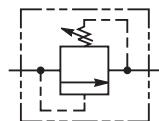


SERIES	CAVITY	DESCRIPTION	FLOW LPM/GPM	PRESSURE BAR/PSI	PAGE NO.
Technical Tips					PC3-PC7

RELIEF VALVES



DIRECT ACTING

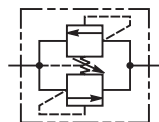
RDH081	C08-2	Direct Acting Relief, Ball Type	1.9/5	380/5500	PC8-PC9
RDH082	C08-2	Direct Acting Relief, Poppet Type	30/8	380/5500	PC10-PC11
RDH101	C10-2	Direct Acting Relief, Ball Type	1.9/5	380/5500	PC12-PC13
RD102	C10-2	Direct Acting Relief, Poppet Type	38/10	250/3600	PC14-PC15
A04B2	C10-2	Direct Acting Relief, Poppet Type	100/26	420/6000	PC16-PC17

DIFFERENTIAL AREA

RDH083	C08-2	Direct Acting Differential Area Relief	45/12	350/5000	PC18-PC19
RDH103	C10-2	Direct Acting Differential Area Relief	75/20	350/5000	PC20-PC21
RD163	C16-2	Direct Acting Differential Area Relief	151/40	210/3000	PC22-PC23

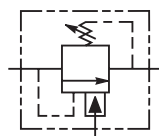
PILOT OPERATED

RAH081	C08-2	Pilot Operated Spool Type	75.8/20	350/5000	PC24-PC25
RAH101	C10-2	Pilot Operated Spool Type	113/30	350/5000	PC26-PC27
RAH121	C12-2	Pilot Operated Spool Type	190/50	350/5000	PC28-PC29
RAH161	C16-2	Pilot Operated Spool Type	303/80	380/5500	PC30-PC31
RAH201	C20-2	Pilot Operated Spool Type	379/100	350/5000	PC32-PC33



CROSS-OVER

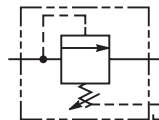
A04J2	C10-2	Direct Acting Cross-over Relief	120/32	350/5000	PC34-PC35
-------	-------	---------------------------------	--------	----------	-----------



UNLOADING

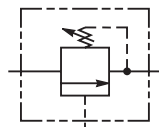
RU104	C10-4	Direct Acting Unloading	1/0.25	250/3600	PC36-PC37
-------	-------	-------------------------	--------	----------	-----------

SEQUENCE VALVES



PILOT OPERATED

SVH081	C08-3	Pilot Operated, Int. Pilot, Ext. Drain	45/12	350/5000	PC38-PC39
SVH101	C10-3	Pilot Operated, Int. Pilot, Ext. Drain	56.3/15	350/5000	PC40-PC41
SVH161	C16-3	Pilot Operated, Int. Pilot, Ext. Drain	151.6/40	350/5000	PC42-PC43



SVH102	C10-3	Pilot Operated, Ext. Pilot, Int. Drain	56.3/15	350/5000	PC44-PC45
SVH162	C16-3	Pilot Operated, Ext. Pilot, Int. Drain	151.6/40	350/5000	PC46-PC47

CV

Check
Valves

SH

Shuttle
Valves

LM

Load/Motor
Controls

FC

Flow
Controls

PC

Pressure
Controls

LE

Logic
Elements

DC

Directional
Controls

SV

Solenoid
Valves

PV

Proportional
Valves

CE

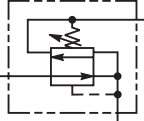
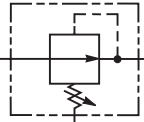
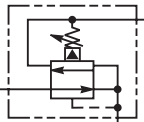
Coils &
Electronics

BC

Bodies &
Cavities

TD

Technical
Data

	SERIES	CAVITY	DESCRIPTION	FLOW LPM/GPM	PRESSURE BAR/PSI	PAGE NO.
REDUCING VALVES	DIRECT ACTING					
	PR103	C10-3	Direct Acting Reducing/Relieving	56/15	210/3000	PC48-PC49
	PILOT OPERATED					
	PRH082	C08-3	Pilot Operated Reducing	30/8	350/5000	PC50-PC51
	PRH102	C10-3	Pilot Operated Reducing	56.3/15	350/5000	PC52-PC53
	PRH081	C08-3	Pilot Operated Reducing/Relieving	30/8	350/5000	PC54-PC55
	PRH101	C10-3	Pilot Operated Reducing/Relieving	56.3/15	350/5000	PC56-PC57
	PRH161	C16-3	Pilot Operated Reducing/Relieving	150/40	350/5000	PC58-PC59

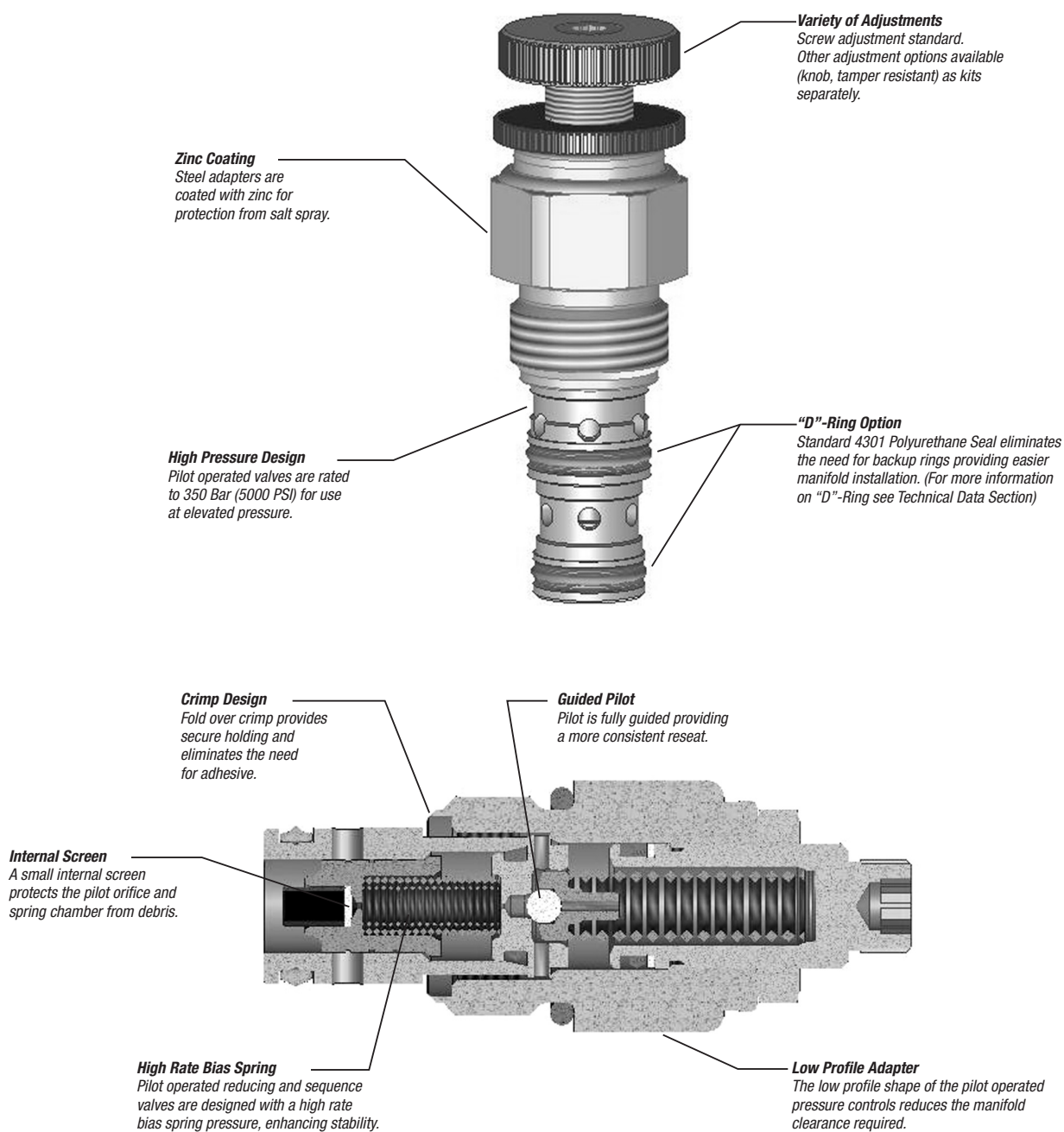
CV	Check Valves
SH	Shuttle Valves
LM	Load/Motor Controls
FC	Flow Controls
PC	Pressure Controls
LE	Logic Elements
DC	Directional Controls
SV	Solenoid Valves
PV	Proportional Valves
CE	Coils & Electronics
BC	Bodies & Cavities
TD	Technical Data

INTRODUCTION

This technical tips section is designed to help familiarize you with the Parker line of Pressure Controls. In this section we highlight new products to this catalog as well as some design features of our pressure control line. In addition we present common options available to help you in selecting products for your application. Finally we give a brief synopsis of the operation and applications of the various product offered in this section.

NEW PRODUCTS

There are several new additions and product improvements to our Pressure Controls product line.



CV

Check
Valves

SH

Shuttle
Valves

LM

Load/Motor
Controls

FC

Flow
Controls

PC

Pressure
Controls

LE

Logic
Elements

DC

Directional
Controls

SV

Solenoid
Valves

PV

Proportional
Valves

CE

Coils &
Electronics

BC

Bodies &
Cavities

TD

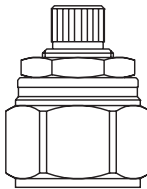
Technical
Data

COMMON OPTIONS

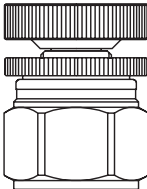
As you will see, Parker offers a variety of Pressure Control products. As such, some of the options mentioned below may not be available on all valves. Consult the model coding and dimensions for each valve for specifics. Here are some of the common options available.

Adjustment Types: Parker offers three primary types of adjustments for most of the pressure control products. Samples of these types are shown below. Please note all options may not be available for all valves. Consult the individual catalog pages for more details.

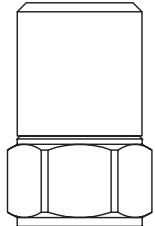
Screw Adjustment - Valve can be adjusted with an allen wrench. Lock nut included to maintain desired setting after adjustment. This is the most common adjustment option available on most Parker products.



Knob Adjustment - An aluminum knob is added to the standard screw adjustment. A lock knob is provided to help maintain the desired setting after adjustment. Parker offers knob conversion kits for most pressure control valves. For kit numbers consult individual valve pages.



Tamper Resistant - The tamper resistant option is a screw adjustable valve with a steel cap installed to conceal the adjustment. The cap is designed so that the internal edges clamp into the groove of the valve adapter. Once the cap is installed, it cannot be removed without damaging the cap and the valve. When a valve is ordered with the tamper resistant option, it will be preset at the factory, and the cap will be included in a separate plastic bag to allow for fine tuning at the customer site. Parker offers tamper resistant cap conversion kits for most pressure control valves. For kit numbers consult individual valve pages.



Seals: Valves feature either a 4301 Polyurethane “D”-Ring. The “D”-Ring eliminates the need for backup rings. The majority of the products are also available in Nitrile or Fluorocarbon seals. Contact factory for availability. You should match the seal compatibility to the temperature and fluid being used in your application.

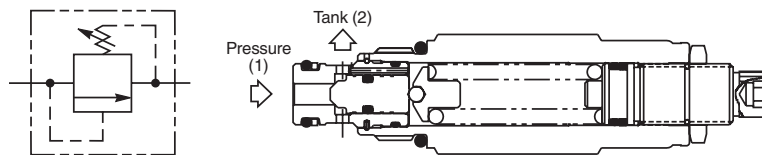
Pressure Range: Parker offers a range of spring settings for the Pressure Control product line. You want to choose the setting that best meets the operating range. The model callout is equivalent to the maximum setting (in psi) of the spring divided by 100 (i.e. 50 = 5000 psi).

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

PRODUCT TYPES / APPLICATIONS

Direct Acting Relief Valves

Direct acting relief valves are designed for fast response in intermittent duty applications. They are often used as an economical solution to clip pressure spikes. The poppet design allows for low leakage.

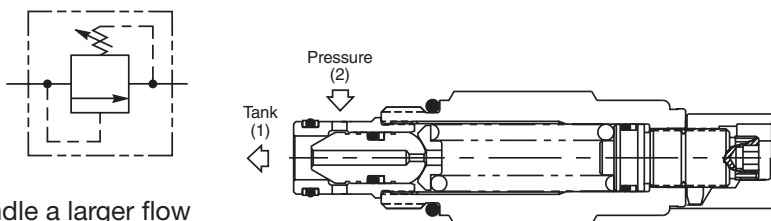


OPERATION - The valve poppet is held against the seat by the spring force. Inlet pressure on the nose (port 1) of the poppet acts against the spring force to unseat the poppet at the valve setting and allow flow to pass to tank. Since the pressure is working directly on the spring, this valve is very fast responding. It is not the best choice for system pressure regulation as it is slightly noisier than pilot operated relief valves and has higher pressure rise.

Note: Any backpressure on port 2 would be additive to the spring setting.

Differential Area Relief Valves

Differential area relief valves also are also best suited for intermittent applications where fast response is critical. These valves are often used as cross-over relief valves to chop pressure spikes. Due to their design, they generally can handle a larger flow rate and have a lower pressure rise than the standard directing acting relief. The poppet design allows for low leakage.

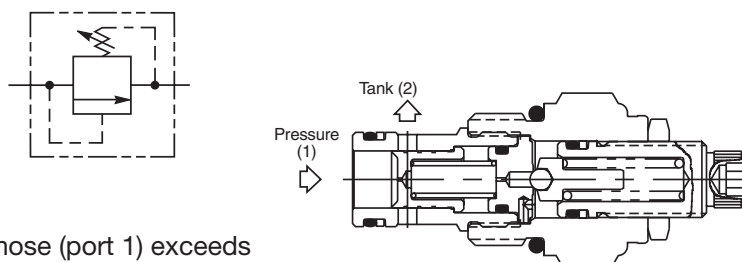


OPERATION - Pressure on the inlet (port 2) of the valve acts on the differential area of the poppet (difference between the O.D. of the poppet and the seat diameter) to produce a force which is opposed by the spring force. When pressure reaches the valve setting, the poppet is pushed off its seat, permitting flow to tank.

Note: Any backpressure on port 1 would be additive to the spring setting.

Pilot Operated Relief

Pilot operated relief valves are designed for continuous duty applications. Due to their stability and low pressure rise, the pilot operated relief is the best option for setting the pressure of a hydraulic system.



OPERATION - When inlet pressure at the nose (port 1) exceeds the valve setting, the pilot ball unseats. The pilot flow creates a pressure imbalance across the main spool causing the spool to move and allowing flow from inlet (port 1) to tank (port 2.) *Note:* Any backpressure on port 2 would be additive to the spring setting.

CV

Check
Valves

SH

Shuttle
Valves

LM

Load/Motor
Controls

FC

Flow
Controls

PC

Pressure
Controls

LE

Logic
Elements

DC

Directional
Controls

SV

Solenoid
Valves

PV

Proportional
Valves

CE

Coils &
Electronics

BC

Bodies &
Cavities

TD

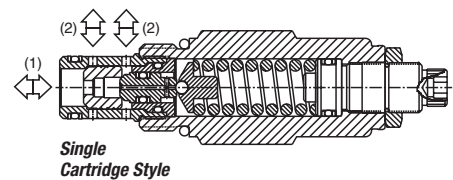
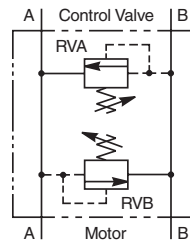
Technical
Data

Dual Crossover Relief Valves

Dual crossover relief valves provide pressure surge protection for double acting hydraulic actuators. For best results, you always want to install the valve as close to the actuator as possible.

The dual crossover feature can be achieved in two different methods. One way is to manifold two Differential Area Relief Valves into a single body.

The advantage gained is higher flows can be pushed through this arrangement. The second method is to combine this dual function into a single cartridge. The single cartridge arrangement reduces cost considerably of the total package. In addition, a standard common cavity line body can be used instead of a special two body arrangement. The operation for the single cartridge style is shown below.



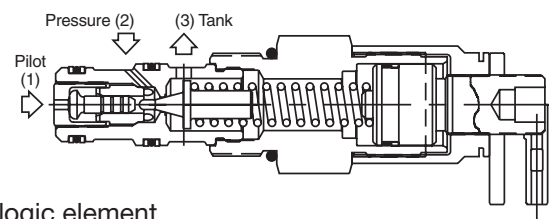
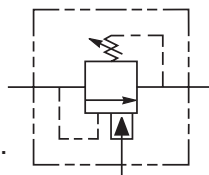
OPERATION - Pressure at port 1 acts on the spool to produce a force which is opposed by the spring setting. When pressure reaches the valve setting, the spool and poppet move relieving flow from port 1 to port 2. When port 2 is pressurized, the pressure acts on the differential area poppet to produce a force which is opposed by the spring force. When the pressure reaches the valve setting, the poppet is pushed off of its seat, relieving flow from port 2 to port 1. *Note:* Due to the construction and flow paths through the valve, the relief pressure settings may vary by approximately 300 psi from one direction to the other.

Differential Area Unloading Relief Valve

Unloading valves are differential area relief valves that can also be fully dumped or unloaded via a remote signal.

They are best suited for low flow accumulator unloading circuits. They provide a fixed percentage between load and unload pressures.

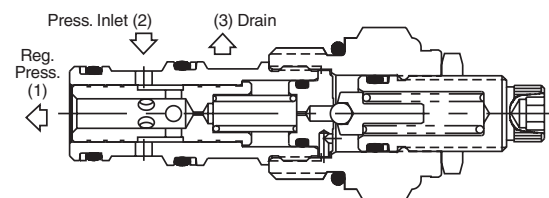
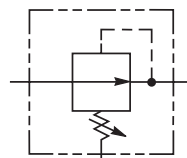
This pilot valve would generally be used in conjunction with a logic element.



OPERATION - The fixed differential is provided by the pilot piston which has greater area than the dart seat. With its greater area, the piston is able to hold the dart off its seat, permitting flow from pressure to tank, until pressure on the pilot piston falls below the fixed percentage of the valve settings.

Pilot Operated Reducing Valve

Pilot operated pressure reducing valves can be used to reduce the pressure in a leg of the circuit lower than system pressure. Thus, they can be used to provide protection to downstream components from higher pressures.



OPERATION - The pilot section controls the valve setting when reducing. As pressure at the regulated port exceeds the valve setting, the pilot ball is unseated. The pilot flow creates a pressure imbalance across the main spool causing the spool to throttle in order to maintain constant downstream pressure. The normally open design will allow flow to pass from inlet to reduced port with the only restriction being the pressure drop.

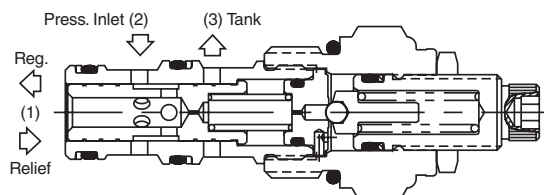
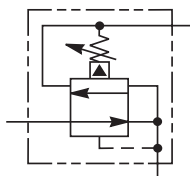
Pressure Reducing / Relieving Valves

Pressure reducing / relieving valves can be used to reduce the pressure in a leg of the circuit lower than system pressure. The valve also acts as a relief valve, relieving any shocks or surges that occur between the regulated port and the actuator. When the valve is in the relieving mode, the inlet port is blocked. Parker offers pressure reducing/relieving valves in both pilot operated and directing acting styles. The direct acting version is generally used in static applications where response is critical, or leakage is a concern.

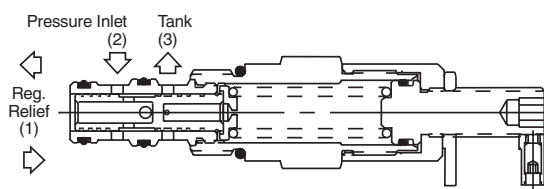
Pilot Operated

OPERATION - The pilot section controls the valve setting when reducing. As pressure at the regulated port exceeds the valve setting, the pilot ball is un-seated. The pilot flow creates a pressure imbalance across the main spool causing the spool to throttle in order to maintain constant downstream pressure.

A shock or surge at the regulated port shifts the spool, relieving flow to tank.

**Direct Acting**

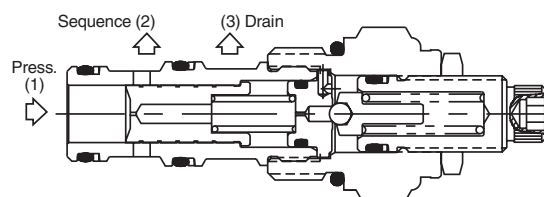
OPERATION - As pressure at the regulated port exceeds the valve setting, the valve throttles or closes in order to maintain constant downstream pressure. A shock or surge at the regulated port further shifts the spool, relieving flow to tank. This valve is not intended for rapidly changing flows which could lead to instability.

**Pilot Operated Sequence Valves**

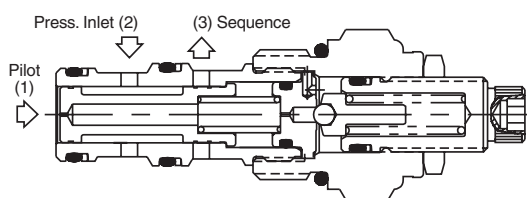
Sequence valves are used to control the sequence of operation of two or more hydraulic actuators. The sequence valve pressure is set higher than the first actuator operation pressure. Once the first actuator has completed its cycle, the sequence valve opens allowing the second actuator to move. Parker's line of pilot operated sequence valves include a series of internally piloted, externally drained valves and a series of externally piloted, internally vented valves. Parker also offers a line of direct acting sequence valves which are ideal for piloting logic elements in steady state applications.

P.O. Sequence (Internally Piloted, Externally Drained)

OPERATION - For this valve, the pilot pressure is sensed from the inlet of the valve (port 1). When the pilot pressure exceeds the valve setting, the pilot section opens creating a pressure imbalance across the main spool. This causes the spool to move allowing the flow to pass from the nose of the cartridge (port 1) to the actuator port (port 2). By externally draining the pilot flow directly to tank (port 3), the valve is insensitive to back pressure at the sequence port.

**P.O. Sequence (Externally Piloted, Internally Vented)**

OPERATION - For this valve, the pilot pressure is obtained from an external source and not from the pressure port. When the external pilot pressure (port 1) exceeds the valve setting, the pilot section opens creating a pressure imbalance across the main spool. This causes the spool to move allowing the flow to pass from the side of the cartridge (port 2) to the actuator port (port 3). Any pressure at port 3 is additive to the pressure setting. It is most common for port 3 to be connected to tank.



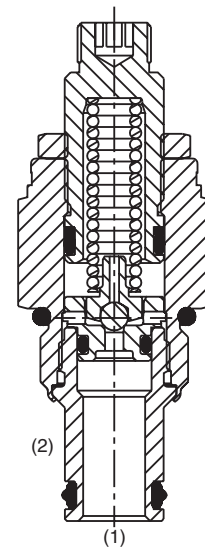
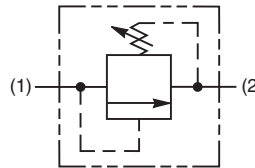
CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

General Description

Direct Acting Relief Valve. This valve is designed for pilot flow circuits. For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided pilot for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis



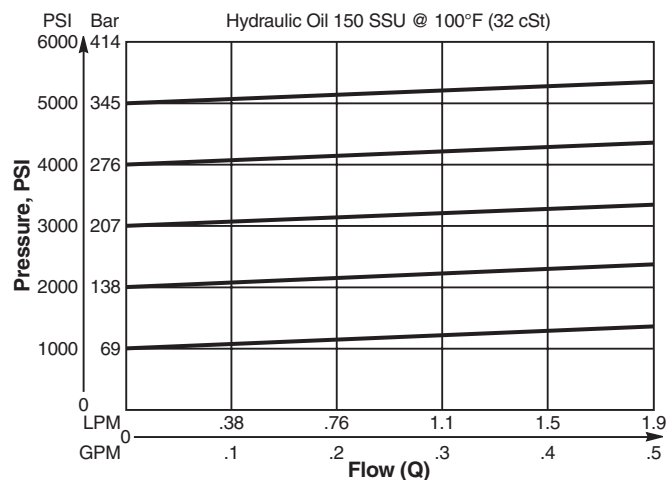
Specifications

Rated Flow	1.9 LPM (0.5 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.09 kg (0.20 lbs.)
Cavity	C08-2 (See BC Section for more details)

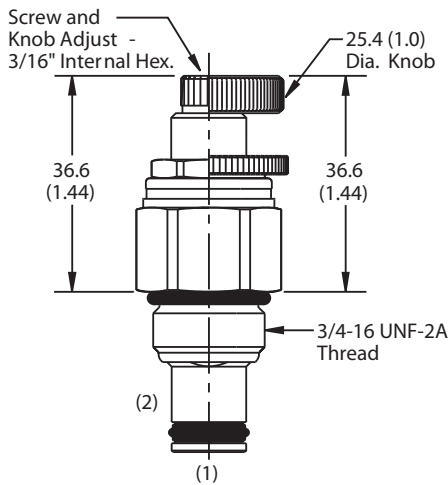
Performance Curve

Flow vs. Inlet Pressure

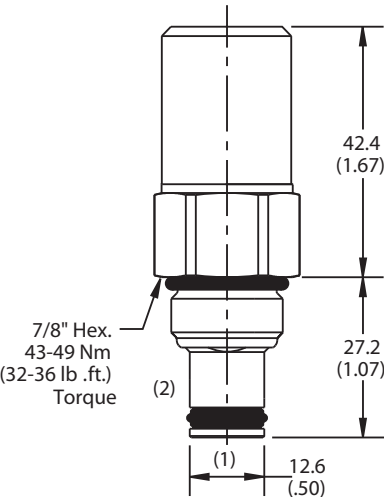
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RDH081

08 Size
Direct Acting
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B08

08 size

2

2-Way
Cavity

6T

Port
Size

Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)

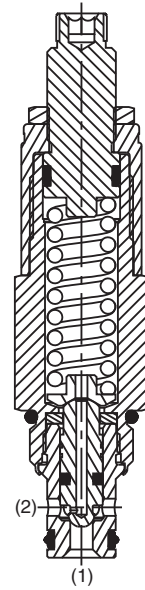
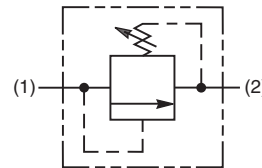
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

General Description

Direct Acting Poppet-Type Relief Valve.
For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Fast response
- Spherical poppets for low leakage
- Internal mechanical stop limits poppet travel eliminating spring solidification
- All external parts zinc plated

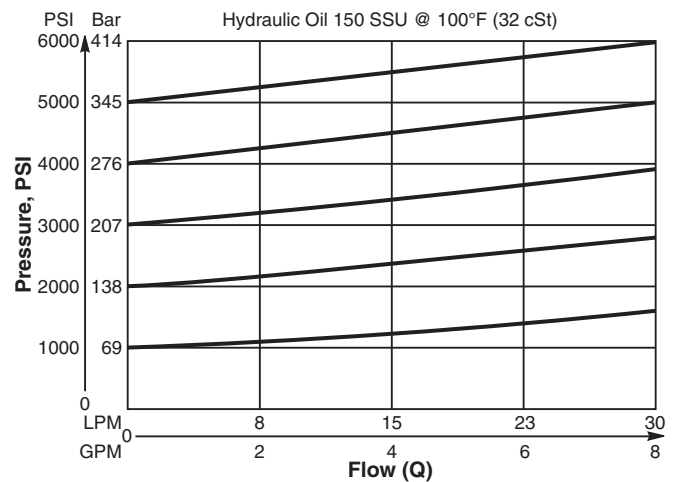


Specifications

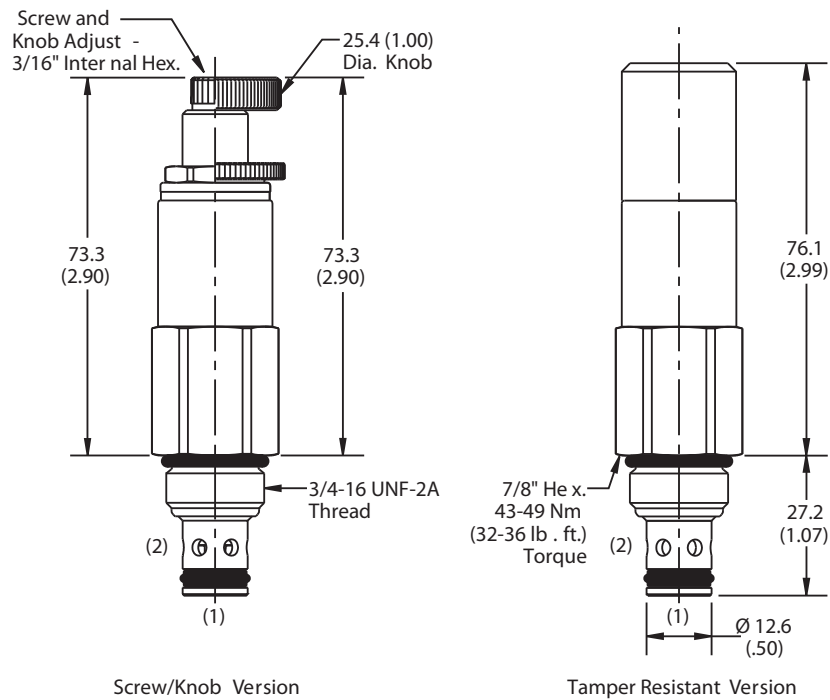
Rated Flow	30 LPM (8 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	15 19.3 Bar (280 PSI) 30 35 Bar (508 PSI) 50 54 Bar (787 PSI)
Reseat Pressure	85% of crack pressure
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.18 kg (0.40 lbs.)
Cavity	C08-2 (See BC Section for more details)

Performance Curve

Flow vs. Inlet Pressure
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

RDH082

08 Size
Direct Acting
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B08

08 size

2

2-Way
Cavity

6T

Port
Size

Code	Pressure Range
15	6.9 - 103 Bar (100 - 1500 PSI) Standard Setting: 51.7 Bar (750 PSI) @ crack pressure approximately .95 LPM (.25 GPM)
30	17.2 - 207 Bar (250 - 3000 PSI) Standard Setting: 103 Bar (1500 PSI) @ crack pressure approximately .95 LPM (.25 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure approximately .95 LPM (.25 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

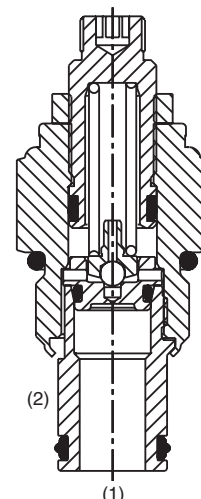
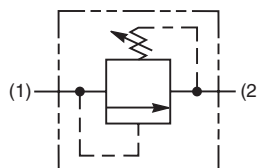
Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

General Description

Direct Acting Relief Valve. This valve is designed for pilot flow circuits. For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis



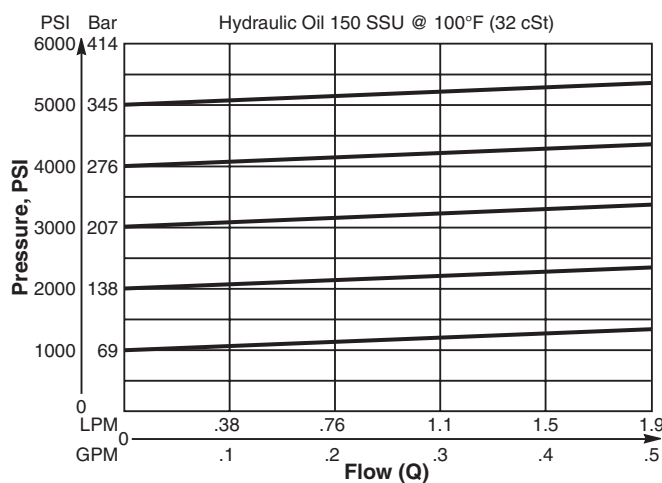
Specifications

Rated Flow	1.9 LPM (0.5 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.18 kg (0.40 lbs.)
Cavity	C10-2 (See BC Section for more details)

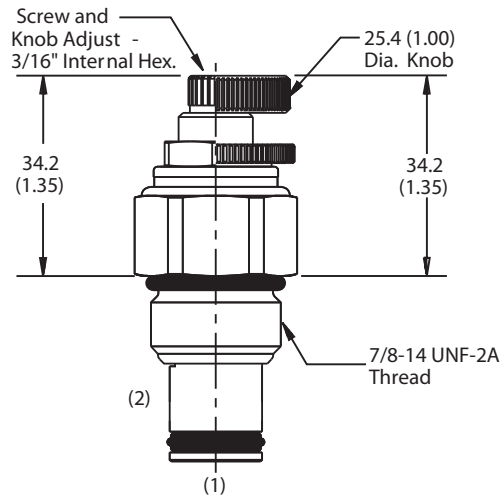
Performance Curve

Flow vs. Inlet Pressure

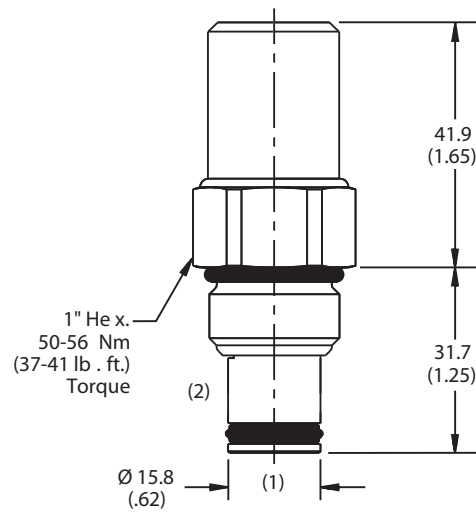
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RDH101	S	
10 Size Direct Acting Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10	2	8T
10 size	2-Way Cavity	Port Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately 100 cc/min (6.1 in ³ /min)

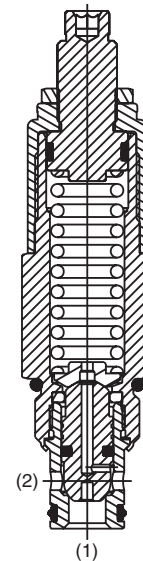
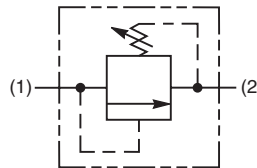
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717083K
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

General Description

Direct Acting Poppet-Type Relief Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Internal mechanical stop limits poppet travel eliminating spring solidification
- Spherical poppets for low leakage
- “D”-Ring eliminates backup rings
- All external parts zinc plated
- Fast response



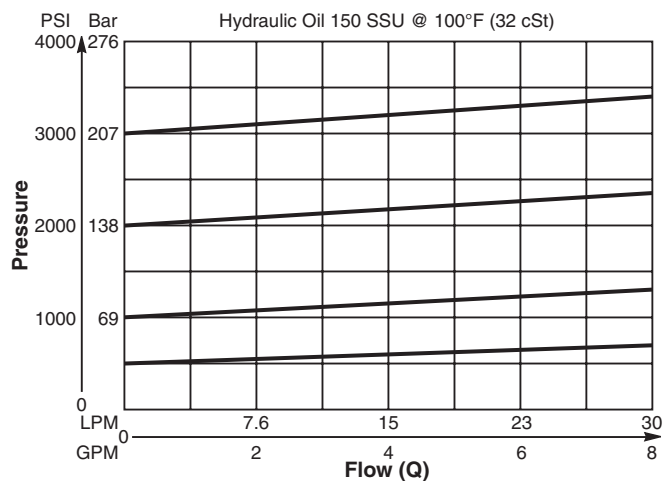
Specifications

Rated Flow	38 LPM (10 GPM)
Maximum Inlet Pressure	250 Bar (3600 PSI)
Maximum Pressure Setting	210 Bar (3000 PSI)
Sensitivity: Pressure/Turn	09 7.2 Bar (104 PSI) 18 16 Bar (234 PSI) 30 103.4 Bar (1500 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Reseat Pressure	85% of crack pressure
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.5 lbs.)
Cavity	C10-2 (See BC Section for more details)

Performance Curve

Flow vs. Inlet Pressure

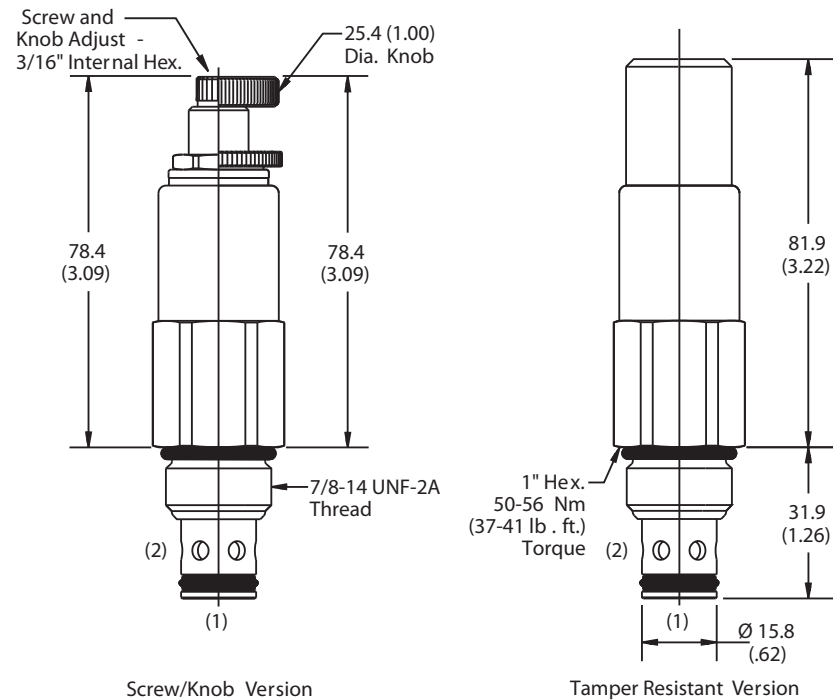
(Pressure rise through cartridge only)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions

Millimeters (Inches)



Ordering Information

RD102

10 Size
Direct Acting
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Code	Pressure Range
09	7 - 62 Bar (100 - 900 PSI) Standard Setting: 31.0 Bar (450 PSI) @ .95 LPM (.25 GPM)
18	13.8 - 124 Bar (200 - 1800 PSI) Standard Setting: 62.1 Bar (900 PSI) @ .95 LPM (.25 GPM)
30	41.4 - 207 Bar (600 - 3000 PSI) Standard Setting: 103.4 Bar (1500 PSI) @ .95 LPM (.25 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

Order Bodies Separately
See section BC

B10

10 size

2

2-Way
Cavity

8T

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

General Description

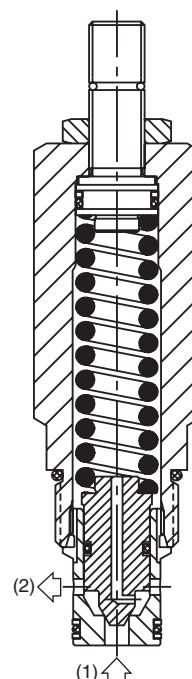
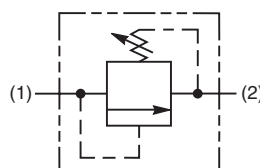
Direct Acting Poppet-Type Relief Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Fast response with good stability
- Virtually leak free
- Hardened working parts for maximum durability
- All external parts zinc plated

Specifications

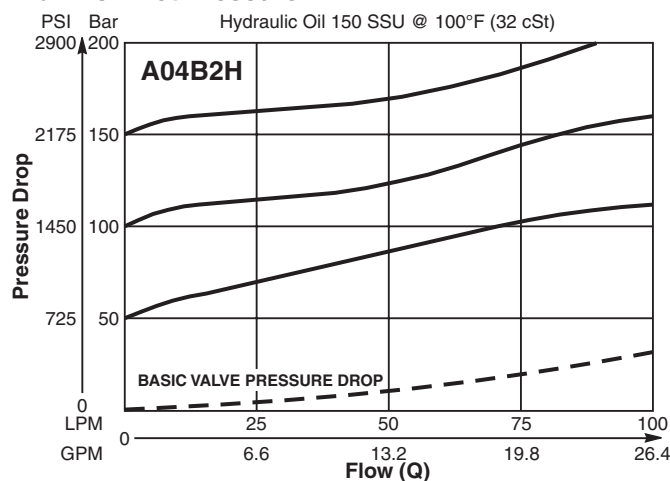
Rated Flow	100 LPM (26 GPM)
Maximum Inlet Pressure	H- 5-210 Bar (72-3000 PSI) P- 5-420 Bar (72-6000 PSI)
Maximum Pressure Setting	420 Bar (6000 PSI)
Sensitivity: Pressure/Turn	H- 21 Bar (305 PSI) P- 43.4 Bar (630 PSI)
Maximum Tank Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. @100 Bar (1450 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.28 kg (0.62 lbs.)
Cavity	C10-2 (See BC Section for more details)



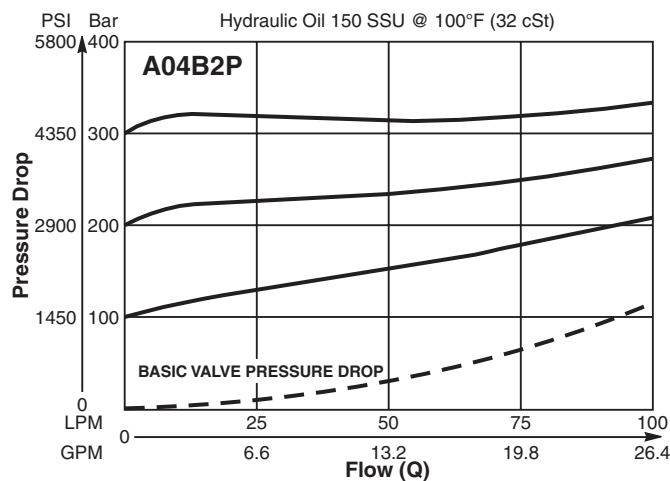
Performance Curves

(Pressure rise through cartridge only)

Flow vs. Inlet Pressure

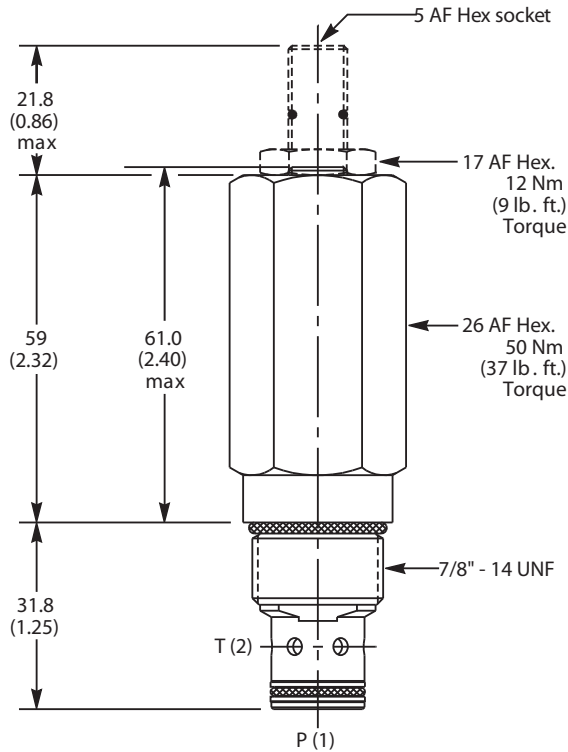


Flow vs. Inlet Pressure



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

A04B2

10 Size
Direct Acting
Relief Valve

Pressure
Adjustment
Range

Z

Adjustment
Style

N

Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Pressure Range
H	5 - 210 Bar (72 - 3000 PSI)
P	5 - 420 Bar (72 - 6000 PSI)

Code	Adjustment Style
Z	Screw Adjust

Code	Seals
N	Nitrile

Standard Pressure Setting
A04B2H Standard Setting: 100 Bar (1450 PSI) @ 15 LPM (4.0 GPM)
A04B2P Standard Setting: 200 Bar (2900 PSI) @ 15 LPM (4.0 GPM)

Order Bodies Separately
See section BC

B10

–

2

–

8T

10 size

2-Way
Cavity

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
Knob	ASV014975
Tamper Resistant Cap	TC1130K
Nitrile Seal	SK30503N-1
Fluorocarbon Seal	SK30503V-1

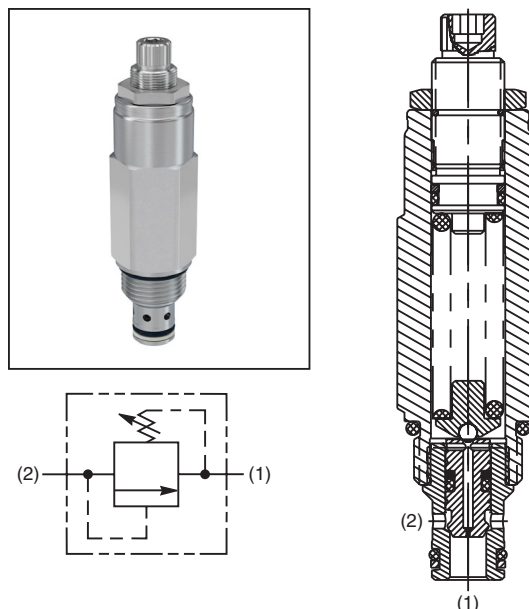
General Description

Differential Area Relief Valve.

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Spherical poppets for low leakage
- High flow capacity
- Internal mechanical stop limits poppet travel eliminating spring solidification
- All external parts zinc plated



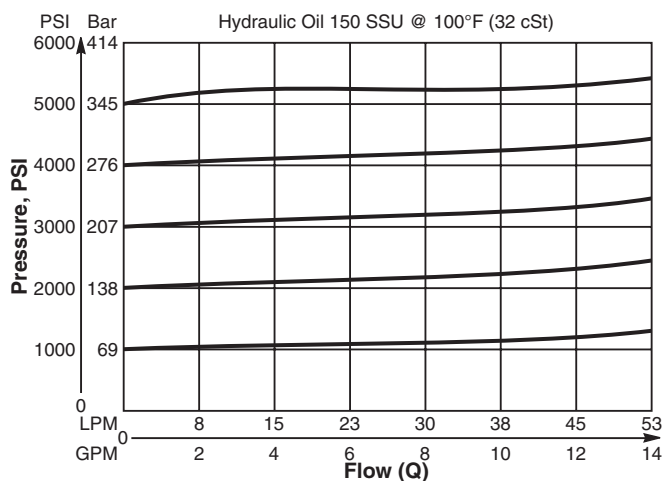
Specifications

Rated Flow	45 LPM (12 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	15 15 Bar (218 PSI) 30 27 Bar (396 PSI) 50 42 Bar (614 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	75% of crack pressure
Leakage at 150 SSU (32 cSt)	10 drops/min. (.67 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.19 kg (0.43 lbs.)
Cavity	C08-2 (See BC Section for more details)

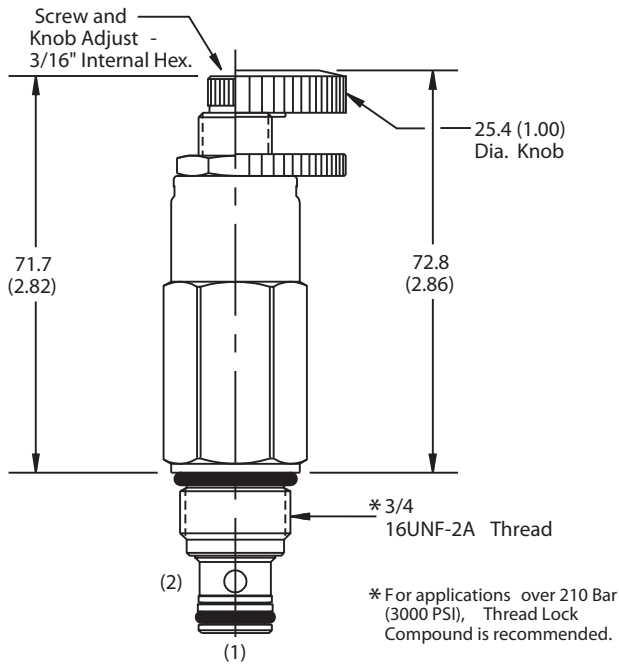
Performance Curve

Flow vs. Inlet Pressure

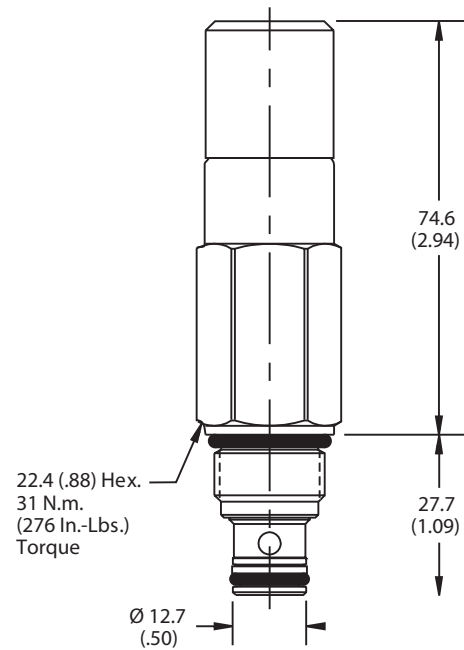
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RDH083	S	
08 Size Differential Area Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Code	Pressure Range
15	6.9 - 103 Bar (100 - 1500 PSI) Standard Setting: 51.7 Bar (750 PSI) @ crack pressure approximately .95 LPM (.25 GPM)
30	69 - 207 Bar (1000 - 3000 PSI) Standard Setting: 103 Bar (1500 PSI) @ crack pressure approximately .95 LPM (.25 GPM)
50	138 - 345 Bar (2000 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure approximately .95 LPM (.25 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717083K
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

Order Bodies Separately
See section BC

B08	-	2	-	6T
08 size		2-Way Cavity		Port Size

Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

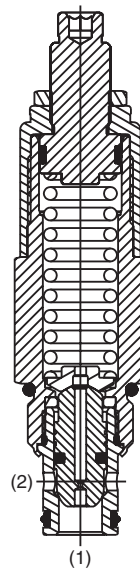
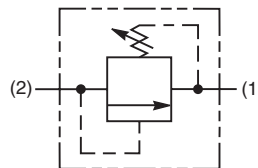
General Description

Differential Area Relief Valve.

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Internal mechanical stop limits poppet travel eliminating spring solidification
- Spherical poppets for low leakage
- “D”-Ring eliminates backup rings
- All external parts zinc plated
- High flow capacity



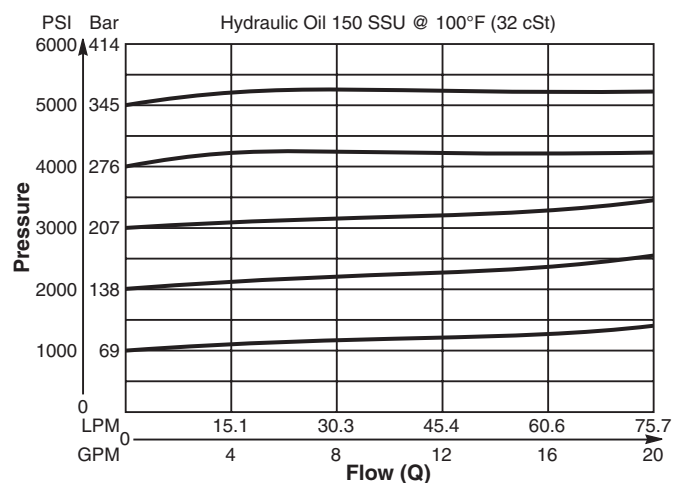
Specifications

Rated Flow	75 LPM (20 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 9.8 Bar (143 PSI) 30 25.8 Bar (375 PSI) 50 40.6 Bar (589 PSI)
Reseat Pressure	85% of crack pressure
Leakage at 150 SSU (32 cSt)	5 drops/min. (.33 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.50 lbs.)
Cavity	C10-2 (See BC Section for more details)

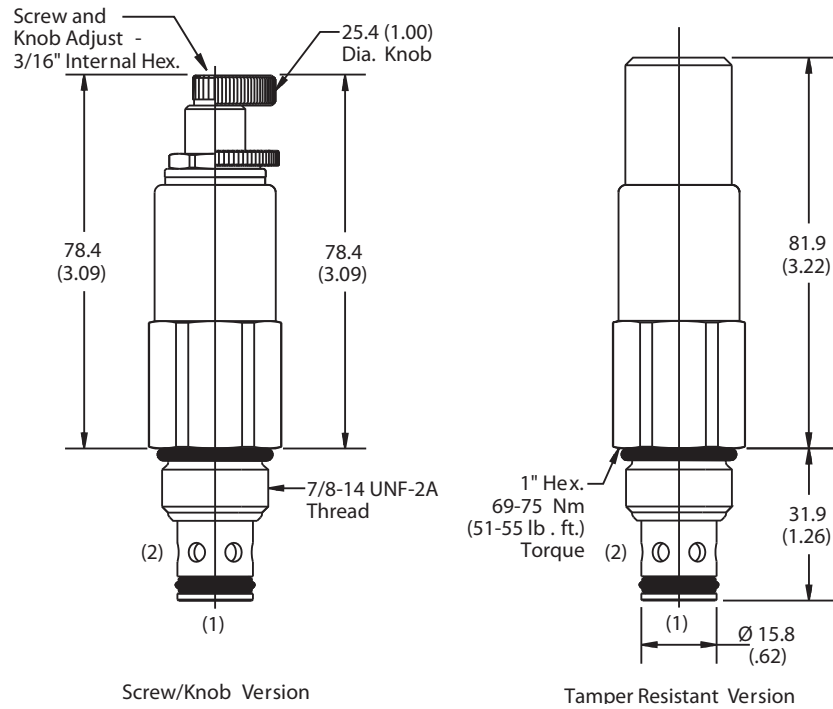
Performance Curve

Flow vs. Inlet Pressure

(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

RDH103

10 Size
Differential Area
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10
10 size

—

2
2-Way
Cavity

—

8T
Port
Size

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ .95 LPM (.25 GPM)
30	34.5 - 207 Bar (500 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ .95 LPM (.25 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ .95 LPM (.25 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

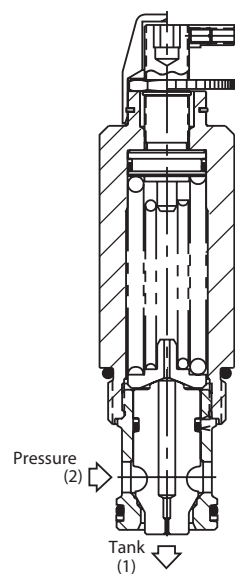
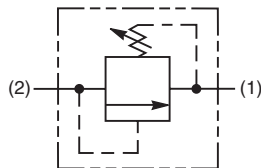
General Description

Differential Area Relief Valve.

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Compact size for reduced space requirements
- Low leakage design
- Fast response
- All external parts zinc plated



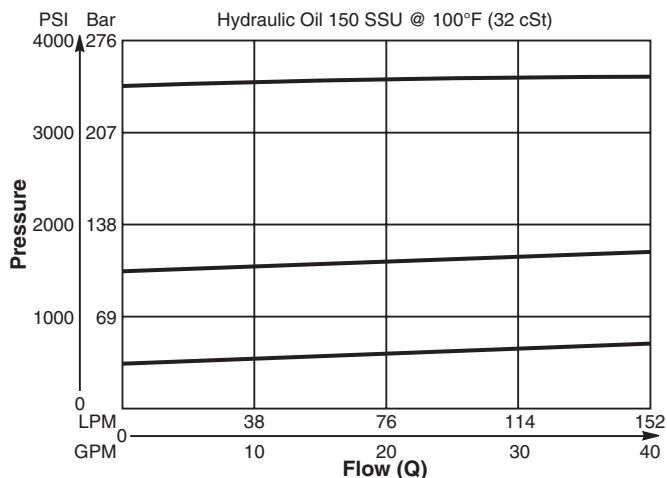
Specifications

Rated Flow	151 LPM (40 GPM)
Maximum Inlet Pressure	240 Bar (3500 PSI)
Maximum Pressure Setting	210 Bar (3000 PSI)
Sensitivity: Pressure/Turn	10 7 Bar (104 PSI) 30 14 Bar (204 PSI)
Maximum Tank Pressure	210 Bar (3000 PSI)
Reseat Pressure	80% of crack pressure
Leakage at 150 SSU (32 cSt)	10 drops/min. (.66 cc/min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.50 lbs.)
Cavity	C16-2 (See BC Section for more details)

Performance Curve

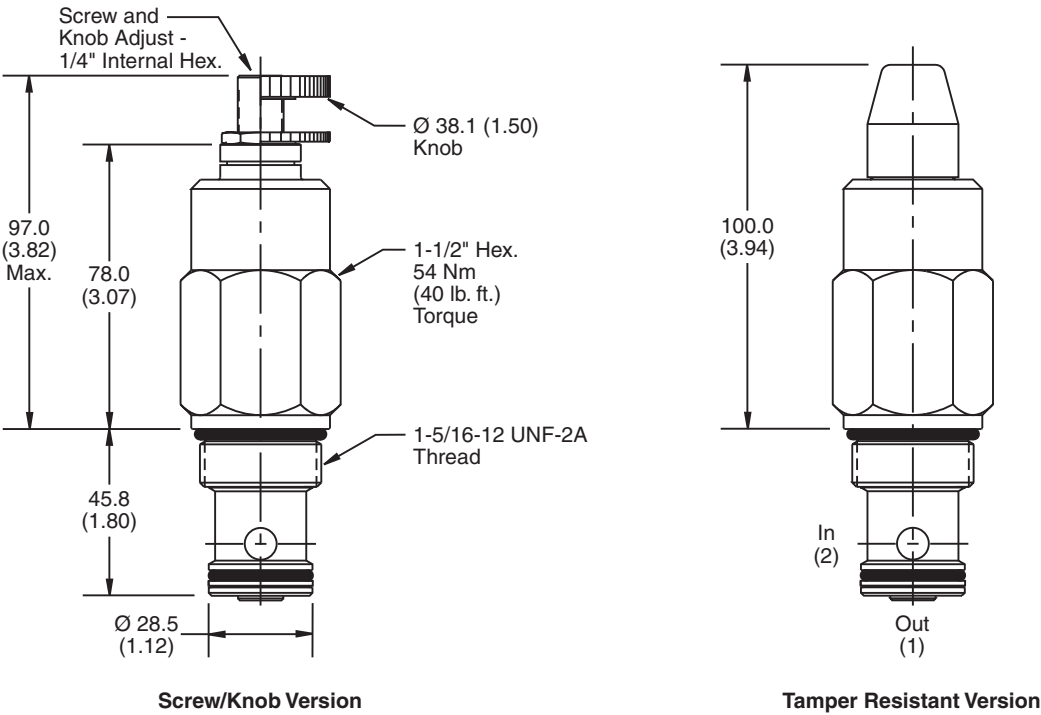
Flow vs. Inlet Pressure

(Pressure rise through cartridge only)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions



Ordering Information

RD163

16 Size
Differential Area
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B16

16 size

—

2

2-Way
Cavity

—

16T

Port
Size

Code	Porting / Body Material
16T	SAE-16 / Steel (5000 PSI)

Code	Pressure Range
10	13.8 - 69 Bar (200 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ 11.3 LPM (3 GPM)
30	41.4 - 207 Bar (600 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ 11.3 LPM (3 GPM)

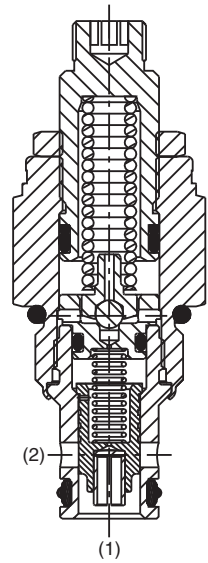
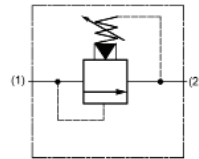
Kit	Part Number
Knob	840208K
Tamper Resistant Cap	717783K
Nitrile Seal	SK16-2
Fluorocarbon Seal	SK16-2V

General Description

Pilot Operated Spool-Type Relief Valve.
For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided pilot for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane "D"-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

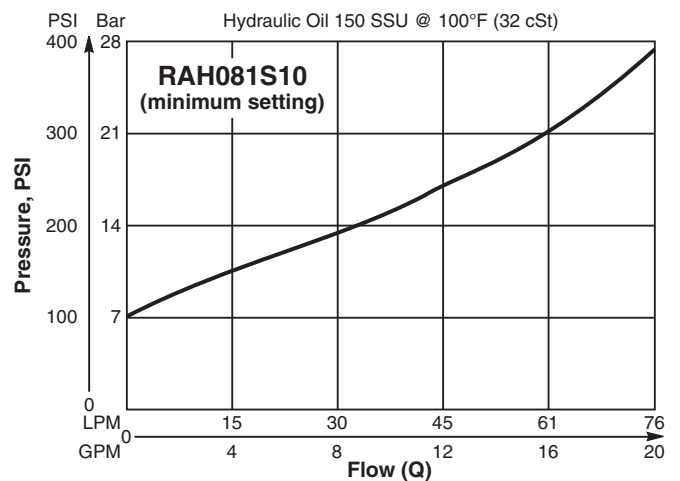
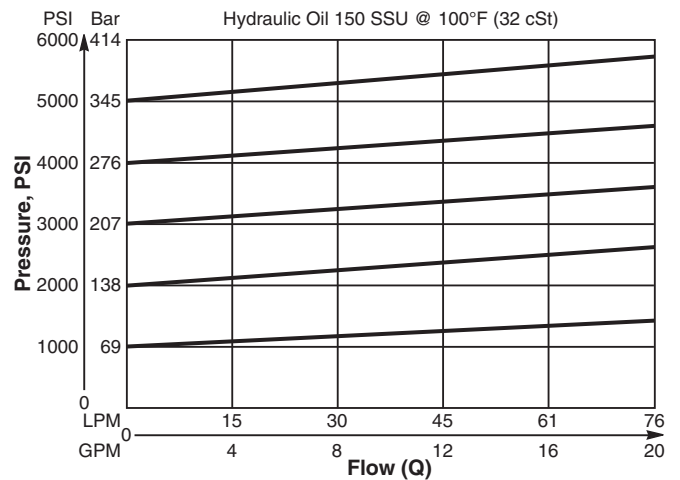


Specifications

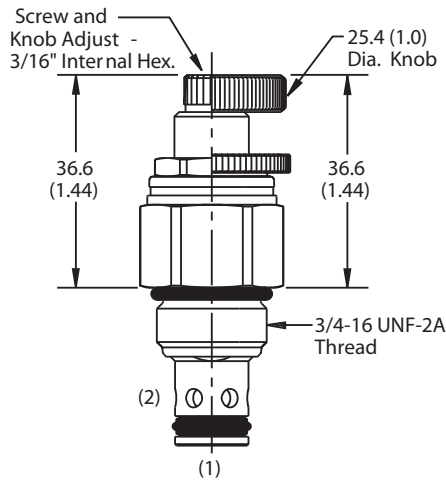
Rated Flow	75.8 LPM (20 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	5 cc per 6.8 Bar (100PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C ("D"-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.09 kg (0.20 lbs.)
Cavity	C08-2 (See BC Section for more details)

Performance Curves

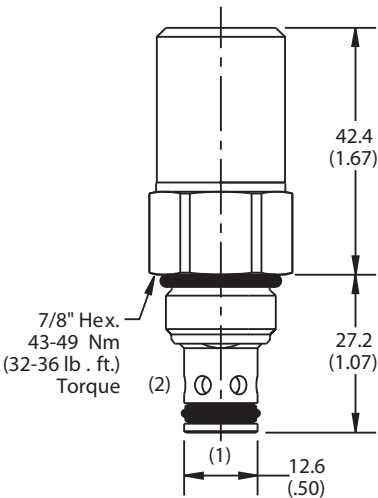
Flow vs. Inlet Pressure
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RAH081	S	
08 Size Pilot Operated Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B08	—	2	—	6T
08 size		2-Way Cavity		Port Size

Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)

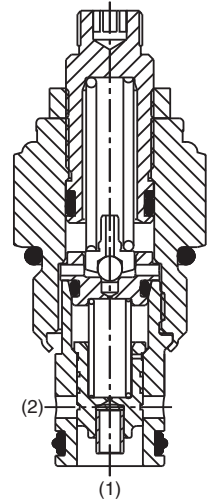
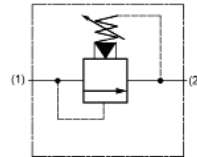
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

General Description

Pilot Operated Spool-Type Relief Valve.
For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane "D"-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

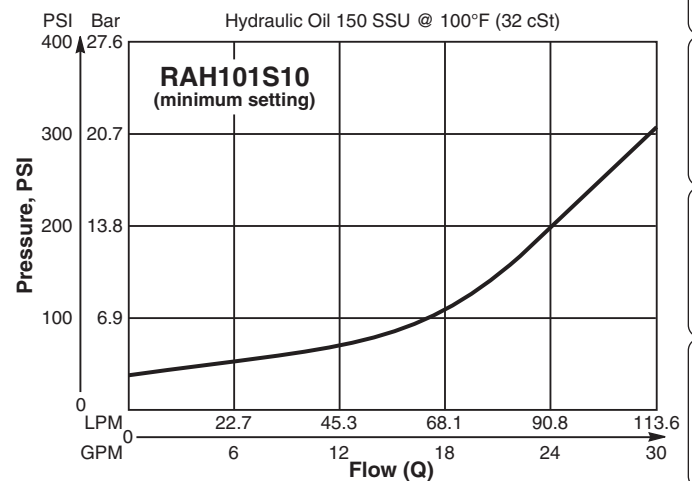
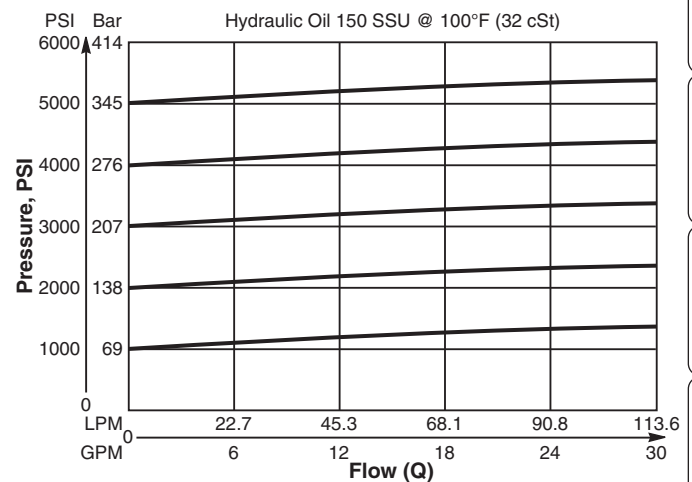


Specifications

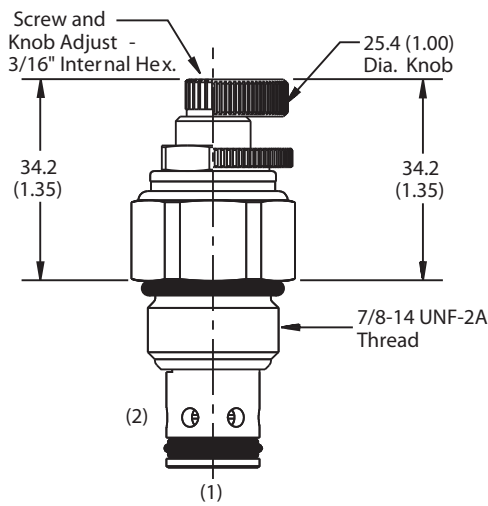
Rated Flow	113 LPM (30 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	5 cc per 6.8 Bar (100 PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C ("D"-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.50 lbs.)
Cavity	C10-2 (See BC Section for more details)

Performance Curves

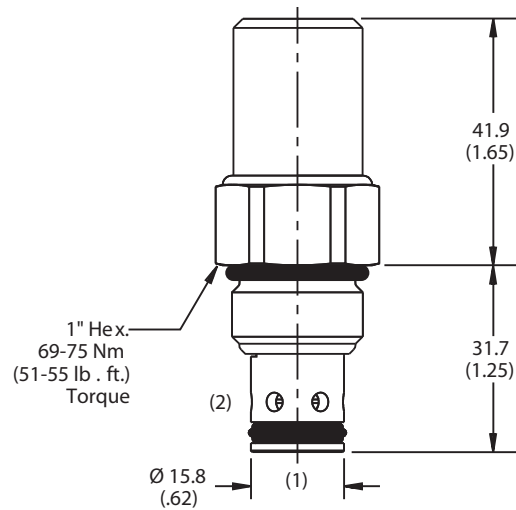
Flow vs. Inlet Pressure
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RAH101	S	
10 Size Pilot Operated Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10	—	2	—	8T
10 size		2-Way Cavity		Port Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)

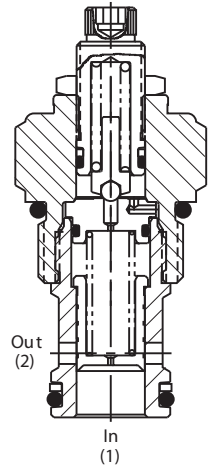
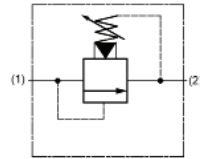
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	718083K
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

General Description

Pilot Operated Spool-Type Relief Valve.
For additional information see Technical Tips on pages PC3-PC7.

Features

- Low override curve
- Ball-type pilot for added stability
- High accuracy - pilot operated design
- Hardened, precision ground parts for durability
- Compact size for reduced space requirements
- All external parts zinc plated

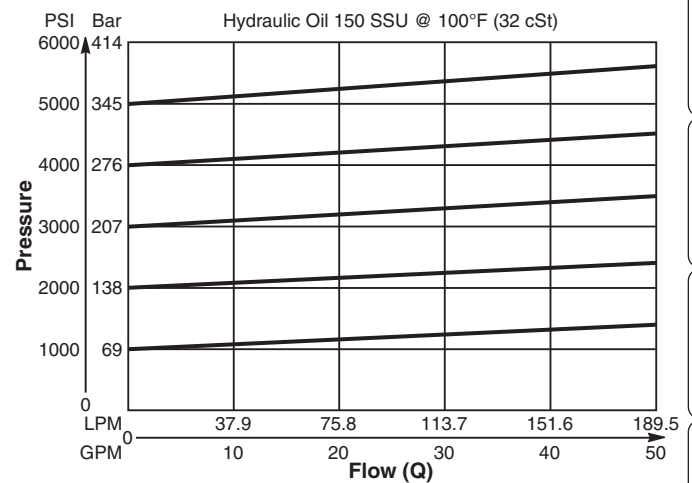


Specifications

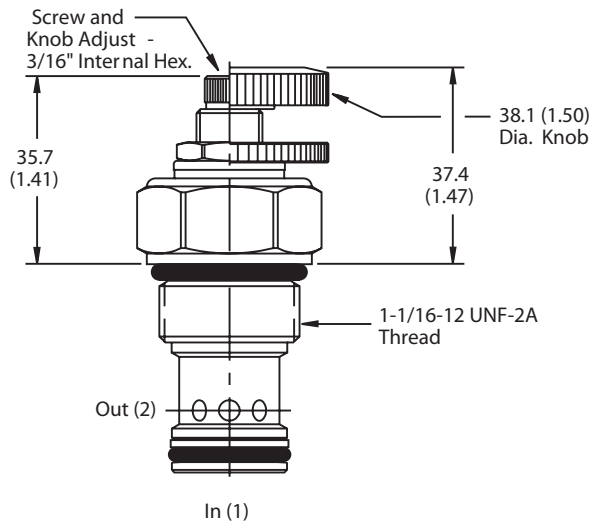
Rated Flow	189.5 LPM (50 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 23 Bar (334 PSI) 30 59.7 Bar (867 PSI) 50 118 Bar (1711 PSI)
Reseat Pressure	80% of crack pressure
Leakage at 150 SSU (32 cSt)	82 cc/min. (5 cu. in./min.) @75% of crack pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.22 kg (0.48 lbs.)
Cavity	C12-2 (See BC Section for more details)

Performance Curve

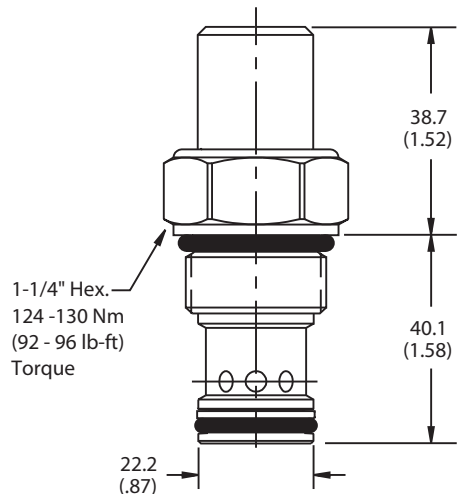
Flow vs. Inlet Pressure
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

RAH121	S	
12 Size Pilot Operated Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B12	—	2	—	12T
12 size		2-Way Cavity		Port Size

Code	Porting / Body Material
12T	SAE-12 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ 11.3 LPM (3 GPM)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ 11.3 LPM (3 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ 11.3 LPM (3 GPM)

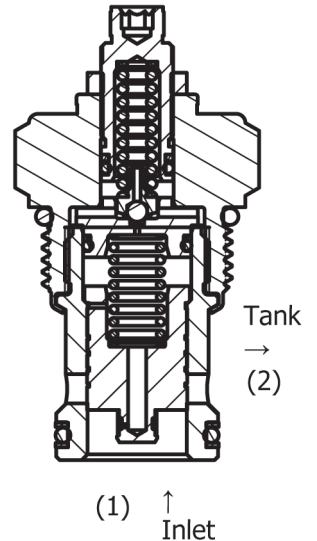
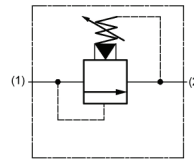
Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK12-2
Fluorocarbon Seal	SK12-2V

General Description

Pilot Operated Spool-Type Relief Valve. For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Internal screening protects pilot seat from debris
- Steel adapters are zinc plated

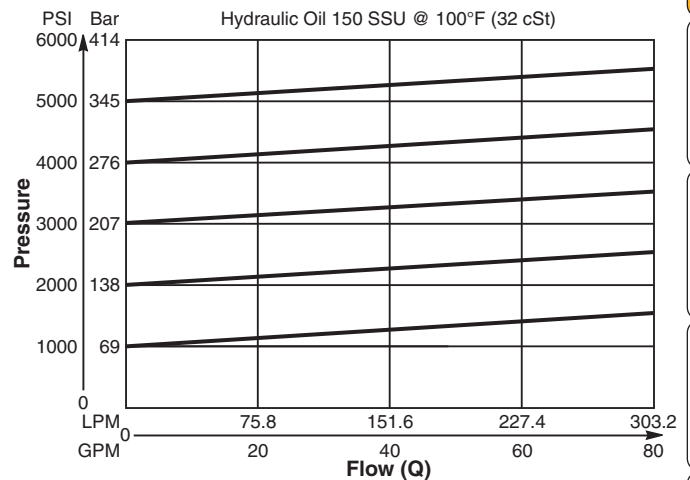


Specifications

Rated Flow	302.8 LPM (80 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 20 39.3 Bar (570 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	5 cc per 6.8 Bar (100 PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.34 kg (0.75 lbs.)
Cavity	C16-2 (See BC Section for more details)

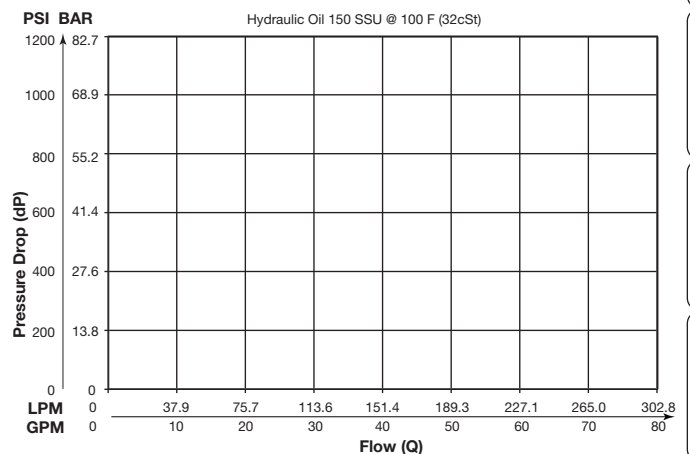
Performance Curve

Flow vs. Inlet Pressure
(Pressure rise through cartridge only)

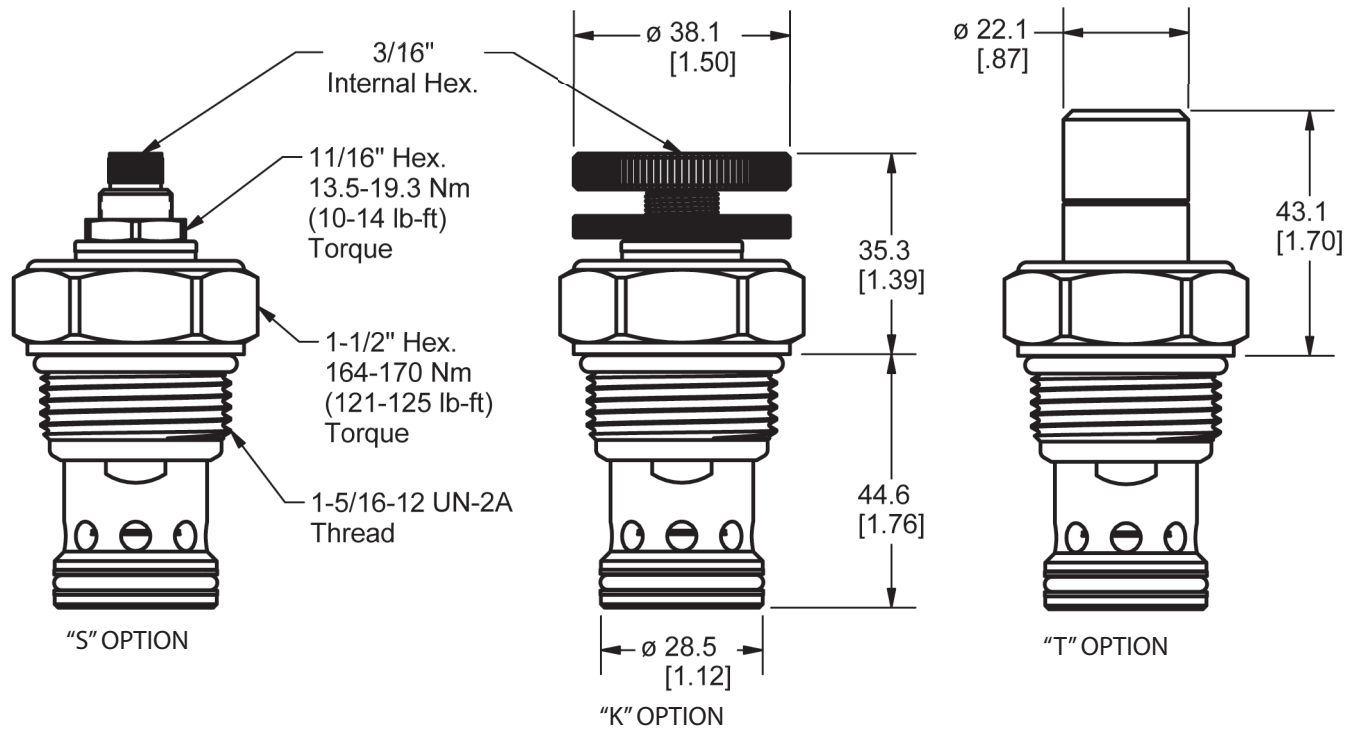


Performance Curve

Regulated Pressure vs. Flow
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

RAH161	S	
16 Size Pilot Operated Relief Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ .95 LPM (25 GPM)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ .95 LPM (25 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ .95 LPM (25 GPM)

Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK16-2
Fluorocarbon Seal	SK16-2V

Order Bodies Separately
See section BC

B16	-	2	-	16T
16 size		2-Way Cavity		Port Size

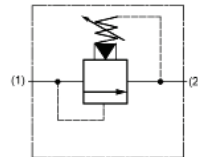
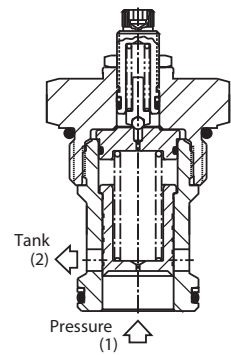
Code	Porting / Body Material
16T	SAE-16 / Steel (5000 PSI)

General Description

Pilot Operated Spool-Type Relief Valve.
For additional information see Technical Tips on pages PC3-PC7.

Features

- Low override curve
- Ball-type pilot for added stability
- High accuracy - pilot operated design
- Hardened, precision ground parts for durability
- Compact size for reduced space requirements
- All external parts zinc plated

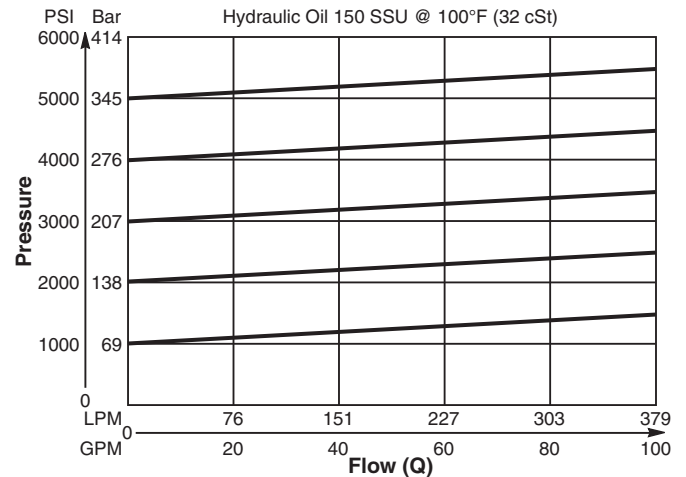


Specifications

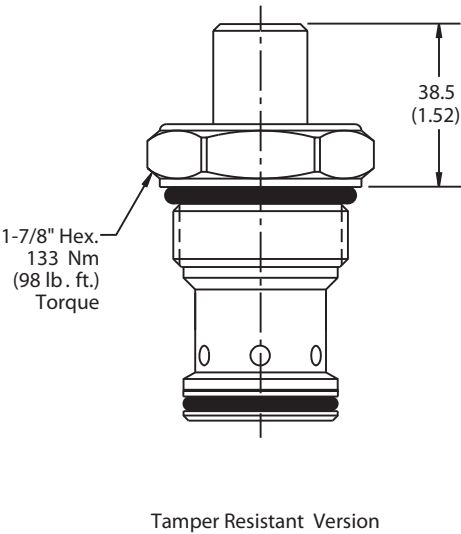
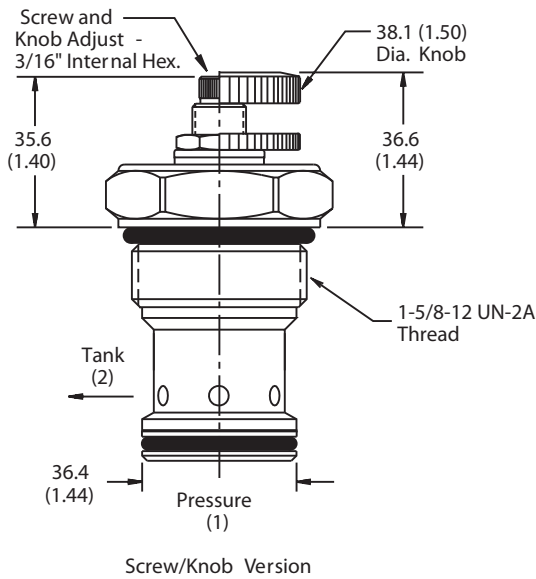
Rated Flow	379 LPM (100 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 23 Bar (334 PSI) 30 59.7 Bar (867 PSI) 50 118 Bar (1711 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	80% of crack pressure
Leakage at 150 SSU (32 cSt)	5 cc per 6.8 Bar (100 PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.9 kg (2.0 lbs.)
Cavity	C20-2 (See BC Section for more details)

Performance Curve

Flow vs. Inlet Pressure
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

RAH201

20 Size
Pilot Operated
Relief Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B20

20 size

2

2-Way
Cavity

20T

Port
Size

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ 37.5 LPM (10 GPM)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ 37.5 LPM (10 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ 37.5 LPM (10 GPM)

Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK20-2
Fluorocarbon Seal	SK20-2V

Code	Porting / Body Material
20T	SAE-20 / Steel (5000 PSI)

General Description

Direct Acting, Dual Poppet-Type, Cross-over Relief Valve.

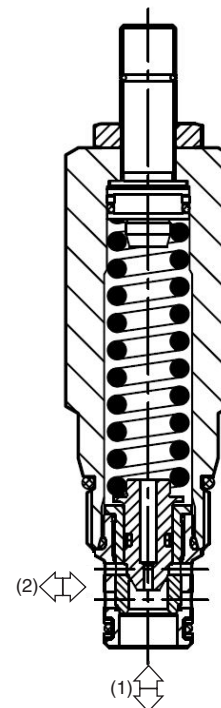
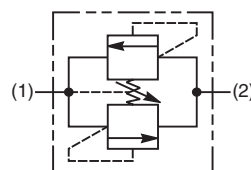
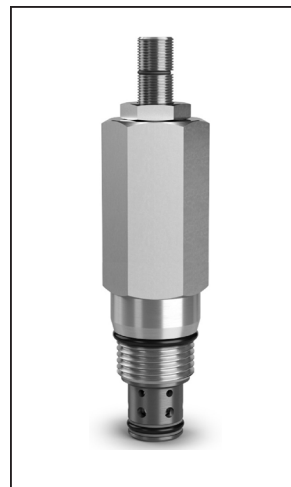
For additional information see Technical Tips on pages PC3-PC7.

Features

- Compact space saving design
- Cost effective - only requires one cavity
- Poppet-type construction for lower leakage
- Full 350 Bar, 5000 PSI pressure capability
- High flow capability for the size of valve
- Minimal pressure variation with flow change
- Hardened working parts for maximum durability
- All external parts zinc plated

Specifications

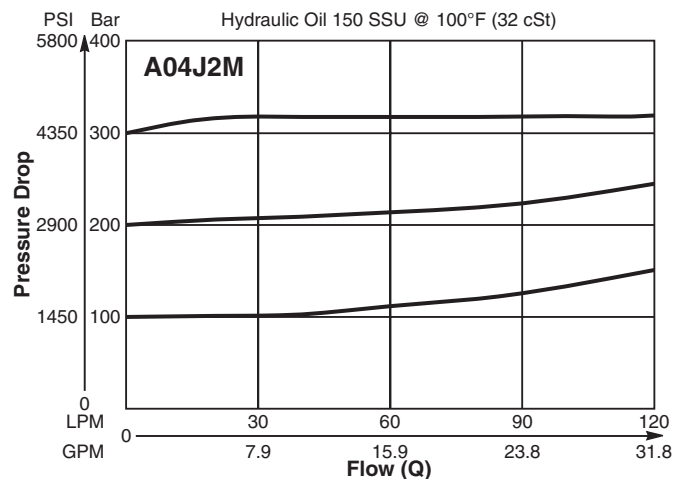
Rated Flow	120 LPM (32 GPM)
Maximum Inlet Pressure	M- 10-350 Bar (144-5000 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	M- 34 Bar (493 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	10 drops/min. @100 Bar (1450)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.29 kg (0.64 lbs.)
Cavity	C10-2 (See BC Section for more details)



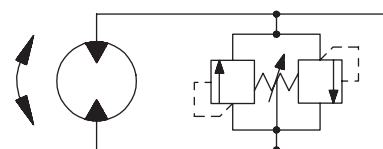
Performance Curves

(Pressure rise through cartridge only)

Flow vs. Inlet Pressure 1 to 2 and 2 to 1



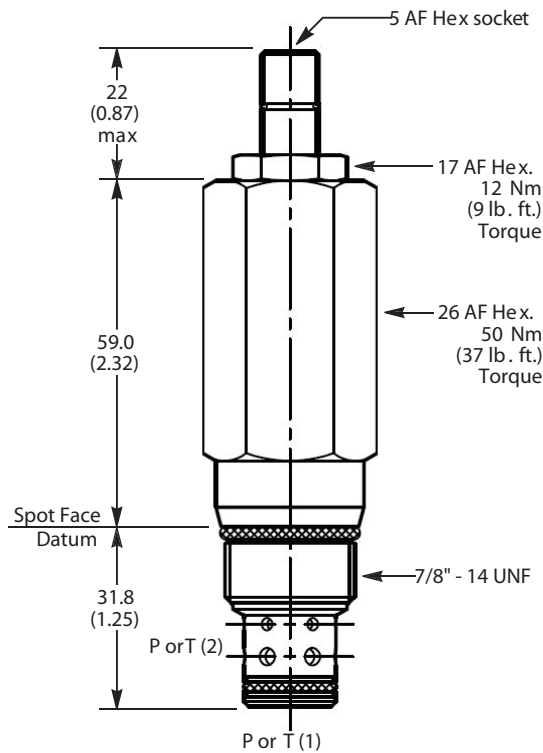
Application



Motor protection in both directions

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

A04J2

10 Size
Direct Acting
Relief Valve

M

Pressure
Adjustment
Range

Z

Adjustment
Style

N

Seals

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Pressure Range
M	10 - 350 Bar (144 - 5000 PSI)

Code	Adjustment Style
Z	Screw Adjust

Code	Seals
N	Nitrile

Standard Pressure Setting
A04J2M Standard Setting: 200 Bar (2900 PSI) @ 15 LPM (4.0 GPM)

Order Bodies Separately
See section BC

B10

—

2

—

8T

10 size

2-Way
Cavity

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Kit	Part Number
Knob	ASV014975
Tamper Resistant Cap	TC1130K
Nitrile Seal	SK30529N-1
Fluorocarbon Seal	SK30529V-1

General Description

Pressure Unloading Valve Assembly

This valve is best suited for accumulator unloading circuits or can be used as a remote to pilot valves. They provide a fixed percentage between load and unload pressures.

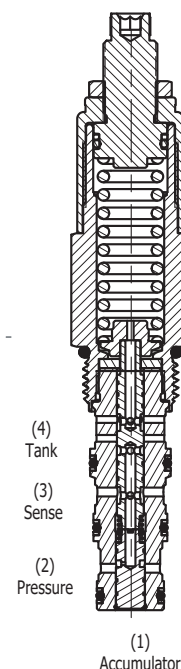
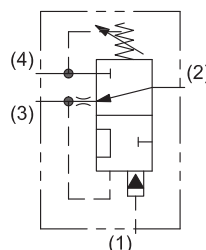
For additional information see Technical Tips on pages PC3-PC7.

Features

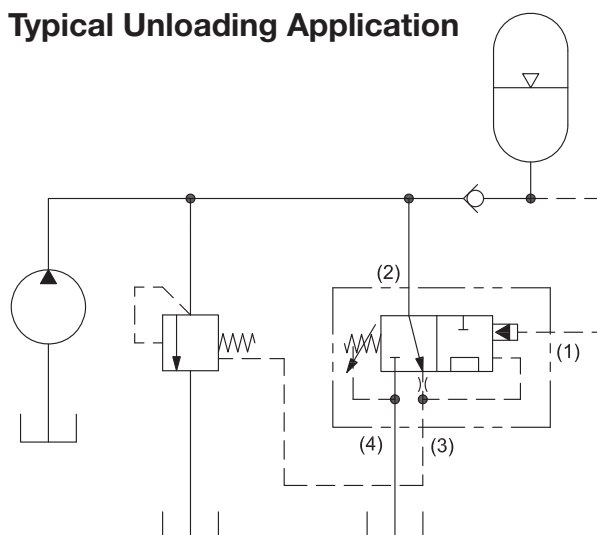
- Low hysteresis
- Cartridge design
- Hardened, precision ground parts for durability
- All external parts zinc plated
- “D”-Ring eliminates backup rings

Specifications

Rated Flow	1 LPM (.25 GPM)
Maximum Inlet Pressure	250 Bar (3600 PSI)
Maximum Pressure Setting	250 Bar (3600 PSI)
Pressure Sensitivity	12 = 112 PSI/Turn 24 = 214 PSI/Turn 36 = 367 PSI/Turn
Maximum Tank Pressure	210 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	Port 1 leakage 48 ml/min. @207 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.45 kg (1.0 lbs.)
Cavity	C10-4 (See BC Section for more details)

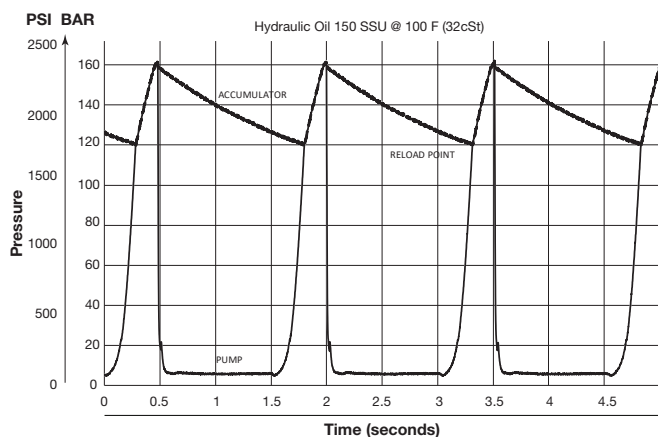


Typical Unloading Application

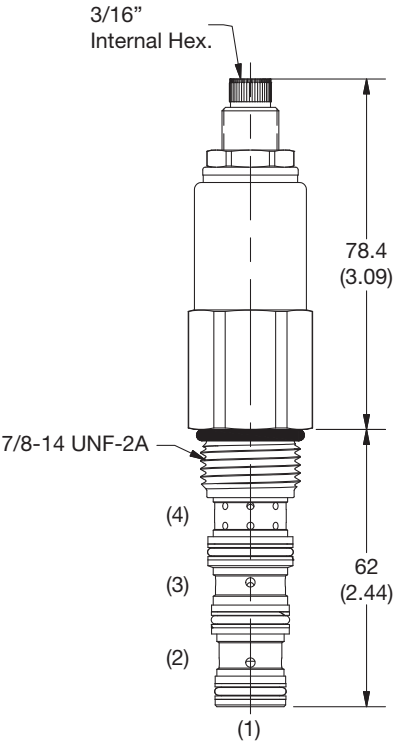


Performance Curve

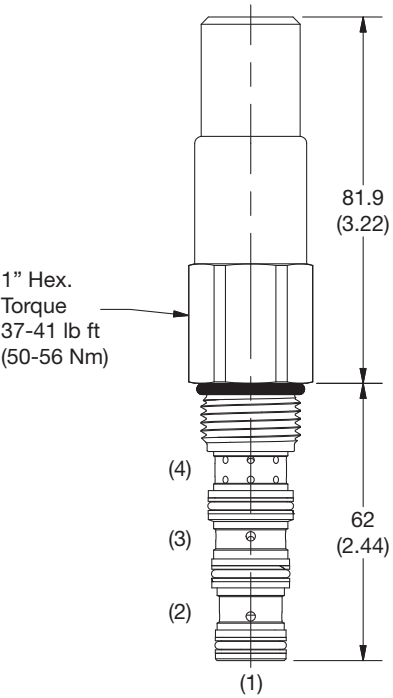
Pump and Accumulator Pressure vs. Time



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data



SCREW VERSION



TAMPER RESISTANT
VERSION

Ordering Information

RU104

10 Size
Pressure Unloading
Valve

S

Adjustment
Style

Pressure
Range

B

Reload

Highlighted **represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.**

Code	Adjustment Style
S	Screw Adjust

Code	Reload
B	80% ±5% of Pressure Setting

Code	Pressure Range
12	55.2 - 82.7 Bar (800 - 1200 PSI) Standard Setting: 68.9 Bar (1000 PSI) @ 1.1 LPM (.3 GPM)
24	68.9 - 165.5 Bar (1000 - 2400 PSI) Standard Setting: 117.2 Bar (1700 PSI) @ 1.1 LPM (.3 GPM)
36	120.7 - 248.2 Bar (1750 - 3600 PSI) Standard Setting: 184.4 Bar (2675 PSI) @ 1.1 LPM (.3 GPM)

Code	Seals
Omit	D-Ring

Kit	Part Number
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

Order Bodies Separately
See section BC

B10

10 size

-

4

4-Way
Cavity

-

8T

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

General Description

Pilot Operated Sequence Valve (Internally Piloted, Externally Vented).

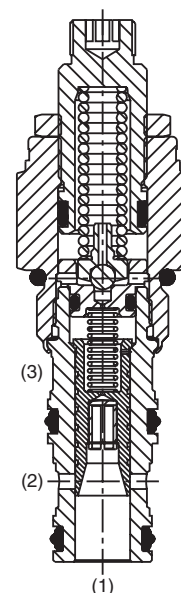
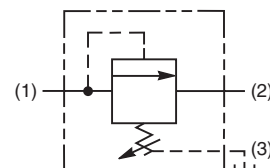
For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided pilot for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

Specifications

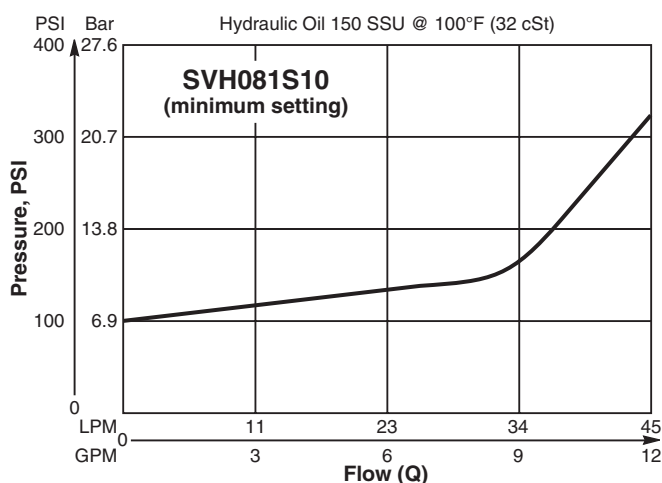
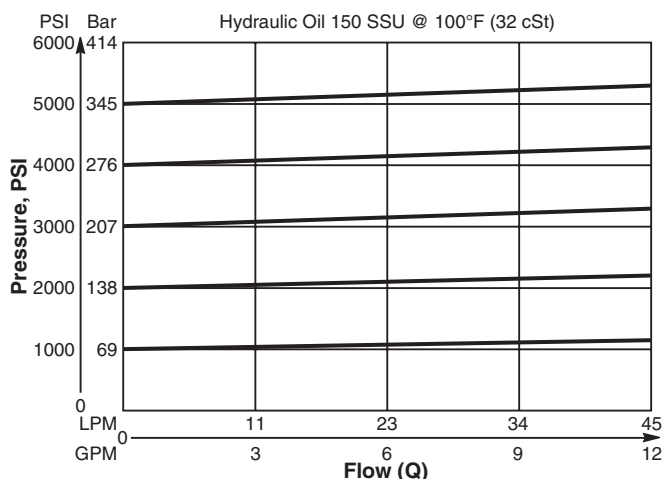
Rated Flow	45 LPM (12 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	0.56 LPM (0.15 GPM)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	82 cc/min. (5 cu. in./min.) @ 210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.11 kg (0.25 lbs.)
Cavity	C08-3 (See BC Section for more details)



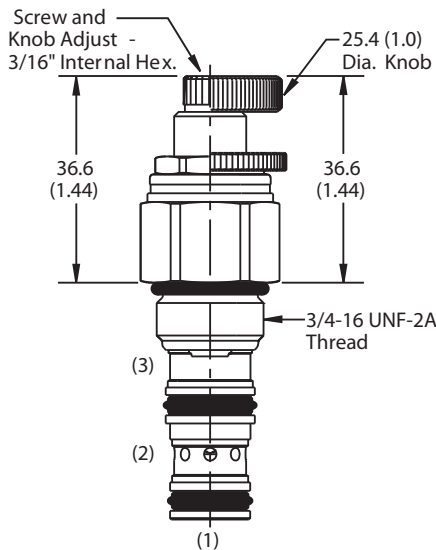
Performance Curves

Flow vs. Inlet Pressure

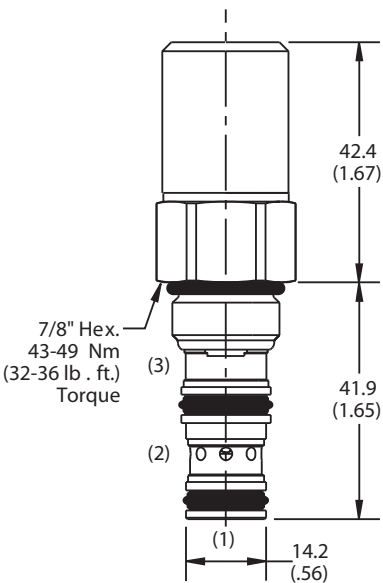
(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

SVH081	S	
08 Size P.O. Sequence Valve (Internal Pilot)	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B08	—	3	—	6T
08 size		3-Way Cavity		Port Size

Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-3
Nitrile Seal	SK08-3
Fluorocarbon Seal	SK08-3V

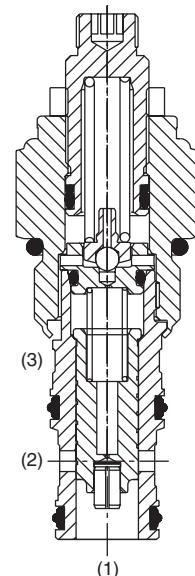
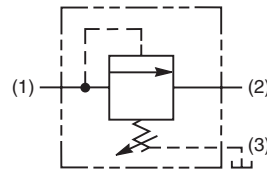
General Description

Pilot Operated Sequence Valve (Internally Piloted, Externally Drained).

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris



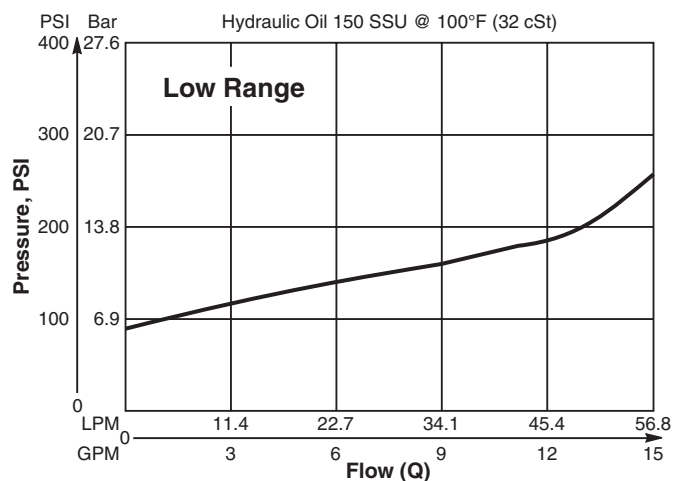
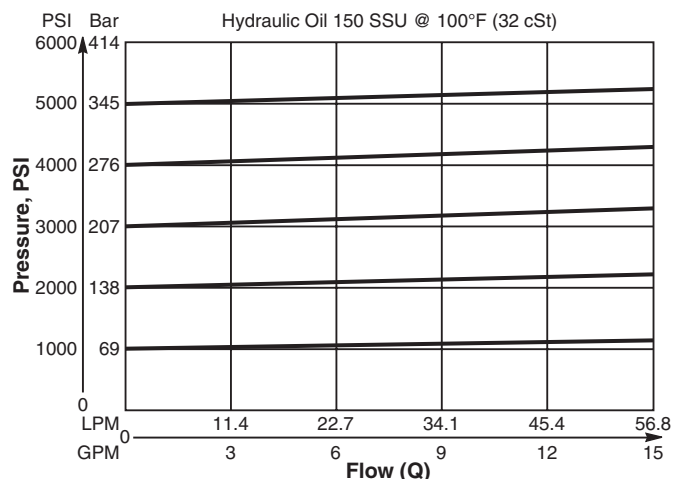
Specifications

Rated Flow	56.3 LPM (15 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow (Port 3)	0.94 LPM (0.25 GPM)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	82 cc/min. (5 cu. in./min.) @ 210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.45 kg (1.0 lbs.)
Cavity	C10-3 (See BC Section for more details)

Performance Curves

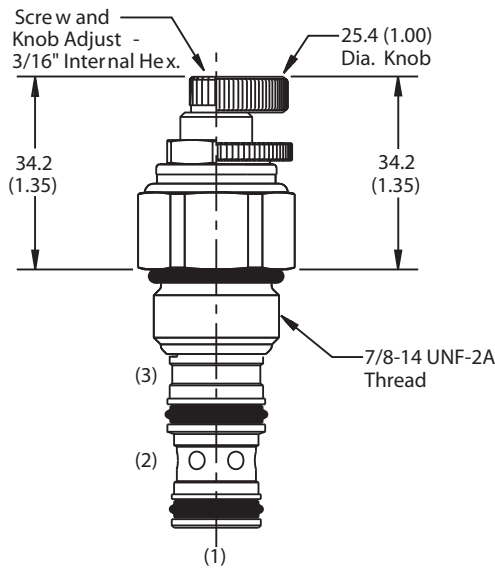
Flow vs. Inlet Pressure

(Pressure rise through cartridge only)

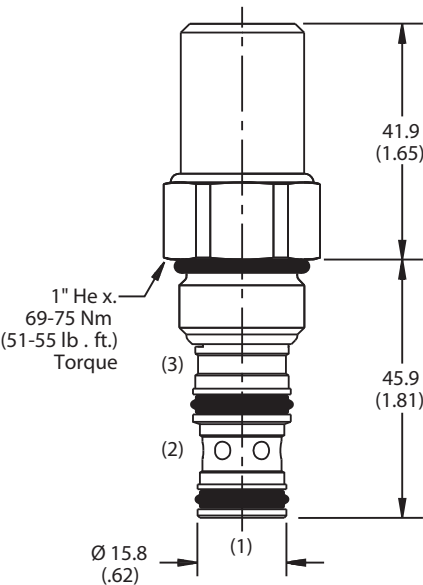


CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

SVH101

10 Size
P.O. Sequence Valve
(Internal Pilot)

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10

10 size

3

3-Way
Cavity

8T

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately .95 LPM (.25 GPM)

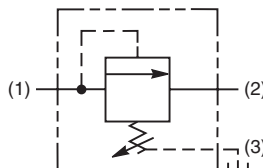
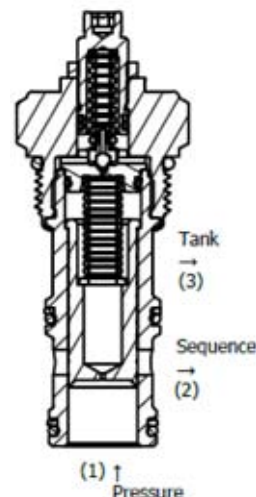
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	718083K
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

General Description

Pilot Operated Sequence Valve (Internally Piloted, Externally Drained). For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- High accuracy, pilot operation design
- Ball-type pilot for added stability
- All external parts zinc plated



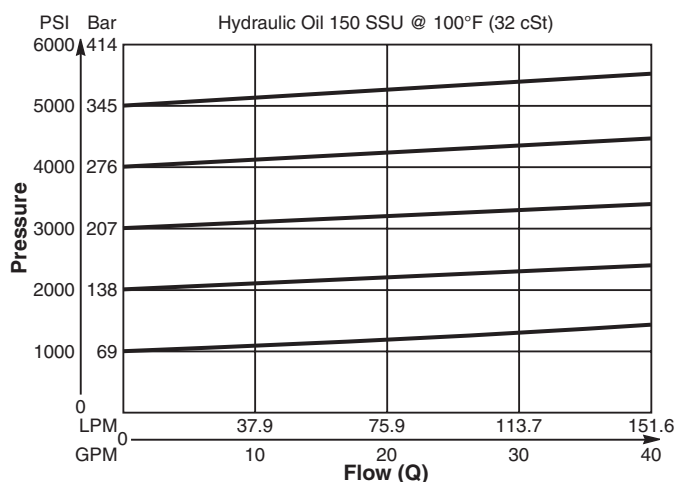
Specifications

Rated Flow	151.6 LPM (40 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 23 Bar (334 PSI) 30 59.7 Bar (867 PSI) 50 118 Bar (1711 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	1.9 LPM (0.5 GPM)
Reseat Pressure	80% of crack pressure
Leakage at 150 SSU (32 cSt)	5 cc per 6.8 Bar (100PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.45 kg (1.0 lbs.)
Cavity	C16-3 (See BC Section for more details)

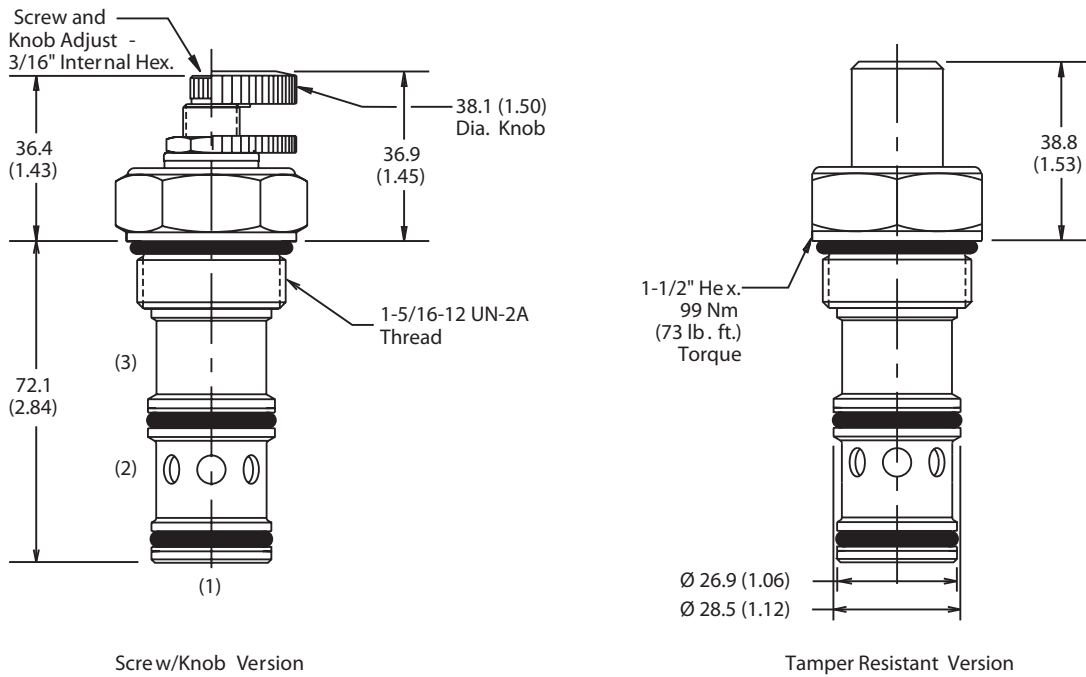
Performance Curve

Flow vs. Inlet Pressure

(Pressure rise through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

SVH161 **S** ☐

16 Size Adjustment Pressure
P.O. Sequence Valve Style Range
(Internal Pilot)

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B16 - **3** - **16T**

16 size 3-Way Cavity Port Size

Code	Porting / Body Material
16T	SAE-16 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ 11.3 LPM (3 GPM)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ 11.3 LPM (3 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ 11.3 LPM (3 GPM)

Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK16-3
Fluorocarbon Seal	SK16-3V

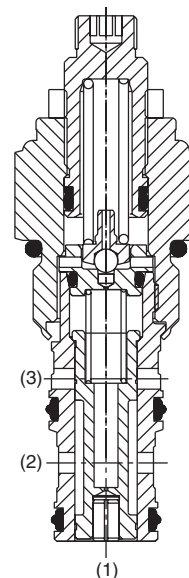
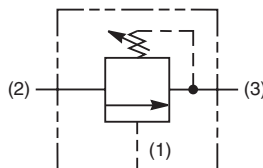
General Description

Pilot Operated Sequence Valve (Externally Piloted, Internally Vented).

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris



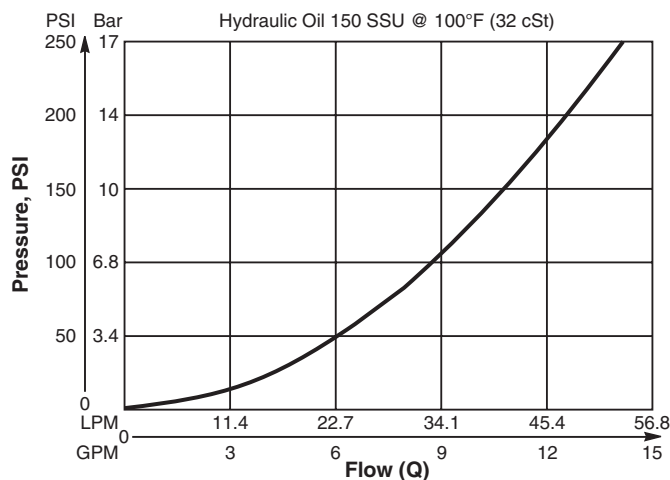
Specifications

Rated Flow	56.3 LPM (15 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	See maximum drain flow chart (Lower right)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32 cSt)	82 cc/min. (5 cu. in./min.) @ 210 Bar (3000 PSI)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.45 kg (1.0 lbs.)
Cavity	C10-3 (See BC Section for more details)

Performance Curve

Flow vs. Inlet Pressure

(Pressure rise through cartridge only)

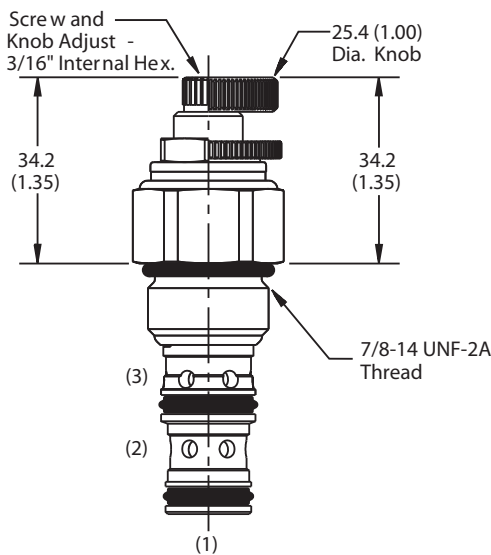


Maximum Drain Flow

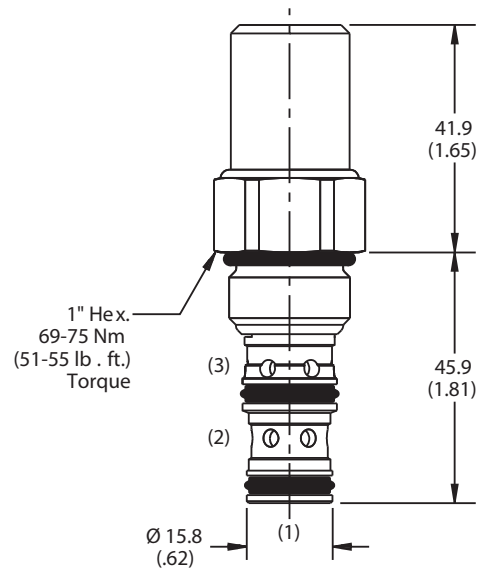
$P_{PILOT} - P_{SETTING}$	Drain Flow
6.9 Bar (100 PSI)	0.34 LPM (0.09 GPM)
35 Bar (500 PSI)	0.76 LPM (0.20 GPM)
69 Bar (1000 PSI)	1.08 LPM (0.29 GPM)
138 Bar (2000 PSI)	1.53 LPM (0.40 GPM)
207 Bar (3000 PSI)	1.87 LPM (0.50 GPM)

CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

SVH102	S	
10 Size P.O. Sequence Valve (External Pilot)	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10	—	3	—	8T
10 size		3-Way Cavity		Port Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	20.7 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ crack pressure, approximately 11.3 LPM (3 GPM)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ crack pressure, approximately 11.3 LPM (3 GPM)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ crack pressure, approximately 11.3 LPM (3 GPM)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	718083K
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

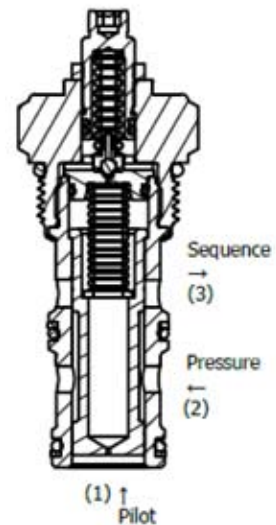
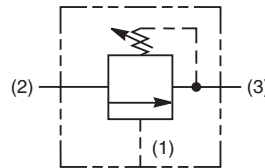
General Description

Pilot Operated Sequence Valve (Externally Piloted, Internally Vented).

For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- High accuracy, pilot operation design
- Ball-type pilot for added stability
- All external parts zinc plated



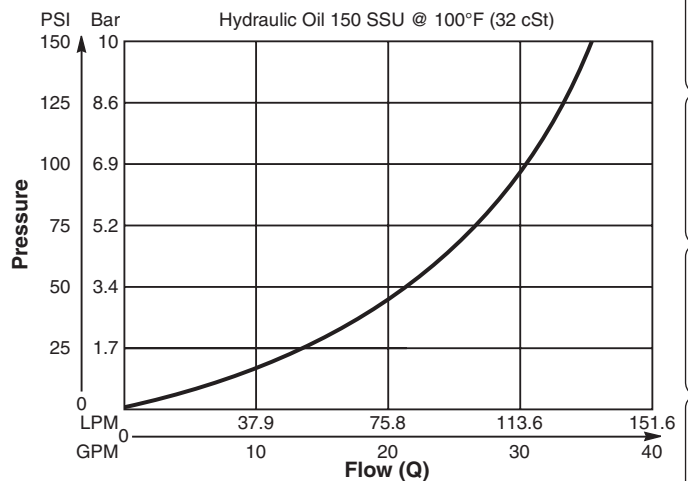
Specifications

Rated Flow	151.6 LPM (40 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 23 Bar (334 PSI) 30 59.7 Bar (867 PSI) 50 118 Bar (1711 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	See maximum drain flow chart (Lower right)
Reseat Pressure	80% of crack pressure
Leakage at 150 SSU (32 cSt)	82 cc/min. (5 cu. in./min.) @ 75% of Crack Pressure
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.45 kg (1.0 lbs.)
Cavity	C16-3 (See BC Section for more details)

Performance Curve

Flow vs. Inlet Pressure

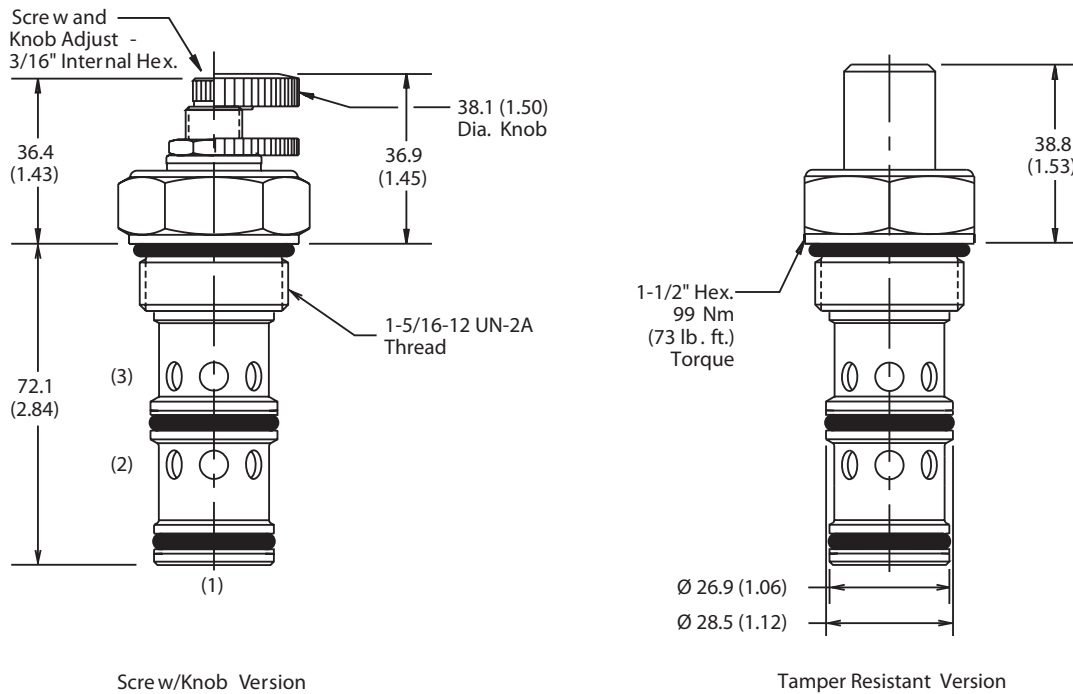
(Pressure rise through cartridge only)



Maximum Drain Flow

$P_{PILOT} - P_{SETTING}$	Drain Flow
6.9 Bar (100 PSI)	0.69 LPM (0.18 GPM)
35 Bar (500 PSI)	1.55 LPM (0.41 GPM)
69 Bar (1000 PSI)	2.19 LPM (0.58 GPM)
138 Bar (2000 PSI)	3.10 LPM (0.82 GPM)
207 Bar (3000 PSI)	3.79 LPM (1.00 GPM)

Dimensions Millimeters (Inches)



Ordering Information

SVH162	S	
16 Size P.O. Sequence Valve (External Pilot)	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Order Bodies Separately
See section BC

B16	—	3	—	16T
16 size		3-Way Cavity		Port Size

Code	Porting / Body Material
16T	SAE-16 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI) @ 11.3 LPM (3 GPM)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI) @ 11.3 LPM (3 GPM)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI) @ 11.3 LPM (3 GPM)

Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK16-3
Fluorocarbon Seal	SK16-3V

General Description

Direct Acting Pressure Reducing/ Relieving Valve.
 For additional information see Technical Tips on pages PC3-PC7.

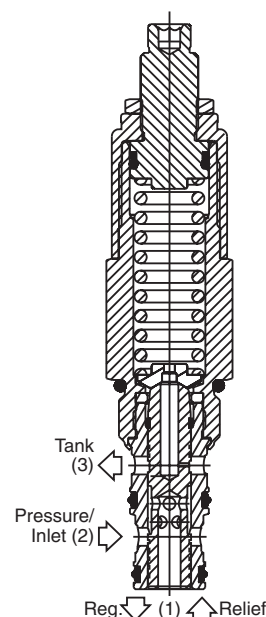
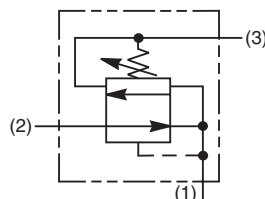
Note: The differential between system pressure and pressure setting of the valve can greatly affect the stability of this valve. For best performance, the inlet pressure setting should not exceed 69 Bar (1000 PSI) above the reducing valve setting.

Features

- Hardened, precision ground parts for durability
- Internal mechanical stop limits spool travel eliminating spring solidification
- “D”-Ring eliminates backup rings
- All external parts zinc plated

Specifications

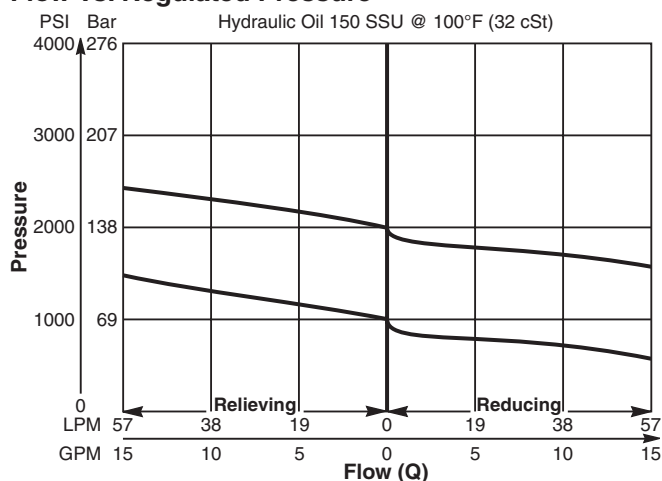
Rated Flow	56 LPM (15 GPM)
Maximum Inlet Pressure	210 Bar (3000 PSI) 69 Bar (1000 PSI) maximum differential above valve setting for best stability
Maximum Pressure Setting	124 Bar (1800 PSI)
Sensitivity: Pressure/Turn	12 11.4 Bar (165 PSI) 21 17.2 Bar (250 PSI)
Maximum Tank Pressure	124 Bar (1800 PSI)
Maximum Drain Flow	120 ml/min. (0.03 GPM)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.5 lbs.)
Cavity	C10-3 (See BC Section for more details)



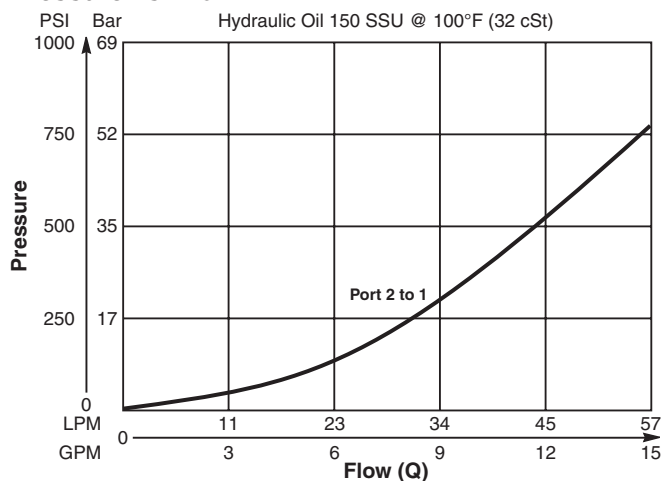
Performance Curves

(Pressure rise through cartridge only)

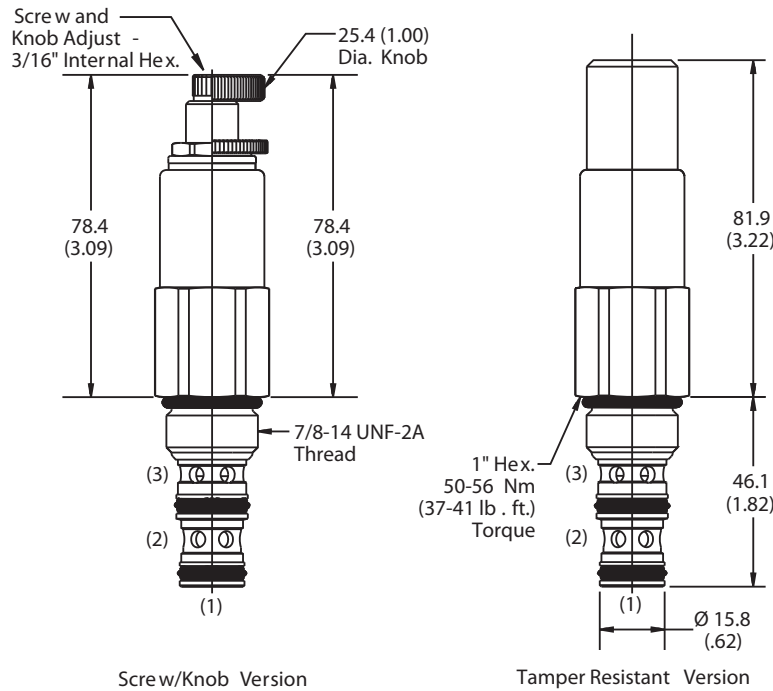
Flow vs. Regulated Pressure



Pressure vs. Flow



Dimensions Millimeters (Inches)



Ordering Information

PR103

10 Size
D.A. Pressure
Reducing/Relieving Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10

– 3 –

8T

10 size

3-Way
Cavity

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
12	39.3 - 83 Bar (570 - 1200 PSI) Standard Setting: 41.4 Bar (600 PSI) @ .95 LPM (.25 GPM)
21	41.4 - 124.1 Bar (600 - 1800 PSI) Standard Setting: 69 Bar (1000 PSI) @ .95 LPM (.25 GPM)

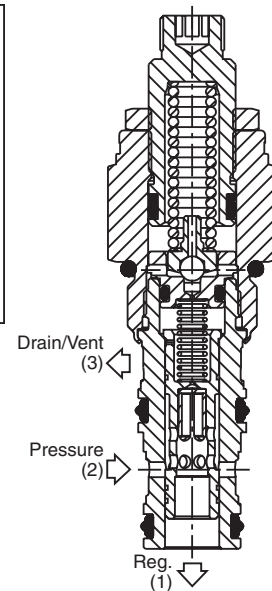
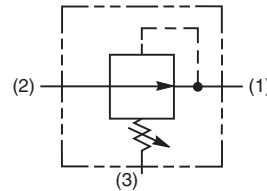
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

General Description

Pilot Operated Pressure Reducing Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided pilot for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

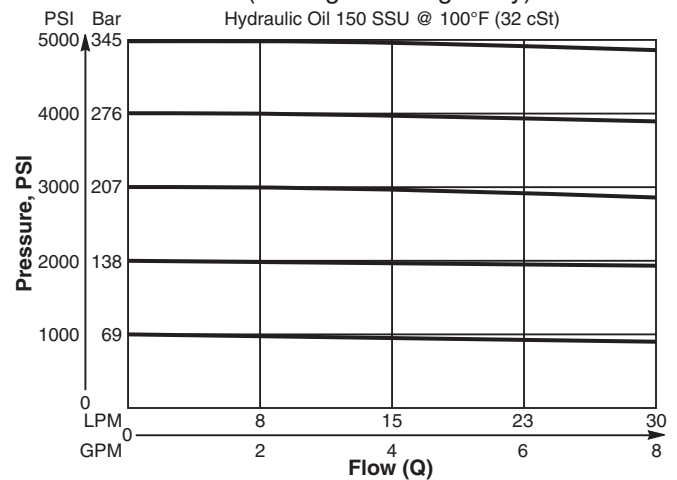


Specifications

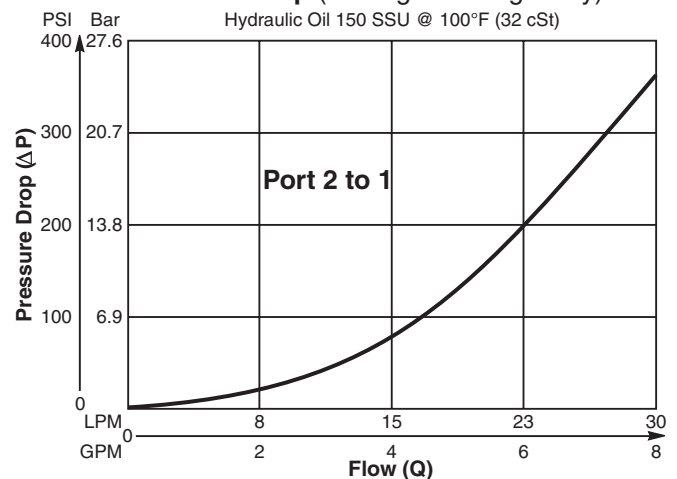
Rated Flow	30 LPM (8 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 25 Bar (362 PSI) 30 64.2 Bar (932 PSI) 50 137 Bar (1987 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	0.56 LPM (0.15 GPM)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.11 kg (0.25 lbs.)
Cavity	C08-3 (See BC Section for more details)

Performance Curves

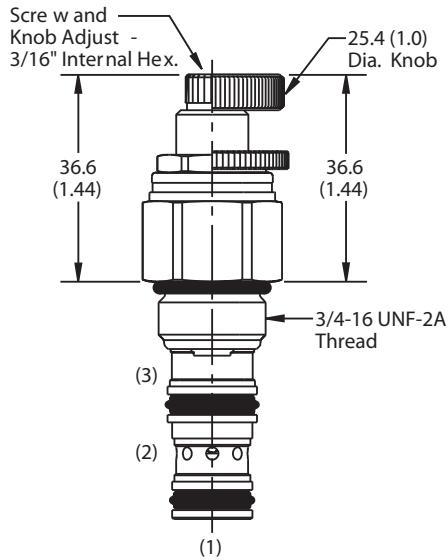
Flow vs. Pressure (Through cartridge only)



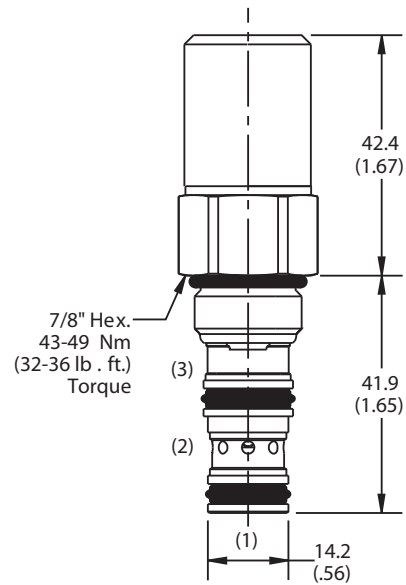
Flow vs. Pressure Drop (Through cartridge only)



Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

PRH082	S	
08 Size P.O. Pressure Reducing Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI)

NOTE: For settings below 20.7 Bar (300 PSI), flow rating is limited to 11.3 LPM (3 GPM).

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-3
Nitrile Seal	SK08-3
Fluorocarbon Seal	SK08-3V

Order Bodies Separately
See section BC

B08	3	6T
08 size	3-Way Cavity	Port Size

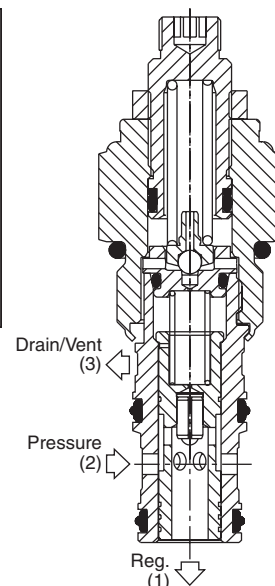
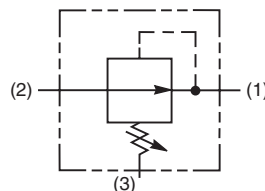
Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

General Description

Pilot Operated Pressure Reducing Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

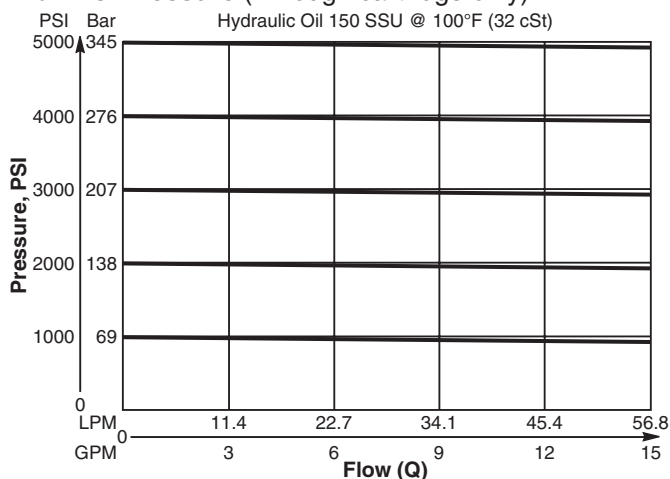


Specifications

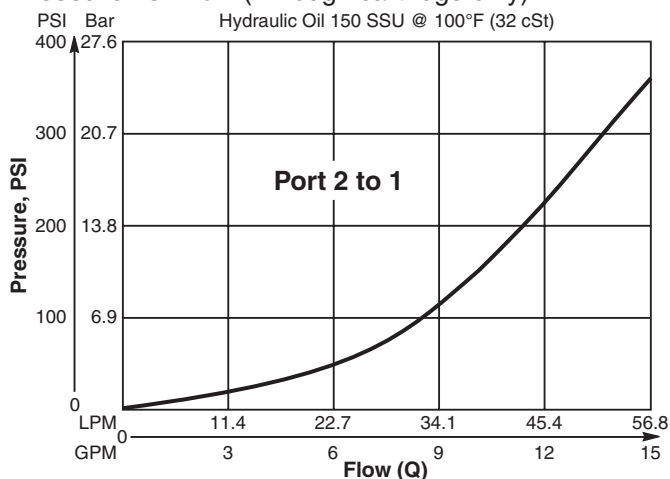
Rated Flow	56.3 LPM (15 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 25.4 Bar (369 PSI) 30 64.9 Bar (942 PSI) 50 137.6 Bar (1996 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	0.94 LPM (0.25 GPM)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.5 lbs.)
Cavity	C10-3 (See BC Section for more details)

Performance Curves

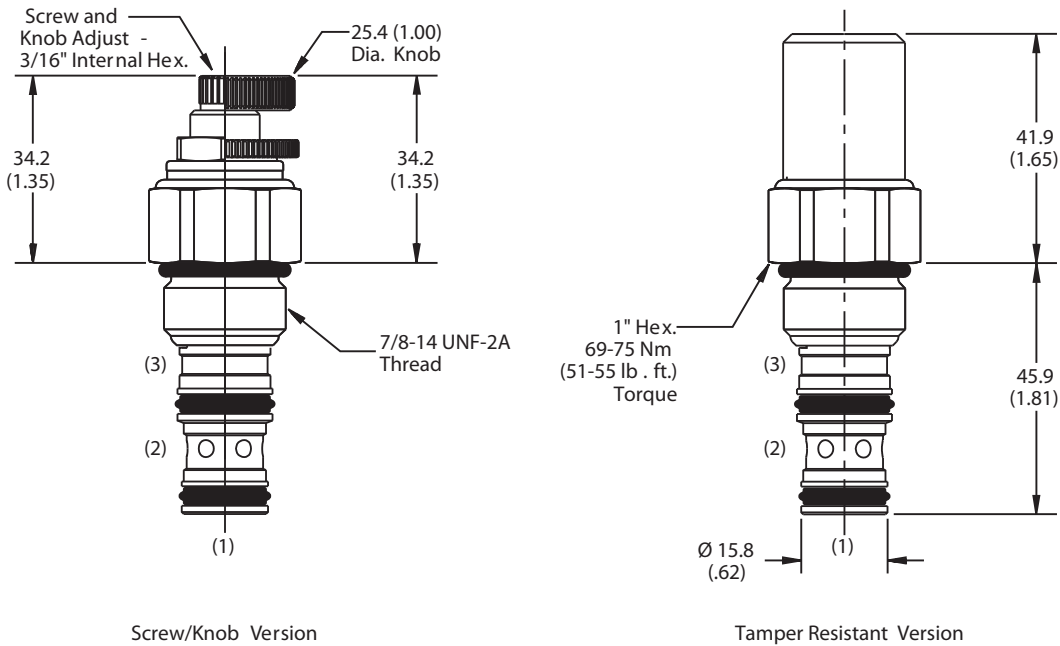
Flow vs. Pressure (Through cartridge only)



Pressure vs. Flow (Through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

PRH102

10 Size
P.O. Pressure
Reducing Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10

10 size

—

3

3-Way
Cavity

—

8T

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	13.7 - 69 Bar (200 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI)
30	41.4 - 207 Bar (600 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI)
50	82.8 - 345 Bar (1200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	718083K
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

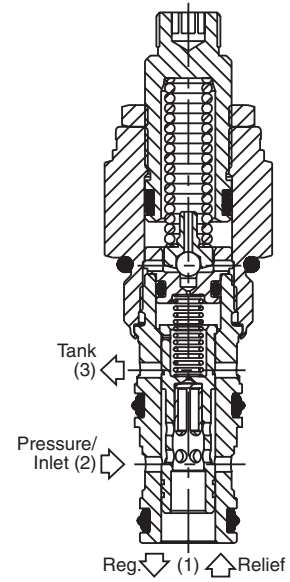
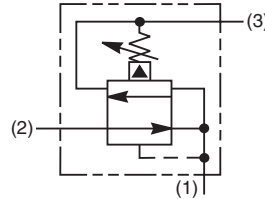
NOTE: For settings below 20.7 Bar (300 PSI), flow rating is limited to 11.3 LPM (3 GPM).

General Description

Pilot Operated Pressure Reducing/ Relieving Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided pilot for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

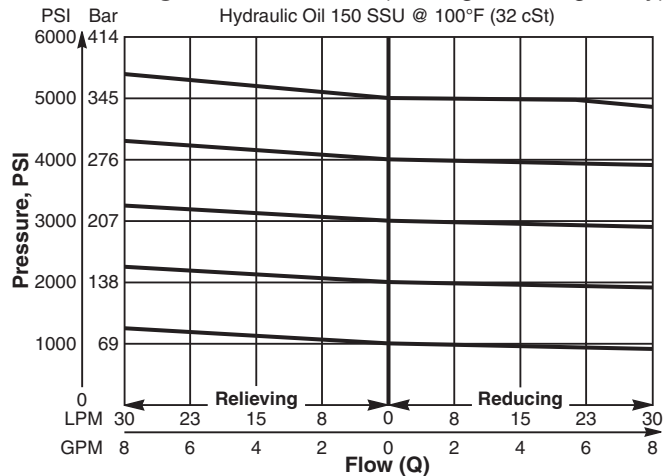


Specifications

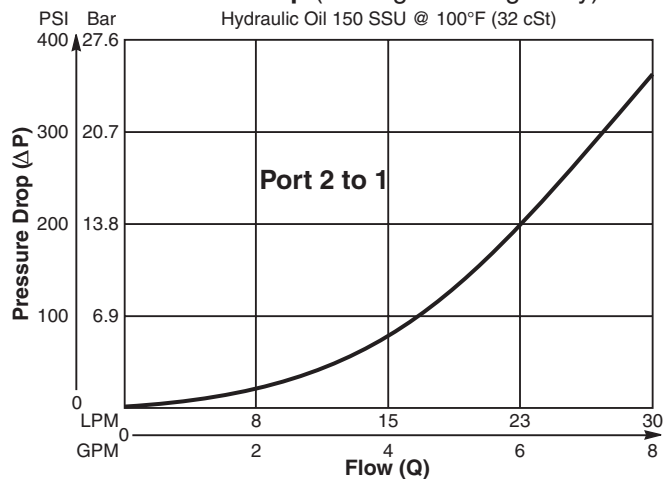
Rated Flow	30 LPM (8 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	0.56 LPM (0.15 GPM)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.11 kg (0.25 lbs.)
Cavity	C08-3 (See BC Section for more details)

Performance Curves

Flow vs. Regulated Pressure (Through cartridge only)



Flow vs. Pressure Drop (Through cartridge only)



CV

Check
Valves

SH

Shuttle
Valves

LM

Load/Motor
Controls

FC

Flow
Controls

PC

Pressure
Controls

LE

Logic
Elements

DC

Directional
Controls

SV

Solenoid
Valves

PV

Proportional
Valves

CE

Coils &
Electronics

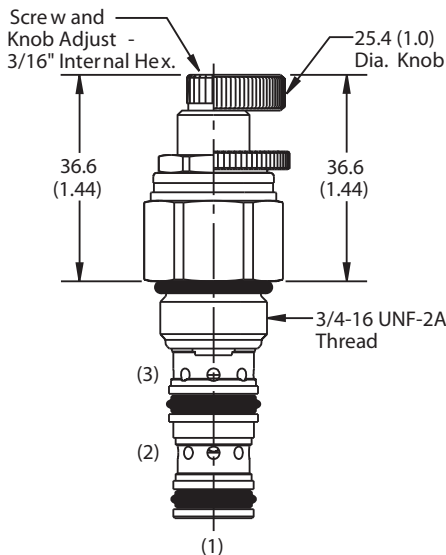
BC

Bodies &
Cavities

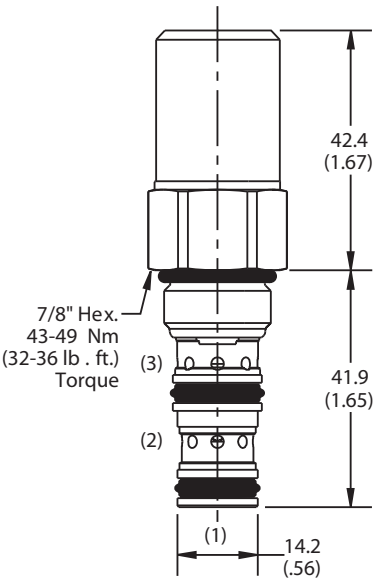
TD

Technical
Data

Dimensions Millimeters (Inches)



Screw/Knob Version



Tamper Resistant Version

Ordering Information

PRH081

08 Size
P.O. Pressure
Reducing/Relieving
Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B08

08 size

3

3-Way
Cavity

6T

Port
Size

Code	Porting / Body Material
6T	SAE-6 / Steel (5000 PSI)

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI)
30	13.8 - 207 Bar (200 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI)
50	13.8 - 345 Bar (200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI)

NOTE: For settings below 20.7 Bar (300 PSI), flow rating is limited to 11.3 LPM (3 GPM).

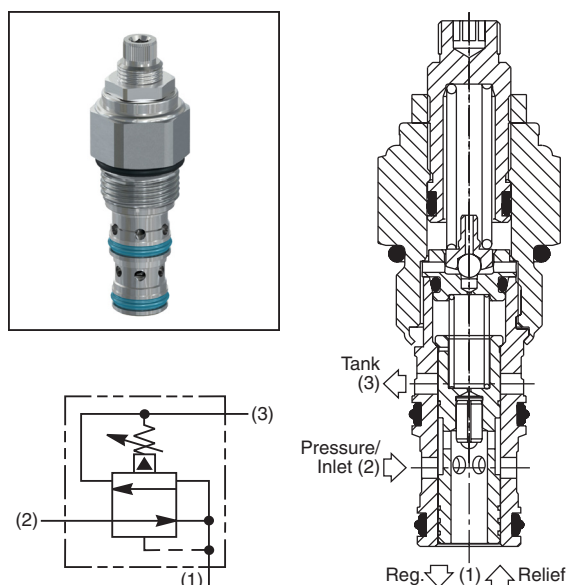
Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	717943K
D-Ring Seal	SK08-3
Nitrile Seal	SK08-3
Fluorocarbon Seal	SK08-3V

General Description

Pilot Operated Pressure Reducing / Relieving Valve.
 For additional information see Technical Tips on pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- Steel adapters are zinc plated
- Polyurethane “D”-Ring eliminates backup rings and prevents hydrolysis
- Internal screening protects pilot spring from debris

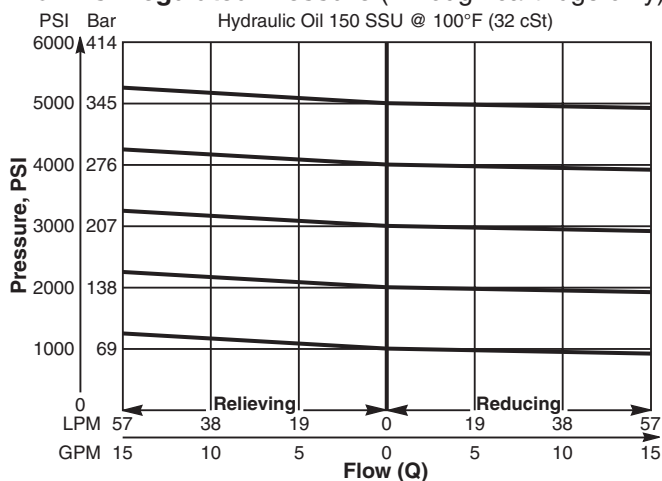


Specifications

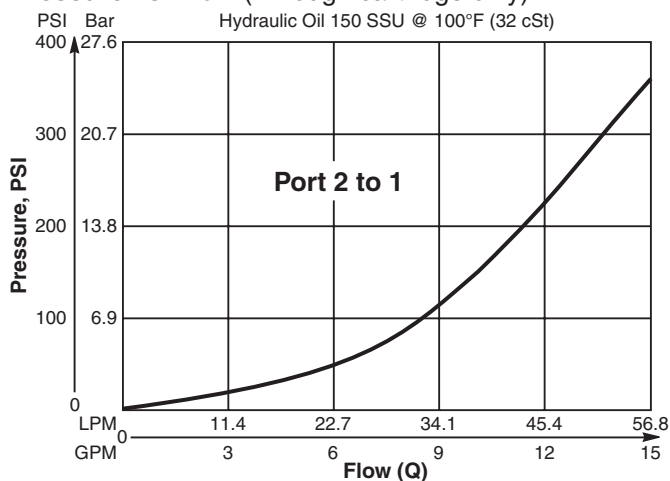
Rated Flow	56.3 LPM (15 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Maximum Drain Flow	0.94 LPM (0.25 GPM)
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-37°C to +93°C (“D”-Ring) (-35°F to +200°F) -34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.23 kg (0.5 lbs.)
Cavity	C10-3 (See BC Section for more details)

Performance Curves

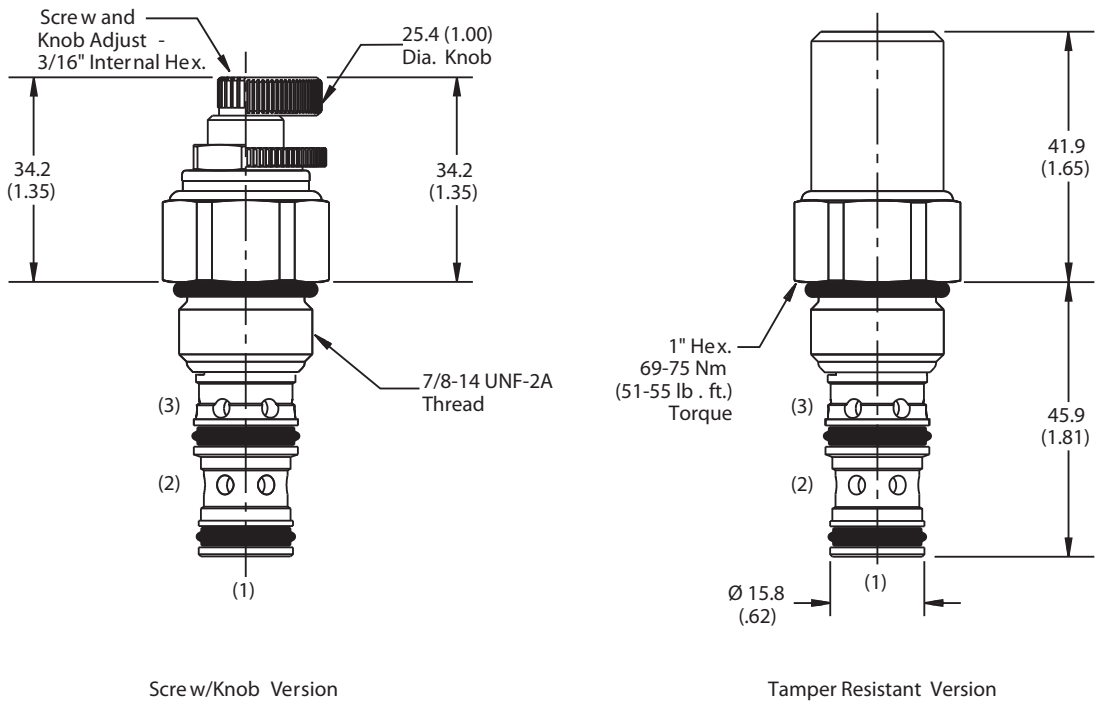
Flow vs. Regulated Pressure (Through cartridge only)



Pressure vs. Flow (Through cartridge only)



Dimensions Millimeters (Inches)



Ordering Information

PRH101

10 Size
P.O. Pressure
Reducing / Relieving
Valve

S

Adjustment
Style

Pressure
Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	D-Ring

Order Bodies Separately
See section BC

B10

10 size

—

3

3-Way
Cavity

—

8T

Port
Size

Code	Porting / Body Material
8T	SAE-8 / Steel (5000 PSI)

Code	Pressure Range
10	13.7 - 69 Bar (200 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI)
30	41.4 - 207 Bar (600 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI)
50	82.8 - 345 Bar (1200 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI)

Kit	Part Number
Knob	717784-10
Tamper Resistant Cap	718083K
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

NOTE: For settings below 20.7 Bar (300 PSI), flow rating is limited to 11.3 LPM (3 GPM).

General Description

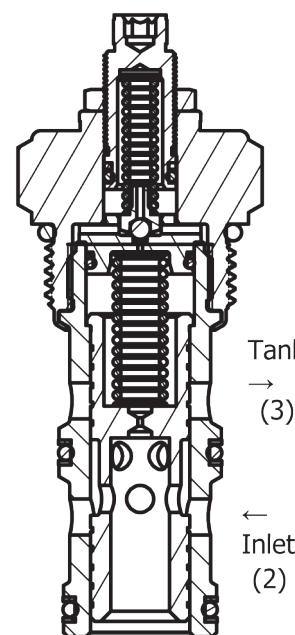
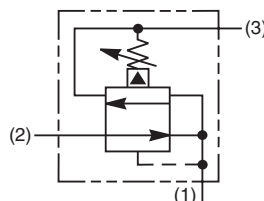
Pilot Operated Pressure Reducing/Relieving Valve.
 For additional information see Technical Tips on
 pages PC3-PC7.

Features

- Hardened, precision ground parts for durability
- Low profile adapter for minimal space requirements
- Fully guided poppet for more consistent reseal
- All external parts zinc plated

Specifications

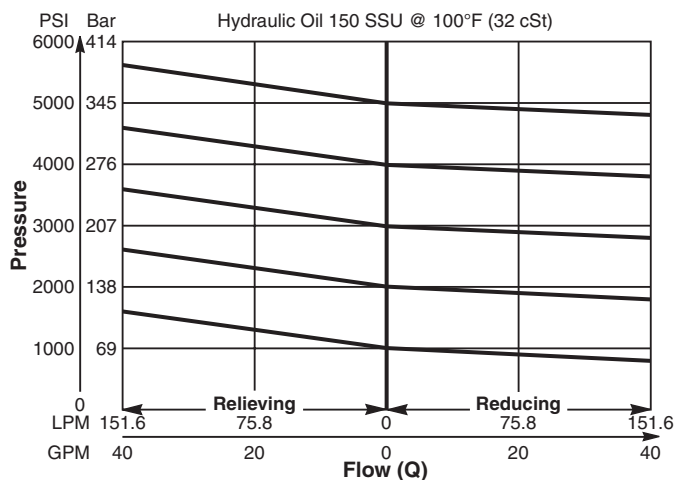
Rated Flow	151.4 LPM (40 GPM)
Maximum Inlet Pressure	380 Bar (5500 PSI)
Maximum Pressure Setting	350 Bar (5000 PSI)
Sensitivity: Pressure/Turn	10 19.6 Bar (285 PSI) 30 58.9 Bar (859 PSI) 50 131.7 Bar (1910 PSI)
Maximum Tank Pressure	350 Bar (5000 PSI)
Reseat Pressure	90% of crack pressure
Leakage at 150 SSU (32cSt)	5cc per 6.8 Bar (100 PSI) setting
Cartridge Material	All parts steel. All operating parts hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-15°F to +400°F)
Fluid Compatibility/ Viscosity	Mineral-based or synthetic with lubricating properties at viscosities of 45 to 2000 SSU (6 to 420 cSt)
Filtration	ISO-4406 18/16/13, SAE Class 4
Approx. Weight	0.34kg (0.75 lbs.)
Cavity	C16-3 (See BC Section for more details)



Performance Curve

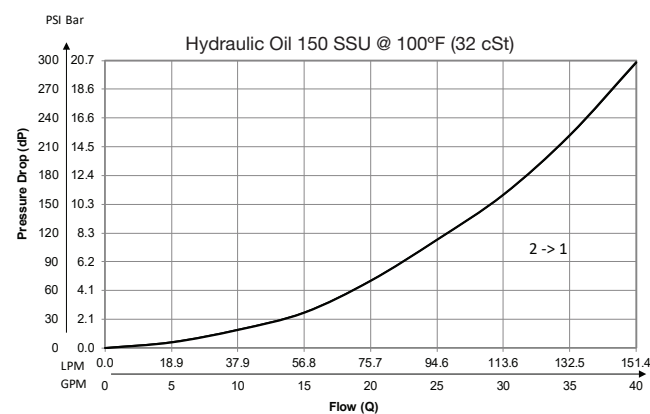
Flow vs. Regulated Pressure

(Pressure rise through cartridge only)



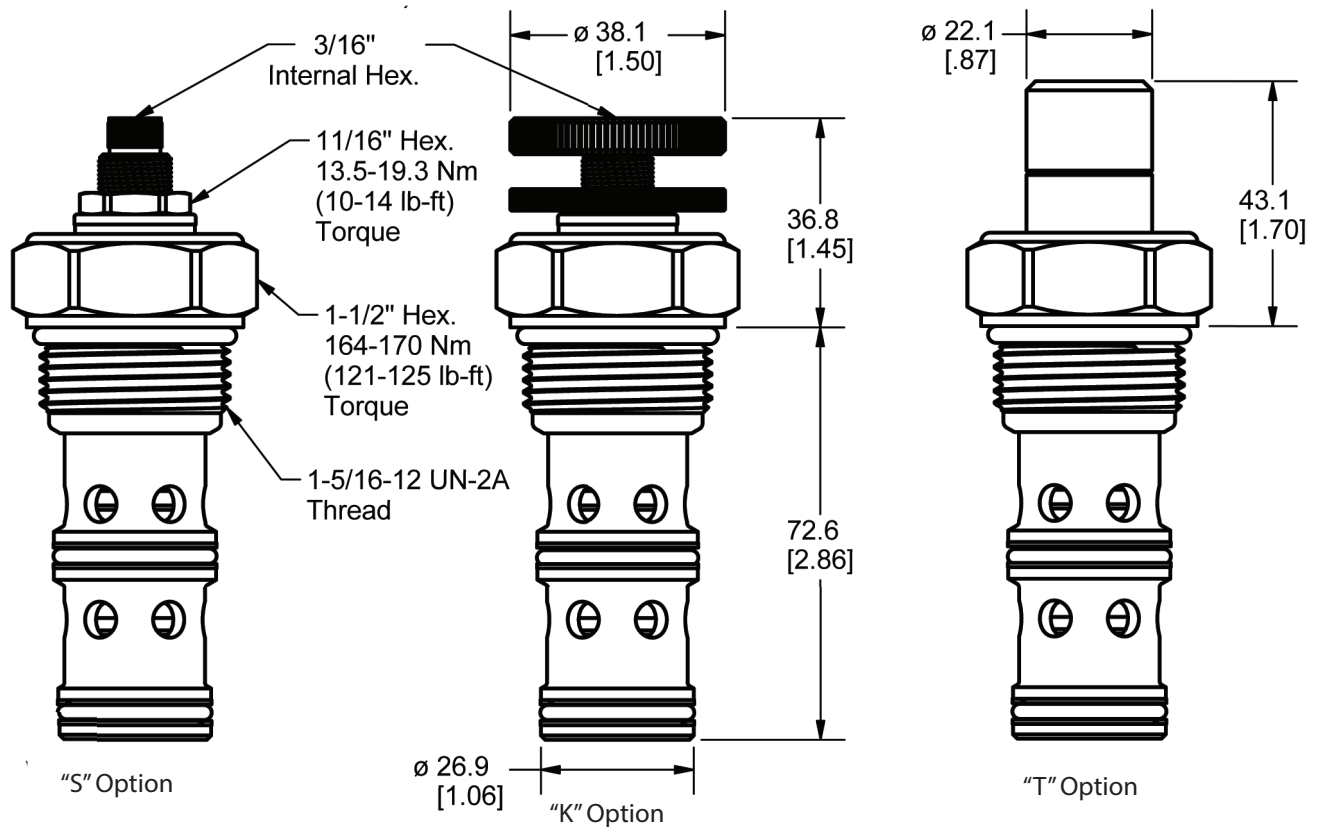
Pressure Drop vs. Flow

(Through cartridge only)



CV
Check Valves
SH
Shuttle Valves
LM
Load/Motor Controls
FC
Flow Controls
PC
Pressure Controls
LE
Logic Elements
DC
Directional Controls
SV
Solenoid Valves
PV
Proportional Valves
CE
Coils & Electronics
BC
Bodies & Cavities
TD
Technical Data

Dimensions Millimeters (Inches)



Ordering Information

PRH161	S	
16 Size P.O. Pressure Reducing/Relieving Valve	Adjustment Style	Pressure Range

Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Adjustment Style
S	Screw Adjust

Code	Seals
Omit	Nitrile

Code	Pressure Range
10	6.9 - 69 Bar (100 - 1000 PSI) Standard Setting: 34.5 Bar (500 PSI)
30	20.7 - 207 Bar (300 - 3000 PSI) Standard Setting: 103.5 Bar (1500 PSI)
50	34.5 - 345 Bar (500 - 5000 PSI) Standard Setting: 172.4 Bar (2500 PSI)

Kit	Part Number
Knob	717784-15
Tamper Resistant Cap	717785K
Nitrile Seal	SK16-3
Fluorocarbon Seal	SK16-3V

Order Bodies Separately
See section BC

B16	3	16T
16 size	3-Way Cavity	Port Size

Code	Porting / Body Material
16T	SAE-16 / Steel (5000 PSI)