# Enclosed Discharge Safety Relief Valves

*for liquid*

**Seetru** Limited

# Type 670 / 690

Safety valves with bronze body <
Enclosed discharge valve with threaded connections <

## Example Applications

- Pumping systems and Hydraulic systems
- Thermal relief
- Waste water management
- Oil transfer
- Petrochemical industries
- Fire fighting equipment
- Water cooling and feeding systems

## Specifications

- Inlet connections: 3/8" to 2" (depending on bore size)
- Temperature:-40°C to +200°C (depending on seal material)
- Pressure range: 0.7 to 30 bar (depending on bore size)

## Approvals

- Designed in accordance with BS EN ISO-4126-1 &-7
- PED 2014/68/EU (CE)
- PE(S)R UK SI 2016 No. 1105 (UKCA)

## Materials of Construction

| Component | Material | Grade |
|---|---|---|
| Inlet | Type 670 = Brass | CW614N |
| | Type 690 = Stainless Steel | 1.4401 (316) |
| Body | Bronze | CC491K<br>SB-62 C83600 |
| Internal Parts | Type 670 = Brass | CW614N |
| | Type 690 = Stainless Steel | 1.4401 (316) |
| Spring | Stainless Steel | 1.4310 (302) |

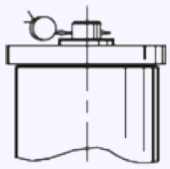
## Seal Materials

| Seal Material | Temperature Range |
|---|---|
| Viton® (FKM) | -15°C to +200°C |
| Nitrile (NBR) | -40°C to +120°C |

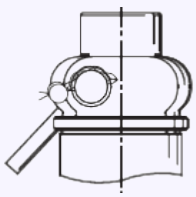
Standard seal materials shown, others available on request

## Easing Gear / Lifting Gear Options

**Standard Option:** Sealed Cap (gas tight cap)



**Other Option:** Sealed lever (gas tight)



## Technical information by bore size

| Bore size | 9.5mm (67010) | | | 13.7mm (67013) | | | 17mm (67018) | | | 20mm (67020) | | | 25mm (67025) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inlet Size | 3/8" | 1/2" | 3/4" | 1/2" | 3/4" | 1" | 1" | 1 1/4" | 1 1/2" | 1" | 1 1/4" | 1 1/2" | 1 1/4" | 1 1/2" | 2" |
| Outlet Size | 3/4" | | | 1" | | | 1 1/2" | | | 2" | | | 2" | | |
| Flow Area | 70.9mm² | | | 147.7mm² | | | 227mm² | | | 314mm² | | | 490.4mm² | | |
| H - Height (Sealed cap version) | 53.5 mm | | | 52 mm | | | 80 mm (up to 21 bar)<br>100 mm (21-46 bar) | | | 95mm | | | 119 mm | | |
| Derated coefficient of discharge Kdr | 0.59 | | | 0.57 | | | 0.55 | | | 0.57 | | | 0.56 | | |
| Weight (approximate) Kg | 0.8 | | | 1.1 | | | 3.6 | | | 4.0 | | | 5.1 | | |
| Set Pressure range - PED (CE) bar | 0.76 to 30.0 | | | 0.7 to 27.0 | | | 5.4 to 25.7 | | | 3.3 to 22.0 | | | 5.65 to 21.0 | | |
| Relieving pressure/fully open pressure | **Set pressure +25%** | | | | | | | | | | | | | | |
| Reseating pressure | **Set pressure -20% down to 3 bar** | | | | | | | | | | | | | | |

1 TÜV alloted outflow coefficients for pressures above 3.0 bar, for lower pressures please see the flow rate tables or contact Seetru.

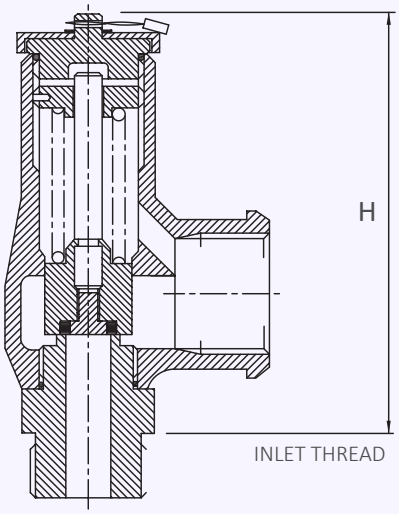
## Standard INLET Thread Connection Types

- BSP Parallel male thread
- BSP Taper male thread
- NPT male thread

## Standard OUTLET Thread Connection Types

- BSP Parallel female thread
- NPT female thread

## Valve Drawing




## Valve Selection Guide

| Approval Required | Valve type | Select Bore | Inlet Size | Inlet Thread Type | Outlet Thread Type | Easing Gear | Seal Material |
|---|---|---|---|---|---|---|---|
| PED (CE) | 670 (Brass inlet) | Select bore size from above table | Select inlet size from above table | Select Inlet thread type | Select Outlet thread type | Select easing gear/top fitting | Viton® (FKM) |
| | 690 (St. Steel inlet) | | | | | | Nitrile (NBR) |
| | | | | | | | Other |

EAC marking available upon request

***Please send your selected details to Seetru and we can provide the full ordering code, price and lead-time.**

## Example of Valve Selection Process

| Example Selection | CE/PED | 670 | 20 | 1 1/2" | BSP Taper | BSP parallel | Sealed Cap | Viton | 10.5 bar |
|---|---|---|---|---|---|---|---|---|---|
| | Approval | Valve Type | Bore = 20mm | Inlet Size | Inlet Thread Type | Outlet Thread Type | Top fitting | Seal | Set Pressure |

## Capacity Table - In accordance with ISO 4126, Water at 15°C - kg/hour
## Type 670/690

| Set Pressure | | Bore Size (D0) | | | | |
|---|---|---|---|---|---|---|
| | | 9.5mm | 13.7mm | 17mm | 20mm | 25mm |
| bar | psi | kg/hour | kg/hour | kg/hour | kg/hour | kg/hour |
| 0.7 | 10.15 | | 4001 | | | |
| 0.76 | 11.02 | 2075 | 4169 | | | |
| 1 | 14.5 | 2380 | 4782 | | | |
| 2 | 29 | 3367 | 6759 | | | |
| 3 | 43.5 | 4123 | 8284 | | | |
| 4 | 58 | 4761 | 9560 | | 20384 | |
| 5 | 72.5 | 5323 | 10694 | | 22792 | |
| 6 | 87 | 5831 | 11708 | 17394 | 24966 | 38289 |
| 7 | 101.5 | 6298 | 12654 | 18791 | 26968 | 39920 |
| 8 | 116 | 6733 | 13519 | 20089 | 28828 | 42676 |
| 9 | 130.5 | 7141 | 14348 | 21307 | 30579 | 45265 |
| 10 | 145 | 7528 | 15116 | 22460 | 32231 | 49431 |
| 15 | 217.5 | 9219 | 18523 | 27521 | 39477 | 58437 |
| 20 | 290 | 10650 | 21376 | 31763 | 45583 | 69906 |
| 22 | 319 | 11170 | 22419 | 33314 | 47807 | |
| 25 | 362.5 | 11902 | 23914 | | | |
| 27 | 391.5 | 12369 | 24837 | | | |
| 30 | 435 | 13040 | | | | |

For any intermediate pressures/flows please contact Seetru