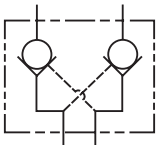
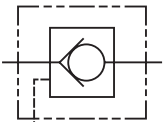
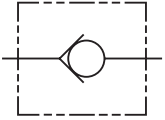


SERIES	CAVITY	DESCRIPTION	FLOW LPM/GPM	PRESSURE BAR/PSI	PAGE NO.
Technical Tips.....					CV2-CV3
STANDARD CHECKS					
		CVH021 Sense Check Valve.....	3.8/1	350/5000	CV4
		D1A060 2U..... Check Valve Insert, Ball Type.....	145/38	420/6000	CV5
		D1B125 2C..... Check Valve Insert, Ball Type.....	500/132	420/6000	CV6
		D02B2 C08-2 Cartridge Check, Ball Type	45/12	420/6000	CV7
		CVH081P C08-2 Cartridge Check, Poppet Type	38/10	350/5000	CV8
		CVH103P C10-2 Cartridge Check, Poppet Type	60/16	350/5000	CV9
		D04B2 C10-2 Cartridge Check, Ball Type	160/42	420/6000	CV10
		CVH121P C12-2 Cartridge Check, Poppet Type	121/32	350/5000	CV11
		D06B2P C16-2 Cartridge Check, Poppet Type	280/74	420/6000	CV12
		CVH161P C16-2 Cartridge Check, Poppet Type	226/60	350/5000	CV13
		CVH201P C20-2 Cartridge Check, Poppet Type	303/80	350/5000	CV14
PILOT OPERATED CHECKS					
		CPH104P C10-3 Single P.O. Check, Pilot on Port 1.....	30/8	350/5000	CV15
		CPH124P C12-3 Single P.O. Check, Pilot on Port 1.....	75/20	350/5000	CV16
DUAL PILOT OPERATED CHECKS					
		CDPH103 Dual P.O. Check Package	60/16	350/5000	CV17-CV18
		CPD084P C08-4 Dual P.O. Check Cartridge	19/5	207/3000	CV19



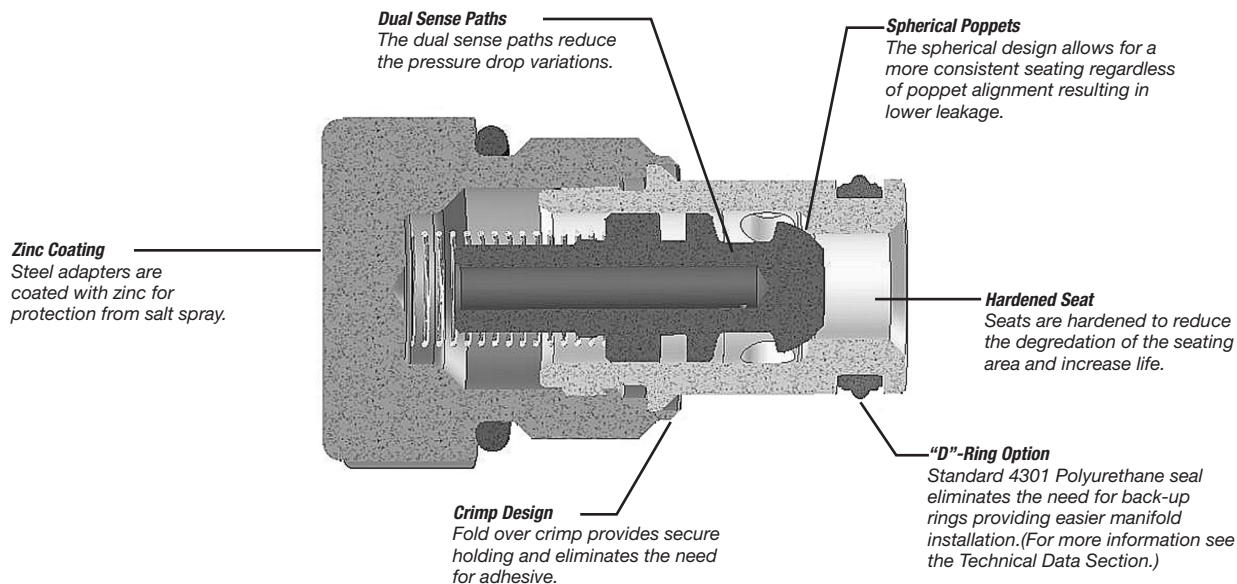
CV Check Valves
SH Shuttle Valves
LM Load/Motor Controls
FC Flow Controls
PC Pressure Controls
LE Logic Elements
DC Directional Controls
SV Solenoid Valves
PV Proportional Valves
CE Coils & Electronics
BC Bodies & Cavities
TD Technical Data

INTRODUCTION:

This technical tips section is designed to help familiarize you with the Parker line of Check Valves. In this section we present the products that are new to this catalog as well as some design features of our checks valves. 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 Check Valve product line.



COMMON OPTIONS:

Since check valves and shuttles are fairly simple components, there are very few options. Here are the standard options you will find.

Seals: Valves feature a 4301 Polyurethane “D”-Ring. The “D”-Ring eliminates the need for back-up 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.

Crack Pressure: Parker offers a number of standard crack pressure options for each valve. Check the model code pages for these options. The crack pressure is defined as the minimum amount of pressure that is needed to unseat the poppet. In pilot operated check applications, you may want to go with a slightly higher cracking pressure to keep the piston weight, friction, and drag from accidentally unseating the poppet.

Pilot Piston Seal: On the pilot piston style pilot operated check valves, Parker offers the option to place a seal on the piston to reduce the leakage across the piston. **Note:** Sealing the pilot piston does not decrease the leakage across the poppet. In other words, if you are trying to reduce the leakage from the actuator port, sealing the piston will not help. While most applications do not require a seal on the piston, it can be advantageous in applications with very small pump flows where the lost fluid would have a high impact on actuator speed.

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

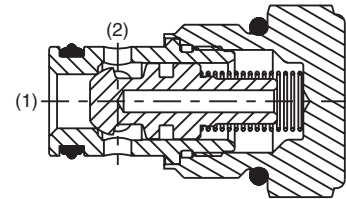
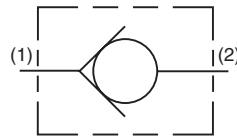
PRODUCT TYPES / APPLICATIONS

Check Valve - Poppet Type

Check valves are poppet style elements that allow free flow in one direction while preventing flow in the reverse direction.

They can be used to isolate portions of a hydraulic circuit or to provide a free flow path around a restrictive valve.

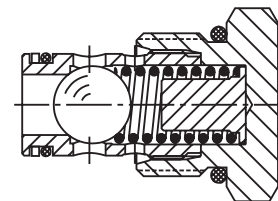
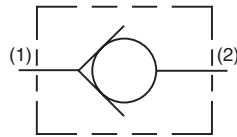
OPERATION - Pressure on the inlet (port 1) of the check valve creates a force against the poppet, pushing it off its seat and permitting free flow to port 2. Reverse flow through the check is blocked by the poppet.



Check Valve - Ball Type

Ball type check valves are check valves that use a hardened steel ball to seal against the valve seat as opposed to a poppet. They are simple in their design and provide low leakage over the life of the system.

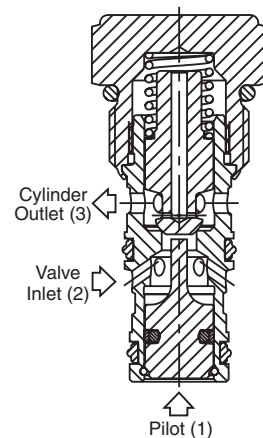
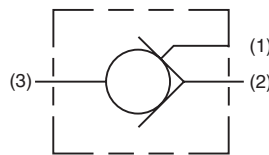
OPERATION - Pressure on the inlet (port 1) of the check valve creates a force on the steel ball pushing it off of its seat and permitting free flow to port 2. Reverse flow through the check is blocked by the steel ball on the seat.



Pilot Operated Check Valve

Parker's reliable pilot piston style P.O. check valves are designed for critical applications where safety and load holding is required and flows from 19 to 150 lpm (5 to 40 gpm) and pressures up to 420 bar (6,000 psi) are needed. These valves are available with pilot supply to either the 1st port or 3rd port depending on circuit need, and are generally used in conjunction with linear actuators across several markets within mobile or industrial hydraulics, such as aerials, material handling, and construction where durable and low leak valves are necessary to keep the machinery and operators safe.

OPERATION - Pilot operated check valves, also known as P.O. checks, are used to lock a cylinder in a holding position with minimal leakage or drift. P.O. check valves that can be opened to allow flow in the reverse direction with an external signal to the pilot port. The valves work best when used in conjunction with a control valve that vents the valve ports to tank when centered. Pilot pressure to open the checks for reverse flow is a ratio of the holding pressure, and are typically 3:1 or 4:1. A 3:1 ratio with a 3000psi load requires a 1000psi signal to the pilot port.



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

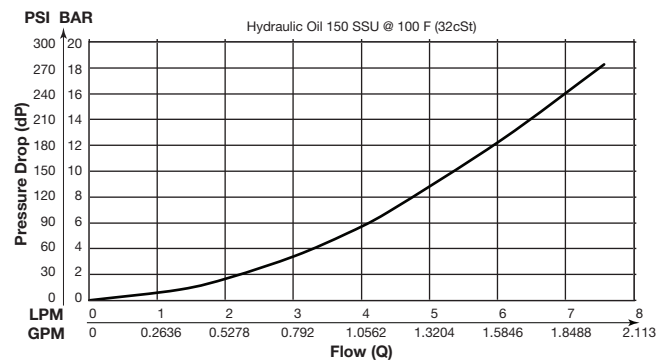
Cartridge Style Sense Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Rapid response to load direction changes
- Hardened precision parts for durability
- **Insert style design for location within manifolds under SAE-6 or larger port**

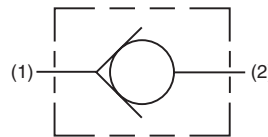
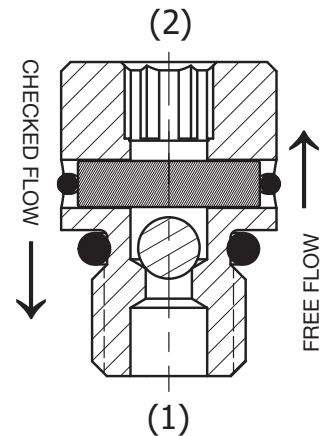
Performance Curve

Pressure Drop vs. Flow

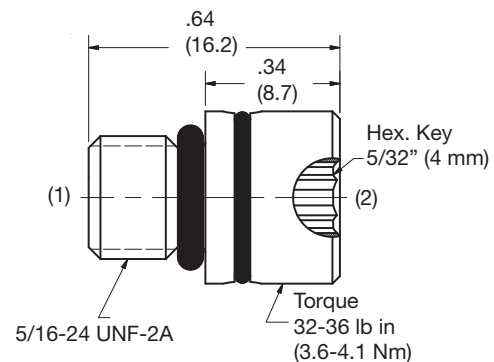


Specifications

Rated Flow	3.8 LPM (1 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	15 ml/min.
Cartridge Material	Steel operating parts hardened steel ball.
Operating Temp. Range/Seals	-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	0.02 kg (0.045 lbs.)



Dimensions Millimeters (Inches)



Ordering Information

CVH021

Size 02 Sense Check Valve

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

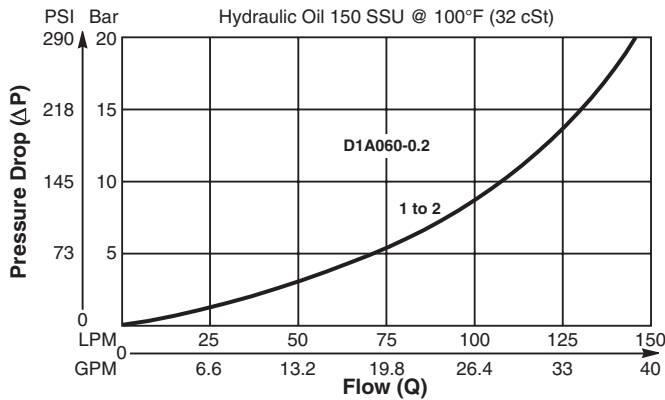
Ball Type, Check Valve Insert.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- For inserting inside manifold blocks
- High flow capacity
- Minimal leakage - less than 3 drops/min.
- Simple construction - extremely cost effective
- Good contamination tolerance

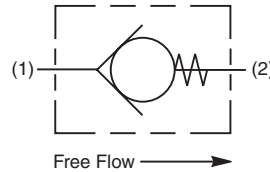
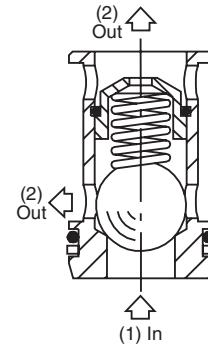
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

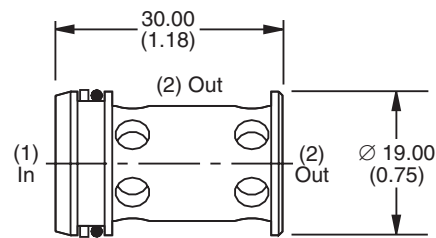


Specifications

Rated Flow	145 LPM (38 GPM)
Nominal Flow @ 7 Bar (100 PSI)	90 LPM (24GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	Less than 3 drops/min.
Cartridge Material	Steel operating parts hardened steel ball.
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	0.85 kg (0.19 lbs.)
Cavity	2U (See BC Section for more details)



Dimensions



Ordering Information

D1A060	0.2	N
Check Valve Insert	Cracking Pressure	Seals

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

Code	Cracking Pressure
0.2	0.2 Bar (3 PSI) Std.

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30019N-1
Fluorocarbon Seal	SK30019V-1

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

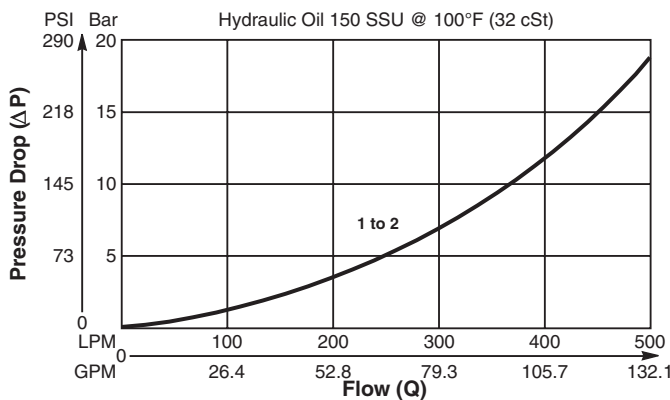
Poppet Type, Check Valve Insert.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- For inserting inside manifold blocks
- High Stable flow capacity (Contact the Factory for Highly dynamic application)
- Minimal leakage - less than 3 drops/min.
- Simple construction - extremely cost effective
- Good contamination tolerance
- Alternative 1"SAE or 1"BSP Retainer available separately

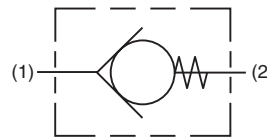
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

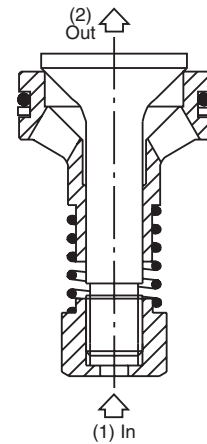


Specifications

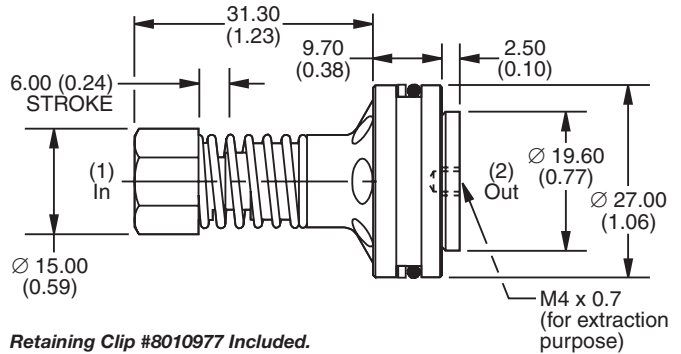
Rated Flow	500 LPM (132 GPM)
Nominal Flow @ 7 Bar (100 PSI)	300 LPM (79GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	Less than 3 drops/min.
Cartridge Material	Steel operating parts hardened steel poppet.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile Buna-N) (-30°F 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	0.6 kg (0.13 lbs.)
Cavity	2C (See BC Section for more details)



Free Flow →

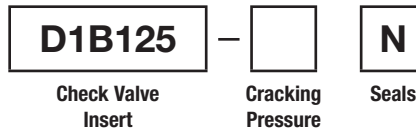


Dimensions Millimeters (Inches)



Retaining Clip #8010977 Included.

Ordering Information

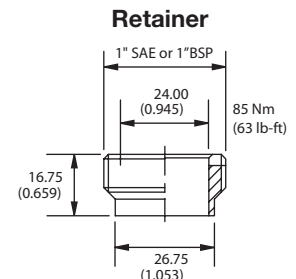


Highlighted represents preferred options that offer the shortest lead times. Other options may be available, but at extended lead times.

Code	Cracking Pressure
0.2	0.2 Bar (3 PSI)
1.0	1.0 Bar (15 PSI) Std.
5.0	5.0 Bar (72 PSI)

Code	Seals
N	Nitrile

Kit	Part Number
Threaded Retainer (1"SAE)	RT10002
Threaded Retainer (1"BSP)	RT10001
Nitrile Seal	SK30014N-1
Fluorocarbon Seal	SK30014V-1



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

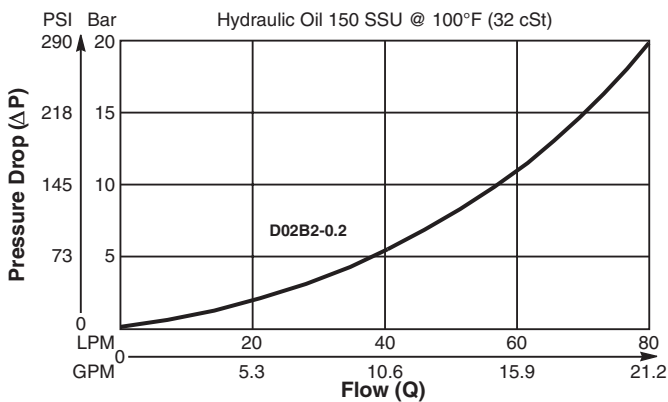
Ball Type Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Low leakage - less than 3 drops/min.
- Ball type construction for cost effective design
- Single and dual pilot pistons available to create pilot to open check
- Range of cracking pressures available - up to 25 Bar (362 PSI)
- Good contamination tolerance
- All external parts zinc plated

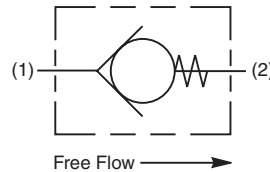
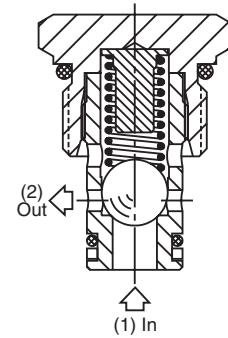
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

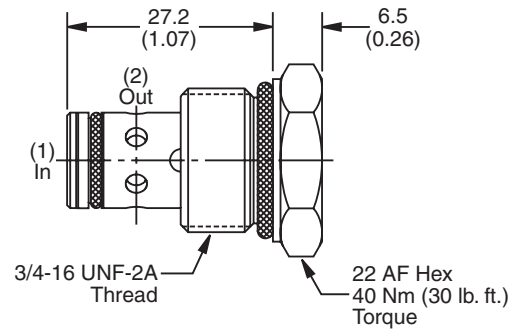


Specifications

Rated Flow	80 LPM (21 GPM)
Nominal Flow @ 7 Bar (100 PSI)	45 LPM (12GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	Less than 3 drops/min.
Cartridge Material	Steel operating parts hardened steel ball.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile Buna-N) (-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	0.05 kg (0.11 lbs.)
Cavity	C08-2 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

D02B2 – **N**

Ball Type Check Valve Cracking Pressure Seals

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

Code	Cracking Pressure
0.2	0.2 Bar (3 PSI) Std.
1.0	1.0 Bar (15 PSI)
2.1	2.1 Bar (30 PSI)
3.4	3.4 Bar (50 PSI)
6.0	6.0 Bar (87 PSI)

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30515N-1
Fluorocarbon Seal	SK30515V-1

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)

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

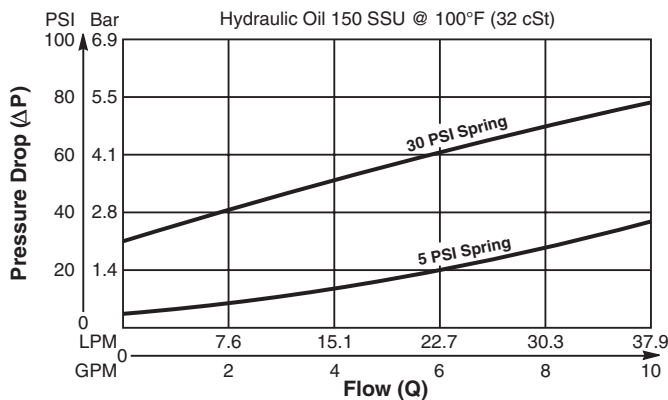
Cartridge Style Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Spherical poppet for low leakage
- "D"-Ring eliminates back-up rings
- Dual sense paths for reduced ΔP
- All external parts zinc plated

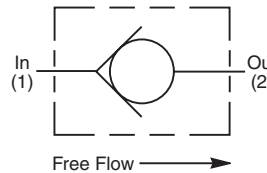
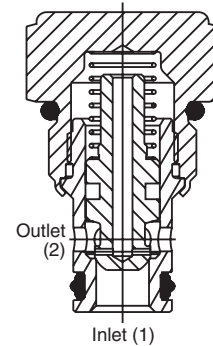
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

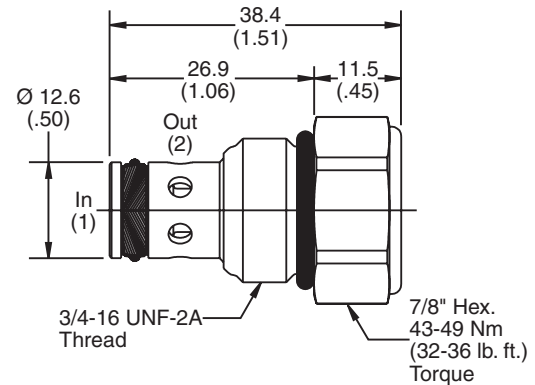


Specifications

Rated Flow	38 LPM (10 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	2 drops/min. (0.13 cc/min) at 350 Bar (5000 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	0.10 kg (0.2 lbs.)
Cavity	C08-2 (See BC Section for more details)



Dimensions



Ordering Information

CVH081P

08 Size
 Check Valve

Cracking
 Pressure

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

Code	Cracking Pressure
Omit	0.3 Bar (5 PSI)
30	2.1 Bar (30 PSI)
65	4.5 Bar (65 PSI)
100	6.9 Bar (100 PSI)

Kit	Part Number
D-Ring Seal	SK08-2
Nitrile Seal	SK08-2
Fluorocarbon Seal	SK08-2V

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)

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

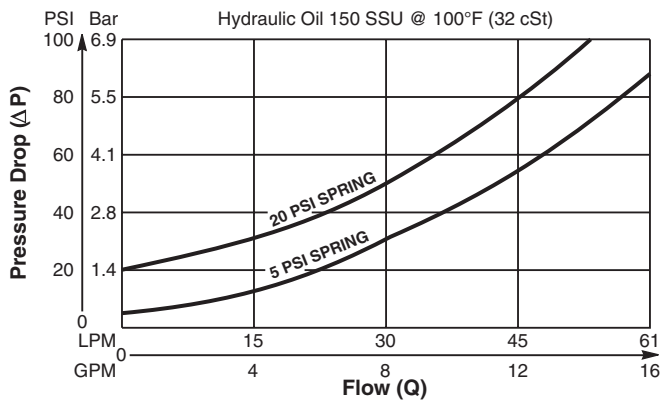
Cartridge Style Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Spherical poppet for low leakage
- "D"-Ring eliminates back-up rings
- Dual sense paths for reduced ΔP
- All external parts zinc plated

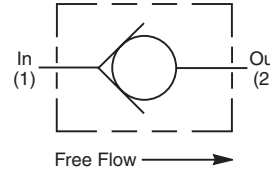
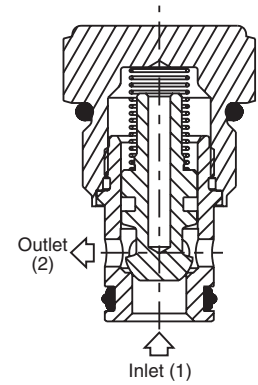
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

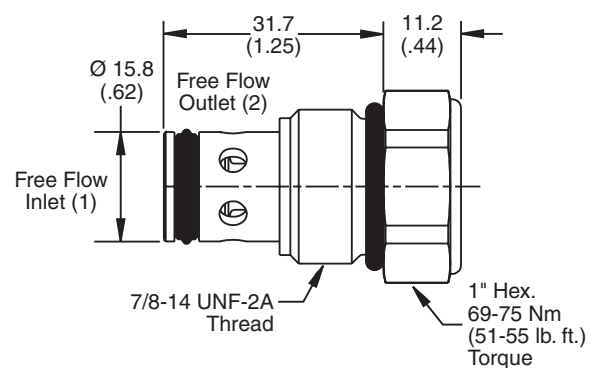


Specifications

Rated Flow	60 LPM (16 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	2 drops/min. (0.13 cc/min) at 350 Bar (5000 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	0.9 kg (2.0 lbs.)
Cavity	C10-2 (See BC Section for more details)



Dimensions



Ordering Information



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

Code	Cracking Pressure
Omit	0.3 Bar (5 PSI)
20	1.4 Bar (20 PSI)
50	3.5 Bar (50 PSI)
100	6.9 Bar (100 PSI)

Kit	Part Number
D-Ring Seal	SK10-2
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

Code	Seals
Omit	"D"-Ring

Order Bodies Separately
 See section BC



Code	Porting / Body Material
8T	SAE-8 / Steel (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

General Description

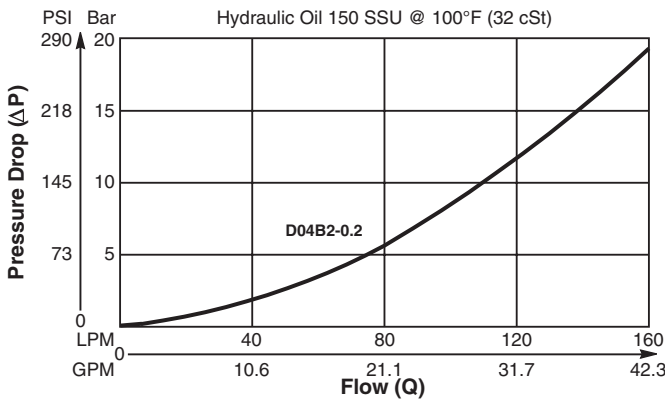
Ball Type Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Low leakage - less than 3 drops/min.
- Ball type construction for cost effective design
- Single and dual pilot pistons available to create pilot to open check
- Range of cracking pressures available
- Good contamination tolerance
- All external parts zinc plated

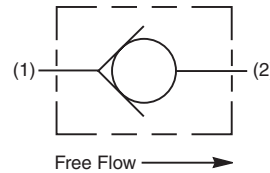
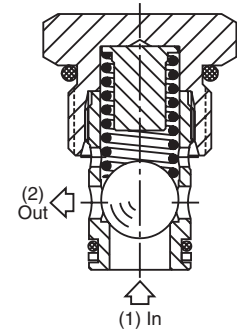
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

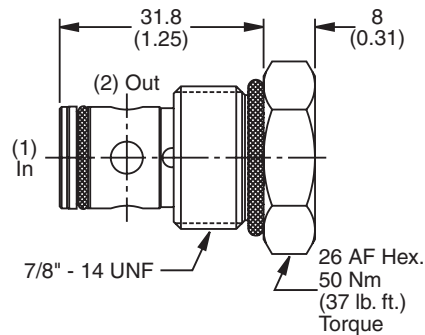


Specifications

Rated Flow	160 LPM (42 GPM)
Nominal Flow @ 7 Bar (100 PSI)	90 LPM (24 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	3 drops/min.
Cartridge Material	Steel operating parts, hardened steel ball.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile, Buna-N) (-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	0.08 kg (0.18 lbs.)
Cavity	C10-2 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

D04B2 — — **N**

Ball Type Check Valve Cracking Pressure Seals

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

Code	Cracking Pressure
0.2	0.2 Bar (3 PSI) Std.
2.1	2.1 Bar (30 PSI)

Kit	Part Number
Nitrile Seal	SK30516N-1
Fluorocarbon Seal	SK30516V-1

Code	Seals
N	Nitrile

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)

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

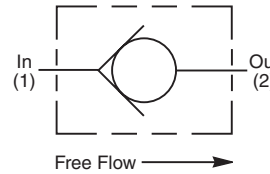
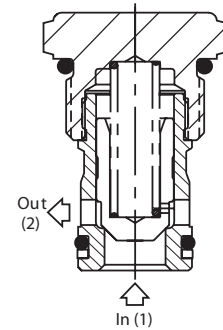
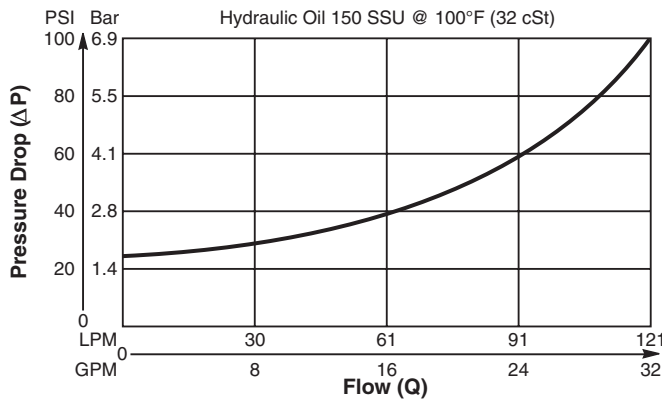
Cartridge Style Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

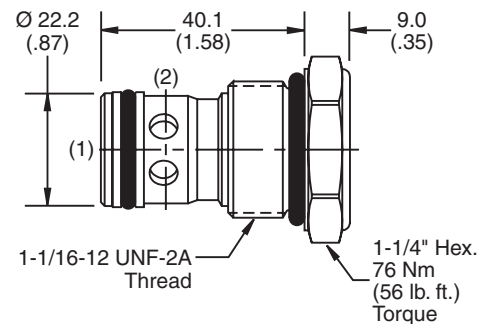
- Hardened, precision ground parts for durability
- Fully guided poppet for smooth operation
- All external parts zinc plated

Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



Dimensions Millimeters (Inches)



Specifications

Rated Flow	121 LPM (32 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min) at 350 Bar (5000 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	0.14 kg (0.30 lbs.)
Cavity	C12-2 (See BC Section for more details)

Ordering Information

CVH121P

12 Size
Check Valve

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

Code	Cracking Pressure
Omit	1.7 Bar (25 PSI)

Code	Seals
Omit	Nitrile

Kit	Part Number
Nitrile Seal	SK12-2
Fluorocarbon Seal	SK12-2V

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)

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

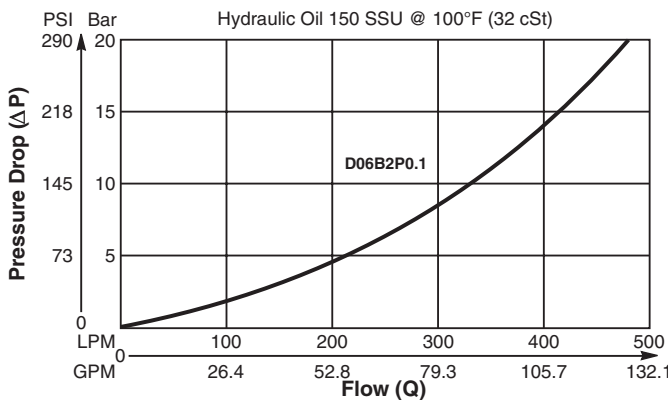
Poppet Type Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Extra low pressure drop capability for systems up to 250 Bar
- Poppet type construction for minimal leakage - less than 3 drops/min.
- Hardened poppet for maximum durability
- Good contamination tolerance
- All external parts zinc plated

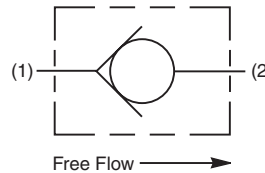
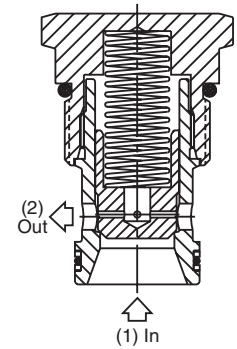
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

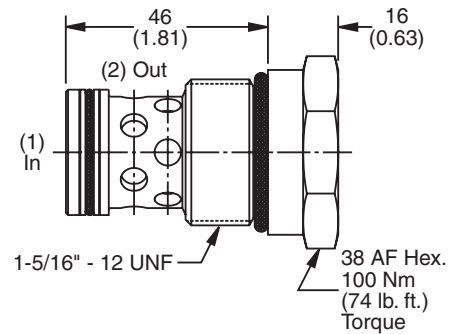


Specifications

Rated Flow	500 LPM (132 GPM)
Nominal Flow @ 7 Bar (100 PSI)	280 LPM (74 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Leakage at 150 SSU (32 cSt)	Less than 3 drops/min.
Cartridge Material	Steel operating parts, hardened steel poppet.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile, Buna-N) (-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	0.27 kg (0.60 lbs.)
Cavity	C16-2 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

D06B2P	0.1	N
16 Size Check Valve	Cracking Pressure	Seals

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

Code	Cracking Pressure
0.1	0.1 Bar (1.5 PSI) Std.

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30507N-1
Fluorocarbon Seal	SK30507V-1

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)

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

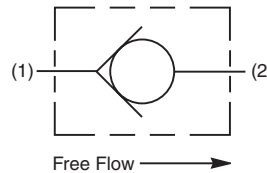
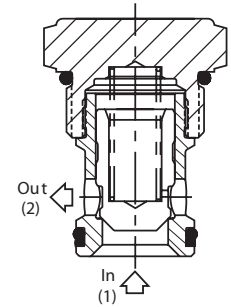
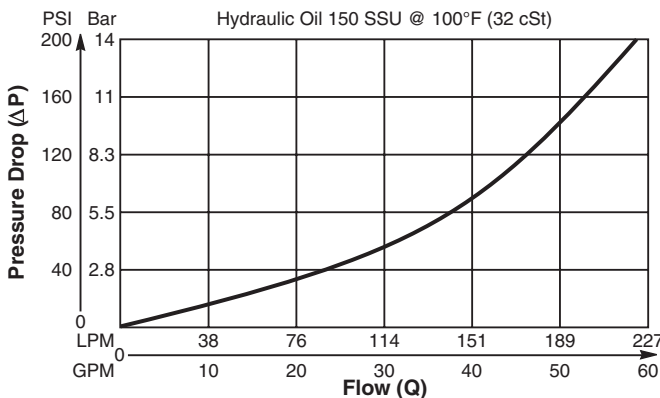
Cartridge Style Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

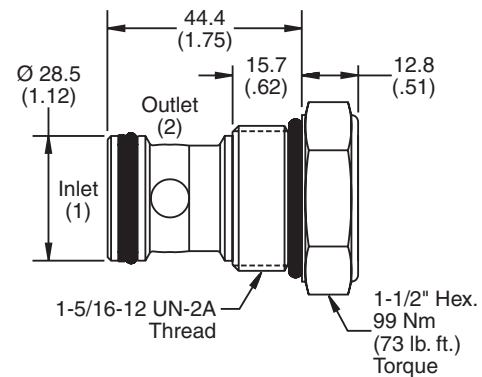
- Hardened, precision ground parts for durability
- Fully guided poppet for smooth operation
- All external parts zinc plated

Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



Dimensions



Specifications

Rated Flow	225 LPM (60 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min) at 350 Bar (5000 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	0.27 kg (0.60 lbs.)
Cavity	C16-2 (See BC Section for more details)

Ordering Information

CVH161P	
16 Size Check Valve	Cracking Pressure

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

Code	Cracking Pressure
Omit	0.3 Bar (5 PSI)
20	1.4 Bar (20 PSI)

Code	Seals
Omit	Nitrile

Kit	Part Number
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)

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

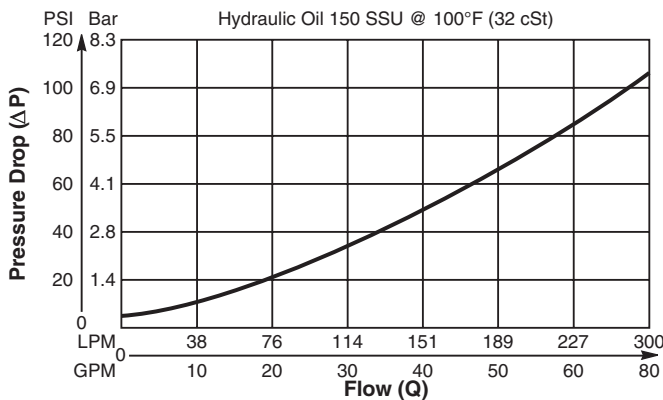
Cartridge Style Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Hardened, precision ground parts for durability
- Fully guided poppet for smooth operation
- All external parts zinc plated

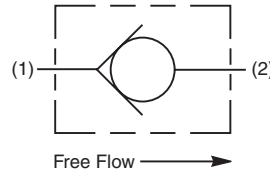
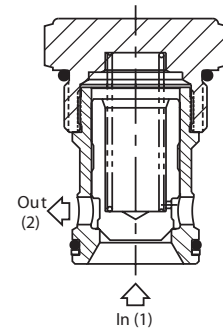
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

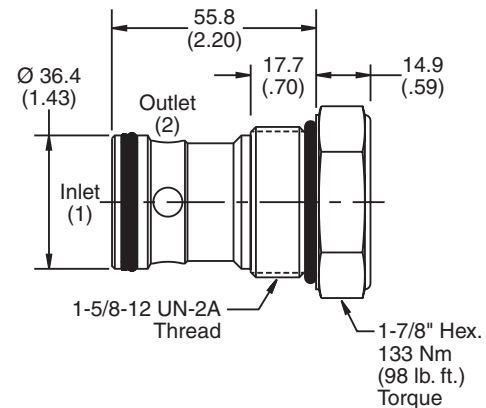


Specifications

Rated Flow	303 LPM (80 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min) at 350 Bar (5000 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	0.27 kg (0.60 lbs.)
Cavity	C20-2 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

CVH201P

20 Size
Check Valve

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

Code	Cracking Pressure
Omit	0.3 Bar (5 PSI)

Code	Seals
Omit	Nitrile

Kit	Part Number
Nitrile Seal	SK20-2
Fluorocarbon Seal	SK20-2V

Order Bodies Separately
 See section BC

B20	—	2	—	20T
20 size		2-Way Cavity		Port Size

Code	Porting / Body Material
20T	SAE-20 / Steel (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

General Description

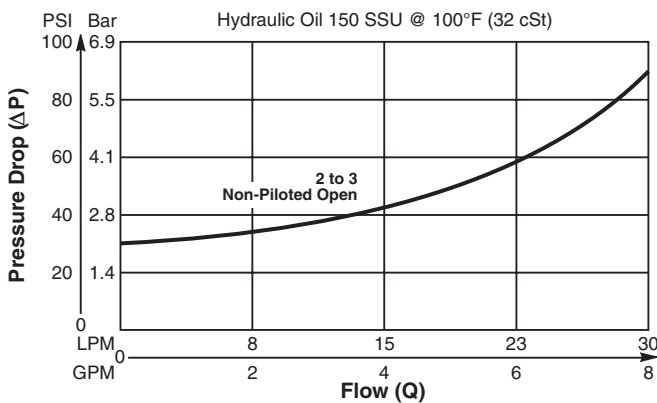
Cartridge Style Pilot Operated Check Valve. For additional information see Technical Tips on pages CV2-CV3.

Features

- Hardened, precision ground parts for durability
- Internal pilot position simplifies manifold design
- All external parts zinc plated

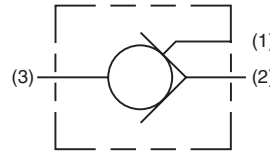
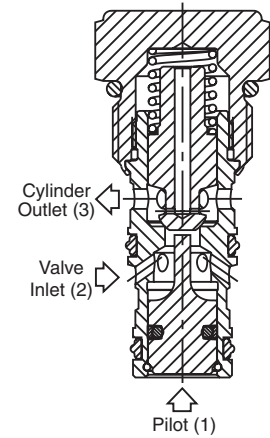
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

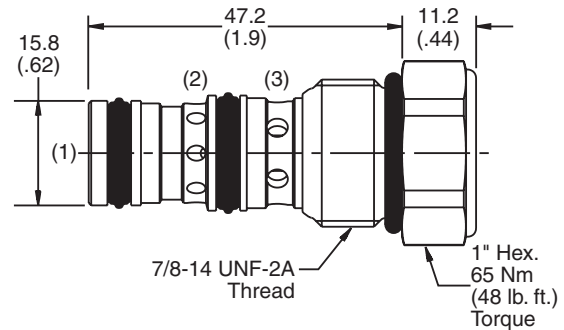


Specifications

Rated Flow	30 LPM (8 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	2 drops/min. (0.13 cc/min) at 350 Bar (5000 PSI)
Pilot Ratio	4:1
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	0.9 kg (2.0 lbs.)
Cavity	C10-3 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

CPH104P

10 Size
 Check Valve

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

Code	Cracking Pressure
Omit	1.4 Bar (20 PSI)

Code	Seals
Omit	"D"-Ring

Kit	Part Number
D-Ring Seal	SK10-3
Nitrile Seal	SK10-3
Fluorocarbon Seal	SK10-3V

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)

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

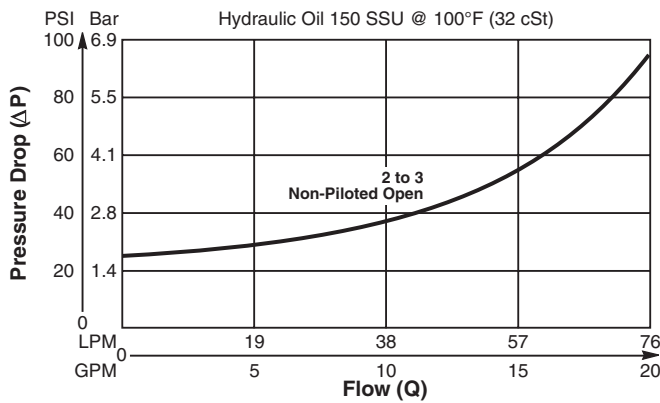
Cartridge Style Pilot Operated Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Hardened, precision ground parts for durability
- Internal pilot position simplifies manifold design
- All external parts zinc plated

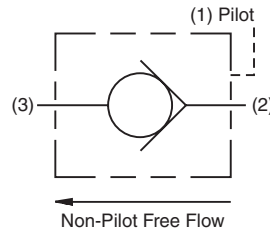
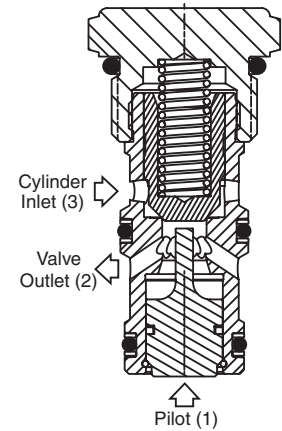
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

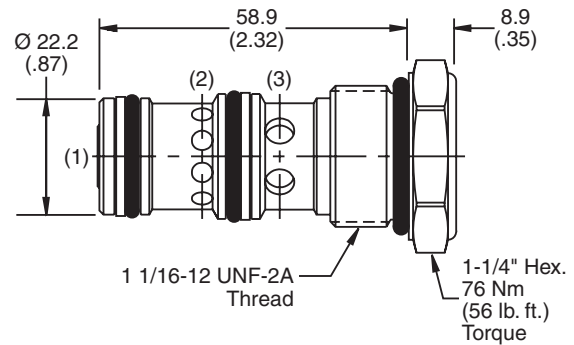


Specifications

Rated Flow	75 LPM (20 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min) at 350 Bar (5000 PSI)
Pilot Ratio	3:1
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	0.2 kg (0.44 lbs.)
Cavity	C12-3 (See BC Section for more details)



Dimensions



Ordering Information

CPH124P

12 Size
 P.O. Check Valve

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

Code	Cracking Pressure
Omit	1.7 Bar (25 PSI)

Code	Seals
Omit	Nitrile*

Kit	Part Number
Nitrile Seal	SK12-3
Fluorocarbon Seal	SK12-3V

* 2.5 size b/u rings

Order Bodies Separately
 See section BC

B12	3	12T
12 size	3-Way Cavity	Port Size

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

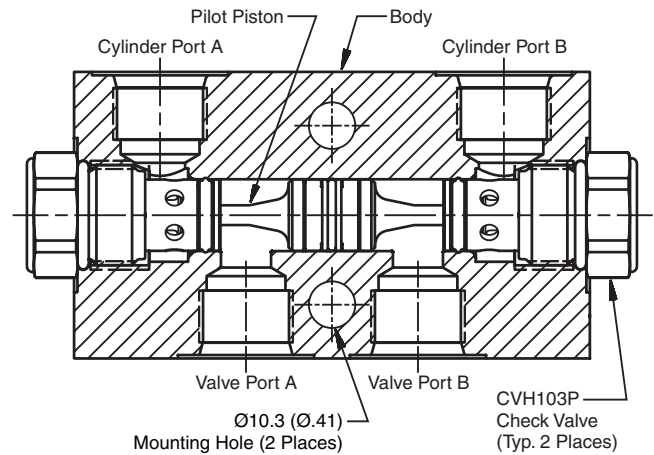
CV Check Valves
SH Shuttle Valves
LM Load/Motor Controls
FC Flow Controls
PC Pressure Controls
LE Logic Elements
DC Directional Controls
SV Solenoid Valves
PV Proportional Valves
CE Coils & Electronics
BC Bodies & Cavities
TD Technical Data

General Description

Pilot Piston Style Dual Pilot Operated Check Valve.
 For additional information see Technical Tips on pages CV2-CV3.

Features

- Spherical poppet for low leakage
- “D” -Ring eliminates back-up rings
- Optional sealed pilot piston

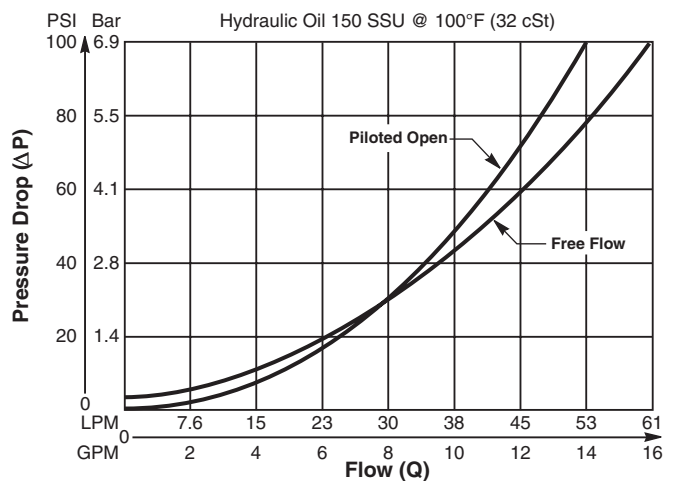


Specifications

Maximum Flow	60 LPM (16 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI) - CDPH103
Leakage Across Check 150 SSU (32 cSt)	2 drops/min. (0.13 cc/min.)
Leakage Across Pilot Piston (No Seals)	312 cc/min. 0.3 LPM (.08 GPM)
Pilot Ratio	4:1
Pilot Piston Part Numbers	No Seal - 717917 Nitrile Seal - 717917N Fluorocarbon Seal - 717917V
Cartridge Material	All parts steel. All operating parts hardened steel.
Body Material	Steel - CDPH103
Operating Temp. Range (Ambient)	-45°C to +132°C (“D”-Ring) (-50°F to +270°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	1.59 kg (3.5 lbs.)

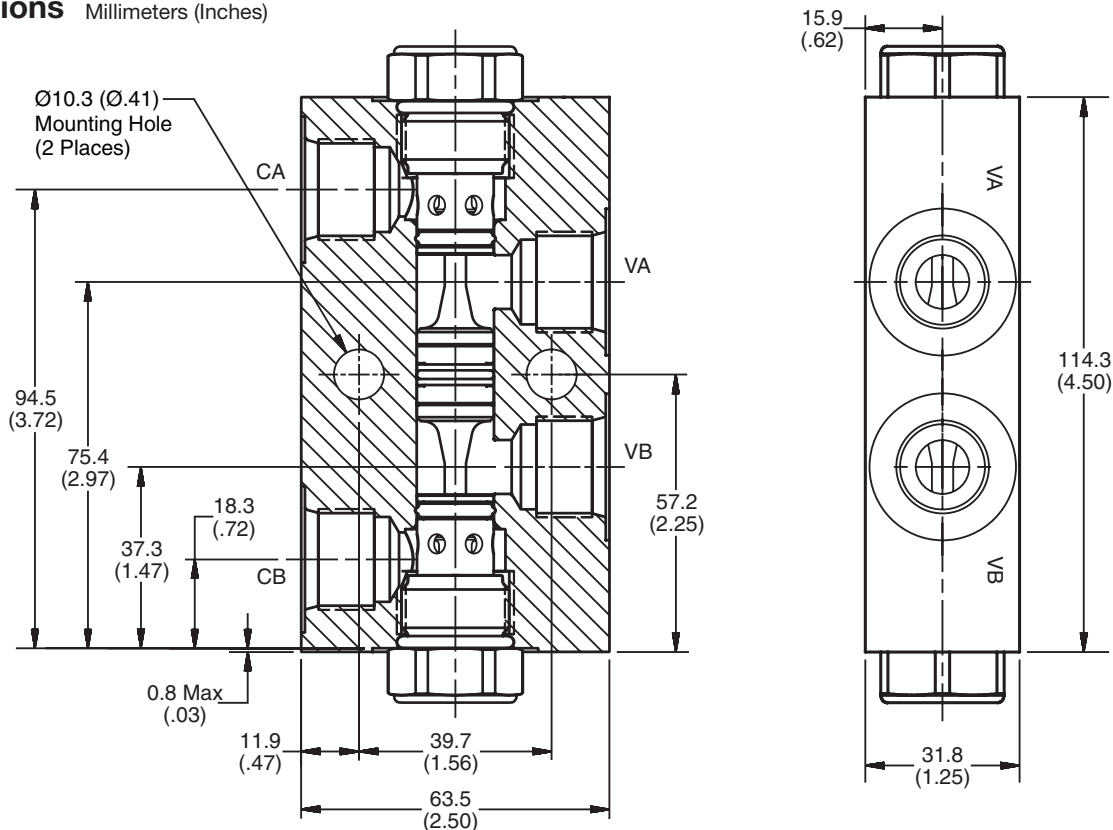
Performance Curve

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

CDP	H103			8T
10 Size Dual Pilot Piston P.O. Check Valve	Model Desc.	Piston Type	Cracking Pressure	Port Size

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

Code	Model Description
H103	5000 PSI Series

Code	Cracking Pressure
*Omit	0.3 Bar (5 PSI)
20	1.4 Bar (20 PSI)

**Not available with "A" option.*

Code	Seals
Omit	"D"-Ring

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

Code	Piston Type
P	Pilot Piston without seal
A	Pilot Piston with seal Note: Requires 1.4 Bar (20 PSI) crack minimum.

Kit	Part Number
Nitrile Seal	SK10-2
Fluorocarbon Seal	SK10-2V

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

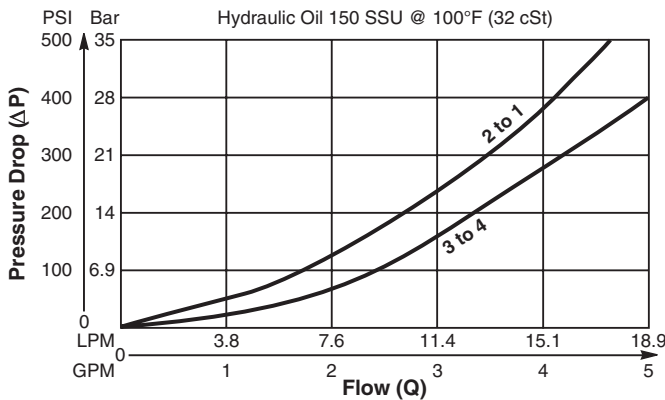
Cartridge Style Dual Pilot Operated Check Valve. For additional information see Technical Tips on pages CV2-CV3.

Features

- Hardened, precision ground parts for durability
- Cost effective-replaces two cartridges
- Internal pilot position
- Common cavity
- All external parts zinc plated

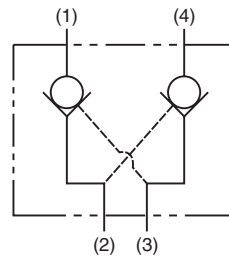
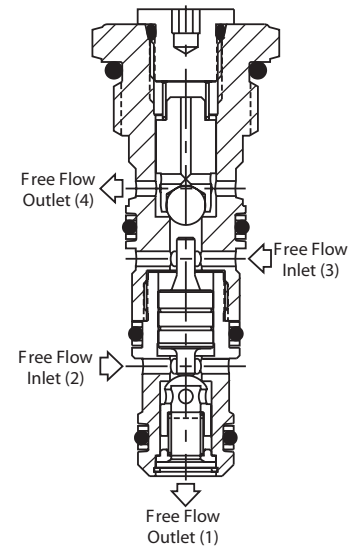
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

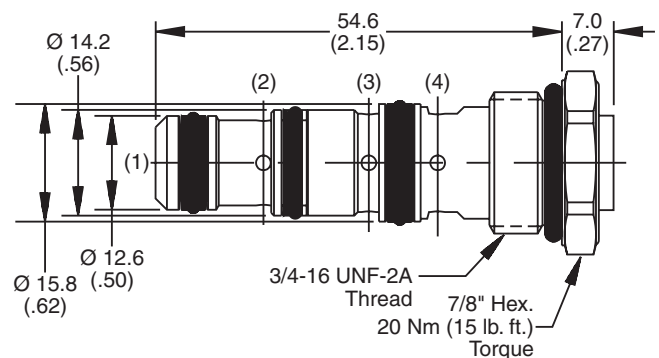


Specifications

Rated Flow	19 LPM (5 GPM)
Maximum Inlet Pressure	207 Bar (3000 PSI)
Leakage at 150 SSU (32 cSt)	5 drops/min. (0.33 cc/min) at 350 Bar (5000 PSI)
Pilot Ratio	3:1
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	0.05 kg (0.11 lbs.)
Cavity	C08-4 (See BC Section for more details)



Dimensions Millimeters (Inches)



Ordering Information

CPD084P

08 Size
Dual P.O. Check Valve

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

Code	Seals
Omit	Nitrile

Kit	Part Number
Nitrile Seal	SK08-4
Fluorocarbon Seal	SK08-4V

Order Bodies Separately
 See section BC



Code	Porting / Body Material
6T	SAE-6 / Steel (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