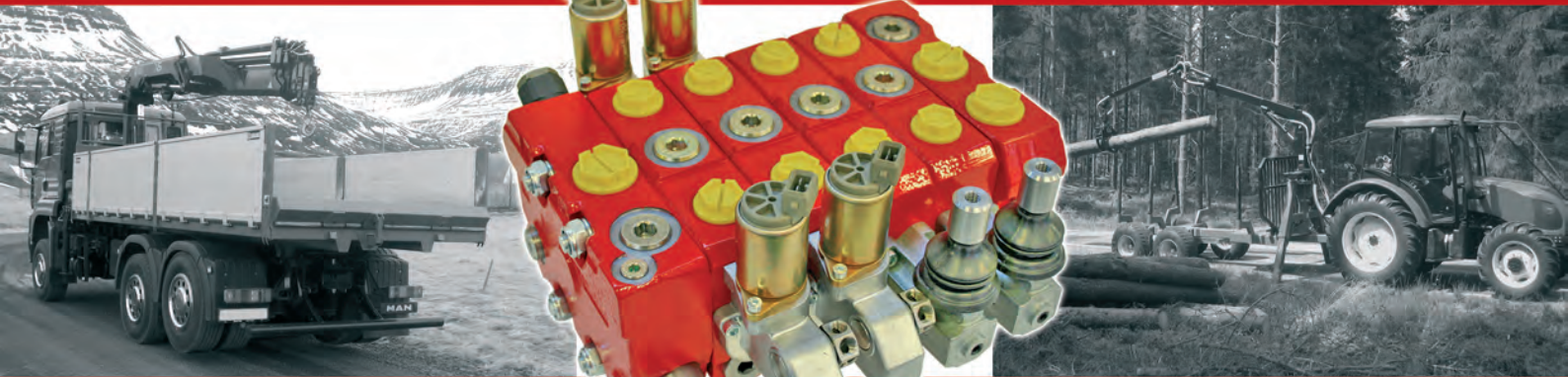




DIRECTIONAL CONTROL VALVE SERIES CV 3000



NIMCO
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CONTROLS

RELIABILITY FROM QUALITY

Page 4	General Information
Page 5	Technical Data
Page 6	Performance Curves
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Page 9	Main Relief Valve/ Service Port Valves/Spools
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The **CV 3000** directional control valve is a sectional valve that can be used in both open and closed center systems.

It can be adapted for open center or closed center, along with load sensing systems and operated with manual, pneumatic, hydraulic or electro-hydraulic controls.

It is designed to handle up to 140 l/min (37 USgpm) when operated as a traditional open center valve. It will handle 140 l/min (37 USgpm) in the inlet section and working flows of 120 l/min (32 USgpm) at each section when operating with a pressure compensated inlet section. The maximum working pressure is 350 bar (5075 psi) with a maximum back pressure of 20 bar (290 psi) in the return lines. Up to 10 valve sections can be assembled as one valve unit.

Standard Valve Version with Fixed Pump

It can be equipped with a number of specially designed spools for different applications or have special spools designed for special requirements.

The inlet section can be equipped with either a main relief valve or an electrical dump to tank valve or both. Pump and tank connections can be fitted in the inlet on the left side of the valve and a pressure reducer valve can also be fitted in the inlet when the valve is being operated electro hydraulically on/off or proportionally.

The outlet section can be equipped with a H.P.C.O. (Power Beyond) adapter as well as with a main relief valve for downstream functions.

The main relief valve and all cylinder port relief valves are direct operated and with built-in anti-cavitation functions.

The **CV 3000** offers a large number of spool controls, such as the enclosed manual hand lever mechanism, open spool ends, cable, pneumatic pilot, hydraulic pilot and electrical on/off or proportional controls (with manual override).

Load Sensing on Demand with Variable Pump

With a special inlet and special spools, the CV 3000 can be used as an on-demand LS valve where the pump is activated to full stroke by the activation of any one of the spools.

This inlet can be equipped with main relief valve, electrical unloading valve and a pressure-reducing valve if the valve is operated with EHP as well as the pressure compensated flow control valve communicating with the open center gallery and the pump's LS line.

This version can be equipped with a standard outlet.

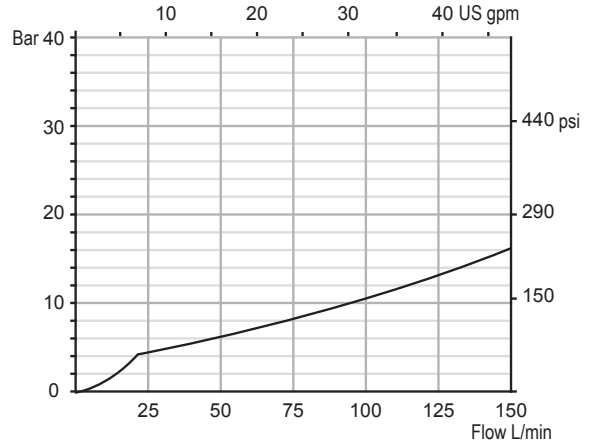
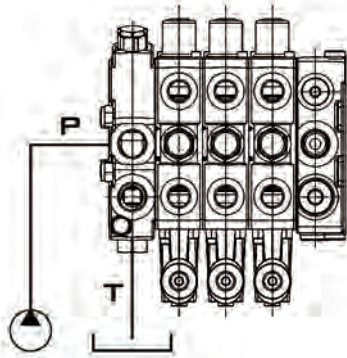
Remote Controls

Nimco offers a wide range of programmable remote control options ranging from direct acting joystick controls, CANbus controllers and driver units to radio controls. These can be integrated into the machine system through the powerful but easy-to-use programming software EasyProg.

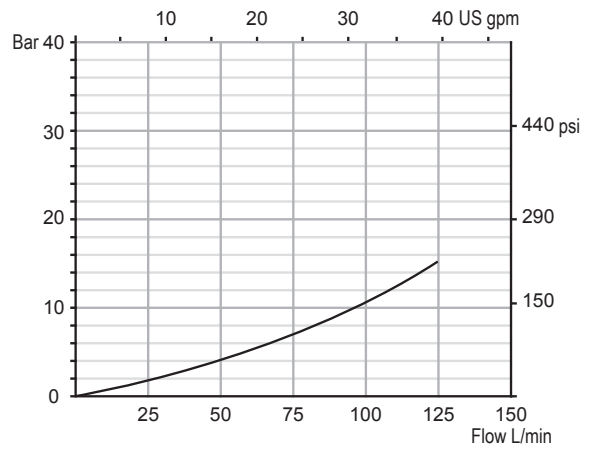
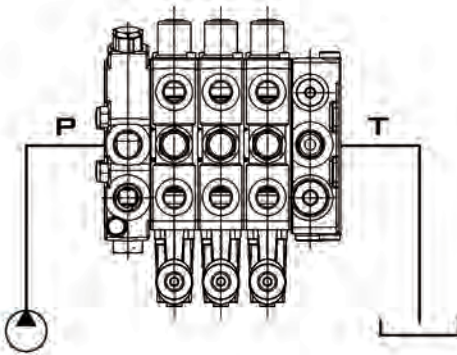
Max. pressure setting	bar	psi	
Main relief valve	350	5075	
Port relief valve	350	5075	
Tank line	20	290	
Flow rates	l/min	USgpm	
Maximum pump flow	140/120	37/32	
Maximum flow per section	120	32	
Temperature range	°C	°F	
Standard seals	-40 to +80	-40 to +176	
Spool leakage at	cm³/min	inch³/min	
100 bar (1450 psi) and 25 mm ² /s (cSt) (117 SSU) viscosity A and B port	4-8	0.24-0.48	
Filtration			
Contamination level equal to or better than	18/14 according to ISO 4406	NAS 1638-class 10	
Viscosity	mm²/s(cSt)	SSU	
Recommended operating viscosity range	10-400	47-1875	
Weight	kg	lbs	
Inlet section	4.9	10.8	
Manual section	4.8	10.6	
Outlet section	4.7	10.4	
EHP section	6.2	13.7	
Operating force necessary to move the spool	N	lbf	
Spring centered	130	29	
Detent in	230	52	
Detent out	200	45	
Port sizes	BSP	Metric	SAE
A,B	1/2 or 3/4	M18x1,5 M22x1,5	3/4-16 UNF SAE8 1 1/16-12 SAE12
P, T	3/4	M22x1,5	1 1/16-12 SAE12

PERFORMANCE CURVES

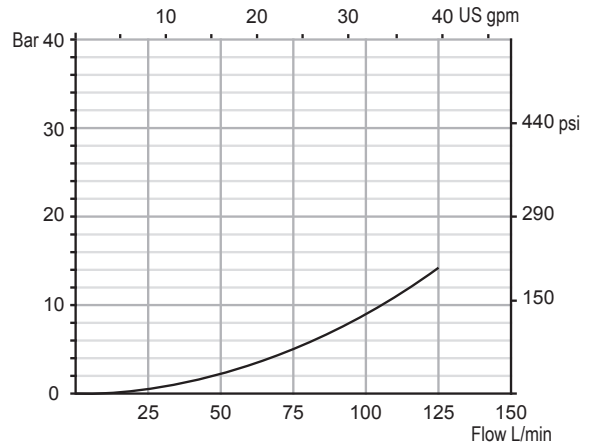
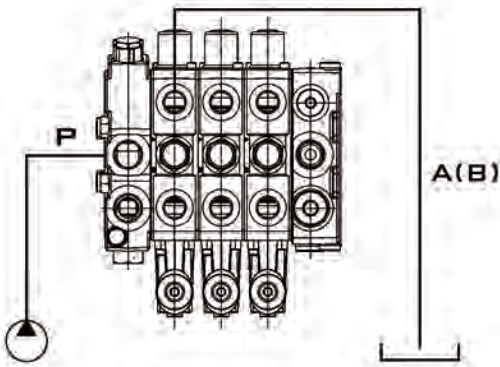
PRESSURE DROP P→T



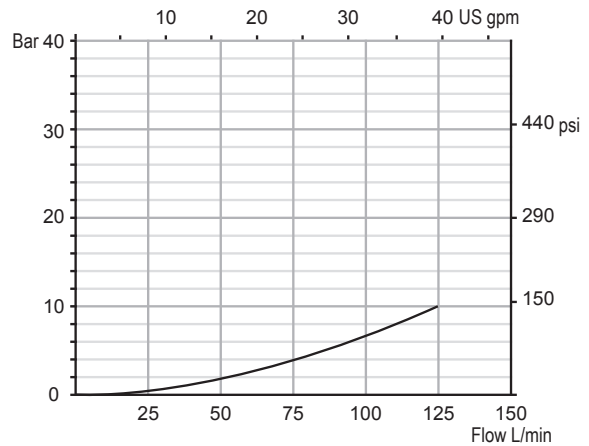
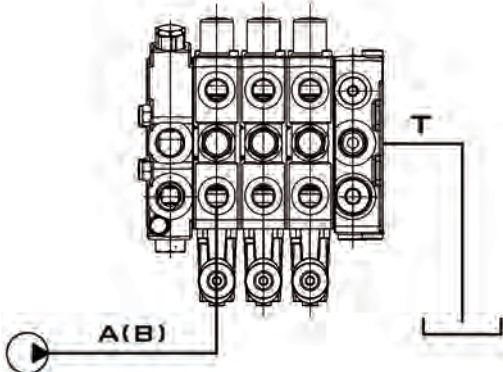
PRESSURE DROP P→T



PRESSURE DROP P→A(B)

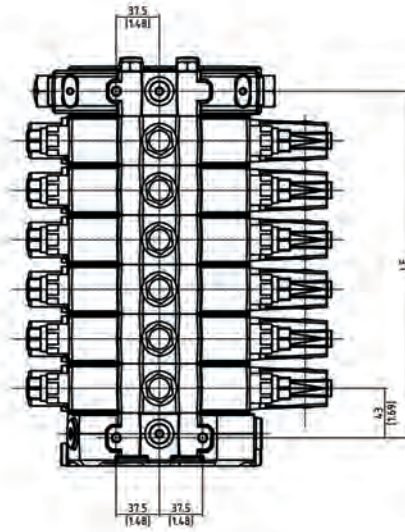
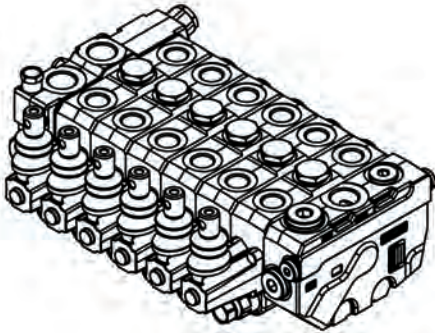


PRESSURE DROP A(B)→T

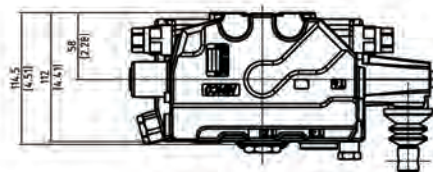
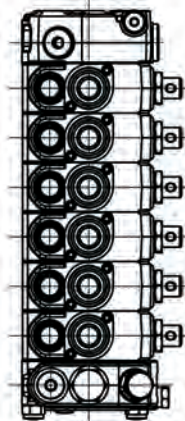
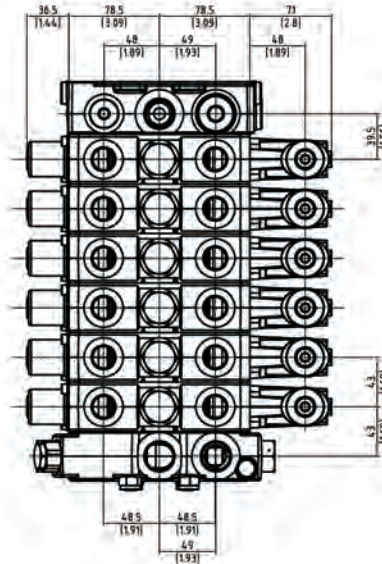
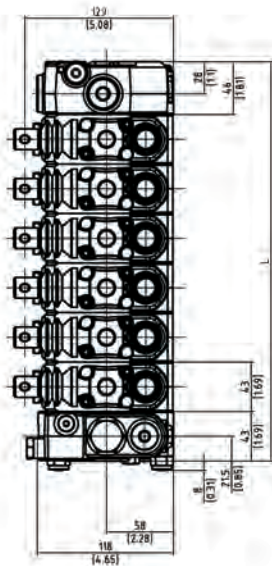
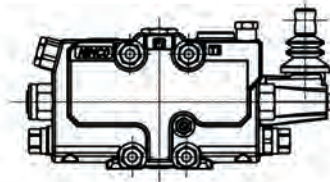


ASSEMBLY DIMENSIONS

MANUAL OPERATOR

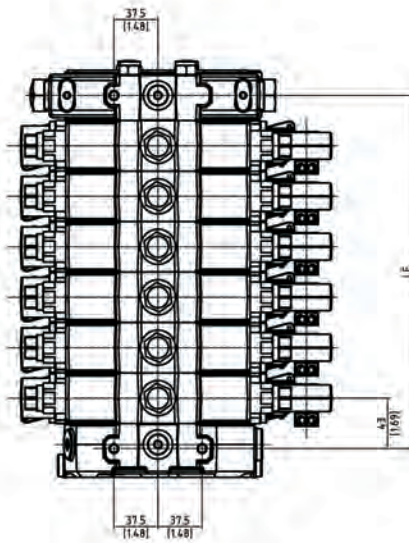
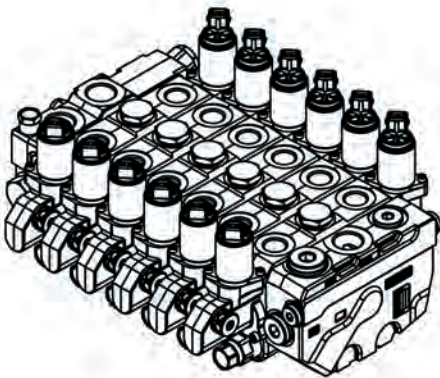


No of sect	L		LF	
	mm	inch	mm	inch
1	132	5,20	86	3,39
2	175	6,89	129	5,08
3	218	8,58	172	6,77
4	261	10,28	215	8,46
5	304	11,97	258	10,16
6	347	13,66	301	11,85
7	390	15,35	344	13,54
8	433	17,05	387	15,24
9	476	18,74	430	16,93
10	519	20,43	473	18,62

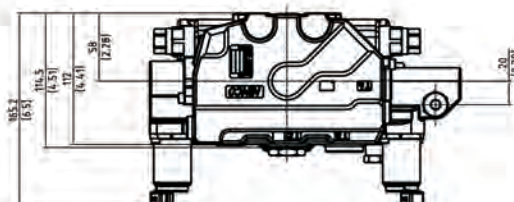
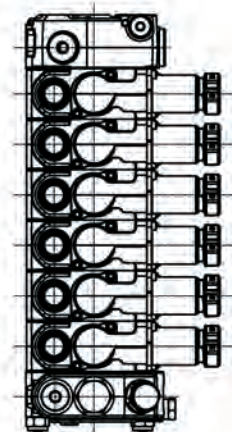
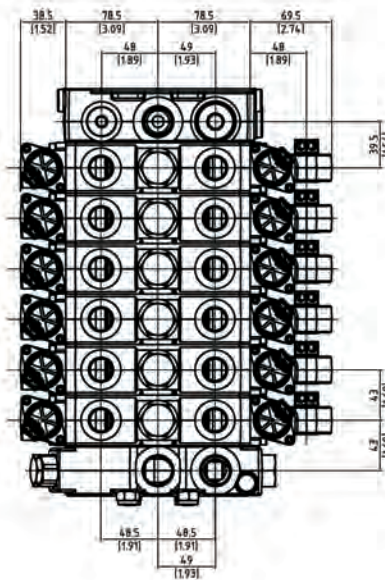
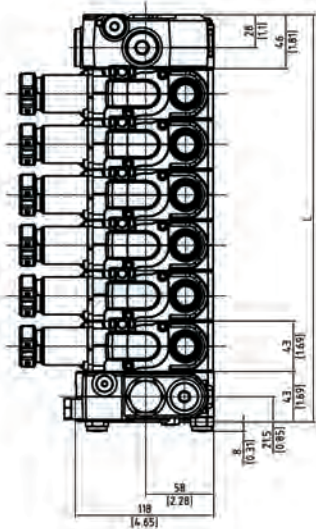
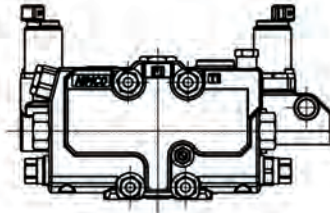


ASSEMBLY DIMENSIONS

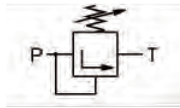
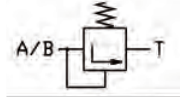
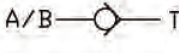
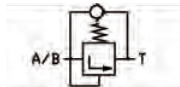
EHP + MANUAL OVERRIDE

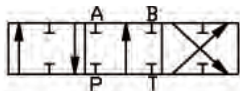
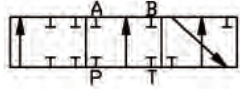
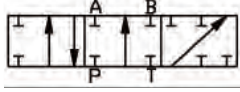
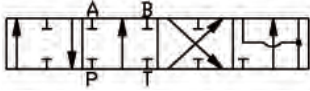
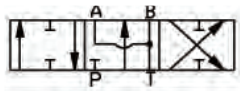


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10	519	20,43	473	18,62



MAIN RELIEF VALVE/SERVICE PORT VALVES/SPOOLS

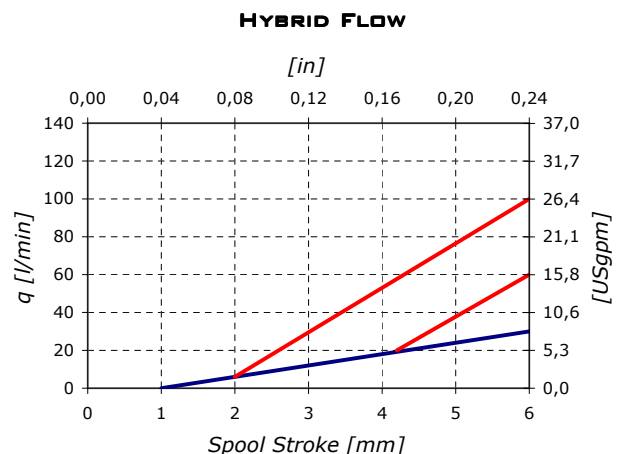
Description	Symbol	Order code
Main relief valve		RV
Port relief valve		C
Anticav. valve		A
Port Relief/Anticav. valve		CA

Spool type	Symbol	Order code standard spool	Remark
Double acting		1S	
Single acting A		2SA	In addition to our standard spools, there are a wide range of specially designed spools to maximize load control at different pump flows and applications. Please contact our factory or any authorized distributor to discuss your specific requirements.
Single acting B		2SB	
Double acting with float position		3S	
Motor		4S	

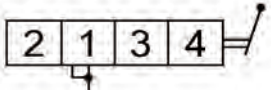
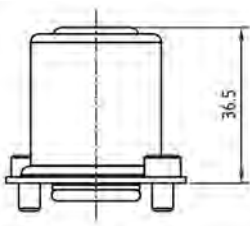
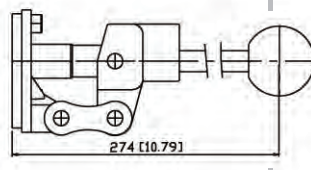
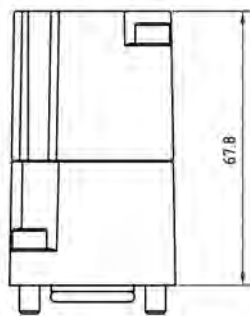
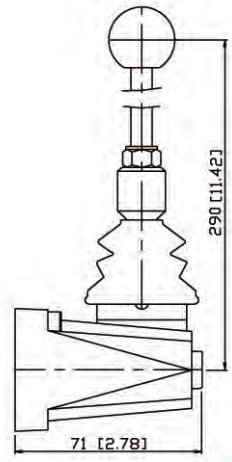
Hybrid Flow System

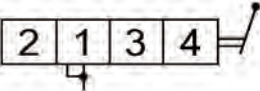
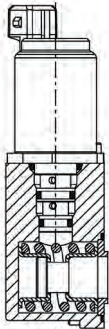
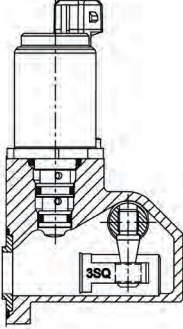
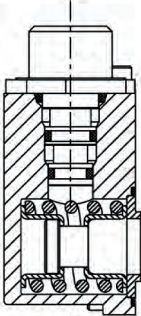
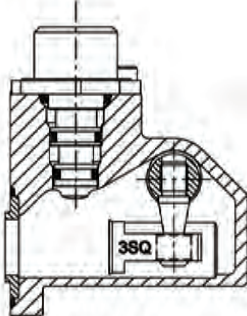
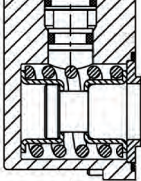
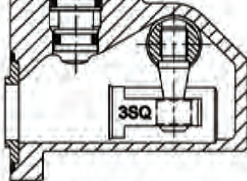
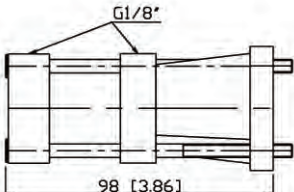
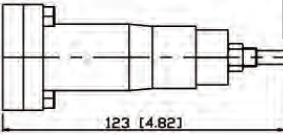
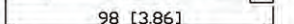
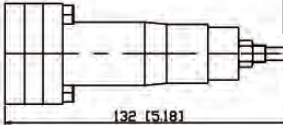
The CV3000 can be equipped with a system where the maximum work port flow can be adjusted, called Hybrid Flow System.

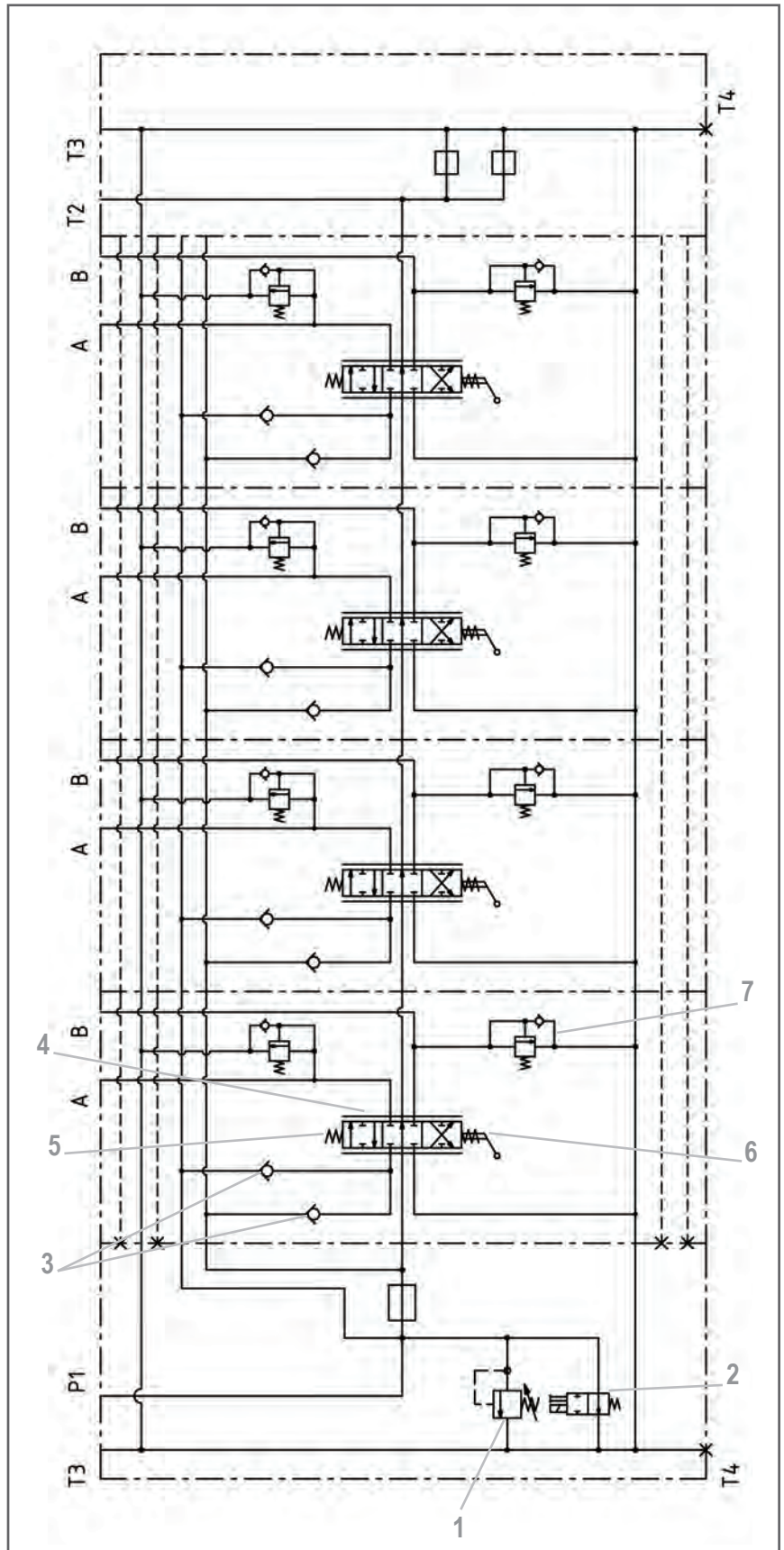
This feature requires specially designed spools tailored to the specific machine application. For more information regarding these systems, contact our factory or any authorized distributor to discuss your specific requirements.



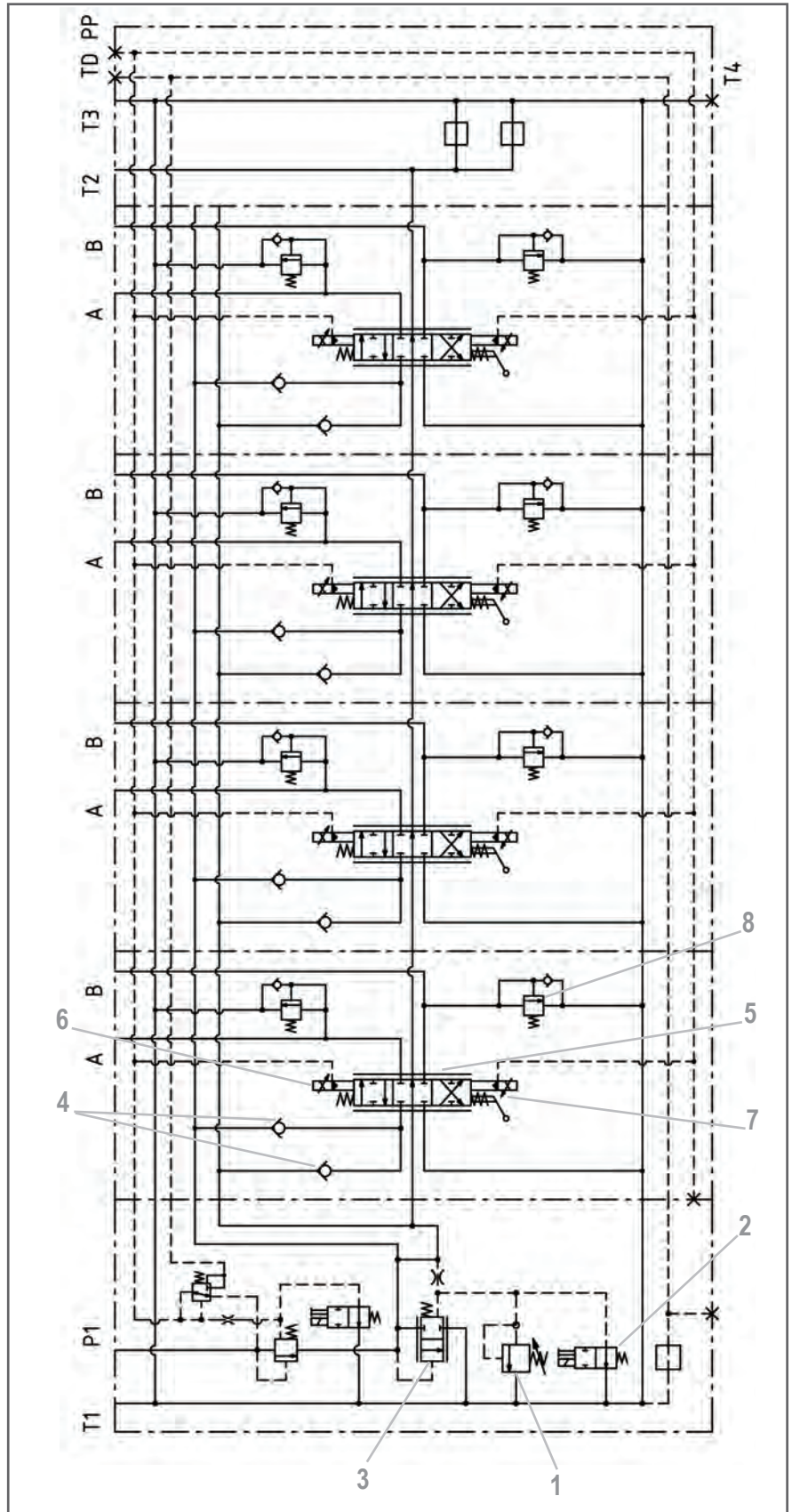
SPOOL CONTROLS

Code	Type	A-side		B-side	Type	Code
9	Spring centered.				Hand lever vertical. Other lengths on request.	S1
					Hand lever horizontal.	S2
10	Detent in position 1, 2 and 3				Standard Hand lever vertical. Encased.	S5
11	Spring centered. Detent in pos. 4.					
12	Spring centered. Detent in pos. 3 and 4.					
13	Spring centered. Detent in pos. 2.					
14	Spring centered. Detent in pos. 3.					
15	Spring centered. Detent in pos. 2 and 4.					
16	Spring centered. Detent in pos. 1, 2, 3 and 4.					

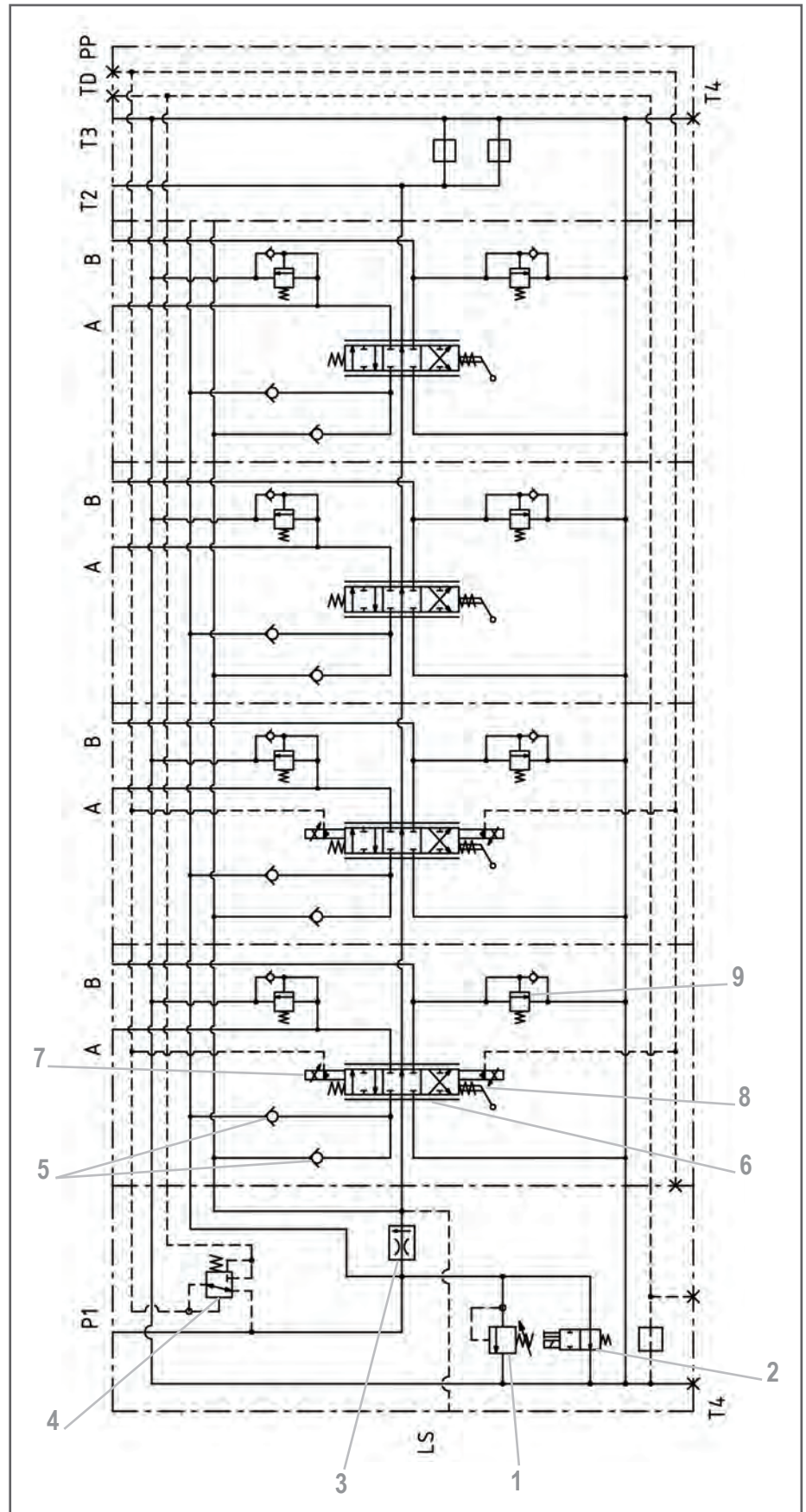
Code	Type	A-side	 B-side	Type	Code
EHP	Electro-hydraulic proportional. 12V/1.5 A 24V/0.75 A			Electro-hydraulic proportional. 12V/1.5 A 24V/0.75 A With manual override	EHP
H	Hydraulic on/off. Pilot pressure			Hydraulic on/off. Pilot pressure	H
HP	Hydraulic proportional. Pilot pressure			Hydraulic proportional. Pilot pressure	HP
P	Pneumatic on/off.		 Wire control for 3-position spool.		3W
PP	Pneumatic proportional.		 Wire control for 4-position spool.		4W



- 1/ Pressure relief valve
- 2/ Solenoid valve for electrical unloading
- 3/ Check valve
- 4/ Spool
- 5/ Spool control A-side
- 6/ Spool control B-side
- 7/ Service port valve



- 1/ Pressure relief valve
- 2/ Solenoid valve for electrical unloading
- 3/ Bypass flow control spool
- 4/ Check valve
- 5/ Spool
- 6/ Spool control A-side
- 7/ Spool control B-side
- 8/ Service port valve



- 1/ Pressure relief valve
- 2/ Solenoid valve for electrical unloading
- 3/ Constant flow control valve for LS-control
- 4/ Pressure reducing/relieving valve
- 5/ Check valve
- 6/ Spool
- 7/ Spool control A-side
- 8/ Spool control B-side
- 9/ Service port valve

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nimco

hydraulic systems

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- Factory
- Distributor