

Directional Control Valve Equipment
for Front End Loaders



CONTENT

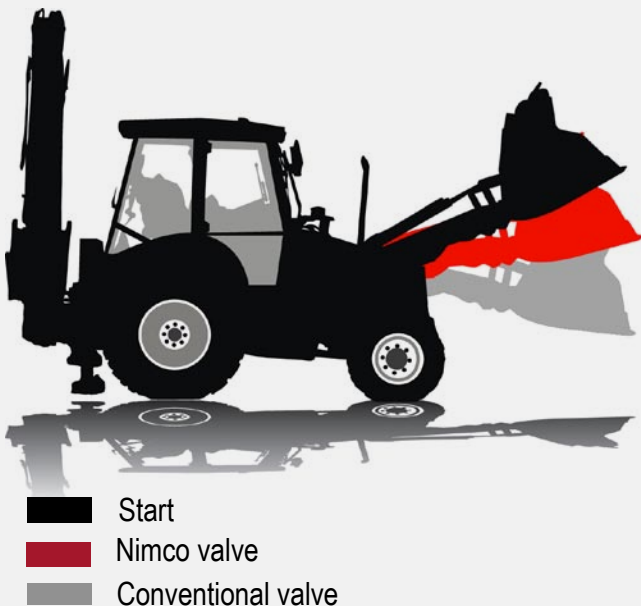
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GENERAL INFORMATION

The agricultural loader market has become far more sophisticated over the last 15 years. The main developments are the use of load sensing pumps on larger tractors, the introduction of more advanced valves that offer very low spool leakage for load-holding operations, and the integration of electrical proportional valves that can offer a number of control options that were not previously possible with earlier hydraulic systems.

Nimco Controls has been at the forefront of this evolution. The company has introduced a number of solutions and has been instrumental in bringing the market to its present technical level, by constantly offering a full state-of-the-art range of open center and load sensing valves covering all tractor and loader sizes.

Complete control. One of the most critical factors for any loader operator today is absolute control of the load at all times. This is made easier by the use of well-designed valves that include load holding check valves and 'turned' spools which not only allow the operator to have absolute control of the load at all times for safety reasons, but also give him the ability to keep the load steady without cylinder drift.



Nimco has solved this problem by offering valves with exceptionally low spool leakage rates, which is the combined result of continuous improvement in the design of the valve itself and the finished spool bore through highly specific spool bore finishing methods. (Comparison of a Nimco low leakage (2 cc/min) valve with competitive model (8 cc/min) on a parked loader, over 10 minutes with a 100 bar load and a 46 cST viscosity.

Nimco Controls offers its customers a leakage rate which is below 2 cc/min on all of its loader valves, which translates to only 0.4 mm per minute cylinder drift. A conventional valve would have 13 mm in cylinder drift over a 10-minute period, while a Nimco valve would have only 4 mm. Considering the geometry of the loader, this has a big effect on where the load ends up over this period of time. This has proved particularly useful when the agricultural loader is being used for precise work such as pallet stacking or animal and goods transporting.

PRECISION LOAD CONTROL

One of the key performance factors in any machine is how well the load is controlled. The machine operators can perform more work in a safer way if they are operating a machine with a well designed Directional Control Valve.

The quality and reputation of a machine is often measured on how well the load is controlled at different stages of the load moving cycle and at different speeds. This requires the valve not only to control the load well when in a single step

operation but also when multiple functions are activated at the same time. This holds true for both Open Center and Load Sensing valves.

Nimco Controls offers valves which can be tailored to each machine specific function and through our special spool design software, we can tailor every function to perform at the optimized speed and with a positive influence of all other functions.

Our Open Center valves are designed to take advantage of the full stroke of the valve and to have the same performance of each valve function even at largely different load weights.

ZERO LEAKAGE

Nimco Controls offers the lowest leakage rates of the market for Directional Spool Control Valves. With special design concepts and manufacturing methods, which have been constantly improved we are able to offer our customers as low as 1 cc/min at 46 cSt leakage rates for certain products and an average of less than 2 cc/min leakage rates for larger valves.

The advantage of low leakage rates over the spool is in the neutral position. Leakage rates as low as 1 cc/min allow customers to avoid using costly over center valves even for applications like support leg functions.

Nimco Controls is synonymous with low leakage Directional Control Valves.

OPEN CENTER TECHNOLOGY

Nimco offers open center valves. We offer all our valves with standard spools which have high resolution metering as well as special tailored spools which are specifically designed to meet any machine specific load control needs. Most of our open center valves can be equipped with secondary valve functions such as relief and anti cavitation functions.

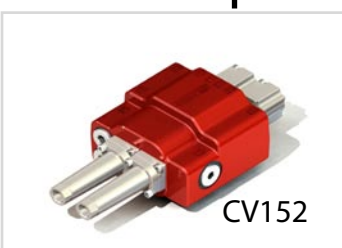
We offer a wide range of Spool Controls including Hand Levers, Cable, and Proportional Hydraulic Controls, as well as Electro Hydraulic, Direct Acting Joystick and Proportional Controls.

For special application valves such as loader valves, have a wide range of different spools been designed for each valve range to give the specific characteristics that loaders require for their applications.

ON DEMAND LOAD SENSING

Most of Nimco's open center valves are designed so that they can be ordered in load sensing version which we call "On Demand Load Sensing". On demand load sensing valves enable the valve to work in a system where a variable displacement pump is the main source of oil and pressure supply.

APPLICATION EXAMPLE FRONT END LOADER



SYSTEM OPTIONS QUICKVIEW

MECHANICAL CABLE CONTROL



Cables



Directional Control Valves



CV112



CV432



CV152



CV452



CV652



QMC152

Quick
Coupler



QMC452

Circuit Selector Valves



SVK



SVB



SVL



Relief Valve Blocks

**HYDRAULIC
CONTROL**



Cables



Directional Control Valves



Quick Coupler



Circuit Selector Valves



SYSTEM OPTIONS OVERVIEW

PROGRAMMABLE ELECTRICAL PROPORTIONAL CONTROL



(See page 36)



(See page 36)

Cables



Directional Control Valves



Quick Coupler



Circuit Selector Valves



Relief Valve Blocks



DIRECT ACTING JOYSTICK

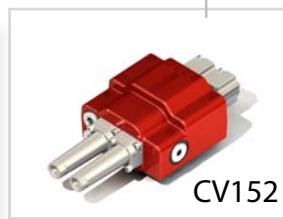
Option for all valve models.



CV112



CV432



CV152



CV452



CV652

Direct Acting Joystick can be used as an option for all Nimco Front End Loader Valves. It can be equipped with a locking mechanism which holds the hand lever in its center position unless deactivated. This safety feature assures unwanted activation of the loader at all times.

The Direct Acting Joystick can also be equipped with an ergonomic handgrip containing up to three switches for the activation of additional 3rd and 4th functions on the loader such as a grapple, etc.

FLOW CAPACITY OVERVIEW



Directional control valves

	Small flow	Medium Flow	Large Flow	Values in lpm(USGpm)
CV112	50 (13)			
CV152	70 (18)			
CV432	80 (21)			
CV452	110 (29)			
EPCV452	110 (29)			
HPCV452	110 (29)			
CV652	120 (32)			
EPCV652	120 (32)			

Circuit Selector valves

	Small flow	Medium Flow	Large Flow
SVK	40 (11)		
SVB	90 (24)		
SVL	90 (24)		

CV112 Compact Size Loader Valve

With a maximum flow rate of 50 l/min, the CV112 loader valve is an option for smaller loaders mounted on tractors. It has proven very popular as it can be equipped with a variety of spools including float and regen, and can be fitted with a direct-acting joystick as well as cable control options. The CV112 valve is also offered in a load sensing version. High Pressure Carry Over is an option.

The CV112 Series Valve is the ideal product for small loaders where cost is the main selection criteria but without compromise on quality features such as low leakage and load control.



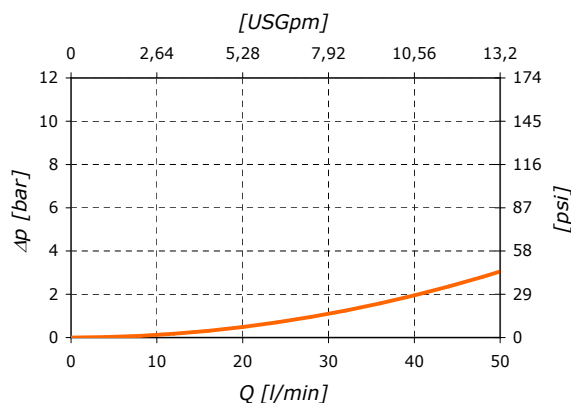
Technical Data

Design	2 Section Monoblock	
Max Pressure Setting	320 bar	4600 psi
Flow Range	50 l/min	13 USGpm
Circuits	Open Center LS Pressure on Demand	
Leakage Rate	2-3 cc/min Standard 1-2 cc/min On Demand	0,122-0,183 in ³ /min 0,061-0,220 in ³ /min
Valve Options	Manual Hand Lever Mechanical Joystick Cable Control Electro Hydraulic Proportional	
Accessories	High Pressure Carry Over Float Regen	

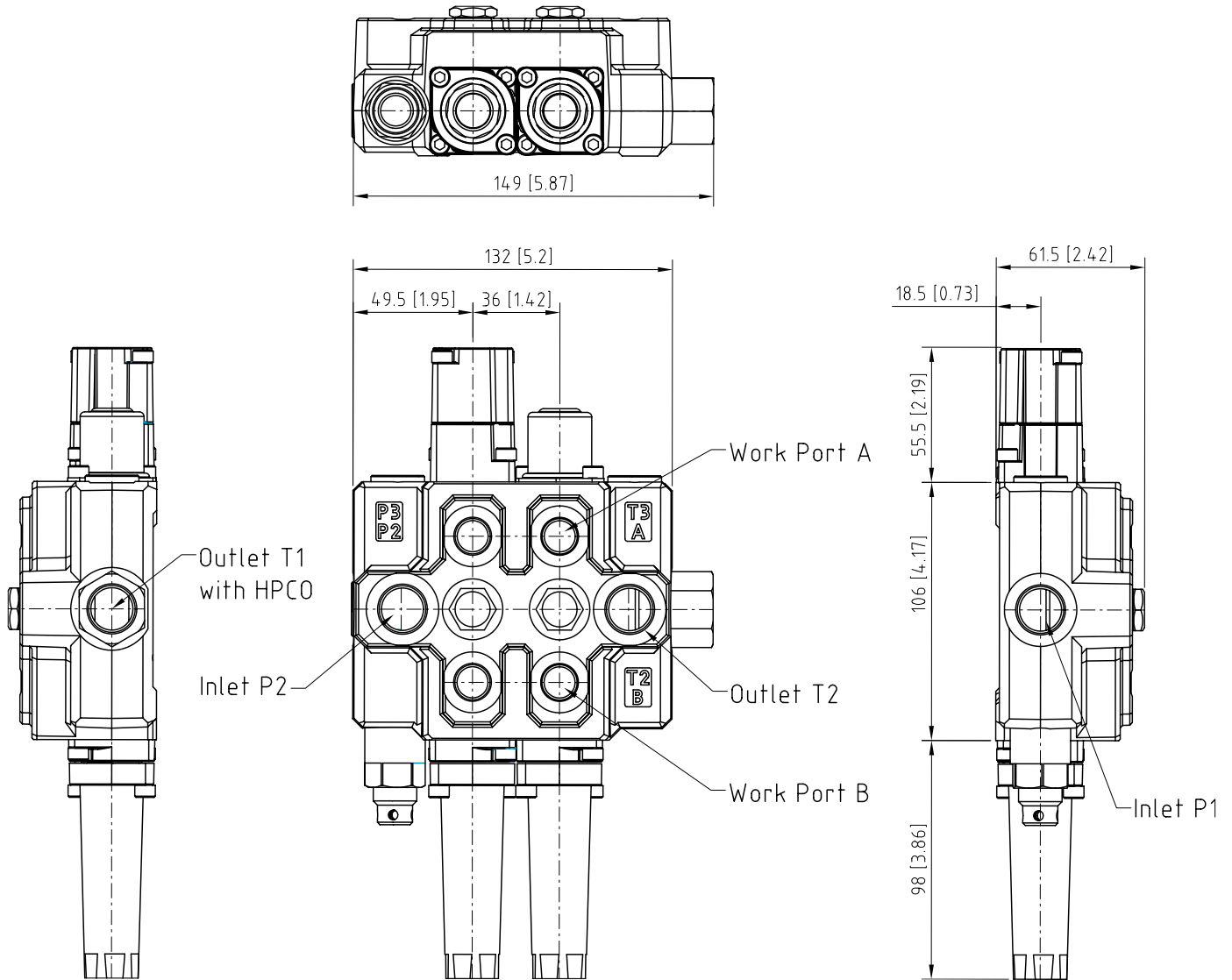
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 3/8	SAE 8
	P2	G 3/8	SAE 8
	P3	G 3/8	SAE 8
Cylinder Ports	A-B	G 3/8	SAE 6
Tank	T1	G 1/2	SAE 10
	T2	G 3/8	SAE 8
	T3	G 3/8	SAE 8
HPCO		G 3/8	SAE 8

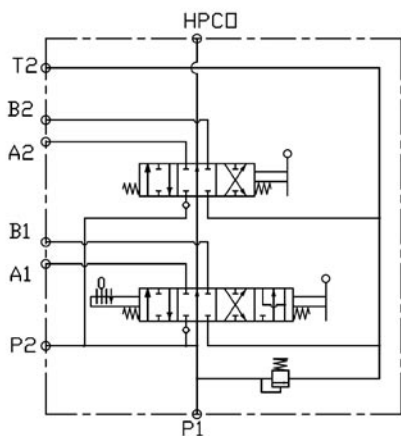
PRESSURE DROP P-T



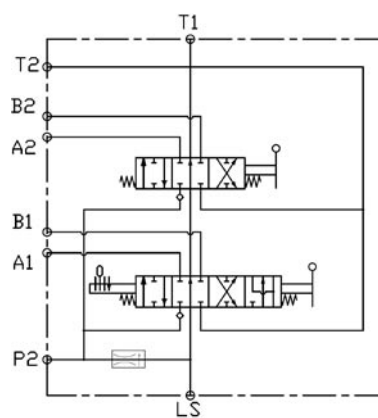
CV112



Open Center



LS Pressure on Demand



CV152 Compact Size Loader Valve

With a flow rate of 70 l/min the CV152 is perfectly suitable for the compact and mid-size loaders. It is a two-spool monoblock valve designed to be used in open center, load sensing or constant pressure hydraulic systems.

The valve can also be serial connected to an Electric 6/2 Circuit Selector Valves by using a High Pressure Carry Over Adaptor (Power Beyond Sleeve).

The CV152 valve has all its ports including Pump and Tank ports facing in one direction which allows for a neat and clean assembly of all hoses facing forward with straight fittings. It also allows for the use of Nimcos small Quick Disconnect Coupling system QMC152 for a quick connect and disconnect and change over of a loader from one tractor to another.



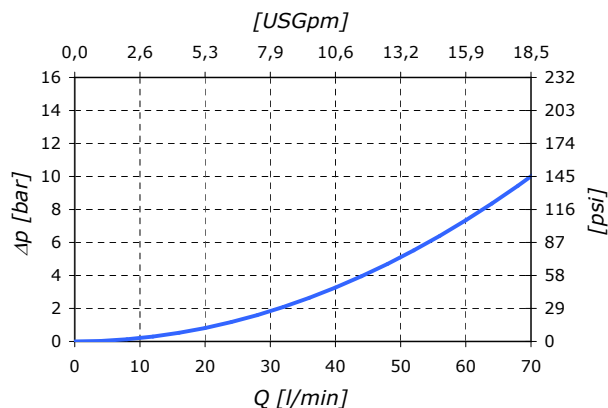
Technical Data

Design	2 Section Monoblock	
Max Pressure Setting	320 bar	4600 psi
Flow Range	70 l/min	18 USGpm
Leakage Rate	2-3 cc/min Standard 1-2 cc/min On Demand	0,122-0,183 in ³ /min 0,061-0,122 in ³ /min
Circuits	Open Center LS Pressure on Demand	
Controls	Manual Hand Lever Mechanical Joystick with integrated Locking Mechanism Cable Control	
Accessories	High pressure Carry Over Quick Coupler QMC152 Float Regen	

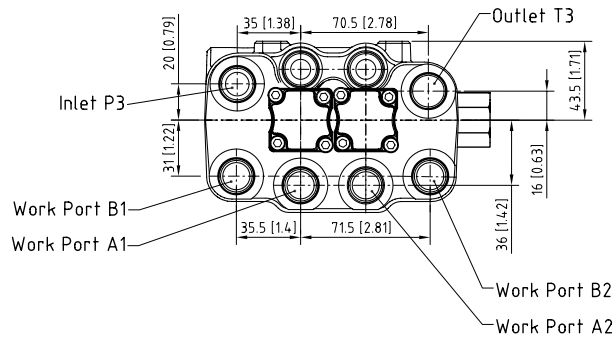
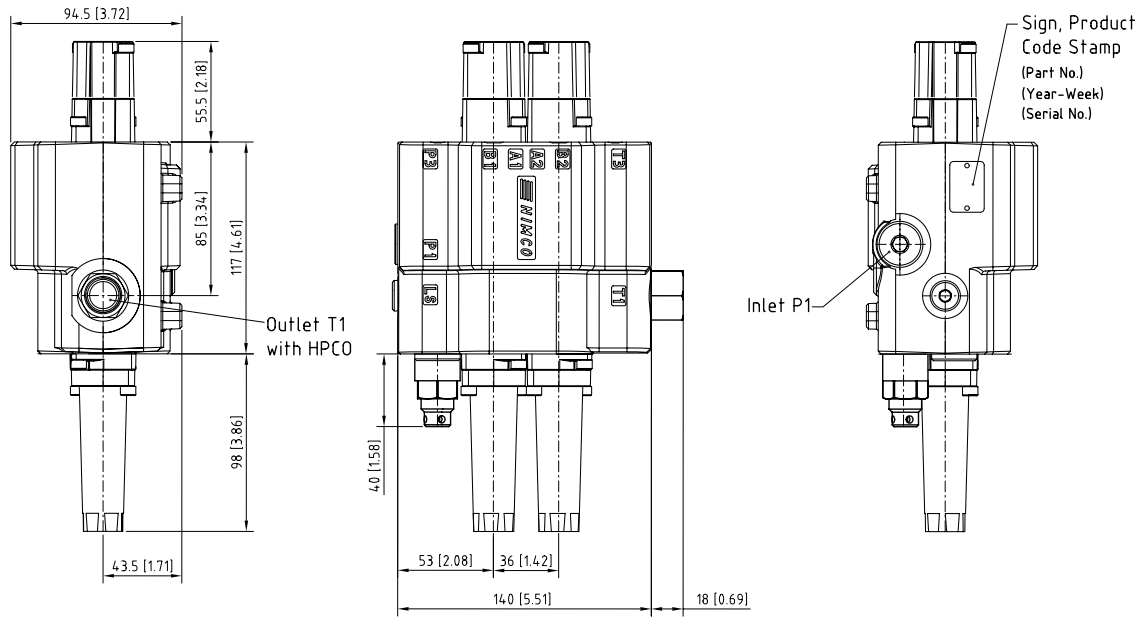
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 3/8 - G 1/2	SAE 8 - SAE 10
	P3	G 3/8 - G 1/2	SAE 8 - SAE 10
Cylinder Ports	A-B	G 3/8 - G 1/2	SAE 8 - SAE 10
Tank	T1	G 1/2 - G 3/4	SAE 10 - SAE 12
	T3	G 3/8 - G 1/2	SAE 8 - SAE 10
HPCO		G 3/8 - G 1/2	SAE 8 - SAE 10

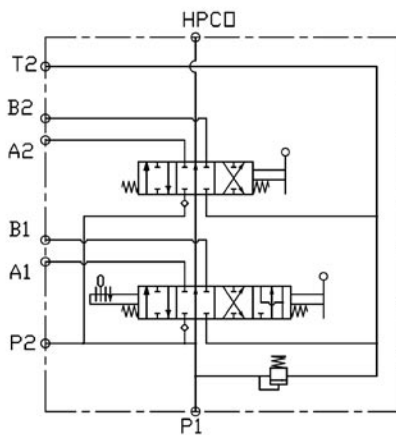
PRESSURE DROP P-T



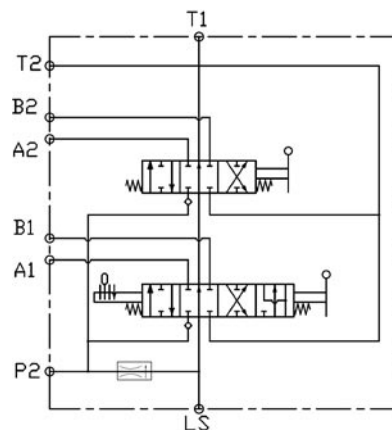
CV152



Open Center



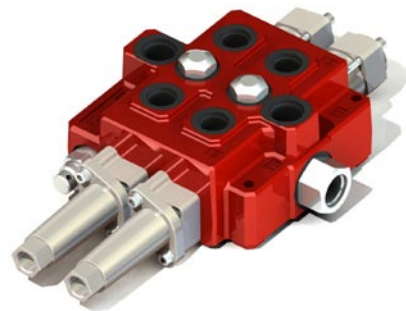
LS Pressure on Demand



CV432 and 432-S Medium Size Loader Valve

The CV432 open center valve is a parallel circuit valve which is designed to operate in open center hydraulic systems up to pressures of 320 bar (4600 psi) and flow rates of up to 80 l/min (21 USGpm). The LS version of the CV432 is designed to operate with a variable pump and in closed center system up to a pressure of 320 bar (4600 psi) and flow rates up to 80 (21USGpm).

The CV432-S is a series valve option which can be used when series circuits are desired for various reasons.



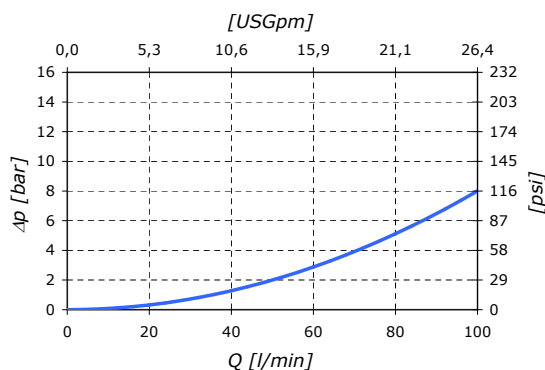
Technical Data

Design	2 Section Monoblock	
Max Pressure Setting	320 bar	4600 psi
Flow Range	100 l/min 70 l/min	26 USGpm 18 USGpm
Leakage Rate	2-3 cc/min Standard 1-2 cc/min On Demand	0,122-0,183 in ³ /min 0,061-0,220 in ³ /min
Circuits	Open Center LS Pressure on Demand Series	
Controls	Manual Hand Lever Mechanical Joystick with integrated Locking Mechanism Cable Control	
Accessories	High Pressure Carry Over Float Regen	

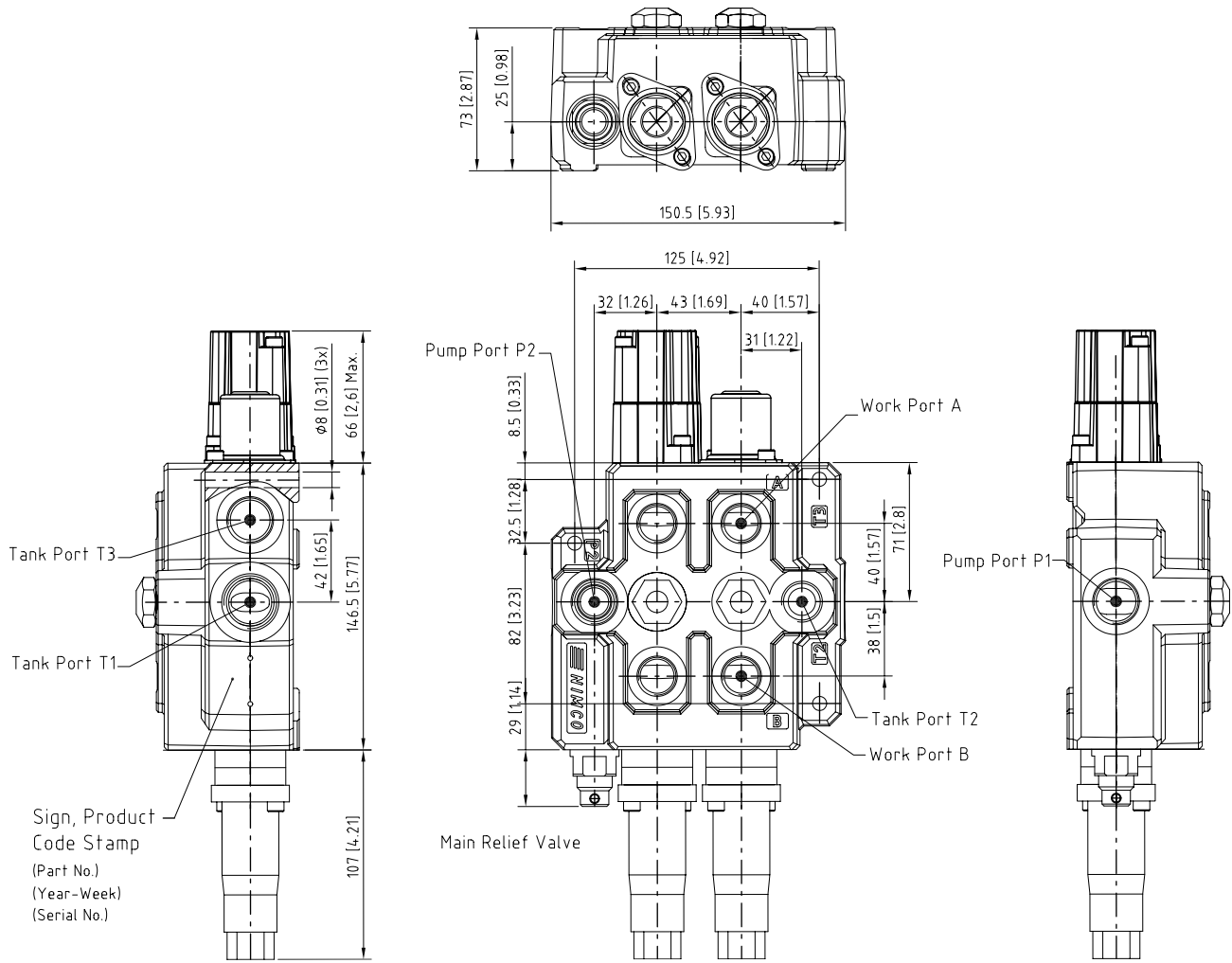
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 1/2	SAE 10
	P2	G 1/2	SAE 10
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 1/2	SAE 10
	T2	G 1/2	SAE 10
	T3	G 3/4	SAE 12
HPCO		G 1/2	SAE 10

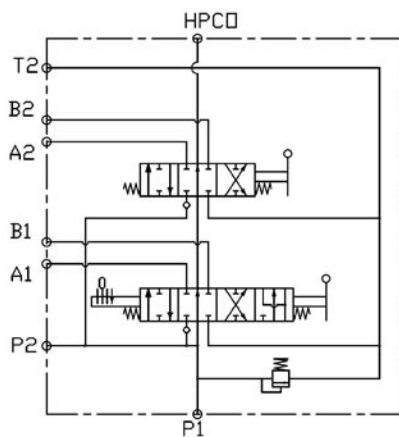
PRESSURE DROP P-T



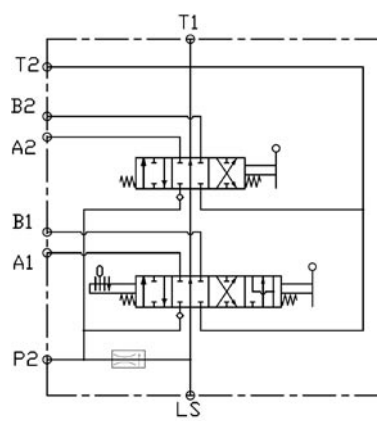
CV432



Open Center



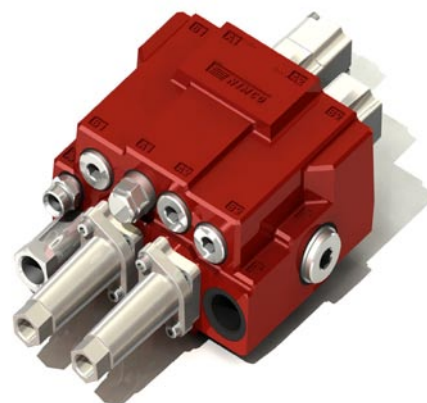
LS Pressure on Demand



CV452 Medium to Large Size Loader Valve

The CV452 is a modular 2-spool monoblock valve, existing in three model designs, open center, constant pressure and load sensing. The open center and constant pressure designs can be serial connected to achieve additional spool functions by using a High Pressure Carry Over fitting allowing the activation of Electrical 6/2 Circuit Selector Valves operating 3rd and 4th functions on a loader such as grapples etc. The valve is designed for a maximum working pressure of 320 bar (4600 psi) with a recommended flow from 15 to 110 l/min (4-29 USGpm).

The CV452 valve has all cylinder ports facing forward allowing all hoses and fittings to be neatly connected from one side of the valve and also to use of Nimcos Quick Disconnect Coupling System QMC452



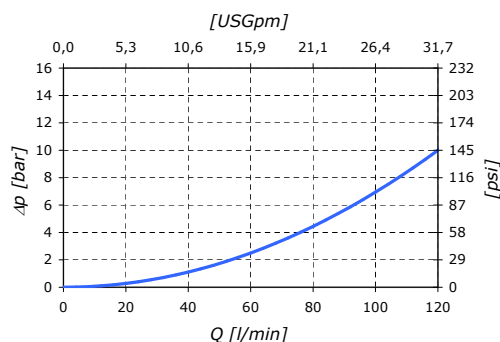
Technical Data

Design	2 Section Monoblock Special Purpose Valve	
Max Pressure Setting	320 bar	4600 psi
Flow Range	110 l/min	29 USGpm
Leakage Rate	2-3 cc/min Standard < 2 cc/min On Demand	0,122-0,183 in ³ /min <0,1220 in ³ /min
Circuits	Open Center LS Pressure on Demand	
Controls	Manual Hand Lever Mechanical Joystick Cable Control Hydraulic Electro Hydraulic Proportional Controls	
Accessories	High pressure Carry Over Float Regen Quick Coupler QMC452 Cylinder Port Relief Valves Cylinder Port Relief Anti Cavitation Valves	

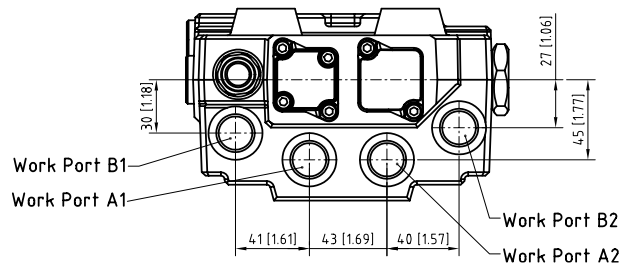
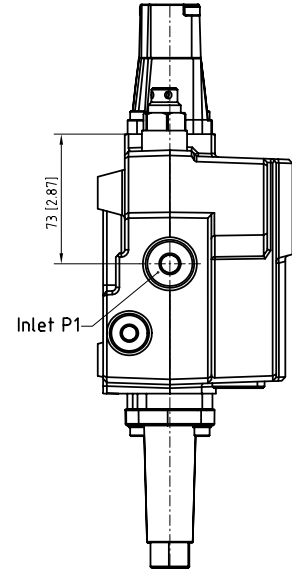
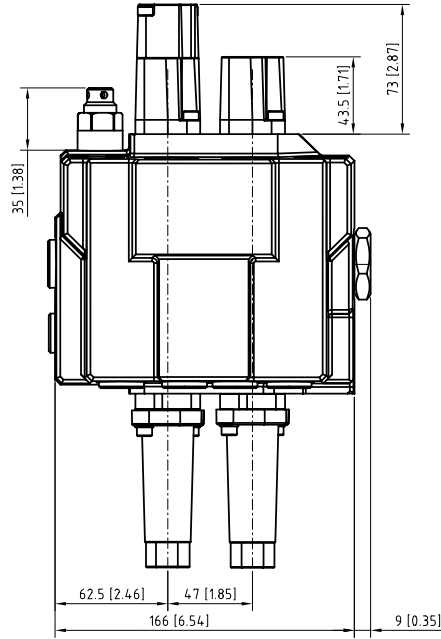
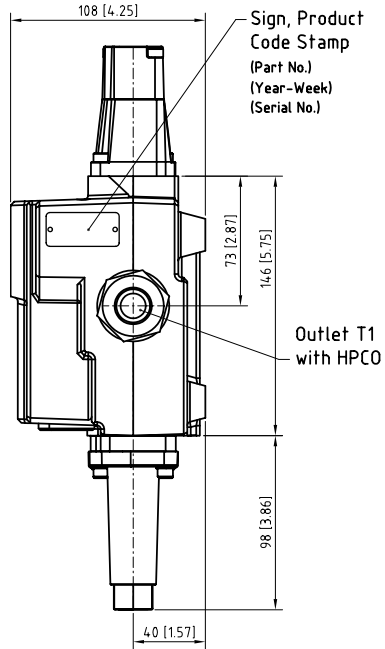
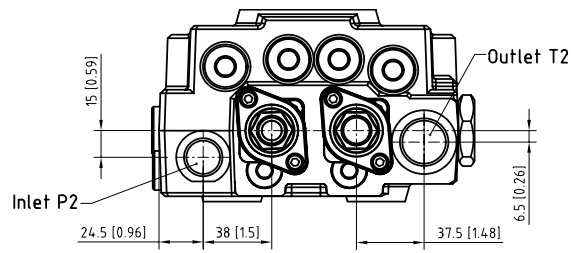
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 1/2	SAE 10
	P2	G 1/2	SAE 10
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 1/2	SAE 10
	T2	G 3/4	SAE 12
HPCO		G 1/2	SAE 8 - SAE 10

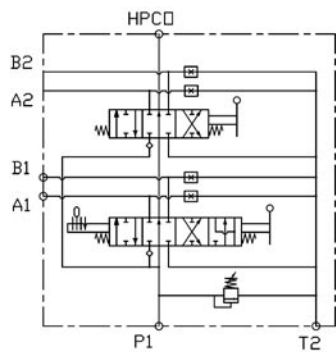
PRESSURE DROP P-T



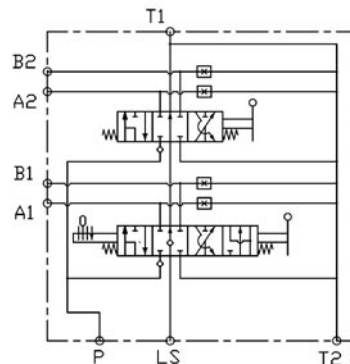
CV452



Open Center



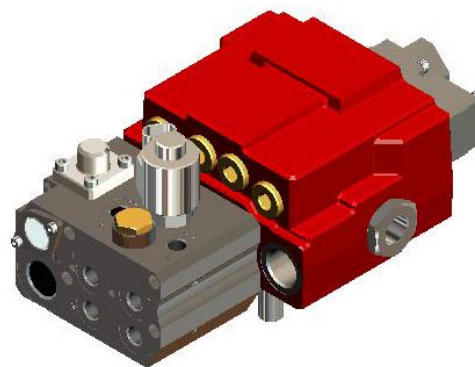
LS Pressure on Demand



HPCV452 Medium and Large Size Loader Valve

Nimco Controls HPCV Hydraulic Proportional Control Valve is ideal for the ergonomic cost effective and trouble free remote operation of front end loaders. The HPCV valve offers the operator fully proportional control of all the functions of a loader including float position.

A complete set including Nimcos Hydraulic Joystick HDC-200 is supplied together with the valve. The HPCV and HDC-200 offer optimal load control ability when used together.



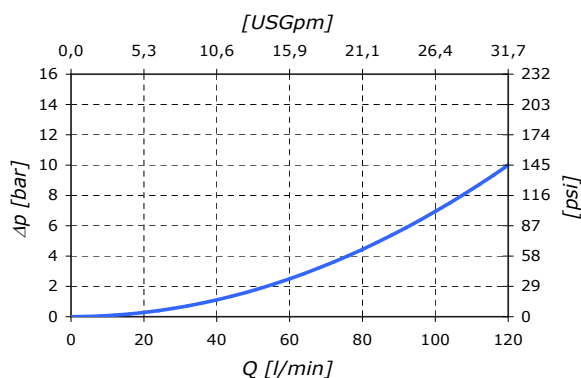
Technical Data

Design	2 Section Monoblock Special Purpose Valve	
Max Pressure Setting	320 bar	4600 psi
Flow Range	110 l/min	29 USGpm
Leakage Rate	3-5 cc/min Standard 2-3 cc/min On Demand	0,183-0,305 in ³ /min 0,122-0,183 in ³ /min
Circuits	Open Center LS Pressure on Demand	
Controls	Hydraulic Proportional HDC-200	
Accessories	High pressure Carry Over Float Position Quick Coupler QMC452 Cylinder Port Relief Valves Cylinder Port Relief Anti Cavitation Valves	

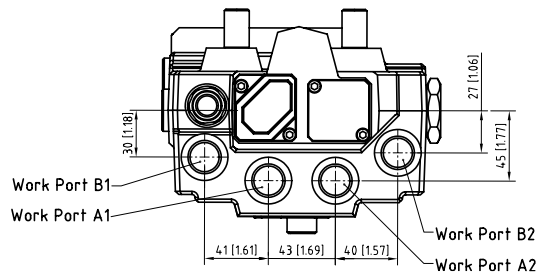
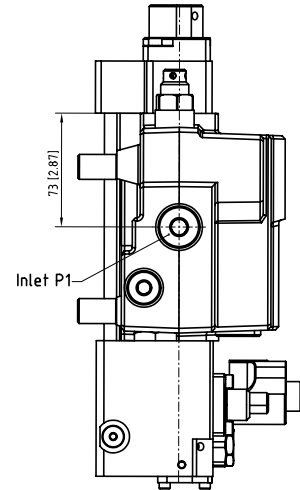
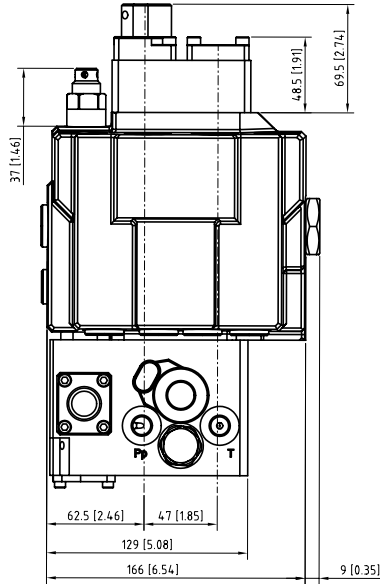
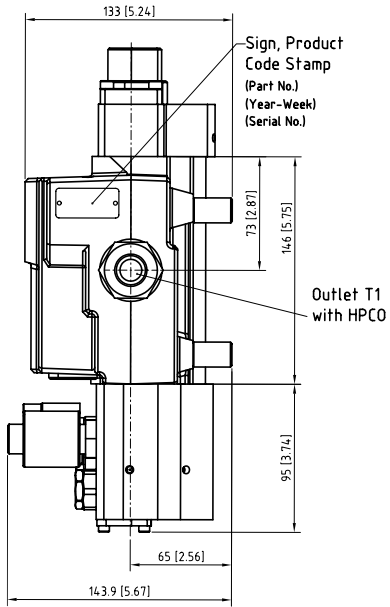
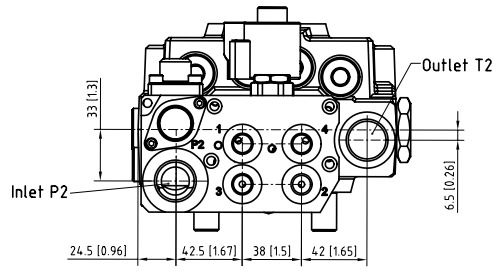
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 1/2	SAE 10
	P2	G 1/2	SAE 10
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 3/4	SAE 12
	T2	G 3/4	SAE 12
HPCO		G 1/2	SAE 8 - SAE 10

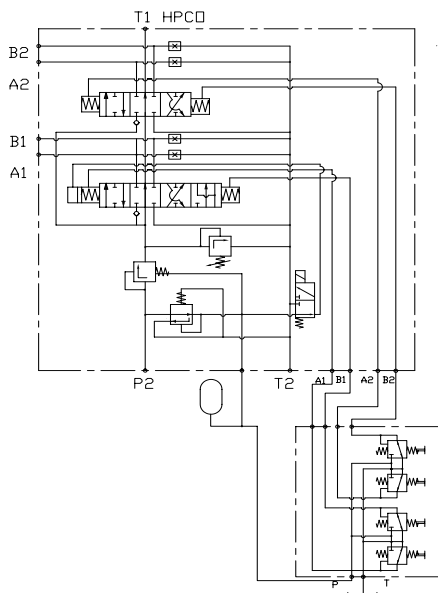
PRESSURE DROP P-T



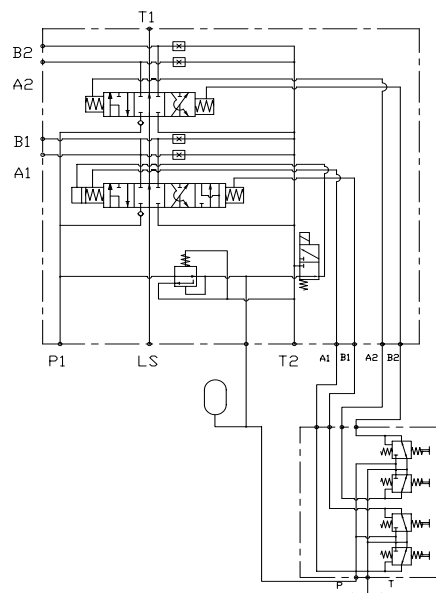
HPCV452



Open Center

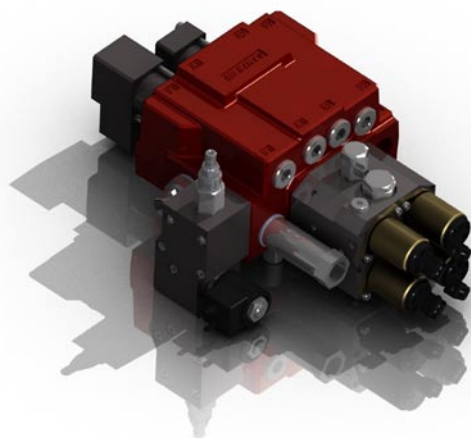


LS Pressure on Demand



EPCV452 Medium and Large Size Loader Valve

The NIMCO EPCV452 is an integrated design where the EPC300 or 700 Electrical Joystick, the CV452 control valve and the Easyprog software have been put together as one unit to offer the machine operator exact load control at all times, regardless of machine load and operating conditions. This means that the loader can be operated with all functions simultaneously or independently on a millimeter by millimeter basis and thereby carry out precise operations that would otherwise not be possible. This is especially useful when the loader is used for such operations as stapling material, planting trees or working in very limited spaces.



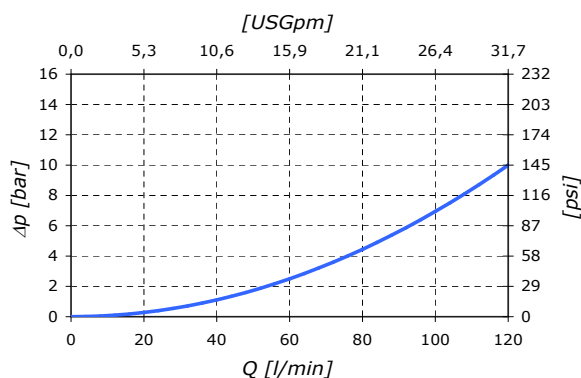
Technical Data

Design	2 Section Monoblock Special Purpose Valve	
Max Pressure Setting	350 bar	4600 psi
Flow Range	110 l/min	29 USGpm
Leakage Rate	3-5 cc/min Standard 2-3 cc/min On Demand	0,183-0,305 in ³ /min 0,122-0,183 in ³ /min
Circuits	Open Center Load Sensing	
Controls	Electro Hydraulic Proportional Controls High Pressure Carry Over Float Quick Coupler QMC452 Cylinder Port Relief Valves	
Accessories	Cylinder Port Relief Anti Cavitation Valves	

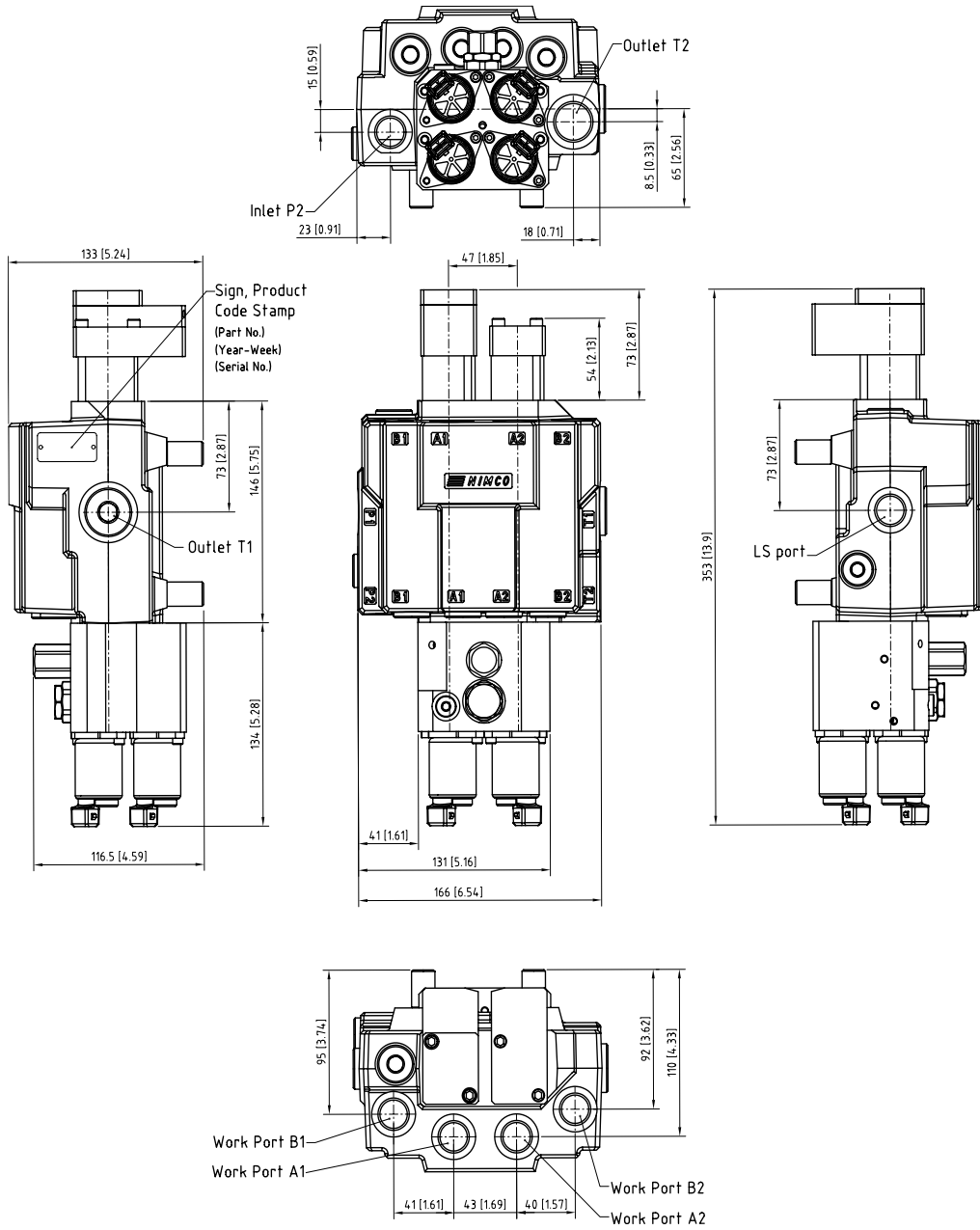
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 1/2	SAE 10
	P2	G 1/2	SAE 10
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 3/4	SAE 12
	T2	G 3/4	SAE 12
HPCO		G 1/2	SAE 8 - SAE 10

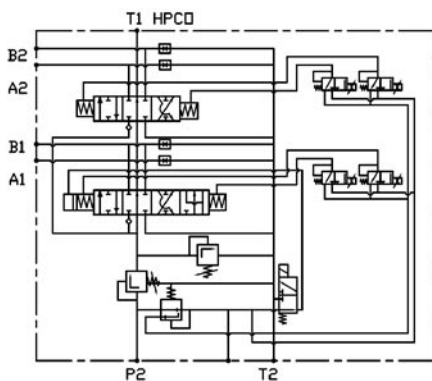
PRESSURE DROP P-T



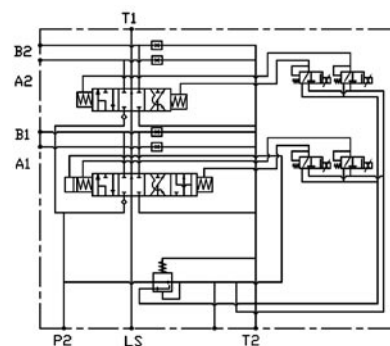
EPCV452



Open Center

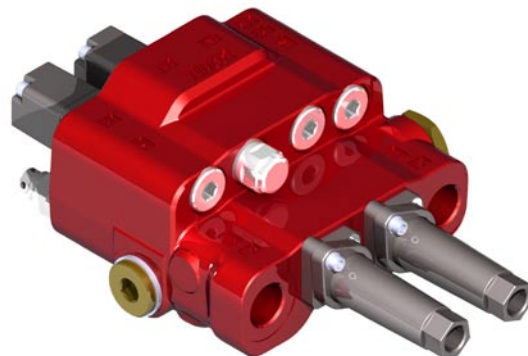


LS Pressure on Demand



CV652 Large Size Loader Valve

The CV652 is a newly developed loader valve for large size loaders. Its premium features include exceptional low pressure drop, unprecedented load control and exceptionally quick Relief valves which are designed with very low hysteresis and close to zero leakage.



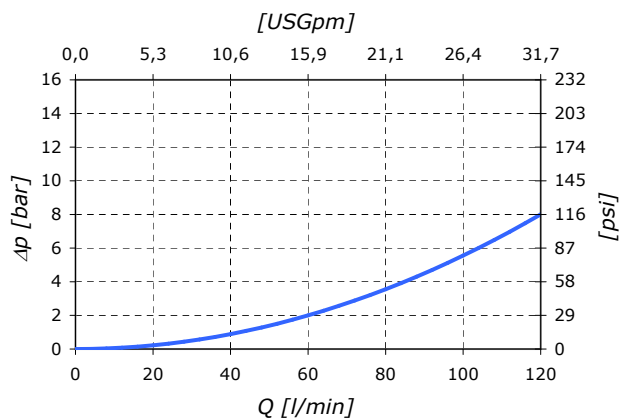
Technical Data

Design	2 Section Monoblock Special Purpose Valve	
Max Pressure Setting	350 bar	4600 psi
Flow Range	120 l/min	32 USGpm
Leakage Rate	3-5 cc/min Standard 2-3 cc/min On Demand	0,183-0,305 in ³ /min 0,122-0,183 in ³ /min
Circuits	Open Center LS Pressure on Demand	
Controls	Manual Hand Lever Mechanical Joystick Cable Control Hydraulic Electro Hydraulic Proportional Controls	
Accessories	High Pressure Carry Over Float Regen Quick Coupler QMC452 Cylinder Port Relief Valves Cylinder Port Relief Anti Cavitation Valves	

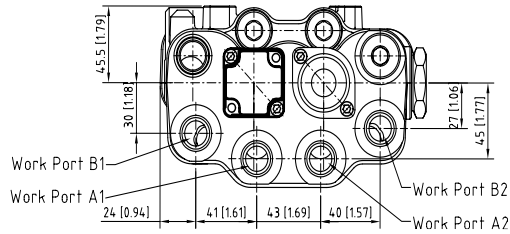
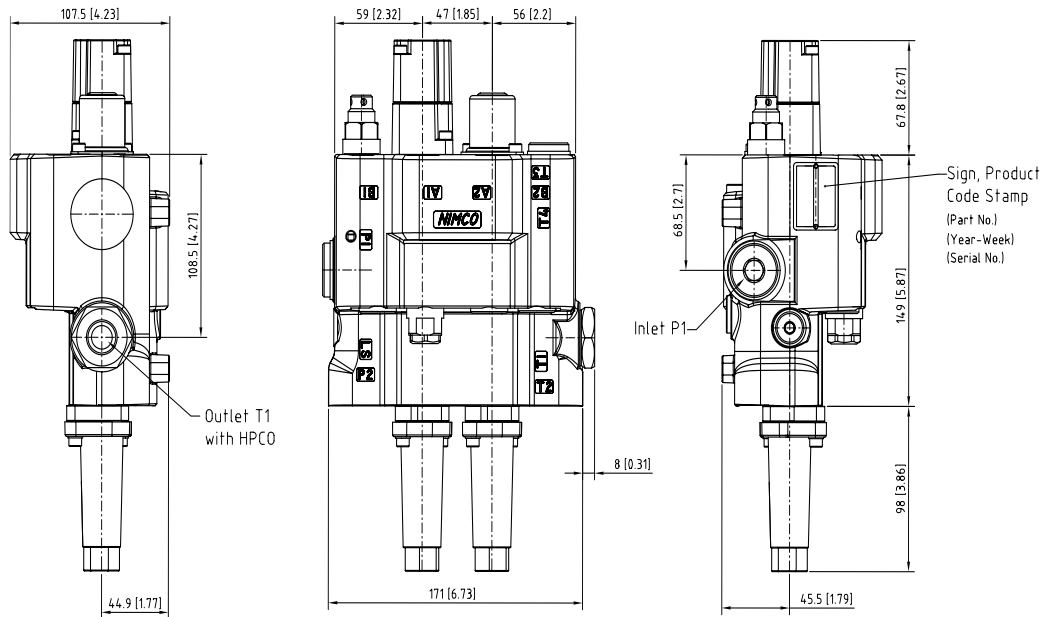
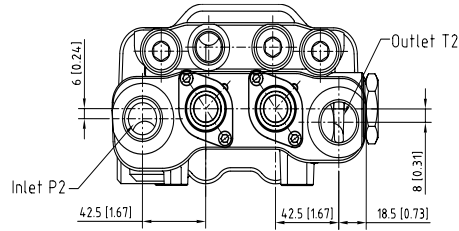
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 3/4	SAE 12
	P2	G 3/4	SAE 12
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 3/4	SAE 12
	T2	G 3/4	SAE 12
HPCO		G 1/2	SAE 8 - SAE 10

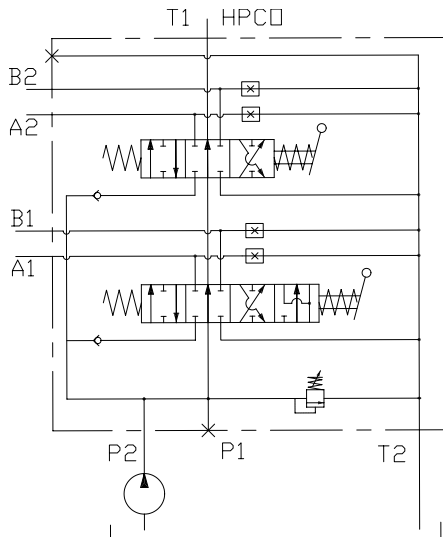
PRESSURE DROP P-T



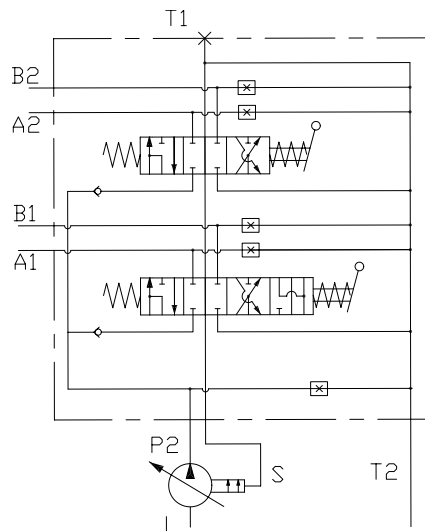
CV652



Open Center



LS Pressure on Demand



EPCV652 Medium and Large Size Loader Valve

The Nimco EPCV652 is an integrated design where the EPC300 or 700 Electrical joystick, the CV652 control valve and the Easyprog software have been put together as one unit to offer the machine operator exact load control at all times, regardless of machine load and operating conditions. This means that the loader can be operated with all functions simultaneously or independently on a millimeter by millimeter basis and thereby carry out precise operations that would otherwise not be possible. This is especially useful when the loader is used for such operations as stapling material, planting trees or working in very limited spaces. The EPCV652 also offers the possibility to completely off load the pressure in the valve and thereby minimize any pressure drop and energy loss when not used.



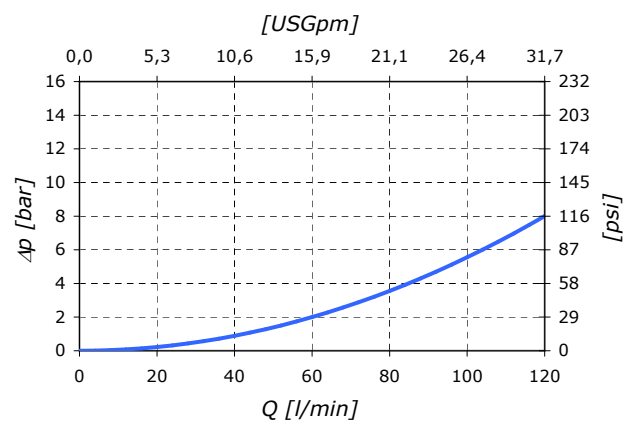
Technical Data

Design	2 Section Monoblock Special Purpose Valve	
Max Pressure Setting	350 bar	4600 psi
Flow Range	120 l/min	32 USGpm
Leakage Rate	3-5 cc/min Standard 2-3 cc/min On Demand	0,183-0,305 in ³ /min 0,122-0,183 in ³ /min
Circuits	Open Center LS Pressure on Demand	
Controls	Electro Hydraulic Proportional Controls	
Accessories	High pressure Carry Over Float Regen Quick Coupler QMC452 Cylinder Port Relief Valves Cylinder Port Relief Anti Cavitation Valves	

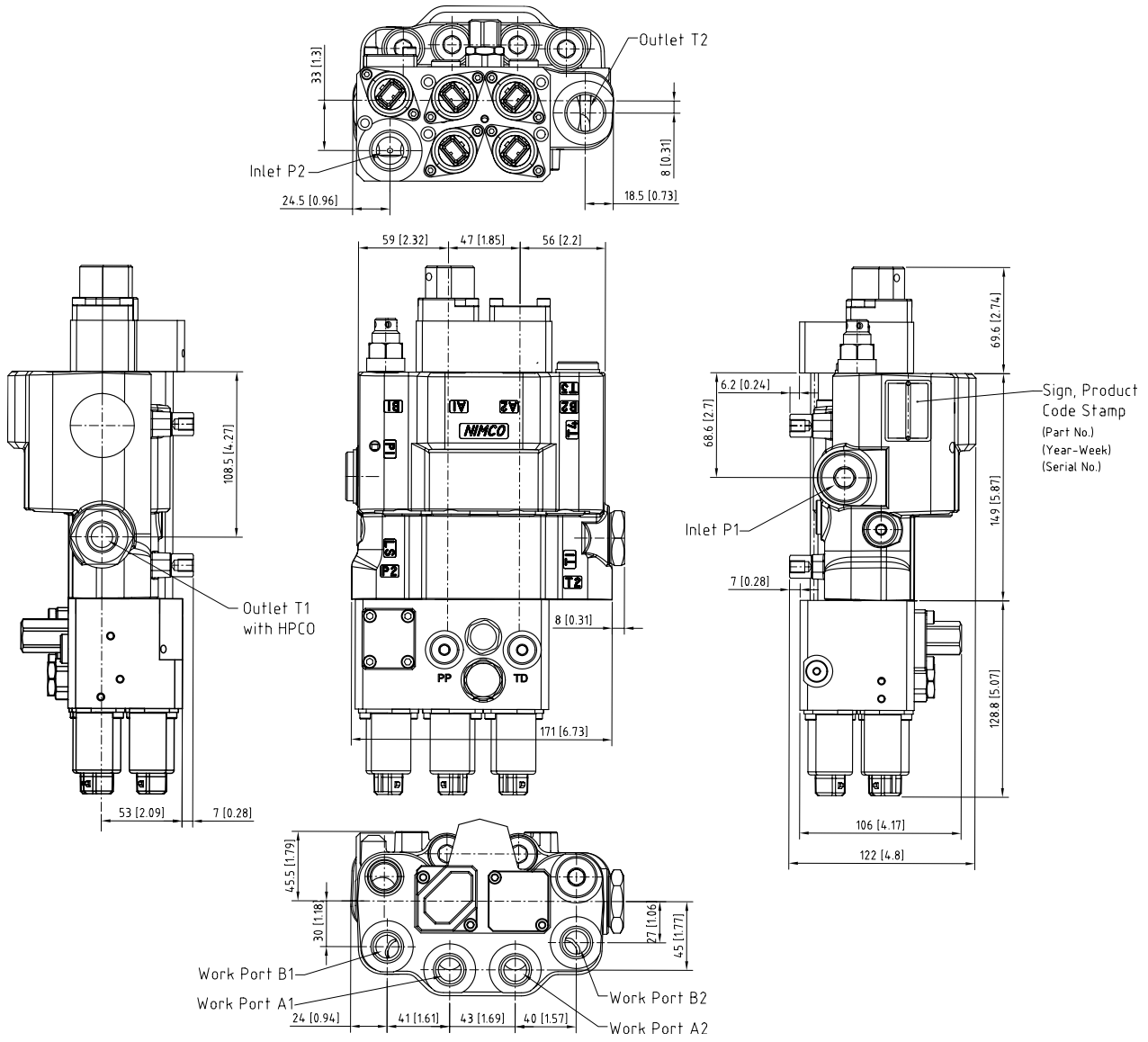
Standard Threads

	Port	BSP	UNF
Inlet	P1	G 3/4	SAE 12
	P2	G 3/4	SAE 12
Cylinder Ports	A-B	G 1/2	SAE 10
Tank	T1	G 3/4	SAE 12
	T2	G 3/4	SAE 12
HPCO		G 1/2	SAE 8

PRESSURE DROP P-T

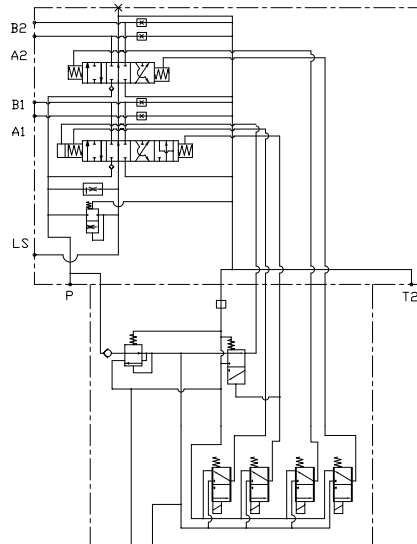
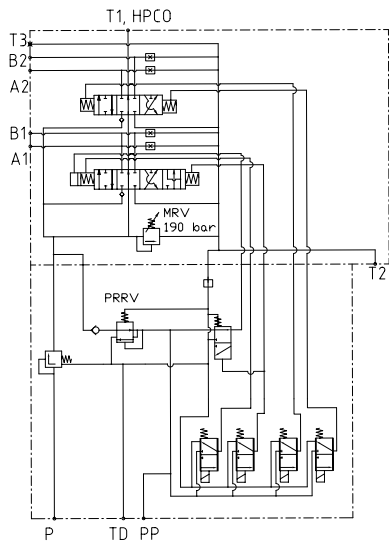


EPCV652



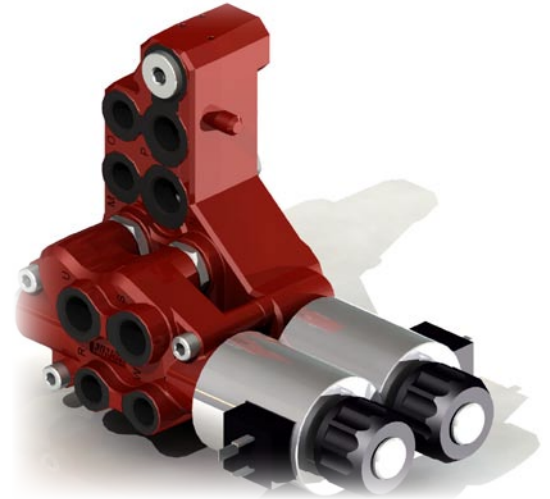
Open Center

LS Pressure on Demand



SVL Circuit Selector Valve

The special SVL series multifunction loader accessory valve is designed to be assembled directly on to the cross beam of the loader. It serves as a connecting point between the pipes and hoses of the upper part of the loader – the lifting cylinders, the lower part of the loader and the tilting cylinders. It also has the option of up to five different hydraulic functions build in to one block. Its smart design allows the machine builder to improve visibility of the load and save cost on couplings and fittings as well as reducing costly assembly times. The valve functions that can be integrated in the SVL block is one or two electrical 6/2 circuit selector valves for 3rd and 4th function activation, cross over relief valves to eliminate hydraulic pressure overload, electrical or manual activation of a hydraulic accumulator as well as electrically activated tool locking. All electrical hydraulic activations are dimensioned so that all functions can be operated and shifted over at full flow and pressure to ensure safety and reliability.



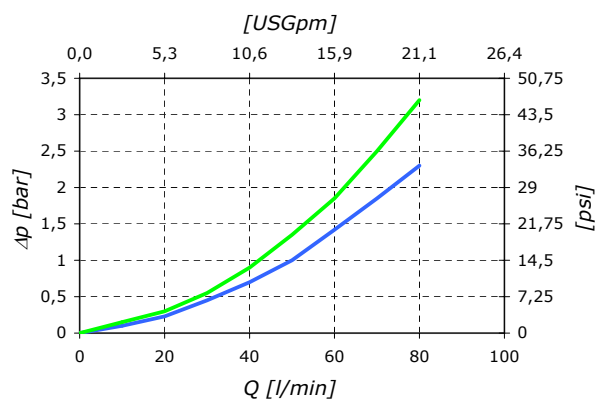
Technical Data

Design	6/2 and 8/2 way integrated circuit selector valves with 12 V electrically activated with 5 Volt. Special Purpose Valve Up to 5 integrated functions in one block	
Max Pressure Setting	280 bar	4100 psi
Flow Range	90 l/min	24 USGpm
Leakage Rates	Circuit Selector Valves: < 2 cc/min Cross Over Relief Vales: < 0,1 cc/min Accumulator Valve: < 0,1 cc/min Tool Locking Valve: 0,00 cc/min	0,12 in ³ /min 0,001 in ³ /min 0,061 in ³ /min 0,000 in ³ /min
Circuits	Circuit Selector 6/2, 8/2	
Controls	Direct Acting Solenoid 12 VDC	
Accessories	Cross Over Relief Valves Electrical or Manual Accumulator Activation Valve Electrical Hydraulic Tool Locking Valve	

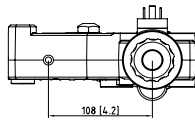
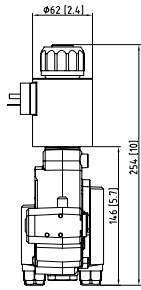
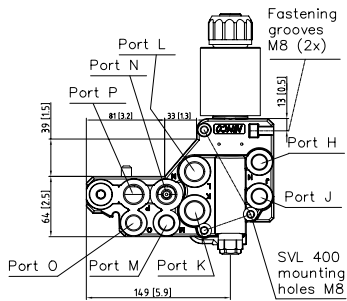
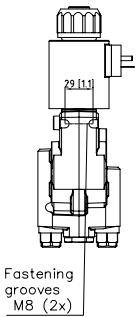
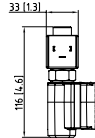
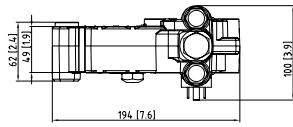
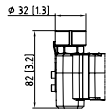
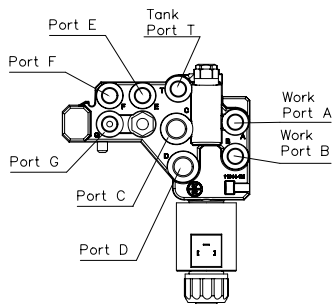
Standard Threads

	BSP	UNF
Cylinder Ports	G 3/8 - G 1/2	SAE 6 - SAE 8

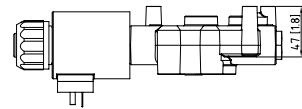
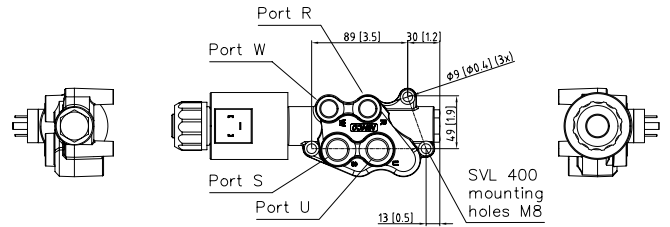
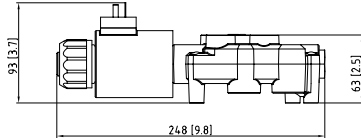
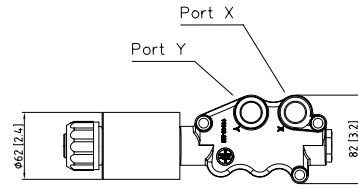
Pressure Drop Ports



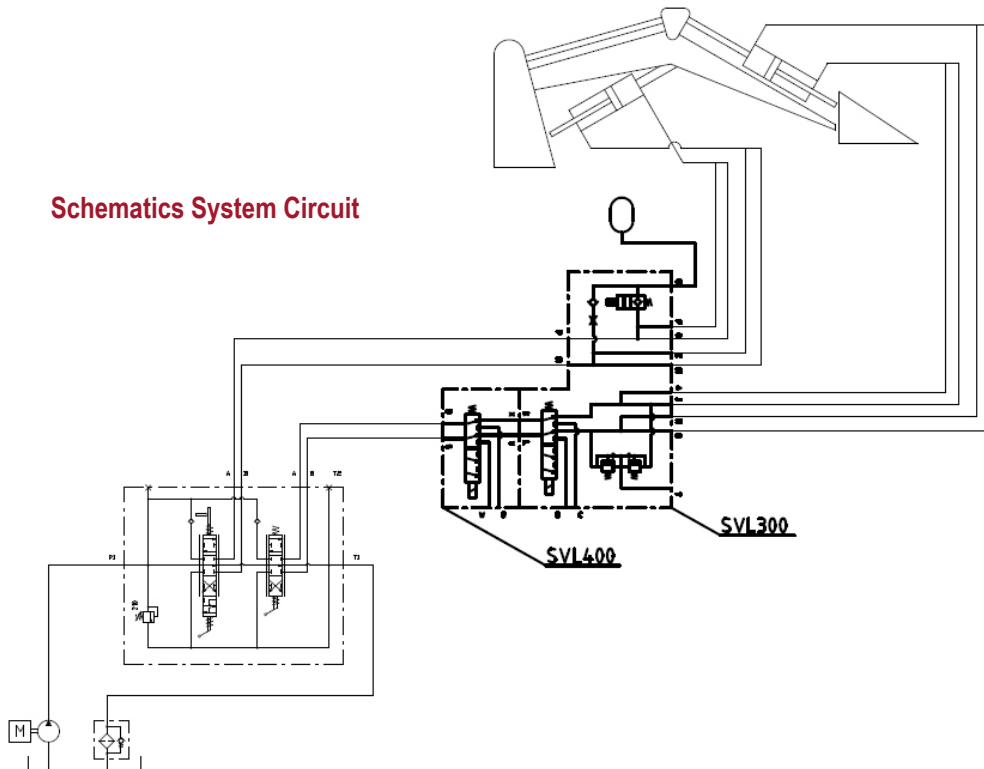
SVL300



SVL400



Schematics System Circuit



SVB Circuit Selector Valve

The SVB 03 and SVB 04 stackable 6 port/2 way change over valves are designed to be used when extra circuits are to be operated from one control lever on front end loaders. The SVB can be stacked up to 3 valves allowing for the diverting of flow 2, 3 or 4 directions depending on the combination chosen. It can be activated with a simple electrical button in the hand grip.

The SVB valves can also be equipped with a block containing cross over relief valves for bucket protection. With the direct acting heavy duty solenoid, change over at full flow and pressure is assured.



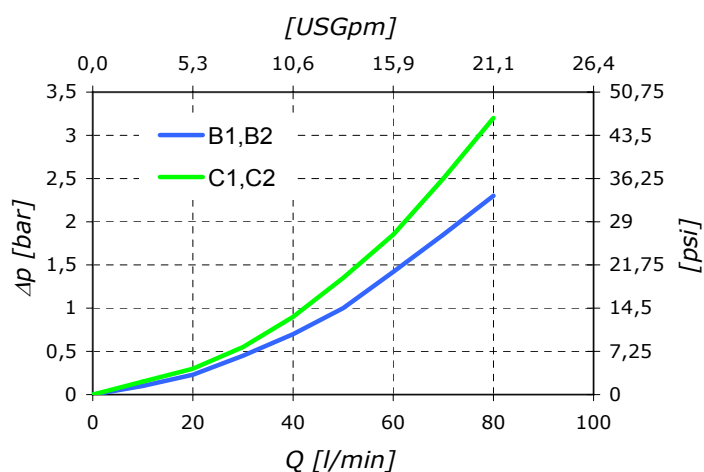
Technical Data

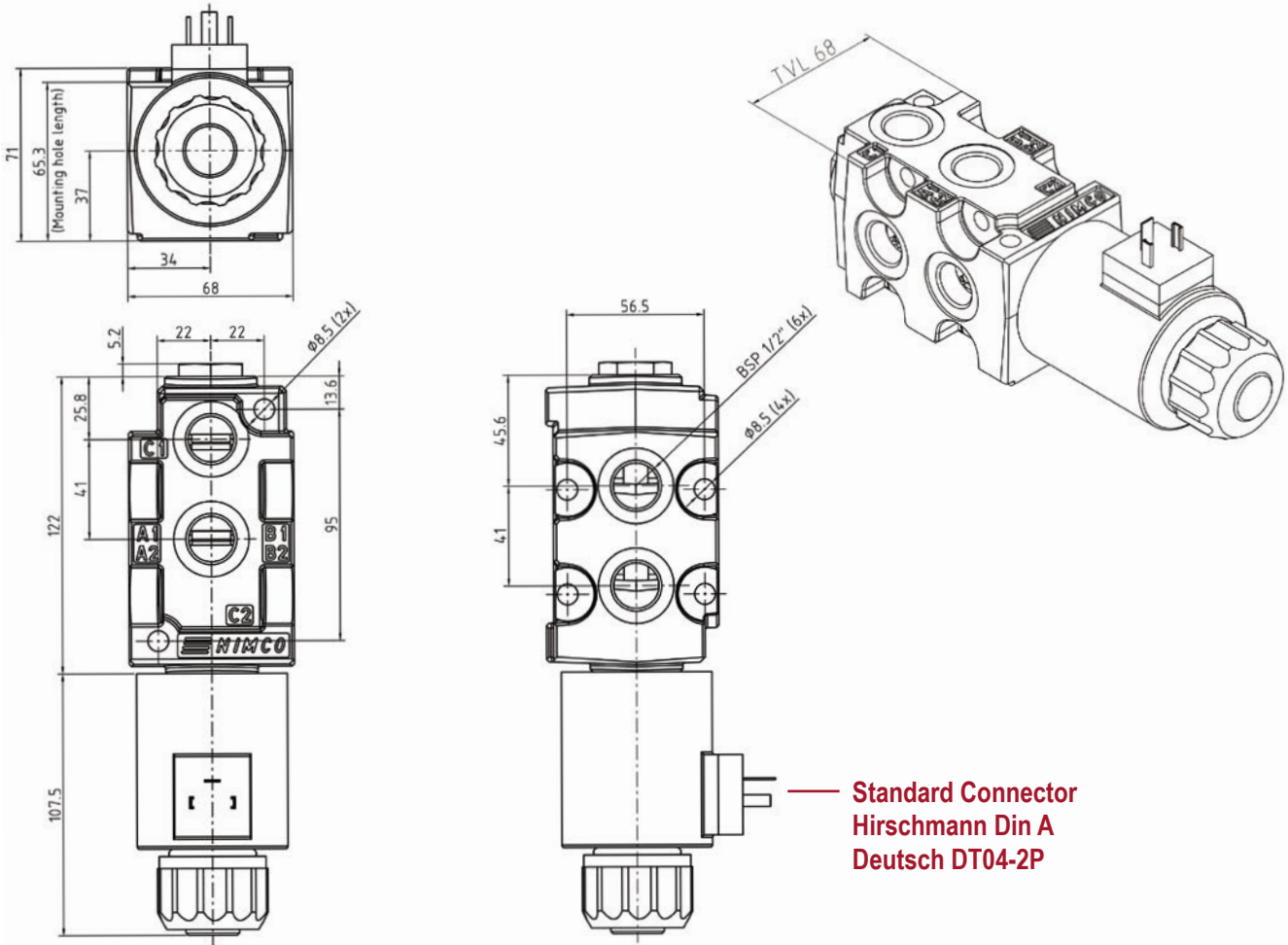
Design	6/2 Section Circuit Selector Bankable up to three units, 8/2 and 10/2 valves	
Max Pressure Setting	280 bar	4100 psi
Flow Range	90 l/min	24 USGpm
Leakage Rates	Circuit Selector Valves: < 2 cc/min Cross Over Relief Vales: < 0,1 cc/min -Optional	0,12 in ³ /min 0,006 in ³ /mi
Circuits	Circuit Selector diverting one flow to two or more user functions	
Controls	Direct Acting Solenoid 12/24 VDC	
Accessories	Bolt-On Cross Over Relief Valve Manifold	

Standard Threads

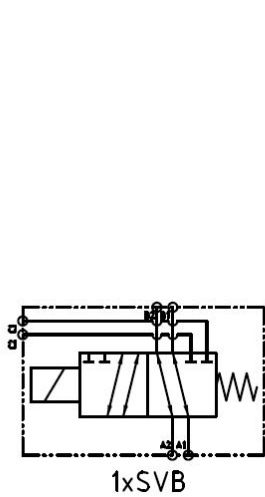
	BSP	UNF
Cylinder Ports	G 3/8 - G 1/2	SAE 6 - SAE 8

Pressure Drop Ports

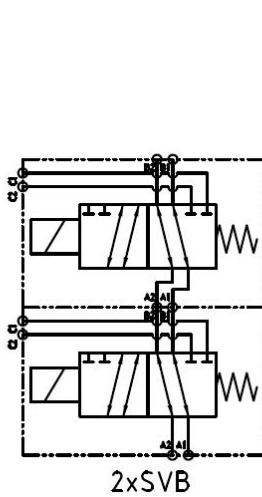




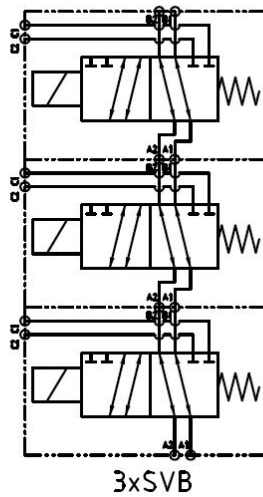
Standard Connector
Hirschmann Din A
Deutsch DT04-2P



Circuit Selector
6/2 12/24 VDC



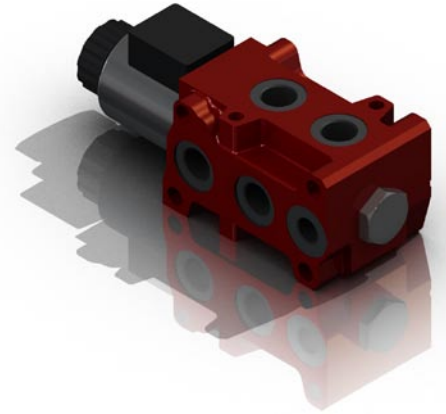
Circuit Selector
8/2 12/24 VDC



Circuit Selector
10/2 12/24 VDC

SVK Circuit Selector Valve

The SVK is a small stackable 6 port/2 way change over valves are designed to be used when extra circuits are to be operated from one control lever on machines such as front end loaders. The SVK can be stacked up to 3 valves allowing for the diverting of flow 2, 3 or 4 directions depending on the combination chosen.



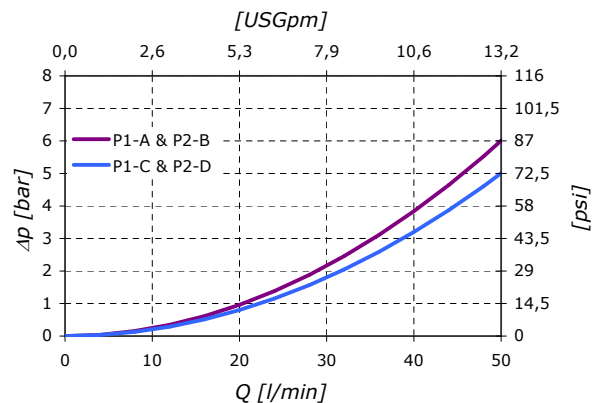
Technical Data

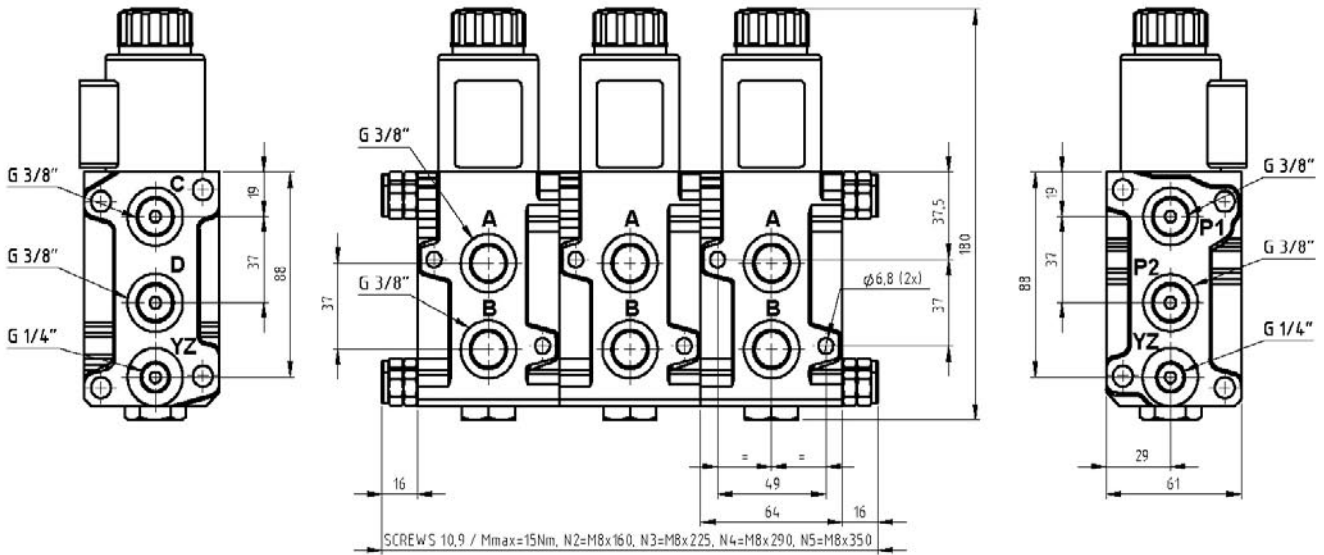
Design	6/2 Section Circuit Selector Bankable up to three units	
Max Pressure Setting	250 bar	3630 psi
Flow Range	40 l/min	11 USGpm
Leakage Rates	Circuit Selector Valves: < 2 cc/min Cross Over Relief Vales: < 0,1 cc/min -Optional	0,120 in ³ /min 0,006 in ³ /min
Circuits	Circuit Selector	
Controls	Direct Acting Soleniod 12/24 VDC	

Standard Threads

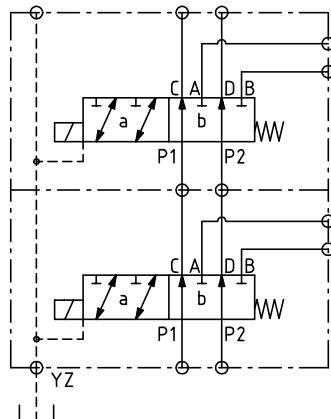
	BSP	UNF
Cylinder Ports	G 3/8 - G 1/2	SAE 6 - SAE 8

PRESSURE DROPS





Schematics of two SVK valves assembled together allowing one flow to be diverted to two different functions one at a time



WK300 Cable Control

The WK300 is a new generation cable control joystick designed to meet today's machine operators requirement : ergonomic design, low operating efforts and long life.

The joystick design allows the hand lever, via its base plate, to operate directly on to the cable and thereby avoid any loss of stroke as with other conventional cable controls. This, in combination with low friction cables and low spring forces in the valve, allows the operator to utilize the entire lever stroke when operating the spool and thereby enhancing load control and safety. All the parts including the base plate, the base foundation, the lever and the handgrips are designed and tested to withstand over 1 million cycles.

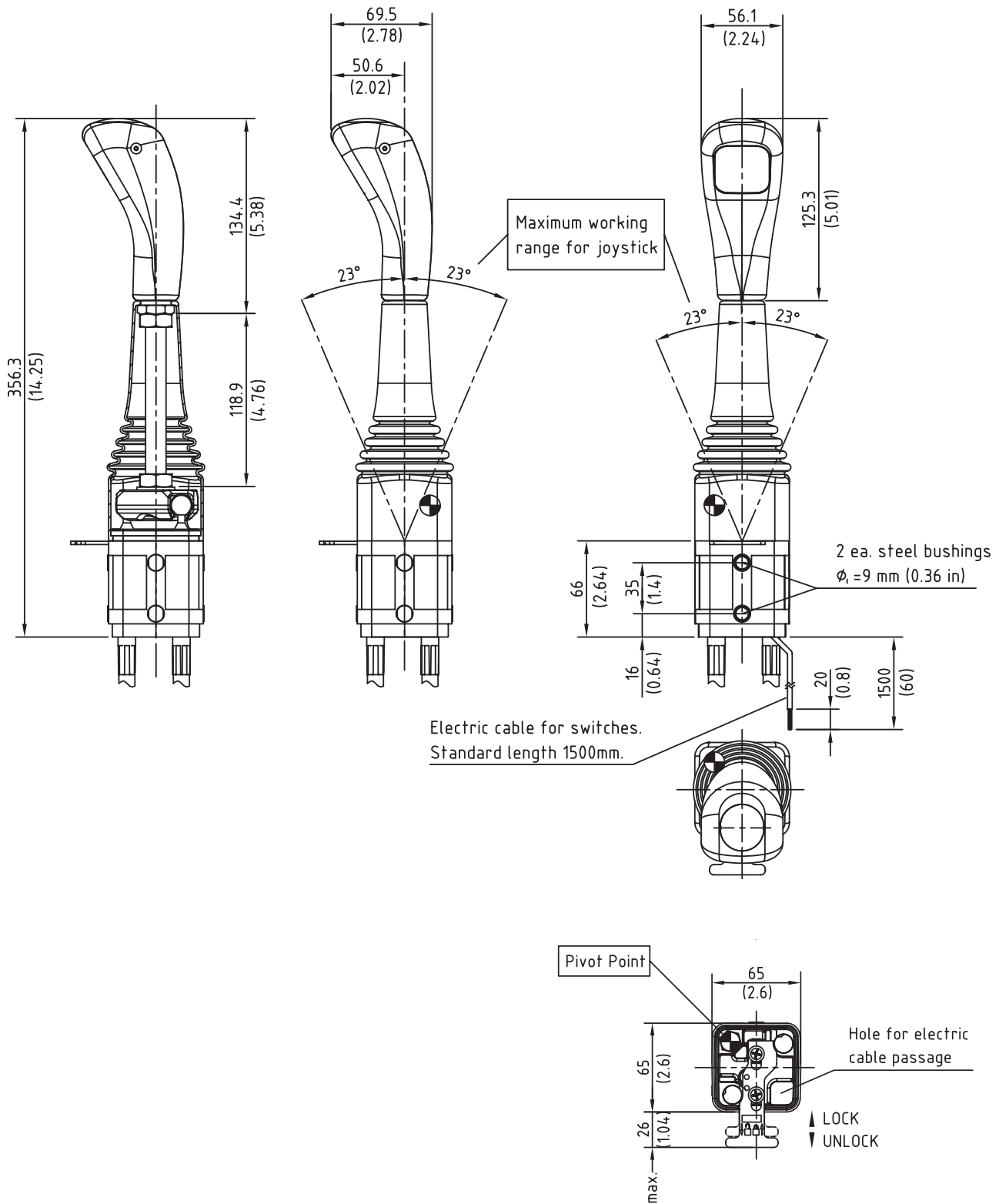
WK300 is equipped with a square base which allows for easy slide in and slide out mechanical locking mechanism to be directed in any desired direction. WK300 is available with a steel reinforced PVC-material for long life or in a Zamac Alloy base version.



Technical Data

Design	Wire Control - 1 or 2 axis
Key Features	<ul style="list-style-type: none"> Reinforced Ergonomic Handgrip Up to 3 EI- Switches (6A) -ON/OFF Door Bell Type Easy to reach locking mechanism Possibility to integrate customized logo or movement diagram on top of the handle Robust and maintenance free Easy to assemble Possible to change the number of EI. Switches
Other Options	<ul style="list-style-type: none"> Special Heavy-Duty Handgrip Special wiring where only one electrical function can be activated at one time

WK 300



EPC700 EHP Control

The EPC 700 is a two axis heavy duty analogue control joystick. Angular operating range is $\pm 25^\circ$ in both directions and the operating principle is non-contacting rotating magnetic field over hall-sensor. It is short circuit-proof (short circuit duration: unlimited).



Technical Data

Design	Joystick 2 Axis Heavy Duty
Key Features	Max 3 Potentiometers and Max 6 Push Buttons Left and right hand version

EPC300 EHP Control

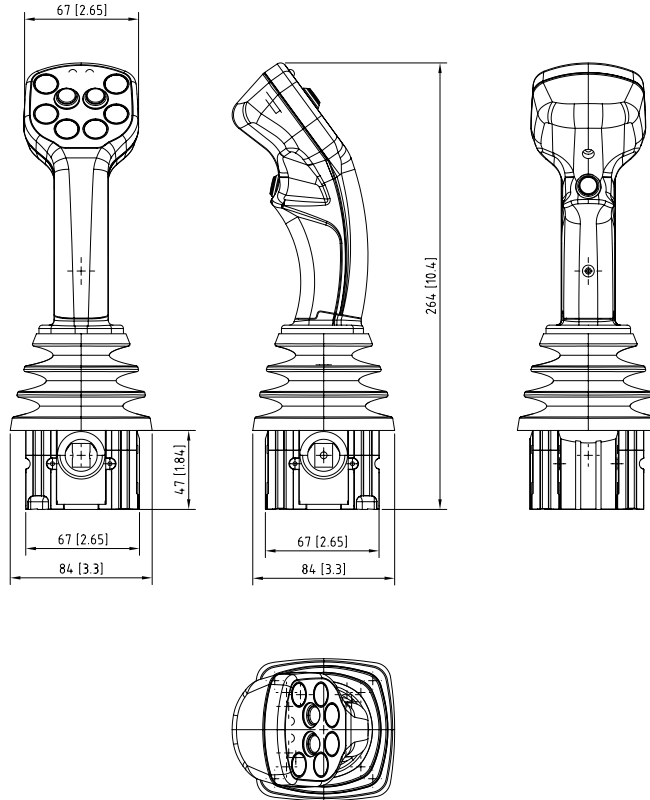
The EPC300 is a two axis analogue control joystick. Angular operating range is $\pm 20^\circ$ in both directions and the operating principle is non-contacting rotating magnetic field over hall-sensor. It is short circuit-proof (short circuit duration: unlimited). It can be fitted with 1-3 on/off push buttons on the top of the grip as an option.



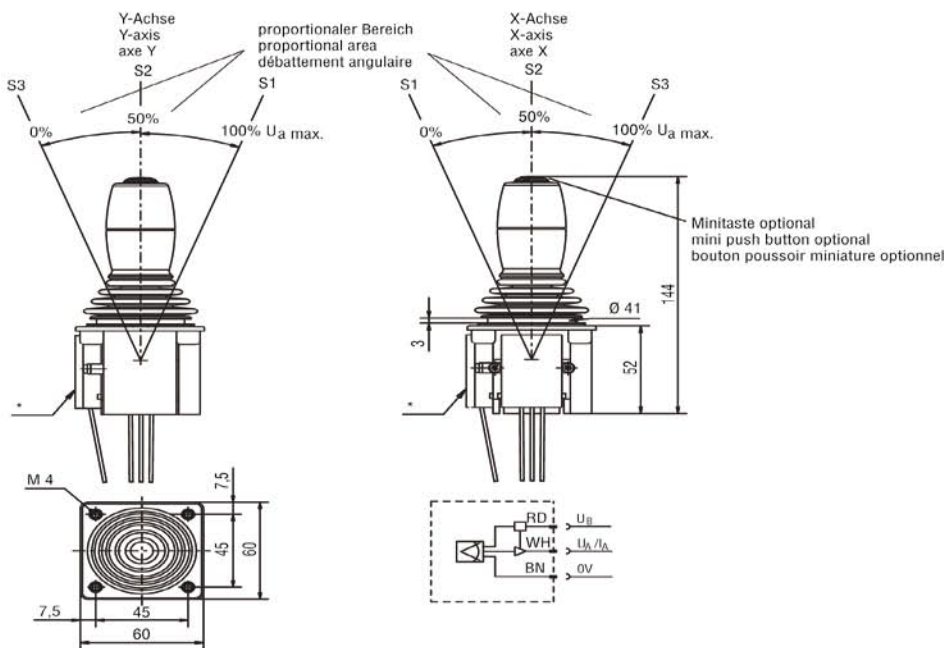
Technical Data

Design	Joystick 2 Axis
Key Features	1 or 3 Electrical Push Buttons Mechanical Detent

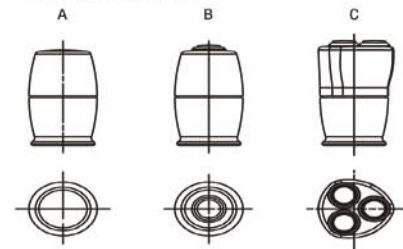
EPC700



EPC300



Griffversion (wahlweise)
knob (alternatively)
levier (facultativement)



Quick Coupler Attachment Units



The CV152 and CV452 valves can be fitted with the Nimco's QMC fast connect coupling system which allows for the quick coupling of all the hoses to the loader from the tractor in a single movement. With a maximum flow rate of respectively 70 and 110 l/min(18 and 29 USGpm).

The multi-coupling has been created for connecting and disconnecting several hydraulic hoses under pressure. The connection of the hydraulic lines is done with flat face couplings. It is made possible by special seals to couple against trapped pressure using the Nimco multi-coupling system.

The multi-coupling can also be delivered with a variety of electrical connectors. The main features of the multi coupling are: Prevention against commutability of hydraulic lines, quick connecting, coupling against trapped pressure and minimized leakage during coupling process to avoid external oil contamination.

The larger quick coupling unit QMC452 is designed for Nimco Valve models CV452 and CV652 in all versions.

The smaller coupling unit QMC152 is designed for all versions of the CV152 valve series.

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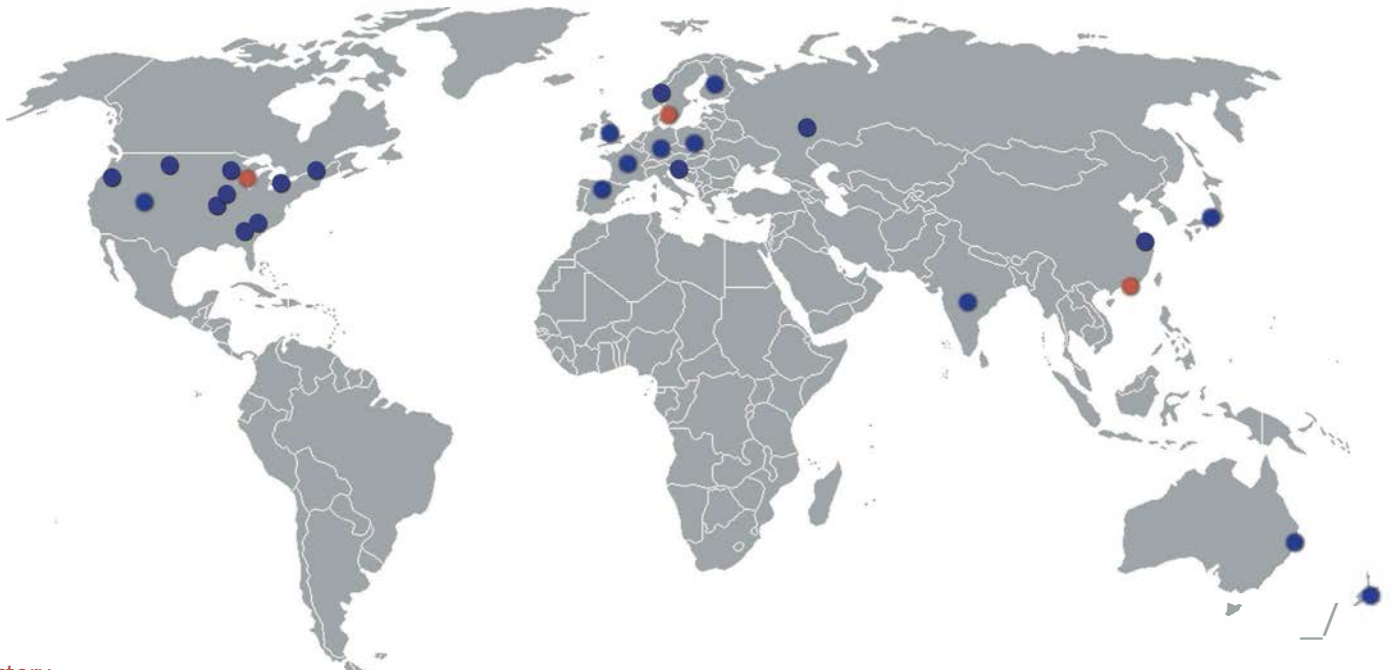
hydraulic systems

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