

Pressure Control Valves

Screw-in Cartridge Valves

Pressures to 415 bar (6000 psi) – Flows to 303 l/min (80 USgpm)



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Introduction

For over seventy years, Vickers has provided its customers with quality products and innovative solutions for all their power and motion control needs.

The products featured in this catalog represent the very best in screw-in cartridge pressure control technology.

Products in this catalog have been fatigue tested for one million cycles at 132% or 10 million cycles at 115% of rated pressure.

Two pressure ratings are shown for all products featured in this catalog – typical application pressure and fatigue pressure. The typical application pressure rating is the maximum recommended operating pressure for the valve in a given system. The fatigue pressure rating is the pressure for the valve to be free for infinite life from metal fatigue.

We are committed to maintaining this position by offering the most comprehensive range of cartridge valves for industrial and mobile equipment.

This catalog gives basic specifications for Vickers pressure control screw-in cartridge valve. Its purpose is to provide a quick, convenient reference tool when choosing Vickers cartridge valves or designing a system using these components.

Vickers offers a full range of direct and pilot operated relief, reducing, sequence and unloading valves. In general, the direct operated products are fastest in response while pilot operated types have a flatter pressure/flow characteristic.

Relief Valves

When selecting a relief valve for a specific application, consideration should be given to the following

- **Direct operated poppet types – RV1 and RV10**

Suitable for continuous duty with reliable fast response, the RV10 being a low pressure, low cost option. These valves are also suitable for piloting the DPS2 logic elements.

- **Pilot operated poppet type with reverse free-flow check – RV2**

Use as a service line relief where anticavitation make-up is required. It may also be applied as an internally piloted counterbalance valve in a service line.

- **Direct operated poppet type, differential area models – RV3 and RV8**

Sometimes termed a “differential area relief valve”. A fast acting valve, highly tolerant of contaminant and providing an alternative flow path, frequently beneficial in manifold layout. Utilized in CRV3 cross-line relief packages.

- **Pilot operated spool type – RV5**

Well suited for repetitive, continuous duty with a low pressure-override characteristic.

- **Direct operated ball type – RV6**

A fast-acting valve for intermittent duty. This low flow, low cost valve may be used as a pilot section for a larger main-stage valve, or piloting logic elements.

Reducing Valves

Two types are available:

- **Direct operated with relieving feature – PRV1**
- **Pilot operated with relieving feature – PRV2**

Sequence Valves

A complete range of sequence functions is available, including:

- **Normally-closed and normally-open models**
- **Internal and external pilot options**
- **Internal and external drain options**
- **Two and three position models**

Externally drained models may be used as relief valves in circuits with alternating pressure and tank line functions.

Accumulator Unloading Valves

Valves that allow accumulators to be charged to a pre-selected maximum pressure at which the pump is unloaded. The pump does not cut-in until the accumulator pressure has decayed to a pre-selected percentage of maximum pressure. The low-flow PUV3 model can be used as a stand alone model for low flow applications, or as a pilot stage in two-stage arrangements for higher flows.

Accumulator Discharge Valve

This valve is designed to ensure that an accumulator will discharge when pilot pressure is lost, e.g. on pump shutdown.

Application Data

Fluid Cleanliness

Proper fluid condition is essential for long and satisfactory life of hydraulic components and systems. Hydraulic fluid must have the correct balance of cleanliness, materials, and additives for protection against wear of components, elevated viscosity, and inclusion of air.

Essential information on the correct methods for treating hydraulic fluid is included in Vickers publication 561 “Vickers Guide to Systemic Contamination Control” available from

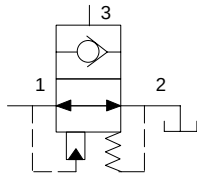
your local Vickers distributor or by contacting Vickers, Incorporated. Recommendations on filtration and the selection of products to control fluid condition are included in 561.

Recommended cleanliness levels, using petroleum oil under common conditions, are based on the highest fluid pressure levels in the system and are coded in the chart below. Fluids other than petroleum, severe service cycles, or temperature extremes are cause for adjustment of these cleanliness codes. See Vickers publication 561 for exact details.

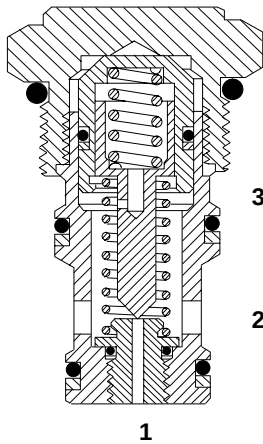
ADV1-16

Accumulator discharge valve

Functional Symbol



Sectional View



Description

The ADV1-16 is a poppet type, normally open, externally piloted, screw-in cartridge type accumulator discharge valve.

Operation

In its unpiloted position, this valve remains open between port 1 and port 2 until sufficient pilot pressure is applied to port 3. Flow is then blocked from port 1 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 210 bar (3000 psi)

Cartridge fatigue pressure (infinite life) 210 bar (3000 psi)

Rated flow 30 l/min (8 USgpm)

Minimum pilot pressure @ ports 4 bar (60 psi)

Cavity C-16-3S (See page 73)

Standard housing materials Aluminum

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Pilot ratio 100:1

Weight cartridge only 0,28 kg. (0.62 lbs.)

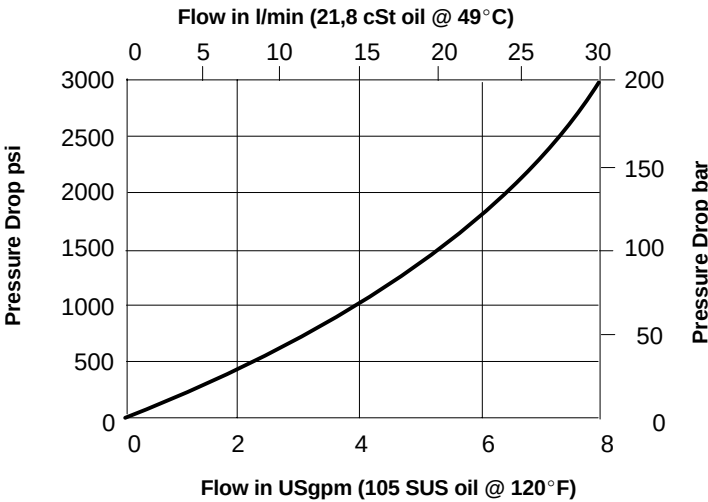
Seal kits 565812 Buna-N
889611 Viton®

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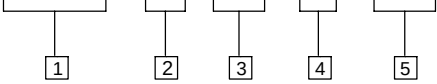
Pressure Drop Curve

Cartridge only

Port 3 pilot pressure = 0



ADV1 - 16 - (V) - *** - 100



1 Function

ADV1 – Accumulator discharge valve

2 Size

16 – 16 Size

3 Seals

Blank – Buna-N
V – Viton

4 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
6B	3/4" BSPP	02-175471	
12T	SAE 12	566414	
4G	1/2" BSPP		02-160676
6G	3/4" BSPP		876726
10H	SAE 10		876725
12H	SAE 12		876727

See page 76 for housings

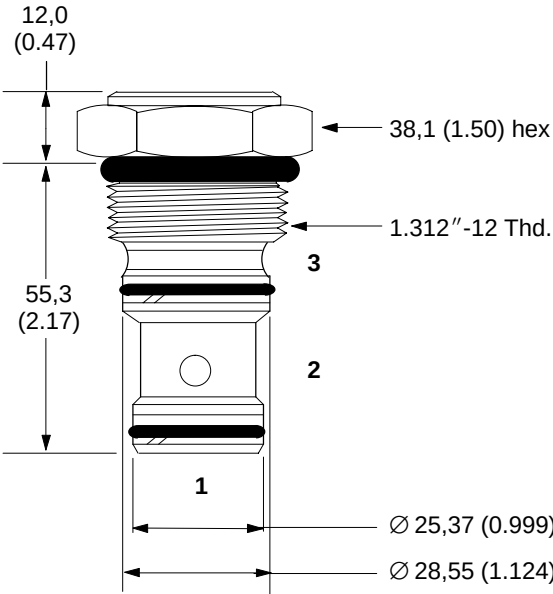
5 Pilot area ratio

Port 3: Port 1 – 100:1
(Minimum pilot pressure at
port 3 – 4 bar (60 psi)

Dimensions

mm (inch)

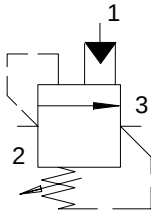
Torque cartridge in housing
108-122 Nm (80-90 lbf ft)



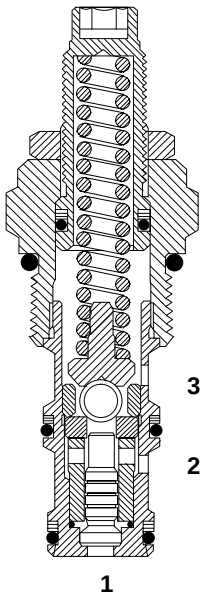
PUV3-10

Pilot unloading valve

Functional Symbol



Sectional View



Description

The PUV3 is a two-way, normally closed, externally or internally pilot operated screw-in cartridge type pilot unloading valve

Operation

This valve blocks flow from port 2 to port 3, until either the predetermined spring setting has been reached, or an external pilot has been applied to port 1. At this time flow is then allowed from port 2 to port 3. The valve will reseal at a percentage of the unloading setting as called out in the model code. This valve is used as the pilot stage of a two-stage unloader valve. The main stage of the unloader is typically a DPS2 logic element.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

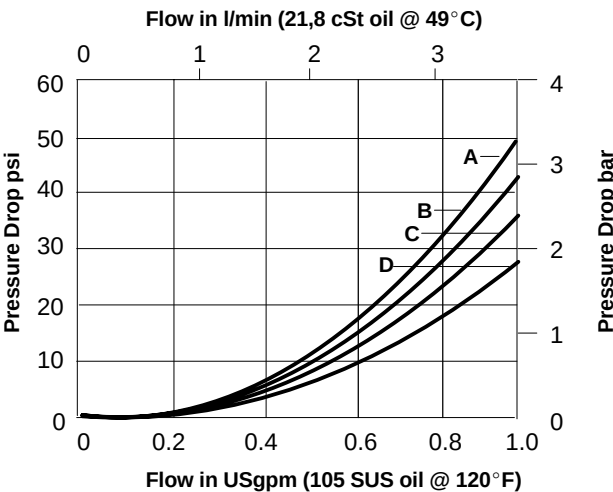
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	4 l/min (1 USgpm)
Unloading pressure adjustment range	20–210 bar (300–3000 psi)
Cavity	C-10–3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,15 kg. (0.33 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

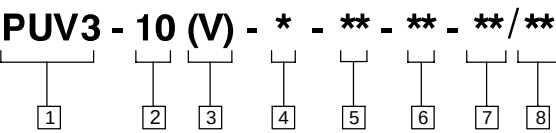
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Pressure Drop Curves

Cartridge only
Piloted full open

- A – 75%
- B – 80%
- C – 85%
- D – 90%





1 Function
PUV3– Pilot unloading valve

2 Size
10 – 10 Size

3 Seals
Blank– Buna-N
V – Viton

4 Adjustment
C – Cap
S – Screw

5 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
6T	SAE6	566162	_____
3B	3/8" BSPP	02-173358	_____
6H	SAE 6	_____	876704
8H	SAE8		876711
2G	1/4" BSPP		876705
3G	3/8" BSPP		876714

See page 76 for housings

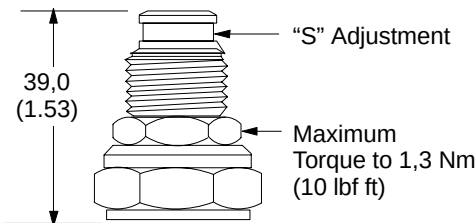
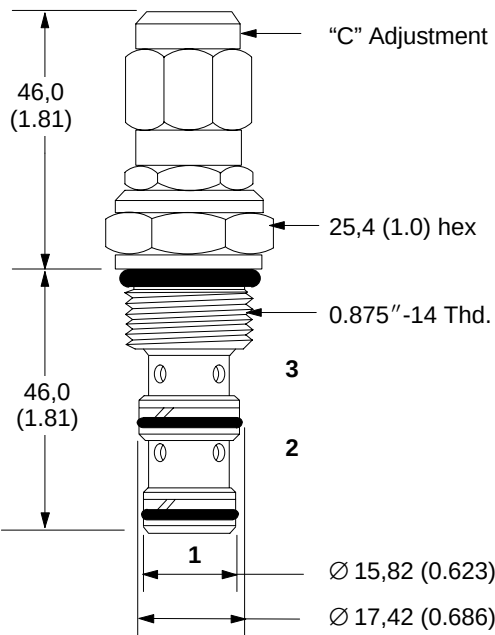
6 Loading (closing) pressure, as percentage of unloading pressure
75 – 75%
80 – 80%
85 – 85%
90 – 90%

7 Pressure range
15 – 20–100 bar (300–1500 psi)
30 – 100–210 bar (1500–3000 psi)

8 Lower pressure rating
15-20 – 4–100 bar (60 – 1500 psi)

Dimensions
mm (inch)

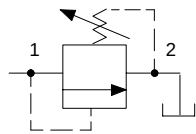
Torque cartridge in housing
47–54 Nm (35–40 lbf ft)



RV1-8

Relief valve

Functional Symbol



Description

The RV1-8 is a direct acting, poppet type screw-in cartridge relief valve.

Operation

The RV1-8 remains closed until the predetermined setting is reached at port 1. The poppet then lifts off the seat and allows flow from port 1 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 350 bar (5000 psi)

Cartridge fatigue pressure (infinite life) 280 bar (4000 psi)

Rated flow For **3 & 36** cracking pressure 22,7 l/min (6 USgpm)
For **50** cracking pressure 15,1 l/min (4 USgpm)

Cracking pressure ranges .. **3** – 3,4–20 bar (50–300 psi) @ 22,7 l/min (6 USgpm)

36 – 20–250 bar (300–3600 psi) @ 22,7 l/min (6 USgpm)

50 – 100–350 bar (1500–5000 psi) @ 15,1 l/min (4 USgpm)

Reseat pressure More than 90% of cracking pressure

Internal leakage Port 1 to 2; 5 drops / min. at 80% of cracking pressure

Temperature range -40 to 120°C (-40° to 248°F)

Cavity C-8-2 (See page 72)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

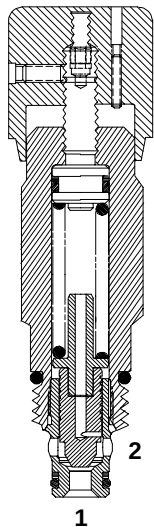
Filtration Cleanliness code 18/16/13

Standard housing materials Aluminum or steel

Weight cartridge only 0,20 kg (0.43 lbs)

Seal kits 02-165875 Buna-N
02-165877 Viton®

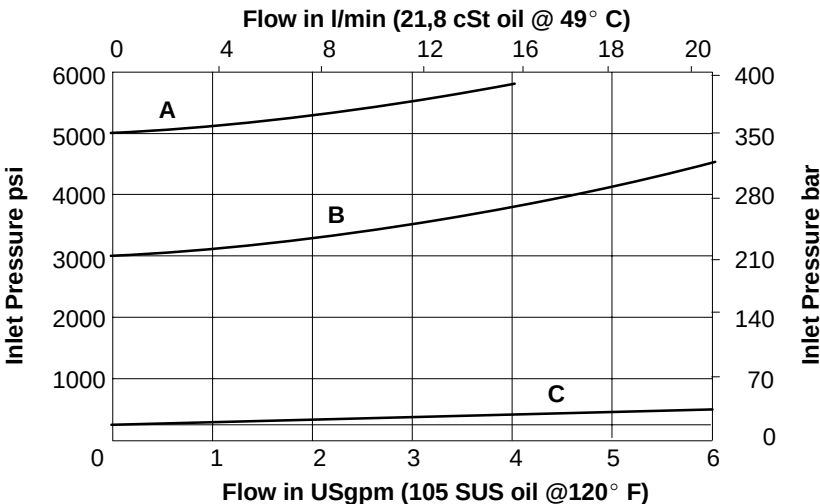
Sectional View



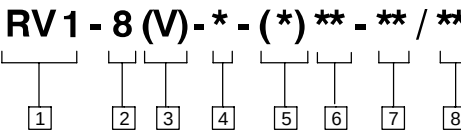
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Pressure Override Curves

Cartridge only



A – 50 spring
B – 36 spring
C – 3 spring



1 Function
RV1 – Relief valve

2 Size
8 – 8 Size

3 Seals
Blank – Buna–N
V – Viton

4 Adjustment
C – Cap
K – Knob
S – Screw

5 Valve housing material
Omit for cartridge only
S – Steel
A – Aluminum

6 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
4T	SAE 4	02–160730	02–160736
6T	SAE 6	02–160731	02–160737
8T	SAE 8	02–160732	02–160738
2G	1/4" BSPP	02–160727	02–160733
3G	3/8" BSPP	02–160728	02–160734

See pages 75 and 78 for housings

7 Cracking pressure ranges
3 – 3,4–20 bar (50–300 psi)
36 – 20–250 bar (300–3600 psi)
50 – 100–350 bar (1500–5000 psi)



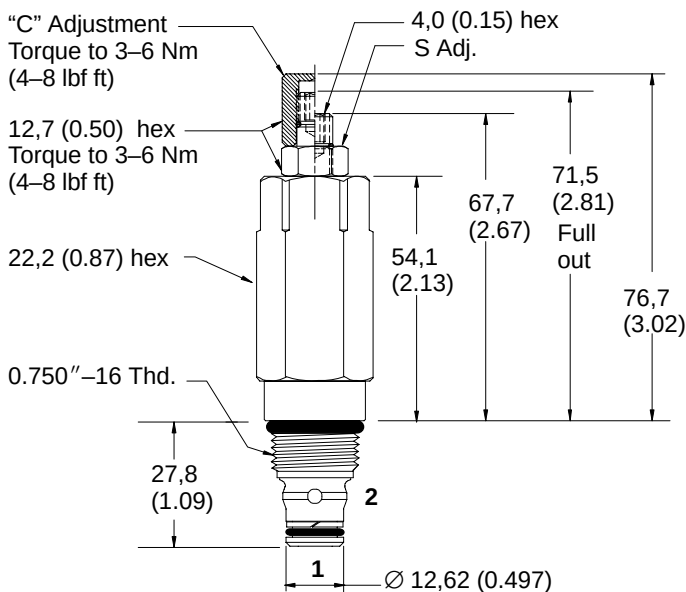
Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

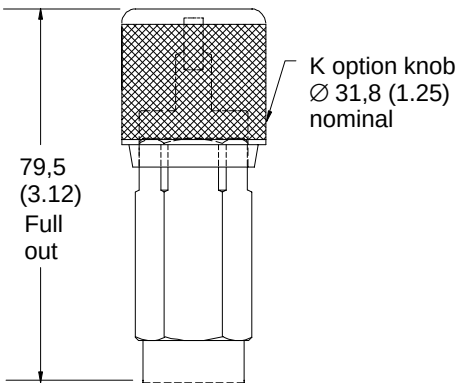
8 Pressure setting
Optional–Specify in 100 psi increments.
If not specified, set at:
3 – 10 bar (150 psi)
36 – 125 bar (1800 psi)
50 – 175 bar (2500 psi)

Dimensions

mm (inch)



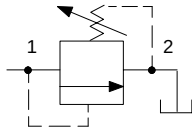
Torque cartridge in housing
34–41 Nm (25–30 lbf ft)



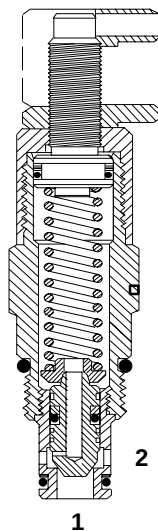
RV1-10

Relief valve

Functional Symbol



Sectional View



Description

The RV1-10 is a direct acting, poppet type, screw-in cartridge relief valve.

Operation

This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The poppet is unseated and allows flow out of port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	30 l/min (8 USgpm)
Cavity	C-10-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	565803 Buna-N 566086 Viton®

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Pressure Override Curves

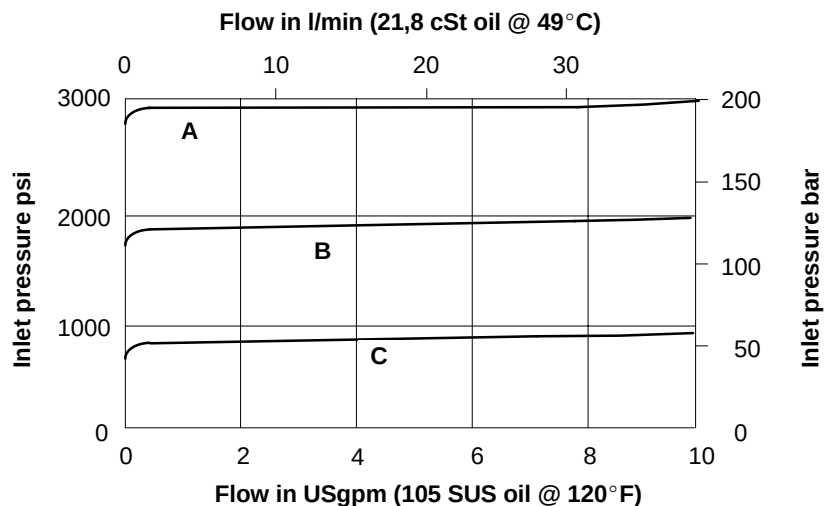
Cartridge only

Tank pressure = 0

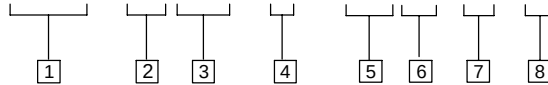
A – 36 spring

B – 18 spring

C – 9 spring



RV1 - 10 (V) - * - (S) ** - ** / **



1 Function

RV1 – Relief valve

2 Size

10 – 10 Size

3 Seals

Blank – Buna–N

V – Viton

4 Adjustment

C – Cap

F – Factory set

I – Internal

K – Knob

S – Screw

5 Valve housing material

Blank – Aluminum

S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	—	—
2G	1/4" BSPP	—	876702	02-175102
3G	3/8" BSPP	—	876703	02-175103
6H	SAE 6	—	876700	—
8H	SAE 8	—	876701	—
6T	SAE 6	566151	—	02-175100
8T	SAE 8	—	—	02-175101

7 Cracking pressure range

3 – 3,5 - 20 bar (50 - 300 psi)

9 – 7 - 62 bar (100 - 900 psi)

18 – 17 - 124 bar (250 - 1800 psi)

36 – 34 - 250 bar (500 - 3600 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

See pages 75 and 78 for housings

8 Factory set reduced pressure

Within ranges in 7

Blank – Normal factory setting at approximate mid-range.

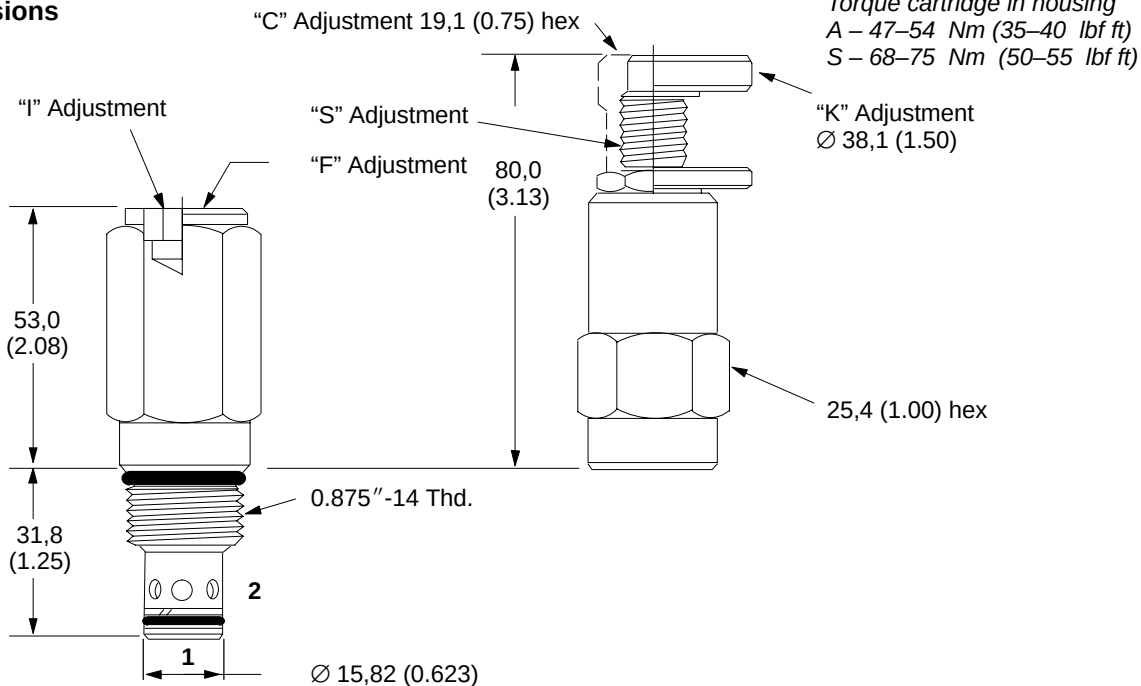
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)

10.5 – 72,4 bar (1050 psi)

Dimensions

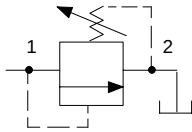
mm (inch)



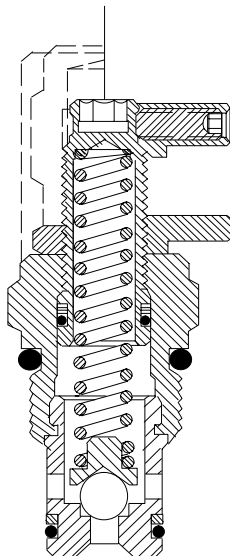
RV6-10

Relief valve

Functional Symbol



Sectional View



Description

The RV6-10 is a direct acting, ball type screw-in cartridge relief valve.

Operation

This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The poppet then unseats, allowing flow out port 2.

Ratings and specifications

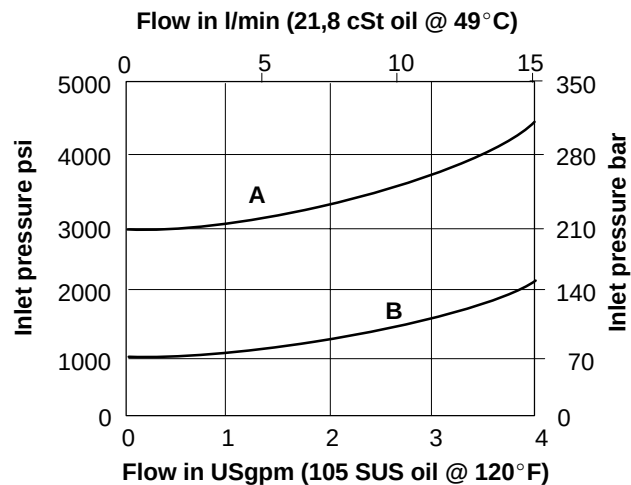
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	15 l/min (4 USgpm)
Cavity	C-10-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	565803 Buna-N 566086 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only
Tank pressure = 0



A – 50 spring
B – 25 spring

RV6 - 10 (V) - * - (S) ** - ** / **

1
2
3
4
5
6
7
8

1 Function

RV6 – Relief Valve

2 Size

10 – 10 Size

3 Seals

Blank – Buna-N
V – Viton

4 Adjustment

C – Cap
K – Knob
S – Screw
T – Tamper-proof

5 Housing material

Blank – Aluminum
S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	_____	_____
2G	1/4" BSPP	_____	876702	02-175102
3G	3/8" BSPP	_____	876703	02-175103
6H	SAE 6	_____	876700	_____
8H	SAE 8		876701	_____
6T	SAE 6	566151	_____	02-175100
8T	SAE 8	_____	_____	02-175101

See pages 75 and 78 for housings

7 Cracking pressure range

25 – 3,4–175 bar (50–2500 psi)
50 – 140–350 bar (2000–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

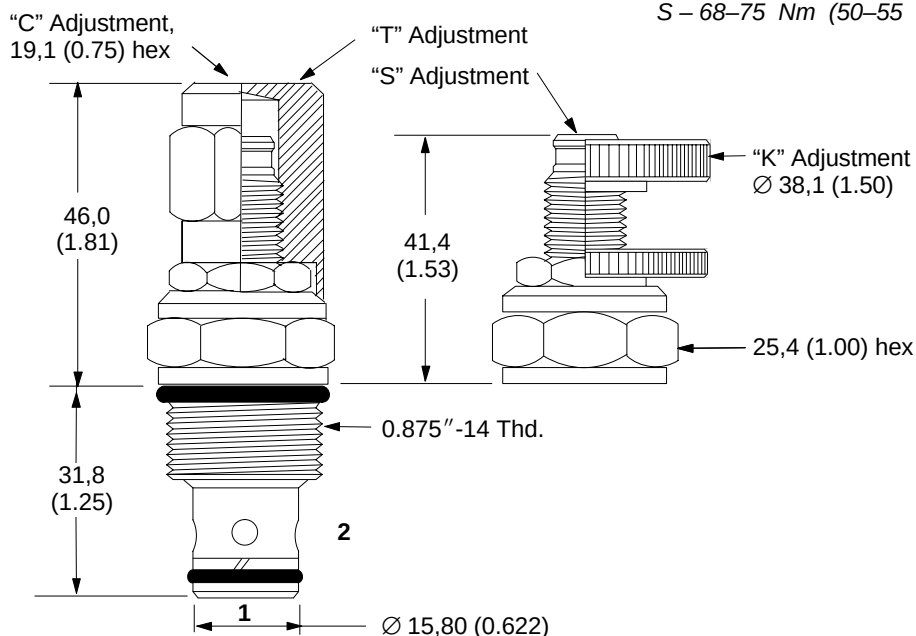
8 Factory set reduced pressure

Within ranges in **7**

Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

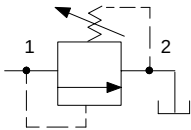


Torque cartridge in housing
A – 47–54 Nm (35–40 lbf ft)
S – 68–75 Nm (50–55 lbf ft)

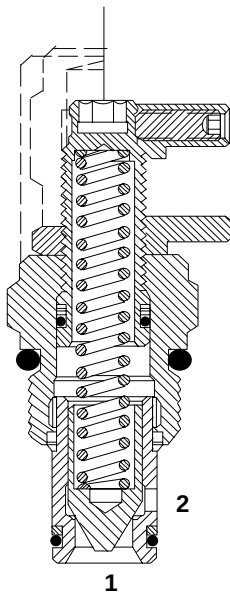
RV10-10

Relief valve

Functional Symbol



Sectional View



Description

The RV10-10 is a direct acting, poppet type, screw-in cartridge relief valve.

Operation

This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The poppet is unseated and allows flow out of port 2.

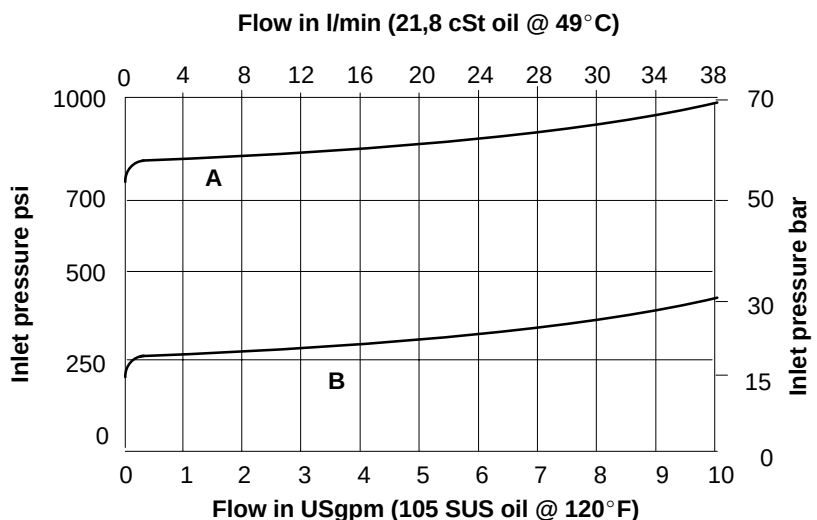
Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

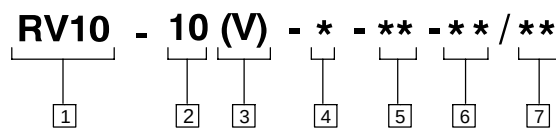
Typical application pressure (all ports)	70 bar (1000 psi)
Cartridge fatigue pressure (infinite life)	70 bar (1000 psi)
Rated flow	38 l/min (10 USgpm)
Cavity	C-10-2 (See page 72)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	565803 Buna-N 566086 Viton®

Viton is a registered trademark of E.I. DuPont

Pressure Override Curves



A – 10 spring
B – 5 spring



1 Function
RV10 – Relief valve

2 Size
10 – 10 Size

3 Seals
Blank – Buna–N
V – Viton

4 Adjustment
C – Cap
K – Knob
S – Screw
T – Tamper-proof

5 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02-175462	
6T	SAE 6	566151	
2G	1/4" BSPP		876702
3G	3/8" BSPP		876703
6H	SAE 6		876700
8H	SAE 8		876701

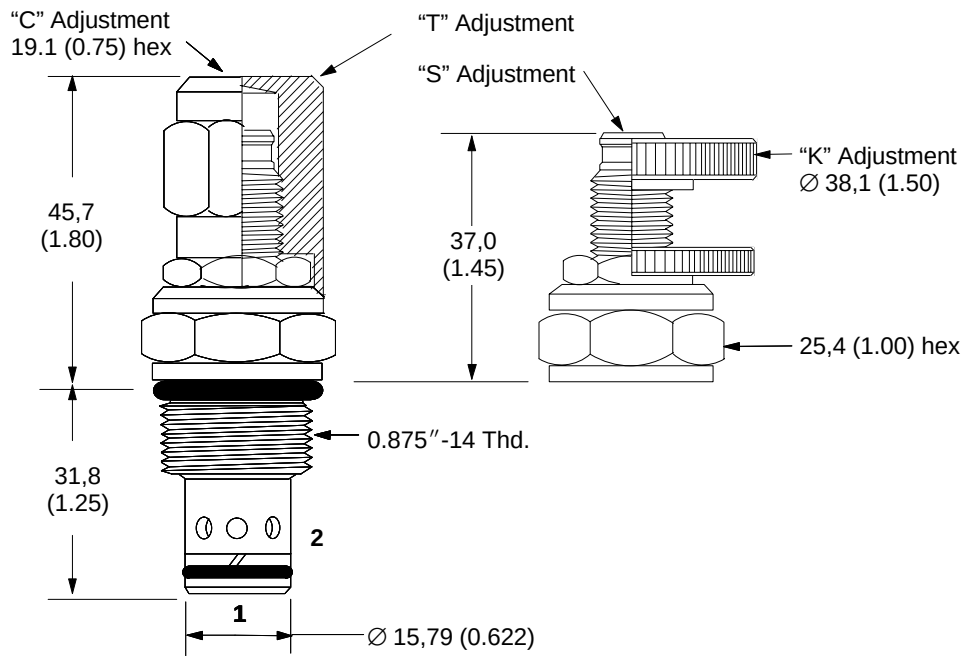
See pages 75 for housings

6 Cracking pressure range
2 – 1,73 - 17 bar (25 - 250 psi)
5 – 3,5 - 35 bar (50 - 500 psi)
10 – 17 - 70 bar (250 - 1000 psi)

7 Factory set reduced pressure
Within ranges in 6
Blank – Normal factory setting at
approximate mid-range.
User requested settings in 3,45 bar
(50 psi) steps, coded as in the
following examples:
10 – 70 bar (1000 psi)
9.5 – 65 bar (950 psi)

Dimensions
mm (inch)

Torque cartridge in housing
47-54 Nm (35-40 lbf ft)

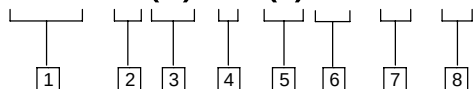


Relief valve

Seal kits 02-165875 Buna-N
02-165877 Viton®



RV8 - 8 (V) - * - (*) ** - ** / **



1 Function

RV8 – Relief valve

2 Size

8 – 8 Size

3 Seals

Blank – Buna-N

V – Viton

4 Adjustment

C – Cap

K – Knob

S – Screw

5 Valve housing material (Omit for cartridge only)

S – Steel

A – Aluminum

6 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
4T	SAE 4	02-160730	02-160736
6T	SAE 6	02-160731	02-160737
8T	SAE 8	02-160732	02-160738
2G	1/4" BSPP	02-160727	02-160733
3G	3/8" BSPP	02-160728	02-160734

See pages 75 and 78 for housings

7 Cracking pressure ranges

15 – 3,4–100 bar (50-1500 psi)

30 – 70–210 bar (1000–3000 psi)

50 – 70–350 bar (1000–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Pressure setting

Optional – Specify in 100 psi increments

If not specified, set at:

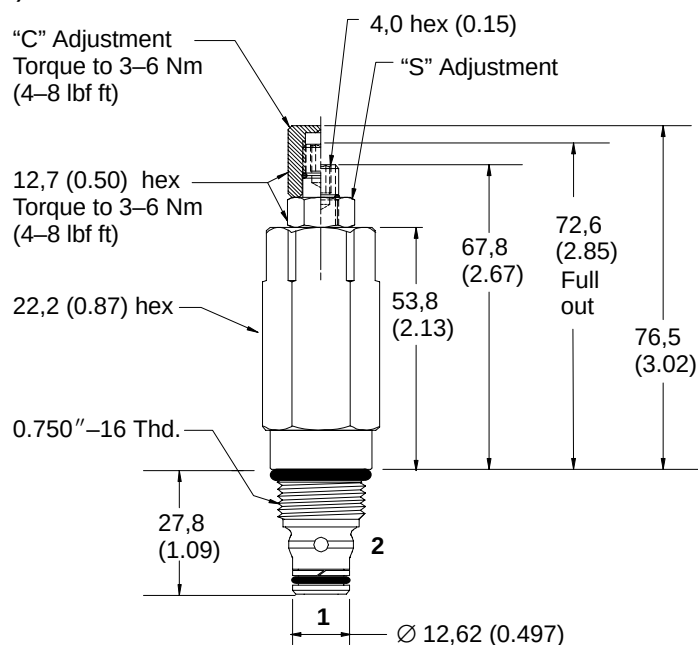
15 – 52 bar (750 psi)

30 – 100 bar (1500 psi)

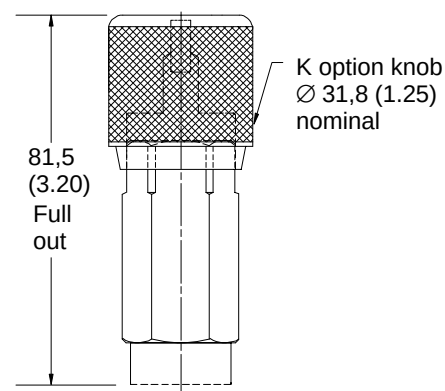
50 – 175 bar (2500 psi)

Dimensions

mm (inch)



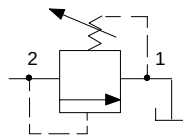
Torque cartridge in housing
34–41 Nm (25–30 lbf ft)



RV3-10

Relief valve

Functional Symbol



Description

The RV3-10 is a direct acting, differential area, poppet type, screw-in cartridge relief valve.

Operation

This valve remains closed from port 2 to port 1 until the predetermined setting has been reached at port 2. The poppet is unseated and allows flow out of port 1.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 250 bar (3600 psi)

Cartridge fatigue pressure (infinite life) 210 bar (3000 psi)

Rated flow 76 l/min (20 USgpm)

Cavity C-10-2 (See page 72)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

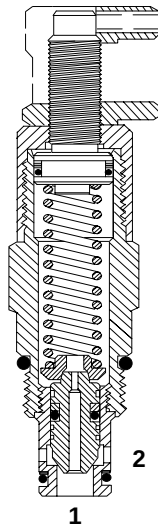
Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Weight cartridge only 0,22 kg. (0.48 lbs.)

Seal kits – RV3 565803 Buna-N
566086 Viton®
– RV3A 565806 Buna-N
889627 Viton®

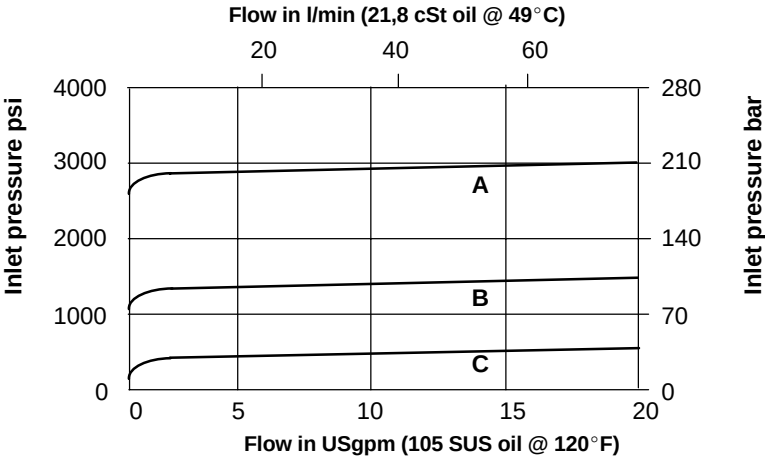
Sectional View



Viton is a registered trademark of E.I. DuPont

Pressure Override Curves

Cartridge only
Tank pressure = 0



A – 36 spring
B – 18 spring
C – 6 spring

RV3 (A) - 10 (V) - * - (S) ** - ** / **

123456789

1 Function

RV3 – Relief valve

2 Cage seals

Blank – Single backup ring
A – 1/2 thickness backup ring on each side of O-ring

3 Size

10 – 10 Size

4 Seals

Blank – Buna-N
V – Viton

5 Adjustment

C – Cap
F – Factory set
I – Internal
K – Knob
S – Screw

6 Valve housing material

Blank – Aluminum
S – Steel

7 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	_____	_____
2G	1/4" BSPP	_____	876702	02-175102
3G	3/8" BSPP	_____	876703	02-175103
6H	SAE 6	_____	876700	_____
8H	SAE 8	_____	876701	_____
6T	SAE 6	566151	_____	02-175100
8T	SAE 8	_____	_____	02-175101

See pages 75 and 78 for housings

8 Cracking pressure range

3 – 3,5 - 20 bar (50 - 300 psi)
6 – 7 - 41 bar (100 - 600 psi)
9 – 14 - 62 bar (200 - 900 psi)
18 – 20 - 124 bar (300 - 1800 psi)
36 – 41 - 250 bar (600 - 3600)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

9 Factory set reduced pressure

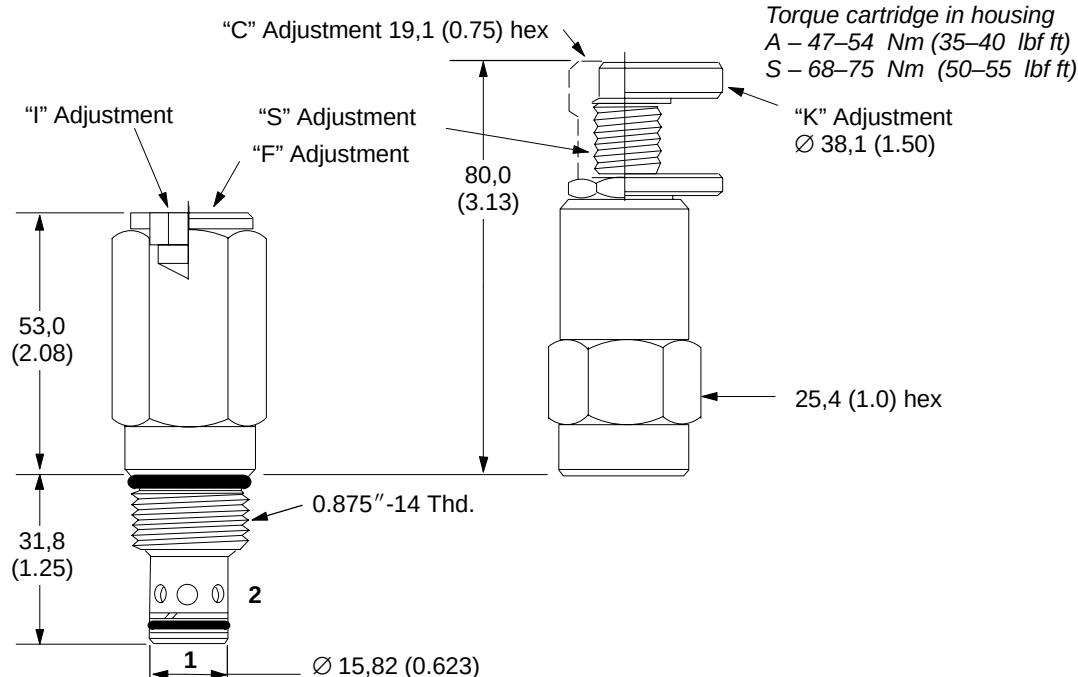
Within ranges in 8

Blank – Normal factory setting at approximate mid-range. User requested settings in 3,45 bar (50 psi) steps, coded as in the examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

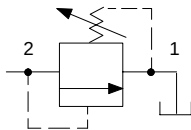
mm (inch)



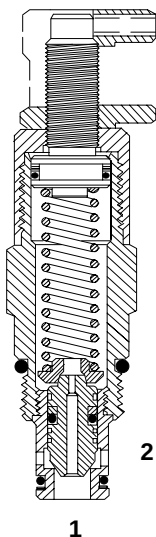
RV8-10

Relief valve

Functional Symbol



Sectional View



Description

The RV8-10 is a direct acting, poppet type screw-in cartridge relief valve.

Operation

This valve remains closed from port 2 to port 1 until the predetermined setting has been reached at port 2. The poppet then unseats, allowing flow out port 1.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

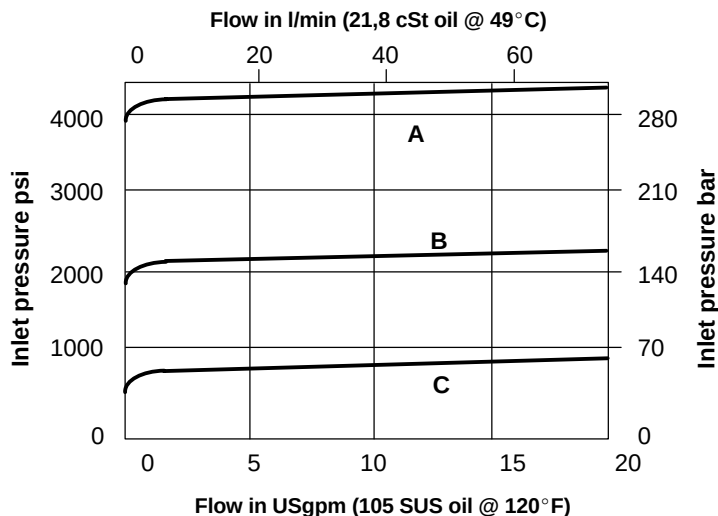
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	76 l/min (20 USgpm)
Cavity	C-10-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	– RV8 565803 Buna–N 566086 Viton® – RV8A 565806 Buna–N 889627 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only
Tank pressure = 0

A – 50 spring
B – 25 spring
C – 12 spring



RV8 (A) - 10 (V) - * - (S) ** - ** / **

1 2 3 4 5 6 7 8 9

1 Function

RV8 – Relief Valve

2 Cage seals

Blank – Single backup ring as shown
A – 1/2 thickness backup ring on each side of o-ring

3 Size

10 – Size 10

4 Seals

Blank – Buna-N
V – Viton

5 Adjustment

C – Cap
F – Factory set
I – Internal
K – Knob
S – Screw

6 Valve housing material

Blank – Aluminum
S – Steel

7 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	—	—
2G	1/4" BSPP	—	876702	02-175102
3G	3/8" BSPP	—	876703	02-175103
6H	SAE 6	—	876700	—
8H	SAE 8	—	876701	—
6T	SAE 6	566151	—	02-175100
8T	SAE 8	—	—	02-175101

See pages 75 and 78 for housings

8 Cracking pressure range

4 – 3,45–30 bar (50–450 psi)
12 – 7–86 bar (100–1250 psi)
25 – 17–175 bar (250–2500 psi)
50 – 38–350 bar (550–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

9 Factory set reduced pressure

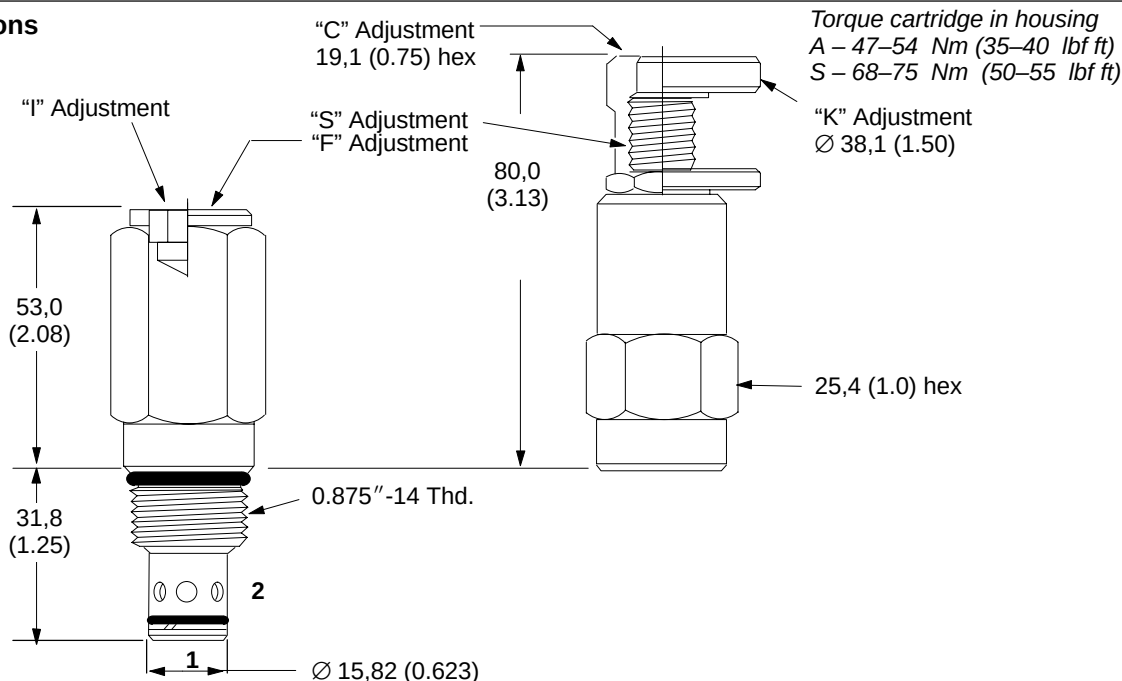
Within ranges in 8

Blank – Normal factory setting at approximate mid-range.
 User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

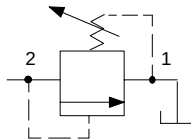
mm (inch)



RV3-16

Relief valve

Functional Symbol



Description

The RV3-16 is a direct acting, differential area, poppet type, screw-in cartridge relief valve.

Operation

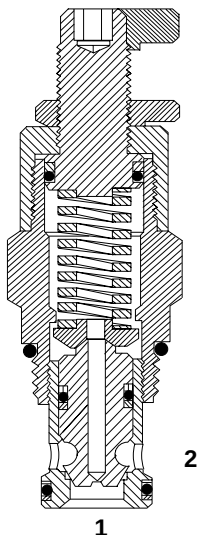
This valve remains closed from port 2 to port 1 until the predetermined setting has been reached at port 2. The poppet is unseated and allows flow out of port 1.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	30 - 303 l/min (8 - 80 USgpm)
Cavity	C-16-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,71 kg. (1.57 lbs.)
Seal kits	565810 Buna-N 889609 Viton®

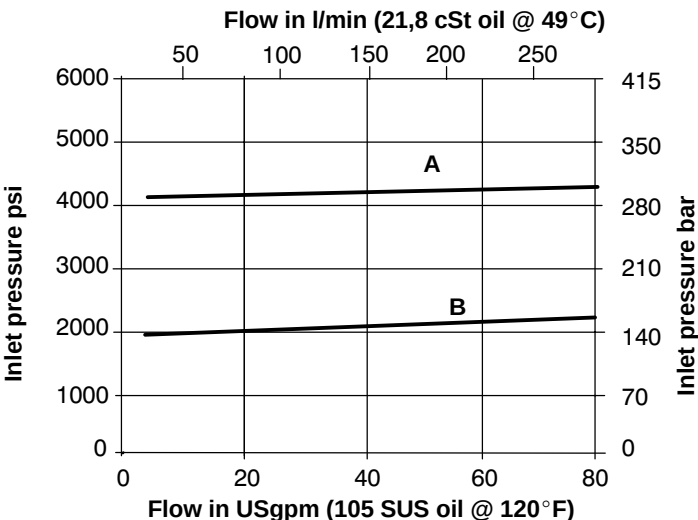
Sectional View



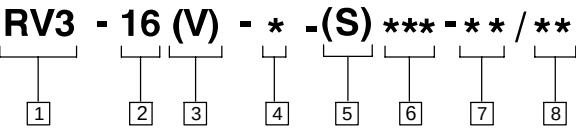
Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only



A – 50 spring
B – 35 spring



1 Function
RV3 – Relief valve

2 Size
16 – 16 Size

3 Seals
Blank – Buna–N
V – Viton

4 Adjustment
K – Knob
S – Screw

5 Valve housing material
Blank – Aluminum
S – Steel

6 Port size
O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
6B	3/4" BSPP	02-175463		
4G	1/2" BSPP		876716	02-175106
6G	3/4" BSPP		876718	02-175107
10H	SAE 10		876717	
12H	SAE 12		566113	
10T	SAE 10			02-175104
12T	SAE 12	566149		02-175105

See pages 75 and 78 for housings

7 Cracking pressure range
13 – 3,5 - 90 bar (50 - 1300 psi)
35 – 14 - 240 bar (200 - 3500 psi)
50 – 20 - 350 bar (300 - 5000 psi)



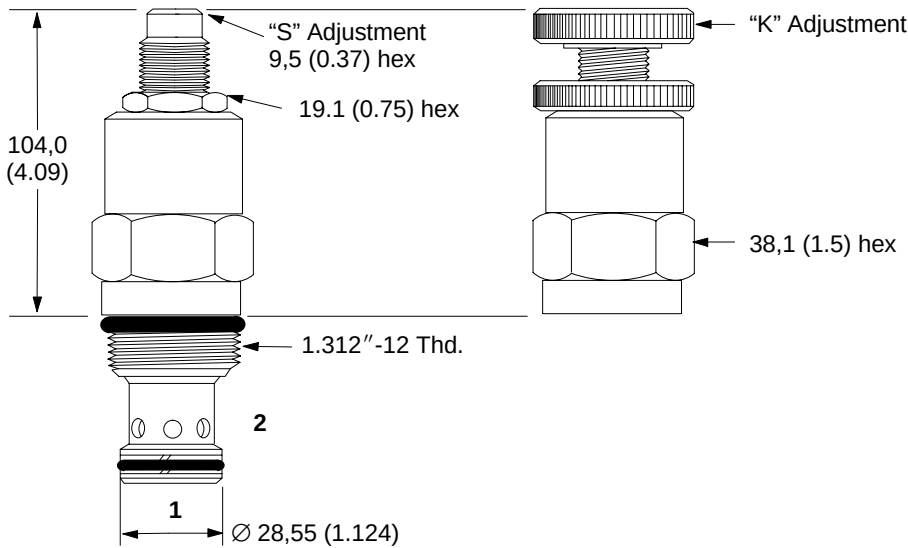
Aluminum housings can be used for pressures up to 210 bar (3000 psi)
Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure
Within ranges in 7
Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

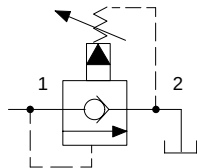
Torque cartridge in housing
A – 108–122 Nm (80–90 lbf ft)
S – 136–149 Nm (100–110 lbf ft)



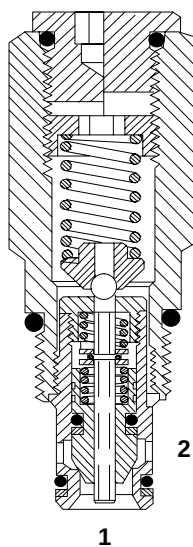
RV2-10

Relief valve

Functional Symbol



Sectional View



Description

The RV2-10 is a pilot operated, poppet type, screw-in cartridge relief valve.

Operation

This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The poppet is unseated and allows flow out of port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

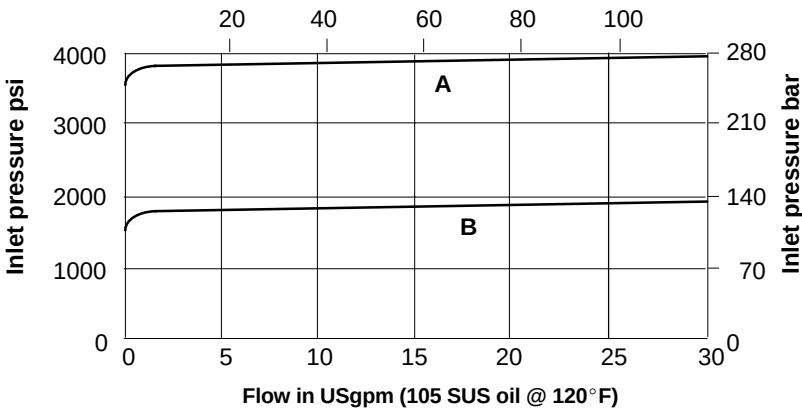
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow range	12–114 l/min (3–30 USgpm)
Reverse free flow check	3 bar (45 psi)
Cavity	C-10–2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	–40 to 120°C (–40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL–H–5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	565803 Buna–N 566086 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only
Tank pressure = 0

Flow in l/min (21,8 cSt oil @ 49°C)



A – 50 spring
B – 20 spring

RV2 - 10 (V) - * - (S) ** - ** / **

[1]
[2]
[3]
[4]
[5]
[6]
[7]
[8]

[1] Function

RV2 – Relief valve

[2] Size

10 – 10 Size

[3] Seals

Blank – Buna–N

V – Viton

[4] Adjustment

C – Cap

F – Factory set

I – Internal

K – Knob

S – Screw

[5] Valve housing material

Blank – Aluminum

S – Steel

[6] Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	—	—
2G	1/4" BSPP	—	876702	02-175102
3G	3/8" BSPP		876703	02-175103
6H	SAE 6		876700	—
8H	SAE 8		876701	—
6T	SAE 6	566151	—	02-175100
8T	SAE 8	—		02-175101

See pages 75 and 78 for housings

[7] Cracking pressure range

3 – 3,5 - 20 bar (50 - 300 psi)

20 – 7 - 140 bar (100 - 2000 psi)

35 – 17 - 240 bar (250 - 3500 psi)

50 – 35 - 350 bar (500 - 5000 psi)

Aluminum housings can be used for pressures up to 210 bar (3000 psi)



Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

[8] Factory set reduced pressure

Within ranges in [7]

Blank – Normal factory setting at approximate mid-range.

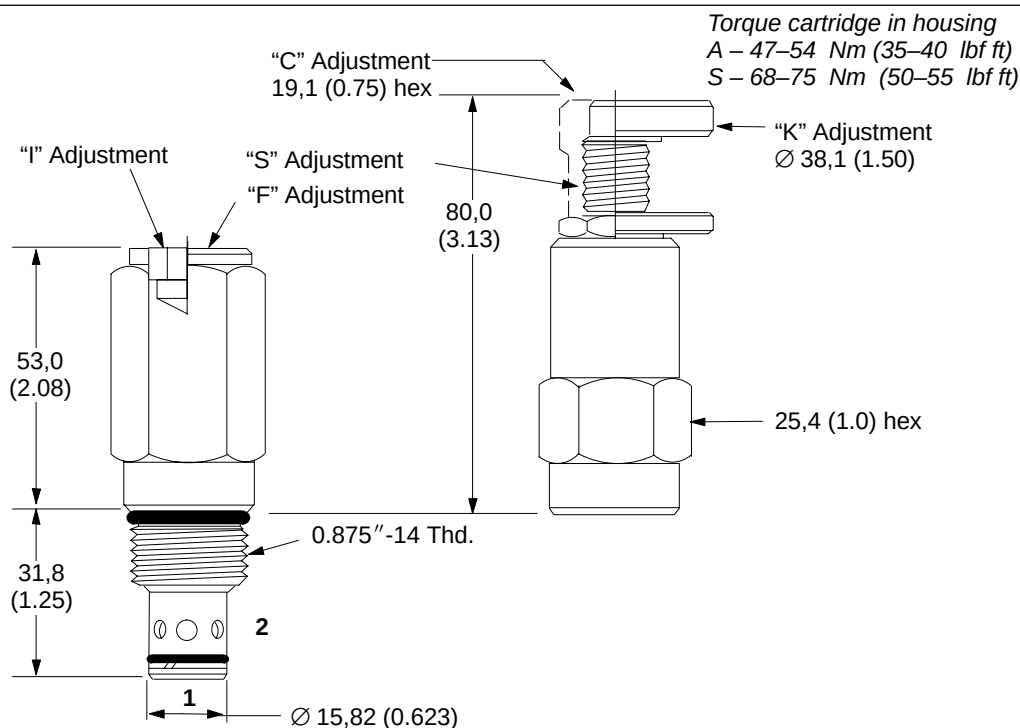
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)

10.5 – 72,4 bar (1050 psi)

Dimensions

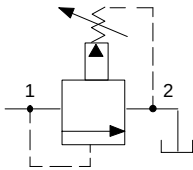
mm (inch)



RV5-10

Relief valve

Functional Symbol



Description

The RV5-10 is a pilot operated, spool type, screw-in cartridge relief valve.

Operation

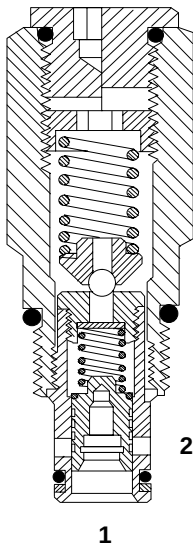
This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The spool then shifts, allowing flow out port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	114 l/min (30 USgpm)
Cavity	C-10-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,22 kg. (0.48 lbs.)
Seal kits	– RV5 565803 Buna-N 566086 Viton® – RV5A 565806 Buna-N 889627 Viton®

Sectional View

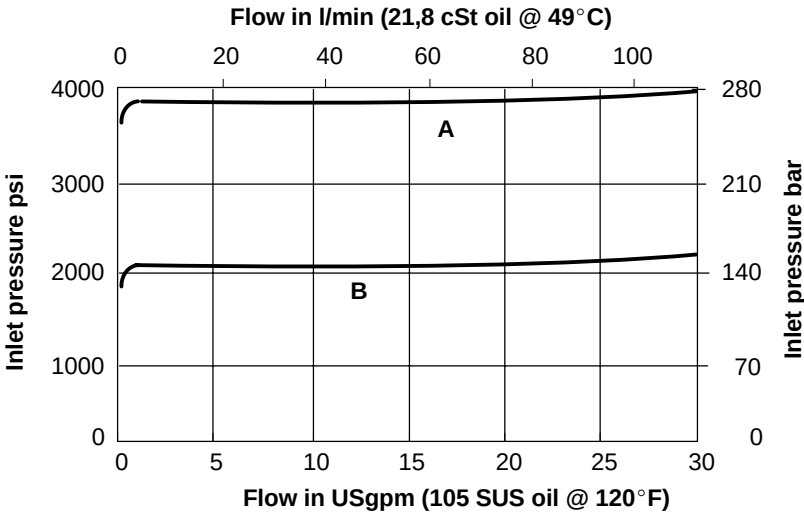


Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only
Tank pressure = 0

A – 50 spring
B – 20 spring



RV5 (A) - 10 (V) - * - (S) ** - ** / **

1 2 3 4 5 6 7 8 9

1 Function

RV5 – Relief Valve

2 Cage seals

Blank– Single backup ring as shown
A – 1/2 thickness backup ring on each side of o-ring

3 Size

10 – 10 Size

4 Seals

Blank– Buna–N
V – Viton

5 Adjustment

S – Screw
C – Cap
K – Knob
I – Internal
F – Fixed

6 Valve housing material

Blank – Aluminum
S – Steel

7 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02–175462	_____	_____
2G	1/4" BSPP	_____	876702	02–175102
3G	3/8" BSPP		876703	02–175103
6H	SAE 6		876700	_____
8H	SAE 8	566151	876701	_____
6T	SAE 6		_____	02–175100
8T	SAE 8		_____	02–175101

See pages 75 and 78 for housings

8 Cracking pressure range

3 – 3,4–20 bar (50–300 psi)
20 – 7–140 bar (100–2000 psi)
35 – 17–240 bar (250–3500 psi)
50 – 35–350 bar (500–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

9 Factory set cracking pressure

Within ranges in 8

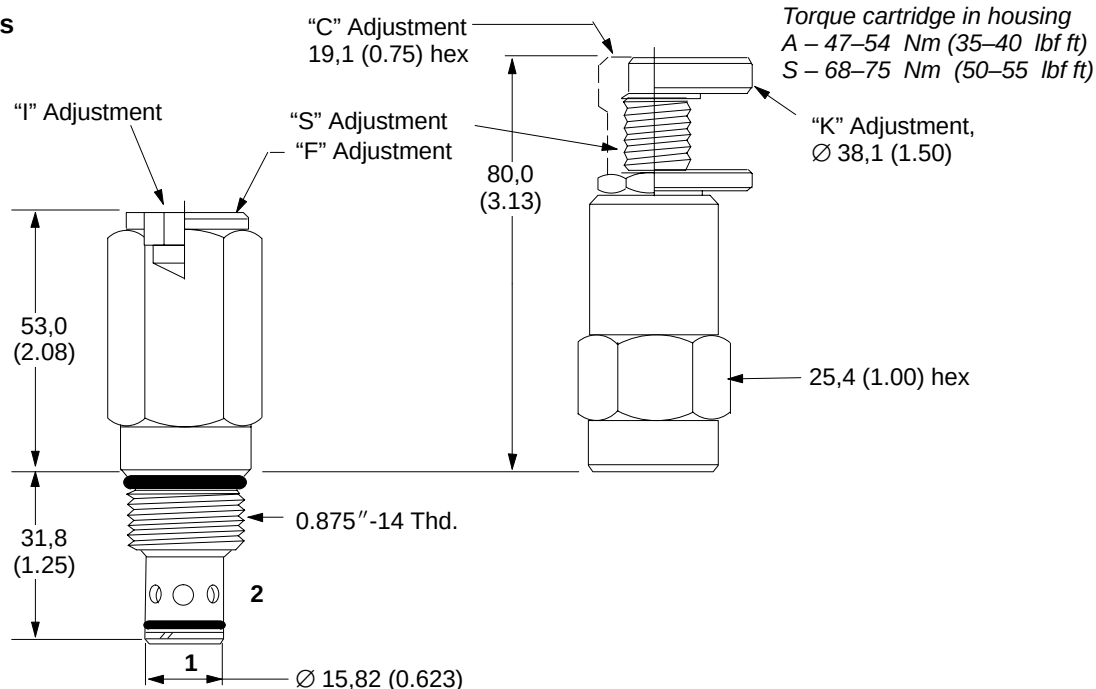
Blank – Normal factory setting at approximate mid-range.

User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

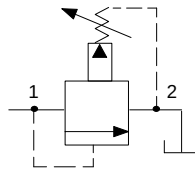
mm (inch)



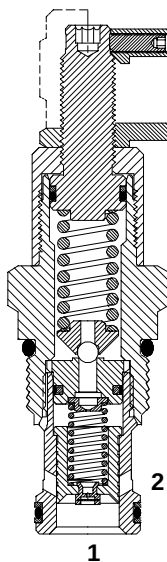
RV11-12

Relief valve

Functional Symbol



Sectional View



Description

The RV11-12 is a screw-in cartridge type, pilot operated, sliding spool, adjustable relief valve designed for use as a pressure limiting device in hydraulic circuits. The sliding spool design smoothly regulates pressure in any hydraulic system with a low hysteresis.

Operation

This valve is normally closed until the predetermined setting is reached, which causes the pilot section to open. This allows the main relief section to open, relieving from port 1 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure 350 bar (5000 psi)

Cartridge fatigue pressure (infinite life) 350 bar (5000 psi)

Rated flow 114 l/min (30 USgpm)

Reseat pressure More than 90% of crack pressure

Hysteresis Less than 3 bar (45 psi)

Overshoot Less than 20% of max. press. range with flow step of 30 USgpm at pressure rise rate of 100,000 psi/sec.

Repeatability +/- 1% maximum pressure range

Cavity C-12-2 or C-12-2U (See page 72)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Weight cartridge only 0,3 kg. (0.68 lbs.)

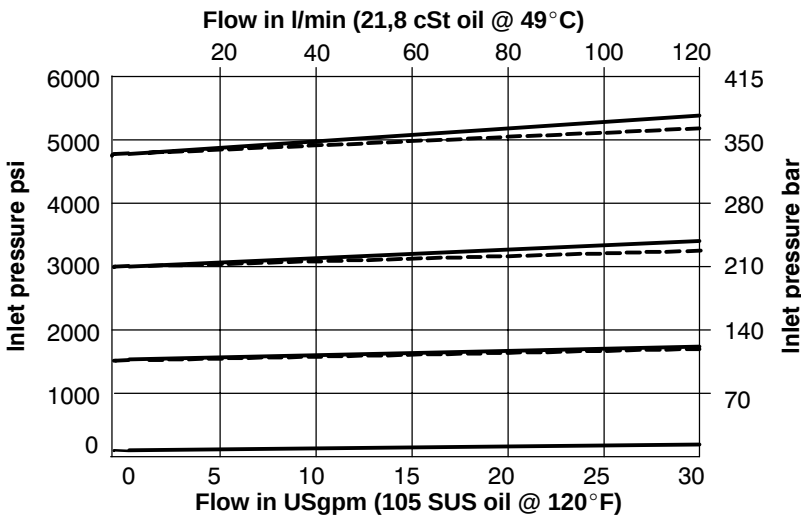
Seal kits 02-165889 Buna-N
02-165888 Viton®

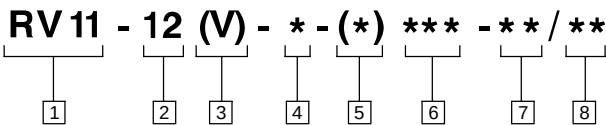
Viton is a registered trademark of E.I.DuPont

Pressure Override Curves

Cartridge only

— Cartridge w/ C-12-2 Cavity
--- Cartridge w/ C-12-2U Cavity





1 Function

RV11 – Relief Valve

2 Size

12– 12 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

S – Screw
C – Cap
K – Knob

5 Valve housing material

S – Steel
A – Aluminum

6 Port size

O – Cartridge only

Code	Port size	Housing number			
		C-12-2-U Aluminum Fatigue rated	C-12-2 Aluminum Fatigue rated	C-12-2-U Steel Fatigue rated	C-12-2 Steel Fatigue rated
10T	SAE 10	02–160641	02–160640	02–169817	02–169744
12T	SAE 12	02–160645	02–160644	02–169790	02–169782
4G	1/2" BSPP	02–161116	02–161118	02–172512	02–172062
6G	3/4" BSPP	02–161115	02–161117	02–162922	02–169665

See pages 75 and 78 for housings

7 Pressure range

15 – 10–100 bar (150–1500 psi)
30 – 17–210 bar (250–3000 psi)
50* – 24–350 bar (350–5000 psi)

* Must be ordered as a cartridge only or with a steel housing



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

Within ranges in 7

Blank – Normal factory setting at approximate mid-range.

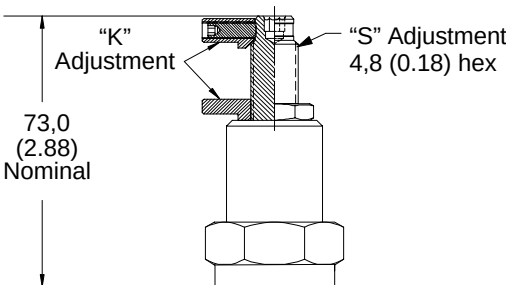
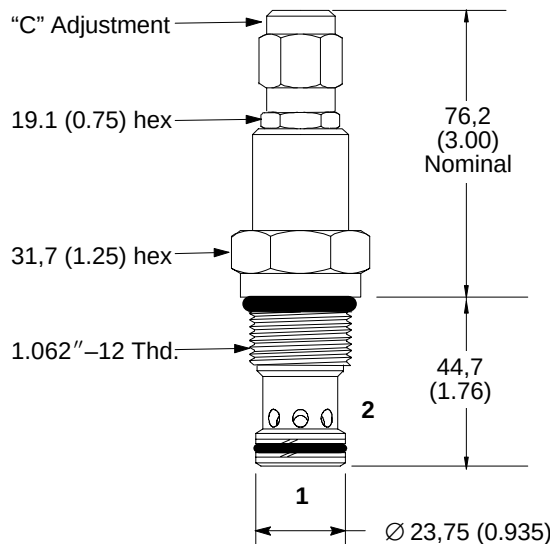
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

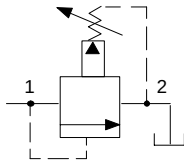
Torque cartridge in housing
A – 81–95 Nm (60–70 lbf ft)
S – 102–115 Nm (75–85 lbf ft)



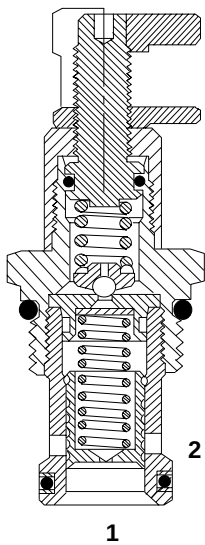
RV5-16

Relief valve

Functional Symbol



Sectional View



Description

The RV5-16 is a pilot operated, spool type, screw-in cartridge relief valve.

Operation

This valve remains closed from port 1 to port 2 until the predetermined setting has been reached at port 1. The spool then shifts, allowing flow out port 2.

Ratings and specifications

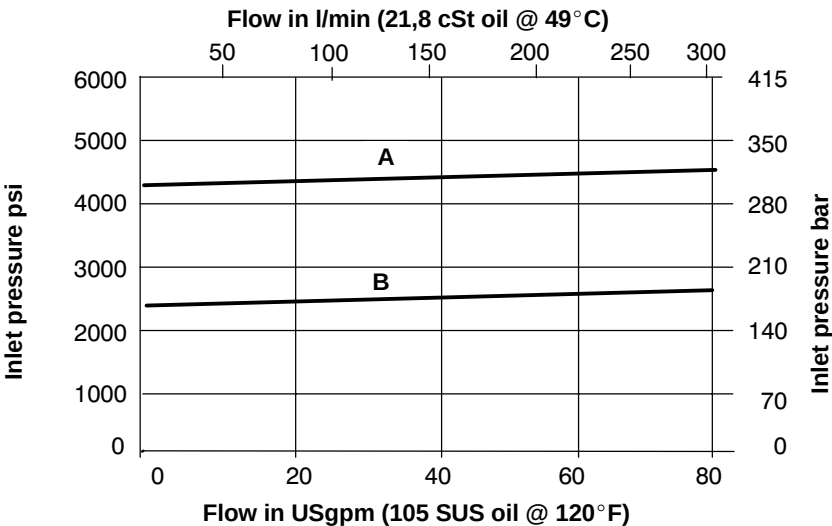
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	415 bar (6000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	303 l/min (80 USgpm)
Cavity	C-16-2 (See page 72)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,71 kg. (1.57 lbs.)
Seal kits	889631 Buna-N 889635 Viton®

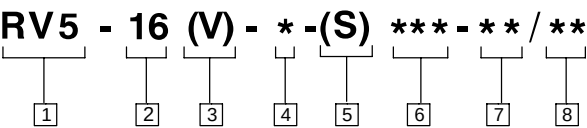
Viton is a registered trademark of E.I. DuPont

Pressure Override Curves

Cartridge only



A – 60 spring
B – 30 spring



1 Function
RV5 – Relief Valve

2 Size
16 – 16 Size

3 Seals
Blank – Buna–N
V – Viton

4 Adjustment
S – Screw
C – Cap
K – Knob

5 Valve housing material
Blank – Aluminum
S – Steel

6 Port size
O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
6B	3/4" BSPP	02–175463	—	—
4G	1/2" BSPP	—	876716	02–175106
6G	3/4" BSPP		876718	02–175107
10H	SAE 10		876717	—
12H	SAE 12		566113	—
10T	SAE 10		—	02–175104
12T	SAE 12	566149	—	02–175105

See pages 75 and 78 for housings

7 Pressure range
30 – 34 – 210 bar (500–3000 psi)
60 – 70 – 415 bar (1000–6000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

Within ranges in 7

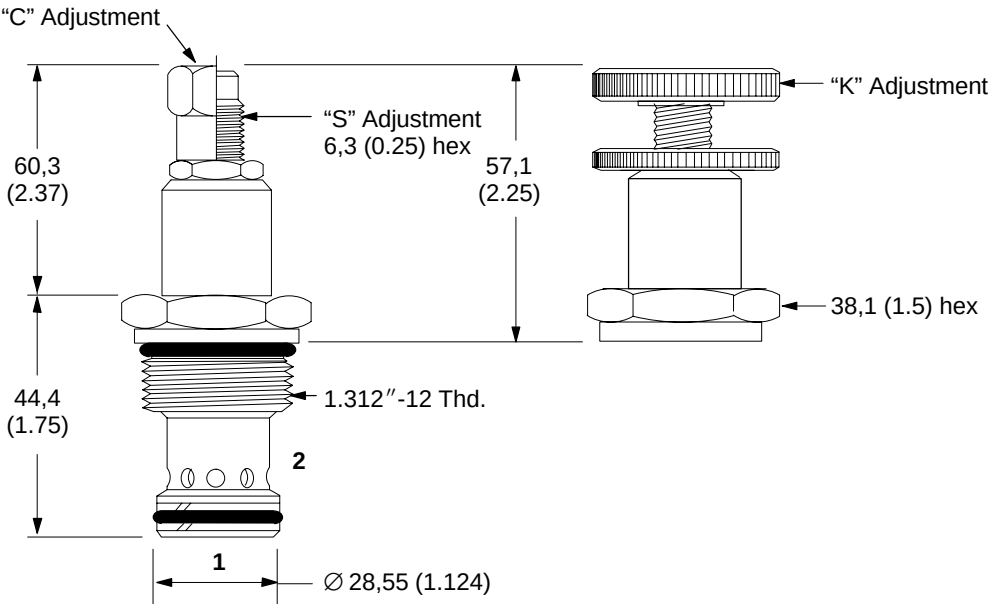
Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

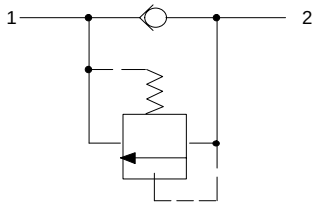
Torque cartridge in housing
A – 108–122 Nm (80–90 lbf ft)
S – 136–149 Nm (100–110 lbf ft)



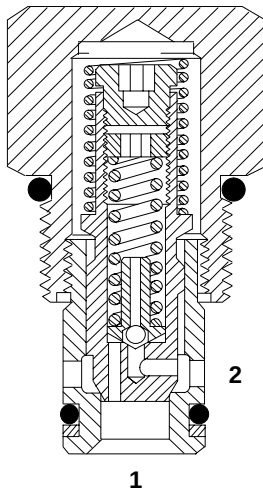
RV4-10

Check valve with thermal relief

Functional Symbol



Sectional View



Description

The RV4-10-F is a direct acting, poppet type, screw-in cartridge type check valve with thermal relief.

Operation

This valve has a dual function. In the first function the valve acts as a check valve and remains closed until the spring bias is overcome at port 1. The poppet is unseated and allows flow from port 1 to port 2. The second function acts as a thermal relief. The valve remains closed until the predetermined setting is reached. The valve allows expansion flow from port 2 to port 1.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 350 bar (5000 psi)

Rated flow – check valve 45 l/min (12 USgpm)

– relief valve 1 l/min (0.25 USgpm)

Relief cracking pressure ranges 28 - 350 bar (400 - 5000 psi)

Check valve cracking pressure 1,24 bar (18 psi)

Reseat pressure More than 90% of cracking pressure

Internal leakage Port 1 to 2; 5 drops/min at cracking pressure

Cavity C-10-2 (See page 72)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Weight cartridge only 0,11 kg. (0.25 lbs.)

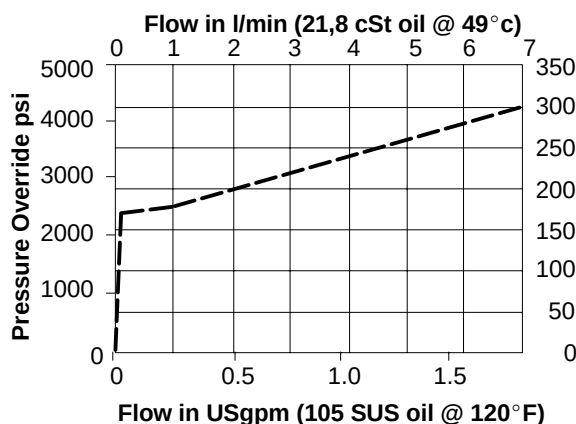
Seal kits 565803 Buna-N
566086 Viton®

Viton is a registered trademark of E.I.DuPont

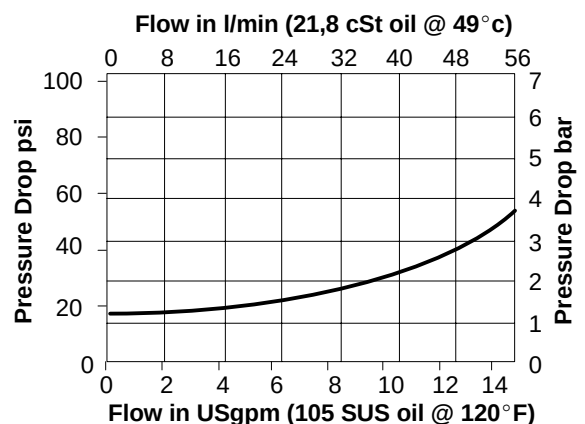
Pressure Override & Free Flow Curves

Cartridge only

Thermal Relief



Free Flow



RV4 - 10 (V) - F - (S) ** - 50 / **

1 2 3 4 5 6 7 8

1 Function

RV4 – Check valve w/thermal relief

2 Size

10 – 10 Size

3 Seals

Blank – Buna–N
V – Viton

4 Adjustment

F – Factory set

5 Valve housing material

Blank – Aluminum
S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02–175462	_____	_____
2G	1/4" BSPP	_____	876702	02–175102
3G	3/8" BSPP		876703	02–175103
6H	SAE 6		876700	_____
8H	SAE 8		876701	_____
6T	SAE 6	566151	_____	02–175100
8T	SAE 8	_____		02–175101

See pages 75 and 78 for housings

7 Cracking pressure range

50 – 28 - 350 bar (400 - 5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)
Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

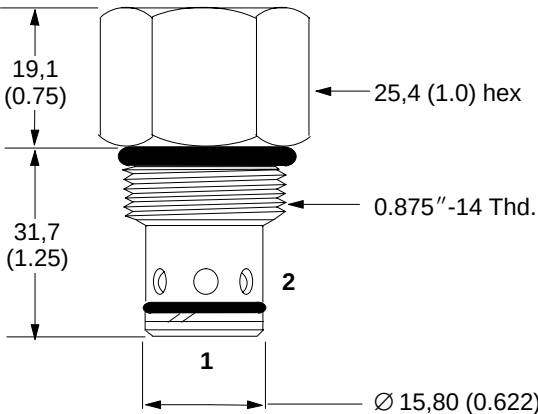
8 Factory set reduced pressure

Within ranges in 7
User must specify settings in 7 bar (100 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
25 – 175 bar (2500 psi)

Dimensions

mm (inch)

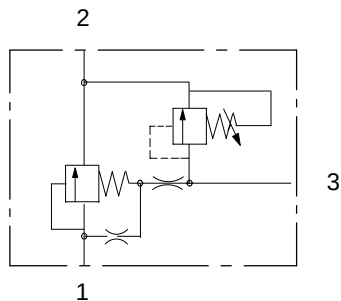
Torque cartridge in housing
A – 47–54 Nm (35–40 lbf ft)
S – 68–75 Nm (50–55 lbf ft)



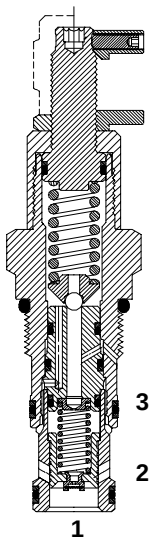
VRV11-12

Ventable relief valve

Functional Symbol



Sectional View



Description

The VRV11-12 is a pilot operated, sliding spool, adjustable, cartridge type vented relief valve. The valve is designed for use as a pressure limiting device in hydraulic circuits which can be operated remotely. The sliding spool design smoothly regulates pressure in any hydraulic system and provides low hysteresis.

Operation

In its normally closed state, the valve allows flow from port 1 to port 2 when port 3 is vented, or the main spring setting is achieved.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

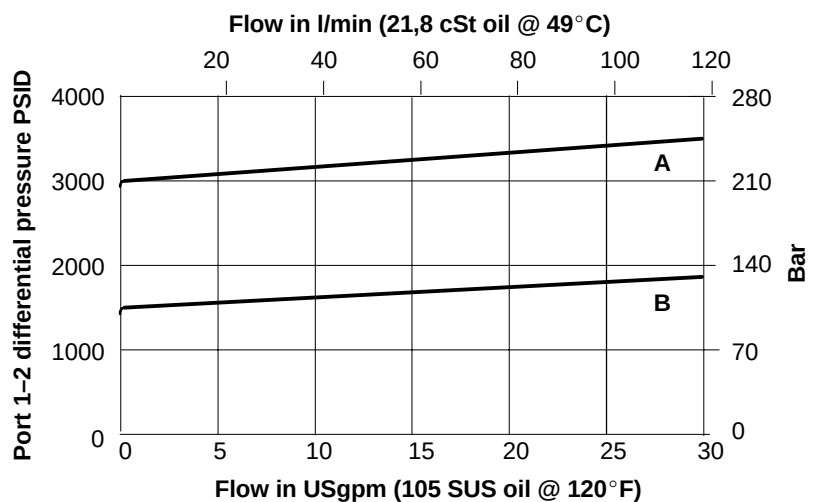
Typical application pressure	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	114 l/min (30 USgpm)
Reseat pressure	More than 90% of crack pressure
Hysteresis	Less than 3 bar (45 psi)
Internal leakage	82 ml/min (5 in ³ /min) @80% cracking pressure
Overshoot	Less than 20% of max. press. range with flow step of 30 USgpm at pressure rise rate of 100,000 psi/sec.
Repeatability	+/- 1% maximum pressure range
Cavity	C-12-3S (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,4 kg. (0.89 lbs.)
Seal kits	02-180095 Buna-N 02-165887 Viton®

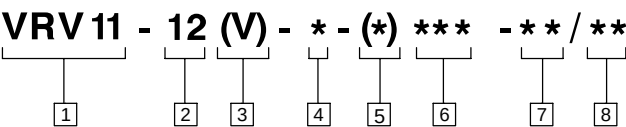
Viton is a registered trademark of E.I. DuPont

Pressure Override Curves

Cartridge only

- A 30 – spring
- B 15 – spring





1 Function
VRV11– Ventable relief valve

2 Size
12 – 12 Size

3 Seals
Blank– Buna–N
V – Viton

4 Adjustment
S – Screw
C – Cap
K – Knob

5 Valve housing material
Omit for cartridge only
S – Steel
A – Aluminum

6 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
10T	SAE 10	02–178268	02–160996
12T	SAE 12	02–178269	02–160997
4G	1/2" BSPP	02–178270	02–160994
6G	3/4" BSPP	02–178271	02–160995

See pages 76 and 79 for housings

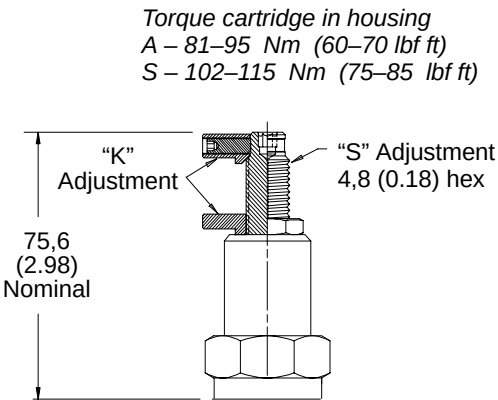
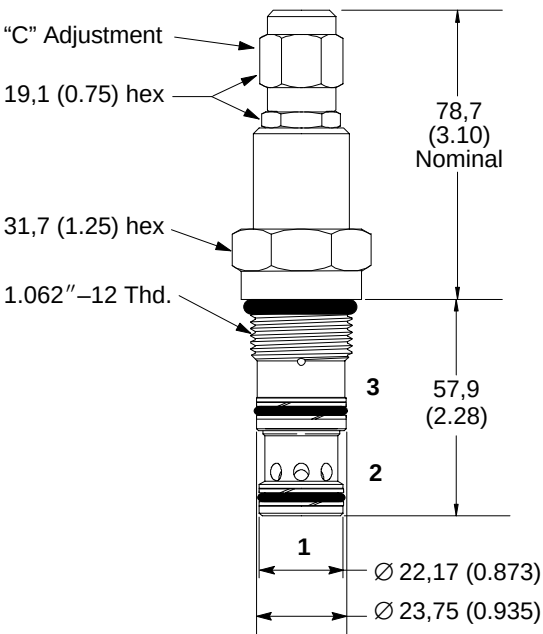
7 Pressure range
15 – 5–100 bar (75–1500 psi)
30 – 10–210 bar (150–3000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)
Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure
Within ranges in 7
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

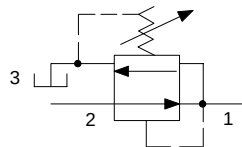
Dimensions
mm (inch)



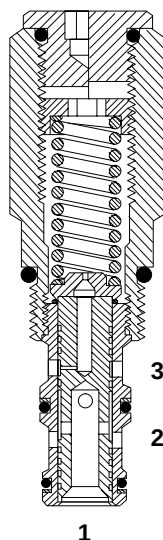
PRV1-10

Pressure reducing/relieving valve

Functional Symbol



Sectional View



Description

The PRV1-10 is a direct acting, spool type screw-in cartridge pressure reducing/relieving valve.

Operation

This valve is normally open, allowing flow from port 2 to port 1. Port 3 must be vented. Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2. This regulates the pressure at port 1. If pressure at port 1 exceeds the predetermined setting of the valve, the spool will shift further and relieve excess pressure through port 3.

Ratings and specifications

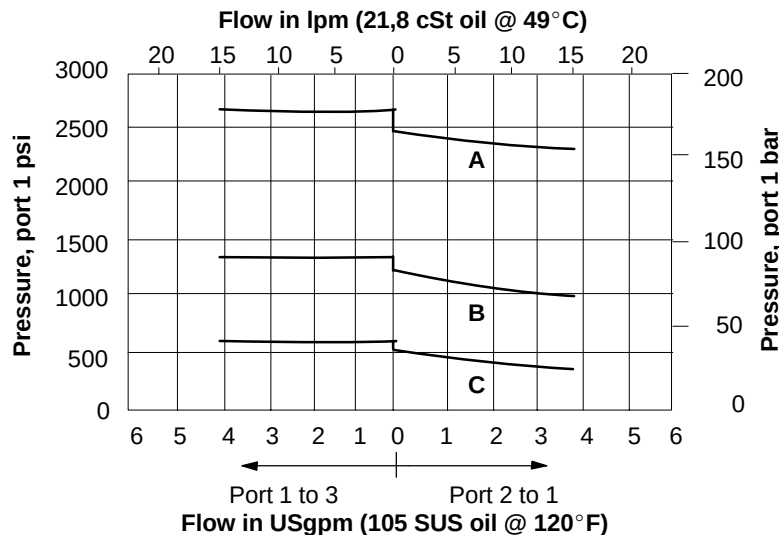
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

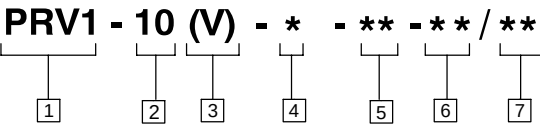
Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	15 l/min (4 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.54 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

Viton is a registered trademark of E.I.DuPont

Reduced Pressure Curves

Cartridge only





1 Function

PRV1– Pressure reducing/relieving valve

2 Size

10 – 10 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

C – Cap
F – Factory set
I – Internal
K – Knob
S – Screw

5 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02–173358	—
6T	SAE 6	566162	
2G	1/4" BSPP	—	876705
3G	3/8" BSPP		876714
6H	SAE 6		876704
8H	SAE 8		876711

See page 76 for housings

6 Cracking pressure range

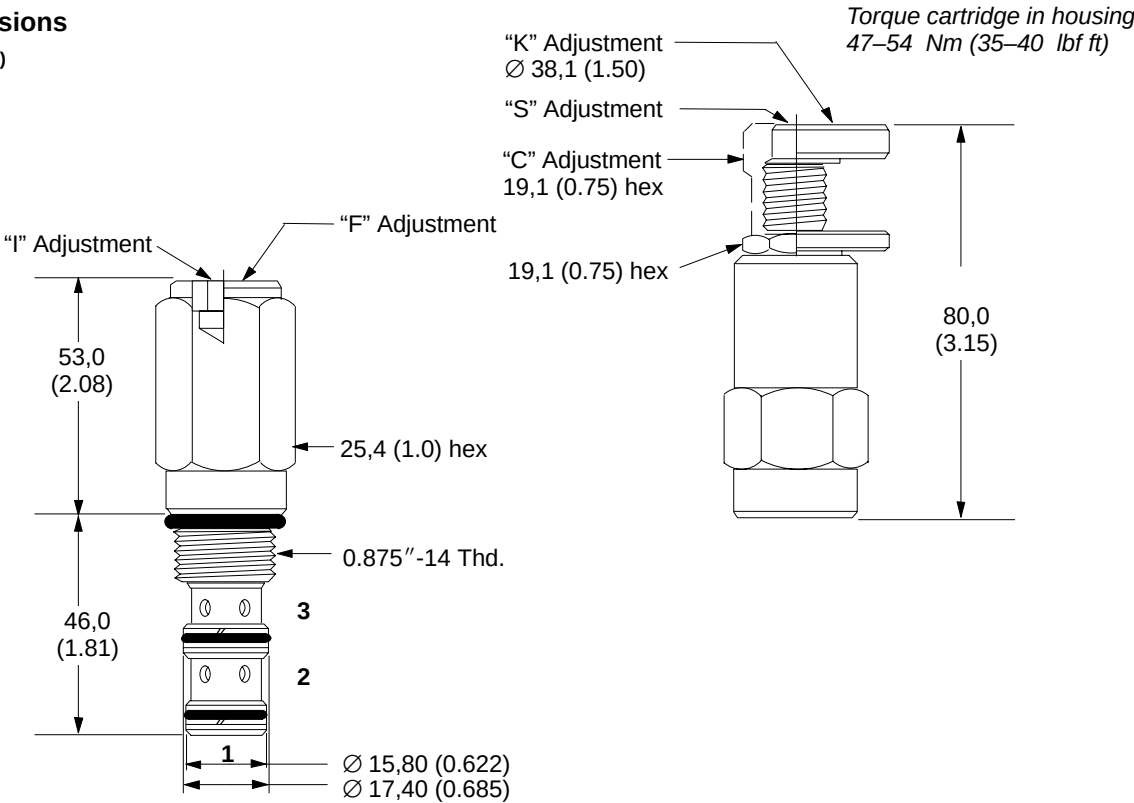
2 – 3,5 –14 bar (50–200 psi)
6 – 7 – 40 bar (100–600 psi)
12 – 14 – 85 bar (200–1200 psi)
24 – 30 – 165 bar (400–2400 psi)

7 Factory set reduced pressure

Within ranges in 6
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

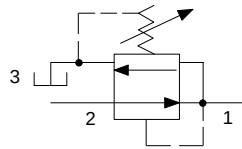
mm (inch)



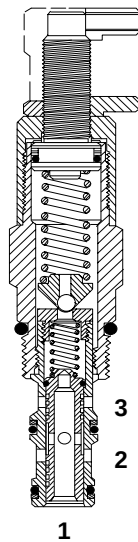
PRV2-10

Pressure reducing/relieving valve

Functional Symbol



Sectional View



Description

The PRV2-10 is a pilot operated, spool type screw-in cartridge pressure reducing/relieving valve.

Operation

This valve is normally open, allowing flow from port 2 to port 1. Port 3 must be vented. Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2. This regulates the pressure at port 1. If pressure at port 1 exceeds the predetermined setting of the valve, the spool will shift further and relieve excess pressure through port 3.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

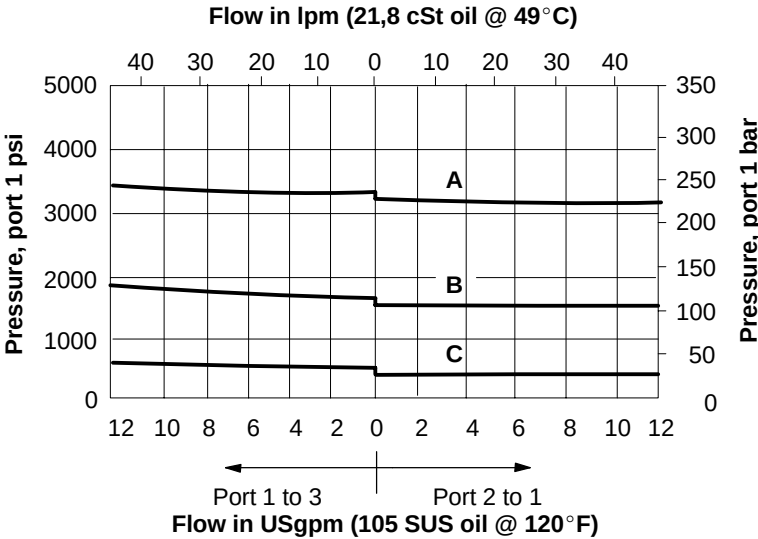
Typical application pressure (all ports)	240 bar (3500 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	38 l/min (10 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.54 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

Viton is a registered trademark of E.I.DuPont

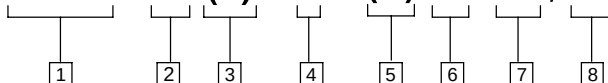
Reduced Pressure Curves

Cartridge only

- A 35 – spring
- B 20 – spring
- C 3 – spring



PRV2 - 10 (V) - * - (S) ** - ** / **



1 Function

PRV2– Pressure reducing/relieving valve

2 Size

10 – 10 Size

3 Seals

Blank – Buna–N

V – Viton

4 Adjustment

C – Cap

F – Factory set

I – Internal

K – Knob

S – Screw

5 Valve housing material

Blank – Aluminum

S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02–173358	—	—
2G	1/4" BSPP	—	876705	02–175127
3G	3/8" BSPP		876714	02–175128
6H	SAE 6		876704	—
8H	SAE 8	566162	876711	—
6T	SAE 6		—	02–175124
8T	SAE 8		—	02–175125

See pages 76 and 79 for housings

7 Cracking pressure range

3 – 3,5 – 20 bar (50–300 psi)

20 – 7 – 140 bar (100–2000 psi)

35 – 17 – 240 bar (250–3500 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi). Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

Within ranges in 7

Blank – Normal factory setting at approximate mid-range.

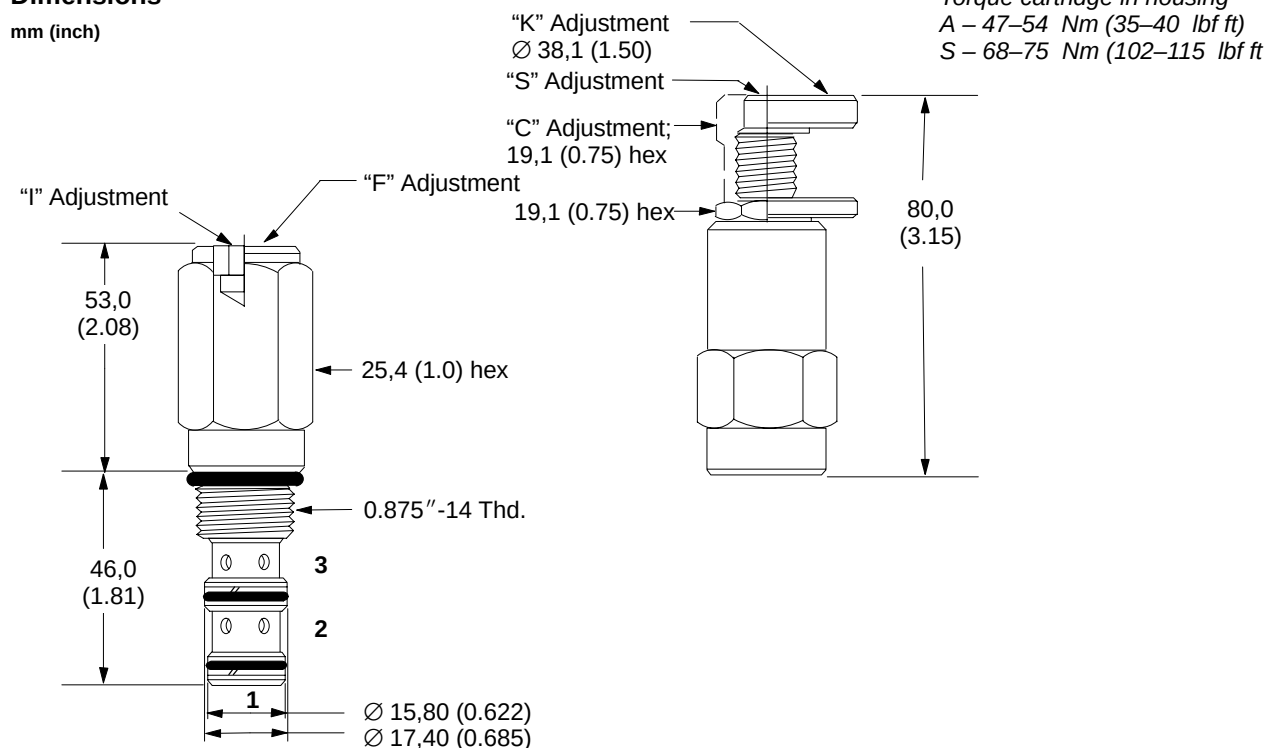
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)

10.5 – 72,4 bar (1050 psi)

Dimensions

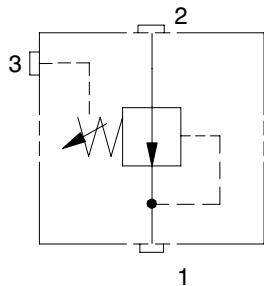
mm (inch)



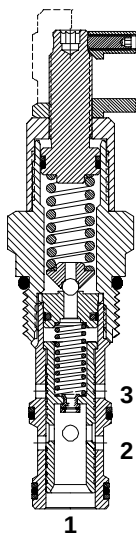
PRV11-12

Pressure reducing valve

Functional Symbol



Sectional View



Description

The PRV11-12 is a screw-in cartridge type, pilot operated, sliding spool, adjustable pressure reducing valve.

Operation

The PRV11-12 is normally open, allowing flow from port 2 to port 1 (port 3 must be vented). Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2, which regulates the pressure at port 1.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure 350 bar (5000 psi) Port 2 to 1 @ 57 l/min 15 USgpm
210 bar (3000 psi) Port 2 to 1 @ 114 l/min 30 USgpm

Cartridge fatigue pressure (infinite life) 350 bar (5000 psi)

Rated flow 114 l/min (30 USgpm)

Internal leakage 189 ml/min (11.6 in³)

Cavity C-12-3 (See page 73)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

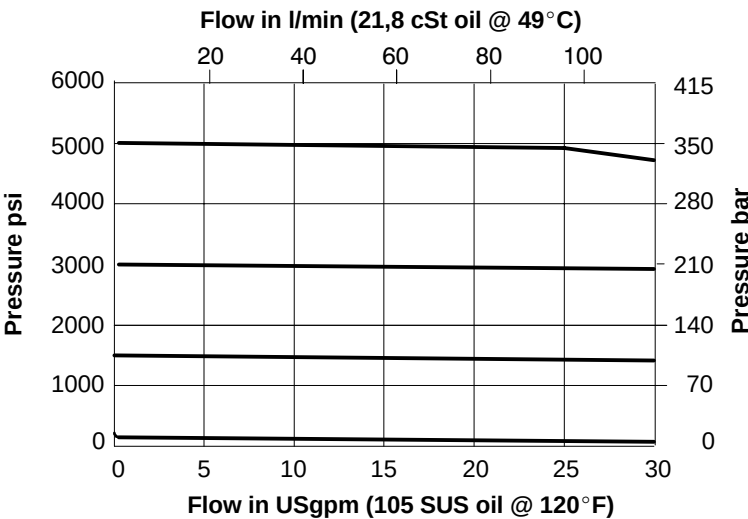
Weight cartridge only 0,4 kg. (0.89 lbs.)

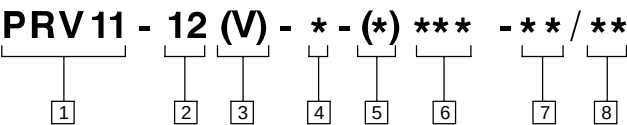
Seal kits 02-180095 Buna-N
02-165887 Viton®

Viton is a registered trademark of E.I. DuPont

Reduced Pressure Characteristics

Cartridge only





- 1 Function

PRV11– Pressure reducing valve
- 2 Size

12 – 12 Size
- 3 Seals

Blank – Buna–N

V – Viton
- 4 Adjustment

S – Screw

C – Cap

K – Knob
- 5 Valve housing material

Omit for cartridge only

S – Steel

A – Aluminum

6 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
10T	SAE 10	02–160642	02–161070
12T	SAE 12	02–160646	02–169816
4G	1/2" BSPP	02–161817	02–169815
6G	3/8" BSPP	02–161816	02–169814

See pages 76 and 79 for housings

- 7 Pressure range

15 – 10–100 bar (150–1500 psi)

30 – 17–210 bar (250–3000 psi)

50 – 20– 350 bar (350–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)
- 8 Factory set reduced pressure

Within ranges in 7

Blank – Normal factory setting at approximate mid–range.

User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)

10.5 – 72,4 bar (1050 psi)

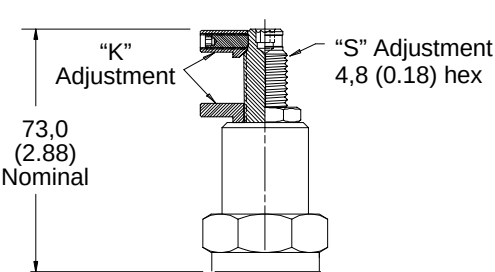
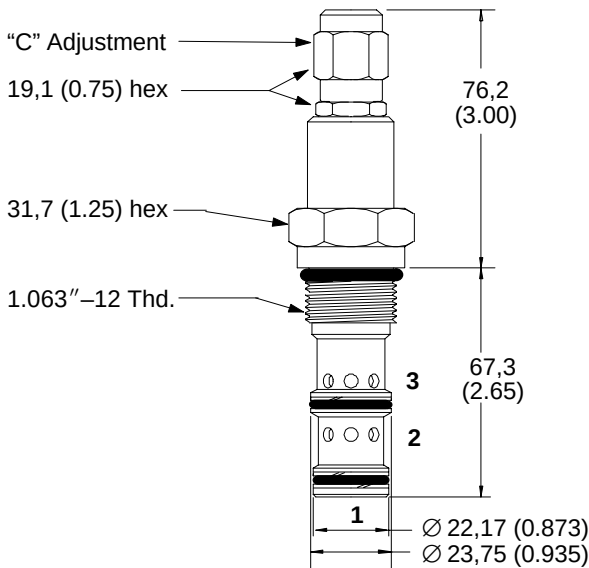
Dimensions

mm (inch)

Torque cartridge in housing

A – 81–95 Nm (60–70 lbf ft)

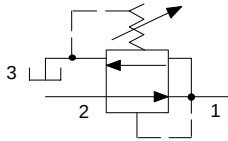
S – 102–115 Nm (75–85 lbf ft)



PRV12-12

Pressure reducing/relieving valve

Functional Symbol



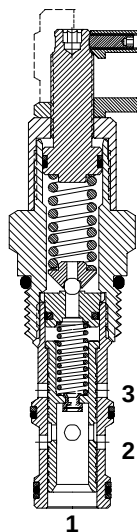
Description

The PRV12-12 is a pilot operated, sliding spool, adjustable cartridge type pressure reducing relieving valve. This valve maintains a constant secondary (lower) pressure in hydraulic subsystems regardless of pressure variations in the primary system. In addition to the reducing function, this valve also provides a flow path from the reduced pressure port to the tank port. If pressure in the secondary circuit exceeds the desired pressure, the valve opens this flow path to relieve excess pressure to tank.

Operation

The PRV12-12 is normally open, allowing flow from port 2 to port 1 (port 3 must be vented). Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2, which regulates the pressure at port 1. If pressure at port 1 exceeds the predetermined setting of the valve, the spool will shift further and relieve excess pressure through port 3.

Sectional View



Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure 350 bar (5000 psi) Port 2 to 1 and 1 to 3
@ 57 l/min (15 USgpm)
210 bar (3000 psi) Port 2 to 1 @ 114 l/min (30 USgpm)

Cartridge fatigue pressure (infinite life) 350 bar (5000 psi)

Rated flow 114 l/min (30 USgpm)

Internal leakage 1,0 l/min (0.25 USgpm)

Cavity C-12-3 (See page 73)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

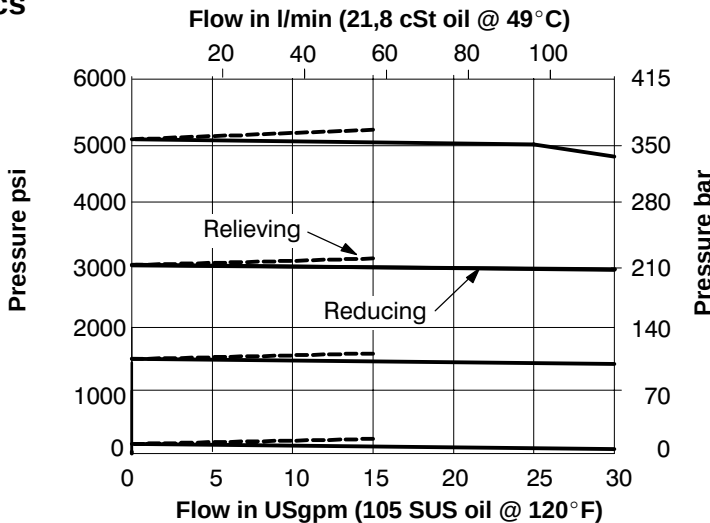
Weight cartridge only 0,4 kg. (0.89 lbs.)

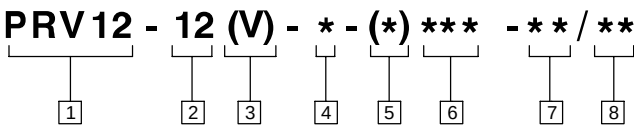
Seal kits 02-165872 Buna-N
02-165886 Viton®

Viton is a registered trademark of E.I. DuPont

Reduced Pressure Characteristics

Cartridge only





1 Function

PRV12– Pressure reducing/relieving valve

6 Port size

O – Cartridge only

2 Size

12 – 12 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

S – Screw
C – Cap
K – Knob

5 Valve housing material

Omit for cartridge only

S – Steel
A – Aluminum

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
10T	SAE 10	02–160642	02–161070
12T	SAE 12	02–160646	02–169816
4G	1/2" BSPP	02–161817	02–169815
6G	3/8" BSPP	02–161816	02–169814

See pages 76 and 79 for housings

7 Pressure range

15 – 10–100 bar (150–1500 psi)
30 – 17–210 bar (250–3000 psi)
50 – 24–350 bar (350–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

Within ranges in 7

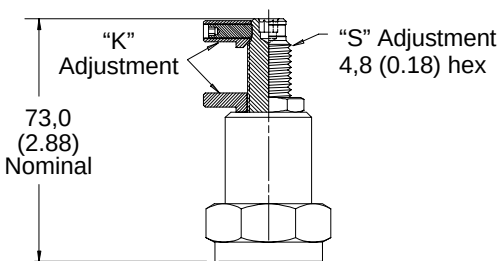
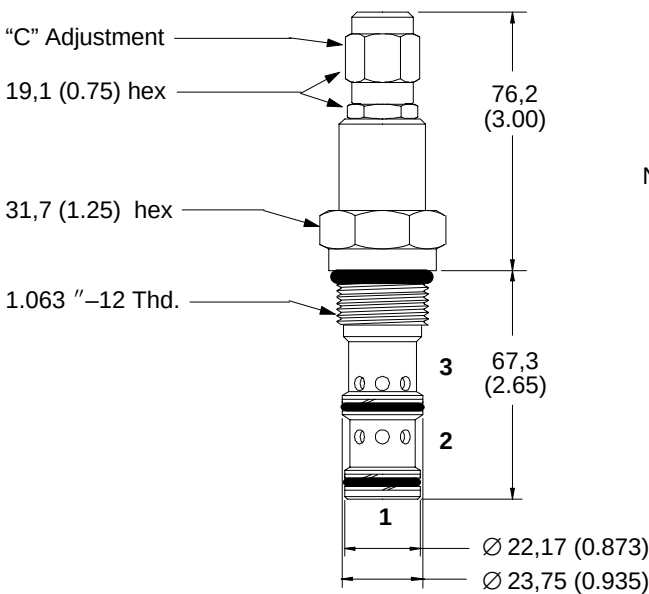
Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

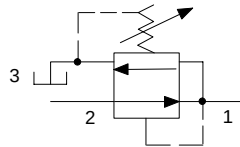
Torque cartridge in housing
A – 81–95 Nm (60–70 lbf ft)
S – 102–115 Nm (75–85 lbf ft)



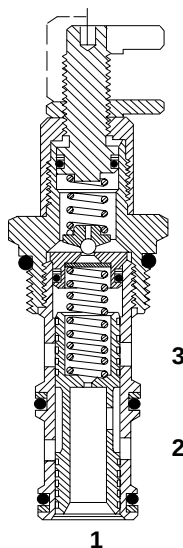
PRV2-16

Pressure reducing/relieving valve

Functional Symbol



Sectional View



Description

The PRV2-16 is a pilot operated, spool type screw-in cartridge pressure reducing/relieving valve.

Operation

This valve is normally open, allowing flow from port 2 to port 1. Port 3 must be vented. Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2. This regulates the pressure at port 1. If pressure at port 1 exceeds the predetermined setting of the valve, the spool will shift further and relieve excess pressure through port 3.

Ratings and specifications

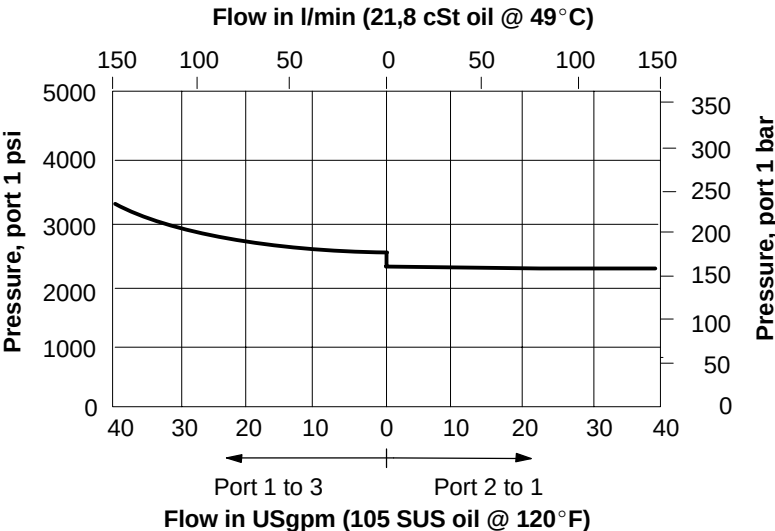
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

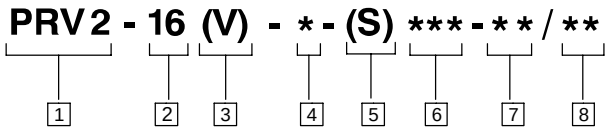
Typical application pressure (all ports)	415 bar (6000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	151 l/min (40 USgpm)
Cavity	C-16-3 (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,40 kg. (0.89 lbs.)
Seal kits	565811 Buna-N 889610 Viton®

Viton is a registered trademark of E.I.DuPont

Reduced Pressure Curve

Cartridge only





1 Function

PRV2– Pressure reducing/relieving valve

2 Size

16 – 16 Size

3 Seals

Blank – Buna–N
V – Viton

4 Adjustment

C – Cap
K – Knob
S – Screw

5 Valve housing material

Blank – Aluminum
S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
6B	3/4" BSPP	02–175465	—	—
4G	1/2" BSPP	—	876720	02–175131
6G	3/4" BSPP		876722	02–175132
10H	SAE 10		876721	—
12H	SAE 12		876723	—
10T	SAE 10	566152	—	02–175129
12T	SAE 12		—	02–175130

See pages 76 and 79 for housings

7 Cracking pressure range

30 – 34 - 210 bar (500–3000 psi)
60 – 70 - 415 bar (1000–6000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

Within ranges in 7

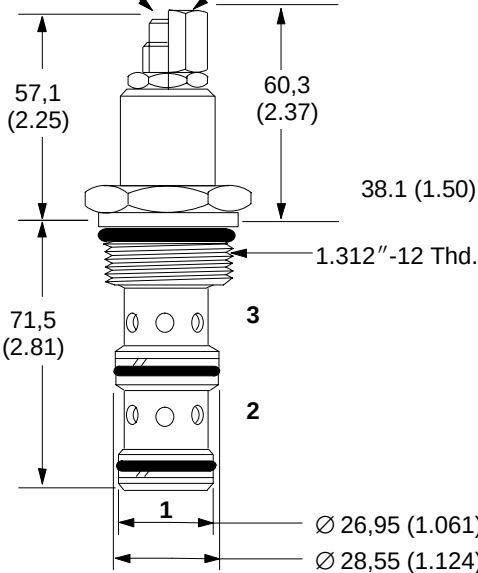
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

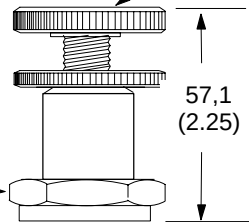
“S” Adjustment
4,7 (0.18) hex

“C” Adjustment



Torque cartridge in housing
A – 108–122 Nm (80–90 lbf ft)
S – 136–149 Nm (100–110 lbf ft)

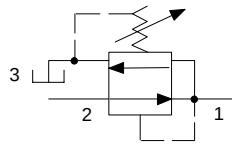
“K” Adjustment



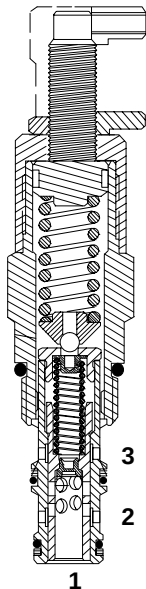
PRV12-10

Pressure reducing/relieving valve

Functional Symbol



Sectional View



Description

The PRV12-10 is a pilot operated, spool type, screw-in cartridge pressure reducing/relieving valve.

Operation

This valve is normally open, allowing flow from port 2 to port 1 (port 3 must be vented). Once the pressure setting is reached at port 1, the spool shifts to restrict the inlet flow at port 2, which regulates the pressure at port 1. If pressure at port 1 exceeds the predetermined setting of the valve, the spool will shift further and relieve excess pressure through port 3.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 350 bar (5000 psi)

Cartridge fatigue pressure (infinite life) 350 bar (5000 psi)

Rated flow 45 l/min (12 USgpm)

Cracking pressure **15** – 8,5–100 bar (125–1500 psi)

30 – 17,0–210 bar (250–3000 psi)

50 – 38– 350 bar (550–5000 psi)

Cavity C-10-3 (See page 73)

Standard housing materials Aluminum or steel

Temperature range -40 to 120°C (-40° to 248°F)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

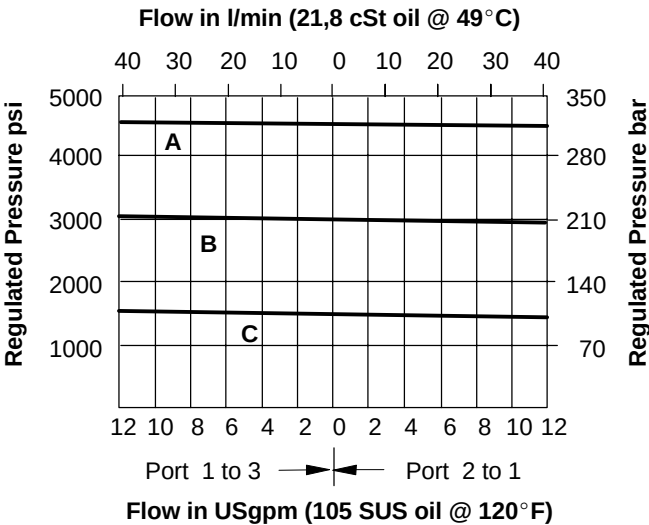
Weight cartridge only 0,24 kg. (0.54 lbs.)

Seal kits 565804 Buna-N
889599 Viton®

Viton is a registered trademark of E.I.DuPont

Reduced Pressure Characteristics

Cartridge only
(Max. setting)



A – 50 spring
B – 33 spring
C – 15 spring

PRV12 - 10 (V) - * - (S) ** - ** / **

1 Function

PRV12– Pressure reducing/relieving valve

2 Size

10 – 10 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

C – Cap
F – Factory set
I – Internal
K – Knob
S – Screw

5 Valve housing material

Blank – Aluminum
S – Steel

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02–173358	_____	_____
2G	1/4" BSPP	_____	876705	02–175127
3G	3/8" BSPP		876714	02–175128
6H	SAE 6		876704	_____
8H	SAE 8		876711	_____
6T	SAE 6	566162	_____	02–175124
8T	SAE 8	_____		02–175125

See pages 76 and 79 for housings

7 Cracking pressure range

15 – 8,5–100 bar (125–1500 psi)
30 – 17,0–210 bar (250–3000 psi)
50 – 38–350 bar (550–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi) Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Factory set reduced pressure

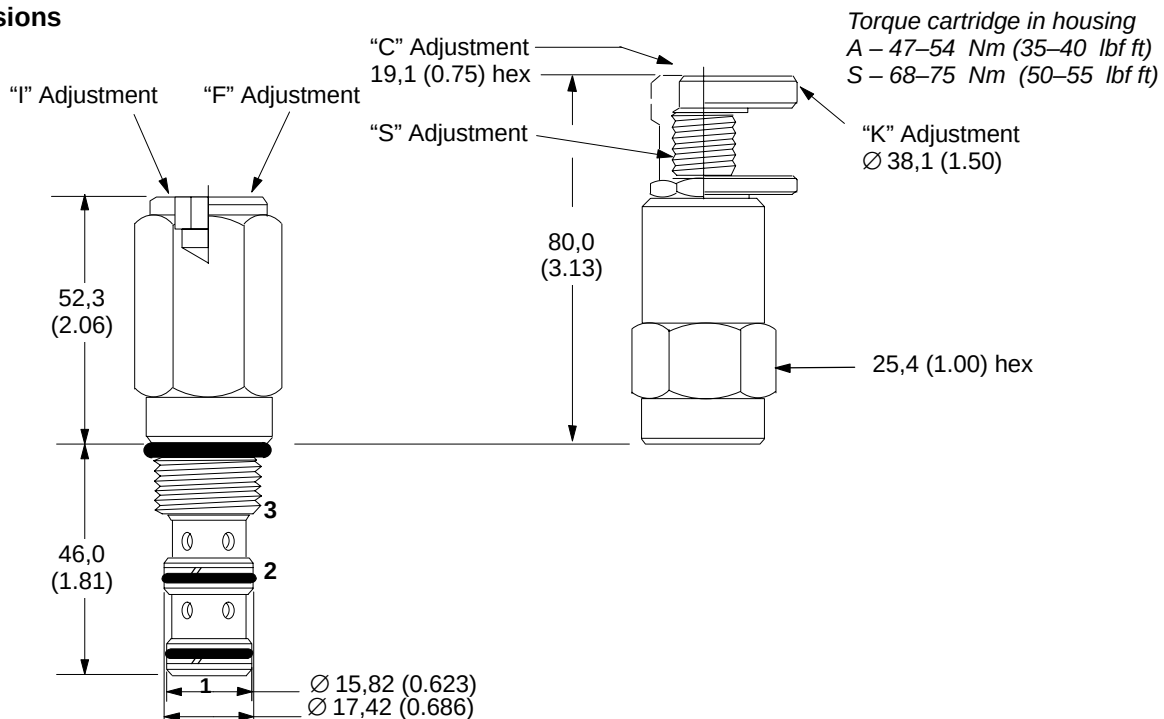
Within ranges in 7

Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

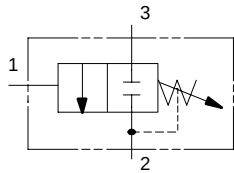
mm (inch)



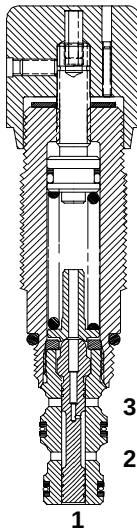
PSV2-8

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV2-8 is an externally piloted, direct acting, sliding spool, adjustable, pressure sequence valve.

Operation

The PSV2-8 remains closed until the predetermined pressure is reached at port 1, which then allows flow from port 3 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 210 bar (3000 psi)

Cartridge fatigue pressure (infinite life) 210 bar (3000 psi)

Cracking pressure ranges **13** – 3,4–90 bar (50–1300 psi)
30 – 35–210 bar (500–3000 psi)

Rated flow 23 l/min (6 USgpm)

Reseat pressure More than 90% of cracking pressure

Internal leakage 82 cm³/min. (5 in³/min) @ 210 bar (3000 psi)

Hysteresis less than 3 bar (45 psi)

Temperature range -40 to 120°C (-40° to 248°F)

Cavity C-8-3 (See page 73)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Standard housing materials Aluminum

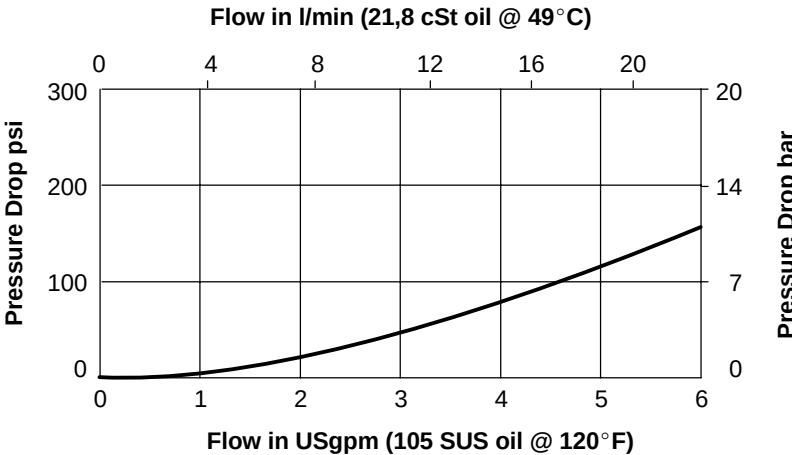
Weight cartridge only 0,21 kg (0.47 lbs.)

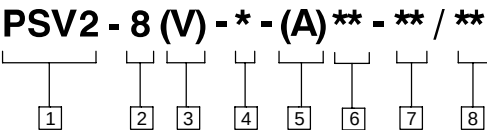
Seal kits 02-160755 Buna N
02-160756 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Port 2 to 3, valve fully open
Cartridge only





1 Function
PSV2– Pressure sequence valve

2 Size
8 – 8 Size

3 Seals
Blank – Buna–N
V – Viton

4 Adjustment
C – Cap
K – Knob
S – Screw

5 Valve housing material
Omit for cartridge only
A – Aluminum
Maximum operating pressure 210 bar (3000 psi)

6 Port size
O – Cartridge only

Code	Port size	Housing number
		Aluminum Fatigue rated
4T	SAE 4	02–160741
6T	SAE 6	02–160742
2G	1/4" BSPP	02–160739
3G	3/8" BSPP	02–160740

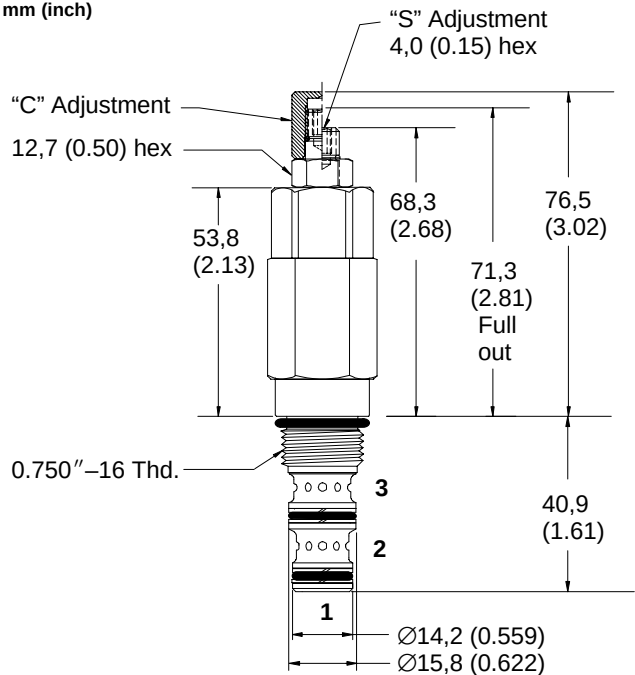
See page 76 for housings

7 Cracking pressure range
13 – 3,4–90 bar (50-1300 psi)
30 – 35–210 bar (500-3000 psi)

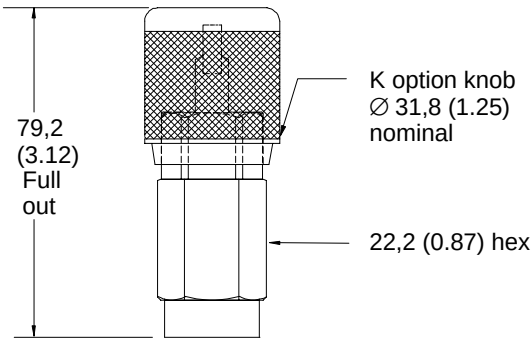
8 Pressure setting
Optional – Specify in 100 psi increments
If not specified, set at:
13 – 44 bar (650 psi)
30 – 100 bar (1500 psi)

Dimensions

mm (inch)



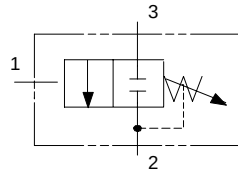
Torque cartridge in housing
34–41 Nm (25–30 lbf ft)



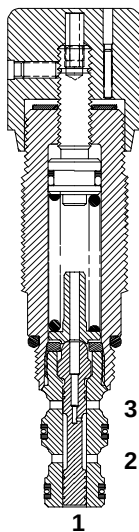
PSV4-8

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV4-8 is an external pilot, direct acting, sliding spool, adjustable, pressure sequence valve.

Operation

The PSV4-8 remains closed until a predetermined pressure is applied at pilot port 1, which then allows flow from port 3 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) 350 bar (5000 psi)

Cartridge fatigue pressure (infinite life) 280 bar (4000 psi)

Rated flow 15 l/min (4 USgpm)

Cracking pressure ranges **15** – 28–100 bar (400–1500 psi)

30 – 3,4–210 bar (50–3000 psi)

50 – 124–350 bar (1800–5000 psi)

Reseat pressure More than 90% of cracking pressure

Internal leakage 5 in³/min @ 210 bar (3000 psi)

Hysteresis less than 3 bar (45 psi)

Temperature range -40 to 120°C (-40° to 248°F)

Cavity C-8-3 (See page 73)

Fluids All general purpose hydraulic fluids such as:
MIL-H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Standard housing materials Aluminum or steel

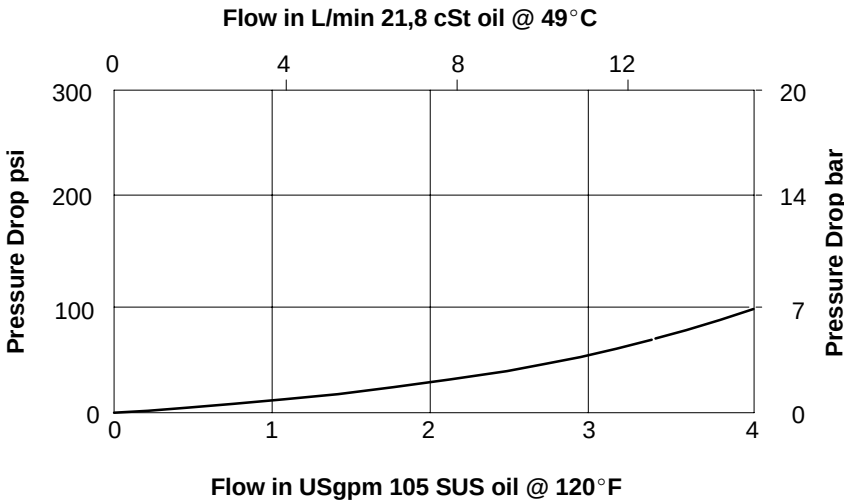
Weight cartridge only 0,21 kg (0.47 lbs.)

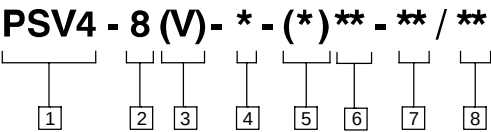
Seal kits 02-160755 Buna N
02-160756 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Port 3 to 2, valve fully open
Cartridge only





1 Function

PSV4– Pressure sequence valve

2 Size

8 – 8 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

C – Cap
K – Knob
S – Screw

5 Valve housing material

Omit for cartridge only

S – Steel
A – Aluminum

6 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
4T	SAE 4	02–160741	02–160743
6T	SAE 6	02–160742	02–160744
2G	1/4" BSPP	02–160739	02–160745
3G	3/8" BSPP	02–160740	02–160746

See pages 76 and 79 for housings

7 Cracking pressure ranges

15 – 28–100 bar (400-1500 psi)
30 – 3,4–210 bar (50-3000 psi)
50 – 124–350 bar (1800-5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)

Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

8 Pressure setting

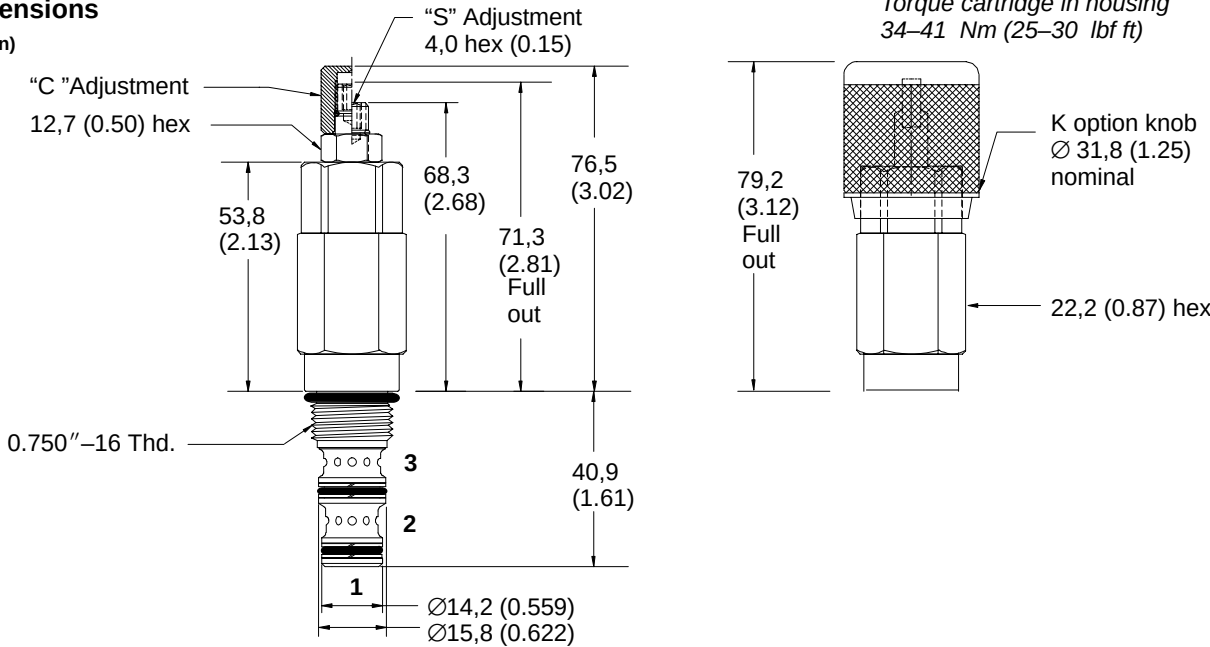
Optional – Specify in 100 psi increments

If not specified, set at:

15 – 52 bar (750 psi)
30 – 100 bar (1500 psi)
50 – 175 bar (2500 psi)

Dimensions

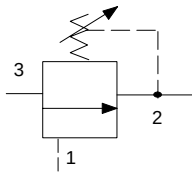
mm (in)



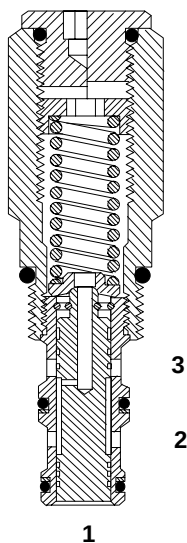
PSV2-10

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV2-10 is a direct acting, spool type, externally piloted, internally drained screw-in cartridge pressure sequence valve.

Operation

This valve is normally closed until a predetermined pressure is applied at port 1. The spool then shifts and allows flow from port 3 to port 2.

Ratings and specifications

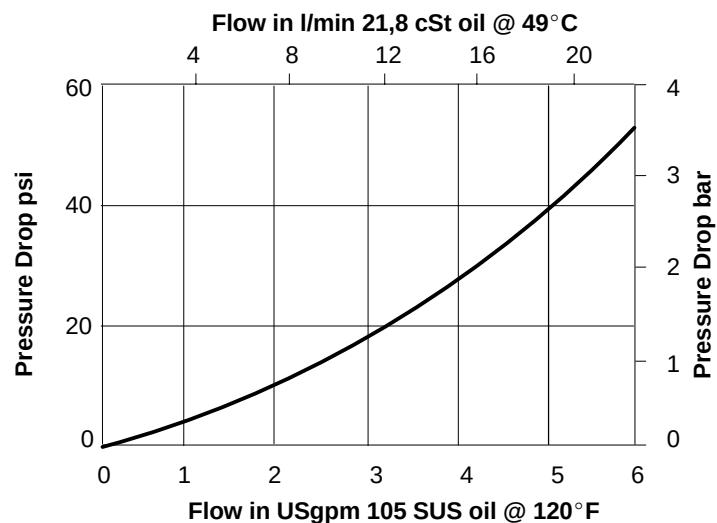
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

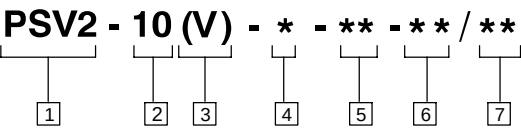
Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Cartridge only





1 Function
PSV2– Pressure sequence valve

2 Size
10 – 10 Size

3 Seals
Blank– Buna–N
V – Viton

4 Adjustment
C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02–173358	—
6T	SAE 6	566162	
2G	1/4" BSPP	—	876705
3G	3/8" BSPP		876714
6H	SAE 6		876704
8H	SAE 8		876711

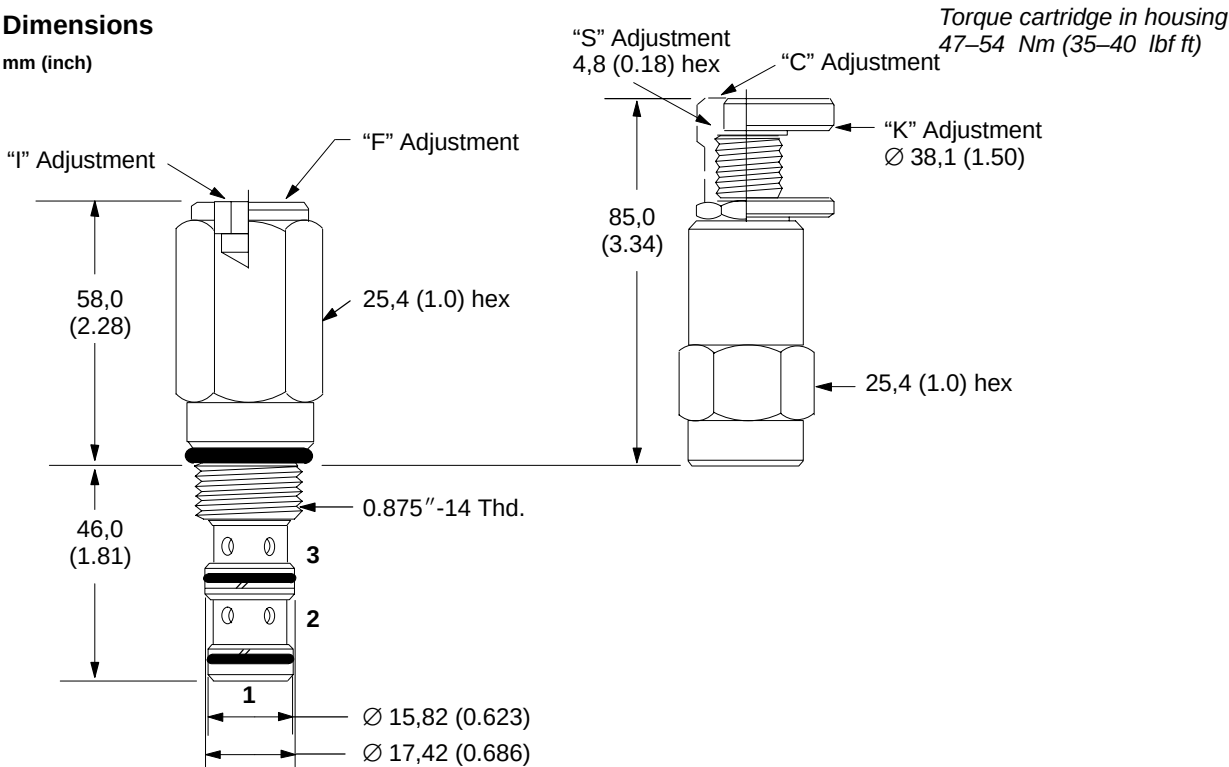
See page 76 for housings

6 Cracking pressure range
2 – 3,5–14 bar (50–200 psi)
6 – 7–40 bar (100–600 psi)
12 – 14–80 bar (200–1200 psi)
24 – 30–165 bar (400–2400 psi)

7 Factory set reduced pressure
Within ranges in **6**
Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

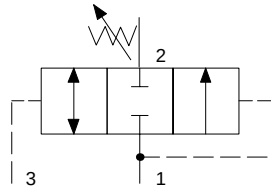
mm (inch)



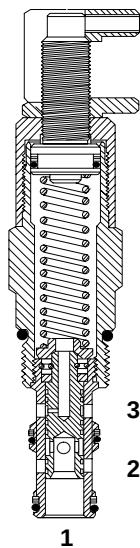
PSV3-10

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV3-10 is a direct acting, spool type, internally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

This valve is normally closed until a predetermined pressure is applied at port 1. The spool then shifts and allows flow from port 1 to port 2.

Ratings and specifications

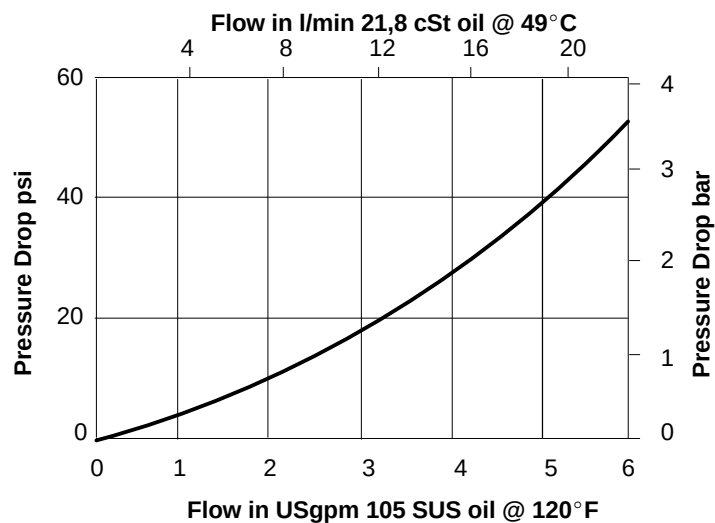
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

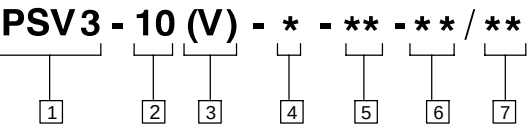
Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Cartridge only





1 Function
PSV3– Pressure sequence valve

2 Size
10 – 10 Size

3 Seals
Blank– Buna–N
V – Viton

4 Adjustment
C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Port size
O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02–173358	
6T	SAE 6	566162	
2G	1/4" BSPP		876705
3G	3/8" BSPP		876714
6H	SAE 6		876704
8H	SAE 8		876711

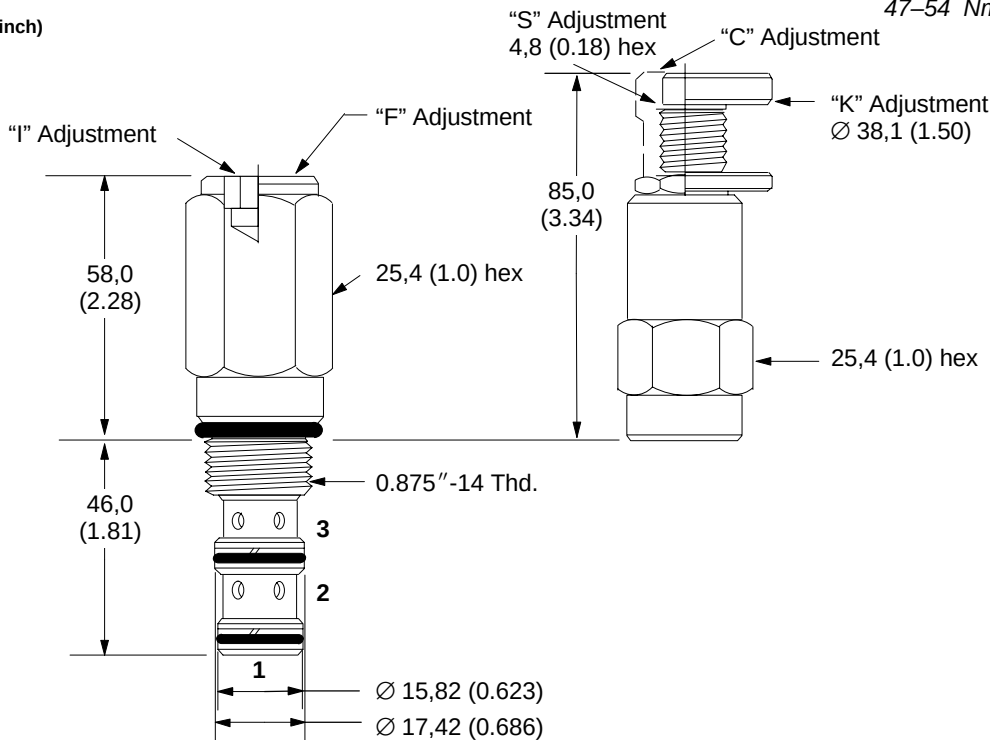
See page 76 for housings

6 Cracking pressure range
2 – 3,5–14 bar (50–200 psi)
4 – 5–28 bar (75–400 psi)
6 – 7–40 bar (100–600 psi)
12 – 14–80 bar (200–1200 psi)
24 – 30–165 bar (400–2400 psi)

7 Factory set reduced pressure
Within ranges in 6
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

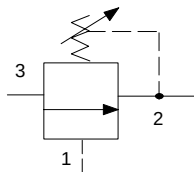


Torque cartridge in housing
47–54 Nm (35–40 lbf ft)

PSV4-10

Pressure sequence valves

Functional Symbol



Description

The PSV4-10 is a direct acting, spool type, externally piloted, internally drained screw-in cartridge pressure sequence valve.

Operation

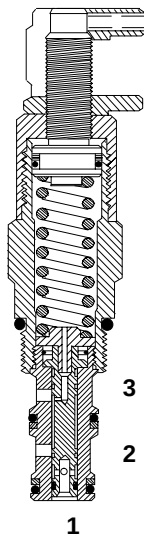
This valve is normally closed until a predetermined pressure is applied at port 1. The spool then shifts and allows flow from port 3 to port 2.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	380 bar (5500 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	15 l/min (4 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

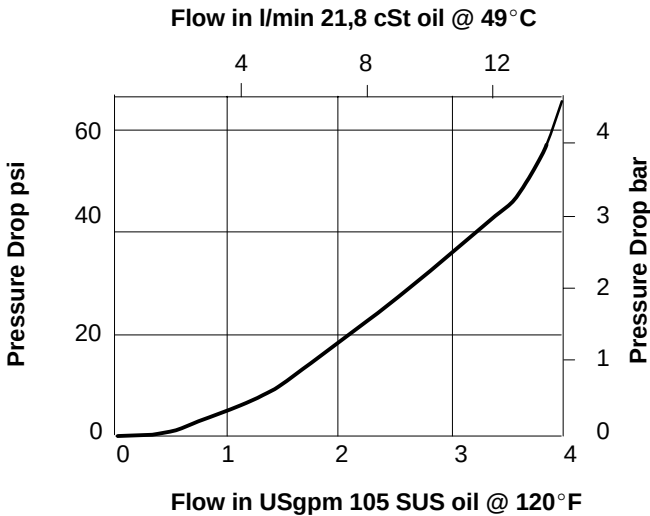
Sectional View

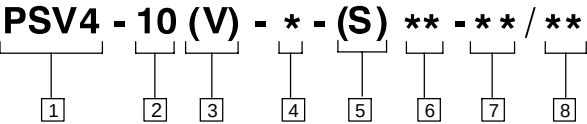


Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Cartridge only





1 Function

PSV4– Pressure sequence valve

2 Size

10 – 10 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Valve housing material

Blank – Aluminum
S – Steel



Aluminum housings can be used for pressures up to 210 bar (3000 psi) Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

6 Port size

O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-173358	—	—
2G	1/4" BSPP	—	876705	02-175127
3G	3/8" BSPP		876714	02-175128
6H	SAE 6		876704	—
8H	SAE 8	566162	876711	—
6T	SAE 6		—	02-175124
8T	SAE 8		—	02-175125

See pages 76 and 79 for housings

7 Cracking pressure range

5 – 3,5–30 bar (50–450 psi)
9 – 7–62 bar (100–900 psi)
14 – 14–95 bar (200–1400 psi)
28 – 20–190 bar (3000–2800 psi)
56 – 35–380 bar (500–5600 psi)

8 Factory set reduced pressure

Within ranges in 7

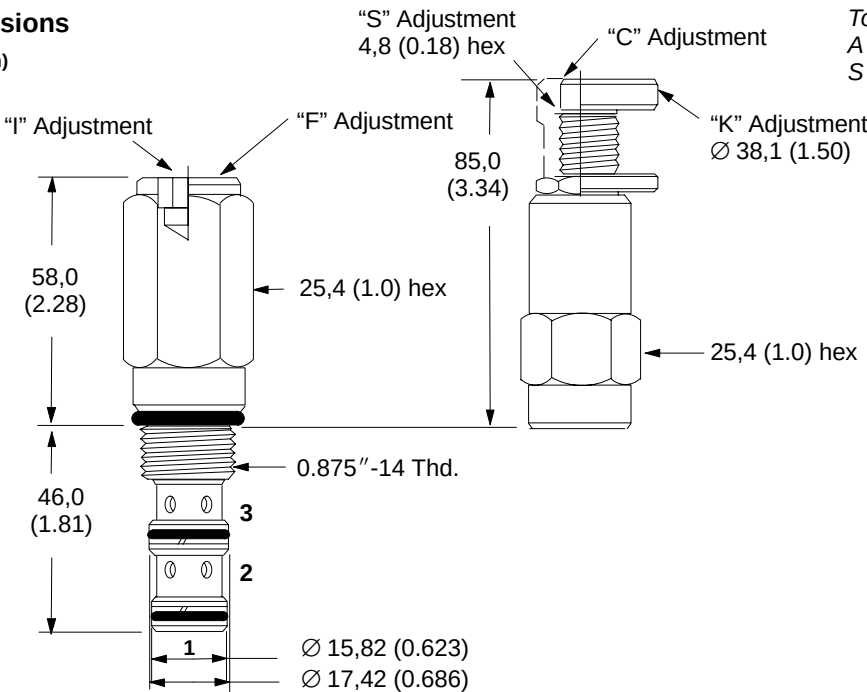
Blank – Normal factory setting at approximate mid-range.

User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

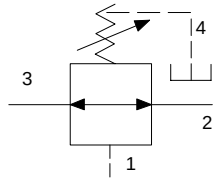


Torque cartridge in housing
A – 47–54 Nm (35–40 lbf ft)
S – 68–75 Nm (50–55 lbf ft)

PSV8-10

Pressure sequence valve

Functional Symbol



Description

The PSV8-10 is a direct acting, normally open, spool type, externally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

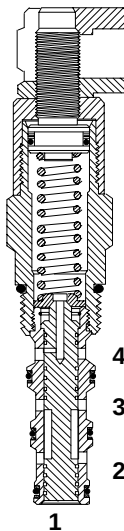
This valve is normally open from port 3 to port 2 until a predetermined pressure is applied at port 1. The spool then shifts and blocks flow between port 3 and port 2. Port 4 must be vented.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-4 (See page 74)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,27 kg. (0.60 lbs.)
Seal kits	889625 Buna-N 566080 Viton®

Sectional View

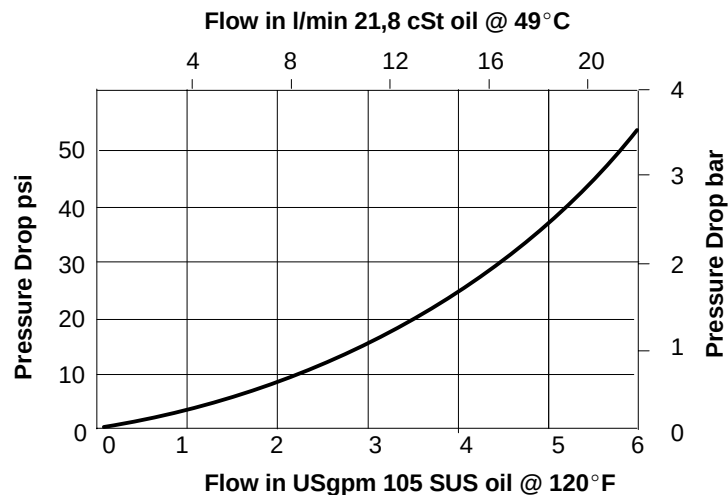


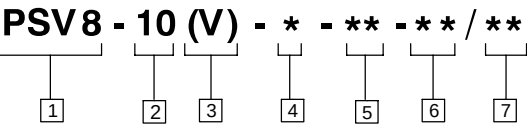
CAUTION: When sudden pressure or velocity is applied at port 1, an orifice disc may be required. Consult factory.

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Pressure Drop Curve

Port 3 to 2, valve fully open
Cartridge only





1 Function

PSV8– Pressure sequence valve

2 Size

10 – 10 Size

3 Seals

Blank– Buna–N
V – Viton

4 Adjustment

C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02-179705	
6T	SAE 6	566161	
2G	1/4" BSPP		876709
3G	3/8" BSPP		876715
6H	SAE 6		876708
8H	SAE 8		876713

See page 77 for housings

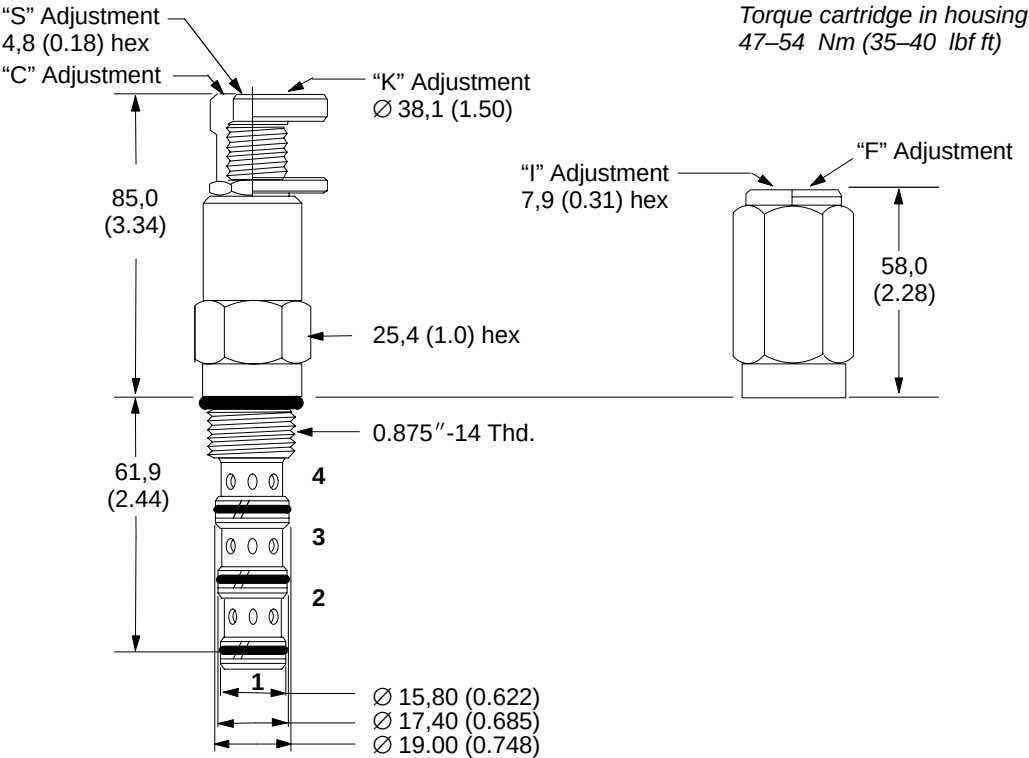
6 Cracking pressure range

2 – 3,5–14 bar (50–200 psi)
4 – 5–28 bar (75–400 psi)
6 – 7–40 bar (100–600 psi)
12 – 14–80 bar (200–1200 psi)
24 – 28–165 bar (400–2400 psi)

7 Factory set reduced pressure

Within ranges in 6
Blank – Normal factory setting at
approximate mid-range.
User requested settings in 3,45 bar (50
psi) steps, coded as in the following
examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions
mm (inch)

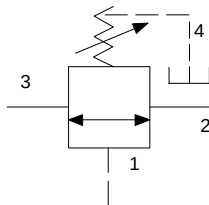


Torque cartridge in housing
47–54 Nm (35–40 lbf ft)

PSV10-10

Pressure sequence valve

Functional Symbol



Description

The PSV10-10 is a direct acting, normally closed, spool type, externally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

This valve is normally closed from port 3 to port 2 until a predetermined pressure is applied at port 1. The spool then shifts and allows flow between port 3 and port 2. Port 4 must be vented.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

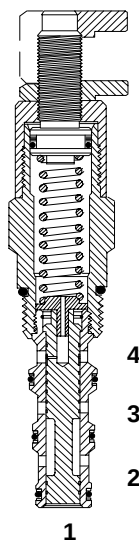
Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-4 (See page 74)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,27 kg. (0.60 lbs.)
Seal kits	889625 Buna-N 566080 Viton®



CAUTION: When sudden pressure or velocity is applied at port 1, an orifice disc may be required. Consult factory.

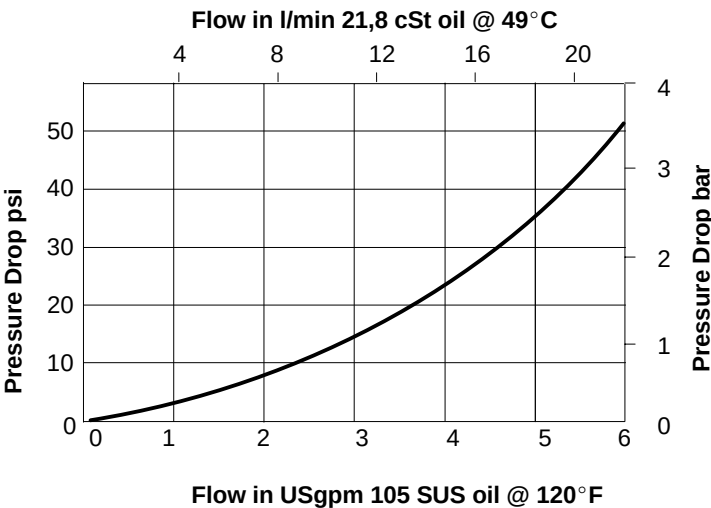
Viton is a registered trademark of E.I.DuPont

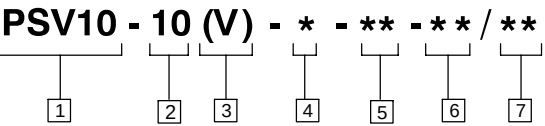
Sectional View



Pressure Drop Curve

Port 3 to 2, valve fully open, spring omitted
Cartridge only





1 Function
PSV10– Pressure sequence valve

2 Size
10 – 10 Size

3 Seals
Blank– Buna–N
V – Viton

4 Adjustment
C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Port size
O – Cartridge only

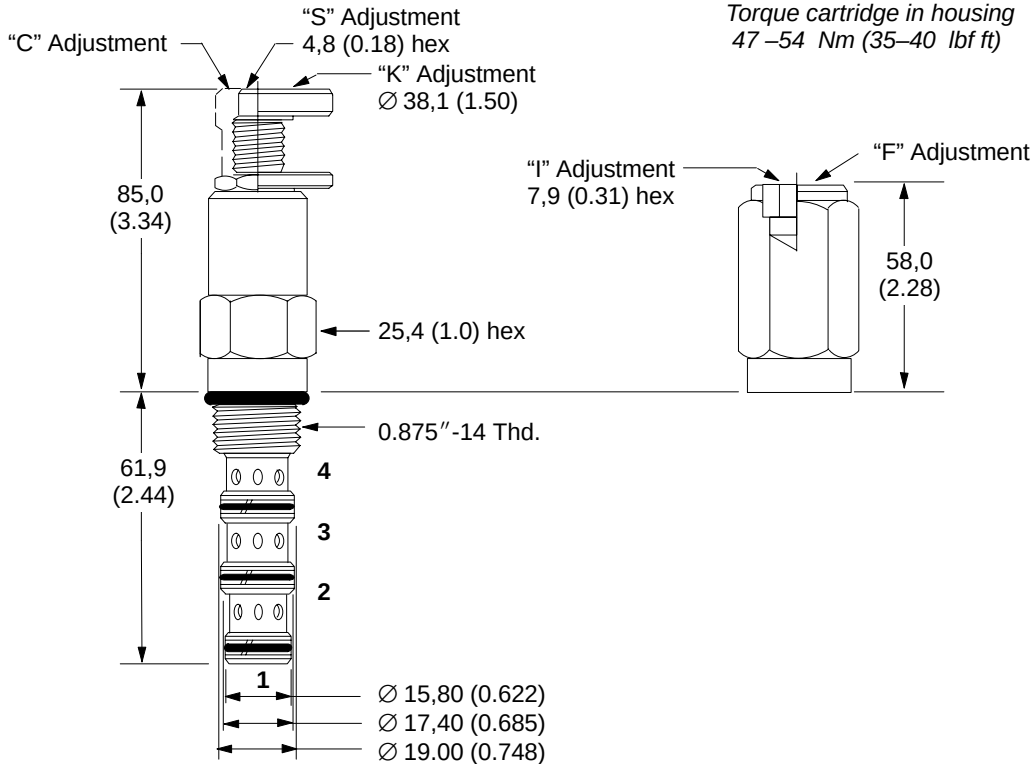
Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02–179705	
6T	SAE 6	566161	
2G	1/4" BSPP		876709
3G	3/8" BSPP		876715
6H	SAE 6		876708
8H	SAE 8		876713

See page 77 for housings

6 Cracking pressure range
2 – 3,5–14 bar (50–200 psi)
4 – 5–28 bar (75–400 psi)
6 – 7–40 bar (100–600 psi)
12 – 14–80 bar (200–1200 psi)
24 – 28–165 bar (400–2400 psi)

7 Factory set reduced pressure
Within ranges in 6
Blank – Normal factory setting at
approximate mid–range.
User requested settings in 3,45 bar (50 psi)
steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions
mm (inch)

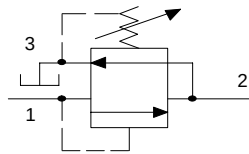


Torque cartridge in housing
47 –54 Nm (35–40 lbf ft)

PSV1-10

Pressure sequence valve

Functional Symbol



Description

The PSV1-10 is a direct acting, spool type, internally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

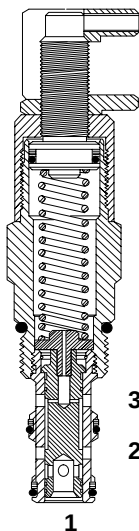
This valve is normally closed until a predetermined pressure is reached at port 1. The spool then shifts and allows flow to port 2. Port 3 must be vented.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	165 bar (2400 psi)
Cartridge fatigue pressure (infinite life)	165 bar (2400 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

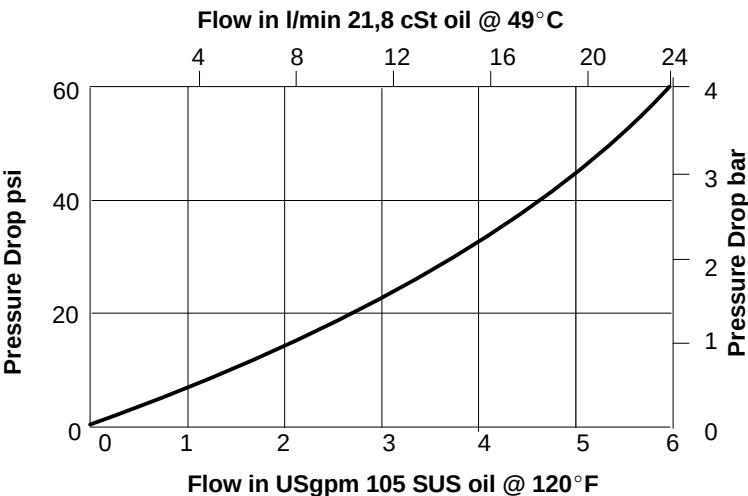
Sectional View

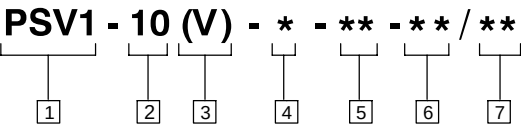


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Pressure Drop Curve

Cartridge only





1 Function
PSV1– Pressure sequence valve

2 Size
10 – 10 Size

3 Seals
Blank– Buna–N
V – Viton

4 Adjustment
C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

5 Port size
O – Cartridge only

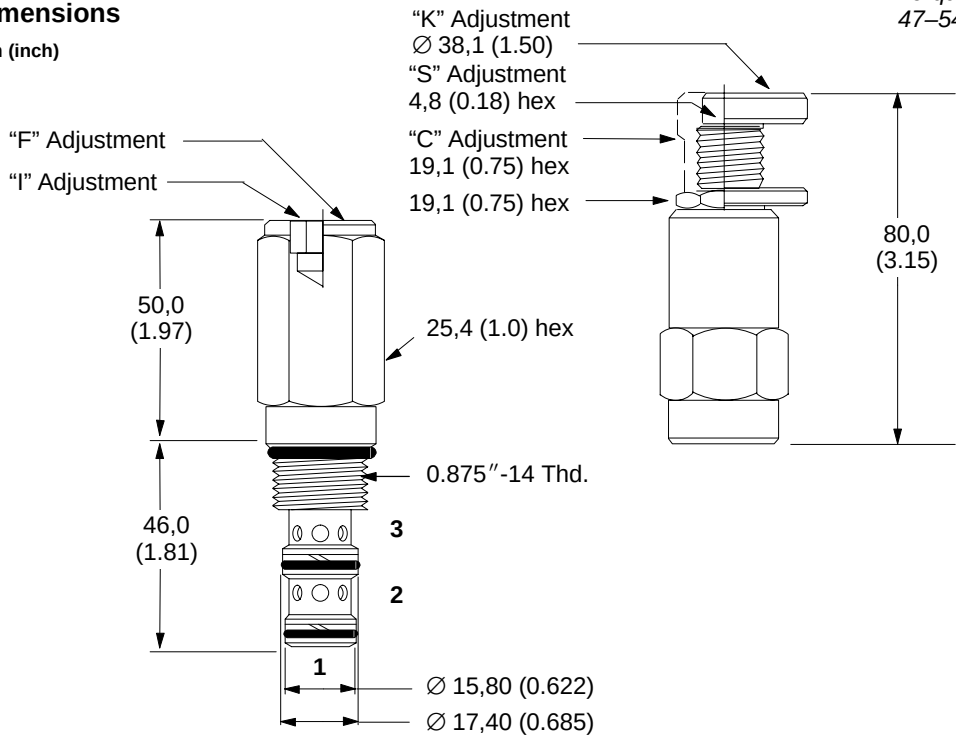
Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02–173358	—
6T	SAE 6	566162	
2G	1/4" BSPP	—	876705
3G	3/8" BSPP		876714
6H	SAE 6		876704
8H	SAE 8		876711

See page 76 for housings

6 Cracking pressure range
2 – 3,5–14 bar (50–200 psi)
6 – 7–40 bar (100–600 psi)
12 – 14–80 bar (200–1200 psi)
24 – 30–165 bar (400–2400 psi)

7 Factory set reduced pressure
Within ranges in **6**
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions
mm (inch)

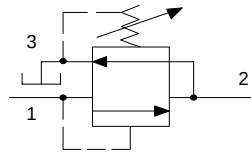


Torque cartridge in housing
47–54 Nm (35–40 lbf ft)

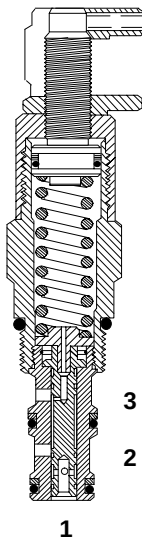
PSV5-10

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV5-10 is a direct acting, spool type, internally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

This valve is normally closed until a predetermined pressure is reached at port 1. The spool then shifts and allows flow to port 2. Port 3 must be vented.

Ratings and specifications

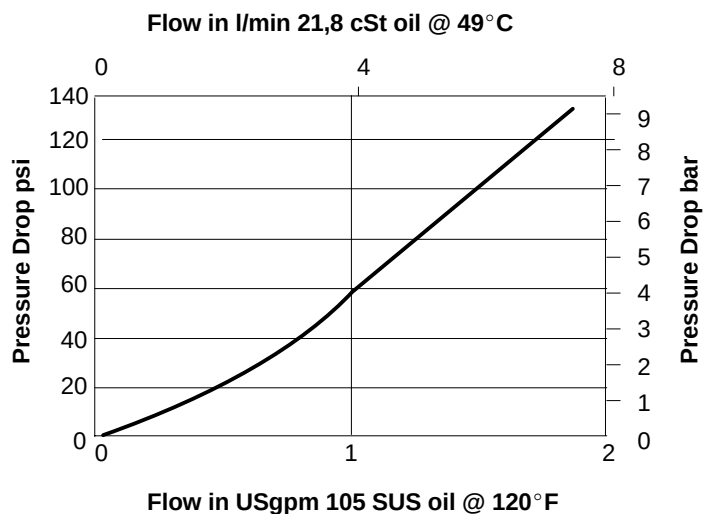
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

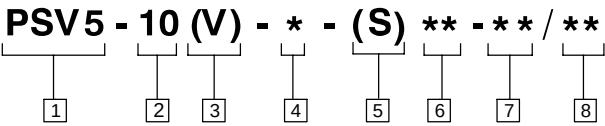
Typical application pressure (all ports)	380 bar (5500 psi)
Cartridge fatigue pressure (infinite life)	190 bar (2800 psi)
Rated flow	8 l/min (2 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

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Pressure Drop Curve

Cartridge only





- 1 Function
PSV5– Pressure sequence valve
- 2 Size
10 – 10 Size
- 3 Seals
Blank– Buna–N
V – Viton
- 4 Adjustment
C – Cap
F – Factory
I – Internal
K – Knob
S – Screw

- 5 Valve housing material
Blank – Aluminum
S – Steel
-  Aluminum housings can be used for pressures up to 210 bar (3000 psi) Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

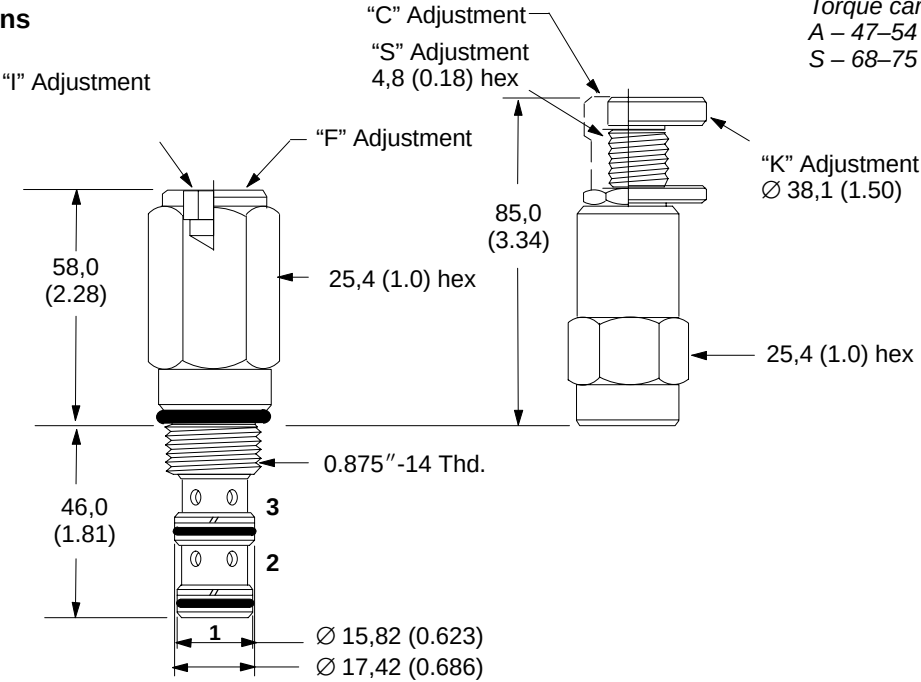
6 Port size
O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02–173358	—	—
2G	1/4" BSPP	—	876705	02–175127
3G	3/8" BSPP		876714	02–175128
6H	SAE 6		876704	—
8H	SAE 8	566162	876711	—
6T	SAE 6		—	02–175124
8T	SAE 8		—	02–175125

- See pages 76 and 79 for housings
- 7 Cracking pressure range
5 – 3,5–30 bar (50–450 psi)
9 – 7–60 bar (100–900 psi)
14 – 14–95 bar (200–1400 psi)
28 – 20–190 bar (300–2800 psi)
56 – 50–380 bar (750–5600 psi)
- 8 Factory set reduced pressure
Within ranges in 7
Blank – Normal factory setting at approximate mid–range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)

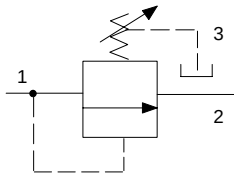


Torque cartridge in housing
A – 47–54 Nm (35–40 lbf ft)
S – 68–75 Nm (50–55 lbf ft)

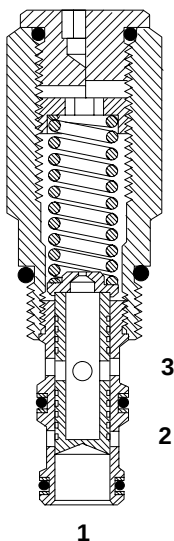
PSV7-10

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV7-10 is a direct acting, spool type, internally piloted, internally drained screw-in cartridge pressure sequence valve.

Operation

This valve is normally closed until a predetermined pressure is reached at port 1. The spool then shifts and allows flow from port 1 to port 2. Port 3 must be vented.

Ratings and specifications

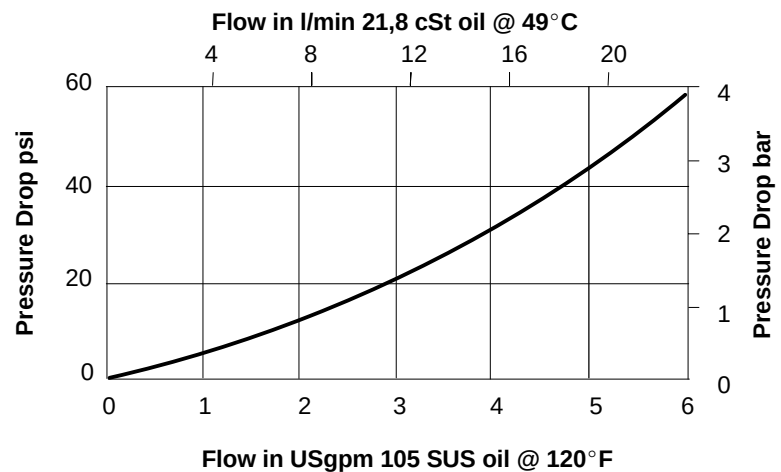
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

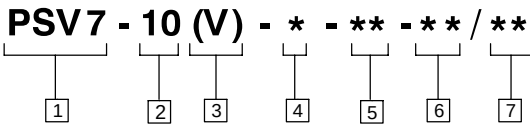
Typical application pressure (all ports)	125 bar (1800 psi)
Cartridge fatigue pressure (infinite life)	125 bar (1800 psi)
Rated flow	23 l/min (6 USgpm)
Cavity	C-10-3 (See page 73)
Standard housing materials	Aluminum
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565804 Buna-N 889599 Viton®

Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Cartridge only





1 Function

PSV7- Pressure sequence valve

2 Size

10 - 10 Size

3 Seals

Blank- Buna-N
V - Viton

4 Adjustment

C - Cap
F - Factory
I - Internal
K - Knob
S - Screw

5 Port size

O - Cartridge only

Code	Port size	Housing number	
		Aluminum Light duty	Aluminum Fatigue rated
3B	3/8" BSPP	02-173358	
6T	SAE 6	566162	
2G	1/4" BSPP		876705
3G	3/8" BSPP		876714
6H	SAE 6		876704
8H	SAE 8		876711

See page 76 for housings

6 Cracking pressure range

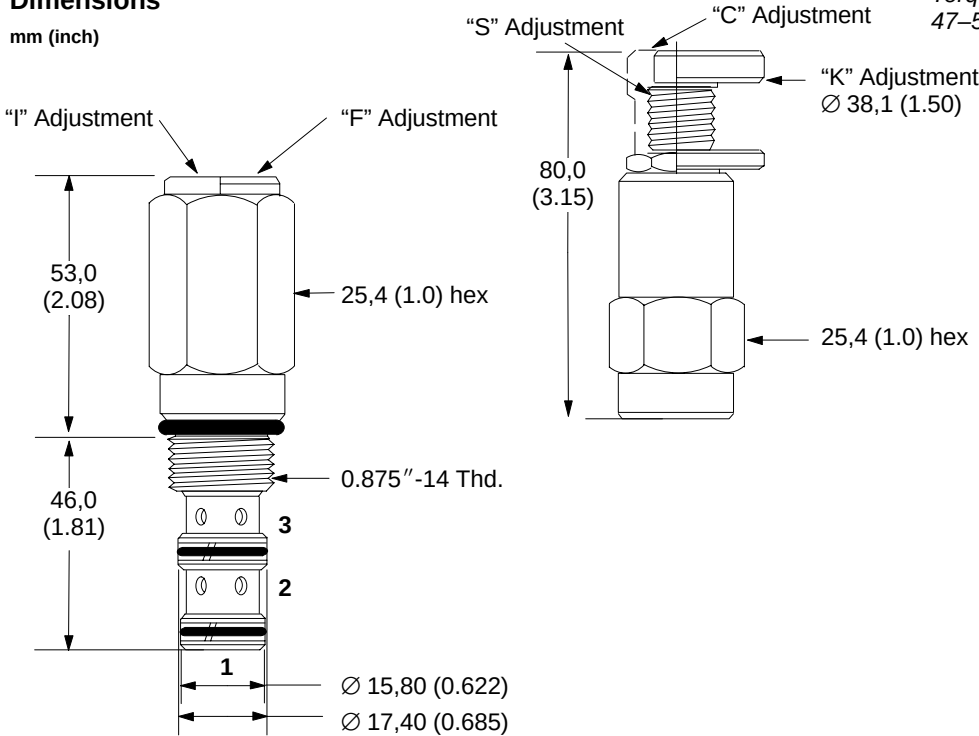
2 - 3,5-10 bar (50-150 psi)
3 - 5-20 bar (75-300 psi)
5 - 7-30 bar (100-450 psi)
10 - 14-65 bar (200-950 psi)
18 - 20-125 bar (300-1800 psi)

7 Factory set reduced pressure

Within ranges in 6
Blank - Normal factory setting at
approximate mid-range.
User requested settings in 3,45 bar
(50 psi) steps, coded as in the following
examples:
10 - 70 bar (1000 psi)
10.5 - 72,4 bar (1050 psi)

Dimensions

mm (inch)

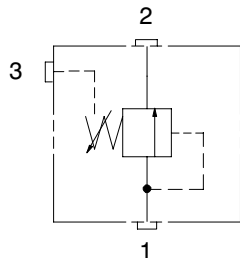


Torque cartridge in housing
47-54 Nm (35-40 lbf ft)

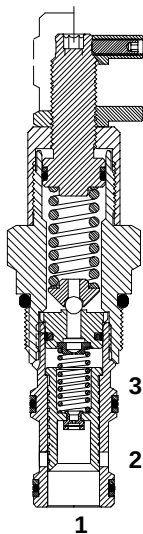
PSV11-12

Pressure sequence valve

Functional Symbol



Sectional View



Description

The PSV11-12 is a pilot operated, sliding spool, adjustable, cartridge type pressure sequence valve. This valve, which is internally piloted, controls the sequence of operations of two or more actuators.

Operation

The PSV11-12 valve remains normally closed until a predetermined pressure is reached at port 1, which then allows flow to port 2 (port 3 must be vented).

Ratings and specifications

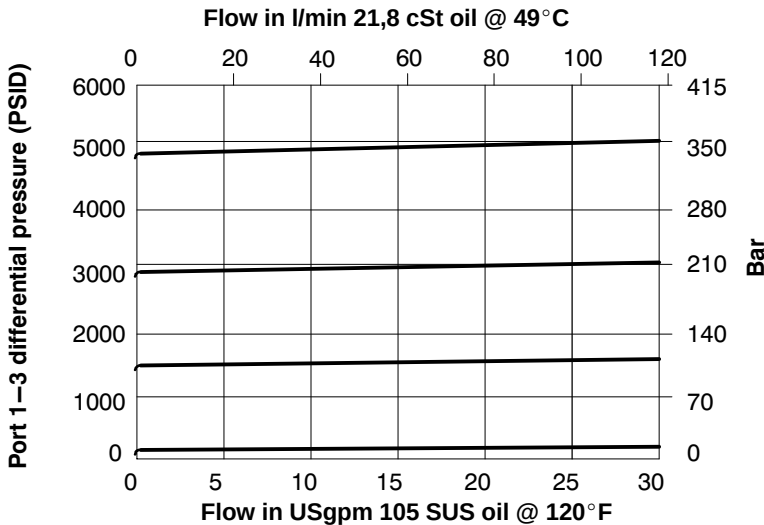
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

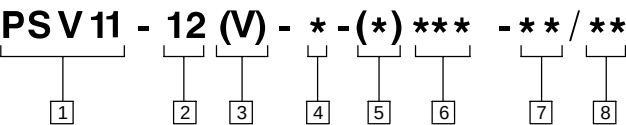
Typical application pressure	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	114 l/min (30 USgpm)
Crack pressure set with	1 l/min (0.25 USgpm) from port "1" to "2"
Reseat pressure	More than 90% of crack pressure
Hysteresis	Less than 3 bar (45 psi)
Internal leakage	189 ml/min (11.6 in ³ /min) @ 80% crack press.
Overshoot	Less than 15% of max. press. range with flow step of 30 USgpm at pressure rise rate of 100,000 psi/sec.
Repeatability	+/- 1% maximum pressure range
Cavity	C-12-3S (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,4 kg. (0.89 lbs.)
Seal kits	02-180095 Buna-N 02-165887 Viton®

Viton is a registered trademark of E.I.DuPont

Sequence Pressure Override Characteristics

Cartridge only





- 1 Function

PSV11– Pressure sequence valve
- 2 Size

12 – 12 Size
- 3 Seals

Blank– Buna–N
V – Viton
- 4 Adjustment

C – Cap
K – Knob
S – Screw
- 5 Valve housing material

Omit for cartridge only

S – Steel
A – Aluminum

6 Port size

O – Cartridge only

Code	Port size	Housing number	
		Aluminum Fatigue rated	Steel Fatigue rated
10T	SAE 10	02–178268	02–160996
12T	SAE 12	02–178269	02–160997
4G	1/2" BSPP	02–178270	02–160994
6G	3/4" BSPP	02–178271	02–160995

See pages 76 and 79 for housings

7 Pressure range

15 – 10–100 bar (150–1500 psi)
30 – 17–210 bar (250–3000 psi)
50 – 24–350 bar (350–5000 psi)



Aluminum housings can be used for pressures up to 210 bar (3000 psi)
Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

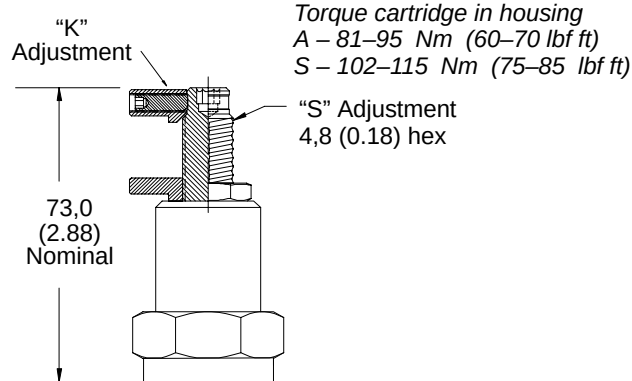
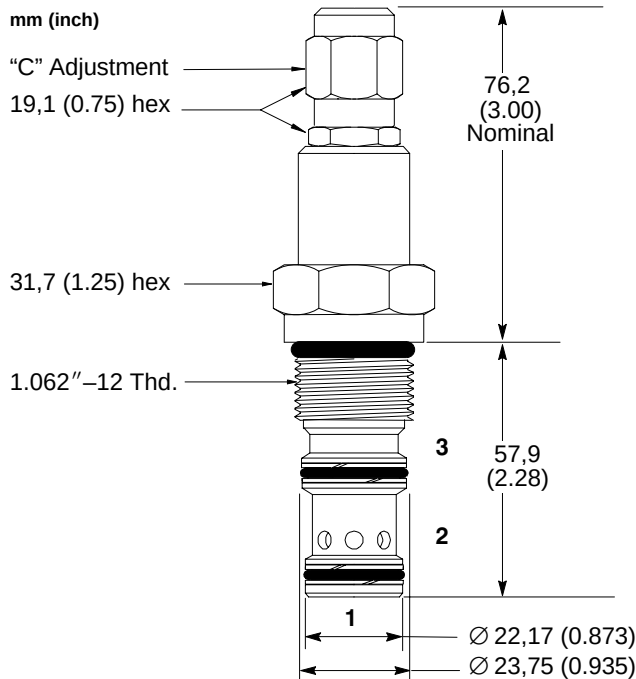
8 Factory set reduced pressure

Within ranges in 7

Blank – Normal factory setting at approximate mid–range. User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:

10 – 70 bar (1000 psi)
10.5 – 72,4bar (1050 psi)

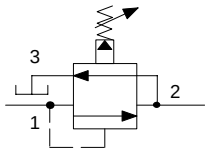
Dimensions



PSV1-16

Pressure sequence valve

Functional Symbol



Description

The PSV1-16 is a pilot operated, spool type, internally piloted, externally drained screw-in cartridge pressure sequence valve.

Operation

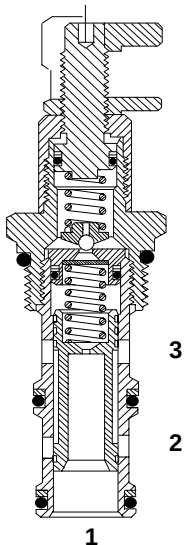
This valve is normally closed until a predetermined pressure is reached at port 1. The spool then shifts and allows flow to port 2. Port 3 must be vented.

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	415 bar (6000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	95 l/min (25 USgpm)
Cavity	C-16-3 (See page 73)
Standard housing materials	Aluminum or steel
Temperature range	-40 to 120°C (-40° to 248°F)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,24 kg. (0.53 lbs.)
Seal kits	565811 Buna-N 889610 Viton®

Sectional View

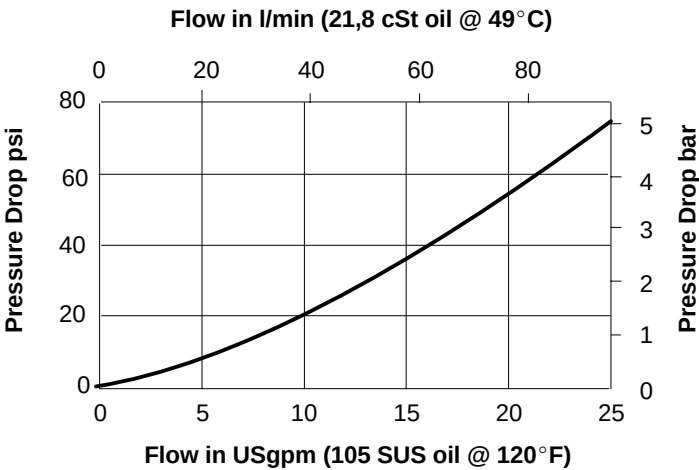


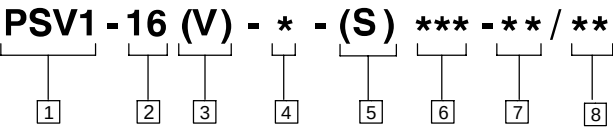
Viton is a registered trademark of E.I.DuPont

Pressure Drop Curve

Port 1 to 2, valve fully open, spring omitted

Cartridge only





- 1 **Function**
PSV1– Pressure sequence valve
- 2 **Size**
16 – 16 Size
- 3 **Seals**
Blank– Buna–N
V – Viton
- 4 **Adjustment**
C – Cap
K – Knob
S – Screw

- 5 **Valve housing material**
Blank – Aluminum
S – Steel

6 **Port size**
O – Cartridge only

Code	Port size	Housing number		
		Aluminum Light duty	Aluminum Fatigue rated	Steel Fatigue rated
6B	3/4" BSPP	02–175465	—	—
4G	1/2" BSPP	—	876720	02–175131
6G	3/4" BSPP		876722	02–175132
10H	SAE 10		876721	—
12H	SAE 12		876723	—
10T	SAE 10		—	02–175129
12T	SAE 12	566152	—	02–175130

See pages 76 and 79 for housings

- 7 **Cracking pressure range**
30 – 35–210 bar (500–3000 psi)
60 – 70–415 bar (1000–6000 psi)

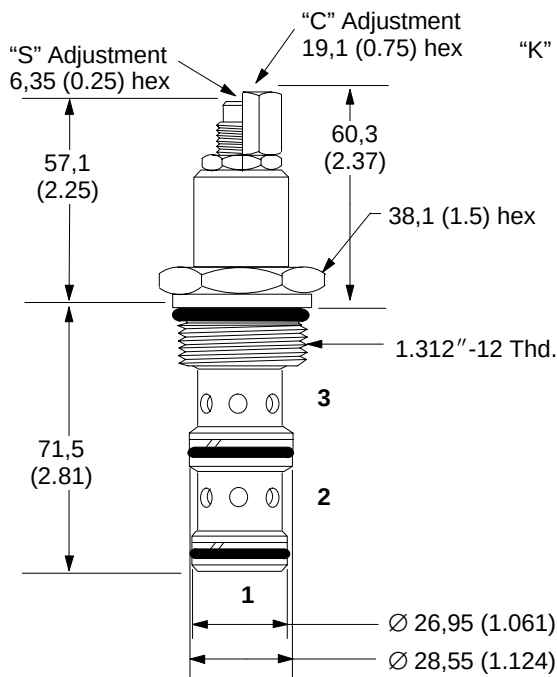


Aluminum housings can be used for pressures up to 210 bar (3000 psi)
Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi)

- 8 **Factory set reduced pressure**
Within ranges in 7
Blank – Normal factory setting at approximate mid-range.
User requested settings in 3,45 bar (50 psi) steps, coded as in the following examples:
10 – 70 bar (1000 psi)
10.5 – 72,4 bar (1050 psi)

Dimensions

mm (inch)



Torque cartridge in housing
A – 108–122 Nm (80–90 lbf ft)
S – 136–149 Nm (100–110 lbf ft)

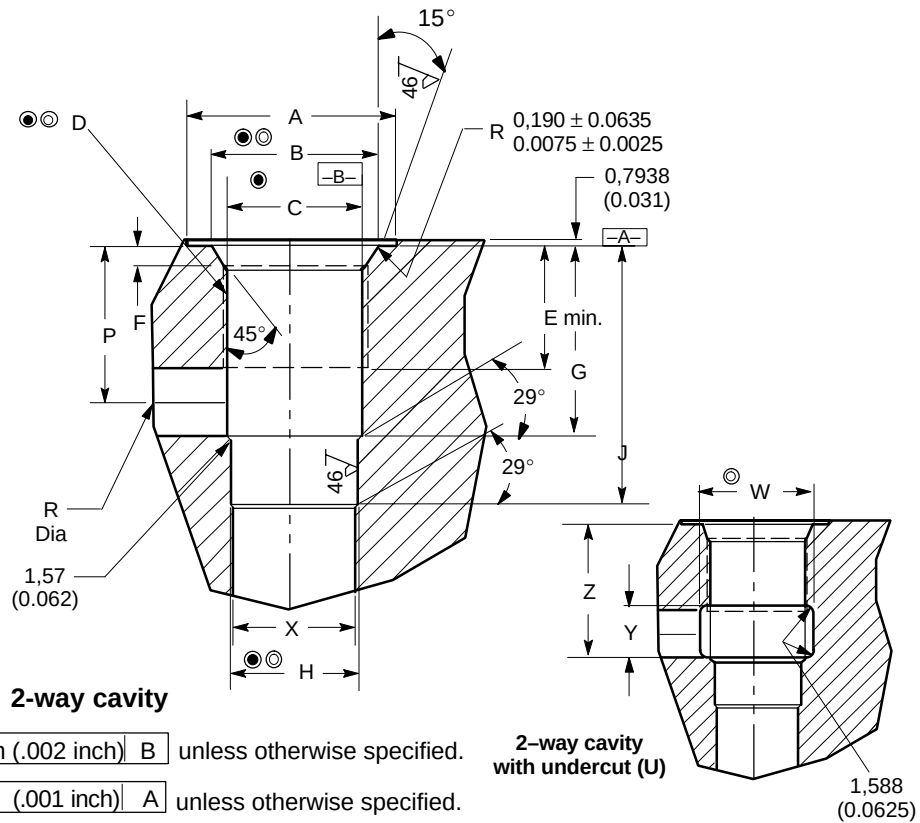
C-**-2 Cavity Dimensions

Dimensions

mm (inch)

Cavity bores can be machined accurately in aluminum or steel. The necessary UNF, or UN threads may be machined using standard small tools, possibly already in your machine shop or from a local tool supplier. For in depth advice on the machining of cavities, consult your Vickers sales specialist.

Either you, our customer, or Vickers can design and manufacture customized manifolds or housings dedicated to individual applications. We call the resulting valve packages Modular Circuit Designs (MCDs). Cartridges selected for your application can be accommodated in one or more MCDs, according to your requirements.



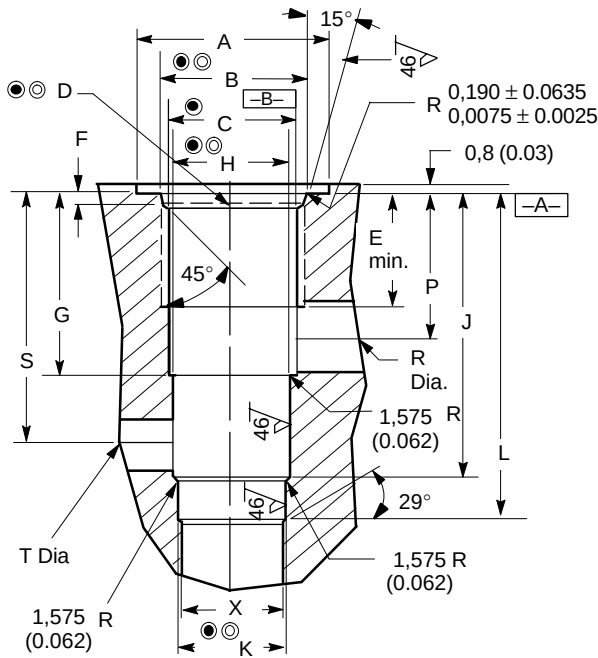
Cavity mm (inch)	A Spotface	B +0,051 0 (+0.002 0)	C +0,051 0 (+0.002 0)	D Thread	E Full Thread	F	G	H $\pm 0,0254$ (± 0.001)	J	P	R Max. Dia.	X Max. Dia.
C-8-2	30,16 (1.188)	20,65 (0.813)	17,47 (0.688)	.750"-16	12,70 (0.500)	2,54/2,92 (0.100/0.115)	19,05 (0.750)	12,72 (0.501)	30,17 (1.188)	14,68 (0.578)	8,74 (0.344)	11,11 (0.438)
C-10-2	30,16 (1.188)	24,00 (0.945)	20,62 (0.812)	.875"-14	15,88 (0.625)	2,54/2,92 (0.100/0.115)	23,81 (0.937)	15,90 (0.626)	33,32 (1.312)	18,23 (0.718)	11,11 (0.437)	14,29 (0.562)
C-12-2 (U)	38,10 (1.500)	29,15 (1.148)	24,76 (0.975)	1.062"-12	22,22 (0.875)	3,30/3,68 (0.130/0.145)	34,92 (1.375)	23,82 (0.938)	46,35 (1.825)	27,94 (1.100)	12,70 (0.500)	22,22 (0.875)
C-16-2	44,45 (1.750)	35,58 (1.401)	31,34 (1.234)	1.312"-12	22,22 (0.875)	3,30/3,68 (0.130/0.145)	34,14 (1.344)	28,62 (1.127)	46,84 (1.844)	24,60 (0.968)	19,05 (0.750)	19,05 (0.750)
C-20-2	57,66 (2.270)	43,59 (1.716)	39,12 (1.540)	1.625"-12	20,64 (0.812)	3,35/3,73 (0.132/0.147)	44,45 (1.750)	36,55 (1.439)	58,72 (2.312)	30,96 (1.218)	25,40 (1.000)	30,16 (1.187)

Cavity mm (inch)	W	Y	Z
C-12-2U (only)	30,83 (1.214)	12,70 (0.500)	34,29 (1.350)

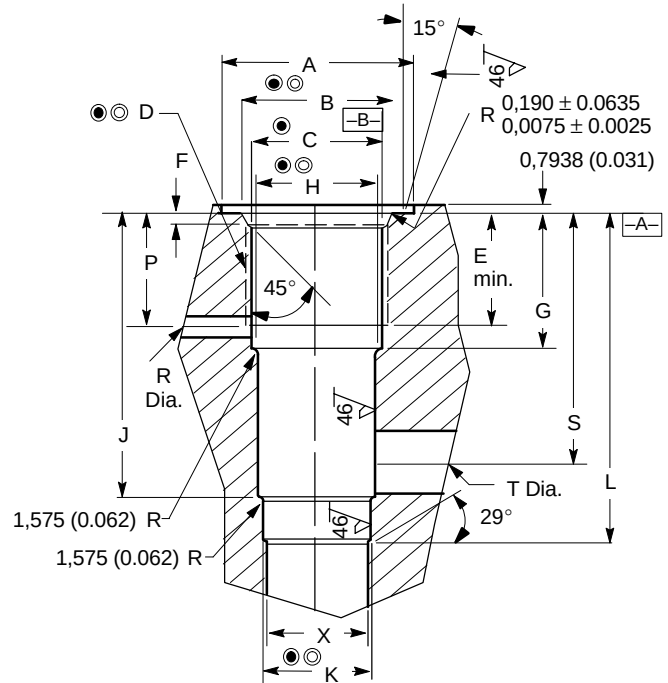
C-**-3(S) Cavity Dimensions

Dimensions

mm (inch)



3-way cavity



3-way short cavity (S)

● These diameters $\frac{0,051}{0} \text{ mm } (.002 \text{ inch})$ B unless otherwise specified.

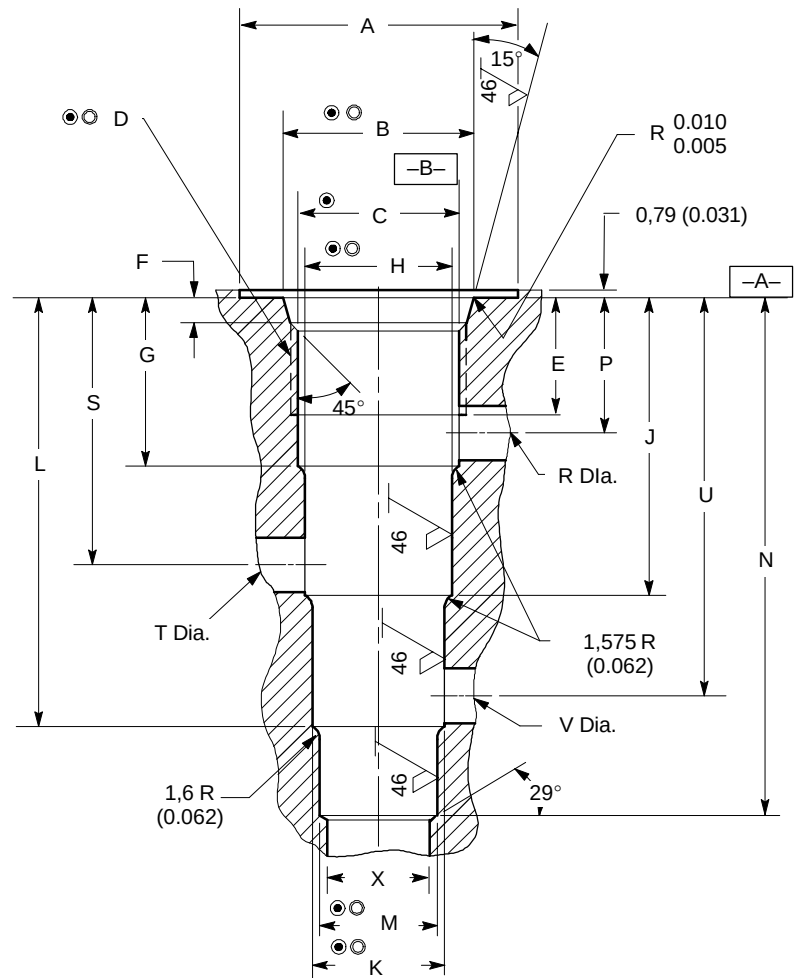
○ These diameters $\frac{0,025}{0} \text{ mm } (.001 \text{ inch})$ A unless otherwise specified.

Cavity mm (inch)	A Spotface	B $\frac{+0,051}{0}$ ($\frac{+0,002}{0}$)	C $\frac{+0,051}{0}$ ($\frac{+0,002}{0}$)	D Thread	E Full Thread	F	G	H $\pm 0,0254$ ($\pm 0,001$)
C-8-3	30,16 (1.188)	20,65 (0.813)	17,47 (0.688)	0.750"-16	12,70 (0.500)	2,54/2,92 (0.100/0.115)	18,24 (0.718)	15,90 (0.626)
C-10-3	30,16 (1.188)	24,00 (0.945)	20,62 (0.812)	0.875"-14	15,88 (0.625)	2,54/2,92 (0.100/0.115)	21,59 (0.850)	17,50 (0.689)
C-10-3S	30,18 (1.188)	24,00 (0.945)	20,62 (0.812)	0.875"-14	14,29 (0.562)	2,54/2,92 (0.100/0.115)	16,51 (0.650)	19,08 (0.751)
C-12-3	38,10 (1.500)	29,15 (1.148)	24,76 (0.975)	1.062"-12	22,22 (0.875)	3,30/3,68 (0.130/0.145)	34,92 (1.375)	23,82 (0.938)
C-12-3S	38,10 (1.500)	29,15 (1.148)	24,76 (0.975)	1.062"-12	22,22 (0.875)	3,30/3,68 (0.130/0.145)	25,40 (1.000)	23,82 (0.938)
C-16-3	44,45 (1.750)	35,58 (1.401)	31,34 (1.234)	1.312"-12	22,22 (0.875)	3,30/3,68 (0.130/0.145)	34,14 (1.344)	28,62 (1.127)
C-16-3S	44,45 (1.750)	35,58 (1.401)	31,34 (1.234)	1.312"-12	17,46 (0.687)	3,30/3,68 (0.130/0.145)	20,62 (0.812)	28,62 (1.127)
Cavity mm (inch)	J	K $\pm 0,0254$ ($\pm 0,001$)	L	P	R Max. Dia.	S	T Max. Dia.	X Max. Dia.
C-8-3	33,26 (1.270)	14,30 (0.563)	43,26 (1.703)	14,68 (0.578)	5,94 (0.234)	28,98 (1.141)	5,94 (0.234)	12,70 (0.500)
C-10-3	38,10 (1.500)	15,90 (0.626)	47,62 (1.875)	18,26 (0.719)	6,35 (0.250)	34,13 (1.344)	6,35 (0.250)	14,29 (0.562)
C-10-3S	38,48 (1.515)	17,50 (0.689)	47,62 (1.875)	14,29 (0.562)	3,18 (0.125)	30,96 (1.218)	13,49 (0.531)	15,88 (0.625)
C-12-3	57,78 (2.275)	22,25 (0.876)	69,21 (2.725)	27,94 (1.100)	12,70 (0.500)	50,80 (2.000)	12,70 (0.500)	20,62 (0.812)
C-12-3S	48,26 (1.900)	22,25 (0.876)	59,69 (2.350)	22,22 (0.875)	4,82 (0.190)	41,27 (1.625)	12,70 (0.500)	20,62 (0.812)
C-16-3	62,71 (2.469)	27,02 (1.064)	75,39 (2.968)	24,60 (0.968)	15,88 (0.626)	53,18 (2.093)	15,88 (0.625)	19,05 (0.750)
C-16-3S	46,02 (1.812)	25,45 (1.002)	55,58 (2.188)	16,67 (0.656)	6,35 (0.250)	37,31 (1.468)	15,88 (0.625)	19,05 (0.750)

C-**-4 Cavity Dimensions

Dimensions

mm (inch)



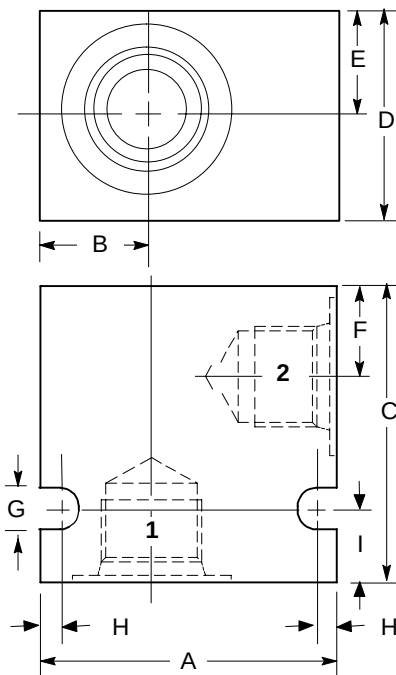
- These diameters $\frac{\text{mm}}{0.051 \text{ mm (.002 inch)}}$ B
unless otherwise specified.
- ◎ These diameters $\frac{\text{mm}}{0.025 \text{ mm (.001 inch)}}$ A
unless otherwise specified.

4-Way Cavity

Cavity mm (inch)	A Spotface	B $\frac{+0,051}{0}$ ($\frac{+0.002}{0}$)	C $\frac{+0,051}{0}$ ($\frac{+0.002}{0}$)	D Thread	E Full Thread	F	G	H $\pm 0,0254$ (± 0.001)	J	K $\pm 0,0254$ (± 0.001)
C-10-4	30,16 (1.188)	24,00 (0.945)	20,62 (0.812)	0.875"-14	15,88 (0.625)	2,54/2,92 (0.100/0.115)	22,22 (0.875)	19,08 (0.751)	38,10 (1.500)	17,50 (0.689)
Cavity mm (inch)	L	M $\pm 0,0254$ (± 0.001)	N	P	R Max. Dia.	S	T Max. Dia.	U	V	X Max. Dia.
C-10-4	53,98 (2.125)	15,90 (0.626)	63,50 (2.500)	18,26 (0.718)	6,35 (0.250)	34,13 (1.343)	6,35 (0.250)	50,00 (1.968)	6,35 (0.250)	14,29 (0.562)

C**-2(U) Aluminum Housings (Light Duty & Fatigue Rated)

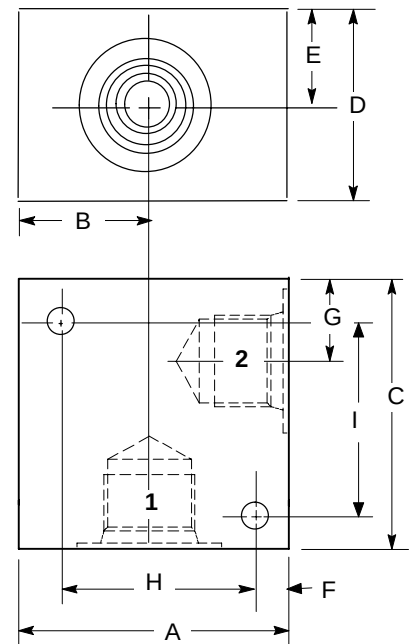
Housing	Ports 1 & 2	Part Number
C-10-2 Light Duty	3/8" BSPP	02-175462
	SAE 6	566151
C-16-2 Light Duty	3/4" BSPP	02-175463
	SAE 12	566149



All models except
C-12-2(U)

Housing	Ports 1 & 2	Part Number
C-8-2 Fatigue Rated	1/4" BSPP	02-160727
	3/8" BSPP	02-160728
	SAE 4	02-160730
	SAE 6	02-160731
	SAE 8	02-160732
C-10-2 Fatigue Rated	1/4" BSPP	876702
	3/8" BSPP	876703
	SAE 6	876700
	SAE 8	876701
C-12-2U Fatigue Rated	1/2" BSPP	02-161116
	3/4" BSPP	02-161115
	SAE 10	02-160641
	SAE 12	02-160645
C-12-2 Fatigue Rated	1/2" BSPP	02-161118
	3/4" BSPP	02-161117
	SAE 10	02-160640
	SAE 12	02-160644
C-16-2 Fatigue Rated	1/2" BSPP	876716
	3/4" BSPP	876718
	SAE 10	876717
	SAE 12	566113

Note: BSPP porting is designated by either "B" or "G" in the model code
SAE porting is designated by either "H" or "T" in the model code



C-12-2(U)

Cavity (inch)	A	B	C	D	E	F	G	H	I	Mass kg (lb.)
C-10-2 Light Duty	50,8 (2.00)	19,0 (0.75)	50,8 (2.00)	31,7 (1.25)	15,9 (0.62)	19,0 (0.75)	7,1 (0.28)	3,1 (0.12)	12,7 (0.50)	0,1 (0.35)
C-16-2 Light Duty	76,2 (3.0)	28,5 (1.12)	76,2 (3.00)	47,6 (1.87)	23,8 (0.94)	25,4 (1.00)	8,6 (0.34)	4,0 (0.16)	19,0 (0.75)	0,5 (1.21)

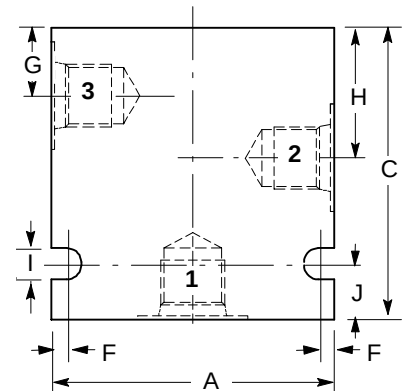
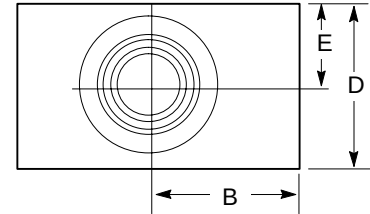
Cavity (inch)	A	B	C	D	E	F	G	H	I	Mass kg (lb.)
C-8-2 Fatigue Rated	50,8 (2.00)	19,0 (0.75)	51,0 (2.00)	38,1 (1.50)	19,0 (0.75)	3,4 (0.13)	15,5 (0.61)	7,1 (0.28)	12,7 (0.50)	0,2 (0.46)
C-10-2 Fatigue Rated	63,5 (2.50)	25,4 (1.00)	63,5 (2.50)	50,8 (2.00)	25,4 (1.00)	9,5 (0.37)	20,8 (0.81)	7,1 (0.28)	19,0 (0.75)	0,4 (1.00)
C-12-2(U) Fatigue Rated	88,9 (3.50)	44,5 (1.75)	88,9 (3.50)	50,8 (2.00)	25,4 (1.00)	12,7 (0.50)	28,7 (1.13)	63,5 (2.50)	63,5 (2.50)	0,8 (1.96)
C-16-2 Fatigue Rated	88,9 (3.50)	34,9 (1.37)	88,9 (3.50)	63,5 (2.50)	31,7 (1.25)	10,3 (0.40)	28,4 (1.11)	8,7 (0.34)	25,4 (1.00)	1,2 (2.75)

C-**-3(S) Aluminum Housings (Light Duty & Fatigue Rated)

Housing	Ports 1, 2 & 3	Part Number
C-10-3 Light Duty	SAE 6	566162
	3/8" BSPP	02-173358
C-16-3 Light Duty	3/4" BSPP	02-175465
	SAE 12	566152
C-16-3S Light Duty	3/4" BSPP	02-175471
	SAE 12	566414

Note: BSPP porting is designated by either "B" or "G" in the model code
SAE porting is designated by either "H" or "T" in the model code

Housing	Ports 1, 2 & 3	Part Number
C-8-3 Fatigue Rated	1/4" BSPP	02-160739
	3/8" BSPP	02-160740
	SAE 4	02-160741
	SAE 6	02-160742
C-10-3 Fatigue Rated	1/4" BSPP	876705
	3/8" BSPP	876714
	SAE 6	876704
	SAE 8	876711
C-12-3 Fatigue Rated	1/2" BSPP	02-161817
	3/8" BSPP	02-161816
	SAE 10	02-160642
	SAE 12	02-160646
C-12-3S Fatigue Rated	1/2" BSPP	02-178270
	3/4" BSPP	02-178271
	SAE 10	02-178268
	SAE 12	02-178269
C-16-3 Fatigue Rated	1/2" BSPP	876720
	3/4" BSPP	876722
	SAE 10	876721
	1/2" BSPP	02-160676
C-16-3S Fatigue Rated	3/4" BSPP	876726
	SAE 10	876725
	SAE 12	876727



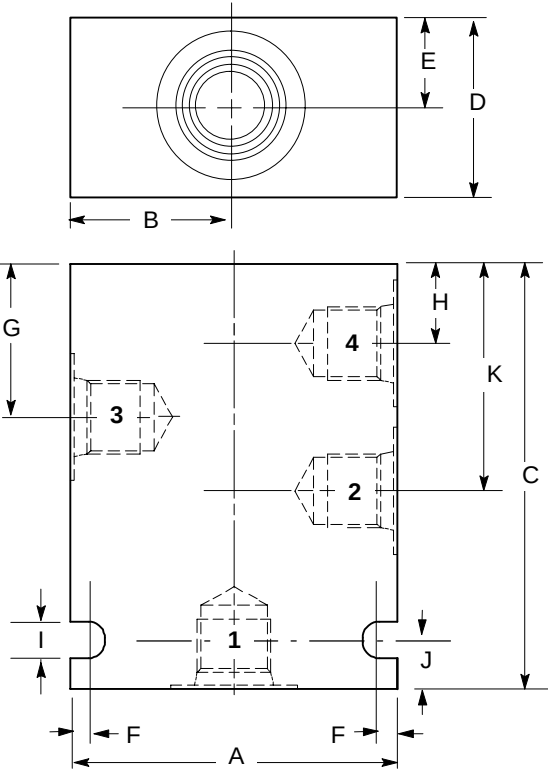
Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	Mass kg (lb.)
C-8-3 Fatigue Rated	63,5 (2.50)	31,8 (1.25)	66,6 (2.62)	38,1 (1.50)	19,0 (0.75)	3,4 (0.13)	15,5 (0.61)	29,8 (1.17)	7,1 (0.28)	13,0 (0.51)	0,4 (0.83)
C-10-3 Fatigue Rated	76,2 (3.00)	38,1 (1.50)	76,2 (3.00)	50,8 (2.00)	25,4 (1.00)	9,5 (0.37)	20,8 (0.81)	36,6 (1.44)	7,1 (0.28)	19,0 (0.75)	0,7 (1.65)
C-12-3 Fatigue Rated	88,9 (3.50)	44,5 (1.75)	107,9 (4.25)	50,8 (2.00)	25,4 (1.00)	12,7 (0.50)	28,7 (1.13)	51,6 (2.03)	10,3 (0.41)	12,7 (0.50)	0,8 (1.80)
C-12-3S Fatigue Rated	88,9 (3.50)	44,5 (1.75)	101,6 (4.00)	50,8 (2.00)	25,4 (1.00)	12,7 (0.50)	23,0 (0.91)	42,1 (1.66)	10,3 (0.41)	12,7 (0.50)	0,8 (1.80)
C-16-3 Fatigue Rated	114,3 (4.50)	60,3 (2.37)	114,3 (4.50)	63,5 (2.50)	31,7 (1.25)	10,3 (0.40)	28,4 (1.12)	57,0 (2.24)	8,7 (0.34)	25,4 (1.00)	2,0 (4.50)
C-16-3S Fatigue Rated	114,3 (4.50)	60,3 (2.37)	114,3 (4.50)	63,5 (2.50)	31,7 (1.25)	10,3 (0.40)	20,4 (0.80)	41,1 (1.62)	8,7 (0.34)	25,4 (1.00)	2,0 (4.50)

Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	Mass kg (lb.)
C-10-3 Light Duty	63,5 (2.50)	31,7 (1.25)	66,6 (2.62)	31,7 (1.25)	15,8 (0.62)	3,1 (0.12)	19,0 (0.75)	34,9 (1.37)	7,1 (0.28)	12,7 (0.50)	0,3 (0.64)
C-16-3 Light Duty	101,6 (4.00)	50,8 (2.00)	107,9 (4.25)	50,8 (2.00)	25,4 (1.00)	4,0 (0.16)	25,4 (1.00)	53,9 (2.12)	8,6 (0.33)	25,4 (1.00)	1,0 (2.3)
C-16-3S Light Duty	88,9 (3.50)	47,6 (1.87)	88,9 (3.50)	60,3 (2.37)	30,1 (1.63)	4,0 (0.16)	17,4 (0.68)	38,1 (1.50)	8,7 (0.34)	19,0 (0.75)	0,7 (1.66)

C-**-4 Aluminum Housings (Light Duty & Fatigue Rated)

Housing	Ports 1, 2, 3 & 4	Part Number
C-10-4 Light Duty	3/8" BSPP	02-179705
	SAE 6	566161
C-10-4 Fatigue Rated	1/4" BSPP	876709
	3/8" BSPP	876715
	SAE 6	876708
	SAE 8	876713

Note: BSPP porting is designated by either "B"
or "G" in the model code
SAE porting is designated by either "H" or
"T" in the model code



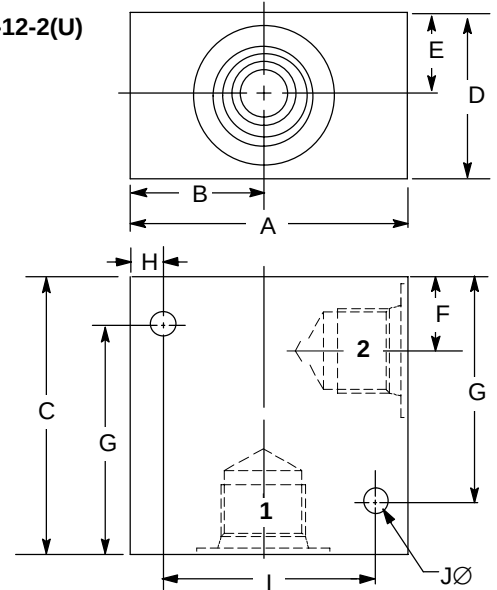
Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	K	Mass kg (lb.)
C-10-4 Light Duty	63,5 (2.50)	31,7 (1.25)	82,5 (3.25)	31,7 (1.25)	15,8 (0.62)	3,1 (0.12)	34,9 (1.37)	19,0 (0.75)	7,1 (0.28)	9,5 (0.37)	50,8 (2.00)	0,3 (0.72)
C-10-4 Fatigue Rated	76,2 (3.00)	38,1 (1.50)	88,9 (3.50)	50,8 (2.00)	25,4 (1.00)	9,5 (0.37)	36,6 (1.44)	20,8 (0.82)	7,1 (0.28)	12,7 (0.50)	52,5 (2.07)	0,9 (2.00)

C-**-2(U) Steel Housings

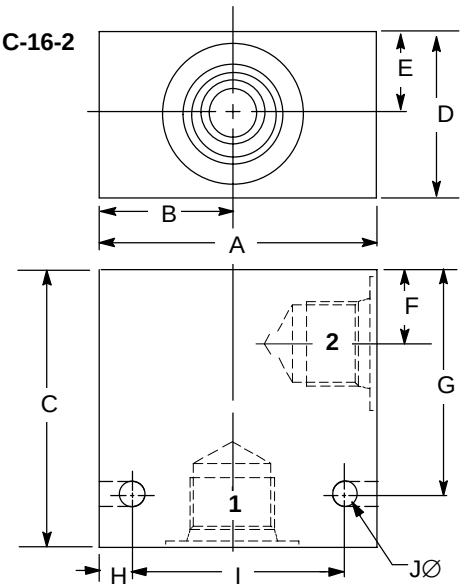
Housing	Ports 1 & 2	Part Number
C-8-2	1/4" BSPP	02-160733
	3/8" BSPP	02-160734
	SAE 4	02-160736
	SAE 6	02-160737
	SAE 8	02-160738
C-10-2	1/4" BSPP	02-175102
	3/8" BSPP	02-175103
	SAE 6	02-175100
	SAE 8	02-175101
C-12-2U	1/2" BSPP	02-172512
	3/4" BSPP	02-162922
	SAE 10	02-169817
C-12-2	SAE 12	02-169790
	1/2" BSPP	02-172062
	3/4" BSPP	02-169665
C-16-2	SAE 10	02-169744
	SAE 12	02-169782
	1/2" BSPP	02-175106
	3/4" BSPP	02-175107
	SAE 10	02-175104
	SAE 12	02-175105

Note: BSPP porting is designated by "G" in the model code
SAE porting is designated by "T" in the model code

C-12-2(U)



C-8-2, C-10-2 & C-16-2



NOTE:
8 series utilizes slot in
place of mounting hole

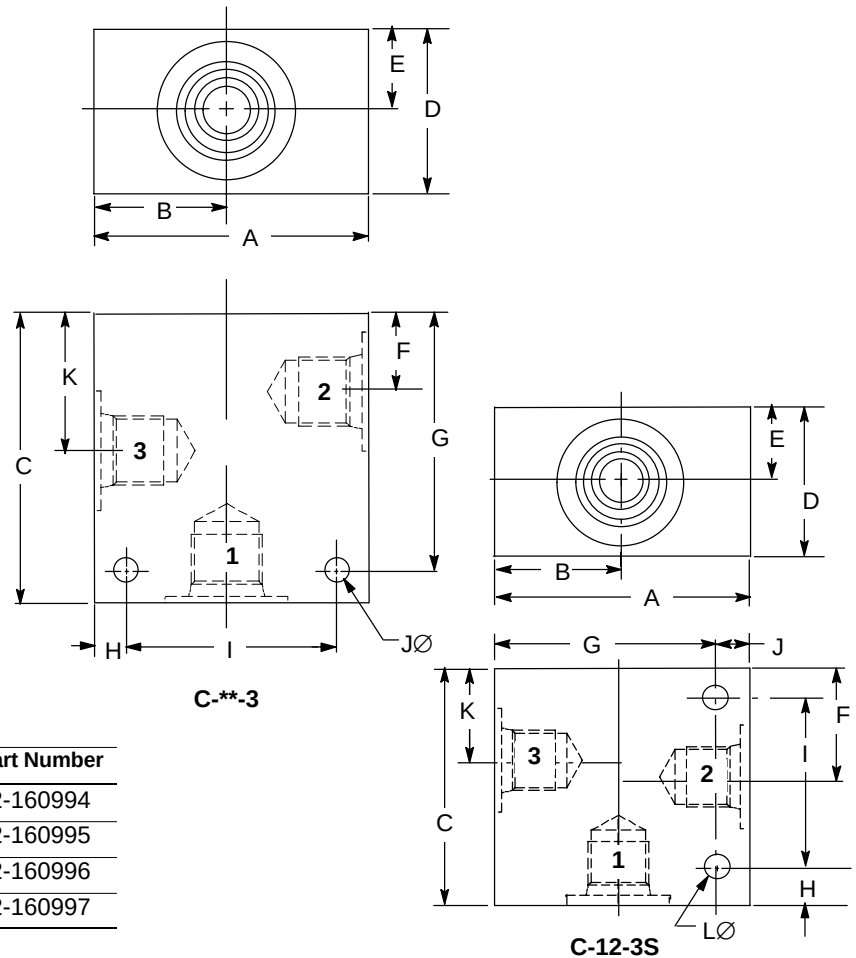
Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	Mass kg (lb.)
C-8-2	50,8 (2.00)	19,0 (0.75)	50,8 (2.00)	38,1 (1.50)	19,0 (0.75)	15,5 (0.61)	38,1 (1.50)	3,3 (0.13)	43,9 (1.73)	7,1 (0.28)	0,5 (1.19)
C-10-2	63,5 (2.50)	25,4 (1.00)	63,5 (2.50)	44,4 (1.75)	22,2 (0.87)	19,0 (0.75)	50,8 (2.00)	9,5 (0.37)	44,4 (1.75)	7,1 (0.28)	0,3 (0.83)
C-12-2U	76,2 (3.00)	28,5 (1.12)	76,2 (3.00)	50,8 (2.00)	25,4 (1.00)	28,7 (1.13)	63,5 (2.50)	12,7 (0.50)	50,8 (2.00)	10,3 (0.40)	1,9 (4.28)
C-12-2	88,9 (3.50)	28,5 (1.12)	88,9 (3.50)	50,8 (2.00)	25,4 (1.00)	28,7 (1.13)	76,2 (3.00)	12,7 (0.50)	63,5 (2.50)	10,3 (0.40)	1,9 (4.28)
C-16-2	88,9 (3.50)	38,1 (1.50)	76,2 (3.00)	50,8 (2.00)	25,4 (1.00)	25,4 (1.00)	63,5 (2.50)	12,7 (0.50)	63,5 (2.50)	10,3 (0.40)	2,2 (5.00)

C-**-3(S) Steel Housings

Housing	Ports 1, 2 & 3	Part Number
C-8-3	1/4" BSPP	02-160743
	3/8" BSPP	02-160746
	SAE 4	02-160745
	SAE 6	02-160744
C-10-3	1/4" BSPP	02-175127
	3/8" BSPP	02-175128
	SAE 6	02-175124
	SAE 8	02-175125
C-12-3	1/2" BSPP	02-169815
	3/8" BSPP	02-169814
	SAE 10	02-161070
	SAE 12	02-169816
C-16-3	1/2" BSPP	02-175131
	3/4" BSPP	02-175132
	SAE 10	02-175129
	SAE 12	02-175130

Note: BSPP porting is designated by "G" in the model code
SAE porting is designated by "T" in the model code

Housing	Ports 1 & 2	Port 3	Part Number
C-12-3S	1/2" BSPP	3/8" BSPP	02-160994
	3/4" BSPP	3/8" BSPP	02-160995
	SAE 10	SAE 6	02-160996
	SAE 12	SAE 6	02-160997



Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	K	Mass kg (lb.)
C-8-3	63,5 (2.50)	31,8 (1.25)	66,0 (2.75)	38,1 (1.50)	19,0 (0.75)	15,5 (0.61)	53,0 (2.12)	3,3 (0.13)	56,6 (2.23)	7,1 (0.28)	29,8 (1.17)	0,9 (2.15)
C-10-3	76,2 (3.00)	38,1 (1.50)	76,2 (3.00)	44,4 (1.75)	22,2 (0.87)	19,0 (0.75)	63,5 (2.50)	9,5 (0.37)	57,1 (2.25)	7,1 (0.28)	34,9 (1.37)	1,7 (3.75)
C-12-3	88,9 (3.50)	44,4 (1.75)	101,6 (4.00)	50,8 (2.00)	25,4 (1.00)	28,7 (1.13)	88,9 (3.50)	12,7 (0.50)	63,5 (2.50)	10,3 (0.40)	51,5 (2.03)	3,0 (6.75)
C-16-3	101,6 (4.00)	50,8 (2.00)	107,9 (4.25)	50,8 (2.00)	25,4 (1.00)	25,4 (1.00)	88,9 (3.50)	12,7 (0.50)	76,2 (3.00)	10,3 (0.40)	53,9 (2.12)	3,4 (7.70)

Cavity mm (inch)	A	B	C	D	E	F	G	H	I	J	K	LØ	Mass kg (lb.)
C-12-3S	88,9 (3.50)	44,5 (1.75)	101,6 (4.00)	50,8 (2.00)	25,4 (1.00)	41,9 (1.65)	76,2 (3.00)	31,7 (1.25)	57,1 (2.25)	12,7 (0.50)	23,1 (0.91)	10,3 (0.40)	2,4 (5.40)

Spare Parts

Size 8 Series

Pressure Control	Part Number
K (Knob Kit)	02-170164
C (Cap)	02-162806
S (Nut)	02-170159
Retaining ring	02-166712

Retaining ring is required for **C** and **S** controls.

When converting from the "S" or "C" option to the "K" option, remove retaining ring and nut before installing the knob kit.

Size 10 & 12 Series

Pressure Control	Part Number
C (Cap)	02-170616*
S (Nut)	565558*
K (Knob Kit)	565585
Knob	02-165873
Jam nut	02-160635
Set screw	001016

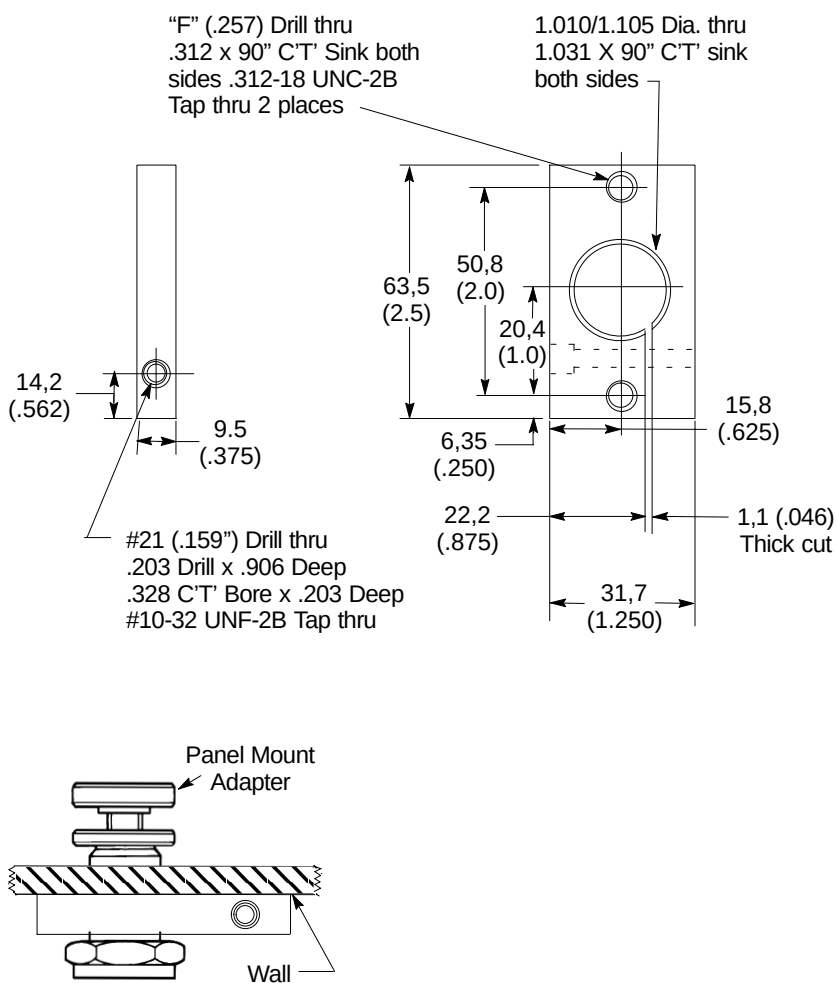
*These parts also used to service PUV3-10 models.

Size 16 Series

Pressure Control	Part Number
S (Nut)	565558
RV3	
K (Knob Kit)	565586
Knob	02-162137
Jam nut	02-170637
Set screw	000805
RV5	
K (Knob Kit)	565585
Knob	02-165873
Jam nut	02-160635
Set screw	001016
RV5	
C (Cap)	02-170616

Size 10 & 12 Series Panel Mount Adapter 02-161837

Used for mounting an adjustable pressure valve through a wall, bulkhead or panel surface.



Supporting Products

Roughing Tools

Roughers are basically step drills which leave .030" per cutting diameter and .015" above all radii for the finishing reamer, with an additional .015" depth in the cavity bottom as clearance.

The roughing tool is necessary to prepare the cavity for the finishing

reamer, which has not been designed for the primary forming or bottom cutting.

We offer two types of roughers, one for aluminum and one for steel. The aluminum rougher is manufactured with

a 4 facet point and polished flutes. The steel rougher is supplied with a standard drill point. Both types will work in either material, however, longevity of an aluminum tool will be sacrificed when used continually in steel.

Cavity	Material	Model Code	Assembly Number
2-Way			
C-8-2	Aluminum / Steel	RT1-8-2-AS-8028	02-165580
C-10-2	Aluminum	RT-10-2-A-8030	889509
C-10-2	Steel	RT-10-2-S-8035	889510
C-12-2	Aluminum / Steel	RT-12-2-AS-8213	02-160625
C-16-2	Aluminum	RT-16-2-A-8031	889515
C-16-2	Steel	RT-16-2-S-8036	889516
3-Way			
C-8-3	Aluminum / Steel	RT1-8-3-AS-8291	02-162384
C-10-3	Aluminum	RT-10-3-A-8038	889511
C-10-3	Steel	RT-10-3-S-8043	889512
C-12-3	Aluminum / Steel	RT-12-3-AS-8217	02-153261
C-16-3	Aluminum	RT-16-3-A-8039	565825
C-16-3	Steel	RT-16-3-S-8044	889517
3-Way Short			
C-12-3S	Aluminum / Steel	RT-12-3S-AS-8220	02-113178
C-16-3S	Aluminum	RT-16-3S-A-8040	02-165582
C-16-3S	Steel	RT-16-3S-S-8045	566704
4-Way			
C-10-4	Aluminum	RT-10-4-A-8072	889513
C-10-4	Steel	RT-10-4-S-8073	889514

Supporting Products

Finishing Tools

These finishing tools have been designed as precision reamers for finishing operations only. They are not intended for primary forming or bottom

cutting operations. Vickers recommends that a finishing tool only be used in a properly roughed hole. Failure to

conform to this practice will produce unsatisfactory size and finishes and possibly break the tool.

Cavity	Material	Model Code	Assembly Number
2-Way			
C-8-2	Aluminum / Steel	FT1-8-2-AS-8070	02-112933
C-10-2	Aluminum / Steel	FT-10-2-AS-8048	566235
C-12-2	Aluminum / Steel	FT-12-2-AS-8214	02-162162
C-16-2	Aluminum / Steel	FT-16-2-AS-8078	565832
3-Way			
C-8-3	Aluminum / Steel	FT-8-3-AS-8295	02-171292
C-10-3	Aluminum / Steel	FT-10-3-AS-8050	565834
C-12-3	Aluminum / Steel	FT-12-3-AS-8244	02-163001
C-16-3	Aluminum / Steel	FT-16-3-AS-8080	565836
3-Way Short			
C-12-3S	Aluminum / Steel	FT-12-3S-AS-8242	02-162998
C-16-3S	Aluminum / Steel	FT-16-3S-AS-8081	889356
4-Way			
C-10-4	Aluminum / Steel	FT-10-4-AS-8052	565838

Finishing Form Tools Speed & Feed for Aluminum 6061-T6 (T651)

This information is recommended as a good starting point. Speeds and/or feeds may be increased or decreased depending on actual machining conditions.

NOTE: Finish form tools may require 1/2 to 1-1/2 second dwell to obtain necessary finish.

CNC MACHINE TOOL			BRIDGEPORT / LAGUN TYPE MACHINES		
Tool Size	RPM	IPM	Tool Size	RPM	IPM
C-10-2	600	4	C-10-2	800-1000	6-5
C-10-3			C-10-3		
C-10-4			C-10-4		
C-16-2			C-16-2	250	2 1/2
C-16-3			C-16-3		
C-16-3S			C-16-3S		
C-16-4			C-16-4		

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