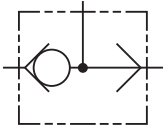
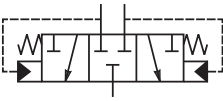


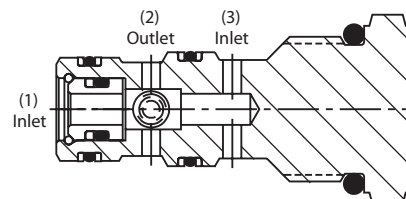
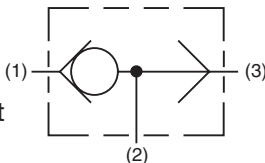
SERIES	CAVITY	DESCRIPTION	FLOW LPM/GPM	PRESSURE BAR/PSI	PAGE NO.
Technical Tips.....					SH2
	KSWA3	CAVSW-3.....Ball Insert Type	9.5/2.5.....	420/6000	SH3
	CSH041	C04-3.....Cartridge Shuttle	3.8/1.0.....	345/5000	SH4
	CSH101B	C10-3.....Cartridge Shuttle	38/10.....	207/3000	SH5
	K04C3.....	C10-4.....Spool Type, Spring Centered, All Ports Closed	100/26.....	420/6000	SH6

INTRODUCTION:

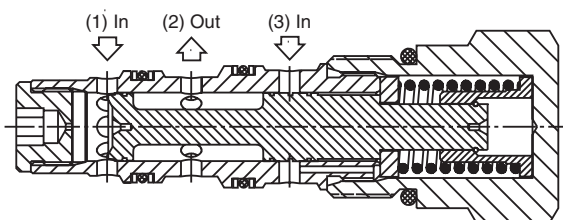
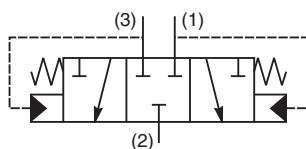
Shuttle valves accept flow from two different sources and divert the highest pressure to a single outlet port. Shuttle valves are commonly used in Load Sensing circuits as well as Brake circuits. Parker offers a selection of ball and spool type Shuttle valves. There are both cartridge and insert type configurations available.

Ball Type - Cartridge Style

The valve consists of a steel ball that can seal against one of two adjacent seats, providing a path from the highest pressure signal to another function. When one inlet port is pressurized, the ball or poppet is forced against the opposite seat, blocking that inlet and providing a flow path to the outlet port.



3 Way 2 Position Spool type shuttles are designed to direct flow in such a way as to allow higher pressure signals to open the lower pressure port and connect it to the common outlet port. These spring centered valves will shift when pressure at either end of the spool exceeds the spring setting. These are typically used in transmission hot oil shuttle circuits.

**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

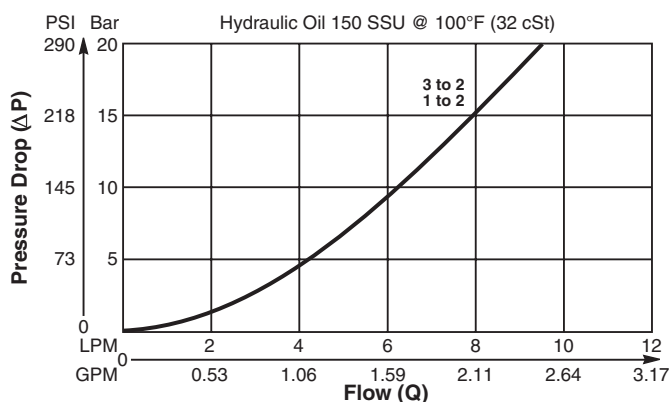
Ball Type, Two Position, Three Way Shuttle Valve.
 For additional information see Technical Tips on page SH2.

Features

- Compact, cost efficient design
- Ball type construction for maximum durability
- Minimal leakage - less than 10 drops/min.
- Contamination tolerant
- Hardened working parts for maximum durability
- All external parts zinc plated

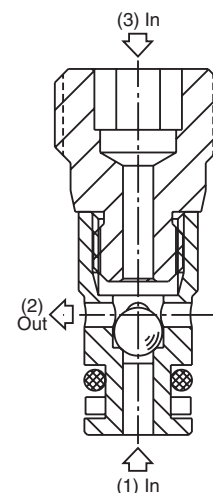
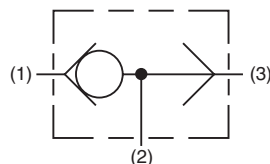
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

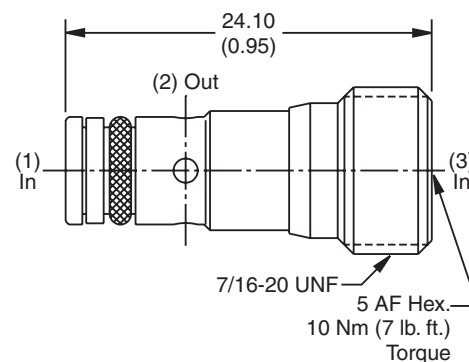


Specifications

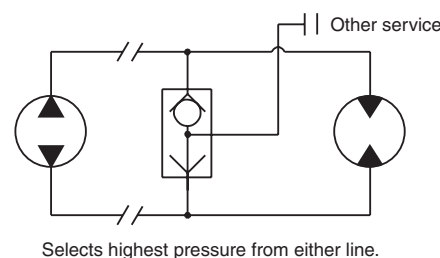
Rated Flow	9.5 LPM (2.5 GPM)
Nominal Flow @ 7 Bar (100 PSI)	5 LPM (1.32 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Cartridge Material	All parts steel. All operating parts, hardened steel.
Operating Temp. Range/Seals	-34°C to +121°C (Nitrile, Buna-N) (-30°F to +250°F) -26°C to +204°C (Fluorocarbon) (-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	0.1 kg (0.02 lbs.)
Cavity	CAVSW-3 (See BC Section for more details)



Dimensions



Application



Ordering Information

KSWA3

Shuttle Valve

N

Seals

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

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30523N-1
Fluorocarbon Seal	SK30523V-1

General Description

Cartridge Style Shuttle Valve.

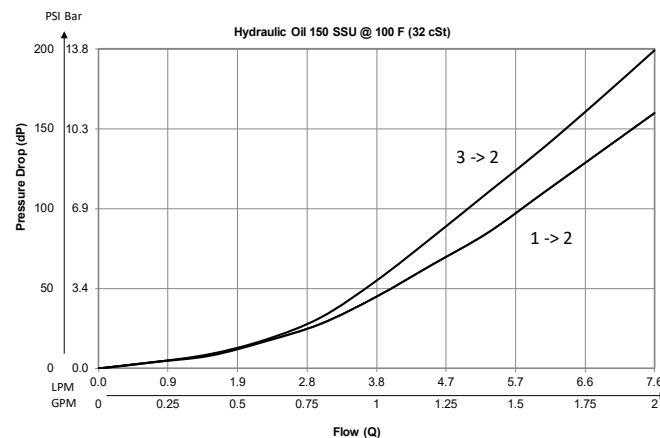
For additional information see Technical Tips on page SH2.

Features

- Hardened working parts for maximum durability
- Rapid response to load direction changes
- All external parts zinc plated

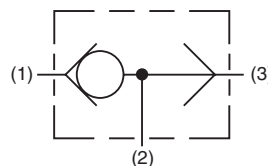
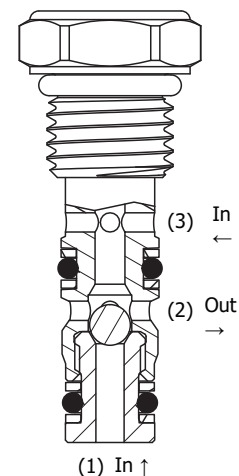
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

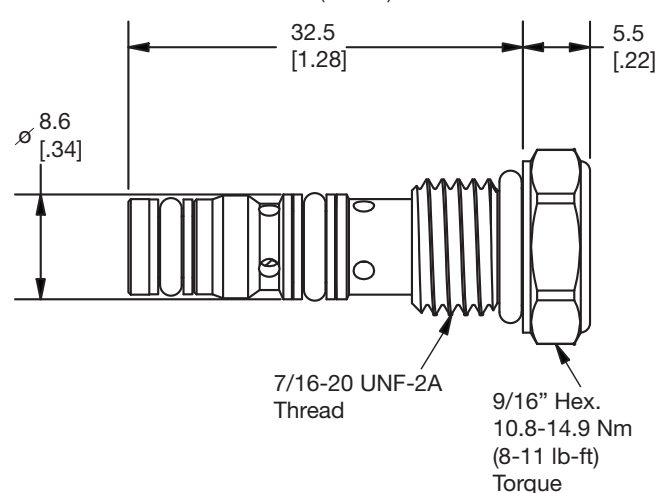


Specifications

Rated Flow	3.8 LPM (1 GPM)
Maximum Pressure Inlet	345 Bar (5000 PSI)
Leakage at 150 SSU (32cSt)	5 drops/min. (0.33 cc/min.)
Cartridge Material	All parts steel. All operating parts, hardened steel.
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	0.2 kg (0.04 lbs.)
Cavity	C04-3 (See BC Section for more details)



Dimensions



Ordering Information

CSH041

04 Size Shuttle 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	SK04-3
Fluorocarbon Seal	SK04-3V

Order Bodies Separately
 See section BC

B04	—	3	—	4T
04 size		3-Way Cavity		Port Size

Code	Porting / Body Material
4T	SAE-8 / Steel (5000 PSI)

General Description

Cartridge Style Shuttle Valve.

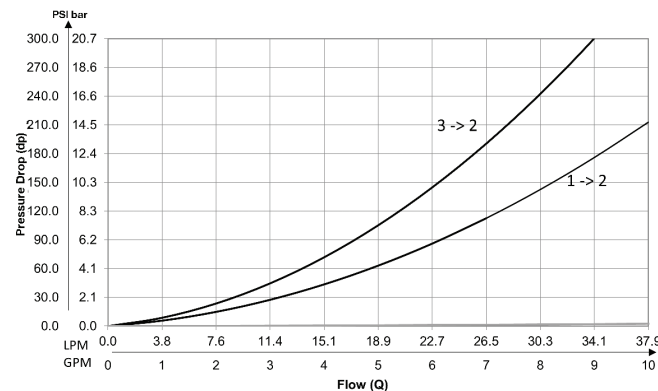
For additional information see Technical Tips on page SH2.

Features

- Hardened precision ground parts for durability
- 5000 PSI rated
- All external parts zinc plated

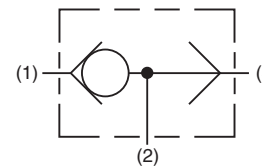
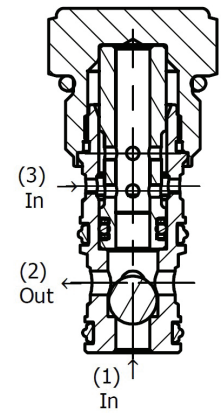
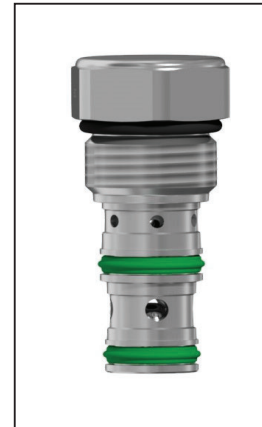
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



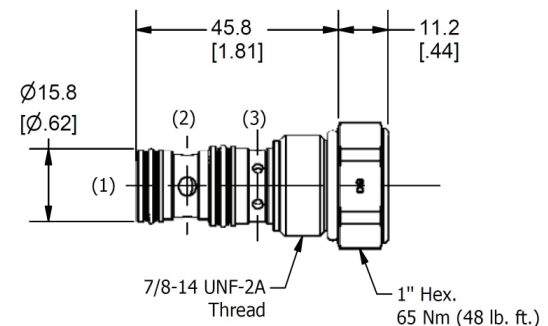
Specifications

Rated Flow	38 LPM (10 GPM)
Maximum Inlet Pressure	350 Bar (5000 PSI)
Leakage at 150 SSU (32cSt)	10 drops/min. (0.67 cc/min.) at 350 Bar (5000 PSI)
Cartridge Material	All parts steel. All operating parts, hardened steel.
Operating Temp. Range/Seals	-45°C to +93.3°C ("D"-Ring) (-50°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	0.38 kg (0.85 lbs.)
Cavity	C10-3 (See BC Section for more details)



Dimensions

Millimeters (Inches)



Ordering Information

CSH101B

10 Size Shuttle Valve

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

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)

General Description

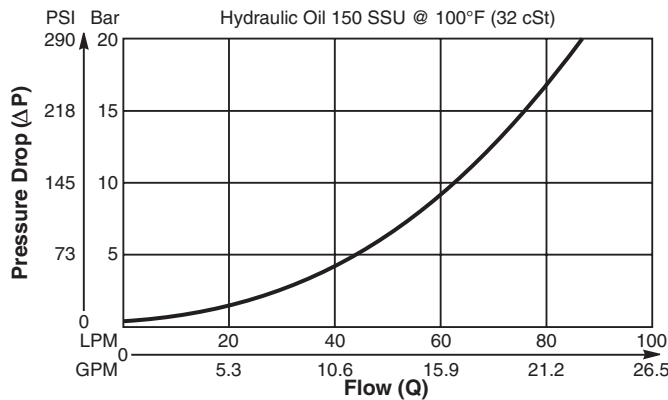
Two Position, Three Way, Spring Centered Shuttle Valve. For additional information see Technical Tips on page SH2.

Features

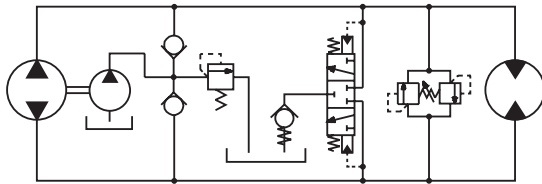
- High flow capacity
- Various switching pressures available
- Use as purge valve in transmission systems
- Hardened working parts for maximum durability
- All external parts zinc plated

Performance Curve

Pressure Drop vs. Flow (Through cartridge only)



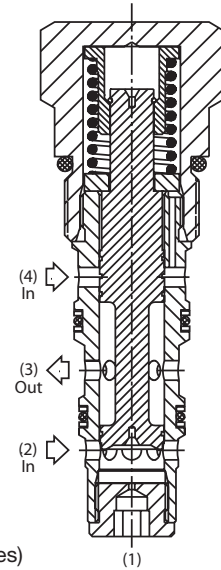
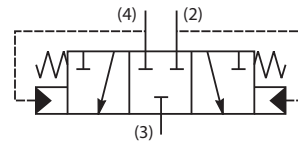
Application



Purge valve in transmission circuit

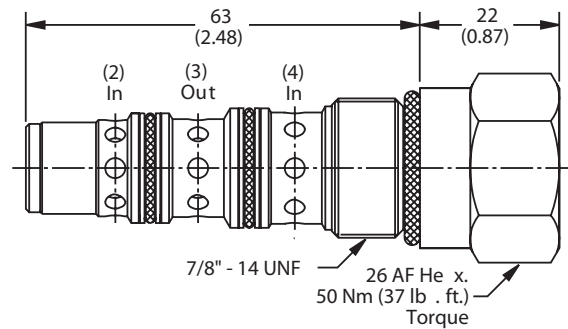
Specifications

Rated Flow	100 LPM (26 GPM)
Nominal Flow @ 7 Bar (100 PSI)	55 LPM (15 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Cartridge Material	All parts steel. All operating parts, hardened steel.
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	0.17 kg (0.37 lbs.)
Cavity	C10-4 (See BC Section for more details)



Dimensions

Millimeters (Inches)



Ordering Information

K04C3	10.0	N
Shuttle Valve	Switching Pressure	Seals

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

Code	Switching Pressure
10.0	10.0 Bar (145 PSI)

Note: Port 1 on the Line Body must be plugged

Code	Seals
N	Nitrile

Order Bodies Separately
 See section BC

Kit	Part Number
Nitrile Seal	SK30504N-1
Fluorocarbon Seal	SK30504V-1

B10	4	8T
10 size	4-Way Cavity	Port Size

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