

## NV452 Monoblock directional control valve



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- Spool Options
- Auxiliary Valves
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## General Specifications

### Product Features

NV452 is a perfect control valve for front-end loaders for both open and closed center systems for nominal flow rate 90lpm and operating pressures up to 250bar.

With the unique rear port construction, the valve is ready to accept multi quick couplings, ports are positioned for easy piping and easy assembly of the cable control wires.

NV452 offers excellent operating characteristics with minimum spool leakage.

- Load sense option offers improved control and efficiency
- Valve equipped with an adjustable main relief valve and load hold check valves in each working section
- Auxiliary valves available
- Available with parallel circuit
- Valve can be operated manually, remote control with flexible cables and electro-hydraulic proportional control

### Standard Material Specifications

High renitence cast iron body  
 Hard chromium plated interchangeable spools  
 Steel spring caps  
 Aluminium lever caps  
 NBR seals

### Working Conditions

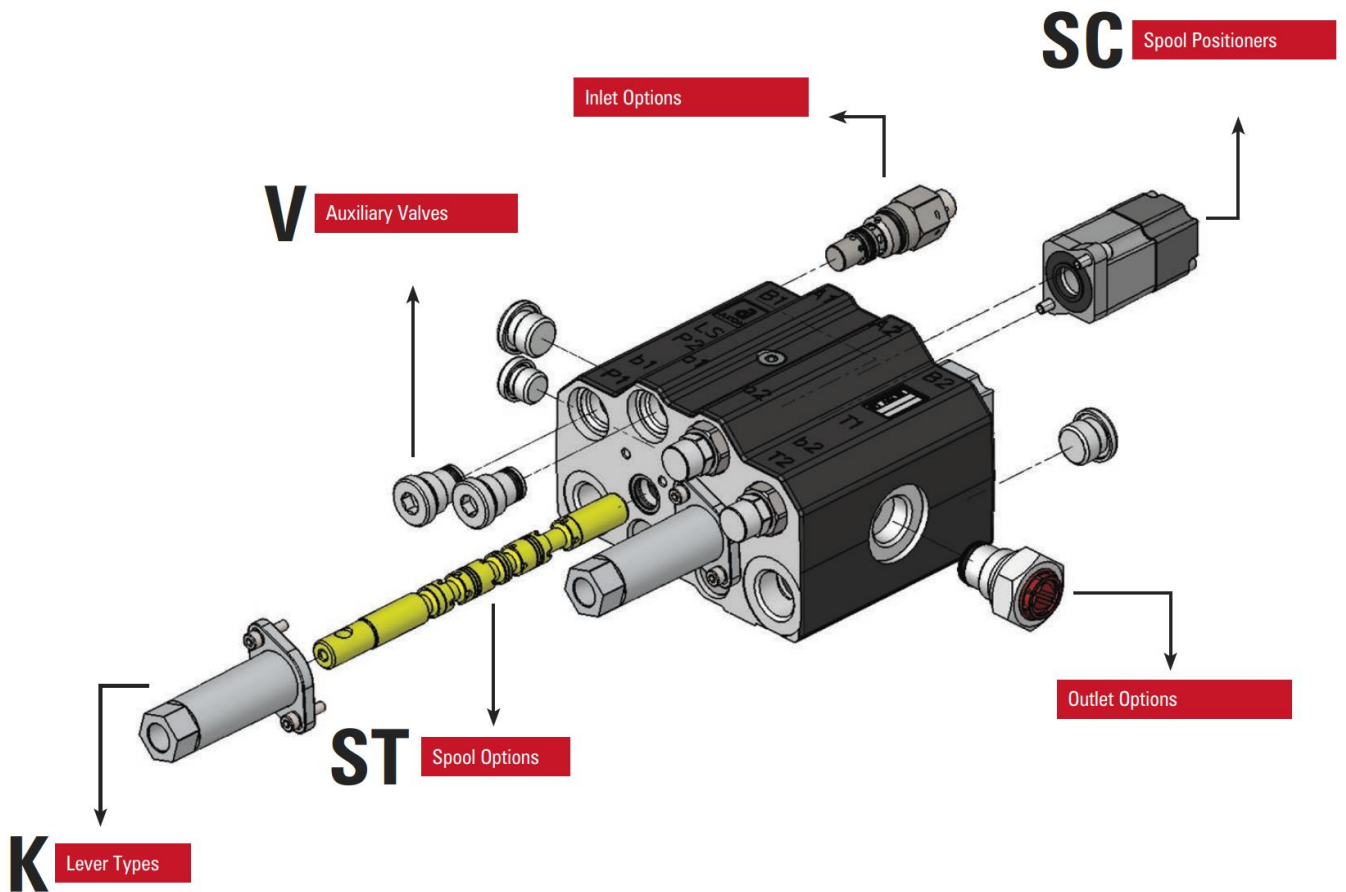
|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Recommended Oil Viscosity Range     | 10cSt to 75 cSt                     |
| Recommended Fluid Temperature Range | -20 to +80                          |
| Environmental Temperature Range     | -40 to +60                          |
| Maximum Contamination Level         | Class 9 (NAS 1638) 19/16 (ISO 4406) |

### Technical Specifications

|                          |                              |                                     |
|--------------------------|------------------------------|-------------------------------------|
| Nominal Flow             | 90 lpm                       | 24 US gpm                           |
| Number of spools         | 2                            |                                     |
| Maximum working pressure | 250 bar                      | 3600 psi                            |
| Maximum back pressure    | 10 bar                       | 150 psi                             |
| Maximum internal leakage | 2 cc (100 bar, 46 cSt, 40°C) | 0,12 in 3/m (1450 psi; 46 cSt, 100) |

For other demands please contact our sales department.

## Order Coding



**LVM92B -**      **R (185) /**      **SC9 ST1 V13 KR / SC1 ST1 V13 KT /**      **H**  
**1**                      **2**    **3**    **4**

**1**  
**Valve Type**

LVM 92      Valve Series  
 B      Port Thread

**2**  
**Inlet Options**

R      Main Relief Valve  
 (185)      Pressure Setting

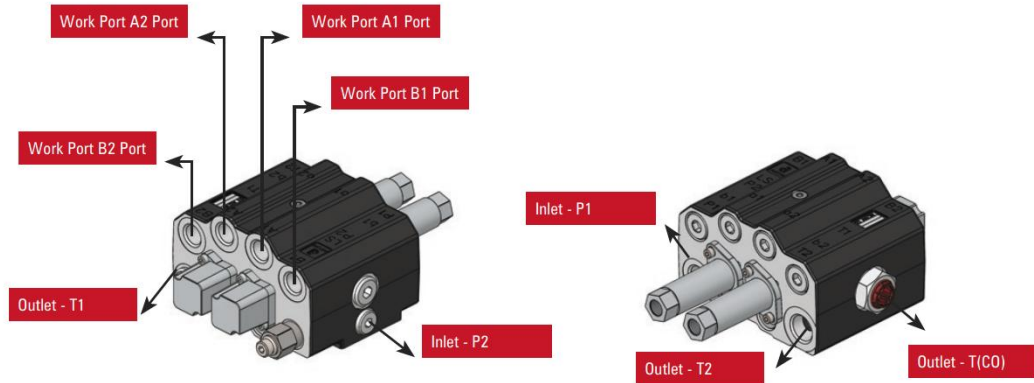
**3**  
**Working Section**

SC9      Spool Positioners  
 ST1      Spool Options  
 V13      Auxiliary Valves  
 KT      Lever Types

**4**  
**Outlet Options Tank (T)**

H      Outlet Options

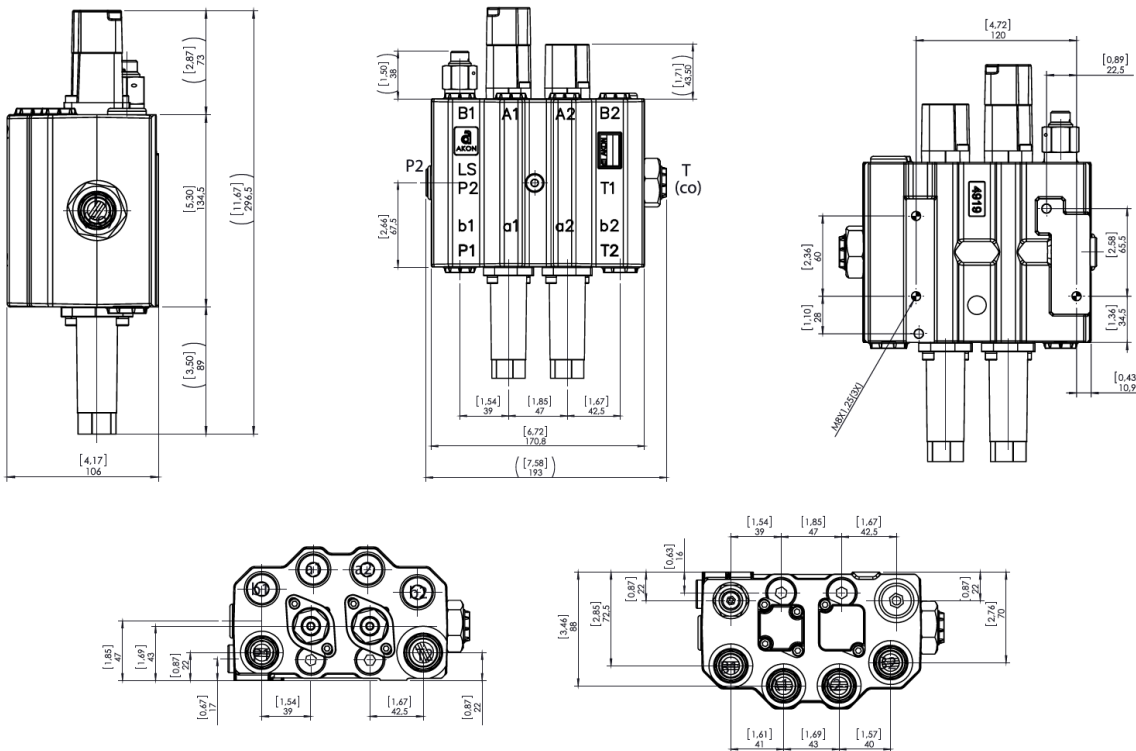
## Open Center



### Standard & optional threads

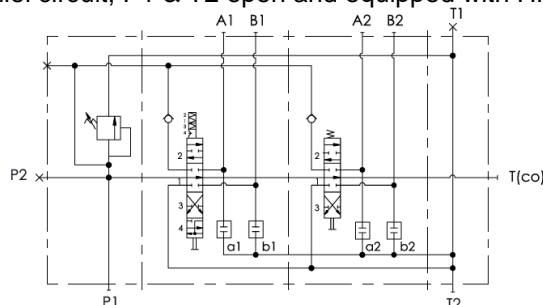
| Thread         | Code | P1 – P2 – T1 | A/B    | T2     | T(CO)  |
|----------------|------|--------------|--------|--------|--------|
| BSP (Standard) | B    | G 1/2"       | G 1/2" | G 3/4" | G 3/4" |

### Dimensions & Weight

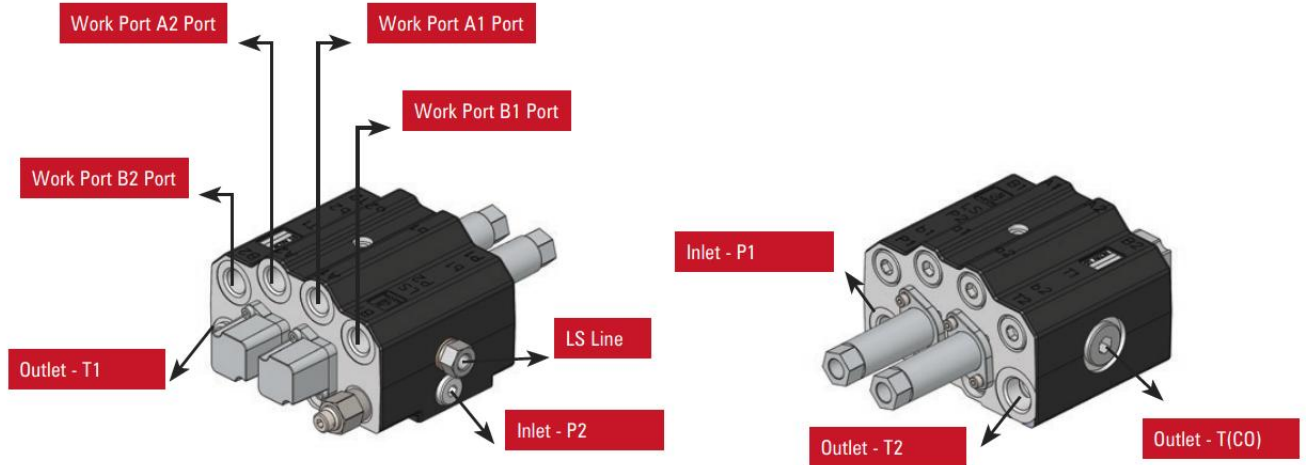


### Hydraulic Circuit

Standard Configuration; Parallel circuit, P1 & T2 open and equipped with HPCO. Used with fixed displacement pumps.



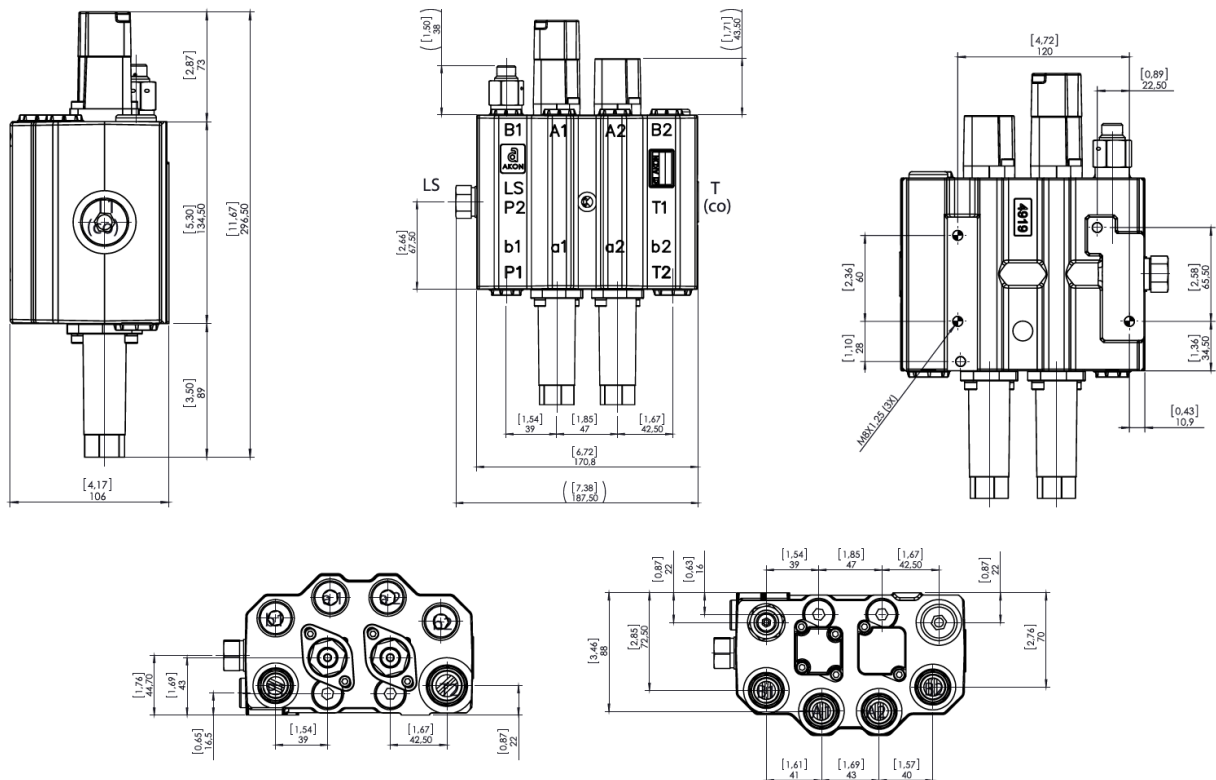
## Load Sense



### Standard & optional threads

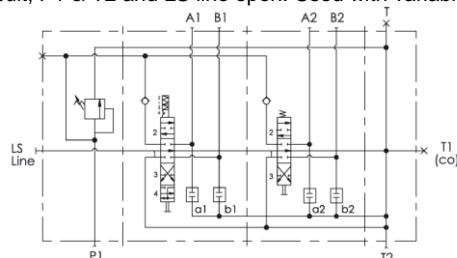
| Thread         | Code | LS Line | P1 – P2 – T1 | A/B    | T2     | T(CO)  |
|----------------|------|---------|--------------|--------|--------|--------|
| BSP (Standard) | B    | G 1/4"  | G 1/2"       | G 1/2" | G 3/4" | G 3/4" |

### Dimensions & Weight



### Hydraulic Circuit

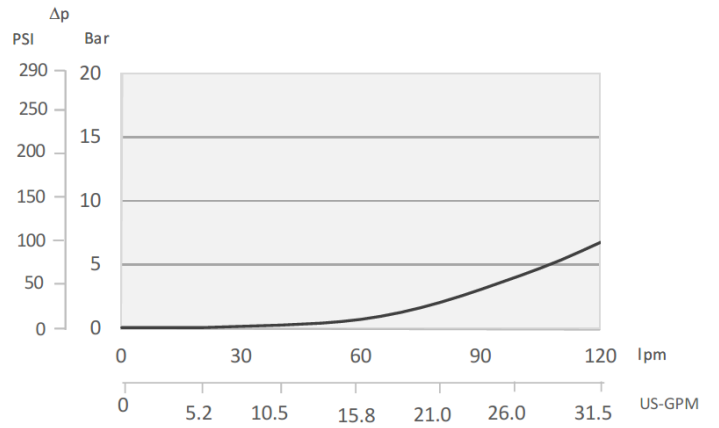
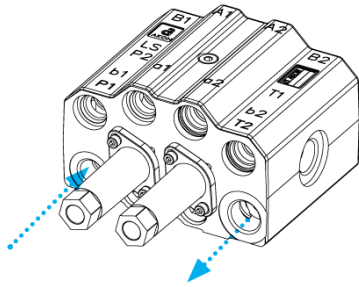
Standard configuration, parallel circuit, P1 & T2 and LS line open. Used with variable displacement pumps.



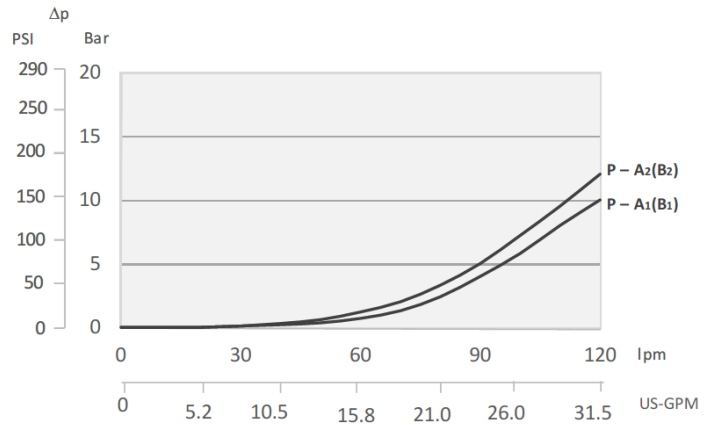
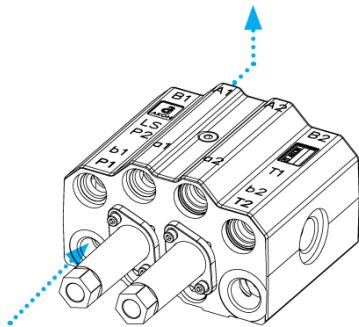
## Performance Data

### Pressure Drop Curves

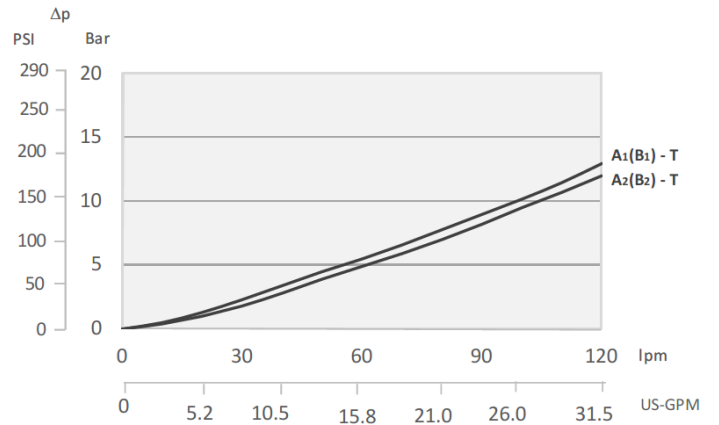
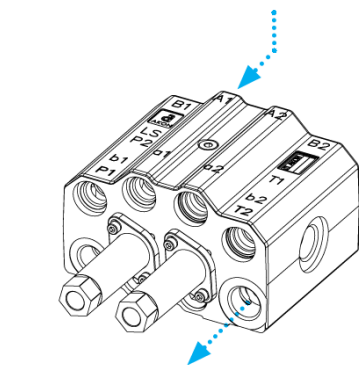
#### P - T



#### P - A/B



#### A/B - T



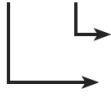
# NV452



Measured with spool type ST1 and 32 cSt hydraulic oil @ 40°C.

## Inlet Option

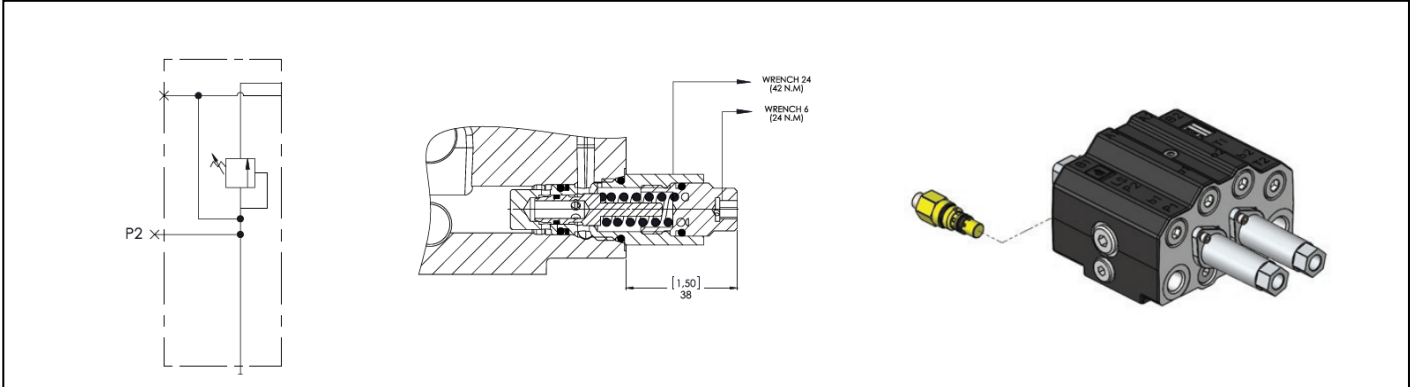
LVM92B – R (160) / SC9 ST1 V13 KT / SC1 ST1 V13 KT / H



Pressure setting valve (please indicate the necessary pressure in bar)

Relief Valve Options

Code  
**R**

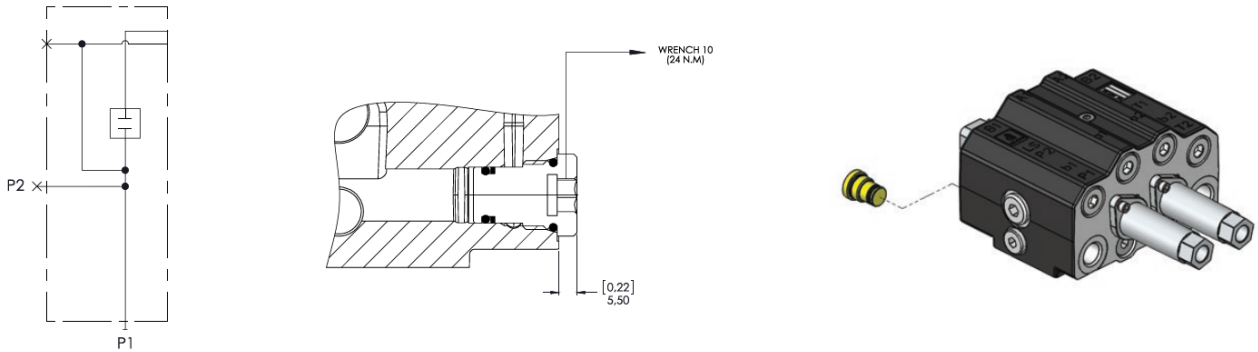


## Adjustable direct acting main relief valve

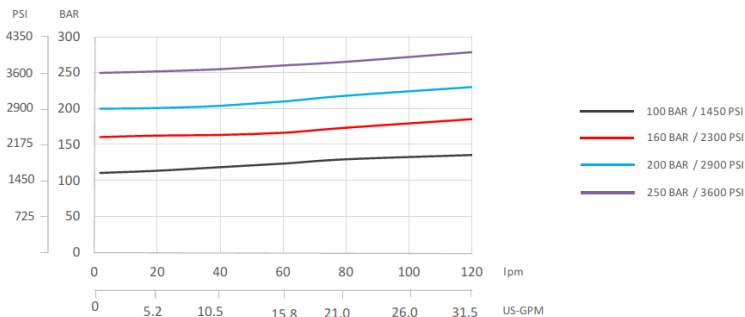
Please indicate the necessary pressure setting value. MRV is preset to 180 bar unless otherwise specified

## Main relief valve blanking plug

Code  
**Y**



## Main relief valve performance data





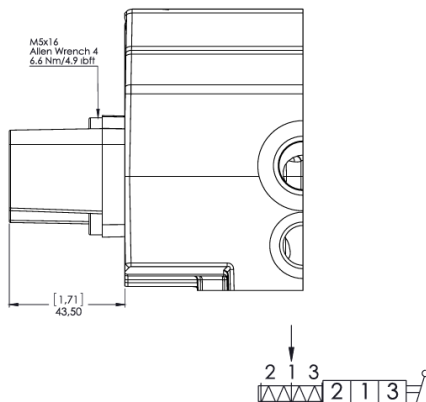
Measured with 32 cSt hydraulic oil @40 and neglected tank line pressure.

## Spool Positioners

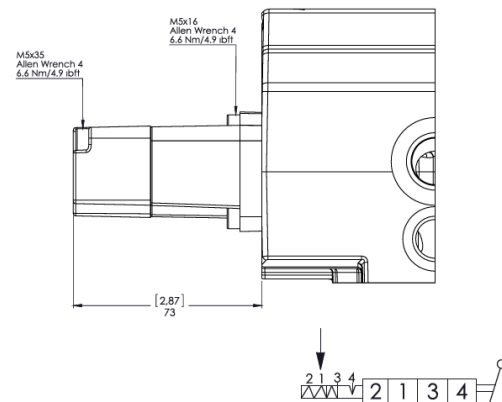
LVM92B - R (160) / **SC9** ST1 V13 KT / SC1 ST1 V13 KT / H

↳ Spool Positioners

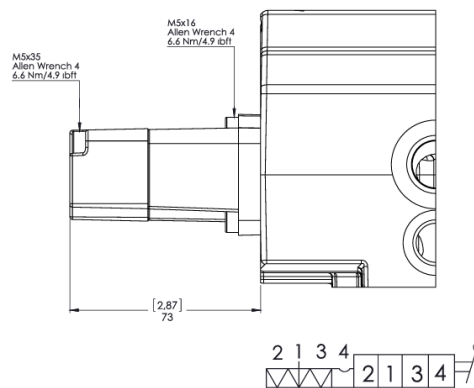
### SC1 3 Positions Spring Return



### SC9 4 Position Spring Return, Detent in 4th Pos.



### SC22 4 Position Spring Return, Feel Detent in 4th Pos.





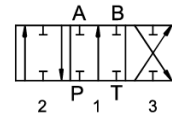
## Spool Options

LVM92B - R (160) / SC9 **ST1** V13 KT / SC1 ST1 V13 KT / H

└─ Spool Options

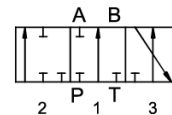
### ST1

3 Position, Double Acting



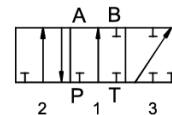
### ST2

3 Position, A Port Single Acting



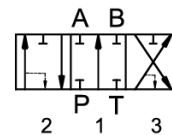
### ST3

3 Position, B Port Single Acting



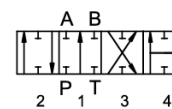
### ST23

3 Position, Load Sensing Spool



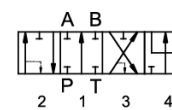
### ST10B

4 Position, Double Acting With Regenerative in 4th Position  
(4th Position Spool Out)



### ST24

4 Position, Load Sensing Spool with Float on 4th Position  
(4th Position Spool Out)



## Auxiliary Valves

LVM92B - R (160) / SC9 ST1 **V13** KT / SC1 ST1 V13 KT / H

Auxiliary Valves ←

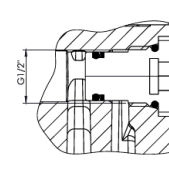
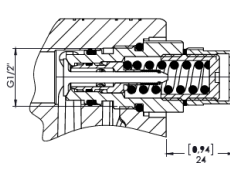
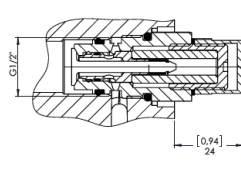
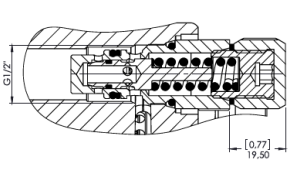
### Auxiliary Valve Options

Antishock Valve

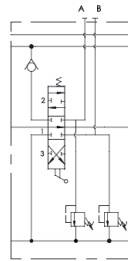
Anticavitation Valve

Antishock & Anticavitation Valve

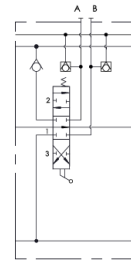
Cavity plug



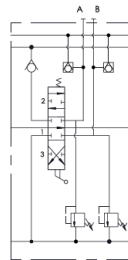
**V1** Antishock valves on A & B ports



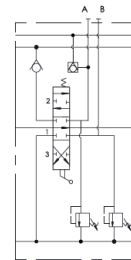
**V4** Anticavitation valves on A & B ports



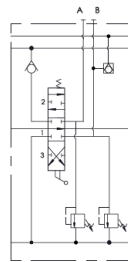
**V7** Antishock & anticavitation valves on A & B ports



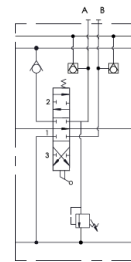
**V8** Antishock & anticavitation valve on port A & antishock valve on port B



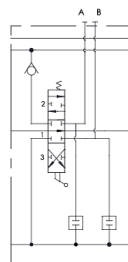
**V9** Antishock valve on port A & antishock & anticavitation valve on port B



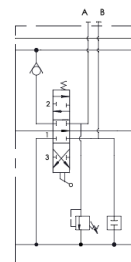
**V12** Antishock & anticavitation valve on port A & anticavitation valve on port B



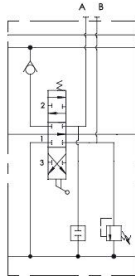
**V13** Port relief cavity plug on A & B ports



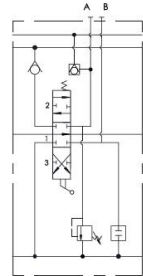
**V17** Antishock valve on port A & port relief cavity plug on port B



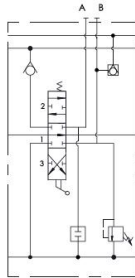
**V18** Port relief cavity plug on port A & antishock valve on port B



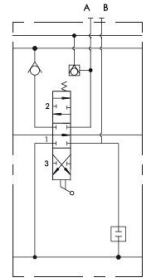
**V19** Antishock & anticavitation valve on port A & port relief cavity plug on port B



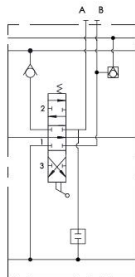
**V20** Port relief cavity plug on port A & antishock & anticavitation valve on port B



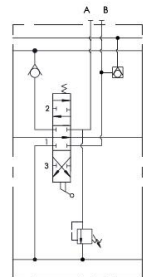
**V21** Anticavitation valve on port A & port relief cavity plug on port B



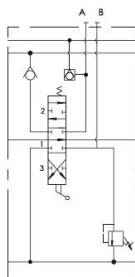
**V22** Port relief cavity plug on port A & anticavitation valve on port B



**V27** Antishock valve on port A & anticavitation valve on port B



**V28** Anticavitation valve on port A & antishock valve on port B



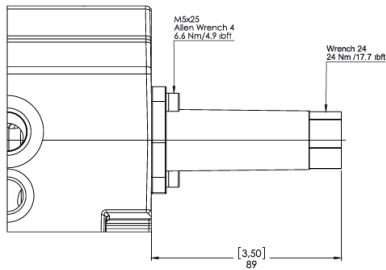
## Lever Types

LVM92B - R (160) / SC9 ST1 V13 **KT** / SC1 ST1 V13 KT / H

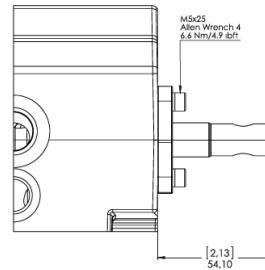
Lever Types ←

**KT** Cable Connection Kit

**K2** No Lever

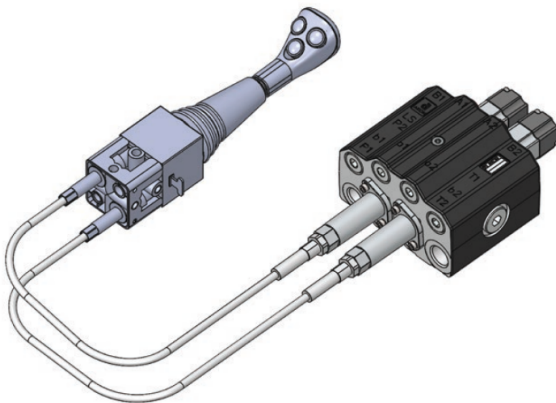


2 1 3



2 1 3

## Remote Joystick Control



Remote joystick control is available with several options. Please indicate the cable length demanded and contact our sales department for further demands.

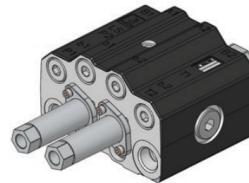
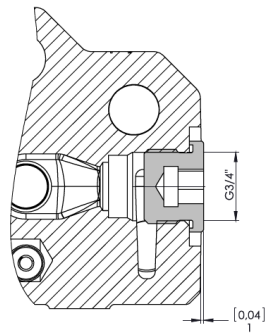
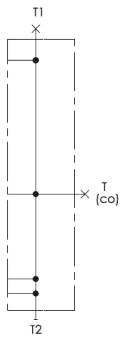
## Outlet Options

LVM92B - R (160) / SC9 ST1 V13 KT / SC1 ST1 V13 KT / **H**

Outlet Options ←

### Standard Open Center Upper Outlet (T2, T(CO) open, T1 plugged)

**NO  
CODE**



Please contact our sales department for other outlet options.

### Outlet with Carry-Over Carry-Over

Code / Kod

**H**

When Carry-Over is used for series connection with another valve, T1 or T2 of the first valve must be connected to the tank.

