 POSRV offering.

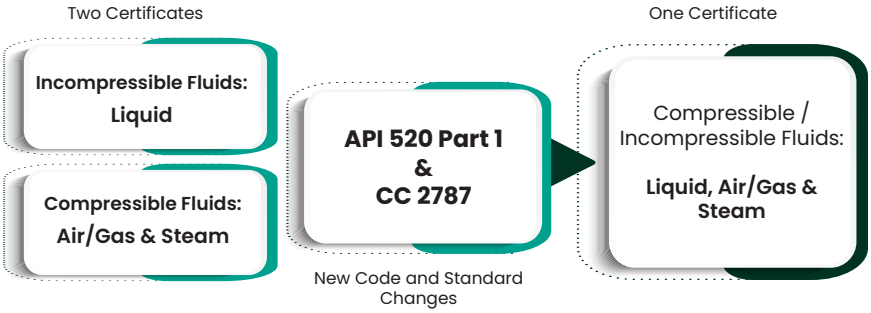
# Valve Performance

The 2900 TM and 3900 TM Series provide exceptional set pressure performance, stable opening and closing, and exceptional blowdown performance ensuring the system is efficiently protected from an overpressure event with gas, liquid, steam, or a two-phase mixture as the relieving media.

The 2900 TM and 3900 TM Series are the ideal solution for any liquid/gas/steam application, two-phase liquid and gas, flashing, or multiple relief case scenarios. End Users and EPCs should update their PRV specifications and PRV datasheets to align with the latest API standard, adding "Dual Certified" trim.

## Nameplate Capacities

The 2900 TM and 3900 TM Series will have up to three certified capacities listed on the nameplate. Per engineering guidelines based on testing requirements in ASME Code Case 2787, the process fluid types used for sizing cases will determine the number of capacities listed on the 2900/3900 TM nameplate.




SRVs sized for gas and/or liquid media can be functionally tested on one of the two media (gas or liquid). However, if the valve is sized for steam service, whether it's the governing case or secondary cases, the functional test must be completed on a steam test stand. Therefore, per engineering guidelines, the only sizing scenario where the nameplate will show all three certified capacities for gas, liquid, and steam is when steam is the governing case or it is part of a multi-sizing case scenario.

This sizing and selection rule will guide users to a suitable POSRV selection. High-temperature steam applications will drive a limited soft good selection and will subject the valve to the required steam test per ASME Code Case 2787 (see below reference) when it may not be necessary.

***Case 2787***

*Multiple Marking of Certified Capacities for Pressure Relief Valves*

*Section VIII, Division 1*

*(2) Production testing per UG-136(d)(4) shall be performed using any one of the certified medias to be marked on the valve except steam shall be used when one of the certified media is steam.*

The table below shows when the 2900/3900 TM will receive three nameplate capacities:

| Governing Case's Fluid | Secondary/ Multi Case Fluid | Functional Test Required | Nameplate Capacities Listed | | | Dual/Triple Certified |
|---|---|---|---|---|---|---|
| | | | Air/ Gas | Liquid | Steam | |
| Air/Gas | Air/Gas | Air/Gas | ● | ● | | Dual |
| | Liquid | Air/Gas or Liquid | ● | ● | | Dual |
| | Liquid & Steam | Steam | ● | ● | ● | Triple |
| | Steam | Steam | ● | ● | ● | Triple |
| Liquid | Air/Gas | Air/Gas or Liquid | ● | ● | | Dual |
| | Air/Gas & Steam | Steam | ● | ● | ● | Triple |
| | Liquid | Liquid | ● | ● | | Dual |
| | Steam | Steam | ● | ● | ● | Triple |
| Steam | Air/Gas | Steam | ● | ● | ● | Triple |
| | Liquid | Steam | ● | ● | ● | Triple |
| | Steam | Steam | ● | ● | ● | Triple |

## Applications

- For full-nozzle POSRV, no other PRV manufacturer has a comparable solution. Here are some applications and opportunities ideal for the 2900 TM and 3900 TM Series:
- New project business where customers specify multi-media or dual certified POSRVs
- Upgrade any competitors POSRV with the 2900 TM and 3900 TM Series where the customer is referencing API 520 Part I – 10th edition Dual Certified trim
- 2900 TM only: Upgrade installed API 526 spring-loaded PRVs to POSRV technology benefits (high inlet line loss, high operating pressures (above 90%), high backpressure, etc.) on liquid, gas, two-phase or multiple relief case scenarios
- When servicing or repairing valves, be sure to also quote the alternative option of a 2900 TM and 3900 TM Series to permanently solve their root cause problems.

Baker Hughes



BHCN-Triple-Media-Cert-FL-34623A-0322 03/2022

bakerhughes.com