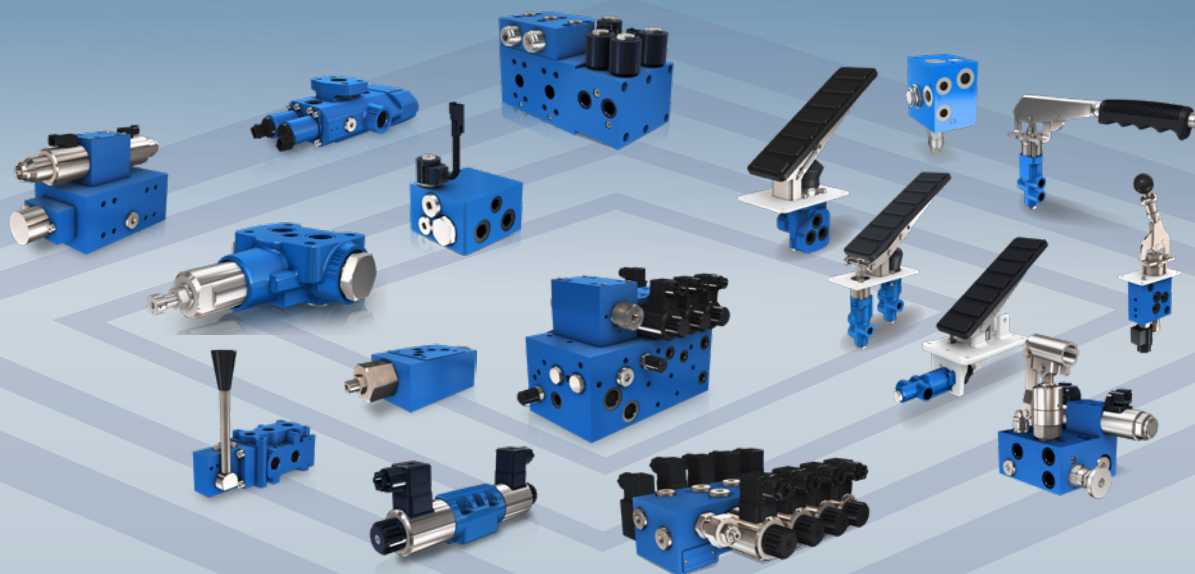


# VALVE RANGE



# ***POCLAIN HYDRAULICS***

## **SOLUTIONS FOR THE MOST DEMANDING MARKETS**

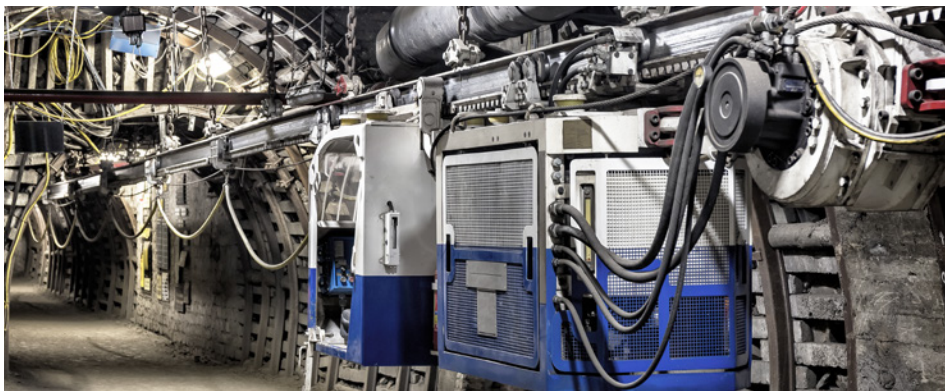
Poclain hydraulics specializes in the design, manufacturing and marketing of hydrostatic transmissions.

Our internationally recognized expertise allows us to expand on highly diversified markets such as the construction, agricultural, public works, material handling, industrial, environment and on-road markets. Poclain hydraulics' development is driven by our innovative spirit and our ability to anticipate the needs of a wide range of cutting edge applications.

- > **Construction**
- > **Agricultural**
- > **Mining**
- > **Forestry**
- > **Environment**
- > **Material handling**
- > **Industry**
- > **Marine**
- > **On-Road**
- > **Etc**







# ***HYDRAULIC VALVES***

## **FOR OPEN AND CLOSED LOOPS**

### ***DESIGNED FOR HYDROSTATIC TRANSMISSIONS***

> p.6

Anti-Skidding Valves
Flow Dividers
Freewheeling Valves
Exchanges Valves
Selector Valves
Pressure Reducers
Serial Protection Valves

**POWER  
TRANSMISSION  
VALVES**





## VARIOUS BRAKING FUNCTIONS

### BRAKE VALVES

Emergency and Parking Brake Valves
Service Brake Valves
Accumulator Charging Valves
Service Brake and Accumulator Charging Valves
Service Brake and Inching Valves
Compact solution "All in one"
Steering Assist Brake Valves
Tractor and Trailer Brake Valves

>p.12



## A LARGE RANGE OF FUNCTIONS

### OPEN LOOP VALVES

Directional Control Valves
Check Valves
Pressure Control Valves
Flow Control Valves

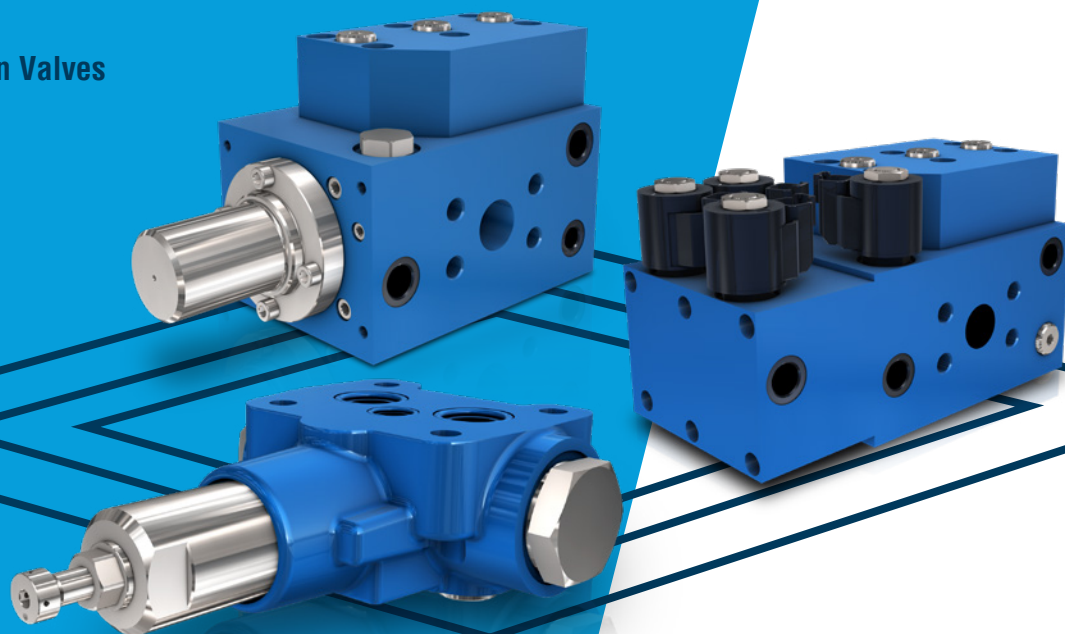
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# ***DESIGNED FOR HYDROSTATIC TRANSMISSIONS***

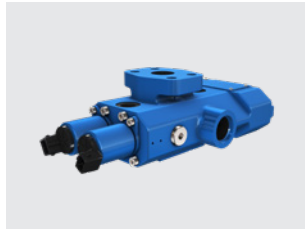
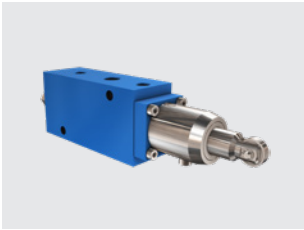
## **SIZED TO OPERATE AT HIGH PRESSURE AND HIGH FLOW**

- /// **Anti-skidding valves**
- /// **Flow dividers**
- /// **Freewheeling valves**
- /// **Exchange valves**
- /// **Selector valves**
- /// **Pressure Reducers**
- /// **Serial Protection Valves**





# POWER TRANSMISSION VALVES



## Anti-skidding valves


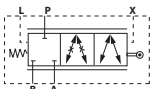

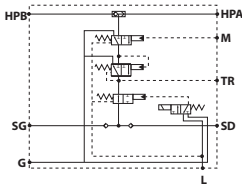
To control wheel slippage of hydrostatic self-propelled machines in rough terrain conditions, Poclain Hydraulics has developed two anti-skidding solutions that allow good traction control and maintain outstanding vehicle gradeability. The benefits of Twin-Lock™ and SmartDrive™ Off-Road solutions are:

- synchronization of wheel speed to avoid soil damage
- optimized machine performance and stability
- reduced fuel consumption
- increased tire life (reduced wear)

### Twin-Lock™ valves

Twin-Lock™ is a unique proactive hydraulic traction control that automatically transfers torque to the wheels with the greatest ground adhesion. Since it eliminates the need for flow dividers, it dramatically reduces the heat generation and horsepower loss of conventional traction control systems.


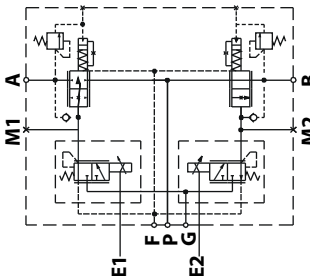

Twin-Lock™ operates through a unique combination of serial and parallel connection between wheel motors. The Twin-Lock™ valves prevent excessive pressure build-up in the serial lines, for instance when steering.

	Number of positions	Weight	Max. operating pressure	Nominal flow range	Operation	Connections*	Hydraulic schematics
		kg [lb]	bar [PSI]	l/min [GPM]			
<b>VDP</b> 	2	2,6 [5.8]	450 [6,526]	26 - 50 [7 - 13]	Mechanical	Metric BSPP	
	3	3,3 [7.3]					
<b>PR-TL-SV</b> 		9,5 [20.9]	450 [6,526]	30 - 50 [7.9 - 13]	Hydraulic	Metric	

### SD-CT Off-Road™ valves

SD-CT Off-Road™ is an electronically managed traction control. By using wheel speed sensors for slippage detection and proportional valves for flow throttle, valve restricts flow only when slippage is detected. Entirely programmable, the system easily accommodates varying pump displacements and vehicle steering geometry to offer optimal performance.

SD-CT Off-Road™ can be installed by OEMs on production vehicles or offered as a conversion kit (Poclain Hydraulics motors just need to be equipped with a pre-disposition for a speed sensor).

	Weight	Voltage	Max. operating pressure	Max. restricted flow	Connections*	Hydraulic schematics
			bar [PSI]	l/min [GPM]		
<b>VMA In-line model</b> 	7,2 [15.9]	12 V DC or 24 V DC	450 [6,526]	20 [5.2] or 50 [13.2]	Metric UNF	
<b>VMA Flanged model</b> 	11,9 [26.2]					

\*Connecting dimensions: Metric = ISO 9974; BSPP = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401



## Flow dividers

Flow divider controls the speed between wheels of the same axle or between different axles by dividing or combining the flow. The flow divider is equipped with an electric or hydraulic controlled by-pass and can be used in open or closed loop circuits.

**HIGH PERFORMANCE**



FD-H2-1



FD-H2-2



FD-M2



FD-M3

FD-M4

	Max. weight kg [lb]	Number of outlets	Division Ratio** (% of max. flow)	Max. operating pressure bar [PSI]	Max. by-pass flow (ratio 50/50) l/min [GPM]	By-pass control	Connections*	Hydraulic schematics
<b>FD-H2-1</b>	19,0 [41.9]	2	50-50 60-40 70-30 80-20	500 [7,252]	200 [52.8]	Hydraulic or Electrical	BSPP, UNF	
<b>FD-H2-2</b>					300 [79.3]			
<b>FD-M2</b>	8,0 [17.6]	2	50-50 70-30 60-40	420 [6,000]	150 [39.6]	Hydraulic or Electrical		
<b>FD-M3</b>	14,0 [30.9]	3	33-33-33	420 [6,000]	150 [39.6]		UNF BSPP	
<b>FD-M4</b>	15,0 [33.1]	4	25-25-25-25 30-30-20-20 33,5-33,5-16,5-16,5	420 [6,000]	150 [39.6]	Electrical		

\*Connecting dimensions: Metric = ISO 9974; BSPP = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

\*\* Others ratio are available on-demand

## Pressure Reducers

Pressure reducing valves limit the pressure in motor brake line or in auxiliary functions line.

	Type of setting	Weight kg [lb]	Pressure setting range bar [PSI]	Max. operating pressure bar [PSI]	Max. flow l/min [GPM]	Hydraulic schematics	
						With check valve	Without check valve
<b>PR3-...-S</b>	Fix	0.7 [1.54]	10 to 120 [145 to 1,740]	250 [3,626]	30 [7.92]		
<b>PR3-...-V</b>	Variable						

## Serial protection valves

Serial protection valve connects motors in serial line and provides protection of the motors against cavitation and overpressure.

	Max. operating pressure bar [PSI]	Max. flow serial line l/min [GPM]	Max. flow cross line l/min [GPM]	Pressure relief setting	Connections*	Hydraulic schematics
<b>SP</b>	420 [6,000]	110 [29.0] 160 [42.3]	63 [16.6] 75 [19.8]	Fix	UNF BSPP	

\*Connecting dimensions: Metric = ISO 9974; BSPP = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

## Freewheeling valves

In an assist drive circuit, hydraulic motors are engaged when traction is needed, for instance, in rough terrain condition (off-road mode). At high speed (on-road mode) when traction condition is good, motors can be disengaged.

The freewheeling valve connects the high pressure ports of the motor to tank and allows pistons to stay retracted inside the cylinder-block: the motor is then freewheeled.

A pump by-pass option is of interest if the pump is only dedicated to the assist drive function.



VDF-H15



VDF-H25

	Max. Weight	Max. operating pressure	Nominal flow range	Operation	Connections*	Hydraulic schematics	
	kg [lb]	bar [PSI]	l/min [GPM]			With pump by-pass	Without pump by-pass
<b>VDF H15</b>	19,1 [42.1]	450 [6,526]	50 - 95 [13.2 - 25.0]	Electro-hydraulic 12-24 V DC	Piped Metric, BSPP		
<b>VDF H25</b>	39,3 [86.6]	450 [6,526]	170 - 300 [44.9 - 79.2]	Electro-hydraulic 12-24 V DC	Flanged		
<b>VDF H25 for remote piloting</b>							

## Directional control valves

- Two position flow directional control valve
- High flow bypass, very high pressure capability
- Circuit isolation
- Tool selection

	Weight	Max. operating pressure	Max. flow range	Operation	Hydraulic schematics
	kg [lb]	bar [PSI]	l/min [GPM]		
<b>VD-2V2H20</b>	8.5 [18.7]	450 [6,526]	170 [44.9]	Hydraulic 12-24 V DC	
<b>VD-3V2H25</b>	8.5 [18.7]	450 [6,526]	300 [79.2]	Hydraulic	

VD-3V2H20



KV-6/2 directional control valves are used for selection between two hydraulic cylinders or two hydraulic motors that do not operate simultaneously. KV-6/2 valve is also available with a spool that allows to switch between serial and parallel motor connection in closed loop hydraulic circuits.

<b>KV-6/2-16-H</b>	16.8 [37.0]	450 [6,526]	300 [79.2]	Hydraulic	
<b>KV-6/2-16-H-F</b>	16.8 [37.0]	450 [6,526]	300 [79.2]	Hydraulic	

KV-6/2-16-H





## Exchange valves

Compact exchange valves bleed hot oil from the low pressure side of a hydrostatic transmission circuit to be cooled, filtered or used as a source of oil for flushing pump and motor cases.

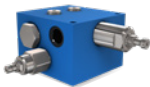
For all VE (except VE10), exchange pressure setting can be tuned by customer.

**HIGH PERFORMANCE**



	Weight	Max. operating pressure	Max. exchange flow	Pressure relief setting	High pressure relief setting	Connections*		Hydraulic schematics
	kg [lb]	bar [PSI]	l/min [GPM]	bar [PSI]	bar [PSI]	Piped	Flanged	
<b>VE 10</b>	1,1 [2,4]	450 [6,526]	10 [2.64]	18 [261] or 20 [290] or 22 [319]		●		
<b>VE 30</b>	1,5 [3.3]	500 [7,252]	30 [7.9]	12 to 18 [174 to 261] 18 to 24 [261 to 348] 24 to 30 [348 to 435]		●	●	
<b>VE 60 HP**</b>	2,4 [5.3] Flanged 3,2 [7.1] Piped	500 [7,252]	60 [15.9]	12 to 18 [174 to 261] 18 to 30 [261 to 435]		●	●	
<b>VES 60</b>	7,3 [16.1]	450 [6,526]	60 [15.9]	12 to 18 [174 to 261] 18 to 30 [261 to 435]	Up to 420 [6,091] (Factory setting)	●	●	

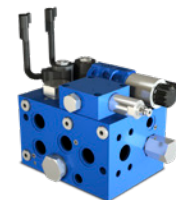
\*\*Available types of exchange: adjustable, fixed by wire, locked



## Customized valves and hydraulic blocks

Special combo designs are custom made and bring several benefits to specific requirements of a customer:

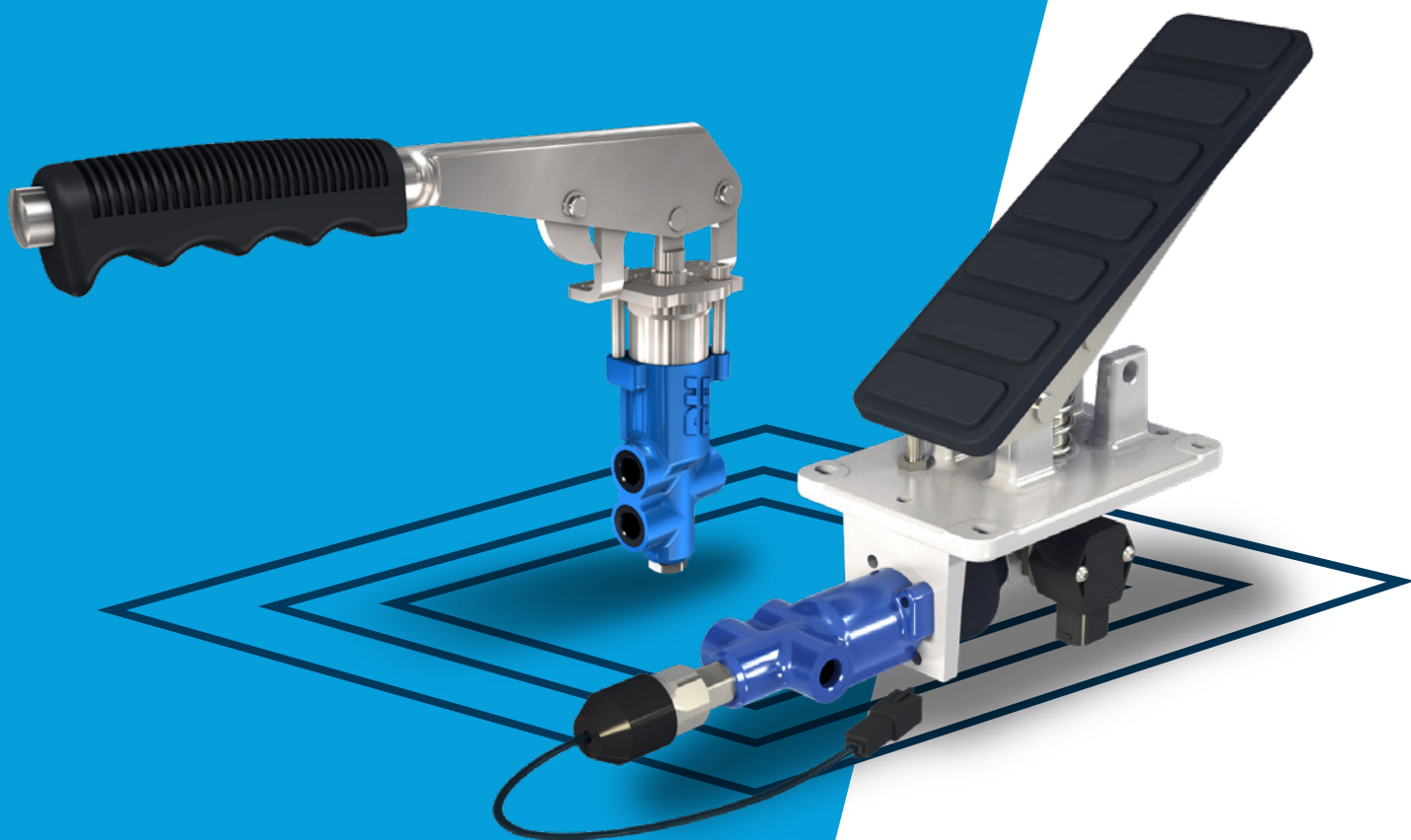
- Elementary functions (Hot oil exchange, freewheeling, traction control, de-braking, serial protection, circuit selection, anti-cavitation, cross-relief) integrated in a compact multifunctional block results in outstanding performance
- Hydraulic ports position and size are adjusted for easy assembly on the machine
- Optimized dimension and weight
- Surface protection adapted to different environmental conditions



Combo freewheeling, flow divider, exchange, brake release

# ***VARIOUS BRAKING FUNCTIONS*** **FOR ALL TYPES OF HYDRAULIC CIRCUITS**

- **Parking and emergency brake valves**
- **Service brake valves**
- **Service brake valves + inching**
- **Accumulator charging valves**
- **Service brake and accumulator charging valves**
- **Compact solutions «all in one»**



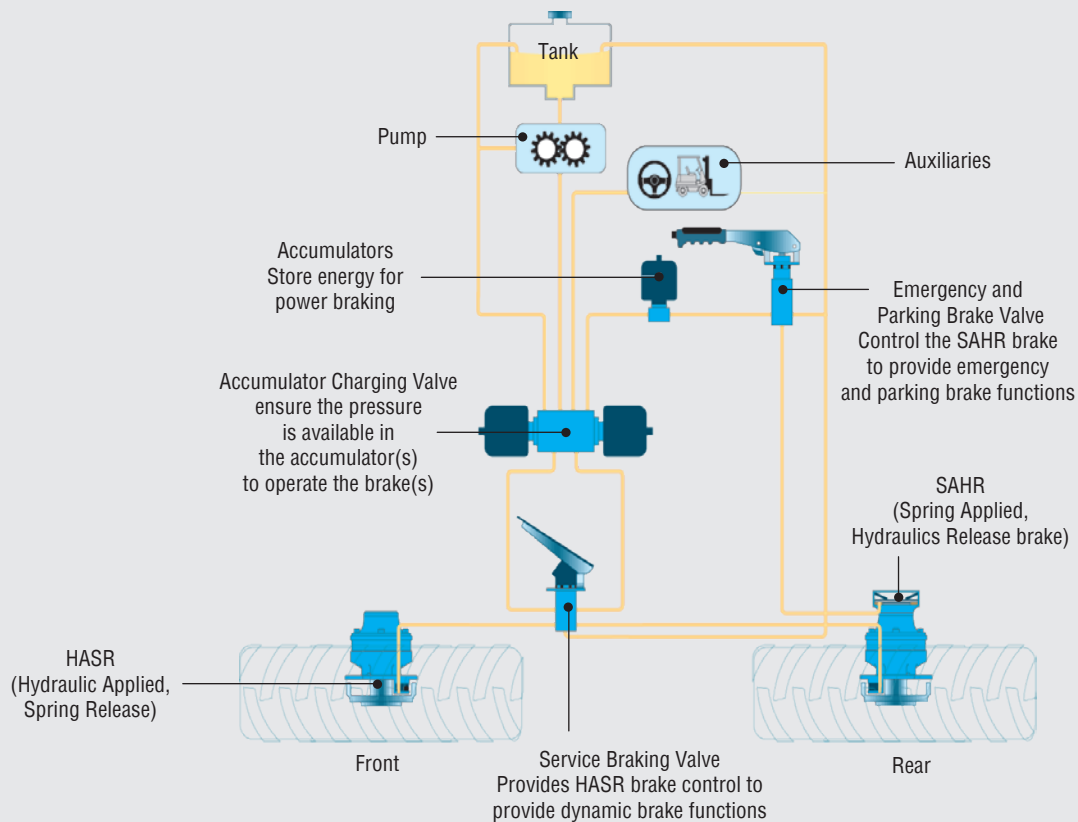


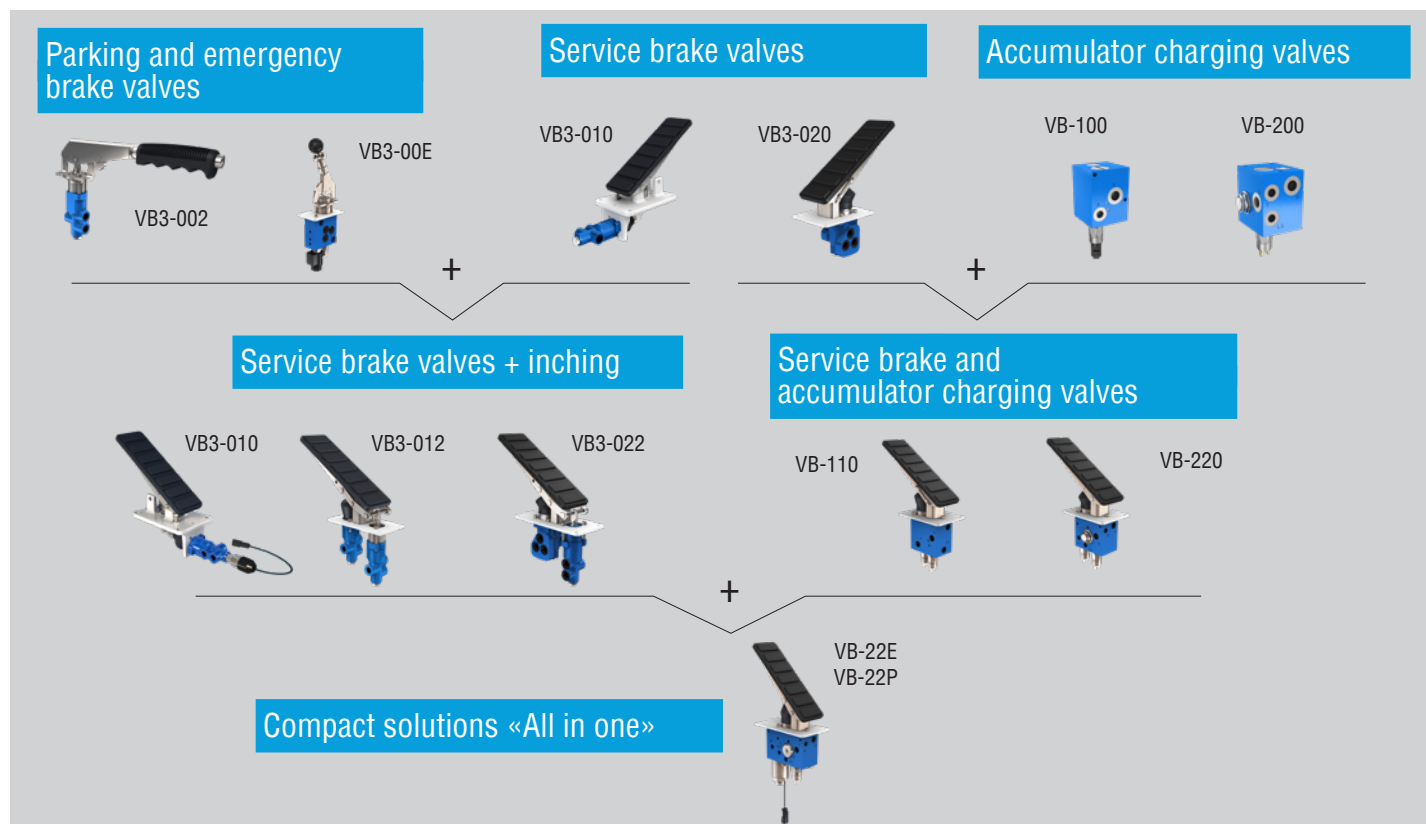
# BRAKE VALVES

## Advantages of hydraulic brake valves (power braking type) are numerous




- No need for an additional supply source (air compressor)
- Valves are fed by the hydraulic source on the machine
- Hydraulic accumulators are smaller than air reservoirs
- Faster response time thanks to available reserve of energy in accumulators
- Fewer risks of system contamination and no need for additional filters
- Comfortable and progressive feel

The Poclain Hydraulics braking systems can be adapted to handle your specific braking requirements.





## Parking and emergency brake valves

	Weight	Max. inlet pressure	Brake operating pressure	Circuit	Control	Actuator
	kg [lb]	bar [PSI]	bar [PSI]			
<b>VB3-002*</b>	0,9 [2.0]	250 [3,626]	10 - 150 [145 - 2,175]	Single-circuit	Reverse modulating Hydraulic	Horizontal / Vertical lever Floor / Wall mount pedal
<b>VB3-00E</b> 	3,0 [6.6]		10 - 150 [145 - 2,175]	Single-circuit	Reverse modulating Electro-hydraulic	Horizontal / Vertical lever Wall mount pedal
 <b>VB-00M</b> 	3,8 [8.38]		30 - 120 [435 - 1,740]	Single-circuit	On-Off	Electrical and Manual
	4,3 [9.48]			Dual-circuit		

\* NEW! Available in high flow & high force pedal feedback (VB4-002)

## Service brake valves and inching

	Weight	Max. inlet pressure	Brake operating pressure	Brake type	Circuit	Control	Actuator
	kg [lb]	bar [PSI]	bar [PSI]				
<b>VB3-010*</b>	1,0 [2.2]	250 [3,626]	20 - 150 [290 - 2,175]	Service brake	Single-circuit	Modulating Mechanical	Floor / Wall mount pedal
<b>VB3-020*</b>	2,0 [4.4]		20 - 150 [290 - 2,175]		Dual-circuit	Modulating Mechanical	Floor / Wall mount pedal
<b>VB3-012</b>	3,5 [7.7]		20 - 150 [290 - 2,175]	Service brake and inching	Single-circuit	Combined VB3-002 + VB3-010	Floor mount pedal
<b>VB3-022</b>	4,1 [9.0]		20 - 150 [290 - 2,175]		Dual-circuit	Combined VB3-002 + VB3-020	Floor mount pedal

\* NEW! Available in high flow & high force pedal feedback (VB4, VB5) and with electrical inching and pedal position sensor.

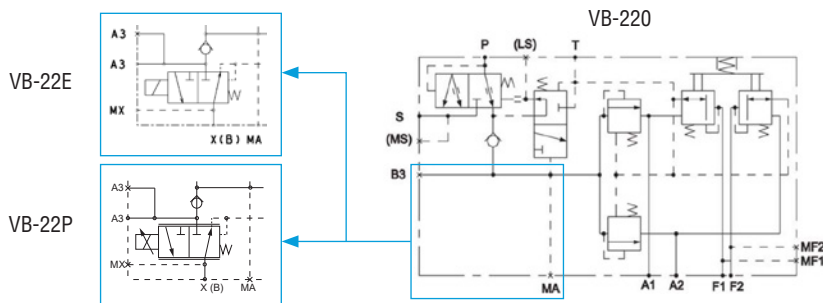
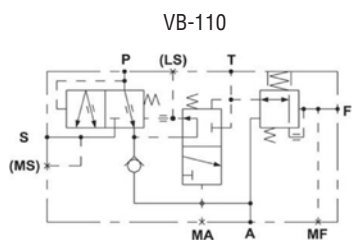
## Accumulator charging valves

	Weight		Control	Max. inlet pressure	Cut-in/ cut-out pressure range	Flow rate	
	kg [lb]	Circuit				To auxiliary	To accumulator
				bar [PSI]	bar [PSI]	l/min [GPM]	l/min [GPM]
VB-100	2,2 [4.8]	Single-circuit	Hydraulic	250 [3,626]	110 / 130 [1,595 / 1,888]	45 - 120 [11.9 - 31.7]	2.75 - 15 [0.73 - 3.96]
					120 / 140 [1,740 / 2,031]		
					135 / 160 [1,958 / 2,321]		
VB-200	4.0 [8.8]	Dual-circuit	Hydraulic		160 / 190 [2,321 / 2,756]		
					170 / 200 [2,466 / 2,901]		
					180 / 210 [2,611 / 3,046]		

## Compact solutions «All in one»

	Weight		Control	Cut-in/ cut-out pressure range	Brake operating pressure	Flow rate		Actuator
	kg [lb]	Circuit				To auxiliary	To accumulator	
				bar [PSI]	bar [PSI]	l/min [GPM]	l/min [GPM]	
VB-110	5,0 [11.0]	Single-circuit	Hydraulic	110 / 130 [1,595 / 1,888]				
VB-220	6.0 [13.2]	Dual-circuit	Hydraulic	120 / 140 [1,740 / 2,031]				
				135 / 160 [1,958 / 2,321]				
VB-22E	8.0 [17.6]	Dual-circuit + parking brake	Electro hydraulic	160 / 190 [2,321 / 2,756]	30 - 120 [435 - 1,740]	45 - 120 [11.9 - 31.7]	2.75 - 15 [0.73 - 3.96]	Floor mount / Lockable pedal
				170 / 200 [2,466 / 2,901]				
VB-22P			Proportional Electro hydraulic	180 / 210 [2,611 / 3,046]				
				205 / 240 [2,973 / 3,481]*				

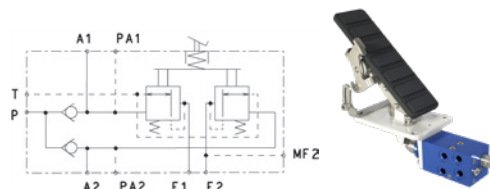
\* Only available for VB-110 and VB-220 valves.



## Customized VB valves

Special combo designs are custom made and bring several benefits to specific requirements of a customer:

- Protection of accumulators from AUX over pressure
- Adaptation of pushing elements on VB3-010 (roller, thread)
- Integration of two braking valves on one actuator
- Integration of additional remote hydraulic piloting on standard braking valves
- Customization of mechanical actuators according to customer needs
- Accumulators can be integrated directly to accumulator charging valve or piped to the brake valve



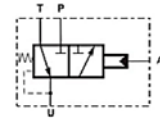


## Relay valves

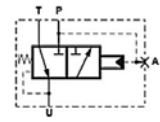
- Large volume brake actuation
- Long braking lines
- Fast tank return
- Remote electric actuation of service brake



VS as Relay valve



VS as Quick return valve

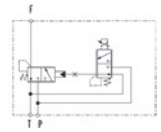


	Weight	Max. input pressure	Max. flow rate to brake	Circuit	Control
	kg [lb]	bar [PSI]	l/min [GPM]		
<b>VS-single</b>	2,5 [5.5]	210 [3,045]	70 [18.50]	Single-circuit	Hydraulic
<b>VS-dual</b>	4,0 [8.8]	210 [3,045]	70 [18.50]	Dual-circuit	Hydraulic

## Electrically piloted brake valve



	Weight	Brake operating pressure	Max. flow rate to brake	Brake type	Pressure control
	kg [lb]	bar [PSI]	l/min [GPM]		
<b>VBR-010</b>	2,5 [5.5]	10 - 115 [145 - 1,667]	20 [5.28]	Service brake	Proportional



# TRACTOR AND DUAL LINE TRAILER BRAKING SOLUTIONS

## Valves compatibility and modularity

Whether you want to fit Hydraulic or Electro-hydraulic brake valves on your tractor/trailer, you can choose any of our products.

It is possible to mix and match hydraulic and electro-hydraulic components.

Poclain Hydraulics can design specific brake valves to answer your needs regarding space constraints, function integration, and/or develop specific performance characteristics.

1 Parking and emergency brake valves

2 Steering assist valves

3 Trailer brake valves

Hydraulic solution

Electro-hydraulic solution

VB3-002

VB3-00E

VB3-0B0  
VB3-0D0

VFR-0HX

VB3



More information > Page 146

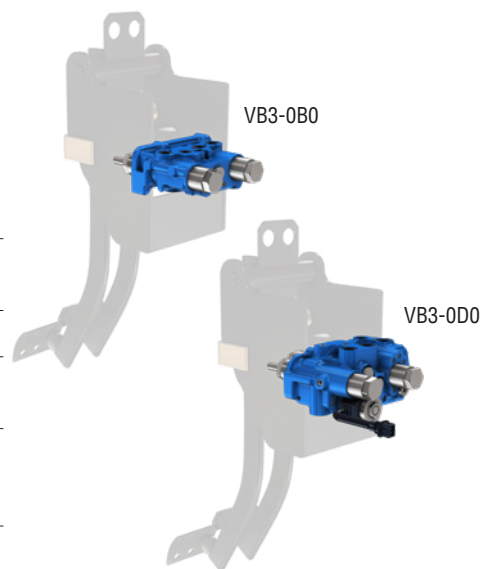


## Steering assist valves

The **VB3-0B0** and **VB3-0D0** valves, combined with a double brake pedal, have the following functionalities:

- Off-road: steering assist braking for field work gives U-turn capability by braking the inner rear wheel. Each of the circuit selectors are associated with one of the pedals.
- On-road: mechanically linked pedals allow effective service braking.
- Dual circuit steering assist valve (VB3-0D0) acts on brakes in rear and front axles which improves driving control and safety.
- VB3-0D0 always allows independent braking in case of circuit leakage on one of the axles.

		Weight	Max. inlet pressure	Max. brake operating pressure
		kg [lb]	bar [PSI]	bar [PSI]
<b>VB3-0B0</b>	Steering assist brake (Single circuit)	7,0 [15.4]	250 [3,626]	150 [2,176]
<b>VB3-0D0</b>	Steering assist brake (Dual circuit) (EU 2015/68 regulation)	7,0 [15.4]	250 [3,626]	150 [2,176]

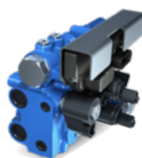


## Trailer brake valves

Trailer brake valves allow to apply the trailer brake pressure based on the tractor brake pressure. They supply auxiliary equipment and are therefor equipped with a priority spool in order to supply the trailer brakes when needed (i.e. the priority is given to the brakes).



VBT  
for single circuit




VBT  
for dual circuit



VFR-0HX

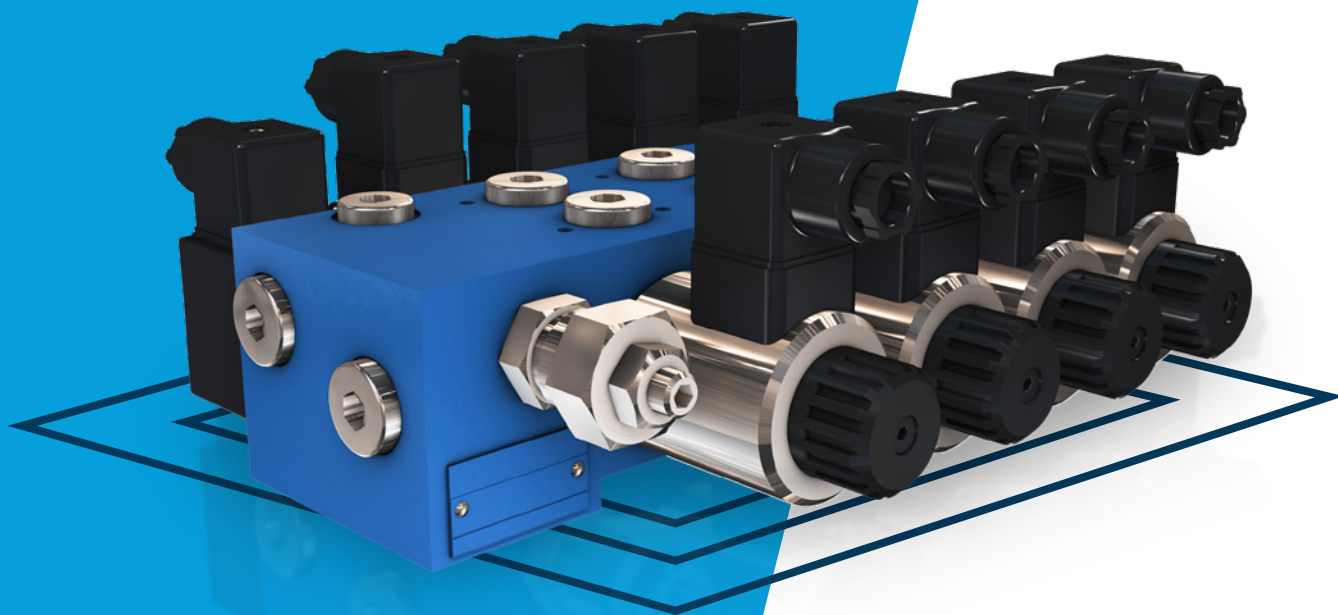
The **VBT valves** are single or dual circuit electronically piloted trailer service brake valves, mounted on the tractor. Beside main control line (single circuit), dual circuit contains negative emergency braking on its supplementary line.

The **VFR Valves** are simple single circuit trailer service brake, hydraulically or electrically piloted, mounted on the tractor.

					Weight	Flow rate	
						To brake	To auxiliary
		Control	Circuit	kg [lb]	l/min [GPM]	l/min [GPM]	
VBT		Trailer service brake	Electronic	Single	10 [22]	50 [13]	100 [26.5]
				Dual	16 [35.2]	50 [13]	100 [26.5]
VFR-0HX	Trailer service brake	Hydraulic	Single	6,5 [14.3]	50 [13]	200 [53]	
VFR-0EX	Trailer service brake	Electronic	Single	6,5 [14.3]			

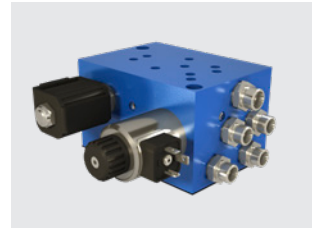
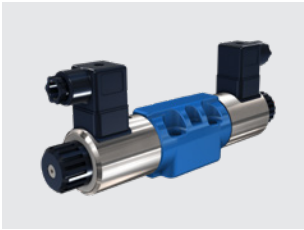
# ***A LARGE RANGE OF FUNCTIONS*** **TO ANSWER EVERY NEED**

- /// **Directional control valves**
- /// **Check valves**
- /// **Pressure control valves**
- /// **Flow control valves**





# OPEN LOOP VALVES

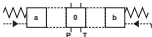
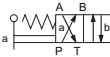
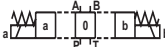
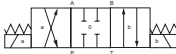


## Directional control valves

## CETOP valves

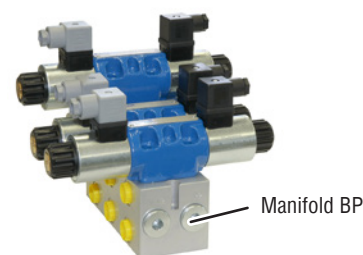
Valves for sub-plate connection to ISO 4401



	Actuation	Size (NG)		Max. operating pressure	Flow rate	Modular Mounting*	Weight	Hydraulic schematics (examples)
		6	10	bar [PSI]	l/min [GPM]		kg [lb]	
4/2 and 4/3								
KV	Hydraulic	●		350 [5,077]	80 [21.1]	CETOP	1,4 [3.1]	
			●	350 [5,077]	130 [34.2]	CETOP	4,0 [8.8]	
KV	Mechanical	●		350 [5,077]	60 [15.8]	CETOP	2,0 [4.5]	
			●	350 [5,077]	100 [26.4]	CETOP	5,2 [11.5]	
KV (5KL)	Electrical	●		350 [5,077]	75 [19.8]	CETOP	2,2 [4.9]	
KV (5KO)	Electrical		●	350 [5,077]	120 [31.6]	CETOP	7,3 [16.1]	
KV (3KO)	Electrical	●		250 [3,626]	40 [10.5]	CETOP	1,8 [3.9]	
KVP proportional	Electrical	●		350 [5,077]	30 [7.9]	CETOP	2,2 [4.9]	

## Manifolds for CETOP valves

	Size (NG)		Max. operating pressure	Flow rate	Connections*	Weight
	6	10	bar [PSI]	l/min [GPM]		kg [lb]
Manifold BP (max. 8 stations)	●		350 [5,077]	80 [21.1]	CETOP	2,3 to 41.2 [5.1 to 90.8]
		●	350 [5,077]	120 [31.6]	CETOP	



## Subplates for CETOP valves

	Size (NG)		Max. operating pressure	Flow rate	Connections*	Weight
	6	10	bar [PSI]	l/min [GPM]		kg [lb]
Subplates PP-KV (max. 1 station)	●		350 [5,077]	80 [21.1]	CETOP	0,9 [2.0]
		●	350 [5,077]	120 [31.6]	CETOP	2,3 [5.1]


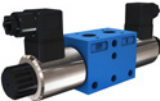






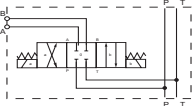
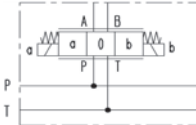
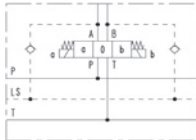
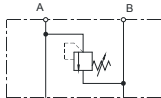
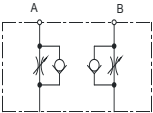
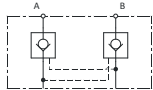
Subplate PP-KV-6

Subplate PP-KV-10

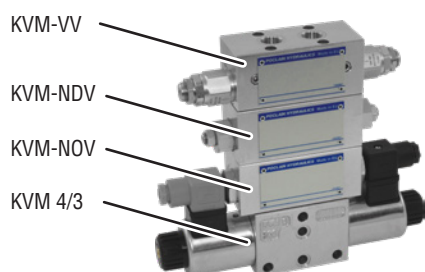


\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

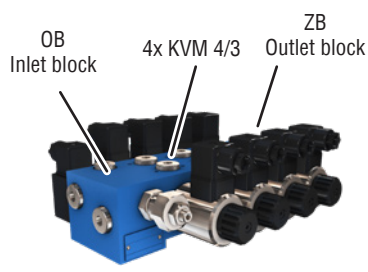
## KVM valves for modular mounting

KVM 4/2	KVM 4/3	KVM-VV	KVM-NDV	KVM-NOV	OB Inlet block	ZB Outlet block	Screw set SET-KVM	
								
	Size (NG)	Max. operating pressure	Flow rate	Actuation	Modular Mounting*	Non modular in line connection	Weight	Hydraulic schematics (examples)
	6	bar [PSI]	l/min [GPM]				kg [lb]	
KVM-On/Off (4/2 and 4/3)	●	350 [5,077]	40 [10.5]	Electrical	Bankable	Metric, Gas, UNF	2,4 [5.3]	
KVM6-PO (Proportional) (4/2 and 4/3)	●	350 [5,077]	30 [7.9]	Electrical	Bankable	Metric, Gas, UNF	2,4 [5.3]	
KVM-PL (Load sensing signal)	●	350 [5,077]	40 [10.5]	Electrical	Bankable	Metric, Gas, UNF	2,4 [5.3]	
KVM-VV (pressure relief valve)	●	350 [5,077]	40 [10.5]		Bankable		1,8 [4.0]	
KVM-NDV (Throttle with check valve)	●	350 [5,077]	40 [10.5]		Bankable		1,5 [3.3]	
KVM-NOV (Pilot operated check valve)	●	350 [5,077]	40 [10.5]		Bankable		1,4 [3.1]	
OB-Inlet block	●	350 [5,077]	40 [10.5]		Bankable	In line	1,2 to 4.5 [2.7 to 9.9]	
ZB-Outlet block	●	350 [5,077]	40 [10.5]		Bankable	In line	0,8 [1.8]	
Screw set SET-KVM	●							

### Vertical stacking



### Bankable mounting



\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401



## 6/2 selector valves




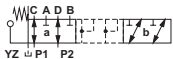
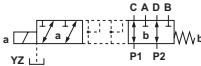
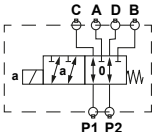
KV6K2



KV-6/2-6



KV-6/2-6

	Actuation	Size (NG)				Max. operating pressure	Flow rate	Non modular in line connection	Weight	Hydraulic schematics (examples)
		6	8	10	16	bar [PSI]	l/min [GPM]		kg [lb]	
KV	Hydraulic				●	450 [6,527] *	300 [79.3]	SAE, UNF	16,8 [37.0]	
KV	Mechanical	●				350 [5,077] *	60 [15.8]	Metric, Gas, UNF	2,4 [5.3]	
				●		350 [5,077] *	120 [31.6]	Metric, Gas, UNF	5,3 [11.7]	
KV	Electrical	●				350 [5,077] *	50 [13.2]	Metric, Gas, UNF	2,5 [5.5]	
				●		350 [5,077] *	120 [31.6]	Metric, Gas, UNF	5,5 [12.1]	
					●	350 [5,077] *	250 [65.8]	Gas, UNF	22 [48.5]	
KV6K2	Electrical	●				350 [5,077] *	50 [13.2]	Metric, Gas, UNF	2,9 [6.4]	
			●			350 [5,077] *	90 [23.8]	Metric, Gas, UNF	4,8 [10.6]	

\* 250 bar [3,626 PSI] without drain release.

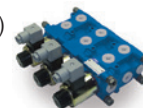
## 6/2 selector valves for modular mounting



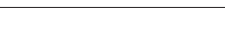
KVH-6/2-8



KVH-6/2-10 (N2)



KVH-6/2-6 (N3)

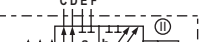
	Actuation	Size (NG)			Max. operating pressure	Flow rate	Non modular in line connection	Weight	Hydraulic schematics (examples)
		6	8	10	bar [PSI]	l/min [GPM]		kg [lb]	
KVH	Electrical	●			315 [4,569]*	50 [13.2]	Metric, Gas, UNF	2,7 [5.9]	
			●		350 [5,077]*	90 [23.8]	Metric, Gas, UNF	3,8 [7.7]	
				●		315 [4,569]*	120 [31.6]	Metric, Gas, UNF	

\* 250 bar [3,626 PSI] without drain release.

## 8/3 selector valves



KV-8/3-6

	Actuation	Size (NG)	Max. operating pressure	Flow rate	Non modular in line connection	Weight	Hydraulic schematics (examples)
		6	bar [PSI]	l/min [GPM]		kg [lb]	
KV	Electrical	●	250 [3,626]	50 [13.2]	Metric, Gas, UNF	3,8 [8.4]	

\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

## Piped assembly valves

KVC-3/2



This valve (NG 10) can be used to by-pass one half of a Twin-Lock™ motor to create a two speeds machine.

KVC2-3/2



This valve is often used to control parking brake actuation and displacement switch of motors.

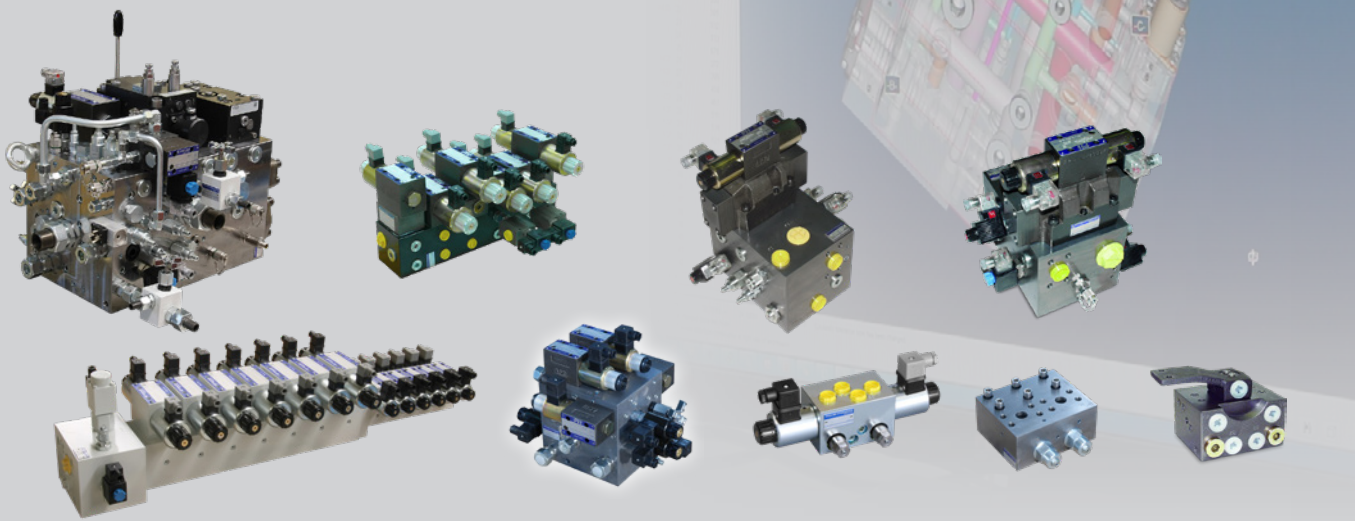
	Actuation	Size (NG)		Max. operating pressure	Flow rate	Non modular in line connection	Weight	Hydraulic schematics (examples)
		4	10	bar [PSI]	l/min [GPM]		kg [lb]	
KVC-3/2-4	Electrical	●		160 [2 320]	16 [4.2]	Metric, Gas	1,6 [3.5]	
KVC-3/2-10	Electrical		●	350 [5 077]	100 [26.4]	Metric, Gas, UNF	7,1 [15.6]	
KVC2-3/2-4	Electrical	●		160 [2 320]	16 [4.2]	Metric, Gas, UNF	3,5 [7.7]	

## HIGH EXPERTISE IN VALVE DESIGN

### To respond to every need

Poclain Hydraulics has expertise and know-how in valve design and production that enables us to analyze every need and respond with the most appropriate offer.

Depending on the distinctive features of the customer circuit, our design and engineering department will assess the different options to produce the required function and propose the best solution, from the standard open loop valve (CETOP, etc) to manufacturing a dedicated multifunctional block.



\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

## Flow control valves

VP-NDV



TVTC

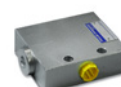


TVTP-P0



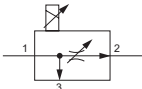
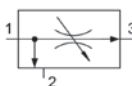



TVTP-P

TVTP-B



DTP

	Size (NG)		Max. operating pressure	Flow rate	Connections*	Setting Method	Weight	Hydraulic schematics
	6	10	bar [PSI]	l/min [GPM]			kg [lb]	
Throttle/check valve								
VP-NDV	●		350 [5 076]	60 [15.8]	CETOP	Manual	1,4 [3.2]	
		●	350 [5 076]	100 [26.4]			3,3 [7.3]	
Pressure compensated flow control valves								
TVTC	●		350 [5 076]	50 [13.2]	in line Metric, Gas, UNF	Mechanical	3,0 [6.6]	
TVTP-P	●		210 [3 046]	50 to 90 [13.2 to 23.8]	Cartridge	Electric proportional	1,0 [2.2]	
		●	210 [3 046]	90 to 150 [23.8 to 39.6]	Cartridge	Electric proportional	1,6 [3.5]	
TVTP-P0	●		250 [3 626]	50 [13.2]	Cartridge	Electric proportional	1,0 [2.2]	
TVTP-B	●		350 [5 076]	60 to 90 [15.9 to 23.8]	Cartridge	Manual	0,6 [1.3]	
		●	350 [5 076]	90 to 150 [23.8 to 39.6]	Cartridge	Manual	1,0 [2.2]	
Flow dividers								
DTP	●		350 [5 076]	20 to 70 [5.3 to 18.5]	in line Metric, Gas, UNF		1,7 [3.8]	
		●	350 [5 076]				2,7 [5.9]	

## Check valves (Direct operated)

VP-NOV



	Size (NG)		Max. operating pressure	Flow rate	Connections*	Weight	Hydraulic schematics
	6	10	bar [PSI]	l/min [GPM]		kg [lb]	
VP-NOV	●		350 [5 076]	60 [15.8]	CETOP	1,8 [3,9]	
		●	350 [5 076]	100 [26.4]	CETOP	3,5 [7.7]	

\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401



Pressure control valves



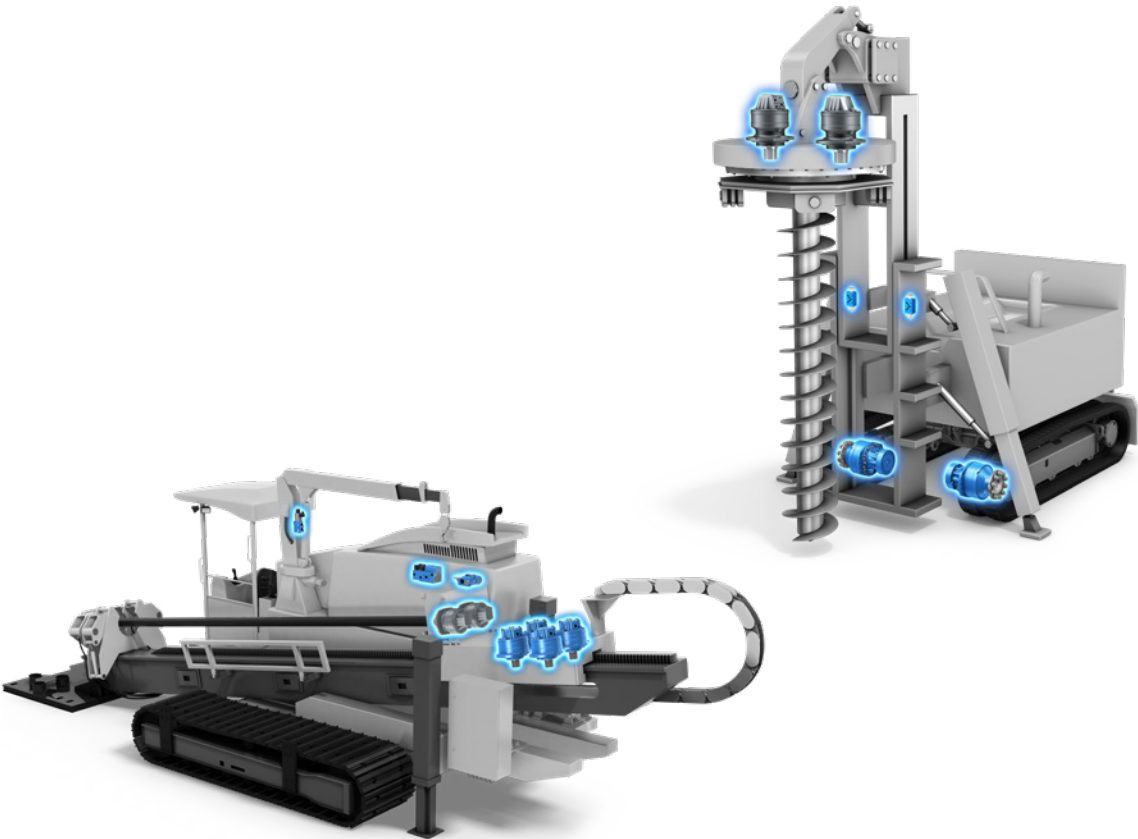
VP-RT	Size (NG)		Max. operating pressure	Flow rate	Connections*	Operation	Weight	Hydraulic schematics
	6	10	bar [PSI]	l/min [GPM]			kg [lb]	
VP-RT	●		350 [5 076]	50 [13.2]	CETOP	Pilot	1,7 [3.8]	
	●		350 [5 076]	100 [26.4]			2,6 [5.7]	

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Special combo designs are custom made and bring several benefits to specific requirements of a customer:

- Elementary functions integrated in a compact multifunctional block results in outstanding performance
- Hydraulic ports position and size are adjusted for easy assembly on the machine
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- Surface protection adapted to different environmental conditions

Flow divider and diverter



\*Connecting dimensions: Metric = ISO 9974; Gas = ISO 1179; UNF = ISO 11926-1, CETOP = ISO 4401

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