



**DIRECTIONAL CONTROL VALVE  
SERIES CV 110**



**nimco**  
hydraulic systems



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The CV 110 open valve is a parallel circuit valve which is designed to operate with a fixed pump in open center hydraulic systems up to pressures of 320 bar (4600 psi) and flow rates of up to 50 l/min (13 USgpm).

The CV 110 on demand LS version is a valve which is designed to operate with a variable pump and in closed center systems up to a pressure of 320 bar (4600 psi) and flow rates of up to 50 l/min (13 USGpm).

The CV 110 valve series offers the OEM the selection of a number of spools for optimal spool control at any load as well as a wide range of spool controls for different applications.

Some of the CV 110's main advantages are :

- Available from 1 to 6 sections as a monoblock valve
- Main relief valve
- Load check valves for each section
- Open & closed center option
- Direct acting relief valve for quick response time
- Power Beyond capability
- Exceptionally low spool leakage, less than 0.12 in<sup>3</sup> (2 cm<sup>3</sup>) /min at 46 cSt and 100 bar (1500 psi) and 40°C upon request
- Float, regenerative and specially tuned spools
- Full range of spool controls : joystick, pneumatic, hydraulic, electro-hydraulic proportional EHP and direct-acting solenoid (12VDC & 24VDC)

BSP and SAE threads are standard and the following threads can be supplied upon request :

- Metric
- NPTF

<b>Max pressure setting</b>	<b>bar</b>	<b>psi</b>
Main relief valve	320	4600
Tank Line	10	145
<b>Flow rates</b>	<b>l/min</b>	<b>USgpm</b>
Max flow A/B	50	13
<b>Temperature range</b>	<b>°C</b>	<b>°F</b>
Standard seals	-40 to +80	-40 to +176
<b>Spool leakage at</b>	<b>cm<sup>3</sup>/min</b>	<b>inch<sup>3</sup>/min</b>
100 bar (1450 psi) and 46mm <sup>2</sup> /s (cSt) 216 SSU viscosity A and B port	2	0.12
<b>Filtration</b>		
Contamination level equal to or better than	19/16 according to ISO 4406	NAS 1638-class 10
<b>Viscosity</b>	<b>mm<sup>2</sup>/s (cSt)</b>	<b>SSU</b>
Recommended operating viscosity range	10-400	47 - 1875
Start viscosity up to	1000	4687
<b>Weight</b>	<b>kg</b>	<b>lbs</b>
CV 111	3,2	7,1
CV 113	6,6	14,6
CV 114	8,3	18,3
CV 115	10,0	22,0
CV 116	11,7	25,7
<b>Operating force required for spool movement</b>	<b>N</b>	<b>lbf</b>
Spring centered	130	29
Detent in	230	52
Detent out	200	45
<b>Number of work sections</b>	1 to 6	

**STANDARD THREADS**

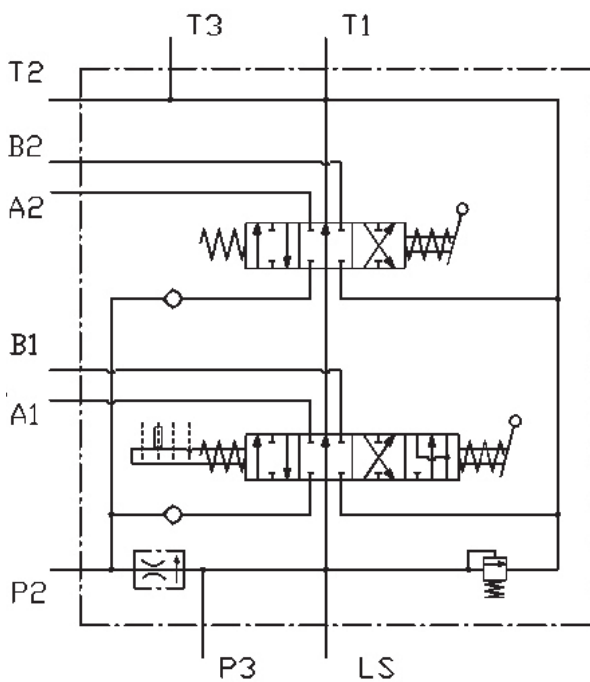
	Port sizes	BSP	UNF	Metric
Inlet	P1	G 3/8	3/4-16 (SAE 8)	M18x1.5
	P2	G 3/8	3/4-16 (SAE 8)	M18x1.5
	P3	G 3/8	3/4-16 (SAE 8)	M18x1.5
Cylinder ports	A-B	G 3/8	9/16-18 (SAE 6)	M16x1.5
Tank	T1	G 1/2	7/8-14 (SAE 10)	M22x1.5
	T1	G 3/8	3/4-16 (SAE 8)	M18x1.5
	T2	G 3/8	3/4-16 (SAE 8)	M18x1.5

**SPOOL FOR OPEN CENTERED VALVES**

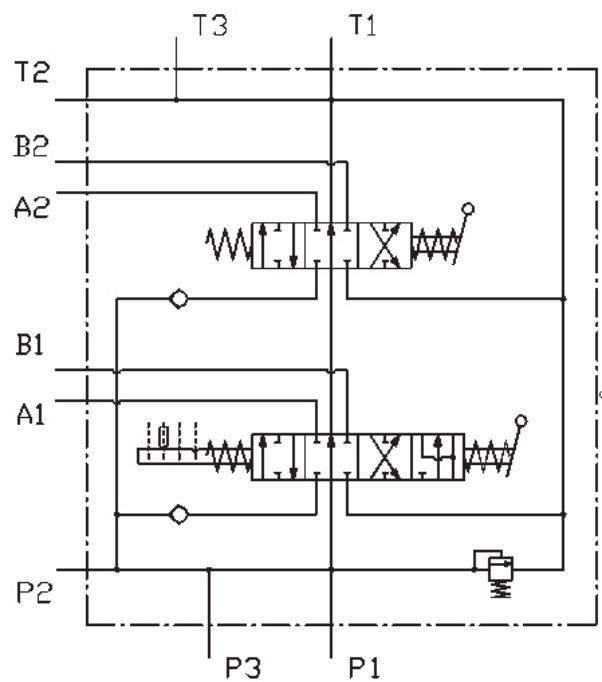
Part No.	Spool type	Type	Symbol	SP-No.
10709-3B	1S	DA with metering		SP-10709-3B
10573-3B	2SA	Single acting A port with metering		SP-10573-3B
10574-3B	2XA	Single acting A port		SP-10574-3B
10309-3B	3X	DA + float		SP-10309-3B
10308-3B	3S	DA + float with metering		SP-10308-3B
10307-3B	3R	DA + float with metering		SP-10307-3B
10575-3B	4X	Motor spool		SP-10575-3B
10576-3B	4S	Motor spool with metering		SP-10576-3B
10310-3B	8R	DA + regen with metering		SP-10310-3B
10311-3B	8S	DA + regen with metering		SP-10311-3B

**SPOOLS FOR LOAD SENSING OPTION**

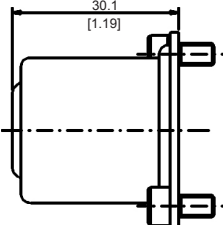
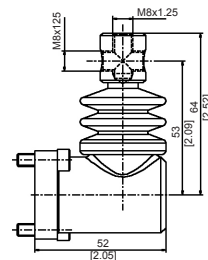
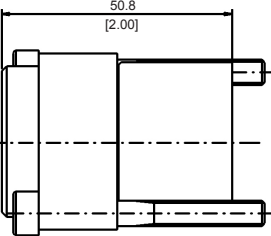
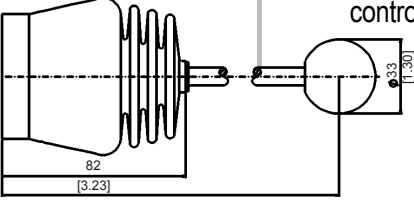
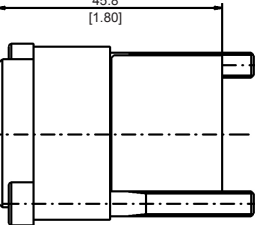
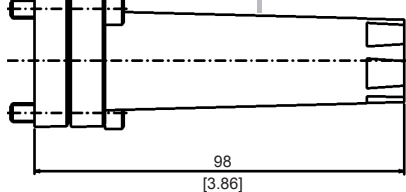
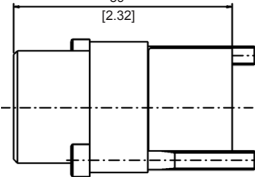
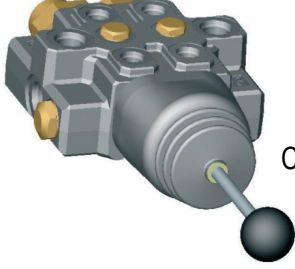
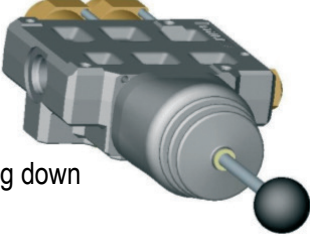
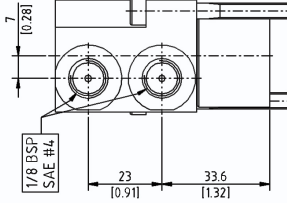
Part No.	Spool type	Type	Symbol	SP-No.
11590-3B	1SLS	DA with metering		SP-11590-3B
10577-3B	2RALS	Single acting with metering		SP-10577-3B
10578-3B	2SALS	Single acting with metering		SP-10578-3B
10548-3B	3RLS	DA + float with metering		SP-10548-3B
10549-3B	3SLS	DA + float with metering		SP-10549-3B
10551-3B	8SLS	DA + float with metering		SP-10551-3B
10550-3B	8RLS	DA + float with metering		SP-10550-3B

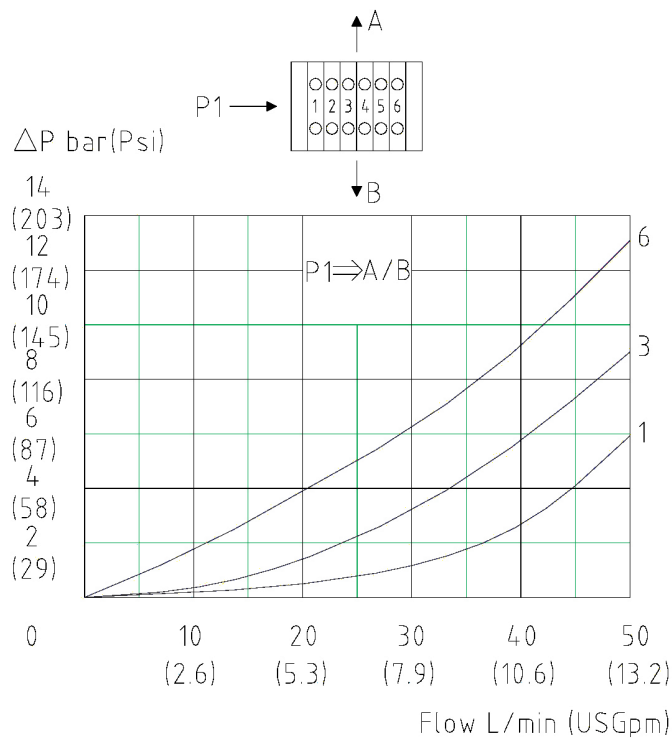
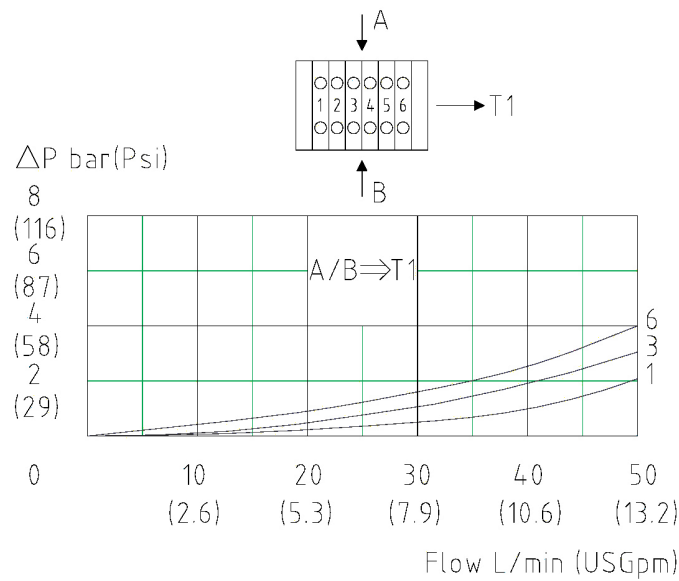
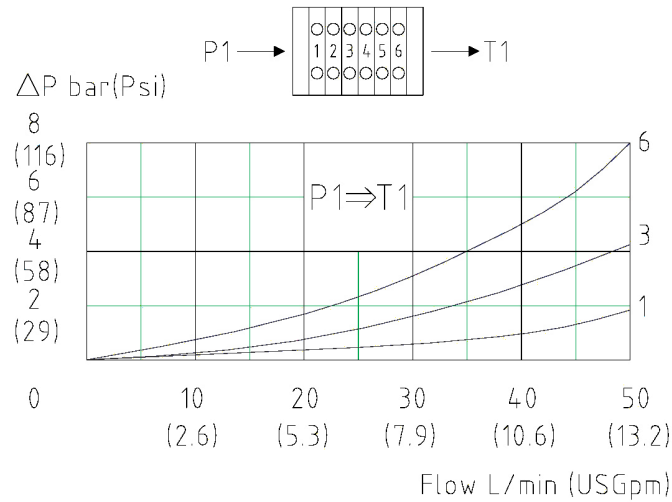


Closed Center LS



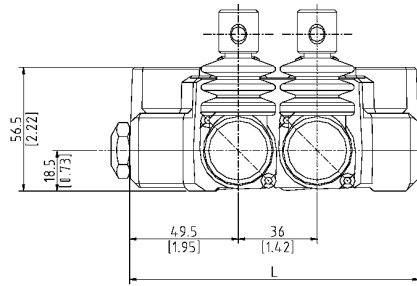
Open Center

Code	Type	A-side	B-side	Type	Code
9	Spring centered.			Hand lever. Encased	<b>S5</b>
10	Detent in pos.1,2 and 3				
11	Spring centered. Detent in pos.4			Mechanical joystick for dual-spool control.	<b>S6</b>
12	Spring centered. Detent in pos. 3 and 4				
14	Spring centered. Detent in pos.3				
13	Spring centered. Detent in pos.2			Wire control	<b>W</b>
18	Spring centered. Pressure point in pos.5				
5	Spring centered. Detent in position 2 and 4		 <p>Cylinder ports facing up</p>  <p>Cylinder ports facing down</p>		
P	Pneumatic on/off				
PP	Pneumatic proportional				
EP	Electropneumatic on/off. 12V/270mA alt. 24V/150mA. Hirschmann connector is standard. Other connectors are available on request.				

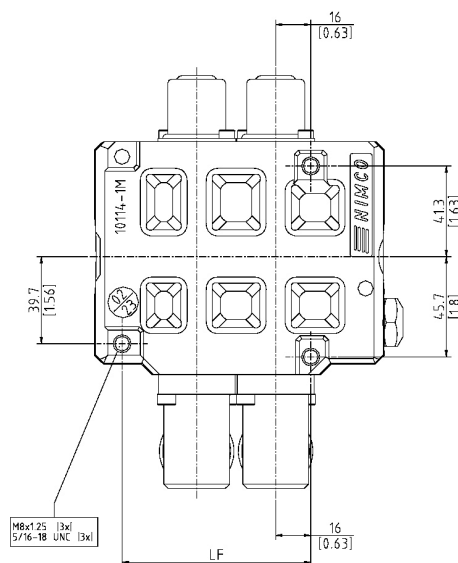
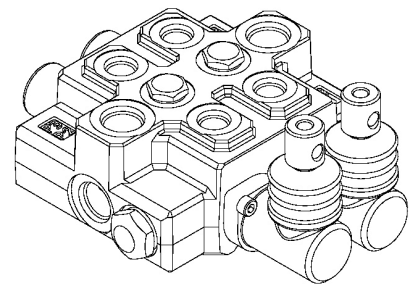
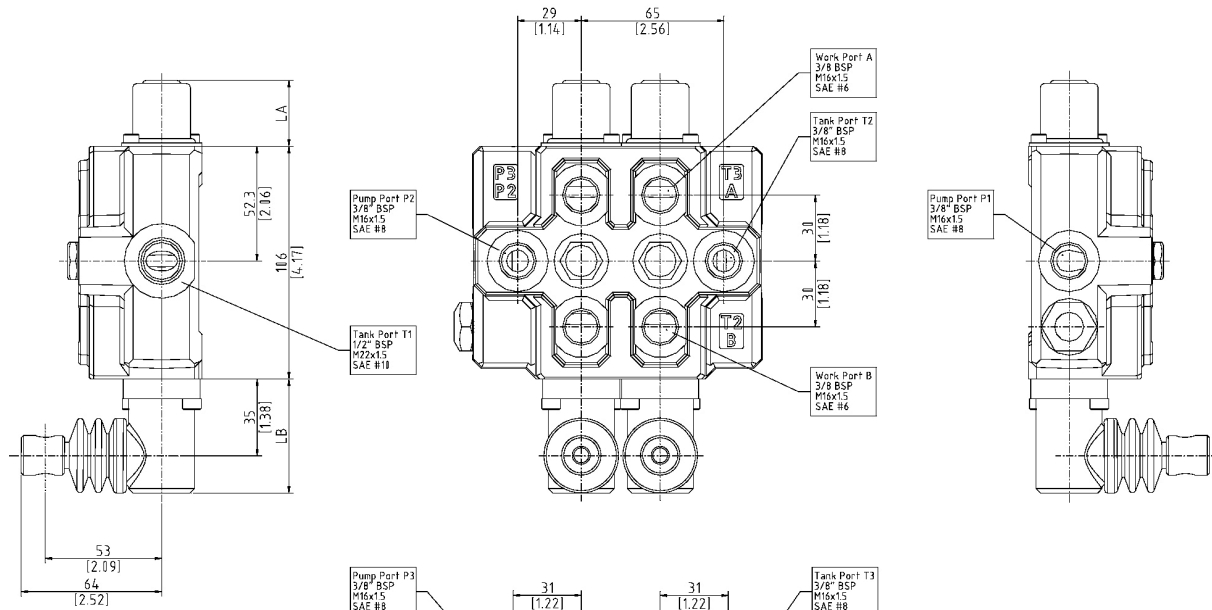




## VALVE WITH ENCASED HAND LEVER (S5)

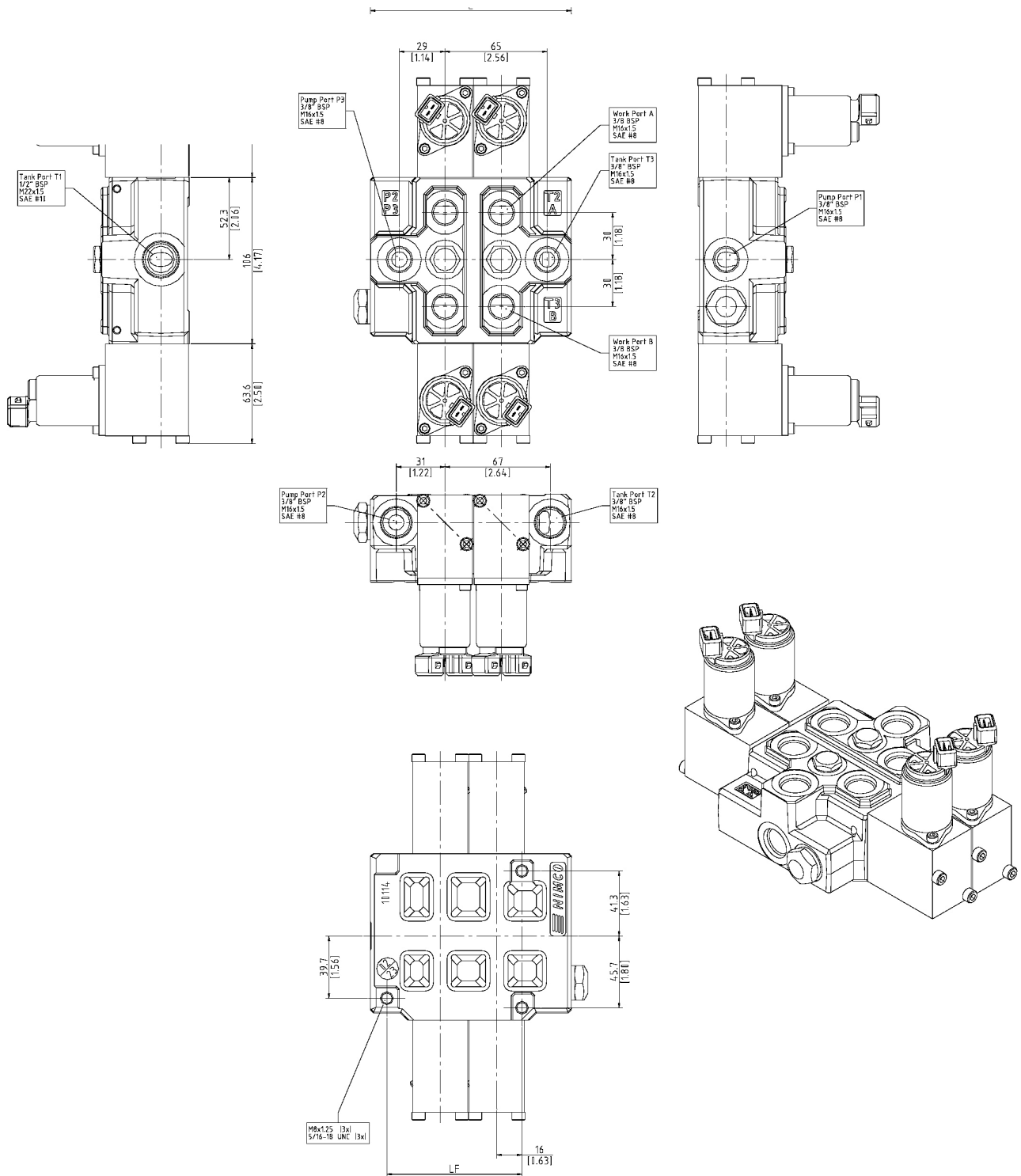


No of sect	L		LF	
	mm	inch	mm	inch
1	96	3.78	50	1.97
2	132	5.20	86	3.39
3	168	6.61	122	4.80
4	204	8.03	158	6.22
5	240	9.45	194	7.64



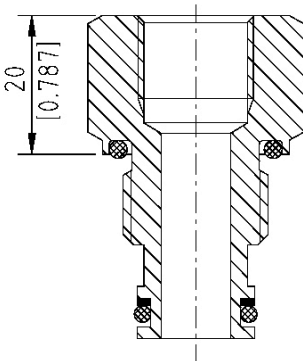


## VALVE WITH ELECTRO-HYDRAULIC PROPORTIONAL SPOOL CONTROL

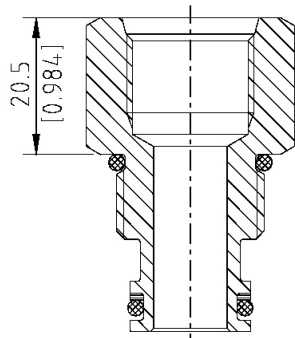


High pressure carry-over adapter, should be installed in the T1-port when two or more valves are used in the same circuit. T2 must then be connected to Tank

Part No.10534-4S



Part No.10536-4S



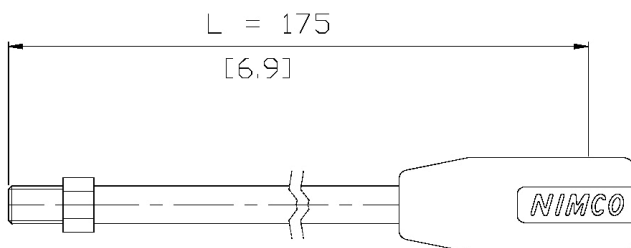
Tank port reduction adapter, can be installed in the T1-port when the thread size is to be reduced.

Type BSP 1/2" to BSP 3/8"  
Part No.10348-4S

SAE # 10 to SAE # 8  
Part No.10349-4S

**Lever**

Standard Lever :



Part No. 10347-4S

Other lengths on request.



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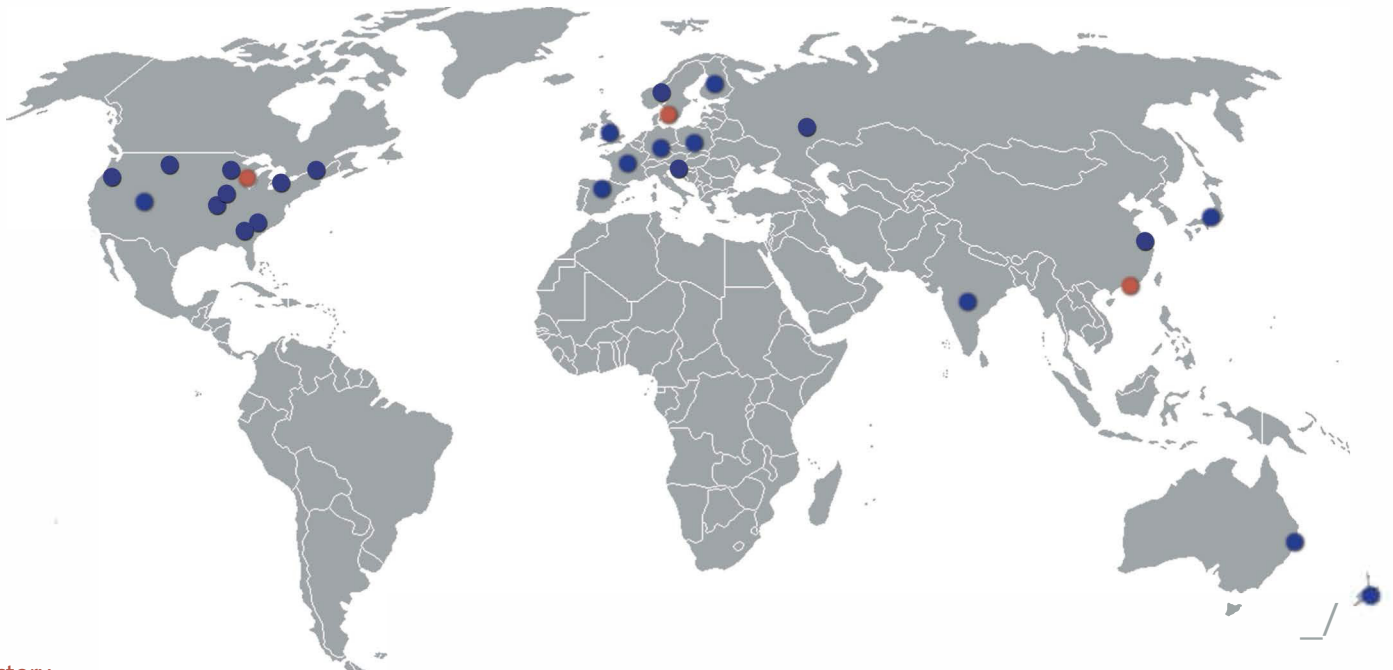
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