



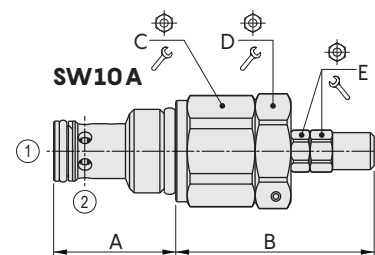
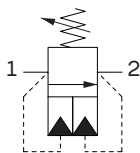
SW..A type sequence valves – 2 way

- Piloted acting
- Spool type
- Valves with kickdown operation
- Mechanical control with screw adjustment
- Different springs available to vary pressure range
- From SAE10 to SAE16 cavities

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

		SW10A	SW12D	SW16A
Nominal flow		60 l/min (16 US gpm)	100 l/min (26 US gpm)	180 l/min (48 US gpm)
Max. pressure		350 bar (5100 psi)		
Oil leakage	at 80% of max. pressure setting	22 cm³/min (1.34 in³/min)	50 cm³/min (3.05 in³/min)	100 cm³/min (6.1 in³/min)
Fluid		mineral based or synthetic hydraulic fluid with lubricating properties		
Viscosity		10-200 cSt		
Max level of contamination		20/18/14 ISO4406		
Fluid temperature	with NBR seals+Polyurethane with FPM seals	from -25°C (-13°F) to 90°C (194°F) from -20°C (-4°F) to 110°C (230°F)		
Environmental temp. for working conditions		from -20°C (-4°F) to 60°C (140°F)		
Cavity		SAE 10/2	SAE 12/2	SAE 16/2
Weight		0.20 kg (0.44 lb)	0.30 kg (0.66 lb)	0.44 kg (0.97 lb)

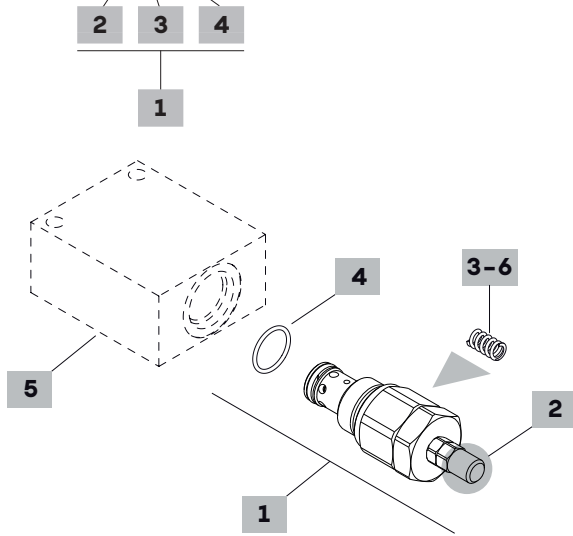
NOTE – For different conditions, please contact Walvoil Sales Dpt.



Valve type	A		B		C			D			E		
													
	mm	in	mm	in	Nm	lbft	Nm	lbft	Nm	lbft			
SW10A	32.3	1.27	52.5	2.07	27	50	37	27	50	37	10	6.6	4.87
SW12D	46	1.81	54.5	2.15	32	80	59	27	50	37	10	6.6	4.87
SW16A	45.2	1.78	58	2.28	41	100	74	27	50	37	10	6.6	4.87

Ordering codes and description composition

SW10A/OS2B



1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 10/2		
SW10A/OS2B	OSW10002000	Pressure range 2
SAE cavity 12/2		
SW12D/OS2B	OSW12002005	Pressure range 2
SAE cavity 16/2		
SW16A/OS2B	OSW16002000	Pressure range 2

2 Adjustments

TYPE	DESCRIPTION
S	Screw

3 Pressure range

Standard setting is referred to 5 l/min (1.32 US gpm) flow

TYPE	DESCRIPTION
1	Pressure range 10÷80 bar (145÷1160 psi); Std. setting 30 bar (435 psi), pressure increase by steps of 10 bar (145 psi) for screw turn
2	Pressure range 50÷220 bar (725÷3200 psi); Std. setting 150 bar (2200 psi), pressure increase by steps of 36 bar (520 psi) for screw turn
3	Pressure range 150÷350 bar (2200÷5100 psi); Std. setting 250 bar (3600 psi), pressure increase by steps of 90 bar (1300 psi) for screw turn

4 Seals

TYPE	DESCRIPTION
B	NBR (Buna)+Polyurethane o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept

5 Valve body

TYPE	CODE	DESCRIPTION
SAE10/2-G 3/8	3CC1020C11	Aluminium body for cavity 10 valve, G 3/8 std thread
SAE12/2-G 1/2	3CC1220D11	Aluminium body for cavity 12 valve, G 1/2 std thread
SAE16/2-G 3/4	3CC1620E11	Aluminium body for cavity 16 valve, G 3/4 std thread

Note: aluminium body can stand up to 210 bar (3050 psi)

For steel bodies or different threading see from page 208

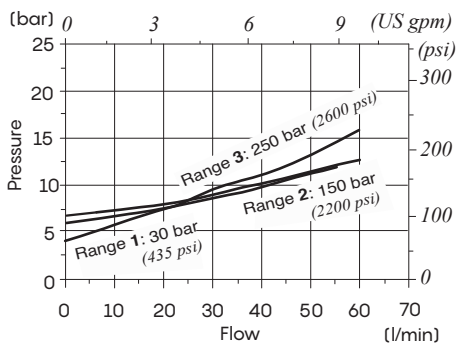
6 Springs

TYPE	CODE	DESCRIPTION
1	3ML1081400	Pressure range 1 - white band
2	3ML1081401	Pressure range 2 - no band
3	3ML1081402	Pressure range 3 - red band

Rating diagrams

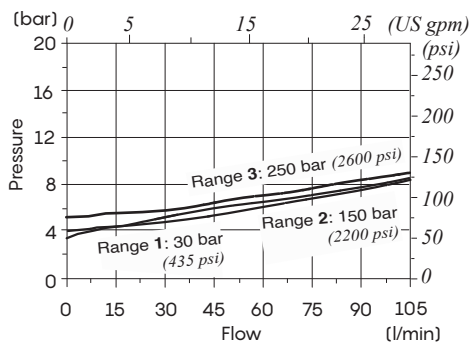
SW10A pressure vs. flow

std. setting at 5 l/min (1.32 US gpm)



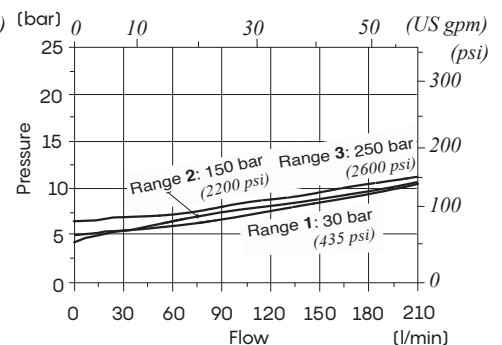
SW12A pressure vs. flow

std. setting at 5 l/min (1.32 US gpm)



SW16A pressure vs. flow

std. setting at 5 l/min (1.32 US gpm)





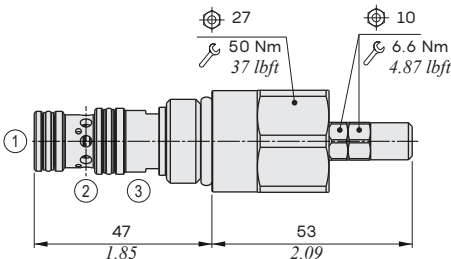
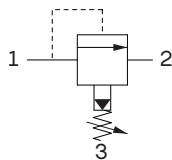
SP10A type sequence valves – 3 way

- Piloted acting
- Spool type
- Not affected by back pressure on port 2
- Mechanical control with screw adjustment
- Different springs available to vary pressure range

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

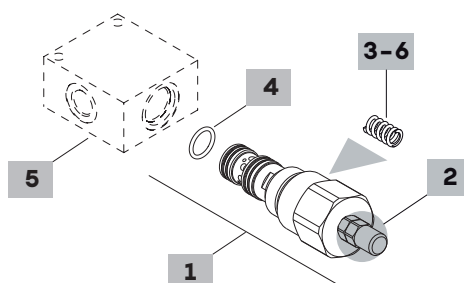
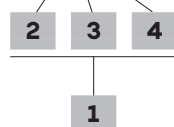
SP10A		
Nominal flow		50 l/min (13 US gpm)
Max. pressure		350 bar (5100 psi)
Oil leakage	at 210 bar (3050 psi)	25 cm³/min (1.52 in³/min)
Fluid		mineral based or synthetic hydraulic fluid with lubricating properties
Viscosity		10-200 cSt
Max level of contamination		20/18/14 ISO4406
Fluid temperature	with NBR seals+Polyurethane with FPM seals	from -25°C (-13°F) to 90°C (194°F) from -20°C (-4°F) to 110°C (230°F)
Environmental temp. for working conditions		from -20°C (-4°F) to 60°C (140°F)
Cavity		SAE 10/3
Weight		0.21 kg (0.46 lb)

NOTE – For different conditions, please contact Walvoil Sales Dpt.



Ordering codes and description composition

SP10A/1S3B



1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 10/3		
SP10A/1S1B	OSP10002002	Pressure range 1
SP10A/1S2B	OSP10002004	Pressure range 2
SP10A/1S3B	OSP10002003	Pressure range 3

2 Adjustments

TYPE	DESCRIPTION
S	Screw

3 Pressure range

Standard setting is referred to 5 l/min (1.32 US gpm) flow

TYPE	DESCRIPTION
1	Pressure range 10÷80 bar (145÷1160 psi); Std. setting 20 bar (290 psi), pressure increase by steps of 10 bar (145 psi) for screw turn
2	Pressure range 50÷220 bar (725÷3200 psi); Std. setting 150 bar (2200 psi), pressure increase by steps of 46 bar (660 psi) for screw turn
3	Pressure range 150÷350 bar (2200÷5100 psi); Std. setting 250 bar (3600 psi), pressure increase by steps of 110 bar (1600 psi) for screw turn

4 Seals

TYPE	DESCRIPTION
B	NBR (Buna)+Polyurethane o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept

5 Valve body

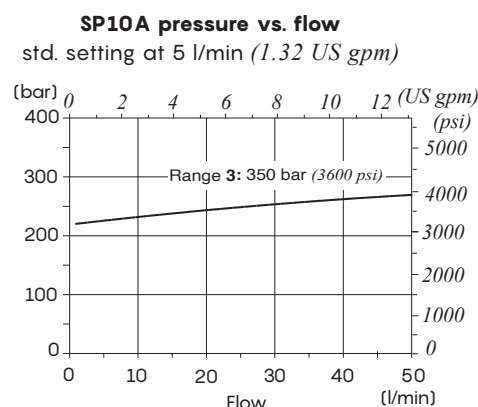
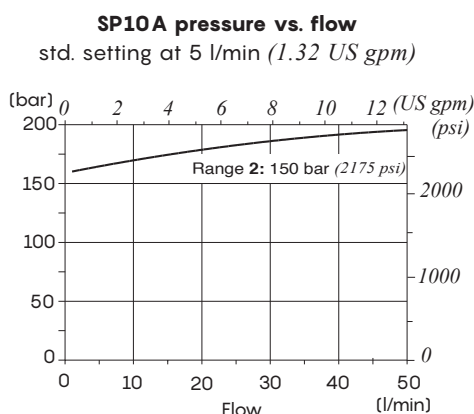
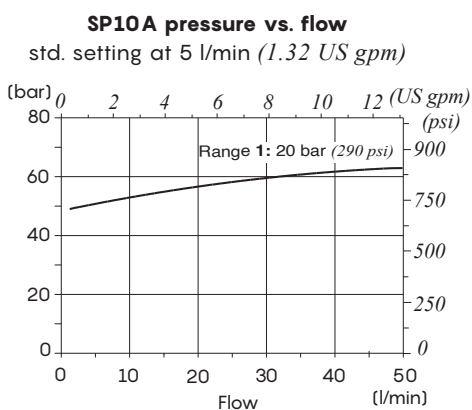
TYPE	CODE	DESCRIPTION
SAE10/3-G 3/8	3CC1030C11	Aluminium body for cavity 10 valve, G 3/8 std thread

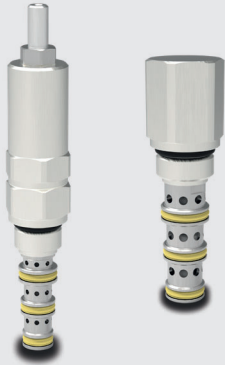
Note: aluminium body can stand up to 210 bar (3050 psi)
For steel bodies or different threading see from page 210

6 Springs

TYPE	CODE	DESCRIPTION
1	3ML1081400	Pressure range 1 - white band
2	3ML1081401	Pressure range 1 - no band
3	3ML1081402	Pressure range 1 - red band

Rating diagrams





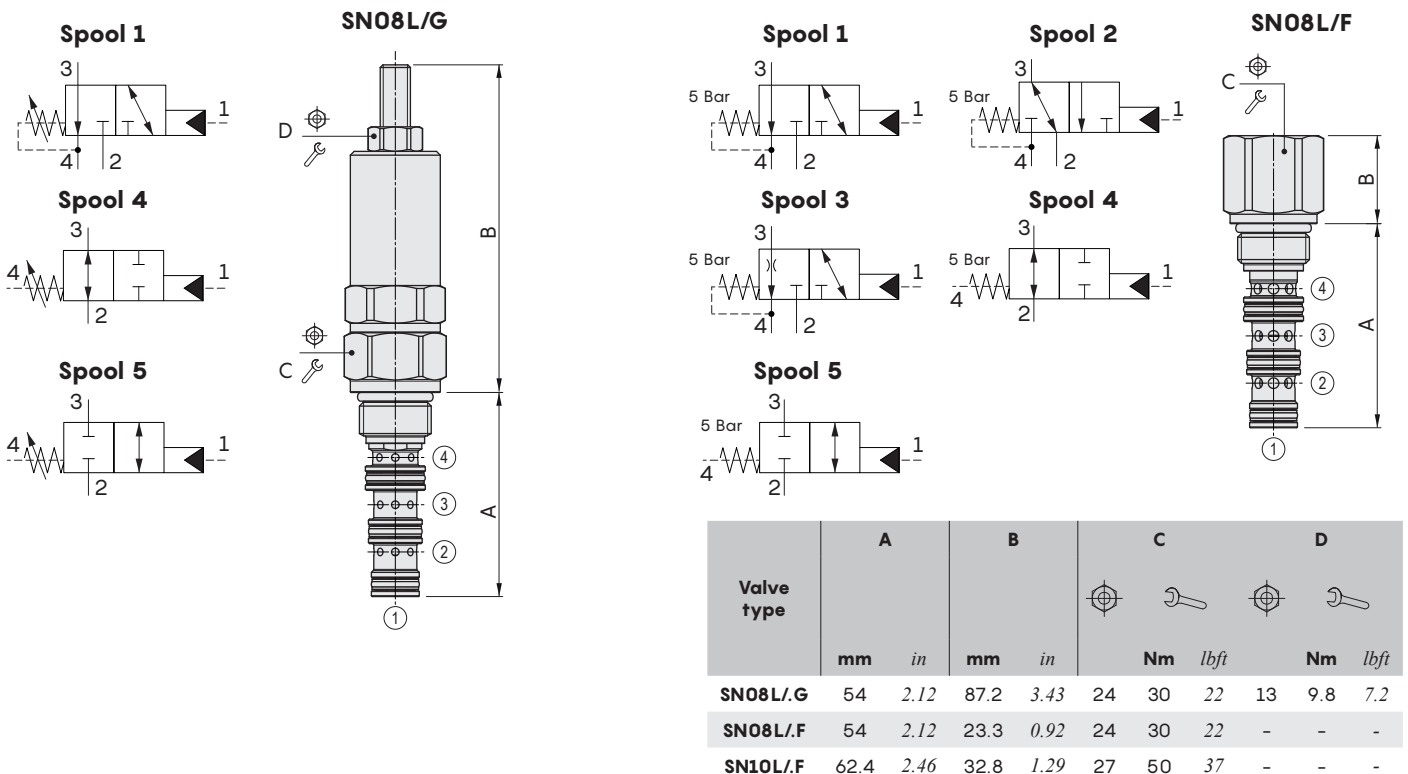
SN..L type sequence valves – 4 way

- Direct acting
- Spool type
- External pilot and drain
- Variable (G) and fixed (F) setting configurations
- The spring chamber is drained to the tank line (port 4)
- The backpressure values on line 4 must be added to valve nominal setting

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

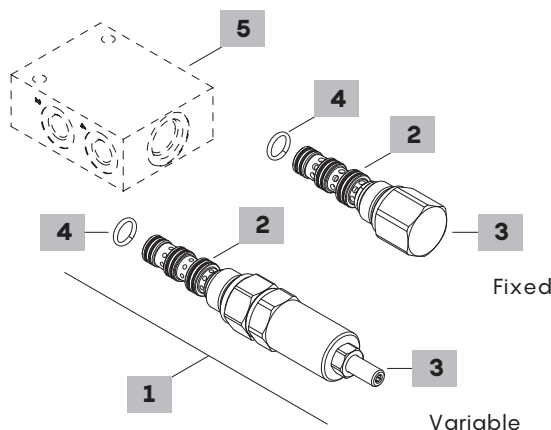
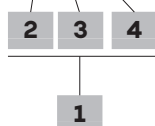
		SN08L/.G	SN08L/.F	SN10L/.F
Nominal flow		20 l/min (5.3 US gpm)	20 l/min (5.3 US gpm)	50 l/min (13.2 US gpm)
Max. pressure		Port 4= 30 bar (435 psi) 350 bar (5100 psi)	350 bar (5100 psi)	350 bar (5100 psi)
Oil leakage	at 210 bar (3050 psi)		40 cm³/min (2.44 in³/min)	
Fluid		mineral based or synthetic hydraulic fluid with lubricating properties		
Viscosity		10-200 cSt		
Max level of contamination		20/18/14 ISO4406		
Fluid temperature	with NBR seals+Polyurethane with FPM seals	from -25°C (-13°F) to 90°C (194°F) from -20°C (-4°F) to 110°C (230°F)		
Environmental temp. for working conditions		from -20°C (-4°F) to 60°C (140°F)		
Cavity		SAE 08/4	SAE 08/4	SAE 10/4
Weight		0.264 kg (0.582 lb)	0.131 kg (0.289 lb)	0.213 kg (0.470 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.



Ordering codes and description composition

SN08L/4G1B



1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 08/4		
<u>Variable pressure setting type</u>		
SN08L/1G1B	OSN08002015	From 30 to 90 bar (435 to 1300 psi), spool 1
SN08L/4G1B	OSN08002012	From 30 to 90 bar (435 to 1300 psi), spool 4
SN08L/5G1B	OSN08002013	From 30 to 90 bar (435 to 1300 psi), spool 5
<u>Fixed pressure setting type</u>		
SN08L/1F1B	OSN08002007	Setting 5 bar (72.5 psi), spool 1
SN08L/2F1B	OSN08002008	Setting 5 bar (72.5 psi), spool 2
SN08L/3F1B	OSN08002009	Setting 5 bar (72.5 psi), spool 3
SN08L/4F1B	OSN08002010	Setting 5 bar (72.5 psi), spool 4
SN08L/5F1B	OSN08002016	Setting 5 bar (72.5 psi), spool 5
SAE cavity 10/4		
<u>Fixed pressure setting type</u>		
SN10L/1F1B	OSN10002002	Setting 5 bar (72.5 psi), spool 1
SN10L/4F1B	OSN10002004	Setting 5 bar (72.5 psi), spool 4
SN10L/5F1B	OSN10002003	Setting 5 bar (72.5 psi), spool 5

2 Spools

TYPE	DESCRIPTION
1	Spool 1
2	Spool 2
3	Spool 3
4	Spool 4
5	Spool 5

3 Pressure setting

Setting is referred to 1 l/min (0.26 US gpm) flow

TYPE	DESCRIPTION
G1	Variable setting from 30 to 90 bar (435 to 1300 psi)
F1	Fixed setting 5 bar (72.5 psi)
F2	Fixed setting 10 bar (145 psi)
F3	Fixed setting 20 bar (290 psi)

4 Seals

TYPE	DESCRIPTION
B	NBR (Buna)+Polyurethane o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept

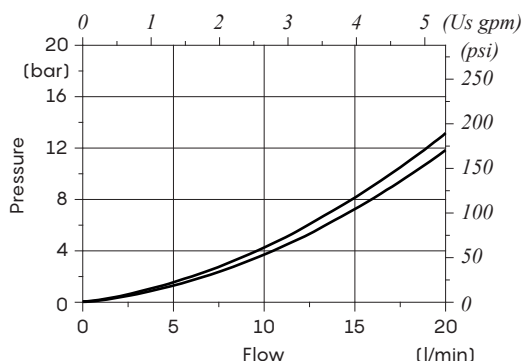
5 Valve body

TYPE	CODE	DESCRIPTION
SAE08/4-G 3/8	3CC0840C11	Aluminium body for cavity 08 valve, G 3/8 std thread
SAE10/4-G 3/8	3CC1040C11	Aluminium body for cavity 10 valve, G 3/8 std thread

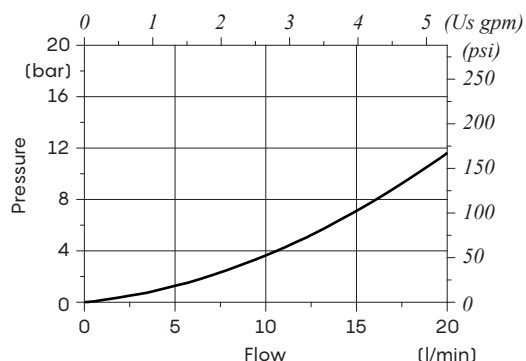
Note: aluminium body can stand up to 210 bar (3050 psi)
For steel bodies or different threading see from page 212

Rating diagrams

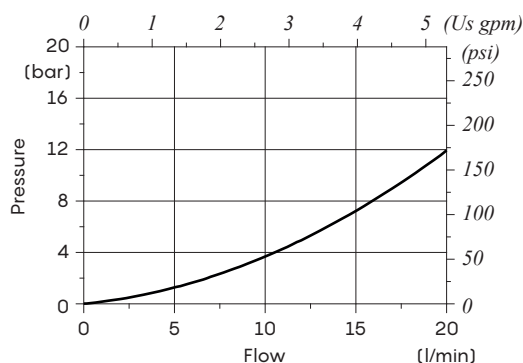
SN08L pressure drop vs. flow
- Spool 1 - Variable pressure -



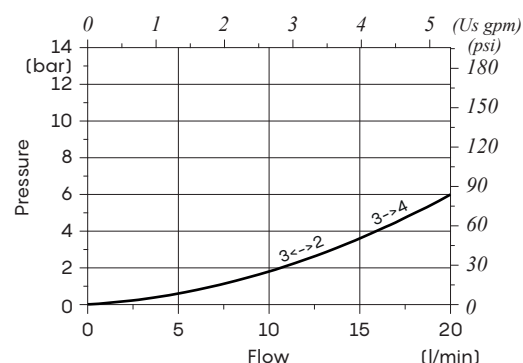
SN08L pressure drop vs. flow
- Spool 4 - Variable pressure -



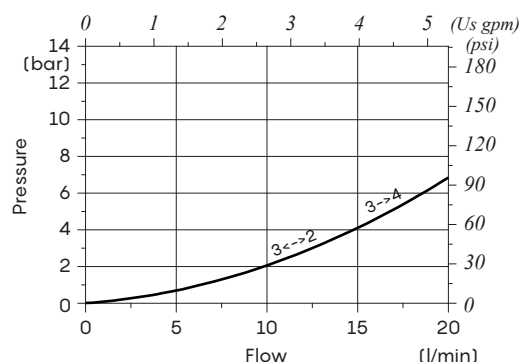
SN08L pressure drop vs. flow
- Spool 5 - Variable pressure -



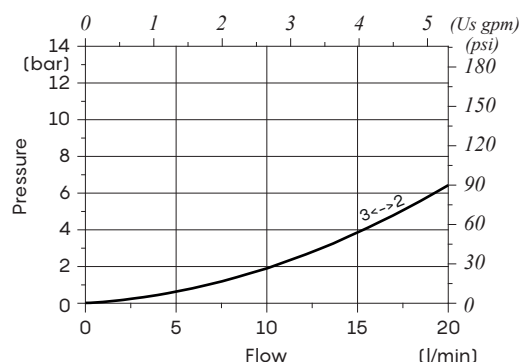
SN08L pressure drop vs. flow
- Spool 1 - Fixed pressure -



SN08L pressure drop vs. flow
- Spool 2 - Fixed pressure -

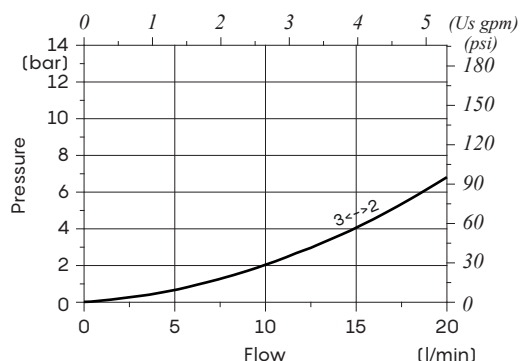


SN08L pressure drop vs. flow
- Spool 3 - Fixed pressure -

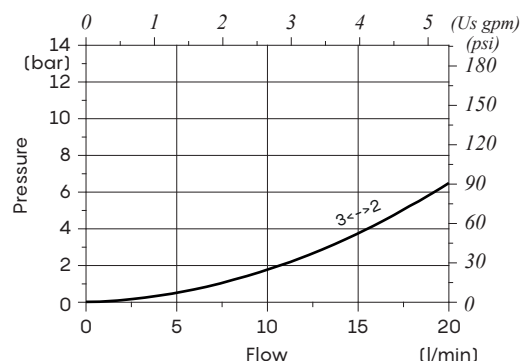


Rating diagrams

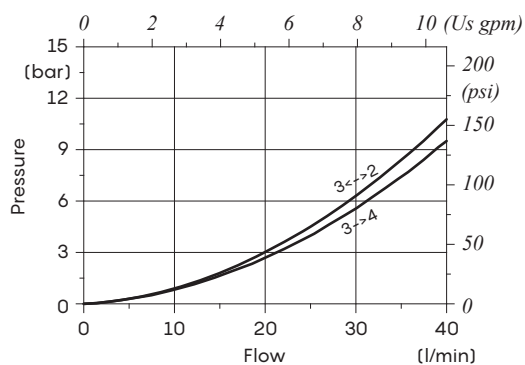
SN08L pressure drop vs. flow
- Spool 4 - Fixed pressure -



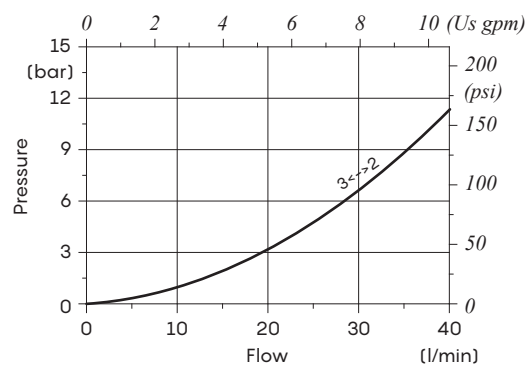
SN08L pressure drop vs. flow
- Spool 5 - Fixed pressure -



SN10L pressure drop vs. flow
- Spool 1 -



SN10L pressure drop vs. flow
- Spool 4 -



SN10L pressure drop vs. flow
- Spool 5 -

