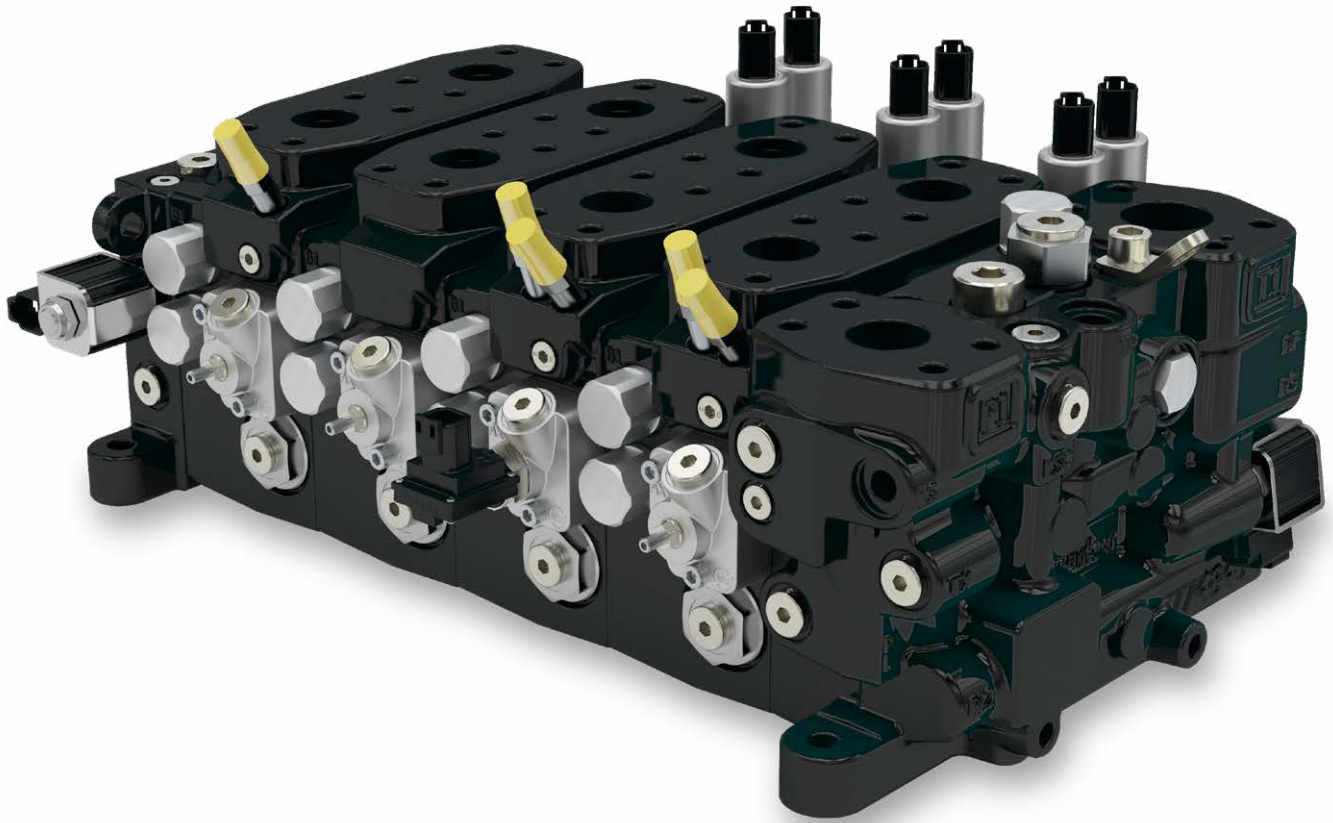




VA450

VA SERIES

Mobile Directional Control Valve
Proportional, Load sensing, Pre-compensated



CATALOGUE INFORMATION

Catalogue layout

This catalogue is intended to provide an overview of what the VA450 can offer in terms of valve functionality, so that we may customize a valve optimized for your machinery.

Each subheading in the catalogue represents a valve function, followed by a brief description. In cases where there are several options available for a valve function, the subheadings are preceded by a position number in square brackets, e.g., **[P1040] Connection thread**, followed by a series of coded options, e.g., **MG, MU** and **MM** with a brief description for each option.

Alternatively, one or more pressure, flow or voltage options are stated. The position number and options are coherent in all the reports such as the configurator code report and the spare parts list.

Documentation and ordering

VA450 is configured as a customer unique valve in Parker's web-based configurator, usually by Parker sales company in consultation with the customer. Each valve configuration is given a unique ID number, part number, detailed code report, 3D-model, 2D-drawing, spare parts list and hydraulic schematics. In addition to the brief descriptions of each valve function in this catalogue, there are Learn More files available in our web based configurator with more in-depth information for each option.

An order for a valve is placed through Parker sales company. The ID number can be found on the valve's product tag and makes it possible to identify the product for e.g., service or placement of a new order.

Save time and money with early consultations

Our experienced engineers have in-depth knowledge of different types of hydraulic systems and the ways in which they work.

Our engineers are available to provide you with assistance in selecting a valve that meets your requirements.

We recommend consulting Parker early in the project planning stage.

Parker reserves the right to modify products without prior notice. Typical curves and diagrams are used in this catalogue. Even though the catalogue is revised and updated continuously, there is always the possibility of errors. For more detailed information about the product, please contact Parker Hannifin.



WARNING — USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Offer of Sale

Please contact your Parker representation for a detailed "Offer of Sale".

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If you have questions about the products contained in this catalogue, or their applications, please contact:
Parker Hannifin EMEA Sàrl European Headquarters
parker.com/msgc

GENERAL INFORMATION

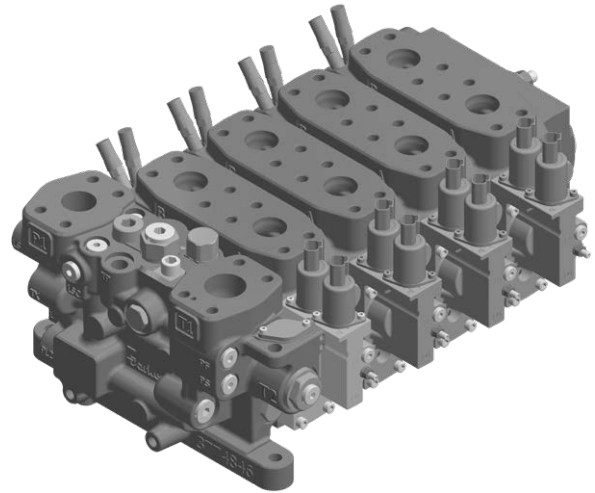
VA450 is a sectionally-built, load sensing, directional control valve for mobile machinery. The valve is characterized by industry leading properties regarding robustness, precision control and energy efficiency.

VA450 is designed to provide you a highly customizable and flexible valve possible to incorporate in simple as well as in advanced hydraulic system solutions. With an endless number of combinations in terms of valve functionality, we can provide a solution optimized for each function in the machinery.

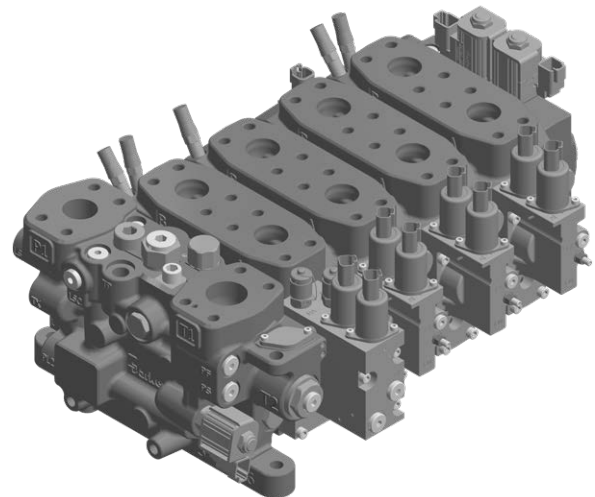
In our strive to offer an energy efficient yet providing market leading performance with great precision and improved productivity, we use our broad knowledge in load sensing technology to develop function adapted spools, pressure compensators and load signal pressure limiters to achieve reduced energy losses. Actuation can be done hydraulically or electro-hydraulically, both with optional manual lever control, in any combination in the same valve.

For complete customer-specific functional adaptation and to accommodate every conceivable need in terms of auxiliary function control, the VA450 can be combined with tailor-made function manifolds from Parker.

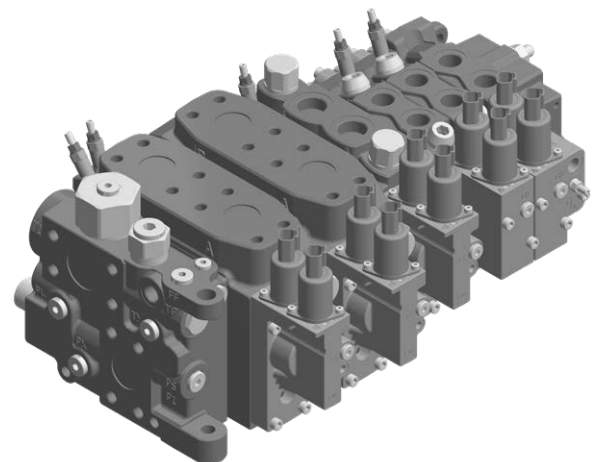
As part of the VA Series, VA450 is combinable with valve sizes VA300 and VA130 making it an ideal valve for compact solutions in machinery where there are varying need in terms of flow.



VA450 with four EC controlled work sections.

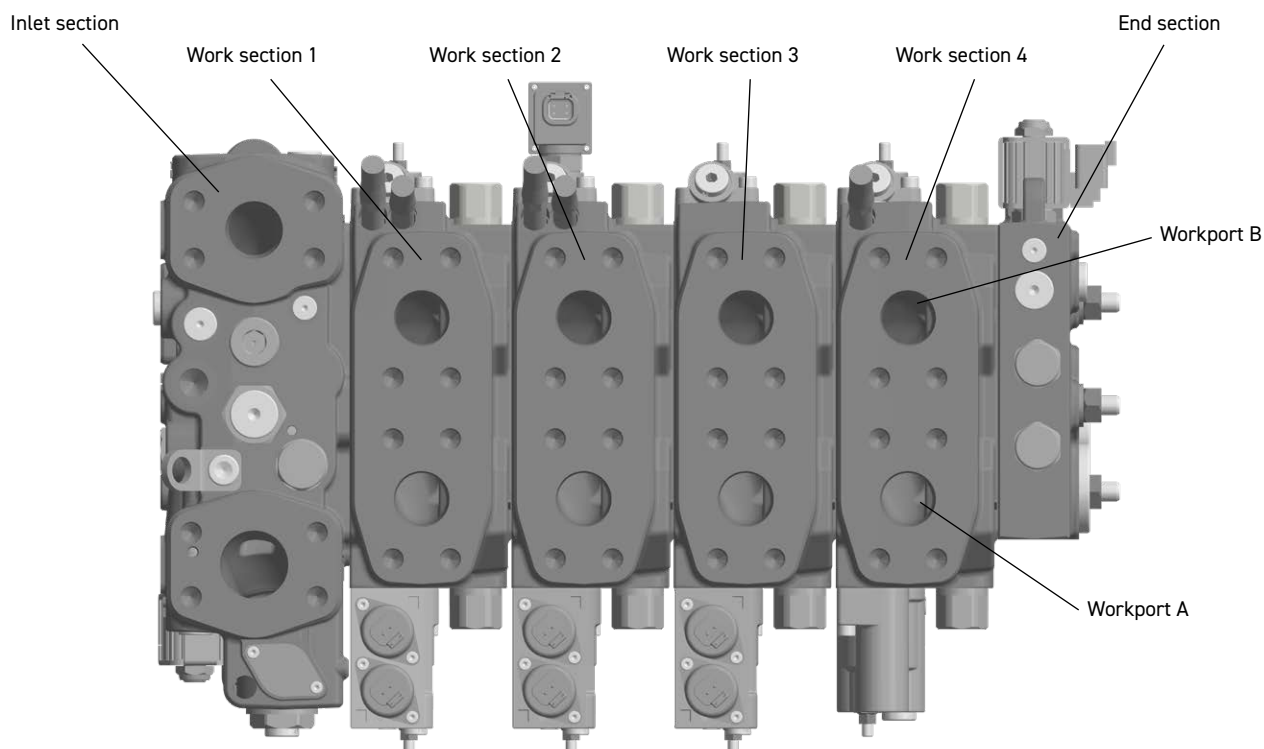


VA450 with added functionality.



VA450+VA300+VA130 combination valve.

TECHNICAL DATA



Pressure

Pump inlet	max 370 bar
Workports	max 370 bar
Tank, static	max 20 bar

Some options restrict max pressure to a lower level.
Please contact Parker for more information.

Internal pilot pressure

Fixed setting	35 bar
---------------	--------

Flow capacity

Pump connection	1000 l/min***
Workport with LS compensator*	450 l/min

*Indicated for ΔP 20 bar over the valve

***Pump connected to more than one port

Weight

The weights below are approximate and may vary according to the valve configuration.

Inlet section LS450:	25 kg
Work section with EC:	20 kg
Work section with PC:	20 kg
Work section with ECWP:	23 kg
End section US450:	6.4 kg

Filtration

Filtration must be arranged so that Target Contamination Class 20/18/14 according to ISO 4406 is not exceeded.
For the pilot circuit, Target Contamination Class 18/16/13 according to ISO 4406 must not be exceeded.

Hydraulic fluids

Best performance is obtained using mineral base oil of high quality and cleanliness in the hydraulic system.

Hydraulic fluids of type HLP (DIN 51524), oil for automatic gearboxes Type A and engine oil type API CD can be used.

Viscosity, working range 15-380 mm²/s**

Temperature

Oil temperature, working range	+20°C to 90°C**
Oil temperature start-up, functional range	-30°C to 100°C**

Technical information in this catalogue is applicable at an oil viscosity of 30 mm²/s and a temperature of 50°C using HNBR or NBR seals.

** Product operating limits are broadly within the above range, but satisfactory operation within the specification may not be accomplished. Leakage and response time will be affected when used at temperature extremes. Performance efficiency will be reduced if the product is used outside the ideal values. These extreme conditions must be evaluated by the user to establish suitability of the product.

[P1030] Pump regulator setting

The pump regulator is the pressure difference between pump and load signal (port PX-PL) at the valve at maximum flow without overdemanding the pump. Selectable between 15-32 bar.

[P1040] Connection thread

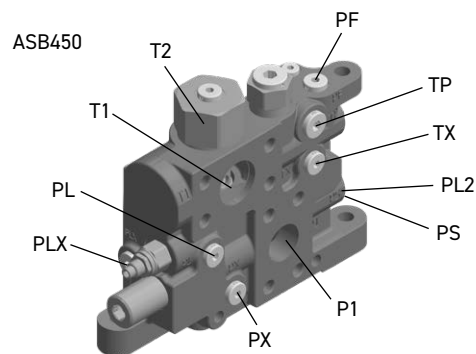
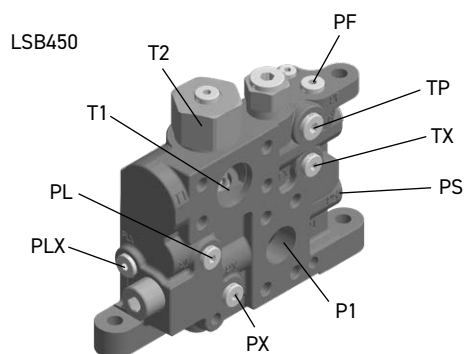
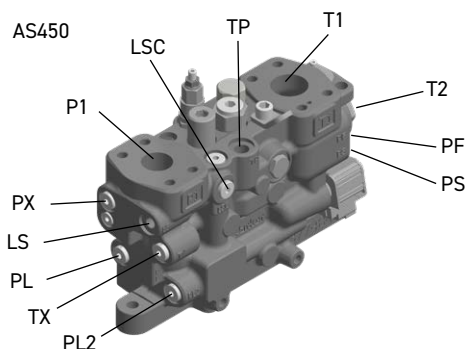
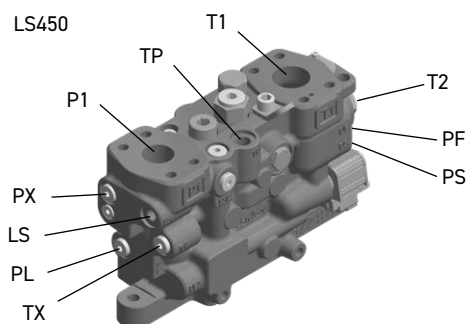
MG G-version (BSP pipe thread) for flat seal as per ISO 228/1.

MU UN-version for O-ring seal as per ISO 11926-1.

MM Metric-version for O-ring seal as per ISO 6149-1.

All flange connections uses M12x1,75 metric screws with a thread depth of min 23 mm.

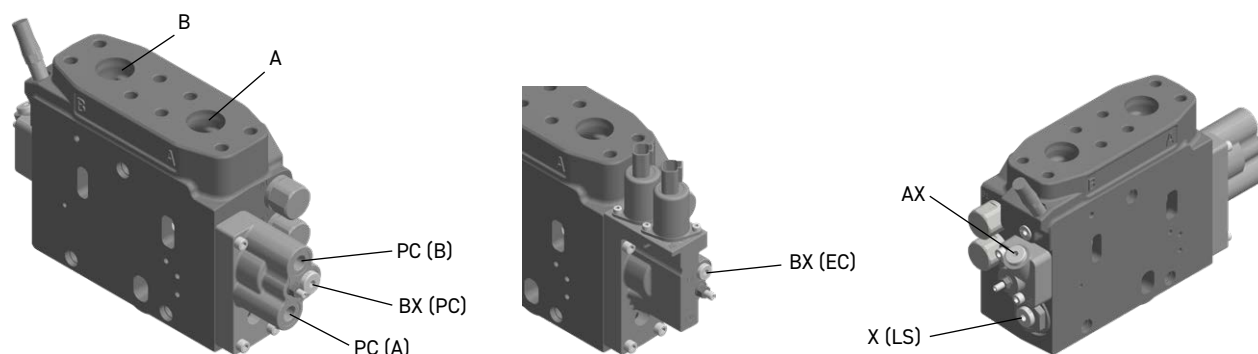
Inlet section



[P2010] LS450, AS450, LSB450, ASB450

Connection	[P1040] MG	[P1040] MU	[P1040] MM
P1	Flange connection 1 1/2 high pressure as per ISO 6162-2		
T1	Flange connection 1 1/4 standard pressure as per ISO 6162-1		
T2	G1 1/4	1 5/8-12 UN-2B	M33x2
TP	G3/8	3/8-16 UNF-2B	M18x1.5
LS, PX, PL, PF, PS, TX, LSC, PL2, PLX	G1/4	9/16-18 UNF-2B	M14x1.5

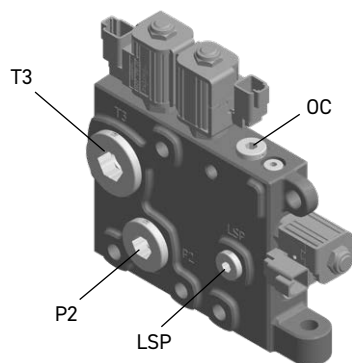
Work section



[P5010] WS450

Connection	[P1040] MG	[P1040] MU	[P1040] MM
A, B	1 1/4 high pressure as per ISO 6162-2		
PC, X, AX, BX(PC)	G1/4	9/16-18 UNF-2B	M14x1.5
BX (EC)	G1/8	7/16-20 UNF-2B	M10x1

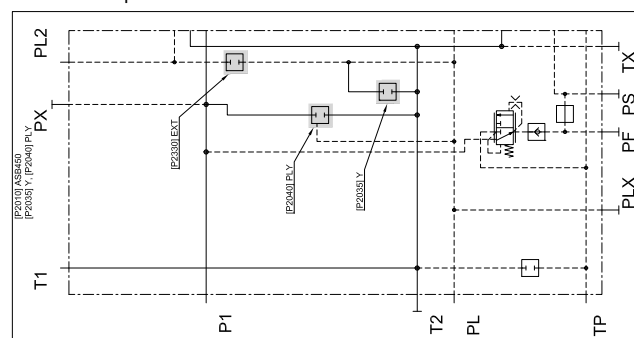
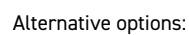
End section



[P3010] US300

Connection	[P1040] MG	[P1040] MU	[P1040] MM
T3	G1 1/4	1 5/8-12 UN-2B	M42x2
P2	G1	1 5/16-12 UN-2B	M33x2
LSP, OC	G3/8	3/4-16 UNF-2B	M18x1.5

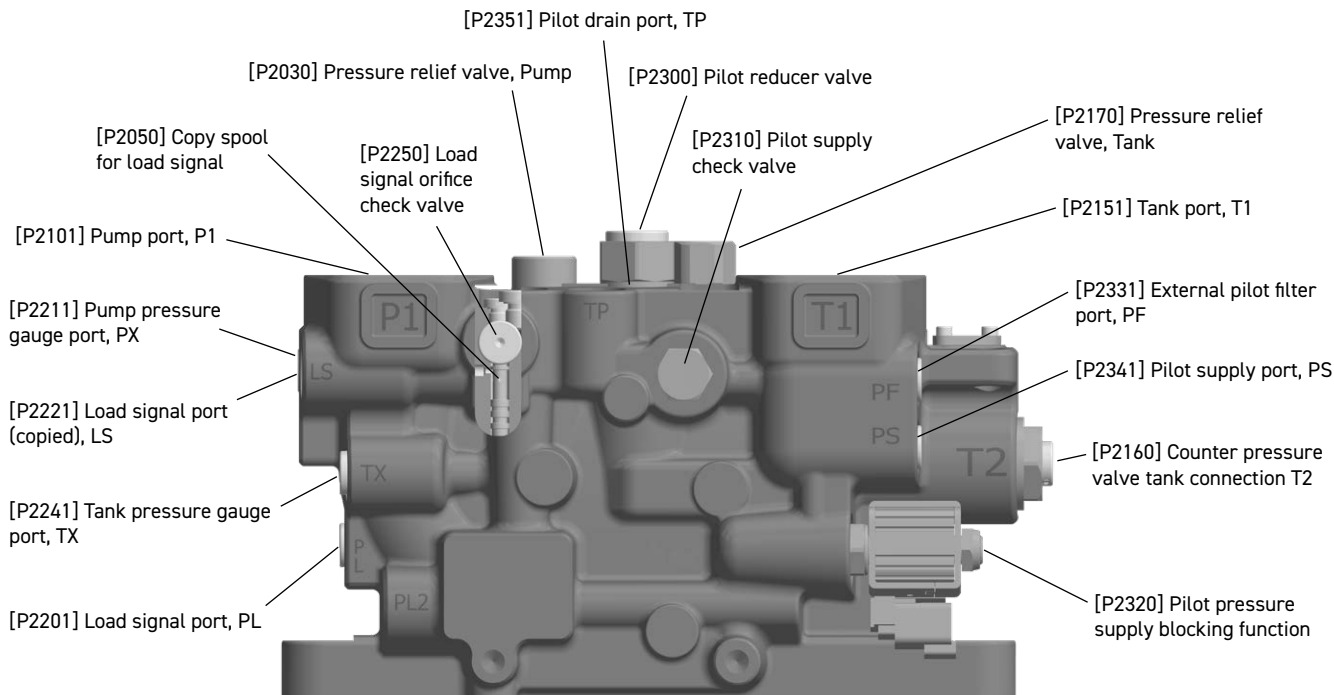
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INLET SECTION

[P2010 - P2360]

The inlet section contains most of the general valve functions and the type of inlet depends on the choice of [P5240] compensator in the work sections.



[P2010] Inlet section types

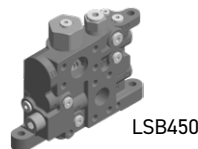
- LS450** Inlet section used if all work sections have a [P5240] LS compensator, for systems with a variable pump. Can be used in the first and subsequent valves in a system.
- AS450** Inlet section with flanged connections used if any work section have a [P5240] AS compensator, for systems with a variable pump. Can be configured for use in the first and subsequent valves in a system.
- LSB450** Slimmer inlet section flanged connections used if all work sections have a [P5240] LS compensator, for systems with a variable pump. Can be used in the first and subsequent valves in a system.
- ASB450** Slimmer inlet section flanged connections used if any work section have a [P5240] AS compensator, for systems with a variable pump. Can be configured for use in the first and subsequent valves in a system.



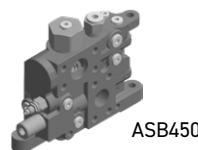
LS450



AS450



LSB450



ASB450

[P2020] Connections

FC P1 and T1 connections are flanged, all other connections are threaded.

Applies to [P2010] inlet section LS450

[P2030] Main pressure relief valve

[P2030S] Pressure setting

PA1 Direct acting dampened pressure relief valve with a very fast opening sequence and good pressure characteristics. Acts as a pressure relief valve in the pump gallery. Available with the following [P2030S] pressure settings in bar: 63, 80, 100, 125, 140, 160, 175, 190, 210, 230, 240, 250, 260, 280, 300, 330, 350, 380.

Applies to [P2010] inlet section AS450 and ASB450

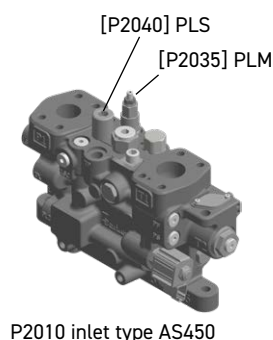
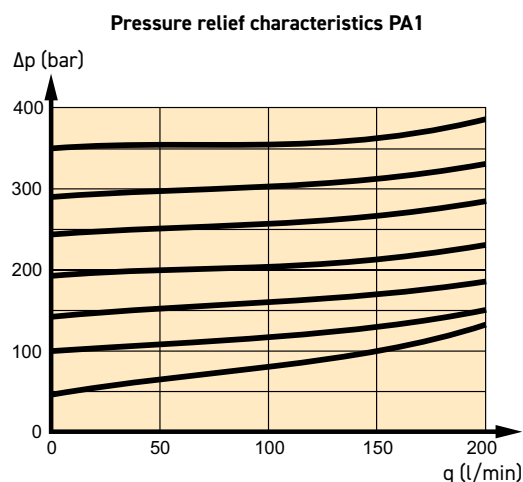
[P2035] Pressure relief valve

[P2035S] Pressure setting

PLM Adjustable signal pressure relief valve which limits the load signal pressure to the pump. The pump's regulator setting, stated in [P1030], is added to the load signal resulting in the maximum pressure in the pump gallery. The [P2030S] pressure setting is selectable between 175-350 bar. The main pressure level must always be limited using the PLM to ensure correct function of the [P5240] AS compensators.

Y Blocked with cavity plug.

/ Cavity not machined in casting.

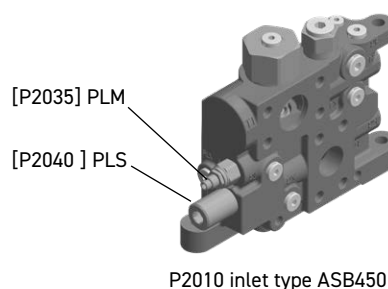


[P2040] Differential pressure relief valve

[P2040S] Pressure setting

PLS In combination with PLM it is a pilot-controlled pressure limitation valve, and acts as a pressure relief valve in the pump gallery limiting the pressure difference between pump pressure and load signal pressure. The PLS is used in valves with [P5240] AS compensators to prevent interference between simultaneously operated functions. The first valve in a system must have a PLS. Available with a [P2040S] fixed pressure setting of 38 bar.

PLY Blocked with cavity plug. The subsequent valves in a system must have a cavity plug.



[P2050] Load signal copy function

The load signal system consists of a number of shuttle valves located in the work sections, where each work section's load signal and any signal received from a subsequent valve connected to [P3031] port LSP are compared. The highest load signal is either sent directly to the pump via [P2201] port PL, or through a copy spool to pump via [P2221] port LS.

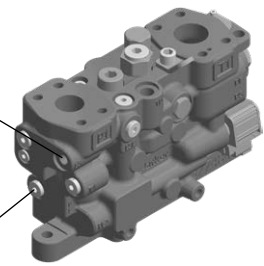
KS The highest load signal is sent to a copy spool which copies the load signal using pump oil. Since pump oil is used the system permits a certain consumption in the load signal line to the pump regulator, without the load signal being influenced.

The system also prevents disruptive micro-dipping of the load during the initial stage of a lifting phase.

KB Inlet section machined for copy spool but blocked, possible to retrofit copy spool.

LS = Copied load signal
– the oil is supplied from the pump.

PL = Uncopied load signal
– the oil is supplied from the workport.



[P2160] Function in port T2

Can either be used as a tank connection or fitted with a counter pressure valve.

The counter pressure valve increases the pressure in the valve's tank gallery to a fixed pressure level. By raising the counter pressure level the anti-cavitation characteristics of the VA450 is improved. The anti-cavitation characteristics can be improved further still by allowing the tank gallery to be supplied with oil from the pump if needed. Good characteristics eliminate the risk of cavitation and reduces the risk of damaging the cylinder seals.

X No counter pressure function, can be used as a tank connection. Possible to retrofit a counter pressure valve.

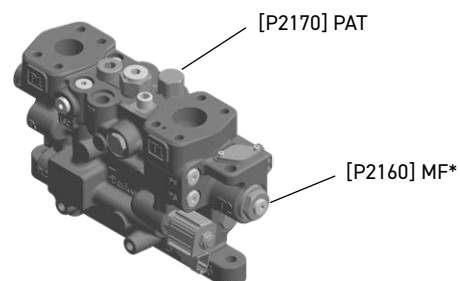
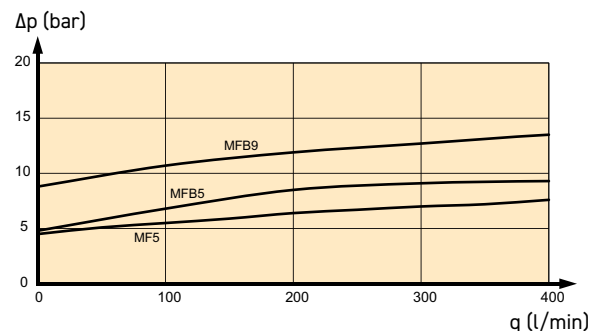
MF5 Counter pressure valve for [P2010] inlet section LS450, preset to give 5 bar counter pressure at a flow of 20 l/min. Without active refill pump-tank.

MF5A Counter pressure valve for [P2010] inlet section LS450, preset to give 5 bar counter pressure at a flow of 20 l/min. With active refill pump-tank.

MFB5 Counter pressure valve for [P2010] inlet section LSB450 and ASB450, preset to give 5 bar counter pressure at a flow of 20 l/min. Without active refill pump-tank.

MFB9 Counter pressure valve for [P2010] inlet section LSB450 and ASB450, preset to give 9 bar counter pressure at a flow of 20 l/min. Without active refill pump-tank.

MF5, MFB5, MFB9 - Counter pressure characteristics



[P2170] Pressure relief valve, tank

X No pressure relief valve in tank gallery, possible to retrofit.

PAT Fixed pressure relief valve set to [P2170S] 50 bar.

[P2250] Function in port LSC

X No orifice check valve assembled, possible to retrofit.

0,8 Check valve with 0,8 mm orifice in the LS line. The load signal is restricted towards the valve and provides a smoother destroking of the pump.

[P2300] Pilot pressure supply

- R** Internal reducing cartridge valve for pilot pressure supply of the spool actuators. Includes a pressure relief valve to protect the pilot circuit and a coarse filtration strainer. [P2331] Port PF can be used as connection for external use of the reduced pilot pressure.

[P2300S] Pilot pressure setting

- 35** Pilot pressure set at 35 bar.

[P2310] Pilot pressure supply check valve

- RCV** A check valve downstream of the reducing cartridge valve to prevent pilot oil from leaking back to the pump.
- X** No check valve in the pilot line, possible to retrofit.

[P2320] Pilot pressure supply blocking function

- RBE** Electrically controlled pilot pressure supply blocking function. At zero current to the solenoid, the connection is blocked between the reduced pilot pressure and work sections.
- X** No pilot pressure supply blocking function, possible to retrofit.

[P2320P] Cartridge valve type

- RBE1** Pilot valve type DSH081CN.

[P2320C] Solenoid type

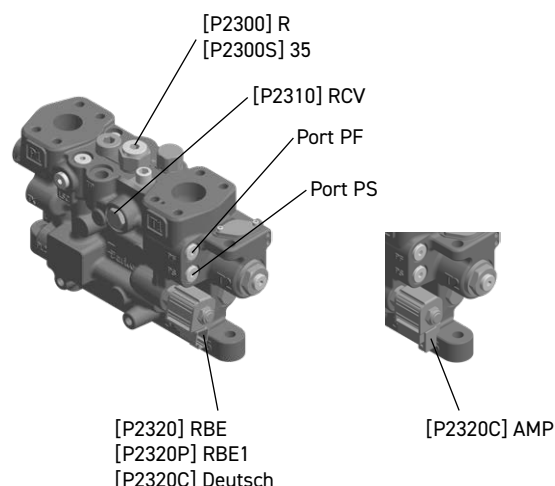
- A** AMP Junior-Timer, mates with type C.
- D** Deutsch, type DT04-2P, mates with DT06-2S.

[P2330] Function in port PF

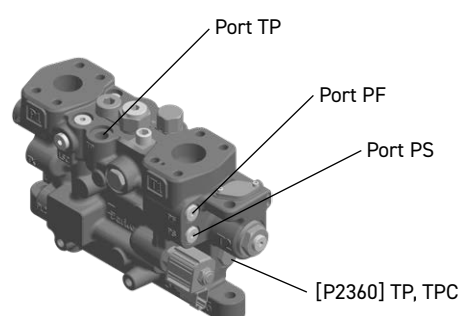
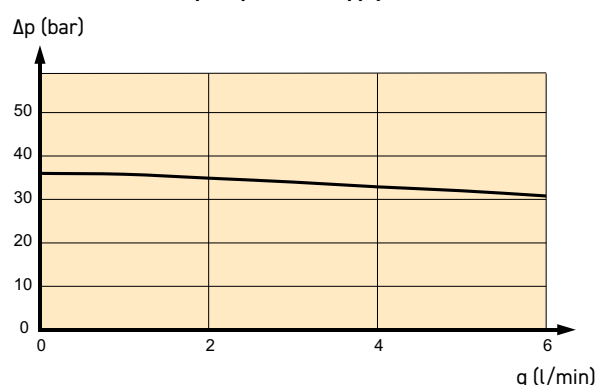
- YS** The connection is blocked between the internal pilot pressure supply and spool actuators, meaning that the spool actuators must be supplied from an external source via [P2341] port PS. The internal pilot pressure can be connected externally from [P2331] port PF to an external filter and back to the valve through [P2341] port PS to supply the spool actuators.
- X** The connection is open between the internal pilot pressure supply and spool actuators. It is possible to convert to YS.

[P2360] Pilot drain function

- TP** Separate pilot drain through port TP (recommended).
- TPC** Internal pilot drain via a 0.2 bar check valve to main tank.
- X** Internal pilot drain to main tank. It is possible to convert to TP or retrofit TPC.

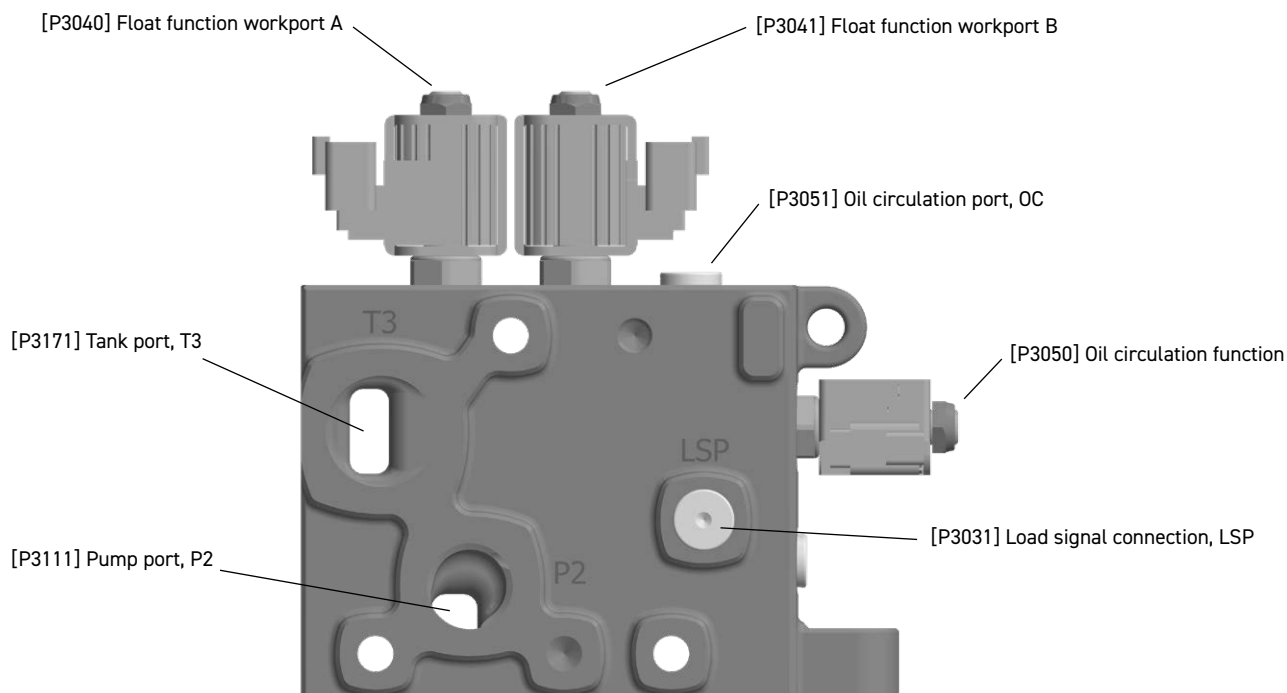


R35 - Internal pilot pressure supply characteristics



END SECTION

[P3010 - P3520]



[P3010] End section type

US300 Standard end section.

[P3020] Connections

PT All connections are threaded.

[P3030] Function in port LSP

LSP The connection is open between [P3031] port LSP and the load signal system allowing a load signal from a subsequent valve to be connected to the valve.

LSPB No connection between [P3031] port LSP and the load signal system. Intended for single valve systems. It is possible to convert to LSP.

[P3040] Float function workport A

[P3041] Float function workport B

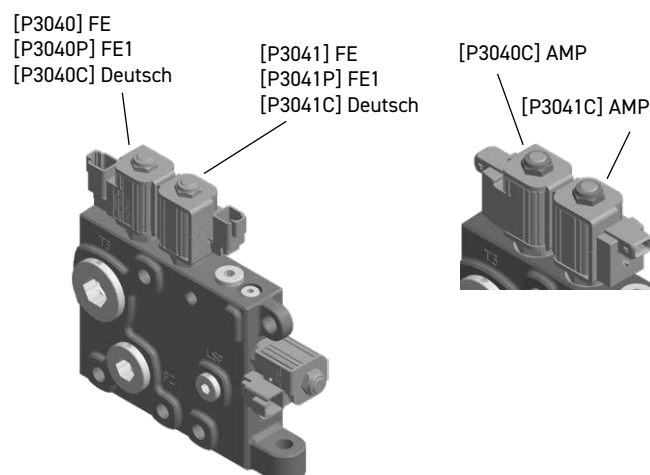
FE Electrically controlled float function. When applying current to the solenoid, a connection between the workport and tank is established.

FY Blocked with cavity plug.

[P3040P] Cartridge valve type, workport A

[P3041P] Cartridge valve type, workport B

FE1 Pilot valve type DSH101CRN.



[P3040C] Solenoid type, workport A

[P3041C] Solenoid type, workport B

A AMP Junior-Timer, mates with type C.

D Deutsch, type DT04-2P, mates with DT06-2S.

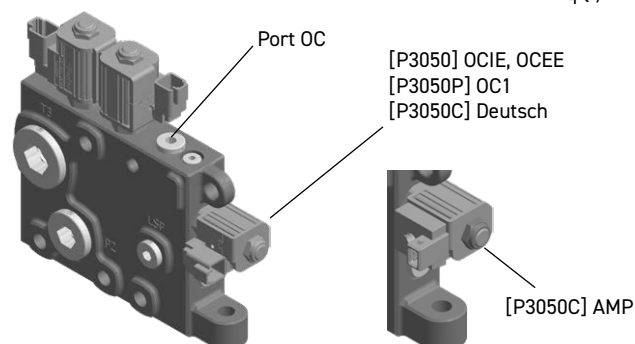
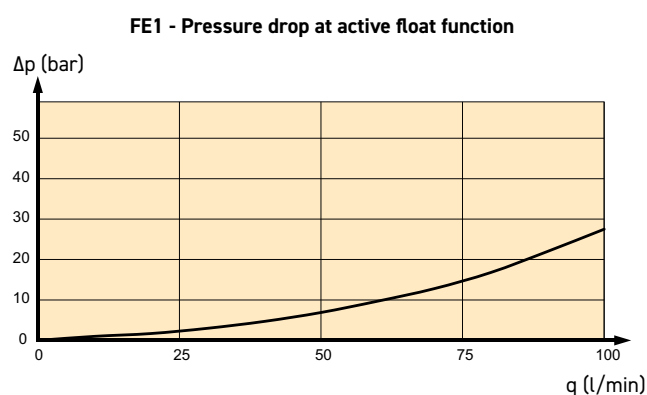
[P3050] Oil circulation function

When applying current to the solenoid, a connection between pump and tank is established allowing oil to circulate. Can be used as a warm up-, cool down-, filtering- or lubrication circuit.

OCIE Internal oil circulation from pump to tank.

OCEE Oil circulation from pump to port OC for external use.

Y Blocked with cavity plug.



[P3050P] Cartridge valve type

OC1 Pilot valve type DSH081CN.

[P3050C] Solenoid type

A AMP Junior-Timer, mates with type C.

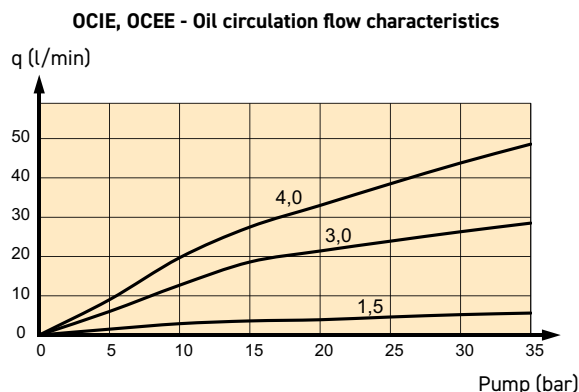
D Deutsch, type DT04-2P, mates with DT06-2S.

[P3050R] Orifice size, oil circuit

1,5 Orifice $\varnothing 1.5$ mm.

3,0 Orifice $\varnothing 3.0$ mm.

4,0 Orifice $\varnothing 4.0$ mm.

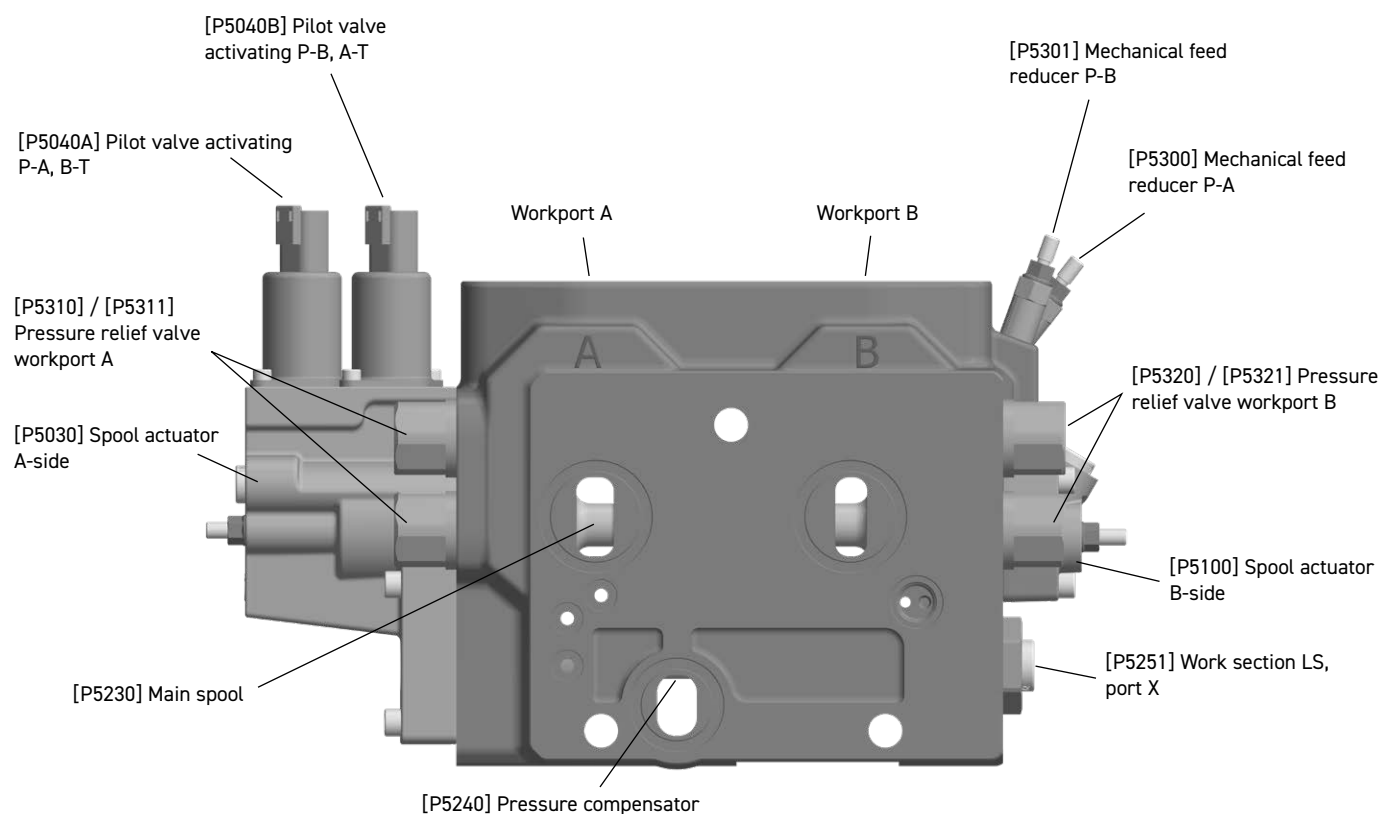


WORK SECTION

[P5000 - P5371]

The same valve can contain work sections with different types of spool actuators, compensators and other functions.

Maximum number of sections in a combined VA Series valve is further explained in the Parker web-based configurator.



[P5030] Spool actuator A-side

EC EC is a proportional, hydraulically controlled spool actuator with spring centring to neutral position. The spool actuators are supplied internally with pilot pressure, meaning that only the electric cables from the control system to the pilot solenoid valves are connected externally.

Control current for 12V

Start current min 570 mA
Final current max 1250 mA

Control current for 24V

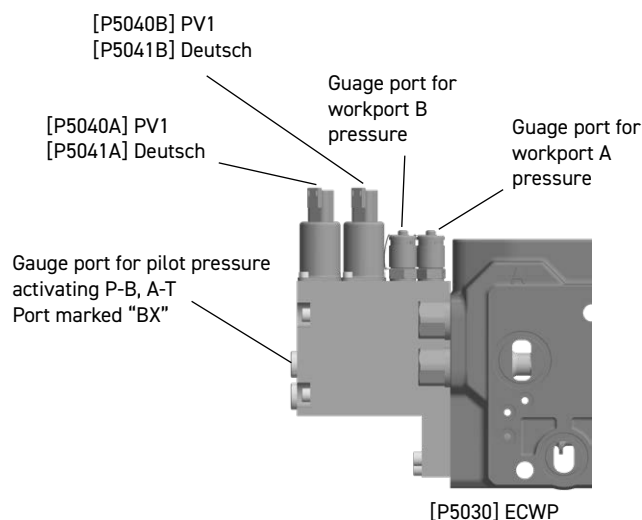
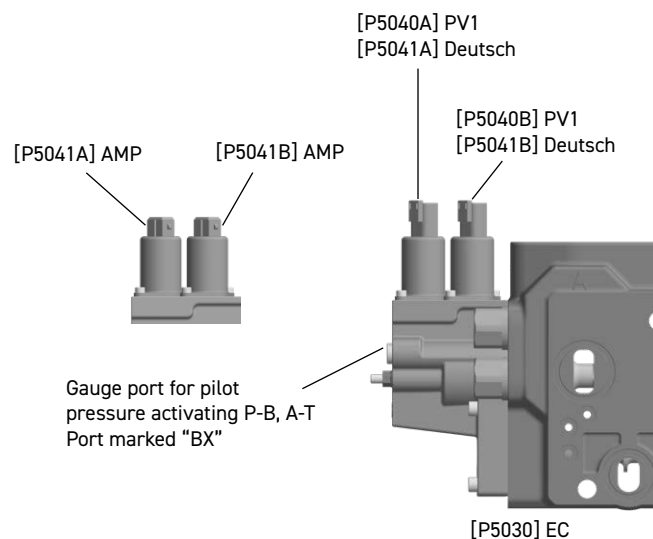
Start current min 290 mA
Final current max 650 mA
Suitable with PWM signal.

ECWP ECWP is the same as EC but with the possibility of measuring the workport pressure via the cap.

PC PC is a proportional, hydraulically controlled spool actuator with spring centring to neutral position. The remote control valve can be supplied with pilot pressure through [P2331] port PF in the inlet section.

Maximum permitted pressure in the pilot cap is 50 bar.

Control pressure, start 5.6 bar
Control pressure, final 20.5 bar



[P5040A] Pilot valve activating P-A, B-T

[P5040B] Pilot valve activating P-B, A-T

PV1 Proportional pilot solenoid valve without manual override.

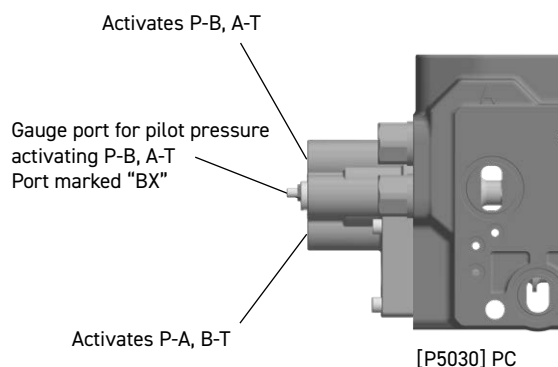
Y Cavity plug. The spool actuator cap is drained to tank.

[P5041A] Connector type, pilot valve P-A, B-T

[P5041B] Connector type, pilot valve P-B, A-T

A AMP Junior-Timer, mates with type C.

D Deutsch, type DT04-2P, mates with DT06-2S.



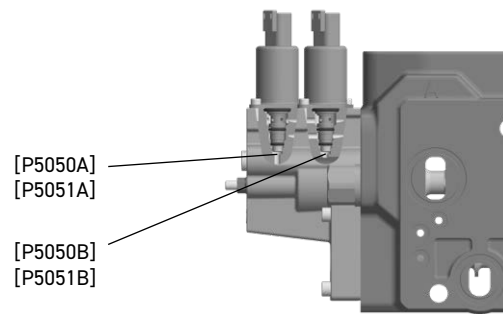
[P5050A] Pilot signal damping A

[P5050B] Pilot signal damping B

To provide a more gentle control characteristics, remote-controlled spool actuators are fitted with pilot orifices which dampens the pilot signal and provides a kind of ramp function. The pilot signal damping can be chosen individually for each workport. As standard, 0.8 mm is recommended.

ORI Mechanical pilot signal damping.

X No pilot signal damping, possible to retrofit.



[P5051A] Pilot orifice size A

[P5051B] Pilot orifice size B

0,6 0.6 mm pilot orifice.

0,7 0.7 mm pilot orifice.

0,8 0.8 mm pilot orifice.

0,9 0.9 mm pilot orifice.

1,0 1.0 mm pilot orifice.

1,1 1.1 mm pilot orifice.

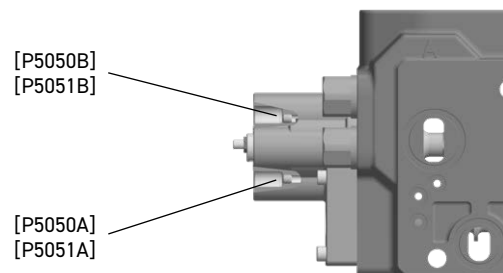
1,2 1.2 mm pilot orifice.

1,3 1.3 mm pilot orifice.

1,4 1.4 mm pilot orifice. Only for PC.

1,5 1.5 mm pilot orifice.

2,0 2.0 mm pilot orifice. Only for EC, ECWP.
(No damping)



[P5060] Type of gauge port threads

Spool actuator ECWP is fitted with gauge ports for measuring the pressure in both workports individually. The customer can either get the spool actuator fitted with Parker test point or assemble a Parker sensor of their choosing themselves.

GF1 Port connection G1/4 BSPP, flat sealing.

M01 Port connection M14x1.5, O-ring sealing.

U01 Port connection 9/16-18 UNF, O-ring sealing.

[P5060A] Gauge port, workport A

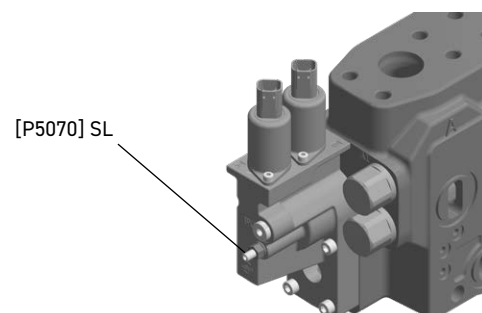
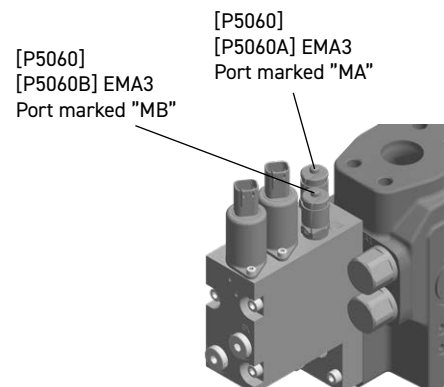
[P5060B] Gauge port, workport B

C Gauge port plugged.

EMA3 Parker EMA3/1/4EDCF.

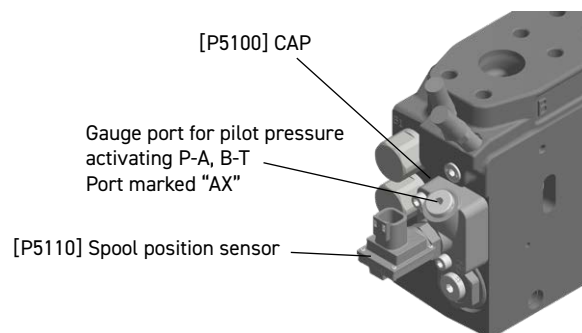
[P5070] Additional options A

SL Mechanical spool stroke limitation P-A, B-T.



[P5100] Spool actuator B-side

- CAP** Standard cover cap with gauge port for measuring pilot pressure activating P-A, B-T.
- CH** Spool actuator cap with the possibility of manual control by means of a lever.



[P5110] Spool position sensor

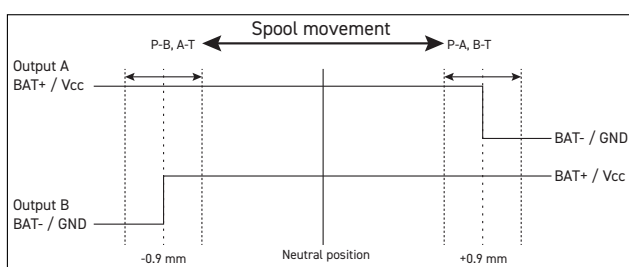
The spool actuators can be fitted with Parker spool position sensor for diagnostics. Available with either an analog or digital output signal:

Analog output signal which is proportional to the spool position.

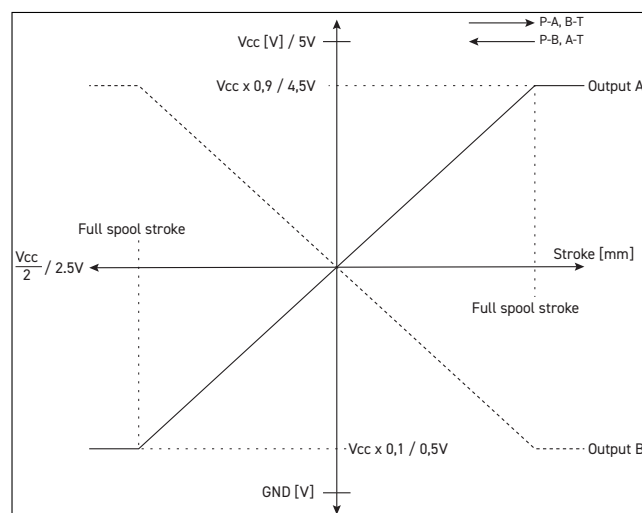
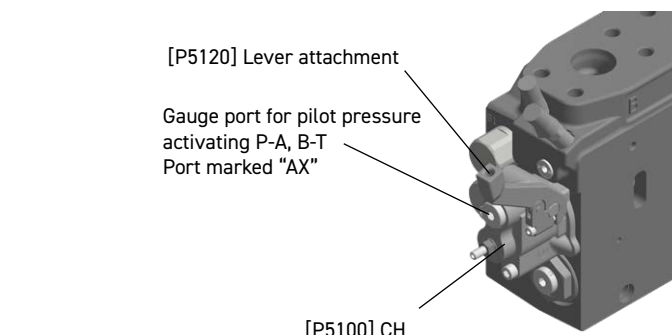
Digital output signal for indication when spool is inside or outside neutral position.

Connector DTM04-4P, mates with DTM06-4S.

- ABC** Analog output signal. Supply voltage 5 V.
- ARC** Analog output signal. Supply voltage 6-36 V.
- DBC** Digital output signal. Supply voltage 5 V.
- DRC** Digital output signal. Supply voltage 6-36 V.
- X** No spool position sensor, possible to retrofit.



[P5110] ABC, ARC

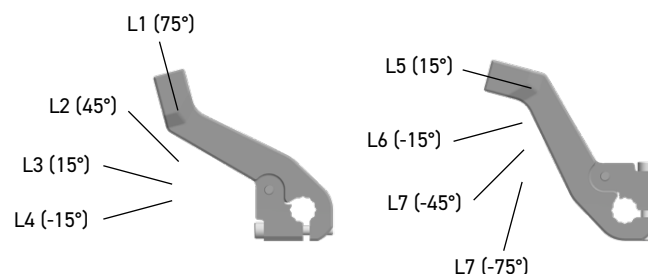


[P5110] DBC, DRC

[P5120] Lever attachment

The lever attachment can be fitted at various angles and has an M8 thread for optional fitting of a lever. Levers are sold separately, see Parker "Accessories" catalogue.

- L1-L8** Lever attachment fitted at various angles.
- LX** No lever attachment, possible to retrofit.



[P5130] Additional options B

- SL** Mechanical spool stroke limitation P-B, A-T.

The spool is the most important link between the operator's activation of a lever unit and the movement of the controlled function. For this reason, Parker designs a wide range of spools to meet any function-specific demands. Spools are selected with the aid of a computerised specification program based on a series of different parameters.

[P5200] Spool function

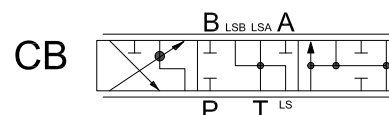
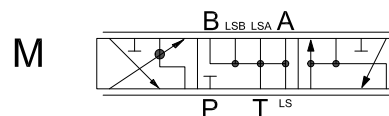
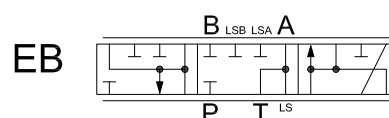
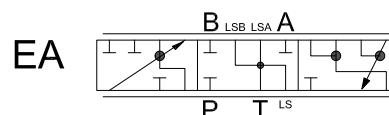
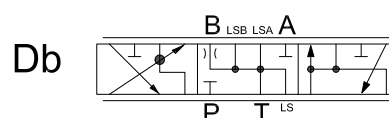
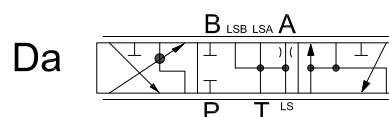
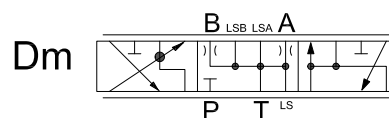
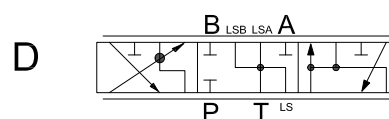
There are many spool variants adapted for different flows, load conditions and actuator area ratios. The spools are also available with different levels of [P5220A/B] force feedback.

- D** Double-acting spool, e.g. for double-acting cylinders.
- E** Single acting spool for e.g., single acting cylinders.
Both lifting and lowering functions in either workport A or workport B.
- M** Double-acting spool, e.g. for hydraulic motor.
Floating function in neutral position, connects workport A and B to tank.
- C** Regenerative spool via either workport A or workport B. Whichever port has the regenerative function is where the large side of the cylinder is connected.

[P5200D] Drainage grooves workport - tank

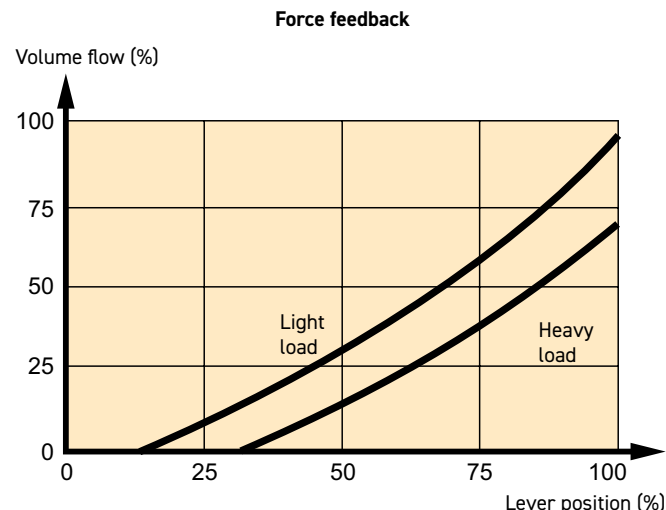
The primary purpose of having leakage grooves is when there are overcenter valves in the system. The leakage grooves prevent pressure build-up in neutral position allowing the overcenter valve to open properly.

- /** No drainage in neutral position.
- a** Drainage workport A - tank in neutral position.
- b** Drainage workport B - tank in neutral position.
- m** Drainage workport A&B - tank in neutral position.



The VA450 spools can be assembled in various combinations providing different degrees of or no force feedback individually for workports A and B. Force feedback allows the user to better sense an increase in machine load, and the higher the level of force feedback is, the greater the reduction in the function's speed at increasing load pressure for the same spool stroke. This means that the spool must be actuated further in order to maintain the same function speed at increasing load.

Force feedback also provides a kind of ramp function, which results in more gentle transitions during speed changes. This results in a stabilizing effect on the hydraulic system and the machine operating is smoother. With force feedback, machine wear is reduced and efficiency increases.



[P5220A] Spool assembly, workport A

- X** No force feedback.
- FF1** Hydraulic force feedback. The degree of force feedback depends on the choice of [P5051B] orifice. The smaller the pilot orifice diameter, the greater the degree of force feedback.
- FF2** Hydraulic force feedback. As FF1 but with a reduced degree of force feedback.

[P5220B] Spool assembly, workport B

- X** No force feedback.
- FF1** Hydraulic force feedback. The degree of force feedback depends on the choice of [P5051A] pilot orifice. The smaller pilot orifice diameter, the greater degree of force feedback.
- FF2** Hydraulic force feedback. As FF1 but with a reduced degree of force feedback.

[P5240] Pressure compensator and load-hold check valve

The primary purpose of pressure compensation is to maintain a constant flow rate to a function, regardless of pressure variations in the system.

The load-hold check valve prevents oil passing from the workport to the pump gallery if the pump pressure falls below the load pressure.

VA450 compensator types:

There are two compensator types available:

LS compensators, which provide a fixed, selectable pressure drop over the main spool. If the pump is overdemand, the flow from the section with the highest load pressure is reduced.

AS compensators, which provide a fixed, selectable pressure drop over the main spool based on ΔP over the valve. If the pump is overdemand, the flow is reduced equally for all actuated sections with AS compensators.

If LS and AS compensators are combined in the same valve, the flow is prioritized to the sections with LS compensators.

LS compensator types:

- EK** Fixed pressure compensator with load-hold check valve.
- X1** Section without compensator or load-hold check valve.
Possible to retrofit a compensator.

AS compensator types:

- EKAS** Compensator for systems with flow sharing.
- EKAP** Compensator for systems with flow sharing.
EKAP functions in the same way as EKAS but with an extra spring causing the pump-workport connection to close sooner than the EKAS compensator. This means that work sections with EKAS compensators are given priority over work sections with EKAP compensators.

Work section LS, port X

Port for external connection to the work section's load signal. This allows controlling the compensator externally as e.g., an external feed reducer.

[P5260A] Nominal flow to workport A

[P5260B] Nominal flow to workport B

Valid at ΔP 20 bar across the valve.

[P5270] Flow limitation workport A

When choosing the [P5070] mechanical stroke limiter SL it is possible to mechanically set the maximum flow in workport A to a desired value.

QsetA Limitation of maximum flow in workport A.
Desired flow is stated in [P5270S].

[P5275] Flow limitation workport B

When choosing the [P5130] mechanical stroke limiter SL it is possible to mechanically set the maximum flow in workport B to a desired value.

QsetB Limitation of maximum flow in workport B.
Desired flow is stated in [P5275S].



[P5300] Feed reducer valve, workport A

[P5301] Feed reducer valve, workport B

Feed reduction is used for system functions that require a lower maximum working pressure compared to the normal working pressure in the system. The feed reducer valve is a signal pressure limiter on the load signal.

The signal pressure limiter limits the pressure in the workport by causing the compensator spool to close the pump-workport connection when load signal reaches a preset value.

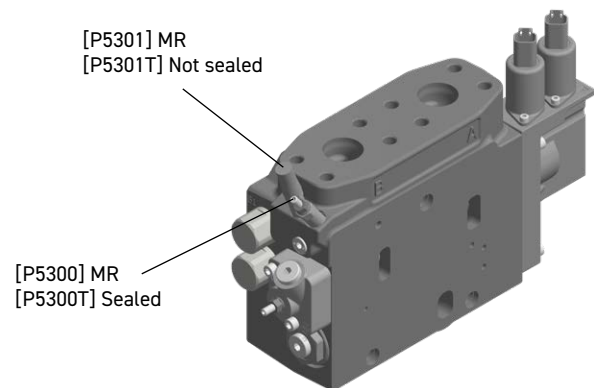
The feed reducer valve cannot handle external pressure peaks. If pressure peaks occur, it is recommended to use pressure relief valves in [P5310]/[P5311] and [P5320]/[P5321].

MR Individual feed reducer.

MRC Common feed reducer for workports A and B.

Y Cavity plug.

YC Cavity plug for common feed reducer cavity.



[P5300S] Pressure setting, MR workport A

[P5301S] Pressure setting, MR workport B

Selectable between 30-330 bar.

[P5300T] Sealing, MR workport A

[P5301T] Sealing, MR workport B

/ Feed reducer not sealed.

SLD Feed reducer sealed.

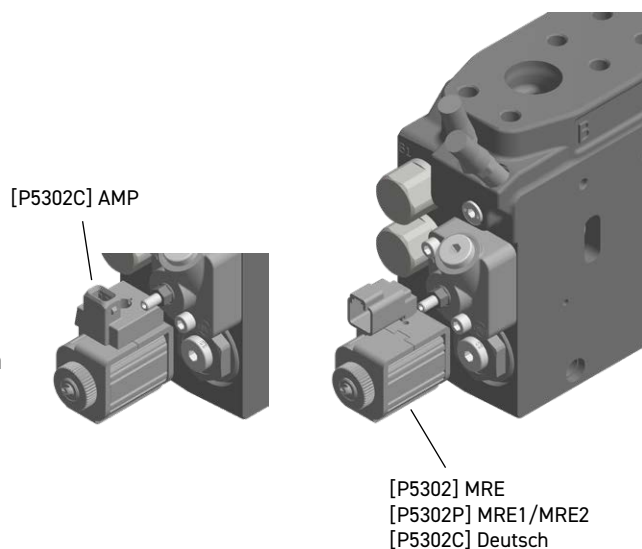
[P5302] Electric proportional feed reducer

An electric signal pressure limiter on the load signal for workports A and B, allowing the maximum working pressure to be controlled proportionally. Pressure level decreases with increasing current to the solenoid.

It is recommended to set the feed reducers in [P5300] and [P5301] to the maximum allowed working pressure and to use pressure relief valves in [P5310]/[P5311] and [P5320]/[P5321] to protect against external pressure peaks.

MRE Electric proportional feed reducer.

MREY Blocked with cavity plug.



[P5302P] Cartridge valve type

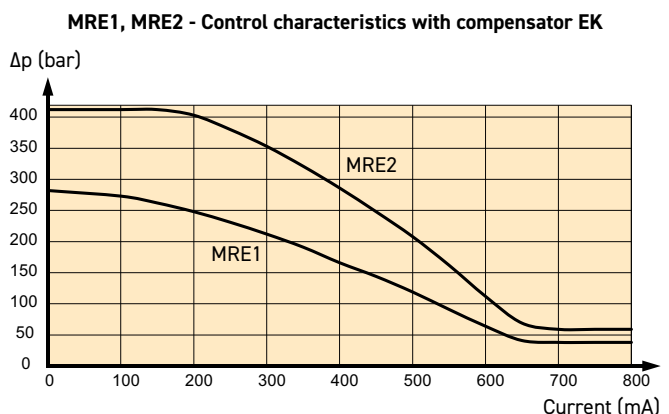
MRE1 AP02B2YR21ANL

MRE2 AP02B2YR35ANL

[P5302C] Solenoid type

A AMP Junior-Timer, mates with type C.

D Deutsch, type DT04-2P, mates with DT06-2S.



Pressure relief and/or anti-cavitation valves

[P5310] Workport A, port A1

[P5311] Workport A, port A2

[P5320] Workport B, port B1

[P5321] Workport B, port B2

X2 Workport open to tank.

Y2 The connection is blocked between workport and tank with cavity plug.

N2 Anti-cavitation valve. In the event of negative pressure in the workports, the anti-cavitation function allows oil to flow from the tank gallery to the workport.

PA Dampened pressure relief valve with anti-cavitation function. Selectable pressure setting in bar: 50, 63, 80, 100, 125, 140, 160, 175, 190, 210, 230, 240, 250, 260, 270, 280, 300, 310, 320, 330, 350, 365, 380, 400.

[P5350] Internal connection of workports

Internal connection between workports and adjacent sections or a function manifold. The internal connection has diameter 11.5 mm so it is not a full flow connection. The purpose is to equalize the pressure in sections actuated in parallel, or to transfer a signal to a function manifold.

/ No internal connection.

M1 Workports internally connected to the following section.

M2 Workports internally connected to the previous and following section.

[P4000-] Function manifold

VA450 can be equipped with a function manifold allowing complete system solutions to be integrated into the valve.

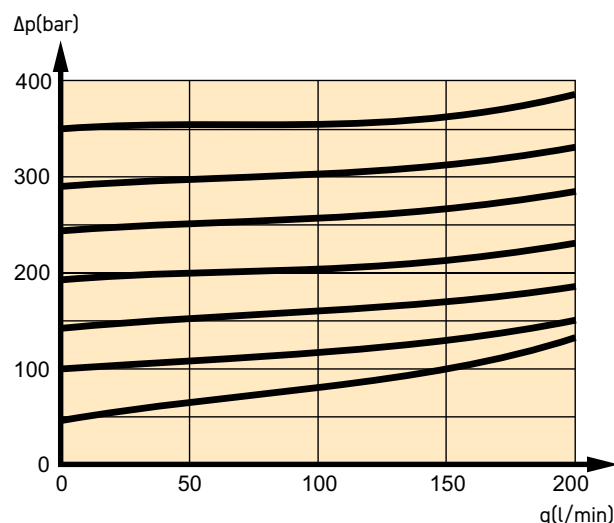
Please contact Parker for more details on integrated system solutions.

Accessories

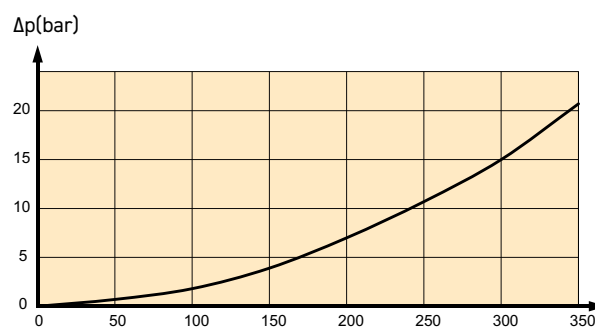
Connectors, levers, etc. are available as accessories. They must be ordered separately.

See our accessories catalogue (MSG17-8558/UK).

Pressure relief characteristics PA



PA, PAU, N2 - Anti-cavitation characteristics (x2)



The graphs above show the pressure drop of two pressure limiter/check valve. Note that section WS450 can have one or two units per workport, this is to keep the pressure drop down at high flows.

Internal connection workport A Internal connection workport B

