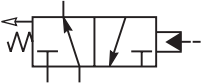
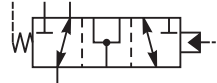


Directional Control Valves

	SERIES	CAVITY	DESCRIPTION	FLOW	PRESSURE	PAGE NO.
				LPM/GPM	BAR/PSI	
	DH103	C10-4	3 Way, External Pilot, Normally Open, Vent to Atmosphere.....	38/10	240/3500	DC2-DC3
	N5A125	5A.....	3 Way, 2 Position, External Drain, Open Transition.....	160/42	420/6000	DC4
	N5A300	100-1	3 Way, 2 Position, External Drain, Open Transition.....	400/105	420/6000	DC5

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

3-Way Pilot Operated Spool Valve. The DH103A/B/C Series Valves are used in normally closed or normally open directional control three way circuits requiring remote pilot actuation. The DH103 Series Valves are used to direct flow alternately from either side of a closed loop transmission for cooling or filtering. All external parts are zinc plated.

Operation (pressure at port 4 additive to spring)

DH103A (Normally Open)

- Neutral (Deactivated)
Port (3) open to port (2), port (4) is blocked.
 - Activated with pilot pressure at port (1):
Port (3) open to port (4), port (2) blocked.
- Note: There is an air breather vent plug in the end cap to allow for air pressure equalization in the spring chamber

DH103B (Normally Closed)

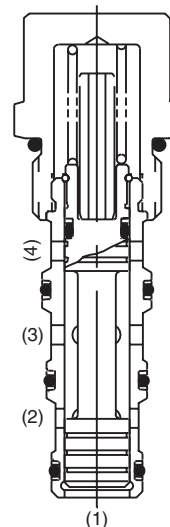
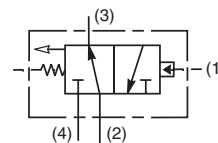
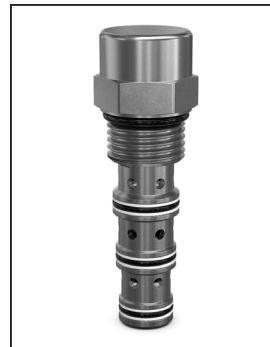
- Neutral (Deactivated)
Port (4) open to port (3), port (2) is blocked.
- Activated with pilot pressure at port (1):
Port (3) open to port (2), port (4) blocked.

DH103C (Normally Open)

- Neutral (Deactivated)
Port (3) open to port (2), port (4) is blocked.
- Activated with pilot pressure at port (1):
Port (3) open to port (4), port (2) blocked.

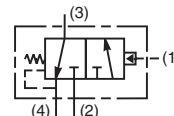
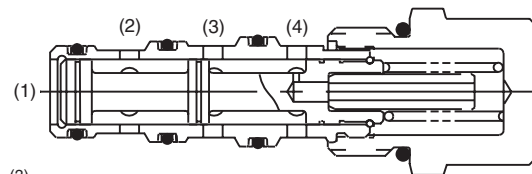
Specifications

Rated Flow	38 LPM (10 GPM)
Maximum Inlet Pressure	345 Bar (5000 PSI)
Leakage at 150 SSU (32 cSt)	50cc/min. @ 240 Bar (3500 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	0.17 kg (0.37 lbs.)
Cavity	C10-4 (See BC Section for more details)

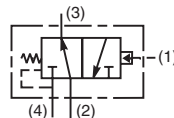
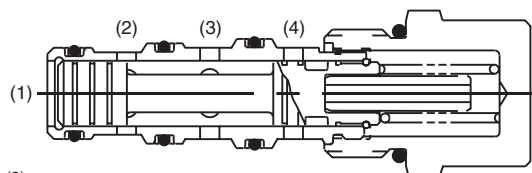


"A" SPOOL — DH103A

"B" SPOOL — DH103B



"C" SPOOL — DH103C



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

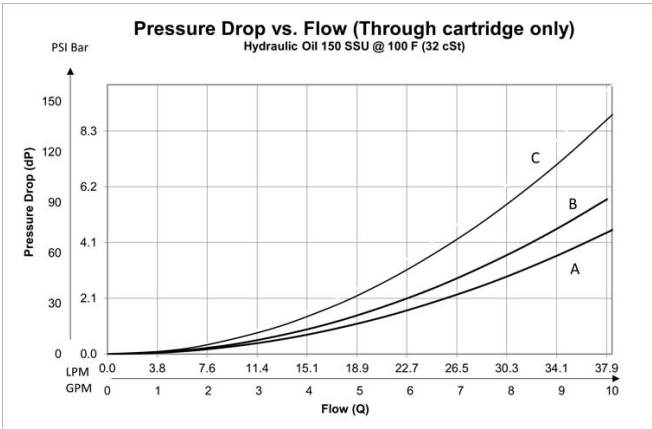
BC

Bodies &
Cavities

TD

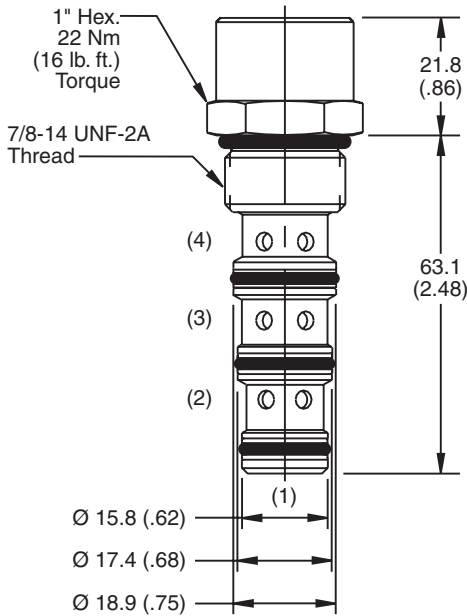
Technical
Data

Performance Curve



FLOW DIRECTION	SPOOL NO.		
	A	B	C
SPOOL SHIFTED	3 → 4 c	2 → 3 d	3 → 4 c
SPOOL NEUTRAL	2 → 3 a	3 → 4 b	2 → 3 a

Dimensions Millimeters (Inches)



Ordering Information

DH103

10 Size
Pilot Operated
Spool Valve



Spool
Type



Shifting
Pressure

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

Code / Spool Type	
A Normally open 2 position, vent to atmosphere.	
B Normally closed 2 position, internally drain.	
C Normally open, 2 position, internally drain.	

Code	Cracking Pressure
Omit	5.5 Bar (80 PSI)
16	11 Bar (160 PSI)

Code	Seals
Omit	Nitrile

Kit	Part Number
Nitrile Seal	SK10-4
Fluorocarbon Seal	SK10-4V

Order Bodies Separately
See section BC

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

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

General Description

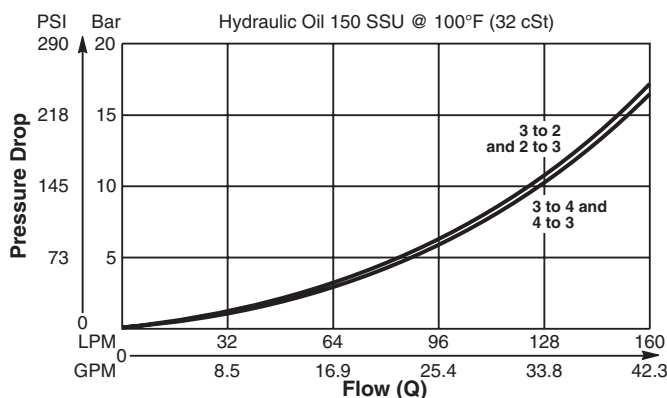
Pilot Operated Directional Valve, 3-Way, 2 Position, External Drain, Open Transition.

Features

- High flow capacity
- Used as high flow switching or metering element
- Range of spring settings available
- All external parts zinc plated

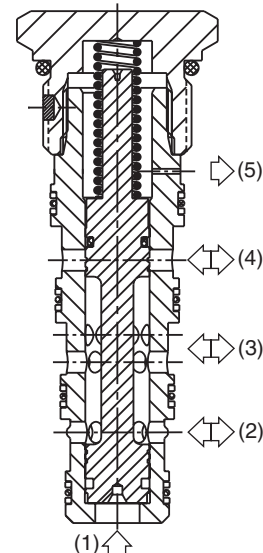
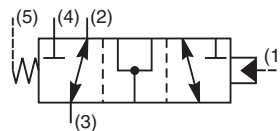
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

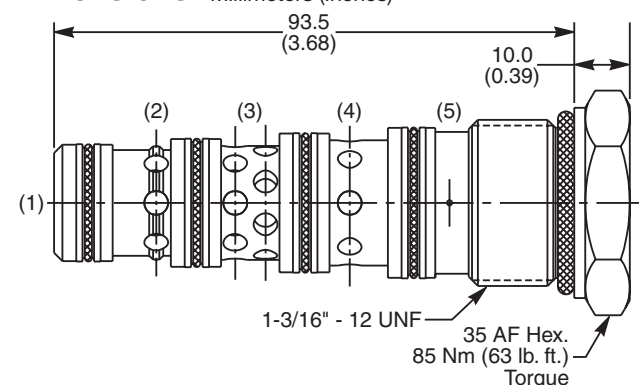


Specifications

Rated Flow	160 LPM (42 GPM)
Nominal Flow @ 7 Bar (100 PSI)	90 LPM (24 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Pilot Switching Pressure	See ordering information
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	0.33 kg (0.76 lbs.)
Cavity	5A (See BC Section for more details)



Dimensions



Ordering Information

N5A125	—	N
Directional Valve (All Ports Open)		Pilot 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
6.9	6.9 Bar (100 PSI) Std.
10.0	10.0 Bar (145 PSI)

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30103N-1
Fluorocarbon Seal	SK30103V-1

*Order Bodies Separately
 See section BC*

LB10	321	S
Line Body	Porting	Body Material

Code	Porting
321	3/4\" SAE (main) 1/4\" SAE (aux)

Code	Body Material
S	Steel (5000 PSI)

General Description

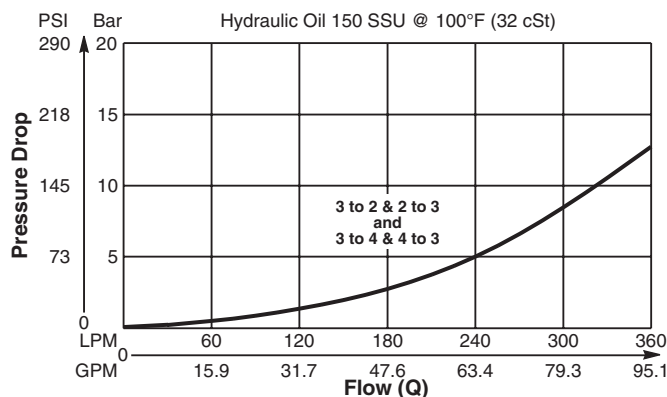
Pilot Operated Directional Valve, 3-Way, 2 Position, External Drain, Open Transition.

Features

- High flow capacity
- Used as high flow switching or metering element
- Range of spring settings available
- All external parts zinc plated

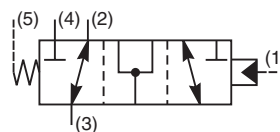
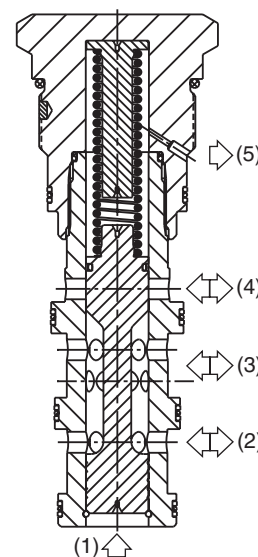
Performance Curve

Pressure Drop vs. Flow (Through cartridge only)

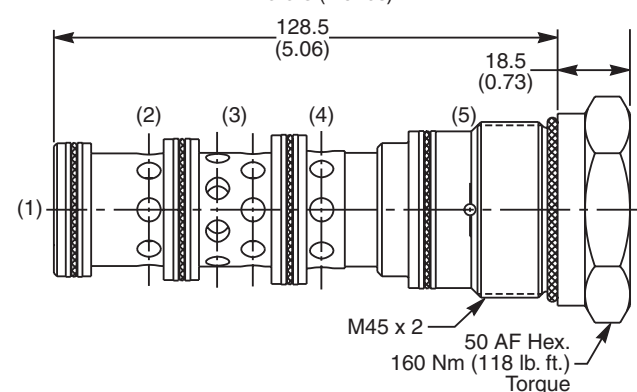


Specifications

Rated Flow	400 LPM (105 GPM)
Nominal Flow @ 7 Bar (100 PSI)	270 LPM (71 GPM)
Maximum Inlet Pressure	420 Bar (6000 PSI)
Pilot Switching Pressure	See ordering information
Cartridge Material	Steel operating parts hardened steel spool.
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	1.00 kg (2.2 lbs.)
Cavity	100-1 (See BC Section for more details)



Dimensions



Ordering Information

N5A300	—	N
Directional Valve (All Ports Open)	Pilot 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
6.9	6.9 Bar (100 PSI) Std.
10.0	10.0 Bar (145 PSI)

Code	Seals
N	Nitrile

Kit	Part Number
Nitrile Seal	SK30065N-1
Fluorocarbon Seal	SK30065V-1

Order Bodies Separately
 See section BC

LB10	317	S
Line Body	Porting	Body Material

Code	Porting
317	1-1/4" SAE (main) 3/8" SAE (aux)

Code	Body Material
S	Steel (5000 PSI)