



Features

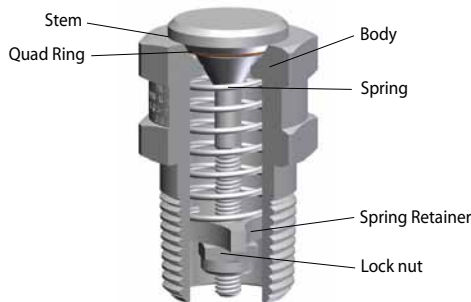
- Precise cracking pressure with high reliability.
- Keeping the sealing to 95~98% of Set Pressure at least.
- Reliable Reseal performance.
- Tamper proof design.

Design and application

V61 Series Vent relief valves is designed to vent out the excess pressure from the line automatically to keep the required line pressure safely when the line pressure is exceeded over the limitation unusually. This valves can be used in the case that the working fluid is not harmful when vented out. The level of cracking pressure should be set by adjusting the force of the spring in the valve before this valve is installed in the system.

Installation and Operation

This valve should be positioned perpendicularly to the direction of fluid flow in the line and that position should be considered and the vented fluid should be not directed to the personnel operating and the parts that has any influences on that. The line system should be run to check the performance of the valve after the personnel operating move to the safety zone. Because this valve is opened automatically when the excess of the required line pressure.



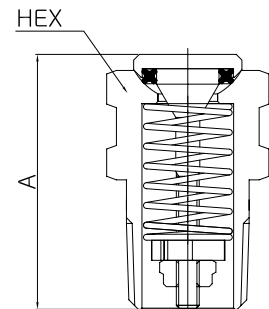
Materials of construction

| Component | Valve Body Material | |
|-----------------|---------------------------|--------------------------------------|
| | SS316 | Brass |
| Body | ASTM A276 / A479 TYPE 316 | ASTM B16 / Brass 360 (Nickel plated) |
| Stem | ASTM A276 / A479 TYPE 316 | ASTM B16 / Brass 360 |
| Quad-Ring | FKM | NBR |
| Spring | STAINLESS STEEL 302 | STAINLESS STEEL 302 |
| Spring retainer | ASTM A276 / A479 TYPE 316 | ASTM B16 / Brass 360 |
| Lock nut | STAINLESS STEEL | STAINLESS STEEL |

• Lubricants listed in blue.

Ordering Number and Table of Dimensions

| Basic Ordering No. | Pipe Size NPT | Orifice mm(inch) | Dimension mm(inch) | |
|--------------------|---------------|------------------|--------------------|---------------|
| | | | A | HEX. |
| V61-M-2N | 1/8" Male NPT | 4.74 (0.187) | 24.6 (0.97) | 12.7(1/2) |
| V61-M-4N | 1/4" Male NPT | 6.98 (0.275) | 30.48 (1.2) | 15.87 (5/8) |
| V61-M-6N | 3/8" Male NPT | 8.76 (0.345) | 31.5 (1.24) | 19.05 (3/4) |
| V61-M-8N | 1/2" Male NPT | 10.41 (0.41) | 44.5 (1.75) | 25.4 (1.0) |
| V61-M-12N | 3/4" Male NPT | 14.47 (0.57) | 57.15 (2.25) | 28.57 (1-1/8) |
| V61-M-16N | " Male NPT | 19.94 (0.785) | 79.25 (3.12) | 38.1 (1-1/2) |



Technical Data

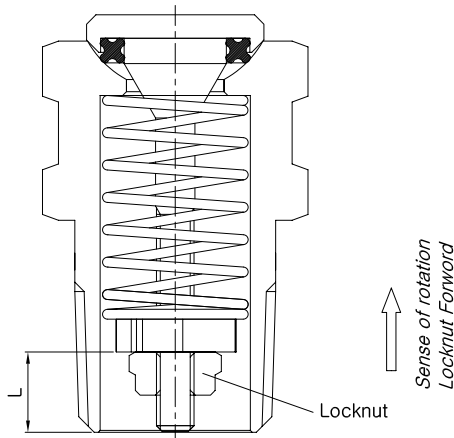
1. Set Pressure Range : 0.5 to 150 psig (0.03 to 10.4 bar)
2. Temperature Range : -65° to 400°F (-54°C to 204°C)
(differ from material selection)

| Material | Designator | Temperature Rating |
|----------|------------|-------------------------------|
| FKM | V | -20 to 400°F (-28°C to 204°C) |
| NBR | N | -40 to 250°F (-40°C to 121°C) |
| EPDM | EP | -65 to 300°F (-54°C to 148°C) |

Technical Data

Cracking & Reseal Tolerance

| Cracking | Cracking Pressure | | Tolerance | Reseal | Cracking Pressure | | Tolerance |
|----------|----------------------------------|--|-----------|--------|---------------------------------|--|-----------------|
| | | | | | | | |
| | below 2 psig (0.14 bar) | | ± 10% | | 2 ~ 10 psig (0.14 to 1.7 bar) | | 80% of Cracking |
| | 2 to 150 psig (0.14 to 10.3 bar) | | ± 5% | | 10 ~ 150 psig (0.7 to 10.3 bar) | | 92% of Cracking |



According to system line's requested pressure, Turn the locknut (with JIG as picture.1) as picture and set the cracking pressure.

* Ordering Jig Part No. : V61 - JIG

JIG Reference <picture.1>



Spring Cracking Pressure Range Designator and Flow Data

| Designator | Cracking Pressure Range @ 20°C (70°F), psig (bar) | Standard Cracking Pressure (The Middle Point Cracking) psig (bar) | Flow Data for Size, SCFM | | | | | |
|------------|---|---|--------------------------|-------|-------|-------|-------|-------|
| | | | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" |
| 1 | 0.5 to 2.5 (0.03 to 0.17) | 1.6 (0.11) | 0.13 | 0.13 | 0.20 | 0.83 | 1.23 | - |
| 5 | 2.6 to 7.5 (0.18 to 0.51) | 5 (0.34) | 0.57 | 0.62 | 0.97 | 1.83 | 1.37 | 2.92 |
| 10 | 7.6 to 15 (0.52 to 1.03) | 11.5 (0.79) | 0.92 | 1.15 | 1.80 | 2.50 | 1.58 | 1.90 |
| 20 | 16 to 35 (1.1 to 2.41) | 26 (1.79) | 1.50 | 2.05 | 2.50 | 3.67 | 3.75 | 5.17 |
| 50 | 36 to 75 (2.48 to 5.17) | 56 (3.86) | 4.33 | 8.58 | 9.17 | 24.30 | 17.50 | 9.17 |
| 100 | 76 to 125 (5.24 to 8.61) | 100 (6.89) | 8.33 | 33.52 | 21.67 | 62.08 | 34.67 | 76.67 |
| 150 | 126 to 150 (8.68 to 10.4) | 138 (9.5) | 10.17 | 38.17 | 19.00 | 66.67 | 57.50 | 91.67 |

Factory Test

Every valve is factory tested for standard set cracking and performance.

How to Order

Select valve basic ordering number, applicable seal, spring nominal cracking pressure, and body material.

| | | | | | | |
|-------|---|----------|-----------|---|--------------------------------|--------|
| V61 - | NIL- ↓ | KZ- ↓ | EP- ↓ | 1- ↓ | S ↓ | B ↓ |
| | Seal Material Designator | | | Spring Nominal Cracking Pressure Designator | Valve Body Material Designator | |
| | FKM : Nil for SS316 Valve NBR : Nil for Brass Valve FKM : V | NBR : N | EPDM : EP | "Note : Select the spring designator 1, 5, 10, 20, 50, 100, 150" | S : SS316 B : Brass | |