# FLOW CONTROL
# &
# AIR PILOT SWITCH VALVES

# OLD PART NUMBERS
# VERSUS
# NEW MODEL NUMBERS

SC Hydraulic Engineering has changed the model numbering codes for our flow control and air pilot switch valves. The purpose of the change is to ease the ordering and identification of our valves.

To help in the transition the following chart shows old part numbers and the new model coding.

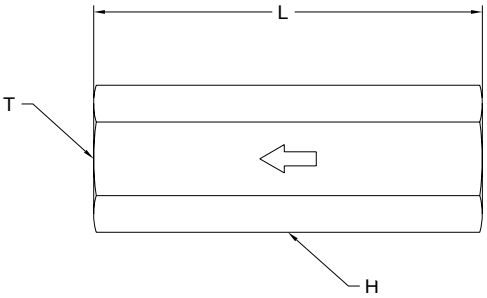
| OLD MODEL | NEW MODEL |
|---|---|
| INLINE CHECK VALVES | |
| CV250 | ICV-150-N-025 |
| CV375 | ICV-100-T-037 |
| CV500 | ICV-100-T-050 |
| CV1000 | ICV-080-T-100 |
| AIR SEQUENCE VALVE | |
| 70-1008A100 | ASV-100-N-050 |
| PRESSURE RELEASE VALVES | |
| 20-4000A060 | PRC-060-N-100 |
| 20-4001A100 | PRC-100-N-050 |
| 20-4000A200 | PRC-200-N-050 |
| 20-4000A300 | PRC-300-N-HF9 |
| PUV-55 | PRO-050-N-025 |
| PUV-120 | PRO-011-N-025 |
| DIRECT ACTING RELIEF VALVES | |
| 20-5000S010 | DRV-010-N-025 |
| 20-5000S050 | DRV-050-N-025 |
| 20-5000S100 | DRV-100-N-025 |
| 20-5000S200 | DRV-200-N-025 |
| 20-5000S300 | DRV-300-N-HF4 |
| 20-5000S600 | DRV-600-N-HF4 |

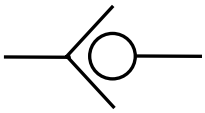
| OLD MODEL | NEW MODEL |
|---|---|
| AIR PILOT SWITCH | |
| V10301-1 | APS-100-01-N-025 |
| V10301-2 | APS-070-02-N-025 |
| V10301-3 | APS-051-03-N-025 |
| V10301-4 | APS-013-04-N-025 |
| V10301-5 | APS-148-05-N-025 |
| V10305-1 | APS-100-06-N-025 |
| V10305-2 | APS-070-07-N-025 |
| V10305-3 | APS-050-08-N-025 |
| V10305-4 | APS-012-09-N-025 |
| V10303-1 | APS-005-10-N-025 |
| V10303-2 | APS-002-11-N-025 |
| V10303-3 | APS-001-12-N-025 |
| V10303-4 | APS-000-13-N-025 |
| V10304-1 | APS-005-14-N-025 |
| V10304-2 | APS-002-15-N-025 |
| V10304-3 | APS-001-16-N-025 |
| V10304-4 | APS-000-17-N-025 |

# CV SERIES
# INLINE CHECK VALVES



SC Hydraulic Engineering inline check valves are designed for high shock loads using a ball check for positive sealing. The all stainless steel construction will handle most liquids or gas. Cracking pressure on all sizes is one to three psi.

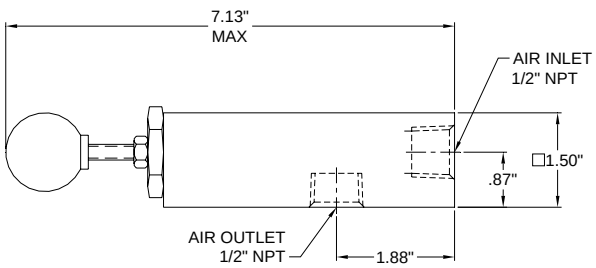


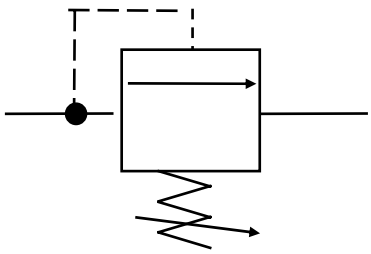
| MODEL NO. | "T" THREAD NPT | "H" DIM. HEX | "L" DIM. | Cv FACTOR | MAX. WORKING PRESSURE (PSI) | MATERIAL |
|---|---|---|---|---|---|---|
| ICV-150-N-025 | 1/4" | 15/16" | 2.37" | 0.40 | 15,000 | 316 SS |
| ICV-100-T-037 | 3/8" | 1 1/8" | 2.88" | 1.10 | 10,000 | 303 SS |
| ICV-100-T-050 | 1/2" | 1 1/8" | 3.44 | 1.95 | 10,000 | 303 SS |
| ICV-080-T-100 | 1" | 1 1/2" | 4.88 | 5.05 | 8,000 | 303 SS |

# AIR SEQUENCE VALVE

The **ASV-001-N-050** Air Sequence Valve is a normally closed adjustable pilot operated valve used to divert air pressure to a branch circuit after a set pressure is achieved. The internal pilot setting can be adjusted from 25 to 100 psi and the valve can be mounted in any position. The 1/2 " NPT ports and poppet design allows ample flow through the valve.




**ASV-001-N-050**





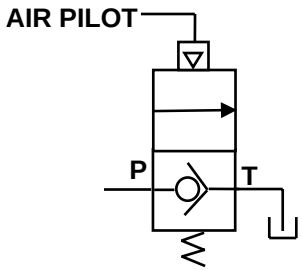
# PRO & PRC
# PRESSURE RELEASE VALVE



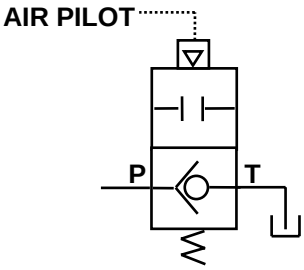
SC Pressure Release Valves are available in normally open and normally closed configurations. All of the valves are air actuated and are compatible with most fluids including water and synthetic compounds. Seals are Buna-N as standard (-N). Substitute " –V " for Viton® seals or "–E" for EPR.



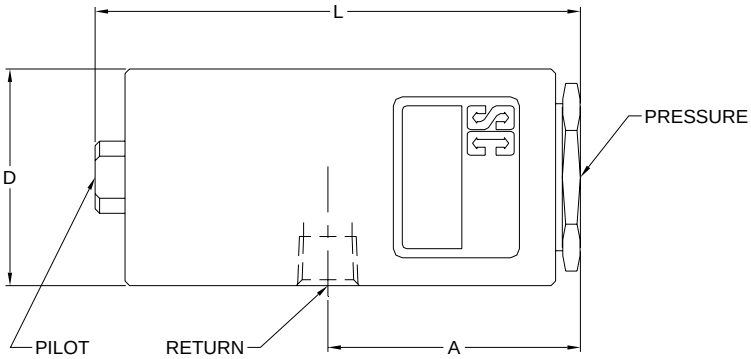
Typically, pressure release valves are used to release pressure on single acting cylinders, hydrostatic test applications, or for providing a safety relief in a circuit.

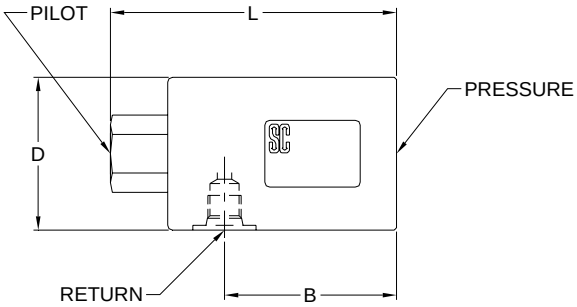



**PRC SERIES**




**PRO SERIES**



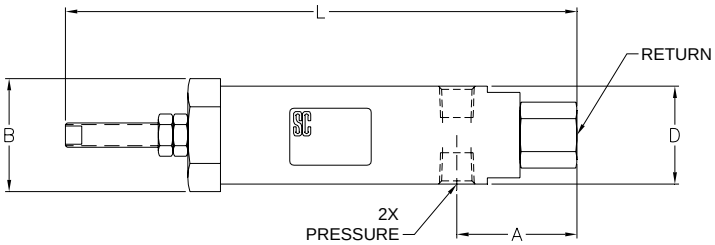

| PILOT OPERATED PRESSURE RELEASE VALVE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Model No. | Normal Condition | Pilot Ratio for Actuation | Max Op Pressure (psi) | Connection Ports | | | Cracking Press. Reverse Flow (psi) | Pilot Press.at Max. (psi) | "L" Dim. Inch | "A" Dim. Inch | "D" Dim. Inch |
| | | | | Pressure | Return | Pilot | | | | | |
| PRC-060-N-100 | Closed | 120:1 | 6,000 | 1" NPT | 1" NPT | 1/4" NPT | 20 | 50 | 7.90 | 4.56 | 2.75 |
| PRC-100-N-050 | Closed | 285:1 | 10,000 | 1/2" NPT | 1/2" NPT | 1/4" NPT | 5 | 35 | 6.73 | 3.50 | 3.00 |
| PRC-200-N-050 | Closed | 500:1 | 20,000 | 1/2" NPT | 1/2" NPT | 1/4" NPT | 10 | 40 | 6.73 | 3.50 | 3.00 |
| PRC-300-N-HF9 | Closed | 850:1 | 30,000 | 1-1/8-12 HF9* | 3/8" NPT | 1/4" NPT | 5 | 35 | 6.54 | 3.94 | 3.00 |
| PRO-050-N-025 | Open | 55:1 | 5,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | N/A | 90 | 3.75 | 1.50 | 1.75 |
| PRO-011-N-025 | Open | 120:1 | 11,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | N/A | 90 | 3.75 | 1.50 | 1.75 |

* for 9/16 O.D. coned & threaded 40,000 psi tubing

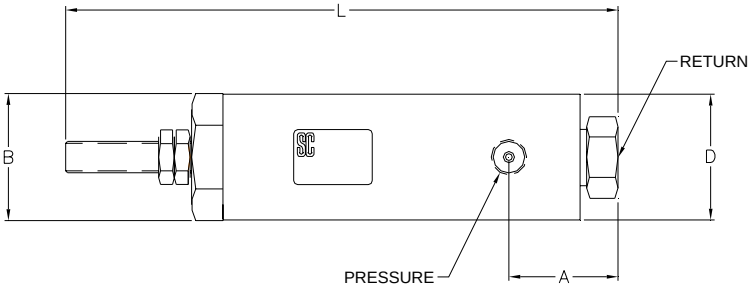
# DRV DIRECT ACTING RELIEF VALVE

SC Hydraulic Engineering direct acting relief valves are available in 1/4” NPT and 9/16-18 60° cone high pressure fitting for relieving pressures from 100 to 60,000 psi. The stainless steel construction makes these valves suitable for hydraulic fluids, water and gas applications. Standard seal material is Buna-N (-N). Substitute a “-V” for Viton® or “-E” for EPR after the part number for these seals. Specify “-V” seals for gas applications.

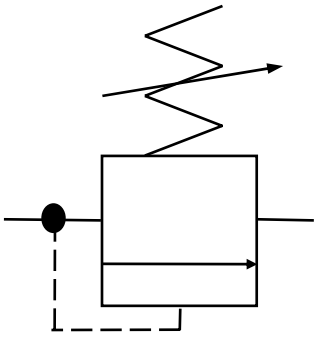





**TYPE A**




**TYPE B**



| DIRECT ACTING RELIEF VALVE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model No. | Type | Adjustment Range | Connection Ports | | Service | "L" Dim. Inch | "A" Dim. Inch | "B" Dim. Inch | "D" Dim. Inch |
| | | | Inlet | Tank | | | | | |
| DRV-010-N-025 | A | 100 to 1,000 psig | 2ea 1/4" NPT | 1/4" NPT | Gas ** Liquid | 7.31 Max | 1.84 | 1.73 | 1.50 Ø |
| DRV-050-N-025 | A | 500 to 5,000 psig | 2ea 1/4" NPT | 1/4" NPT | Gas ** Liquid | 7.31 Max | 1.84 | 1.73 | 1.50 Ø |
| DRV-100-N-025 | A | 1,000 to 10,000 psig | 2ea 1/4" NPT | 1/4" NPT | Gas ** Liquid | 7.85 Max | 1.84 | 1.73 | 1.50 Ø |
| DRV-200-N-HF4 | B | 5,000 to 20,000 psig | 9/16-18 HF4* | 9/16-18 HF4* | Gas ** Liquid | 8.79 Max | 1.76 | 2.02 | 2.00 Ø |
| DRV-300-N-HF4 | B | 10,000 to 30,000 psig | 9/16-18 HF4* | 9/16-18 HF4* | Liquid | 8.79 Max | 1.76 | 2.02 | 2.00 Ø |
| DRV-600-N-HF4 | B | 10,000 to 60,000 psig | 9/16-18 HF4* | 9/16-18 HF4* | Liquid | 8.79 Max | 1.76 | 2.02 | 2.00 Ø |

* for 1/4 O.D. coned & threaded 30K & 60K psi tubing

** Use Viton seals for gas applications

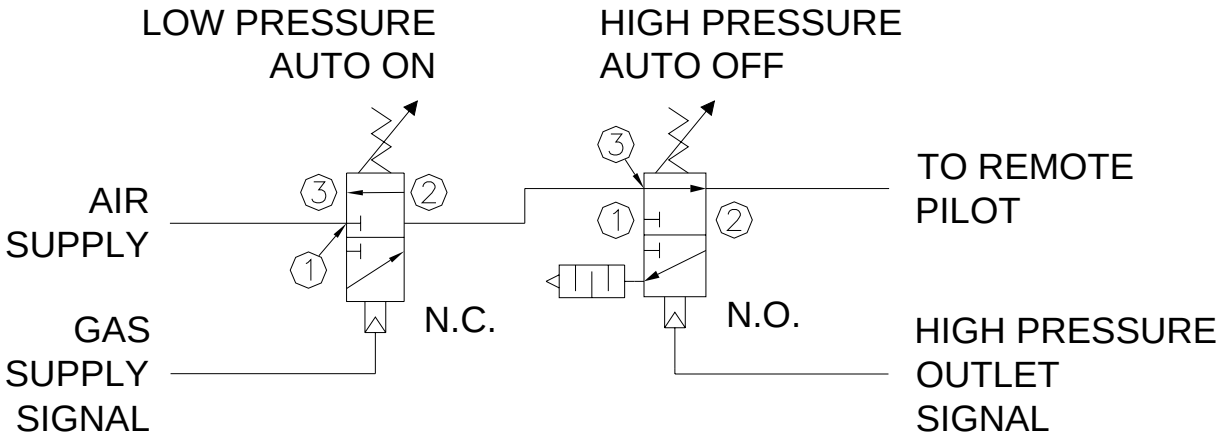
# APS AIR PILOT SWITCH VALVE



The APS Air Pilot Switch consists of a high pressure sensor operator connected directly to a three-way air valve that can be operated either normally open (passing air) or closed (not passing air). The spring in the sensor applies a counteracting force to the switch and is adjustable within the spring range.

All air pilot switches are subject to deadband conditions, which should be considered when using the valve. A deadband is described as the difference in pressure between a set point of sensing pressure and a pressure at which the air valve returns to the original position. Deadband conditions vary by pressure range in percentage with higher pressure conditions reducing the deadband range.

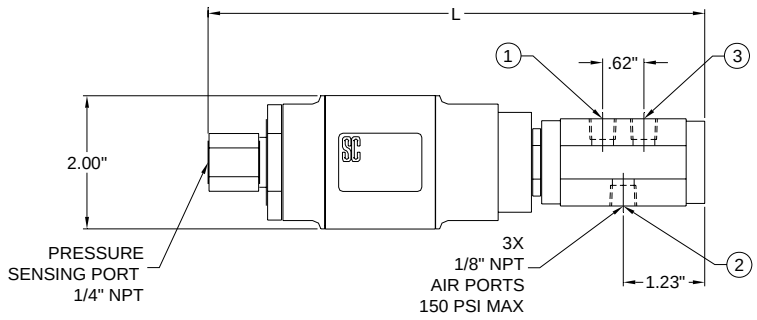
SC will preset the APS to a specified pressure if requested. Indicate if the switch is to activate under increasing or decreasing pressure condition. Consult SC for more information if needed.



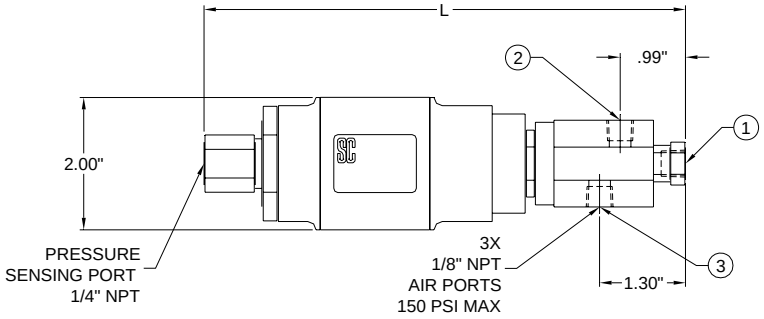

**TYPICAL AUTO ON/OFF SETUP**

# APS AIR PILOT SWITCH VALVE

**TYPE A**




**TYPE B**




## AIR PILOT SWITCH VALVE SELECTION

| Model No.* | Type | System Order Code | Sensing Port | | Adjustable Range (psig) Pressure setting at factory. Specify increasing/decreasing | | Air Valves 150 psig Maximum Operating Pressure | | Air Valve Configure Option |
|---|---|---|---|---|---|---|---|---|---|
| | | | Size | Max. Pressure | Normally Closed | Normally Open | Port Size | Cv Factor | |
| APS-100-01 | A | 01 | 1/4" NPT | 15,000 psi $O_2$ = 5,000 | 3,500-10,000 | 2,400-10,000 | 1/8" npt | .20 UP TO 11 SCFM | N.C. & N.O. |
| APS-070-02 | | 02 | | | 1,400-7,000 | 940-6,400 | | | |
| APS-051-03 | | 03 | | | 800-5,100 | 700-4,600 | | | |
| APS-013-04 | | 04 | | | 340-1,300 | 260-1,200 | | | |
| APS-148-05 | | 05 | | | 3,500-14,800 | 2,500-12,000 | | | |
| APS-100-06 | B | 06 | 1/4" NPT | 15,000 psi $O_2$ = 5,000 | 3,500-10,000 | | 1/8" npt | .13 UP TO 7 SCFM | N.C. |
| APS-070-07 | | 07 | | | 1,360-7,000 | | | | |
| APS-050-08 | | 08 | | | 680-5,000 | | | | |
| APS-012-09 | | 09 | | | 230-1,240 | | | | |
| APS-005-10 | A | 10 | 1/4" NPT | 3,000 psi | 170-550 | 125-510 | 1/8" npt | .20 UP TO 11 SCFM | N.O. & N.C. |
| APS-002-11 | | 11 | | | 70-210 | 50-190 | | | |
| APS-001-12 | | 12 | | | 50-130 | 40-130 | | | |
| APS-000-13 | | 13 | | | 25-50 | 20-46 | | | |
| APS-005-14 | B | 14 | 1/4" NPT | | 145-520 | | 1/8" npt | .13 UP TO 7 SCFM | N.C. |
| APS-002-15 | | 15 | | | 55-210 | | | | |
| APS-001-16 | | 16 | | | 30-135 | | | | |
| APS-000-17 | | 17 | | | 15-45 | | | | |

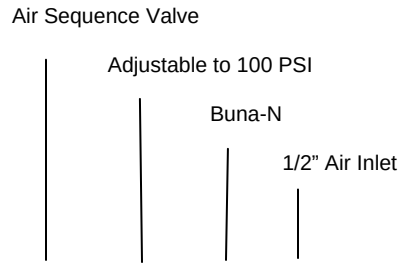
* Refer to “How to Order” page for complete model number callout.

# HOW TO ORDER TABLE



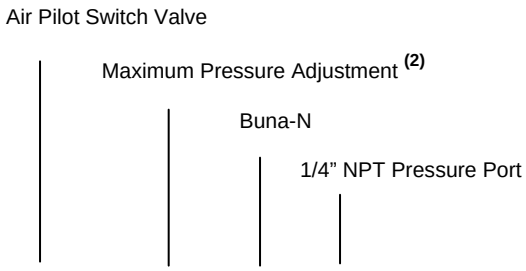

**Table Reference**

Example #1 **ASV - 001 - N - 050**




ASV - 001 - N - 050

Example #2 **APS - 148-05 - N - 025**




APS - 148-05 - N - 025

**TABLE 1** (1) **Valve Series**

| | |
|---|---|
| **ICV** | Inline Check Valve |
| **ASV** | Air Sequence Valve |
| **PRC** | Pressure Release Normally Closed |
| **PRO** | Pressure Release Normally Open |
| **DRV** | Direct Acting Relief Valve |
| **APS** | Air Pilot Switch Valve |

**TABLE 2** **Max Operating Pressure Examples**

| | |
|---|---|
| **000** | Less than 100 PSI |
| **001** | 100 PSI |
| **010** | 1,000 PSI |
| **011** | 1,100 PSI |
| **100** | 10,000 PSI |
| **110** | 11,000 PSI |

**Add Code Number on APS Valve Only** (2)

**TABLE 3** (3) **Seal Compound**

| | |
|---|---|
| **N** | Buna-N |
| **V** | Viton ™ |
| **E** | EPR |
| **T** | PTFE |

**TABLE 4** (3) **Pressure Port Size**

| | |
|---|---|
| **025** | 1/4" NPT |
| **037** | 3/8" NPT |
| **050** | 1/2" NPT |
| **100** | 1" NPT |
| **HF4** | High Pressure for 60 KSI |
| **HF9** | High Pressure for 40 KSI |

Notes:
1. Refer to Conversion Page for Prior Model Number Callouts
2. Add Code Number on APS Valve
3. Not all options are available on all valves