

# LVM 92

monoblock directional control valve  
*monoblok hidrolik yön kontrol valfi*



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# General Specifications

## Genel Özellikler

### Product Features

LVM92 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.

LVM92 offers excellent operating characteristics with minimum spool leakage.

- Load sense option offers improved control and efficiency
- Valve is 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

### Özellikler

LVM92, 90lt/dk ve 250bara kadar açık ve kapalı merkez sistemler için kullanım ve montaj kolaylığı sağlayan traktör ön yükleyici valfidir.

Montaj kolaylığı sağlayan özel tasarımı ile multi-çabuk bağlantı elemanları kolayca bağlanarak zaman ve enerji tasarrufu sağlar.

Traktör ön yükleyicilerinde oldukça hassas kontrol sağlayan valfimiz, aynı zamanda çok düşük iç kaçak değerlerine sahiptir.

- LS Opsiyonu sayesinde daha verimli ve hassas kontrol
- Ayarlanabilir Ana Emniyet Valfi
- Her dilimde yük tutma valfleri
- Yardımcı valfler
- Paralel Devre
- Çeşitli Sürgü Tipleri
- Manuel, Halat kontrol ve Elektro-Hidrolik Kontrol imkanı

### Standard Material Specifications Standard Malzeme Özellikleri

High Resistance Cast Iron Body *Döküm Gövde*

Hard Chromium Plated Interchangeable Spools *Sertleştirilmiş Krom Kaplama Sürgüler*

Steel spring caps *Çelik Yay Kapakları*

Aluminium Lever Caps *Alüminyum Sap Kapakları*

NBR Seals *NBR Sızdırmazlık Elemanları*

### Working Conditions Çalışma Şartları

Recommended Oil Viscosity Range <i>Önerilen Yağ Vizkozite Aralığı</i>	<b>10 cSt to 75 cSt</b>
Recommended Fluid Temperature Range <i>Önerilen Çalışma Sıcaklığı (°C)</i>	<b>-20 to +80</b>
Environmental Temperature Range <i>Önerilen Ortam Sıcaklığı (°C)</i>	<b>-40 to +60</b>
Maximum Contamination Level <i>Maksimum Kirlilik Seviyesi</i>	<b>Class 9 (NAS 1638) 19/16 (ISO 4406)</b>

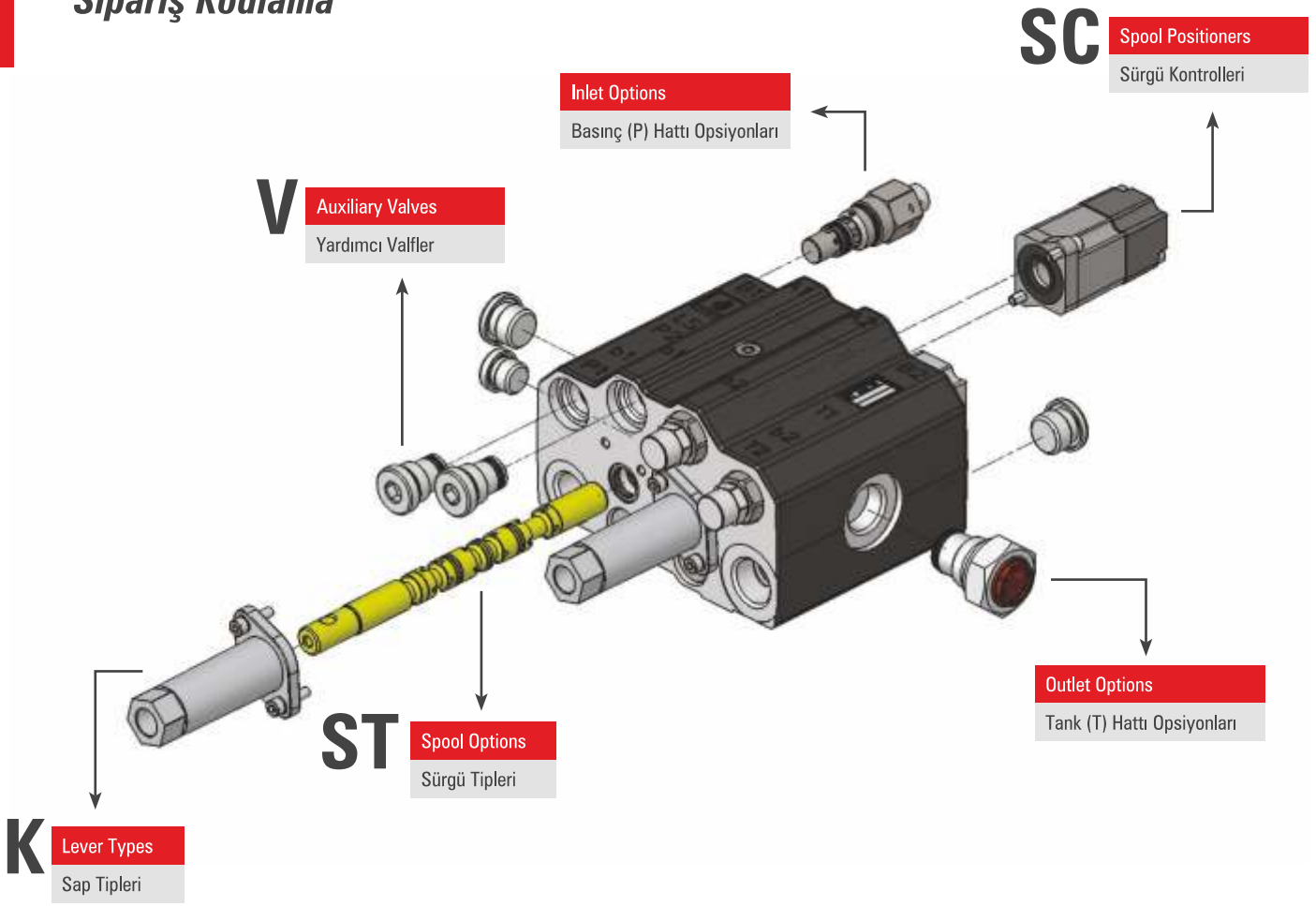
### Technical Specifications Teknik Özellikler

Nominal Flow <i>Debi</i>	<b>90 lpm</b>	<b>24 US gpm</b>
Number of Spools <i>Dilim Sayısı</i>	<b>2</b>	
Maximum Working Pressure <i>Maksimum Çalışma Basıncı</i>	<b>250 bar</b>	<b>3600 psi</b>
Maximum Back Pressure <i>Maksimum Tank Hattı Basıncı</i>	<b>10 bar</b>	<b>150 psi</b>
Maximum Internal Leakage <i>Maksimum İç Kaçak Değeri</i>	<b>2 cc</b> (100 Bar; 46 cSt, 40 °C)	<b>0,12 in<sup>3</sup>/m</b> (1450 psi; 46 cSt, 100°F)

For other demands please contact to our sales department. Farklı için lütfen satış departmanımızla bağlantıya geçiniz.

# Order Coding

## Sipariş Kodlama



LVM92B - R (185) / SC9 ST1 V13 KT / SC1 ST1 V13 KT / H

1 2 3 4

**\* 1** Valve Type *Valf Tipi*

**LVM92** Valve Series *Valf Serisi*  
**B** Port Thread *Port ölçüleri*

**2** Inlet Options *Pompa (P) Hattı Opsiyonları*

**R** Main Relief Valve *Ana Emniyet Valfi*  
**(185)** Pressure Setting *Basınç Değeri*

**\*\* 3** Working Section *Dilim*

**SC9** Spool Positioners *Sürgü Kontrol*  
**ST1** Spool Options *Sürgü Tipleri*  
**V13** Auxiliary Valves *Yardımcı Valfler*  
**KT** Lever Types *Sap Tipleri*

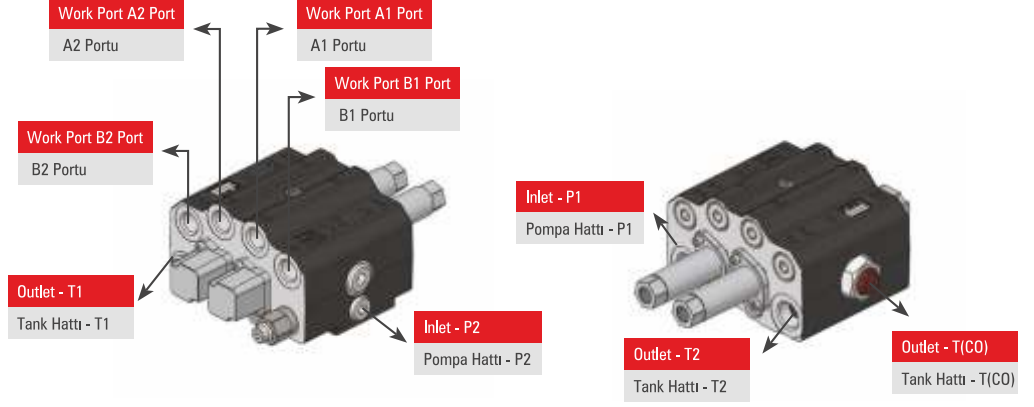
**4** Outlet Options *Tank (T) Hattı Opsiyonları*

**H** Outlet Options *Tank Hattı Opsiyonları*

\* LS Version is coded with «LS» in this part. Example coding:LVM92B(LS)-R(185)/SC9ST23V13KT/SC1ST23V13KT/PN  
LS Versiyonu bu bölümde «LS» kodu ile kodlanır. Örnek kodlama; LVM92B(LS)-R(185)/SC9ST23V13KT/SC1ST23V13KT/PN

\*\* This part must be coded separately for each working section.  
Bu bölümdeki kodlama her dilim için ayrı ayrı yapılmalıdır.

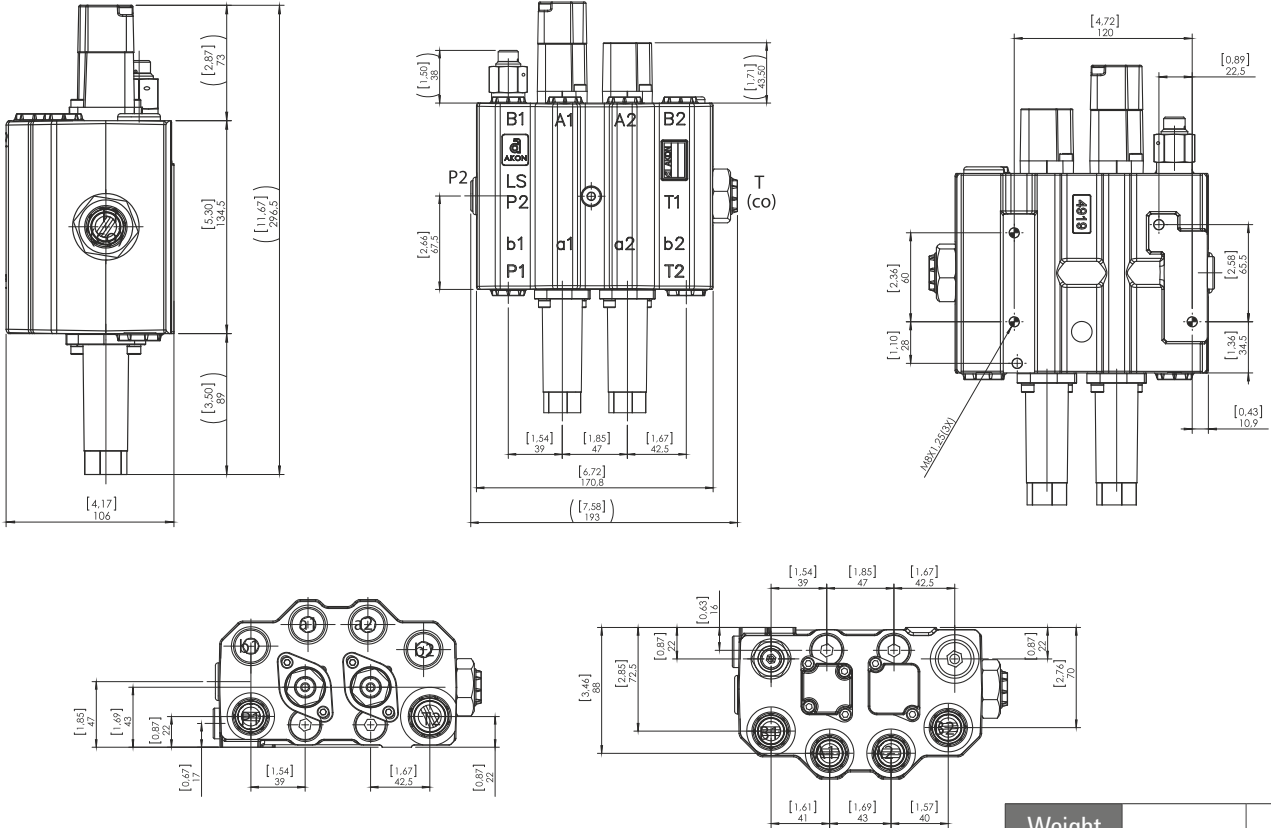
# Open Center Açık Merkez



## Standard & Optional Threads Standart ve Opsiyonel Ölçüler

Thread Diş Tipleri	Code Kod	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 Ölçüler ve Ağırlık

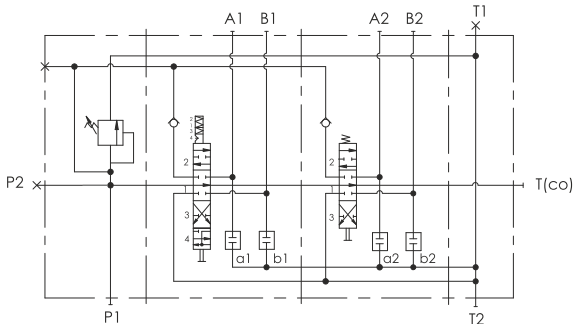


Weight Ağırlık	13.80 kg	30.42 lb
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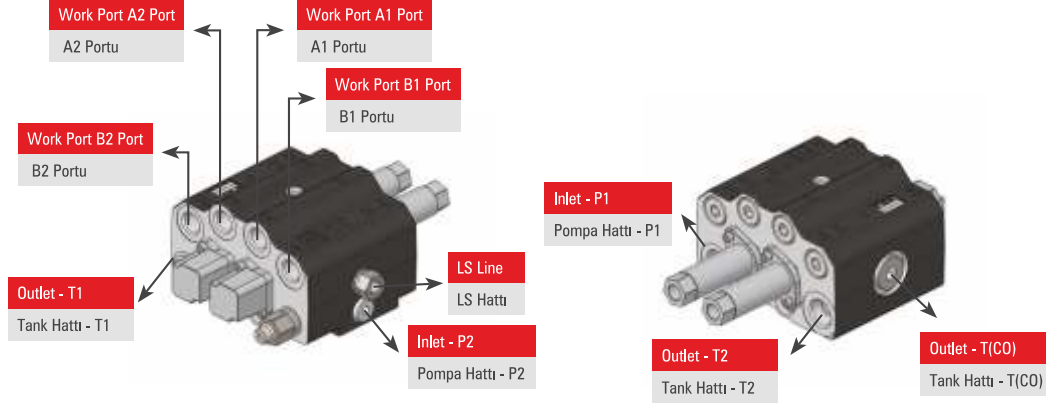
## Hydraulic Circuit Hidrolik Devre

Standard configuration; Parallel circuit, P1 & T2 open and equipped with HPCO. Used with fixed displacement pumps.  
Standart konfigürasyon; Paralel devre, P1 ve T2 açık, Carry-over rakorludur. Sabit debili pompalarda kullanılır.

Given weight is for standard configuration.  
Ağırlık standart konfigürasyon için verilmiştir.



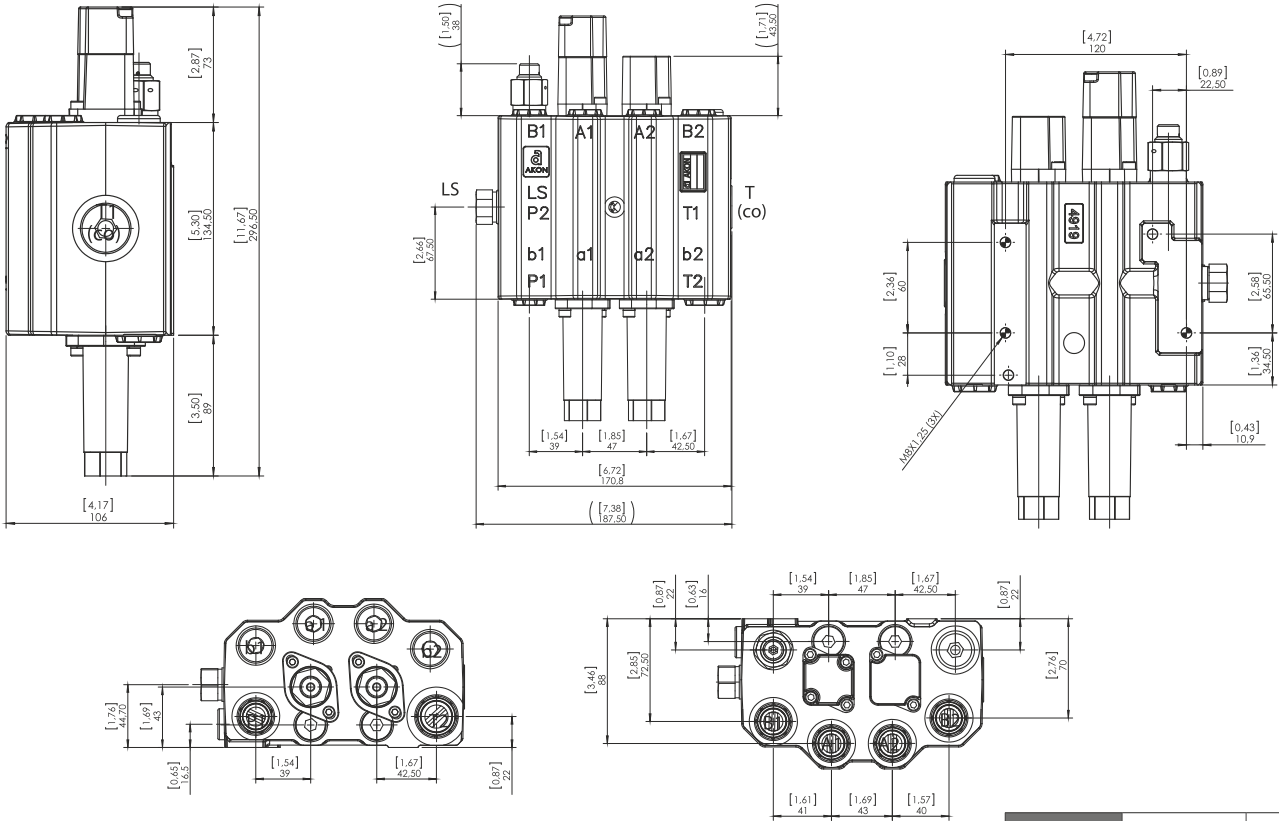
# Load Sense Yüke Duyarlı



## Standard & Optional Threads Standart ve Opsiyonel Ölçüler

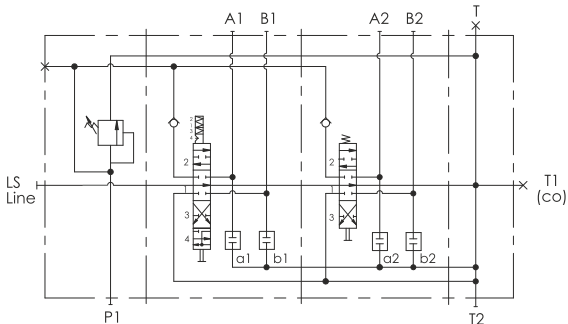
Thread Paso Tipleri	Code Kod	LS Line LS Hattı	P1 - P2 - T1	A/B	T2	T(CO)
BSP(Standard)	B	G 1/4"	G 1/2"	G 1/2"	G 3/4"	G 3/4"

## Dimensions & Weight Ölçüler ve Ağırlık



## Hydraulic Circuit Hidrolik Devre

Standard configuration; Parallel circuit, P1 & T2 and LS line open. Used with variable displacement pumps.  
Standart konfigürasyon; Paralel devre, P1, T2 ve LS hattı açıktır. Değişken debili pompalarda kullanılır.



Weight Ağırlık	13.50 kg	29.75 lb
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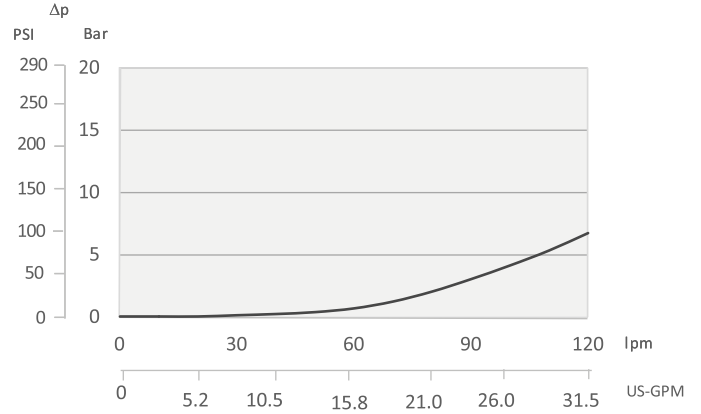
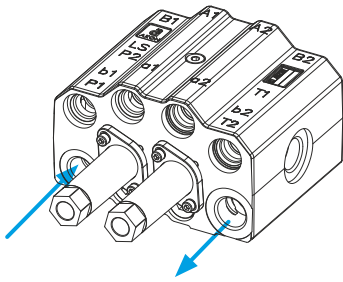
Given weight is for standard configuration.  
Ağırlık standart konfigürasyon için verilmiştir.

# Performance Data

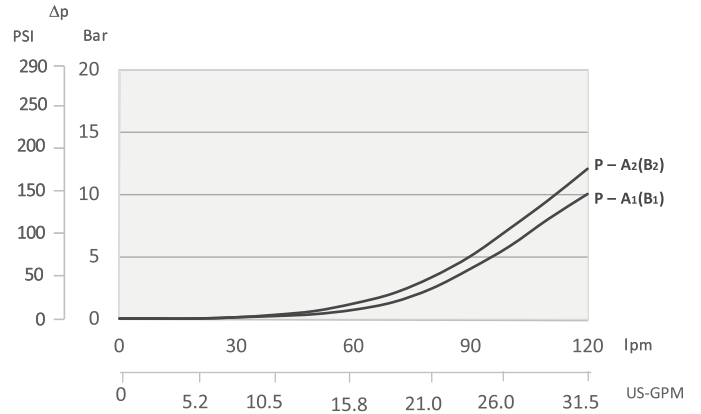
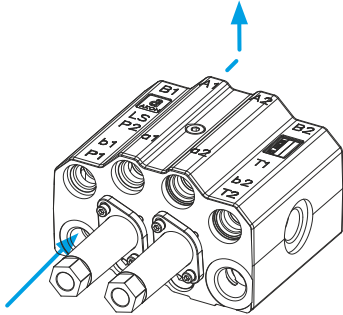
## Performans Eğrileri

### Pressure Drop Curves Basınç Kayıp Eğrileri

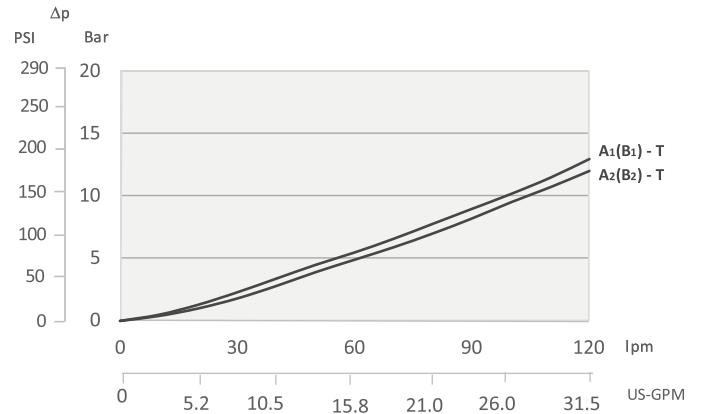
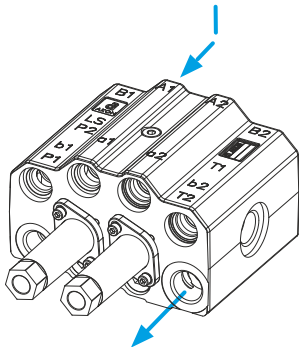
#### P - T



#### P - A/B



#### A/B - T



Measured with spool type ST1 and 32 cSt hydraulic oil @ 40°C.  
ST1 sürgü ve 32 cSt hidrolik yağ ile 40°C'de ölçülmüştür.

# Inlet Option

## Basınç (P) Hattı Opsiyonları

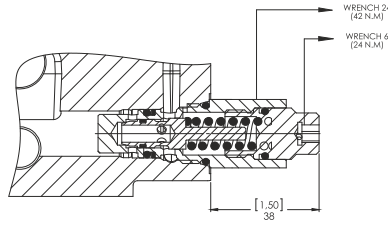
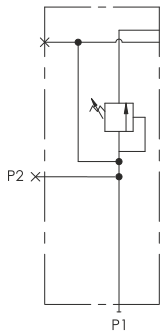
LVM92B - **R (160)** / SC9 ST1 V13 KT / SC1 ST1 V13 KT / H

Pressure setting value (please indicate the necessary pressure in bar) Basınç Ayar Değeri  
Relief Valve Options Ana Emniyet Valfi Opsiyonları

### Adjustable Direct Acting Main Relief Valve Ayarlanabilir Ana Emniyet Valfi (Direk Etkili)

Code / Kod

R

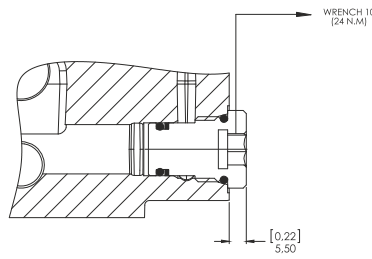
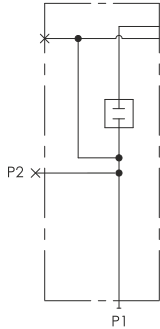


Please indicate the necessary pressure setting value. MRV is preset to 180 Bar unless otherwise specified.  
Lütfen ayarlanmasını istediğiniz basınç değerini bildiriniz. Ürünler standart olarak 180 Bara ayarlanır.

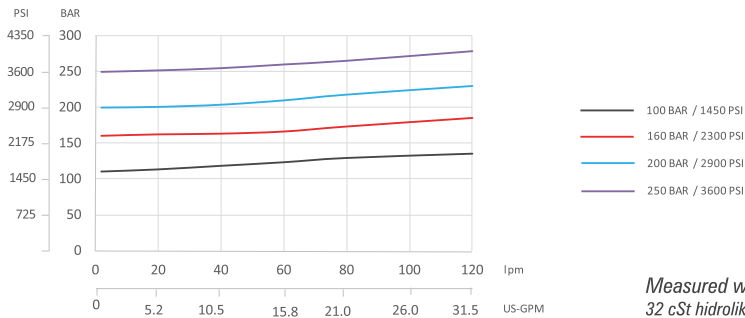
### Main Relief Valve Blanking Plug Emniyet Valfsiz

Code / Kod

Y



### Main Relief Valve Performance Data Ana Emniyet Valfi Performans Eğrisi



Measured with 32 cSt hydraulic oil @ 40°C and neglected tank line pressure.  
32 cSt hidrolik yağ ile 40°C'de, tank hattı basıncı ihmal edilerek ölçülmüştür.

# Spool Positioners

## Sürgü Kontrolleri

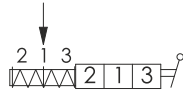
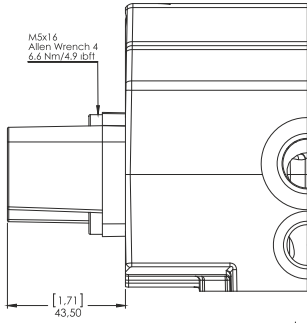
LVM92B - R (160) / **SC9** ST1 V13 KT / SC1 ST1 V13 KT / H

↳ Spool Positioners Sürgü Kontrolleri

### SC1

3 Positions Spring Return

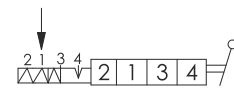
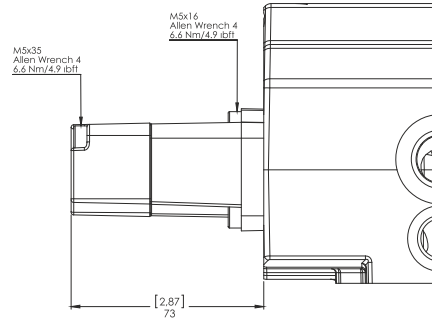
3 Pozisyon Yaylı



### SC9

4 Position Spring Return, Detent in 4th Pos.

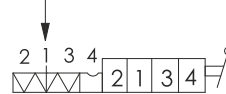
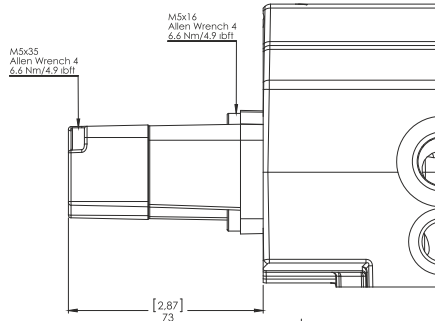
4 Pozisyon Yaylı, 4.Pozisyon Detantlı



### SC22

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

4 Pozisyon Yaylı, 4.Pozisyon Hissetmeli Detantlı



# Spool Options

## Sürgü Tipleri

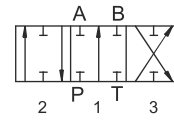
LVM92B - R (160) / SC9 **ST1** V13 KT / SC1 ST1 V13 KT / H

Spool Options  
Sürgü Tipleri

### ST1

3 Position, Double Acting

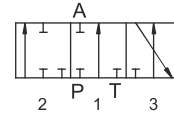
3 Pozisyon, Çift Etkili



### ST2

3 Position, A Port Single Acting

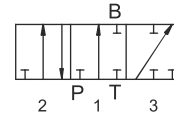
3 Pozisyon, A Port Tek Etkili



### ST3

3 Position, B Port Single Acting

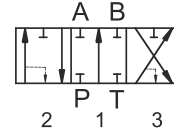
3 Pozisyon, B Port Tek Etkili



### ST23

3 Position, Load Sensing Spool

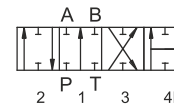
3 Pozisyon, Load Sense



### ST10B

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

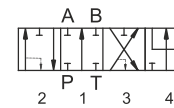
4 Pozisyon, 4. Pozisyonda Rejeneratif  
(Mil Dışında 4. Pozisyon)



### ST24

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

4 Pozisyon, Load Sense, 4. Pozisyonda Float  
(Mil Dışında 4. Pozisyon)



# Auxiliary Valves

## Yardımcı Valfler

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

Auxiliary Valves  
Yardımcı Valfler

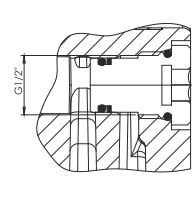
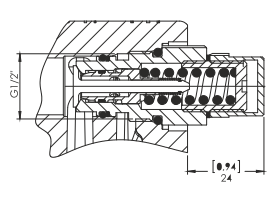
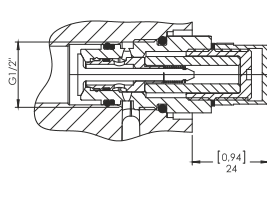
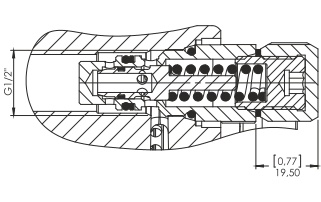
### Auxiliary Valve Options Yardımcı Valf Çeşitleri

Antishock Valve  
Antişok valfi

Anticavitation Valve  
Antikavitezyon Valfi

Antishock & Anticavitation Valve  
Antişok & Antikavitezyon Valfi

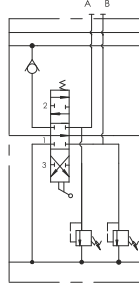
Cavity plug  
Kör antişok



## V1

Antishock valves on A & B ports

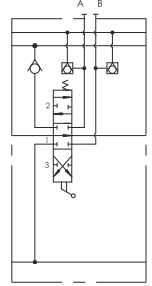
A & B portlarında antişok valfi



## V4

Anticavitation valves on A & B ports

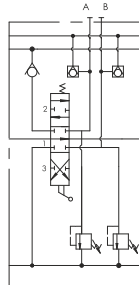
A & B portlarında antikavitezyon valfi



## V7

Antishock & anticavitation valves on A & B ports

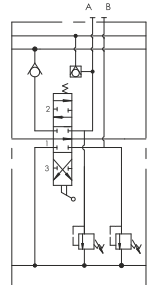
A & B portlarında antişok & antikavitezyon valfi



## V8

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

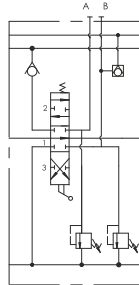
A portunda antişok & antikavitezyon valfi & B portunda antişok valfi



## V9

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

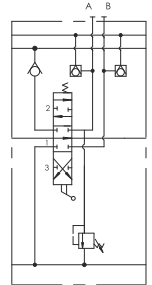
A portunda antişok valfi & B portunda antişok & antikavitezyon valfi



## V12

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

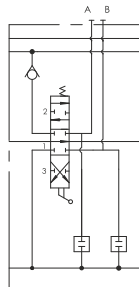
A portunda antişok & antikavitezyon valfi & B portunda antikavitezyon valfi



## V13

Port relief cavity plug on A & B ports

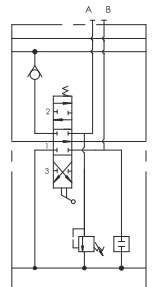
A & B portlarında kör tapa



## V17

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

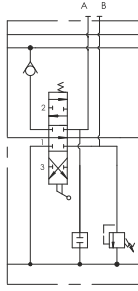
A portunda antişok & B portunda kör tapa



# V18

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

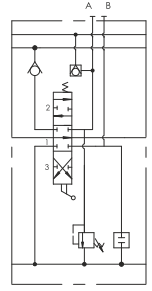
A portunda kör tapa  
& B portunda antişok valfi



# V19

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

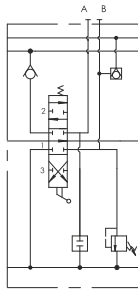
A portunda antişok  
& antikavitasyon valfi  
& B portunda kör tapa



# V20

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

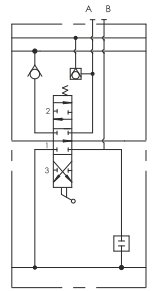
A portunda kör tapa  
& B portunda antişok  
& antikavitasyon valfi



# V21

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

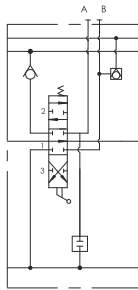
A portunda antikavitasyon valfi  
& B portunda kör tapa



# V22

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

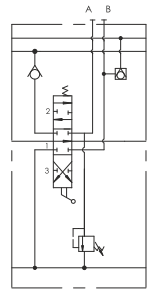
A portunda kör tapa  
& B portunda antikavitasyon valfi



# V27

Antishock valve on port A  
& anticavitation valve on port B

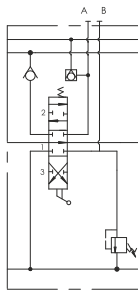
A portunda antişok  
& B portunda antikavitasyon valfi



# V28

Anticavitation valve on port A  
& antishock valve on port B

A portunda antikavitasyon valfi  
& B portunda antişok valfi



# Lever Types

## Sap Tipleri

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

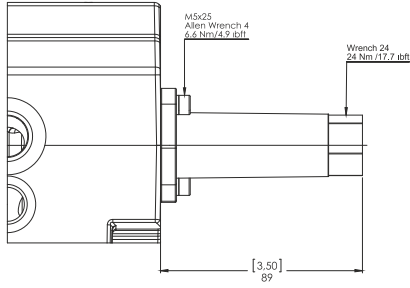
Lever Types  
Sap Tipleri

**KT**

Cable Connection Kit

Kablo Bağlantı Kiti

2 1 3

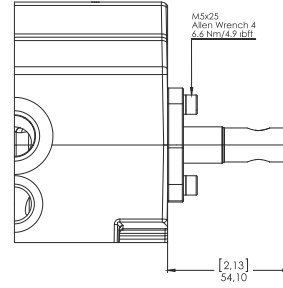


**K2**

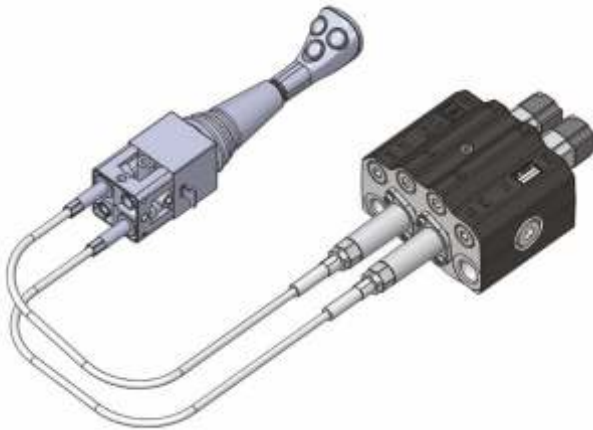
No Lever

Sap Kapaksız

2 1 3



## Remote Joystick Control Joystik Halat Kontrol



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

Joystik halat kontrol farklı çeşit ve uzunluklarda mevcuttur. Lütfen satış departmanımızla bağlantıya geçiniz.

# Outlet Options

## Tank (T) Hattı Opsiyonları

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

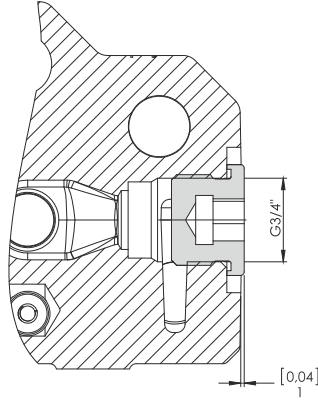
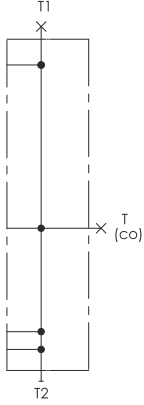
Outlet Options  
Tank (T) Hattı Opsiyonları

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

### Standart Açık Merkez (T2 açık, T1 ve T(CO) kör)

Code / Kod

**NO  
CODE**



Please contact our Sales Department for other outlet options.  
Özel talepleriniz için lütfen Satış Departmanımızla bağlantıya geçin.

### Outlet with Carry-Over

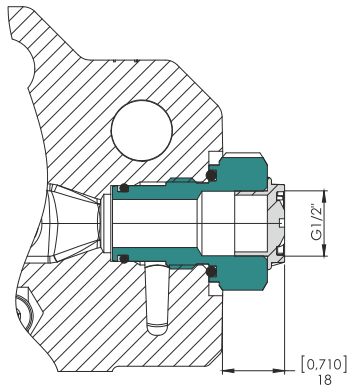
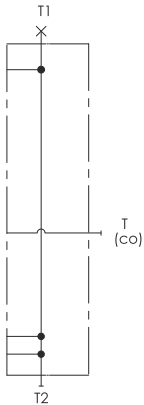
### Carry-Over

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

Carry-over kullanıldığında, 1. valfin tank hattı (T1 veya T2) mutlaka tanka bağlanmalıdır.

Code / Kod

**H**





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