

10 Serisi Direksiyon Kontrol Üniteleri / 10 Series Hydraulic Steering Control Units



Hydraulic Steering Unit 10 series is integral hydraulic steering unit, the valve body of rotary valve is integral structure, then the steering unit can integrate with cartridge valve, such as the pressure control valve of the integral system.

Hydraulic Steering Unit 10 series is widely used in the steering control system of different kinds of engineering vehicles, such as the steering system of many kinds of industrial and agricultural mobile machinery forklift, loader, road roller, tractor, combine harvester, and the ship helm etc. The steering unit can control the steering cylinder with bigger resistance force by inputting minor force; It's easier, flexible and reliable; he integral check valve can prevent the system pressure oil from anti-vibration, and prevent from "hit-hand" during the steering operation; Integral pressure control valve can control the operation pressure and the shock pressure of the steering system.

The mounting dimensions of Hydraulic Steering Unit 10 series are consistent with the international standard. According to the structure of gerotor set, Hydraulic Steering Unit 10 series can be divided into 2 series: 6/7 teeth structure steering unit and 4/5 teeth structure steering unit.

Hydraulic steering unit with 6/7 teeth structure : according to the size, this series may be divided into 101,102,103 series (among these series, the mounting dimension of 102 series is accordance with BZZ series). Hydraulic steering unit 45 teeth structure: it's defined as 109 series; according to special requirement of special customers, then we develop 119 and 129 series on the base of 109 series.

10 series SCU integrate inlet check Valve. Each series may be divided into 2 series according to if the steering unit integrating cartridge Valve or not. SCU without valve and SCU with S. SCU without valve doesn't integrate pressure valve, SCU with a integrates pressure valve. As for open center non reaction steering unit, "1" represents the SCU with relief valve and shock valves, "4" represents the SCU with relief valve.

Please consult P13 for the introduction of 101 series, 102 and 103 series, while P47 for 109 series.

Order Code

10 — □ — □ — □ — □ — □

Ports Code

Relief Valve Pressure Settings

Function Code

- 1: Open center non-reaction
- 1: Open center reaction
- 2: Closed center non-reaction
- 3: Open center non- reaction
- 9: Load sensing

Code for integral valve

- S : Integral Valve
- Omit : Without Integral valve

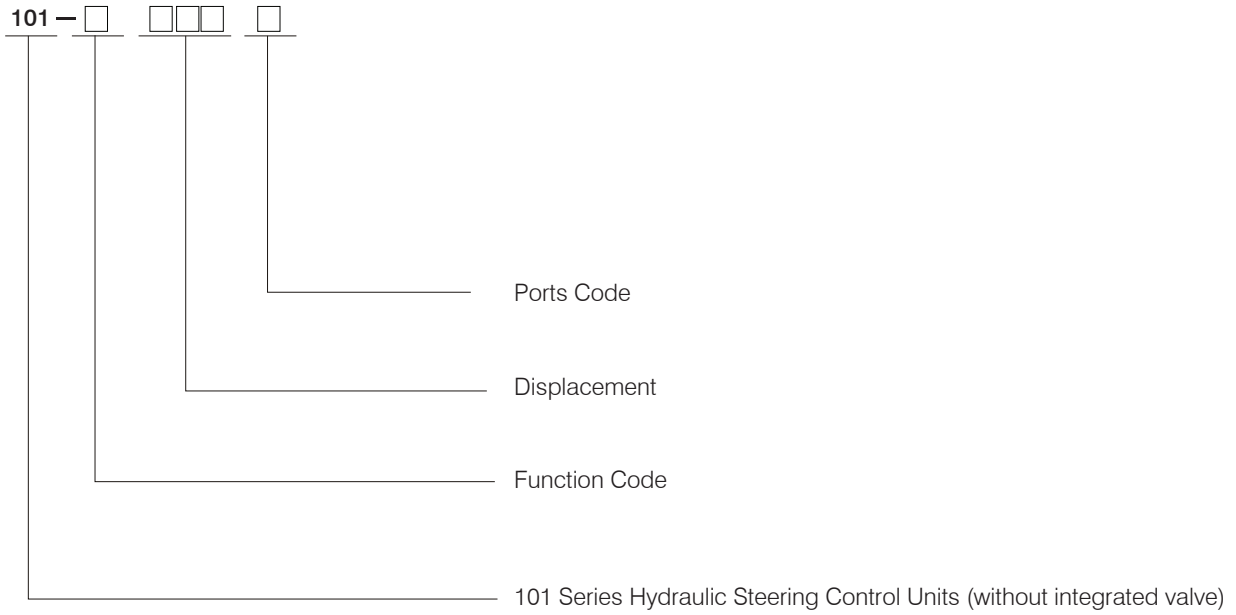
Code for Series

- 1: 1 st mounting type
- 2: 2nd mounting type
- 3: 3rd mounting type
- 9: Mini SCU

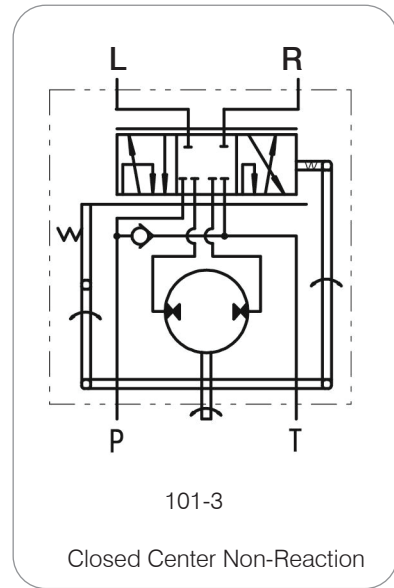
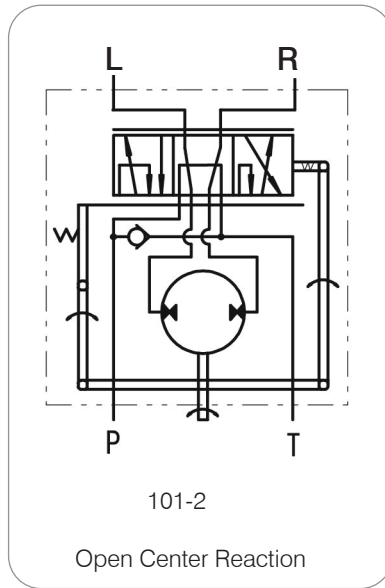
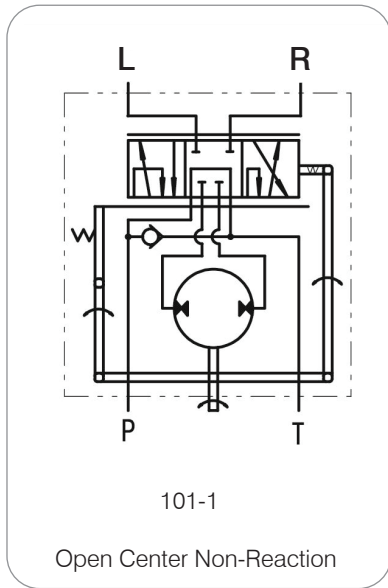
Cycloid Rotary Valve Hydraulic Steering Units

101-1,2,3 Serisi Direksiyon Kontrol Üniteleri / 101-1,2,3 Series Hydraulic Steering Control Units (SCU) Ordering

Code



Function Code



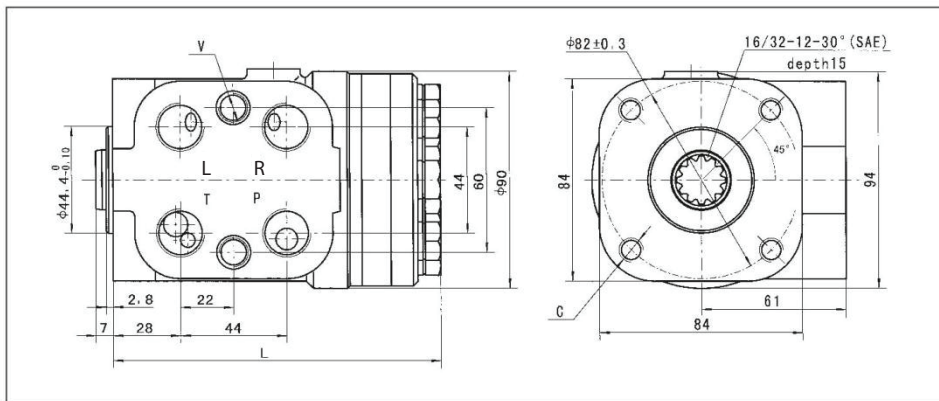
101-1,2,3 Serisi Direksiyon Kontrol Üniteleri / 101-1,2,3 Series Hydraulic Steering Control Units (SCU) Main

Specification

Parameters	Type 101-*.***-*										
Function Code	1, 2, 3							1,3			
Displacement (mL/r)	50	63	80	100	125	160	200	250	280	315	400
Rated flow (L/min)	5	6	8	10	12.5	16	20	25	28	31,5	40
Max. input pressure (Bar)	175										
Max. cont. back pressure (Bar)	250										
Weight (kg)	5.70	5.76	5.84	5.91	6.05	6.25	6.45	6.68	6.86	7.06	7.45
Dimensions L (mm)	130	132	133	136	139	144	149	155	160	165	175

Note : L is the maximum length dimensions of product. This dimension in some products may 2mm or 4mm shorter.

Mounting Data



Ports Thread

Code	Ports P,T,L,R	Column Mounting C	Valve Mounting V
A	M20X1.5	M10	M12
B	M20X1.5 O-ring		
C	M18X1.5		
D	M18X1.5 O-ring		
E	G1/2		M130X1
U	G1/2 O-ring		
G	M22X1.5		M12
Q	M22X1.5 O-ring		
M	3/4-16UNF O-ring	3/8-16 UNC	3/8-24 UNF
F			
I			
N			
		M10	M10
		M10X1.25	

Note 1 : Ports P, T, L, R Depth : 15mm; Column Mounting C & V Depth : 16 mm.

Note 2 : The code of other ports dimensions will be listed in an agreement.

101-1,2,3 Serisi Direksiyon Kontrol Üniteleri / 101-1,2,3 Series Hydraulic Steering Control Units (SCU)**101-1,2,3 Order Code**

Pos.1		Pos.2		Pos.3	
101	—	*	—	***	—

Pos.1	Function Code
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- 1: Open Center Non-Reaction
2: Open Center Reaction
3: Closed Center Non-Reaction

Pos.2	Displacement mL/r
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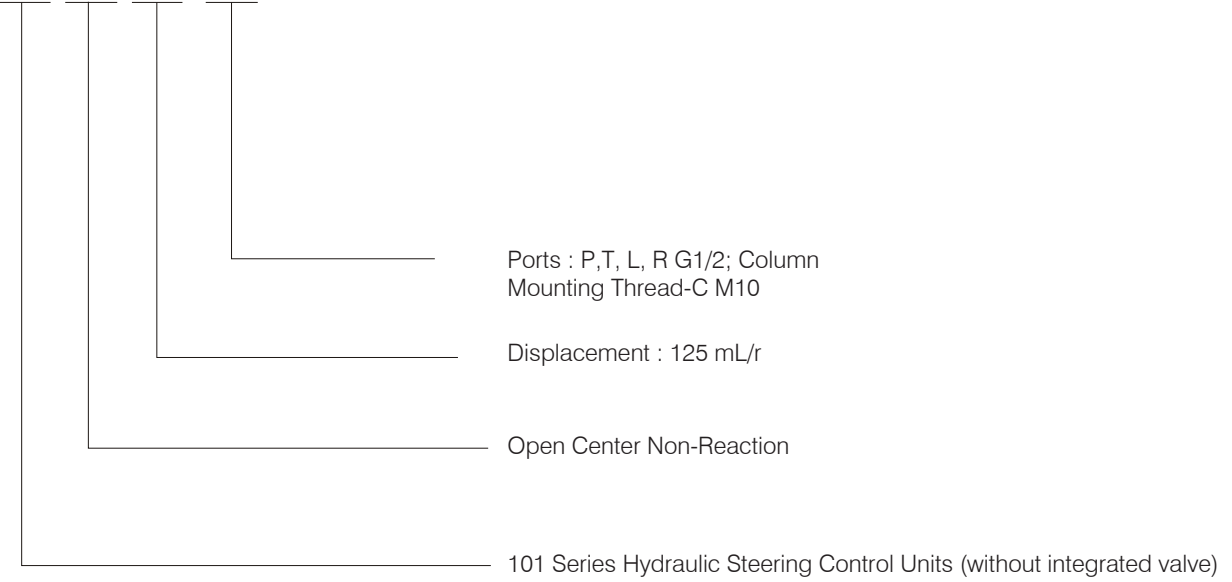
50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

Pos.3	Displacement mL/r
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A, B, C, D, E, U, G, Q, M, F, I, N

For example :
Order code

101 — 1 — 125 — E

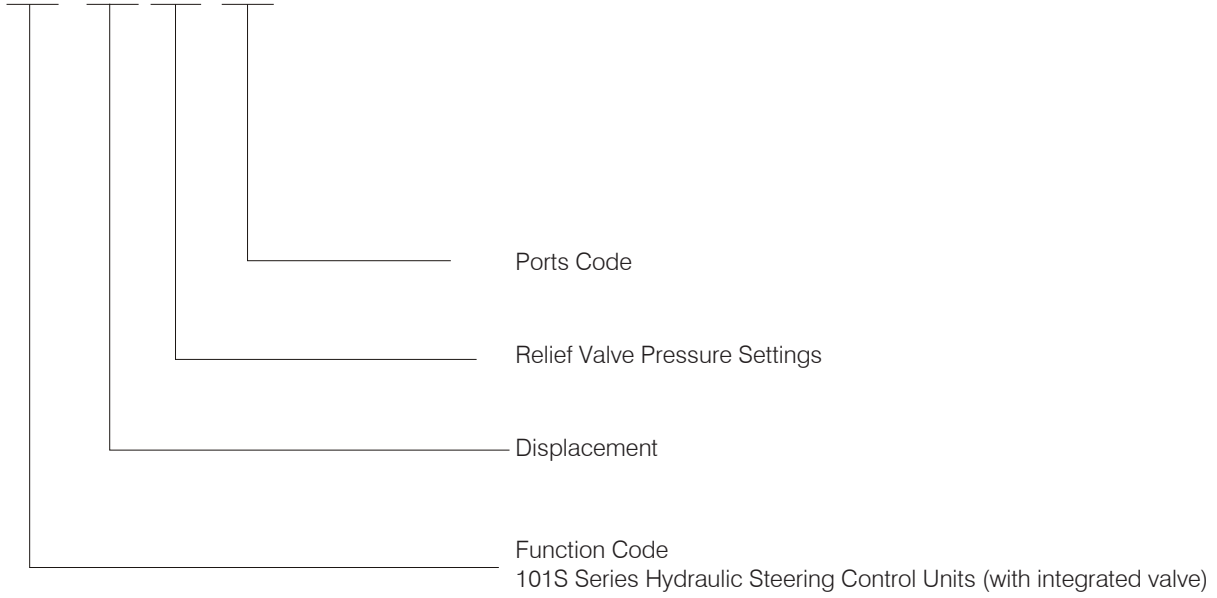


101S-1,2,4 Serisi Direksiyon Kontrol Üniteleri / 101S-1,2,4 Series Hydraulic Steering Control Units (SCU)

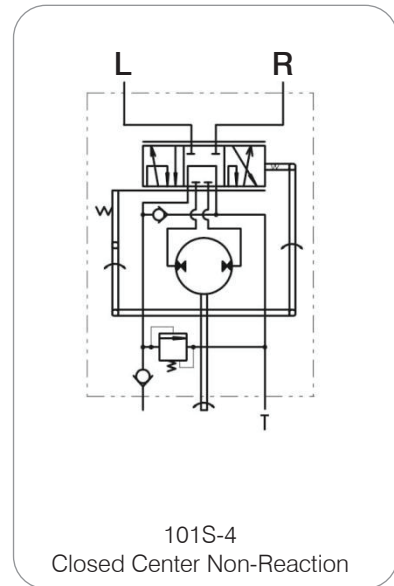
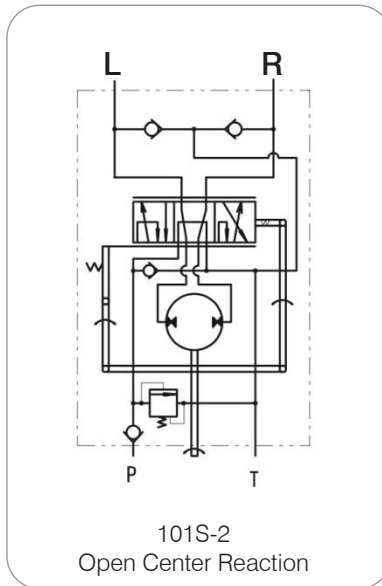
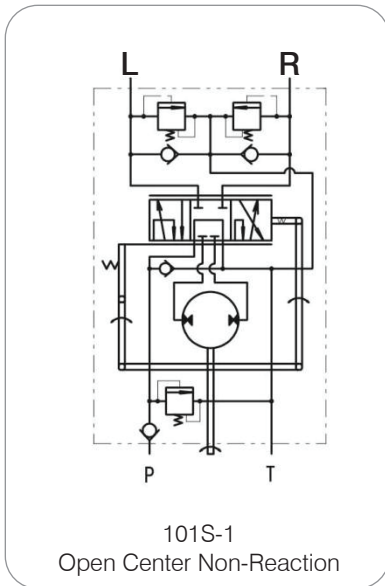
SCU 101S-1,2,4 series inherits the steering function of 101 series both in the structure and in the principle. The feature of 101S series is to have the following valves functions incorporated inside one housing as follows: the relief valve, the shock valves, the suction valves and the check valve according to the different requirement upon the base of the 101 series. This kind of structure is more compact, and it's more convenient in operation.

Order Code

101S — 1 — 125 — E



Function Code



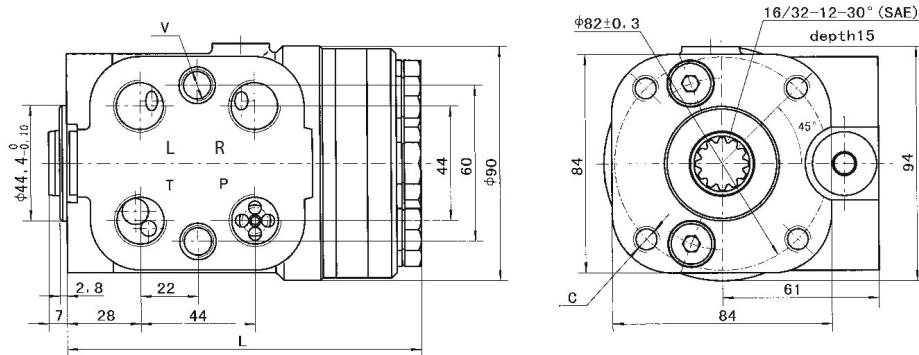
101S-1,2,4 Serisi Direksiyon Kontrol Üniteleri / 101S-1,2,4 Series Hydraulic Steering Control Units (SCU) Main

Specification

Parameters	Type 101S-*.***-**-*										
Function Code	1, 2, 4							1,4			
Displacement (mL/r)	50	63	80	100	125	160	200	250	280	315	400
Rated flow (L/min)	5	6	8	10	12.5	16	20	25	28	32	40
Max. input pressure (Bar)	175										
Relief Valve Pressure Settings (Bar)	60, 70, 80, 100, 120, 140, 150, 160, 175										
Shock Valves Pressure Settings (Bar)	120, 130, 140, 160, 180, 200, 210, 220, 235										
Max. cont. back pressure (Bar)	250										
Weight (kg)	5.75	5.81	5.89	5.96	6.1	6.3	6.5	6.73	6.91	7.1	7.5
Dimensions L (mm)	130	132	133	136	139	144	149	155	160	165	175

Note : L is the maximum length dimensions of product. This dimension in some products may 2mm or 4mm shorter.

Mounting Data



Ports Thread

Code	Ports P,T,L, R	Column Mounting C	Valve Mounting V
A	M20X1.5	M10	M12
B	M20X1.5 O-ring		
C	M18X1.5		
D	M18X1.5 O-ring		
E	G1/2		M10X1
U	G1/2 O-ring		
M	3/4-16 UNC O-ring		M12
F		3/8-16 UNC	3/8-24 UNF
I		M10	M10
N		M10X1.25	

Note 1 : Ports P,T, L, R Depth : 15mm; Column Mounting C& V Depth : 16 mm.

Note 2 : The code of other ports dimensions will be listed in an agreement.

101S-1,2,4 Serisi Direksiyon Kontrol Üniteleri / 101S-1,2,4 Series Hydraulic Steering Control Units (SCU)

101-1,2,4 Order Code

	Pos.1		Pos.2			Pos.3		Pos.4
101S	—	*	—	***	—	***	—	*

Pos.1	Function Code
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- 1: Open Center Non-Reaction
 2: Open Center Reaction
 4: Closed Center Non-Reaction

Pos.2	Displacement mL/r
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50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

Pos.3	Displacement mL/r
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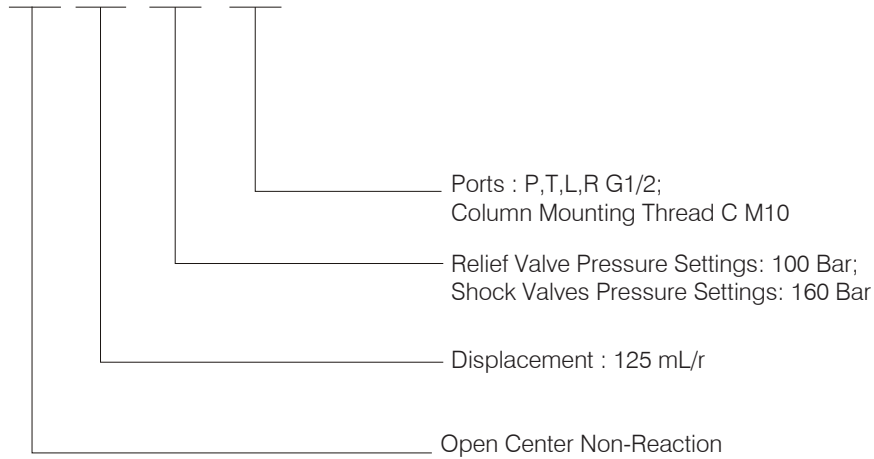
Relief valve pressure settings (Bar): 60, 70, 80, 100, 120, 140, 150, 160, 175
 Shock valves pressure settings is 60 Bar higher than relief valve

Pos.4	Ports Code
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A, B, C, D, E, U, G, Q, M, F, I, N

For example :
 Order code

101S — 1 — 125 — 10 — E



10 Serisi Direksiyon Kontrol Üniteleri / 10 Series Hydraulic Steering Control Units

SCU 101(S) - 5 (T) (TE) (L) (E) (TX) series is used in the load sensing steering system.

SCU 101S-5,101S-5L,101S-5E series adopt modular mounting type and can only be used with PVF* type priority valve via modular mounting.

SCU 101S-5L series guides the pressure signal of port LS out of port LL, and transfers the pressure signal to the electrical control system.

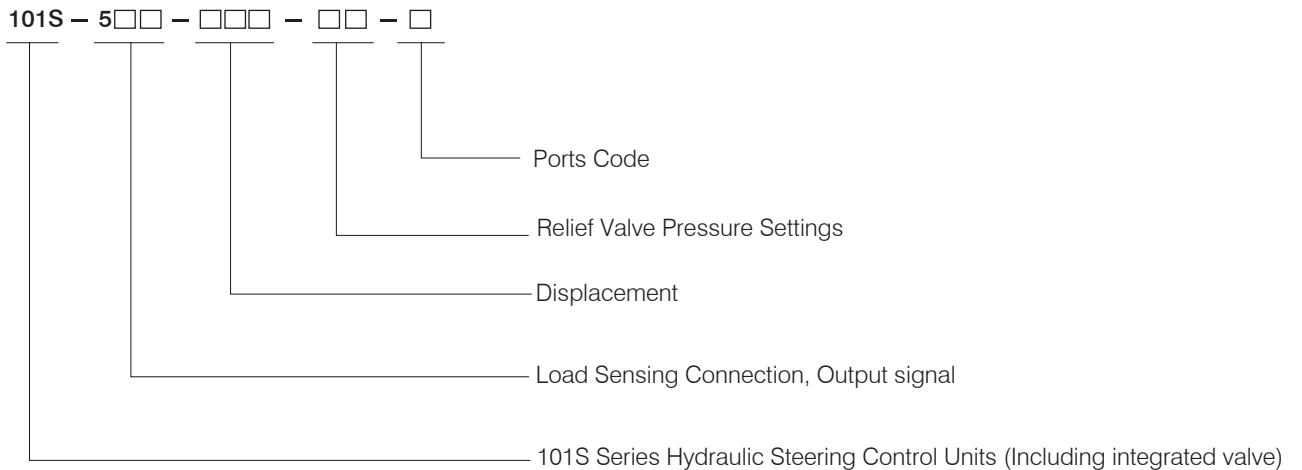
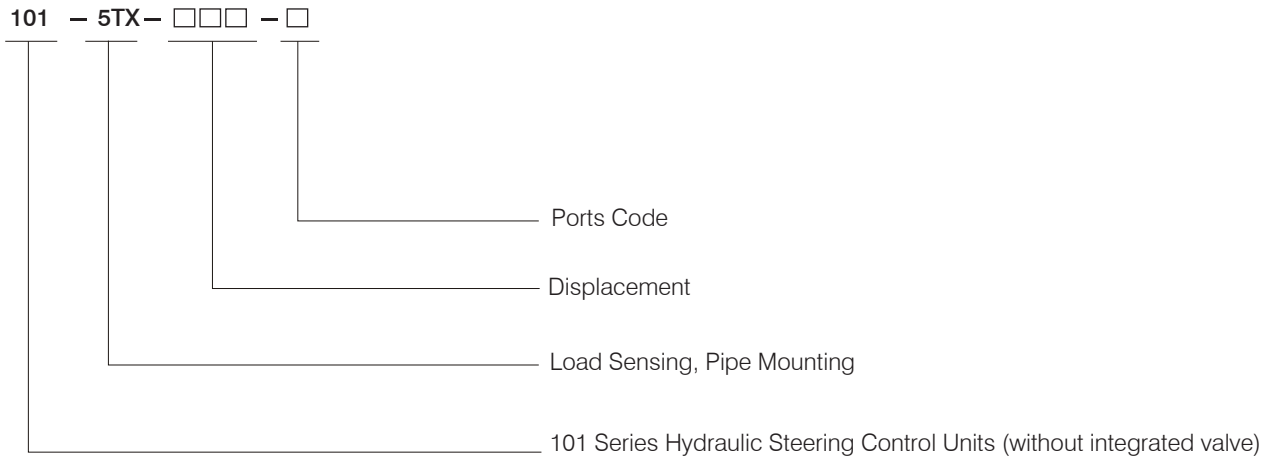
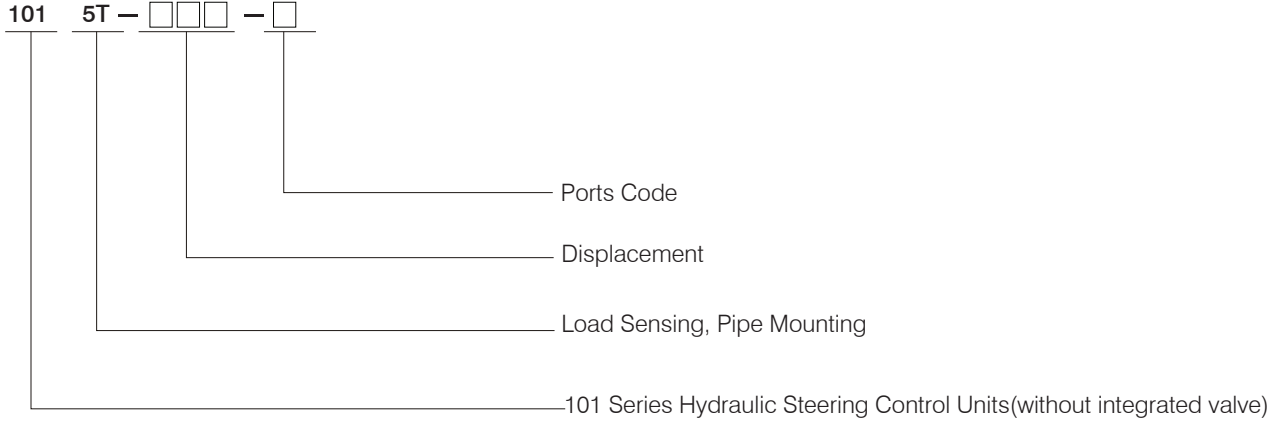
SCU 101S-5E series guides the pressure signal of port L or R out of port EL. and then supplies the pressure signal to the electrical control system.

SCU 101S-5T, 101S-5TE series adopt Pipe mounting and via pipe mounting can be used with PVL* or DYXL, YXL type priority valve.

SCU 101S-5TE series guides the pressure signal of port L or R out of port EL. and then supplies the pressure signal to the electrical control systems.

SCU 101-5T series adopts the pipe mounting, it can be used only after the pipe mounted with the DYXL, YXL type priority valve and the relief valve is integrated in the priority valve. When the 101-5TX series SCU is in neutral position, both of its left and right cavity are connected with T port. This kind of SCU are used with LFA,LFB type flow amplifiers.

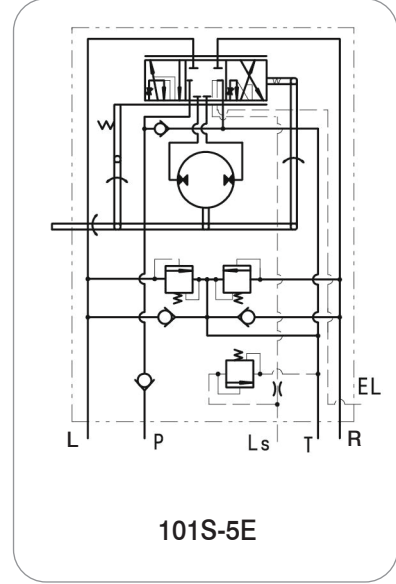
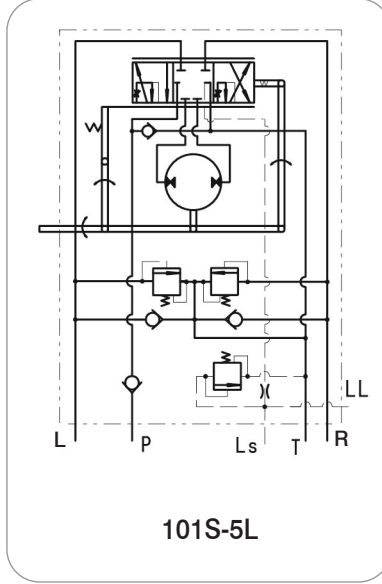
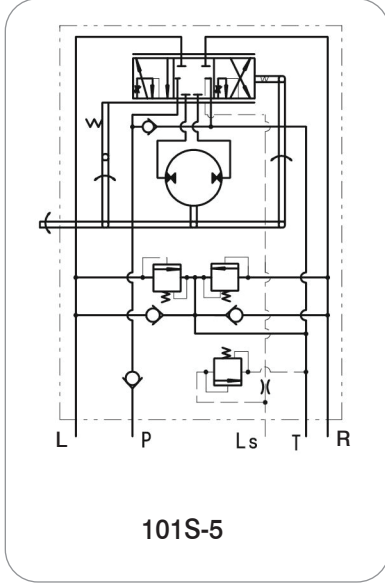
Order Code



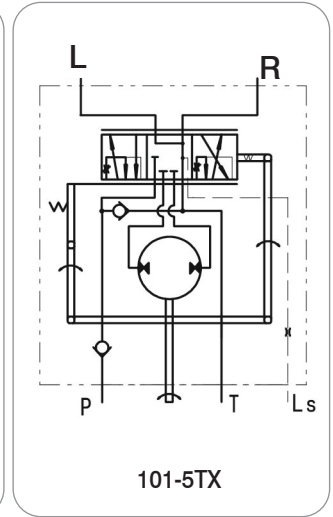
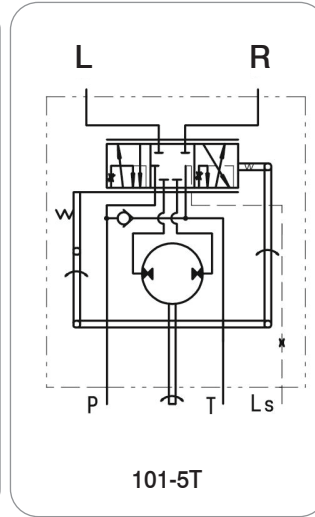
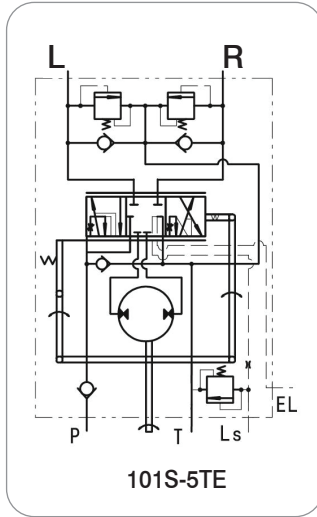
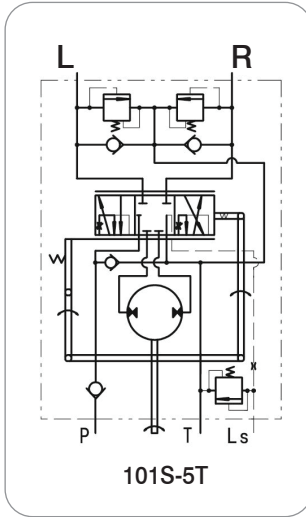
101(S)-5(T)(TE)(L)(E)(TX) Serisi Direksiyon Kontrol Üniteleri / 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

Function Code

Modulary Mounting



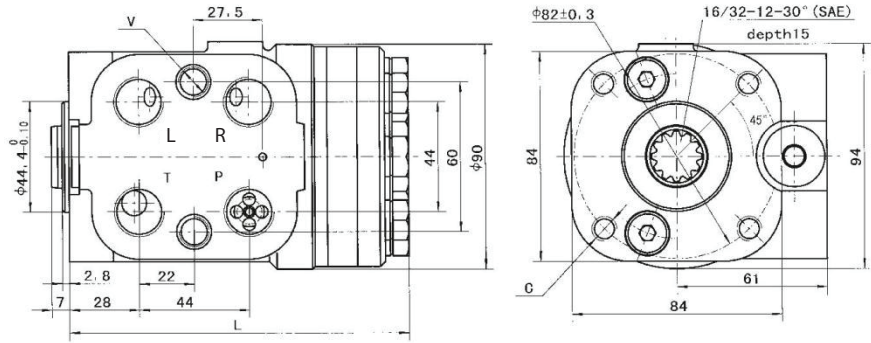
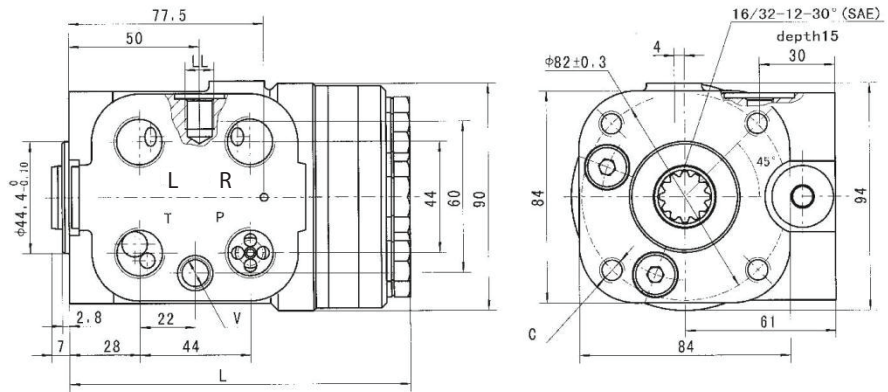
Pipe Mounting

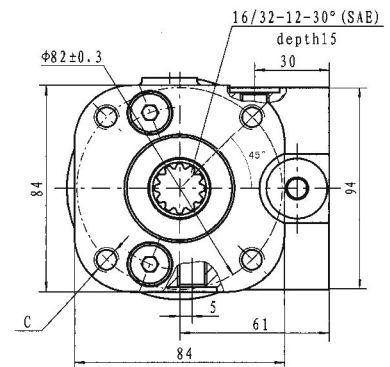


101(S)-5(T)(TE)(L)(E)(TX) Serisi Direksiyon Kontrol Üniteleri / 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU) Main
Specification

Parameters	Type 101T(TX)-***-*, 101S-5(T)(TE)(L)(E)-***-***										
Displacement (mL/r)	50	63	80	100	125	160	200	250	280	315	400
Max. input speed (rpm)	100								75		
Max. input pressure (Bar)	175										
Relief Valve Pressure Settings (Bar)	60, 70, 80, 100, 120, 140, 150, 160, 175										
Shock Valves Presssure Settings (Bar)	120, 130, 140, 160, 180, 200, 210, 220, 235										
Max. cont. back pressure (Bar)	250										
Weight (kg)	5.75	5.81	5.89	5.93	6.1	6.3	6.5	6.73	6.91	7.1	7.5
Dimensions L (mm)	130	132	133	136	139	144	149	155	160	165	175

Note :L is the maximum length dimension of product. This dimension in some products may 2mm or 4mm shorter.

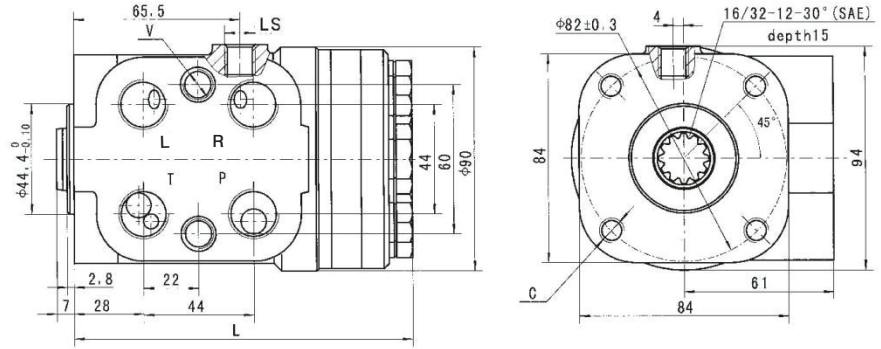
Mounting Data
101S-5

101S-5L




101(S)-5(T)(TE)(L)(E)(TX) Serisi Direksiyon Kontrol Üniteleri / 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

Mounting Data

101-5T
101-5TX



Ports Thread

Code	Ports P,T,L, R	Column Mounting C	Valve Mounting V	Post LS	Ports LL,EL
A	M20X1.5	M10	M12	M12X1.5	
B	M20X1.5 O-ring			M12X1.5 O-ring	
C	M18X1.5			M12X1.5	
D	M18X1.5 O-ring			M12X1.5 O-ring	
E	G1/2		M10X1	G1/4	M10X1
U	G1/2 O-ring			G1/4 O-ring	M10X1 O-ring
M	3/4-16 UNC O-ring	3/8-16 UNC	M12	7/16-UNF O-ring	
F					
I					
N		M10			
		M10X1.25	M10		
H	ϕ18.5	M10	M10	M12x1.5	

Note 1 : Ports P,T, L, R Depth : 15mm; Column Mounting C& V Depth : 16 mm, LS,LL,EL Depth :12mm.

Note 2 : The code of other ports dimensions will be listed in an agreement.

101(S)-5(T)(TE)(L)(E)(TX) Serisi Direksiyon Kontrol Üniteleri / 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

101-5T Order Code

	Pos.1	Pos.2	Pos.3	Pos.4
101S	—	5	—	T

Pos.1	Function Code
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5: Load Sensing Type

Pos.2	Priority Valve Connection
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T: Pipe Mounting

Pos.3	Displacement mL/r
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50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

Pos.4	Ports Code
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A, B, C, D, E, U, M, F, I, N

101-5TX Order Code

	Pos.1	Pos.2	Pos.3	Pos.4	Pos.5
101	—	5	T	X	—

Pos.1	Function Code
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5: Load Sensing Type

Pos.2	Priority Valve Connection
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T: Pipe Mounting

Pos.3	Neutral Function of SCU
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X: When the 101-5TX series SCU is in neutral position, both of its left and right cavity are connected with T port.

Pos.4	Displacement mL/r
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50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

Pos.5	Ports Code
-------	------------

A, B, C, D, E, U, M, F, I, N

10(S)-5(T)(TE)(L)(E)(TX) Serisi Direksiyon Kontrol Üniteleri / 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU) 101-5
Order Code

	Pos.1	Pos.2	Pos.3	Pos.4	Pos.5	Pos.6
101S	—	5	—	***	—	**

Pos.1
Function Code

5: Load Sensing Type

Pos.2
Priority Valve Connection

 T: Omit: Modular Mounting
Pipe Mounting

Pos.3
Electrohydraulic Control Signal Connection

 L : Omit: No electrohydraulic signal.
The pressure signal at LS connection drawn forth from the LL connection.
E : The pressure signal at the port A or B dran forth from the EL connection.

Pos.4
Displacement mL/r

50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400

Pos.5
Integrated Valve Parameters

 Relief valve pressure settings (MPa): 60, 80, 100, 120, 140, 150, 160, 175
Shock valves pressure settings is 60 MPa higher than relief valve

Pos.6
Ports Code

A, B, C, D, E, U, M, F, I, N, H

101S — 5TE — 125 — 10 — E

 Ports : P, T, L, R G1/2;
Column Mounting Thread C M10;
Port :LS G1/4; Port: EL M10X1

 Relief Valve Pressure Settings : 100 Bar
Shock Valves Pressure Settings: 160 Bar

Displacement : 125 mL/r

Pipe Mounting, with an Electrohydraulic Signal