



## 10系列全液压转向器 Hydraulic Steering Units 10 Series

10系列全液压转向器的阀体为集成式结构，产品可以集成插装阀，例如：集成系统压力控制阀。

10系列产品广泛应用于多种工农业自行走机械的主机和船舶操舵的转向系统，实现输入较小的力，控制较大阻力的转向油缸的动作；操纵轻便、灵活，安全可靠；集成的单向阀可以防止系统压力油的反向流动，并防止出现操作“打手”现象；集成的压力控制阀，可以实现转向系统的工作压力、缓冲压力的控制。

10系列产品的连接尺寸符合国际标准。10系列产品按照转定子啮合副的结构，可以分为6/7齿结构和4/5齿结构两大系列。

6/7齿结构系列：按照连接尺寸划分为101、102、103系列（其中：102系列的连接尺寸与BZZ系列的连接尺寸一致）；

4/5齿结构系列：定义为109系列，适应特殊用户的需求，派生出119、129系列。

10系列产品均集成入口单向阀；每个系列按照是否集成插装压力阀的情况又可以分为两个系列，即缺省和带S；缺省表示不带集成压力阀，带S表示带集成压力阀，对于开芯无反应型产品，集成安全阀和缓冲阀以代码1表示，仅集成安全阀以代码4表示。

101、102、103系列型号说明见P13，109系列型号说明见P47。

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; The 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 consistent with that of BZZ series; ) Hydraulic steering unit with 4/5 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 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 s 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.



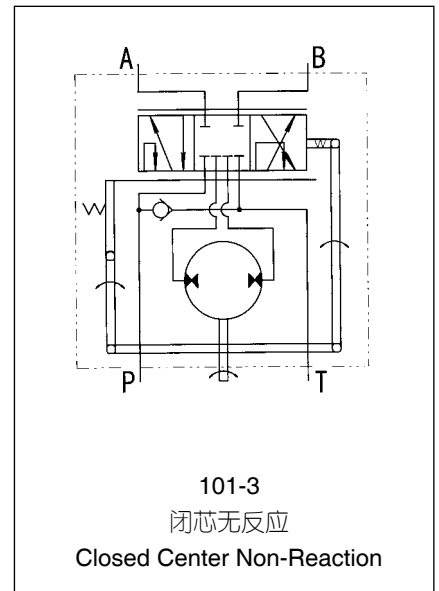
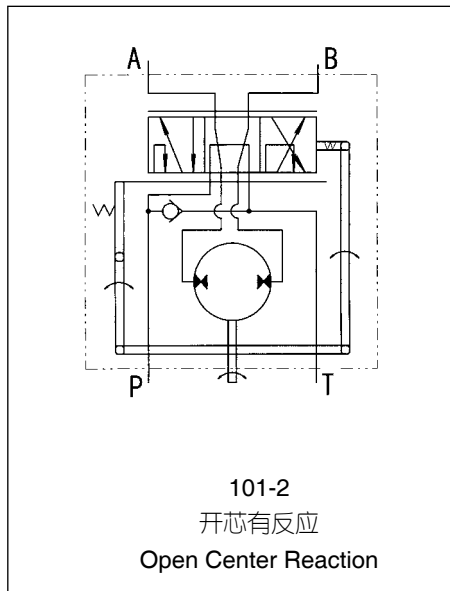
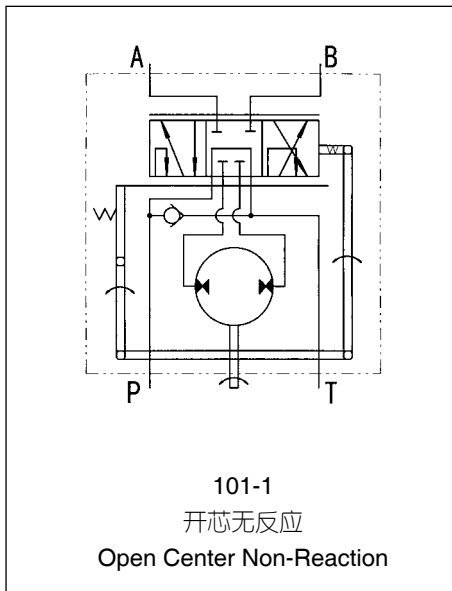


10系列全液压转向器  
Hydraulic Steering Units 10 Series

型号说明 Order Code



功能符号 Function Code





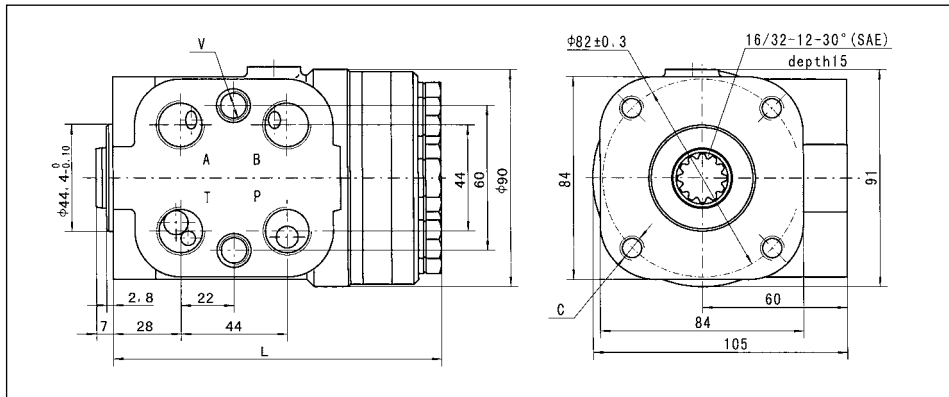
101-1、2、3 系列全液压转向器

101-1,2,3 Series Hydraulic Steering Control Units (SCU)

主要技术参数 Main Specification

Parameters	Type 101-*****											
	1,2,3								1,3			
Function Code												
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 (MPa)	17.5											
Max. cont. back pressure (MPa)	2.5											
Weight (kg)	5.70	5.76	5.84	5.91	6.05	6.25	6.45	6.68	6.86	7.06	7.45	
Dimension L (mm)	130	132	134	137	140	145	150	156	161	166	176	

连接尺寸 Mounting Data



油口螺纹 Ports Threads

代码 Code	P、T、A、B油口 Ports P, T, A, B	连接螺纹C Column Mounting C	连接螺纹V Valve Mounting V		
A	M20×1.5	M10	M12		
B	M20×1.5 O-ring				
C	M18×1.5				
D	M18×1.5 O-ring				
E	G1/2		M10×1		
U	G1/2 O-ring				
G	M22×1.5		M12		
Q	M22×1.5 O-ring				
M	3/4-16UNF O-ring			3/8-16 UNC	3/8-24 UNF
F				M10	M10
I		M10×1.25			
N					

注1: 油口P、T、A、B的深度14 mm, 连接螺纹C、V的深度16 mm。

Note 1: Ports P, T, A, B Depth : 14 mm; Column Mounting C & V Depth: 16 mm.

注2: 其他油口连接方式协议确定代号。

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



101-1、2、3 系列全液压转向器

101-1,2,3 Series Hydraulic Steering Control Units (SCU)

101-1、2、3 产品订货编号 Order Code

Pos.1		Pos.2		Pos.3		
101	-	*	-	***	-	*

Pos.1 - 功能符号 Function Code

- 其中: 1:开芯无反应 1:Open Center Non-Reaction
- 2:开芯有反应 2:Open Center Reaction
- 3:闭芯无反应 3:Closed Center Non-Reaction

Pos.2 - 排量 Displacement mL/r

- 50、63、80、100、125、160、200、250、280、315、400

Pos.3 - 油口代码 Ports Code

- A、B、C、D、E、U、G、Q、M、F、I、N

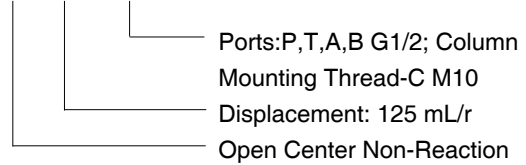
应用举例:

101系列转向器, 开芯无反应, 排量125mL/r, 四油口螺纹为G1/2, 平面密封转向柱法兰连接螺纹M10。转向器订货编号为: 101-1-125-E

For example:

Order code

101-1 - 125 - E





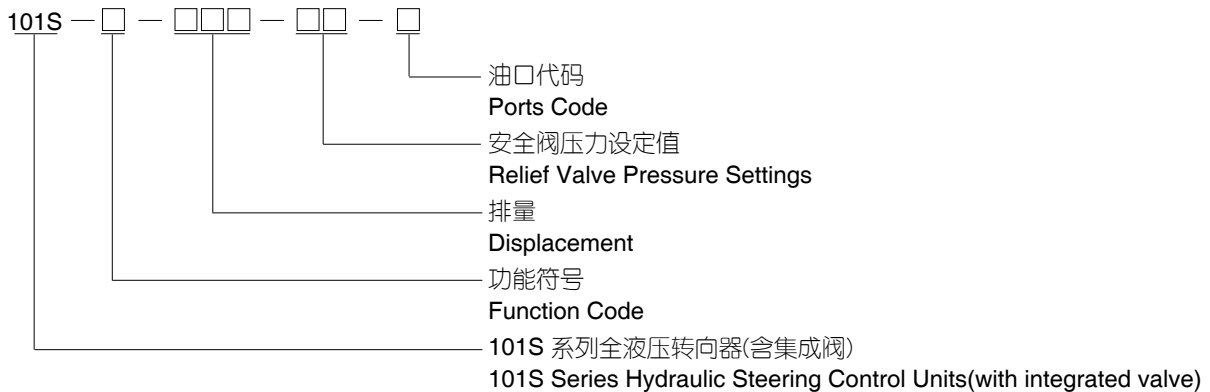
### 101S-1、2、4 系列全液压转向器

#### 101S-1,2,4 Series Hydraulic Steering Control Units (SCU)

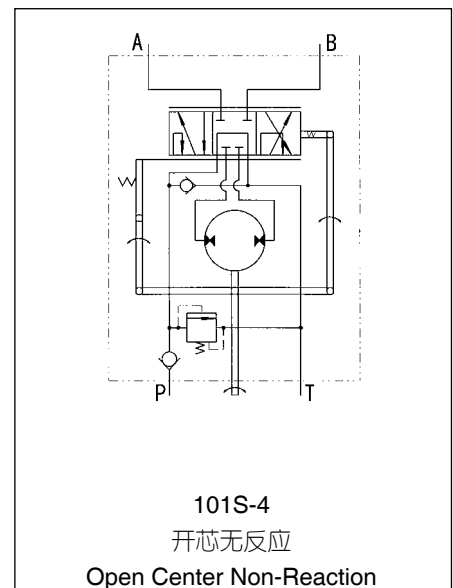
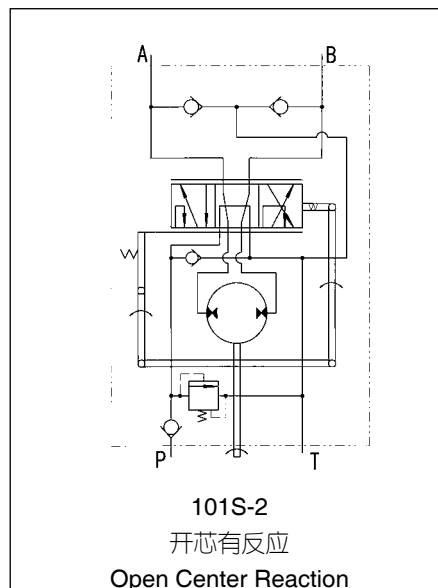
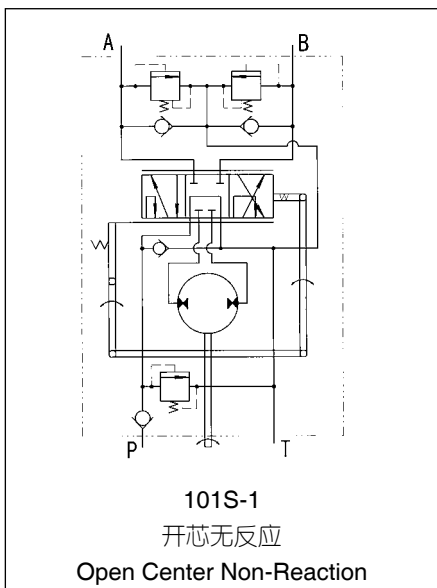
101S-1、2、4系列全液压转向器从结构到原理继承了101系列的全液压转向器的转向功能，101S系列转向器特点是在101系列的基础上将安全阀、缓冲阀、补油阀以及入口单向阀根据不同的要求设置在转向器阀体中，这种连接结构更加紧凑,使用更加方便。

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.

### 型号说明 Order Code



### 功能符号 Function Code





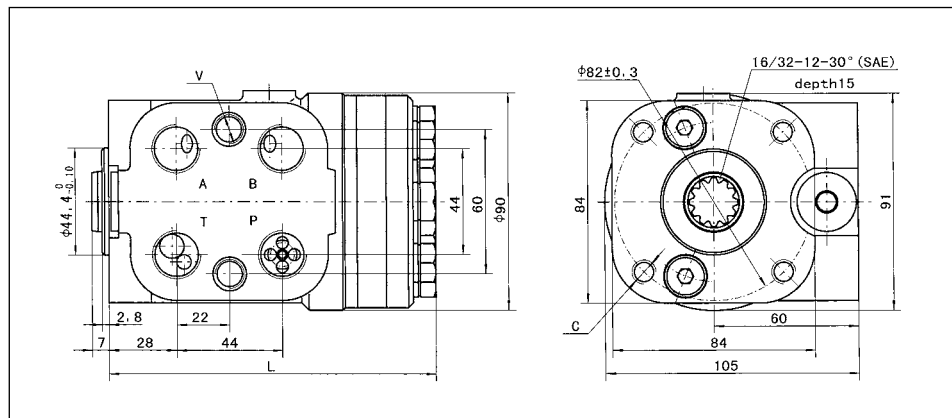
101S-1、2、4 系列全液压转向器

101S-1,2,4 Series Hydraulic Steering Control Units (SCU)

主要技术参数 Main Specification

Parameters	Type 101S-*****										
	1,2,4							1,4			
Function Code											
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 (MPa)	17.5										
Relief Valve Pressure Settings (MPa)	06,07,08,10,12,14,15,16,17.5										
Shock Valves Pressure Settings (MPa)	12,13,14,16,18,20,21,22,23.5										
Max. cont. back pressure (MPa)	2.5										
Weight (kg)	5.75	5.81	5.89	5.96	6.1	6.3	6.5	6.73	6.91	7.1	7.5
Dimension L (mm)	130	132	134	137	140	145	150	156	161	166	176

连接尺寸 Mounting Data



油口螺纹 Ports Threads

代码 Code	P、T、A、B油口 Ports P, T, A, B	连接螺纹C Column Mounting C	连接螺纹V Valve Mounting V	
A	M20×1.5	M10	M12	
B	M20×1.5 O-ring			
C	M18×1.5			
D	M18×1.5 O-ring			
E	G1/2		M10×1	
U	G1/2 O-ring			
M	3/4-16UNF O-ring			M12
F				3/8-16 UNC
I		M10	M10	
N		M10×1.25		

注1: 油口P、T、A、B的深度14 mm, 连接螺纹C、V的深度16 mm。

Note 1: Ports P, T, A, B Depth : 14 mm; Column Mounting C & V Depth: 16 mm.

注2: 其他油口连接方式协议确定代号。

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



### 101S-1、2、4 系列全液压转向器

101S-1,2,4 Series Hydraulic Steering Control Units (SCU)

### 101S-1、2、4 产品订货编号 Order Code

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

Pos.1 - 功能符号 Function Code

其中: 1:开芯无反应 1:Open Center Non-Reaction  
 2:开芯有反应 2:Open Center Reaction  
 4:开芯无反应 4:Open Center Non-Reaction

Pos.2 - 排量 Displacement mL/r

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

Pos.3 - 集成阀参数组合 Integrated Valve Parameter

安全阀压力设定值: Relief valve pressure settings (MPa):06、07、08、10、12、14、15、16、17.5  
 (缓冲阀压力设定值比安全阀压力高6MPa)

Shock valves pressure settings is 6 MPa higher than relief valve

Pos.4 - 油口代码 Ports Code

A、B、C、D、E、U、M、F、I、N

#### 应用举例:

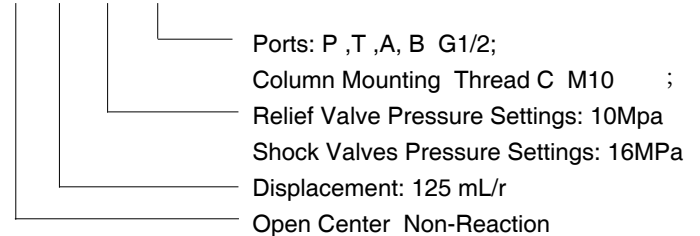
101S系列转向器, 开芯无反应, 排量125mL/r, 入口有单向阀, 安全阀压力10MPa, 缓冲阀压力16MPa, 四油口螺纹为G1/2, 平面密封, 转向柱法兰连接螺纹M10。

转向器订货编号为: 101S-1-125-10-E

#### For example:

#### Order code

101S-1-125-10-E







### 101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

#### 101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units(SCU)

101(S)-5(T)(TE)(L)(E)(TX)系列全液压转向器用于负荷传感型转向系统。

101S-5、101S-5L、101S-5E系列全液压转向器均为板式连接方式，与PVF\*型优先阀采用板式连接后使用。

101S-5L系列全液压转向器在LL接口处引出了LS口的压力信号，将信号传送给电气控制系统；

101S-5E系列全液压转向器在EL接口处引出了A或B油口的压力信号，将信号传送给电气控制系统。

101S-5T、101S-5TE系列全液压转向器为管式连接方式，与PVL\*或DYXL、YXL型优先阀采用管式连接后使用。

101S-5TE系列全液压转向器在EL接口处引出了A或B油口的压力信号，将信号传送给电气控制系统。

101-5T系列全液压转向器为管式连接方式，必须和DYXL、YXL型优先阀采用管式连接后使用，并且其系统安全阀设在优先阀上。

101-5TX系列全液压转向器处于中位时,其左右腔和回油是相连的,这种转向器和LFA、LFB型流量放大阀配套使用。

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 A or B out of port EL. and then supplies the pressure signal to the electrical control system.

SCU 101S-5T,101S-5TE series adopts 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 the port A or B out of port EL.and then supplies the pressure signal to the electrical control system.

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.

### 型号说明 Order Code

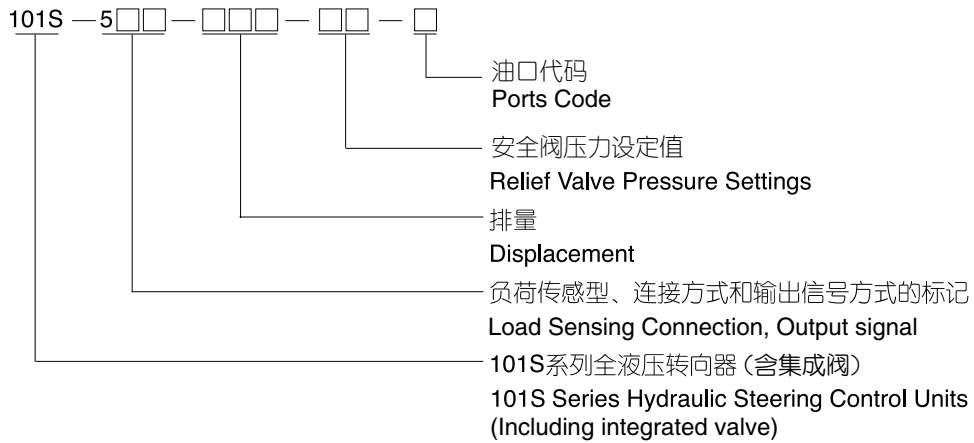
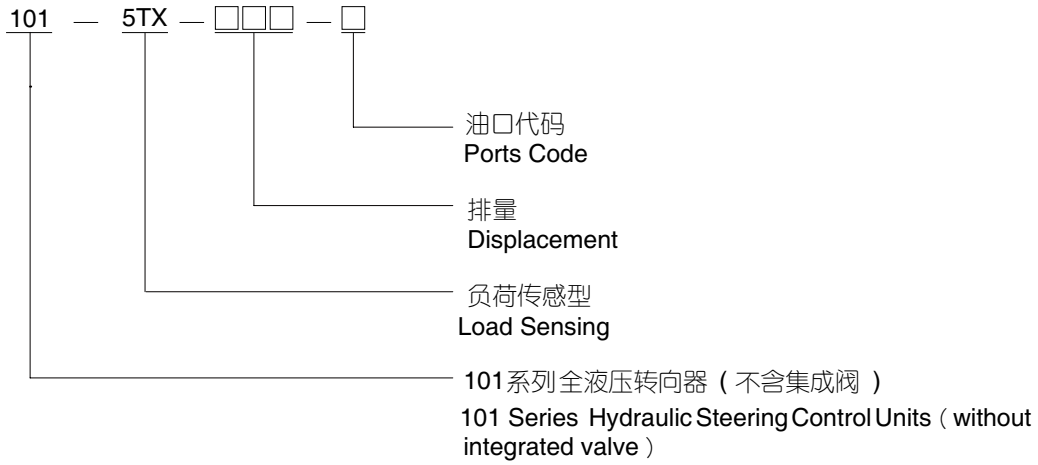




101(S)-5(T)(TE)(L)(E)(TX)系列全液压转向器

101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units(SCU)

型号说明 Order Code

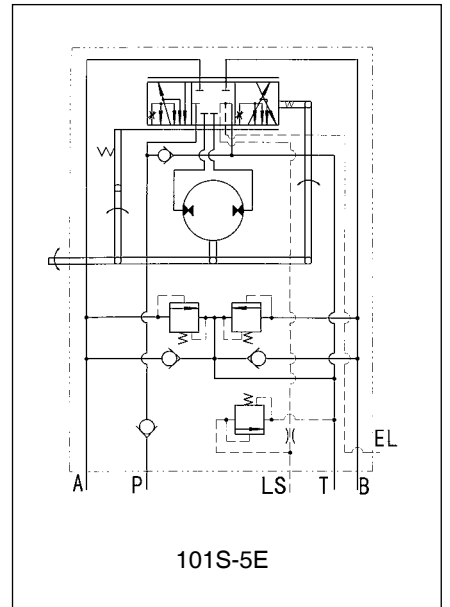
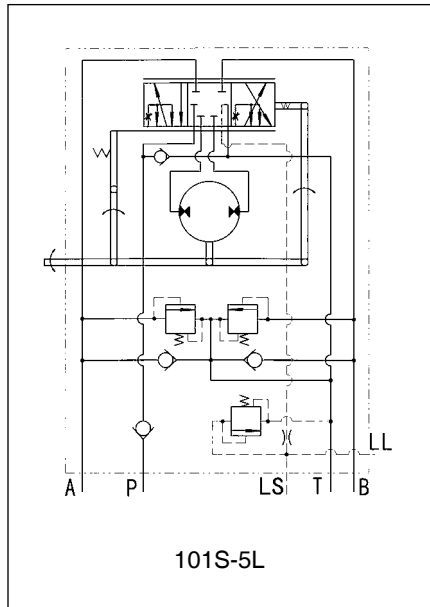
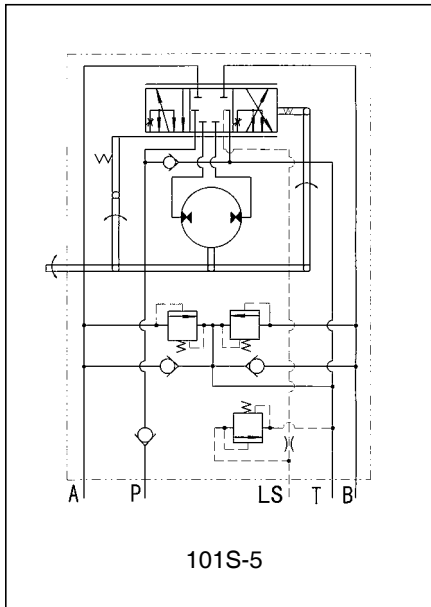




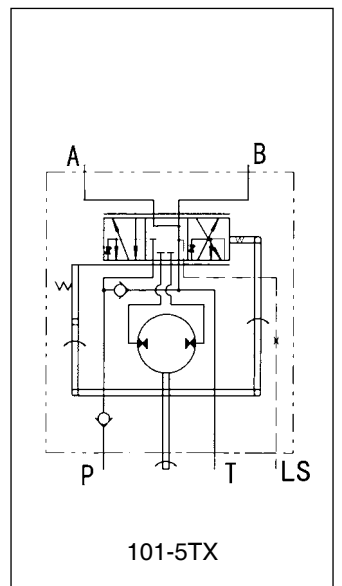
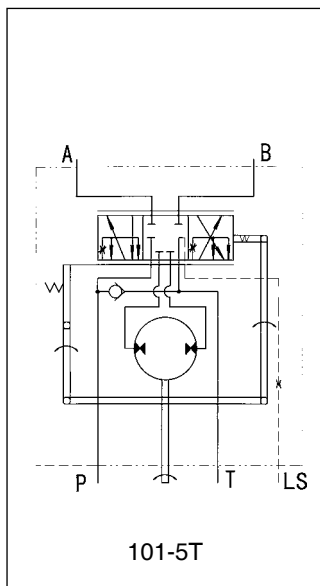
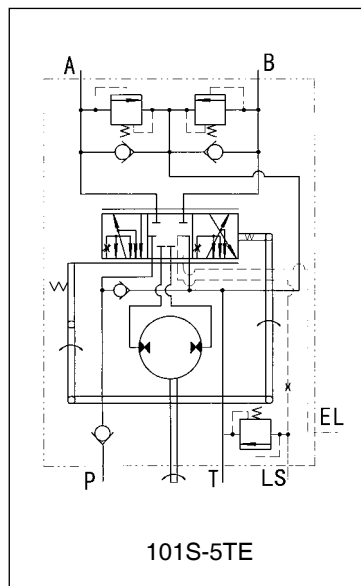
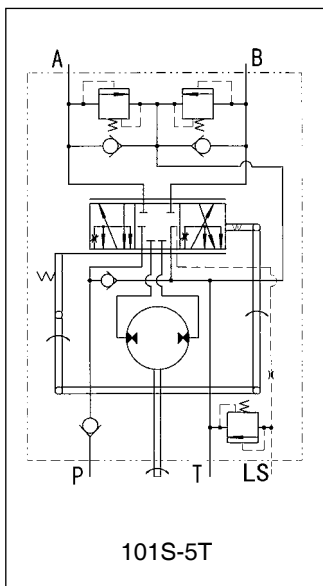
101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

功能符号 Function Code



板式连接  
Modularity Mounting



管式连接  
Pipe Mounting



101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

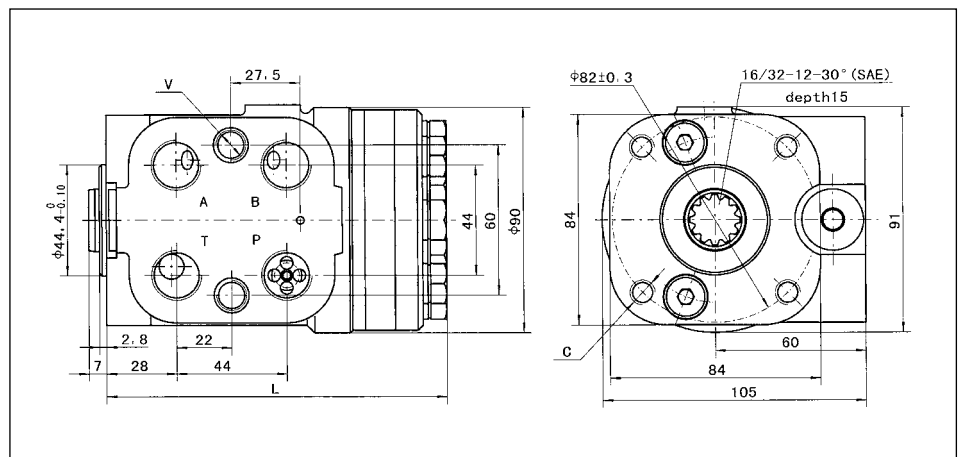
101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

主要技术参数 Main Specification

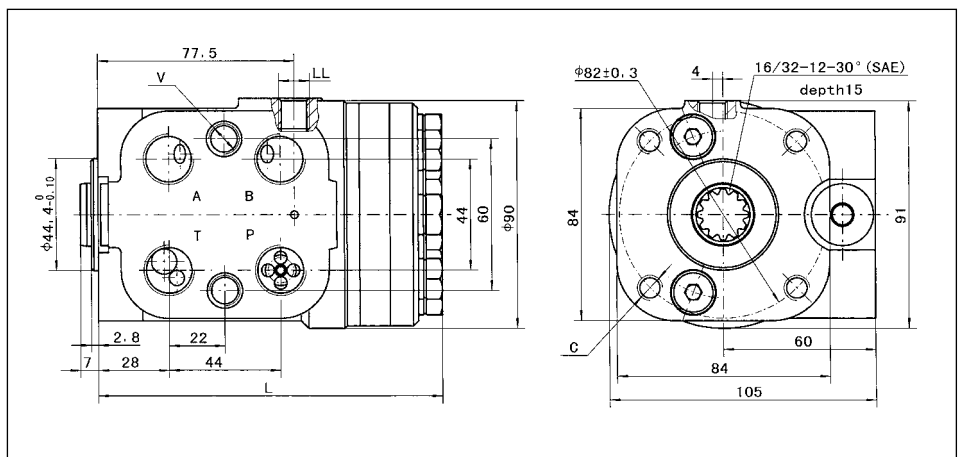
Parameters	Type 101-5T(TX)-****, 101S-5(T)(TE)(L)(E)-*****											
	50	63	80	100	125	160	200	250	280	315	400	
Displacement(mL/r)	50	63	80	100	125	160	200	250	280	315	400	
Max. input speed (rpm)	100								75			
Max. input pressure (MPa)	17.5											
Relief Valve Pressure Settings (MPa)	06,07,08,10,12,14,15,16,17.5											
Shock Valves Pressure Settings (MPa)	12,13,14,16,18,20,21,22,23.5											
Max. Cont. Back pressure (MPa)	2.5											
Weight (kg)	5.75	5.81	5.89	5.93	6.1	6.3	6.5	6.73	6.91	7.1	7.5	
Dimension L (mm)	130	132	134	137	140	145	150	156	161	166	176	

连接尺寸 Mounting Data

101S-5



101S-5L



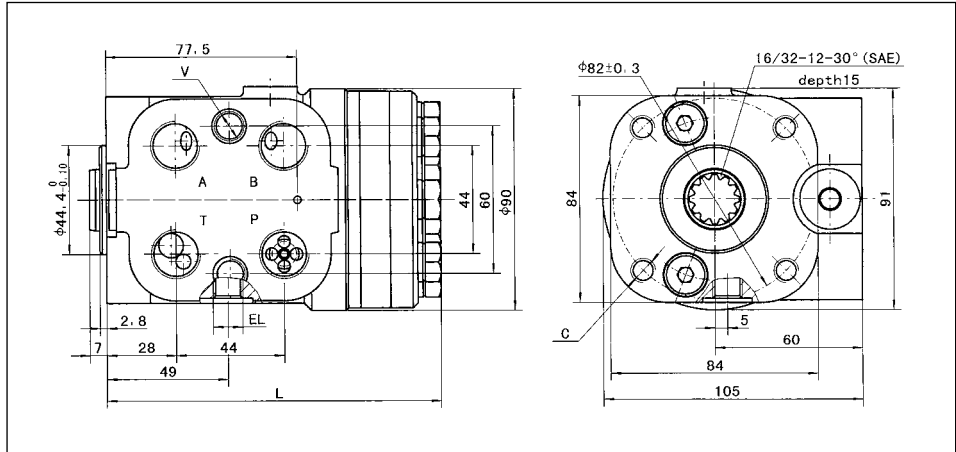


101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

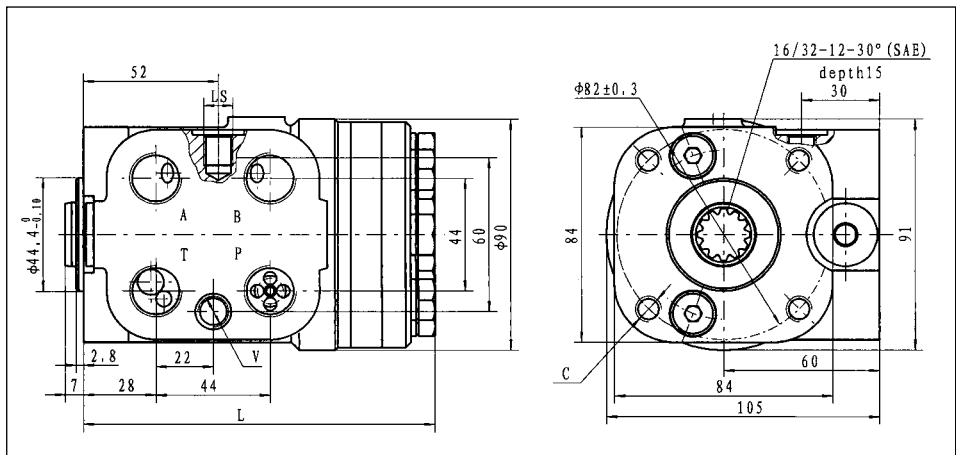
101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

连接尺寸 Mounting Data

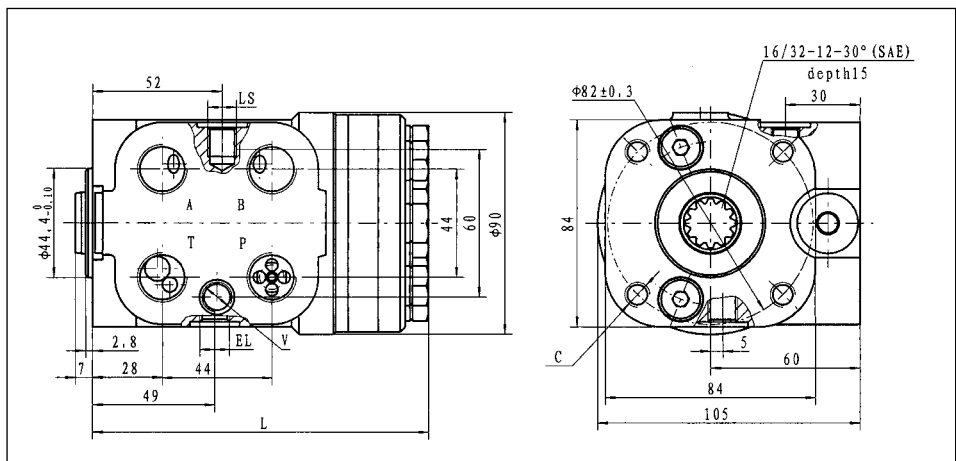
101S-5E



101S-5T



101S-5TE



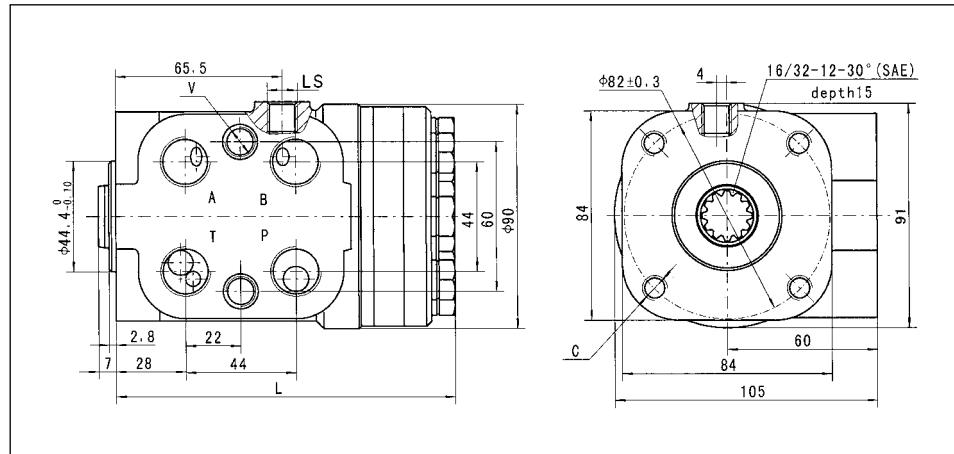


101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

连接尺寸 Mounting Data

101-5T  
101-5TX



油口螺纹 Ports Threads

代码 Code	P、T、A、B油口 Ports P, T, A, B	连接螺纹C Column Mounting C	连接螺纹V Column Mounting V	LS油口 Post LS	LL、EL油口 Ports LL, EL
A	M20×1.5	M10	M12	M12×1.5	
B	M20×1.5 O-ring			M12×1.5 O-ring	
C	M18×1.5			M12×1.5	
D	M18×1.5 O-ring			M12×1.5 O-ring	
E	G1/2		M10×1	G1/4	M10×1
U	G1/2 O-ring			G1/4 O-ring	M10×1 O-ring
M	3/4-16UNF O-ring	3/8-16 UNC	3/8-24 UNF	7/16-20UNF O-ring	
F					
I		M10	M10		
N		M10×1.25			
W	φ 18.5	M10	M12	M12×1.5	
H	φ 18.5	M10	M10	M12×1.5	

注1: 油口P、T、A、B的深度14 mm, 连接螺纹C、V的深度16 mm, LS、LL、EL的深度12 mm。  
 Note 1: Ports P, T, A, B Depth : 14 mm; Column Mounting C & V Depth: 16 mm, LS, LL, EL Depth: 12 mm.  
 注2: 其他油口连接方式协议确定代号。  
 Note 2: The code of other ports dimensions will be listed in an agreement.



### 101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

#### 101-5T 产品订货编号 Order Code

	Pos.1	Pos.2	Pos.3	Pos.4
101	-	5	T	-

Pos.1 - 功能符号 Function Code

5:负荷传感型 5:Load Sensing Type

Pos.2 - 优先阀连接形式 Priority Valve Connection

T:管式连接 T:Pipe Mounting

Pos.3 - 排量 Displacement mL/r

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

Pos.4 - 油口代码 Port Code

A、B、C、D、E、U、M、F、I、N

#### 101-5TX 产品订货编号 Order Code

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

Pos.1 - 功能符号 Function Code

5:负荷传感型 5:Load Sensing Type

Pos.2 - 优先阀连接形式 Priority Valve Connection

T:管式连接 T:Pipe Mounting

Pos.3 - 转向器中位机能 Neutral Function of SCU

X: 当转向器中位时, 转向器左右油口和T油口相连的。  
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 - 排量 Displacement mL/r

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

Pos.5 - 油口代码 Port Code

A、B、C、D、E、U、M、F、I、N



### 101(S)-5(T)(TE)(L)(E)(TX) 系列全液压转向器

101(S)-5(T)(TE)(L)(E)(TX) Series Hydraulic Steering Control Units (SCU)

#### 101S-5 产品订货编号 Order Code

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

Pos.1 - 功能符号 Function Code

5:负荷传感型 5:Load Sensing Type

Pos.2 - 优先阀连接形式 Priority Valve Connection

其中: 缺省: 板式连接 Omit: Modulary Mounting

T: 管式连接 T:Pipe Mounting

Pos.3 - 电液控制信号连接形式 Electrohydraulic Control Signal Connection

其中: 缺省: 没有电液信号: Omit: No electrohydraulic signal.

L: LL口引出的是LS口压力信号 L:The pressure signal at LS connection drawn forth from the LL connection.

E: EL口引出的A或B油口的压力信号 E:The pressure signal at the port A or B drawn forth from the EL connection.

Pos.4 - 排量 Displacement mL/r

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

Pos.5 - 集成阀参数组合 Integrated Valve Parameters

安全阀压力设定值: Relief valve pressure settings (MPa):06、07、08、10、12、14、15、16、17.5

(缓冲阀压力设定值比安全阀压力高6 MPa)

Shock valves pressure settings is 6 MPa higher than relief valve

Pos.6 - 油口代码 Ports Code

A、B、C、D、E、U、M、F、I、N、W、H

#### 应用举例:

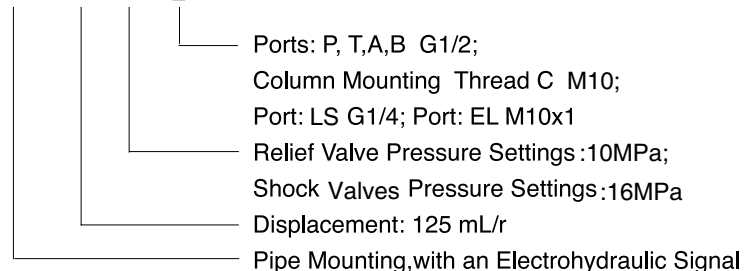
101S系列转向器, 负荷传感型, 配管式连接的优先阀, 电液控制信号从A或B油口引出, 排量125mL/r, 入口有单向阀, 安全阀压力10MPa, 缓冲阀压力16MPa, 四油口螺纹为G1/2, 转向柱法兰连接螺纹M10, LS信号口G1/4, EL信号口M10x1。

转向器订货编号为: 101S-5TE-125-10-E

#### For example:

Order code

101S-5TE - 125 - 10 - E







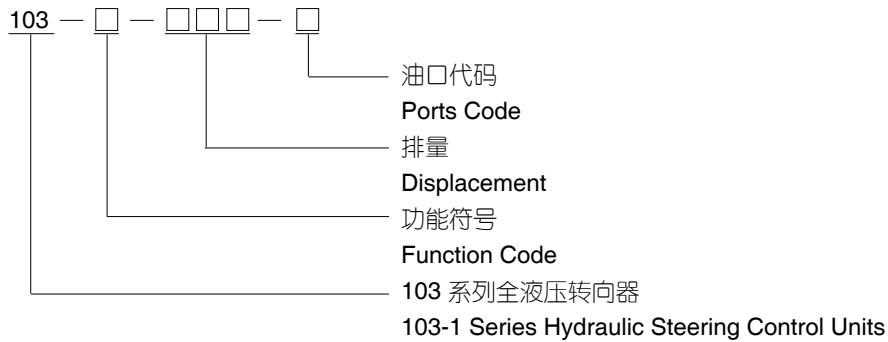
### 103-1系列全液压转向器

#### 103-1 Series Hydraulic Steering Control Units(SCU)

103-1系列全液压转向器结构更加紧凑，连接尺寸符合国际标准,和101、102系列产品有差异,结构小巧紧凑,适合于狭空间装配,广泛应用于低速车辆的转向控制系统，如叉车、拖拉机、联合收割机，工程或道路建设设备、船舶舵机等，能够通过输入较小的力完成较大输出转向力的场合，操纵上轻便、灵活、可靠。

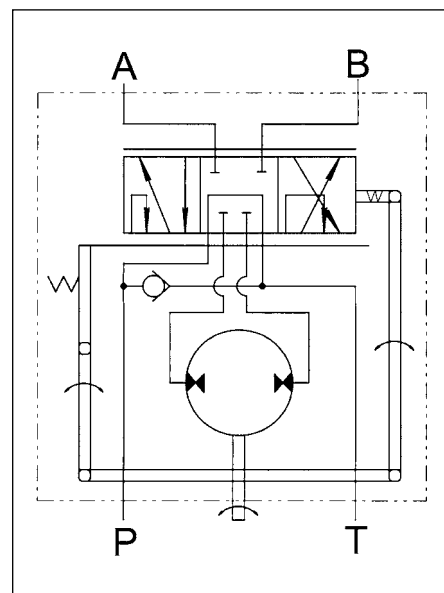
The structure of 103-1 series Hydraulic SCU is more compact and its connection dimension conforms to the international standard, while it is different from 101 and 102 series which are suitable for assembly in the narrow space. It's widely used in the low-speed vehicles, steering control system, such as forklift, tractor, combined harvester, engineering or road construction machinery, and the marine rudder, etc. It can obtain more powerful output steering force through the input force and it operates easily, flexibly and reliably.

### 型号说明 Order Code



### 功能符号 Function Code

103-1  
开心无反应  
Open Center Non-Reaction





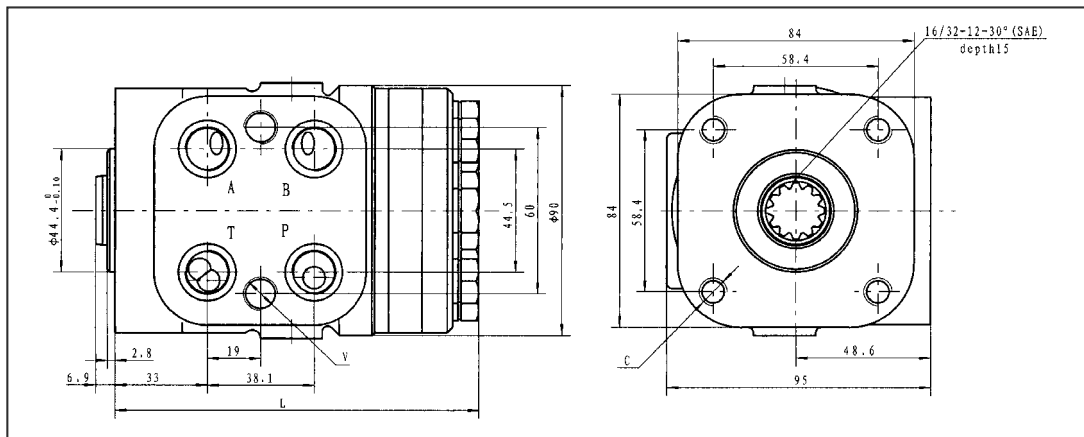
103-1系列全液压转向器

103-1 Series Hydraulic Steering Control Units(SCU)

主要技术参数 Main Specification

Parameters	Type 103-1-****							
Function Code	1	1	1	1	1	1	1	1
Displacement(mL/r)	50	63	80	100	125	160	200	250
Rated Flow (L/min)	5	6	8	10	12.5	16	20	25
Max.Input Pressure (MPa)	17.5							
Max.Cont.Back Pressure	2.5							
Weight (kg)	3.85	4.0	4.05	4.10	4.25	4.4	4.6	4.8
Dimension L (mm)	123	125	127	130	133	138	143	149

连接尺寸 Mounting Data



油口螺纹 Ports Threads

代码Code	P、T、A、B 油口 Ports P , T, A, B	连接螺纹C Column Mounting	连接螺纹V Valve Mounting
A	G3/8-19 O-ring	M10x1.25	M10
B	9/16-18UNF O-ring		
C	M18x1.5	M10	M12
D	M18x1.5 O-ring		
M	3/4-16UNF O-ring	3/8-16UNC	3/8-24UNF
F		M10	M10
I		M10x1.25	
N			

注1: 油口P、T、A、B的深度14 mm, 连接螺纹C、V的深度16 mm。  
Note 1: Ports P, T, A, B Depth : 14 mm; Column Mounting C & V Depth: 16 mm.  
注2: 其他油口连接方式协议确定代号。  
Note 2: The code of other ports dimensions will be listed in an agreement.



### 103-1系列全液压转向器

103-1 Series Hydraulic Steering Control Units(SCU)

#### 产品订货编号 Order Code

	Pos.1	Pos.2	Pos.3
103	-	1	-
	-	***	-
			*

Pos.1 - 功能符号 Function Code

1: 开心无反应 1: Open Center Non-Reaction

Pos.2 - 排量 Displacement mL/r

50、63、80、100、125、160、200、250

Pos.3 - 油口代码 Ports Code

A、B、C、D、F、M、I、N

#### 应用举例:

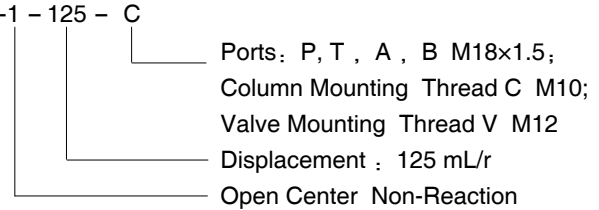
103系列转向器，开心无反应，排量125mL/r，四油口螺纹为M18×1.5，转向柱法兰连接螺纹M10，油口面两连结螺纹M12。

转向器订货编号为：103-1-125-C

#### For example:

#### Order code

103-1 - 125 - C





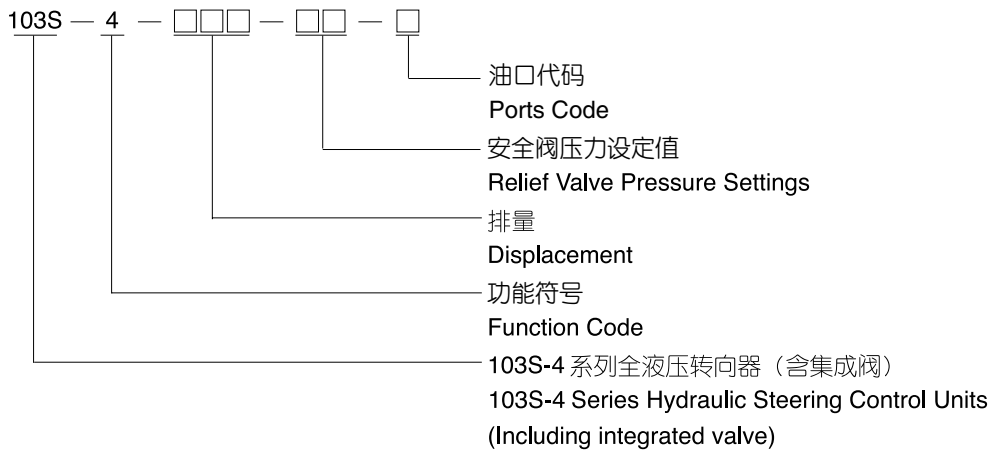
### 103S-4 系列全液压转向器

#### 103S-4 Series Hydraulic Steering Control Units (SCU)

103S-4系列转向器除具备103-1系列转向器的功能外，还含有安全阀和入口单向阀的功能。

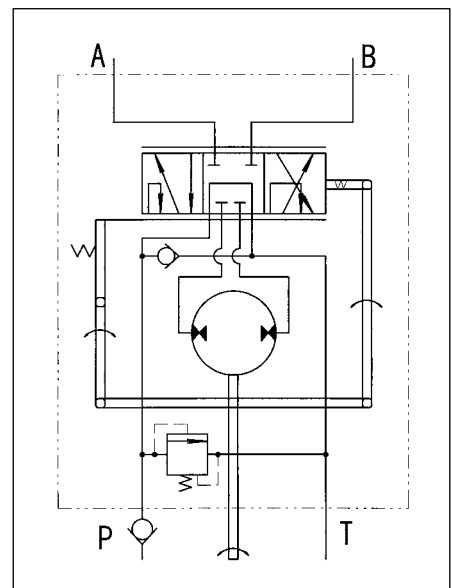
103S-4 series steering unit contains, in addition to the function of 103-1 series steering unit, also function of relief valve and inlet check valve.

### 型号说明 Order Code



### 功能符号 Function Code

103S-4  
开芯无反应  
Open Center Non-Reaction





103S-4 系列全液压转向器

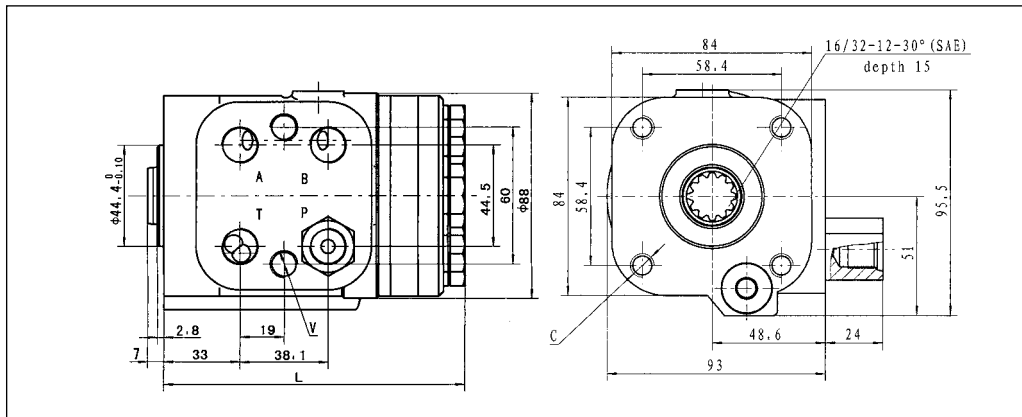
103S-4 Series Hydraulic Steering Control Units (SCU)

主要技术参数 Main Specification

Parameters	Type 103S-4-****-***							
Displacement(mL/r)	50	63	80	100	125	160	200	250
Rated flow (L/min)	5	6	8	10	12.5	16	20	25
Max. input pressure (MPa)	17.5							
Relief valve pressure settings (Mpa)	06,07,08,10,12,14,15,16,17.5							
Max. cont. back pressure (MPa)	2.5							
Weight (kg)	4.75	4.81	4.89	4.96	5.1	5.3	5.5	5.73
Dimension L (mm)	123	125	127	130	133	138	143	149

连接尺寸 Mounting Data

103S-4



油口螺纹 Ports Threads

代码 Code	P、T、A、B油口 Ports P,T,A,B	连接螺纹 C Column Mounting C	连接螺纹 V Column Mounting V
A	G3/8-19 O-ring	M10×1.25	M10
B	9/16-18UNF O-ring		
C	M18×1.5	M10	M12
D	M18×1.5 O-ring		
M	3/4-16UNF O-ring	3/8-16 UNC	3/8-24 UNF
F			
I		M10	M10
N		M10×1.25	

注1: 油口P、T、A、B的深度14 mm, 连接螺纹C、V的深度16 mm。

Note 1: Ports P, T, A, B Depth : 14 mm; Column Mounting C & V Depth: 16 mm .

注2: 其他油口连接方式协议确定代号。

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



### 103S-4 系列全液压转向器

103S-4 Series Hydraulic Steering Control Units (SCU)

#### 产品订货编号 Order Code

	Pos.1	Pos.2	Pos.3	Pos.4
103S	-	4	-	*

Pos.1 - 功能符号 Function Code

4:开芯无反应 4:Open Center Non-Reaction

Pos.2 - 排量 Displacement mL/r

50、63、80、100、125、160、200、250

Pos.3 - 安全阀压力设定值 Relief Valve Pressure Settings MPa

06、07、08、10、12、14、15、16、17.5

Pos.4 - 油口代码 Ports Code

A、B、C、D、F、M、I、N

#### 应用举例:

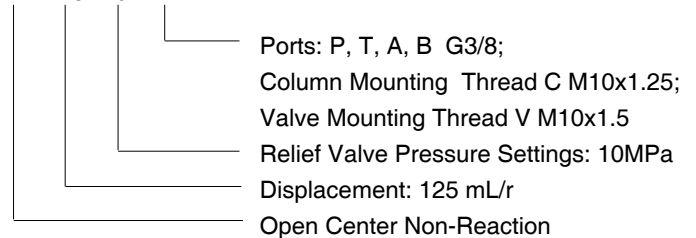
103S-4系列转向器, 开芯无反应, 排量 125 mL/r, 入口有单向阀, 安全阀压力 10MPa, 四油口螺纹为G3/8, 转向柱法兰连接螺纹M10x1.25, 油口面两连结阀用螺纹 M10x1.5。

转向器订货编号为: 103S-4-125-10-A

#### For example:

Order code

103S-4 - 125-10 - A





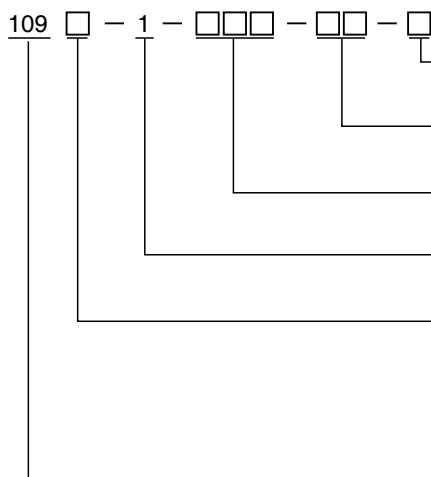
### 109 系列全液压转向器

#### 109 Series Hydraulic Steering Control Units (SCU)

109系列全液压转向器是整体集成式4/5齿结构的摆线全液压转向器。可以集成单向阀、安全阀、缓冲阀，结构小巧玲，连接尺寸符合国际规范，产品广泛运用于微型非道路车辆，如：微型叉车、小型拖拉机(及其它农机)、微型土方机械、市政养护车辆等。能够通过输入较小的力，获得较大的输出转向力矩，具有操作轻巧、灵活、可靠等特点。

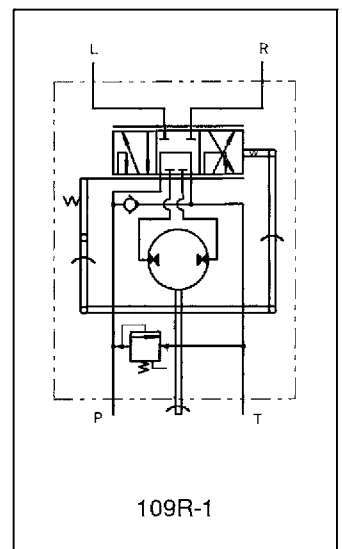
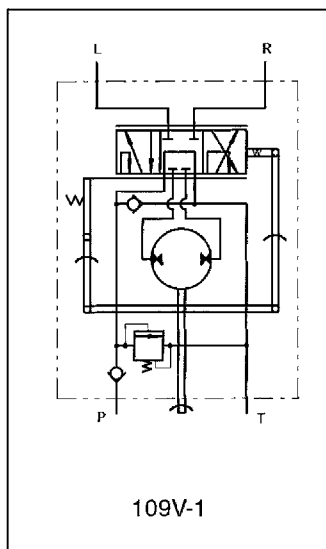
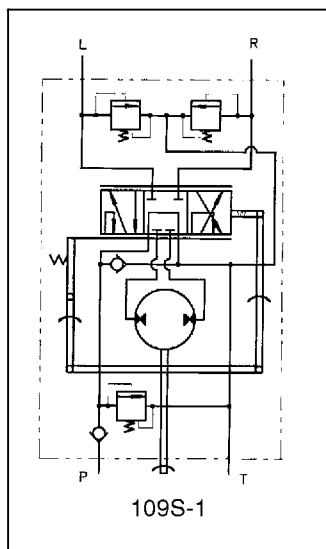
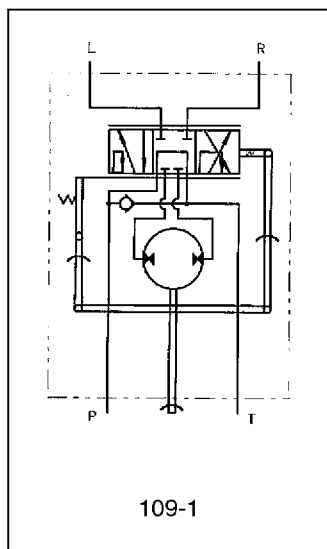
109 series hydraulic steering unit is an integrated orbital steering unit with 4/5 tooth structure. This kind of steering unit has a small and exquisite structure with integrated check valve, relief valve and shock valves and its mounting dimension conforms to international standard. This kind of steering unit is widely used in mini vehicles, such as mini forklift, mini tractor (and other agricultural machinery), mini earthmoving machinery, mini municipal vehicle, etc. It can obtain more steering output torque through input of less power, with features of easy, flexible and reliable operation.

#### 型号说明 Order Code



- 连接尺寸标记  
Mounting Data
- 安全阀压力设定值  
Relief Valves pressure settings
- 排量  
Displacement
- 功能符号：开心无反应  
Function Code: Open Center, Non-Reaction
- 缺省：表示不含集成阀；Omit: Without Integrated Valve
- S: 表示含入口单向阀、安全阀、缓冲阀  
S: With Check Valve, Relief Valve, Shock Valves
- V: 表示含入口单向阀、安全阀 V: With Check Valve, Relief Valve
- R: 表示安全阀 R: With Relief Valve
- 109系列全液压转向器  
109 Series Hydraulic Steering Control Units

#### 功能符号 Function Code





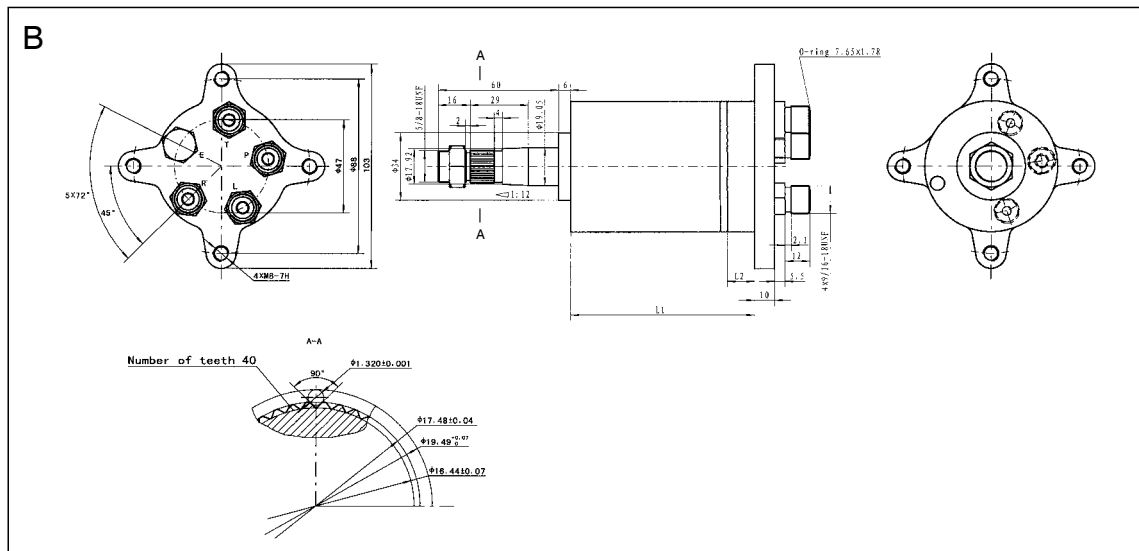
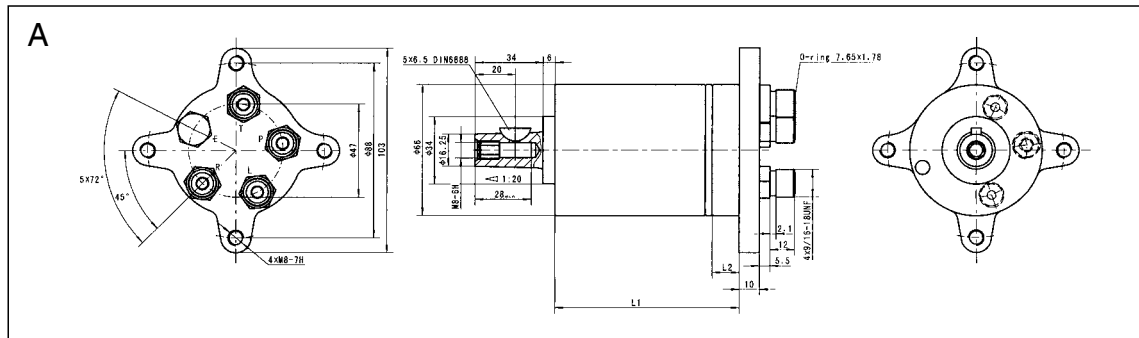
109 系列全液压转向器

109 Series Hydraulic Steering Control Units (SCU)

主要技术参数 Main Specification

Parameters	Type 109*-1-***-**-*					
Displacement(mL/r)	20	32	40	50	63	80
Rated flow(L/min)	3~20					
Rated Pressure(MPa)	12.5					
Relief Valve Pressure Settings(MPa)	06,07,08,09,10					
Shock Valves Pressure Settings(MPa)	12,13,14,15,16					
Steering Torque(N·m)	≤ 1.8					
Max. Cont. Pressure in Line T-P <sub>r</sub> (MPa)	1					
Dimension L(mm)	87	92	96	100	105	113

连接尺寸 Mounting Data

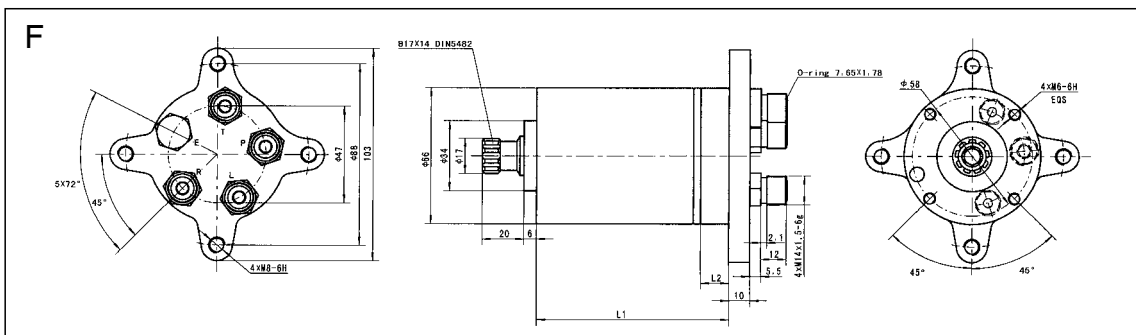
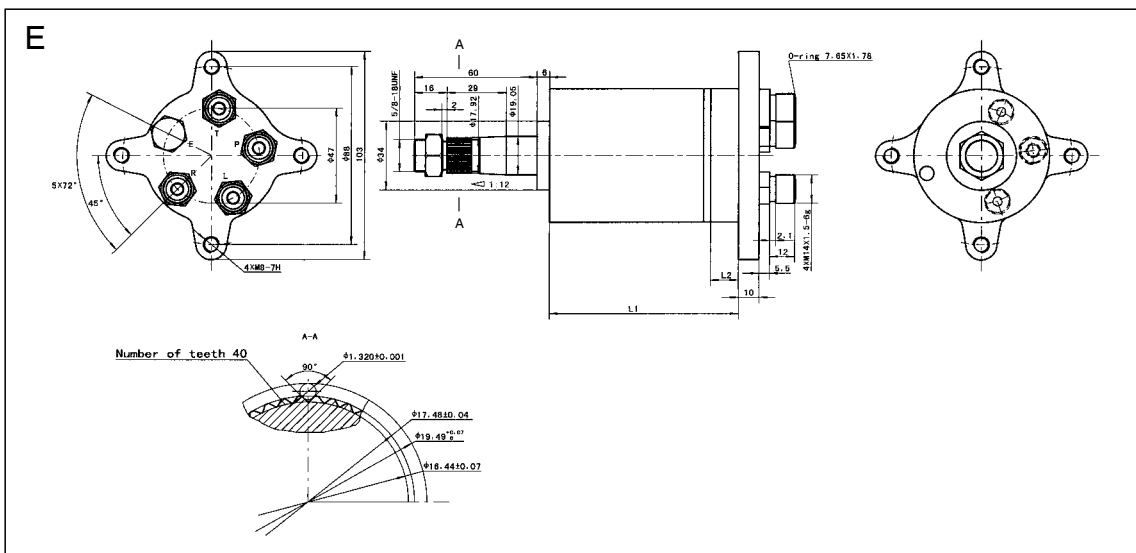
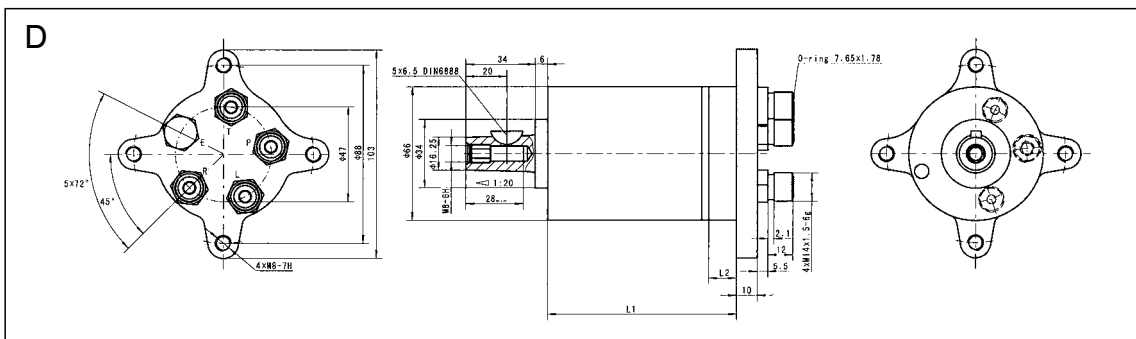
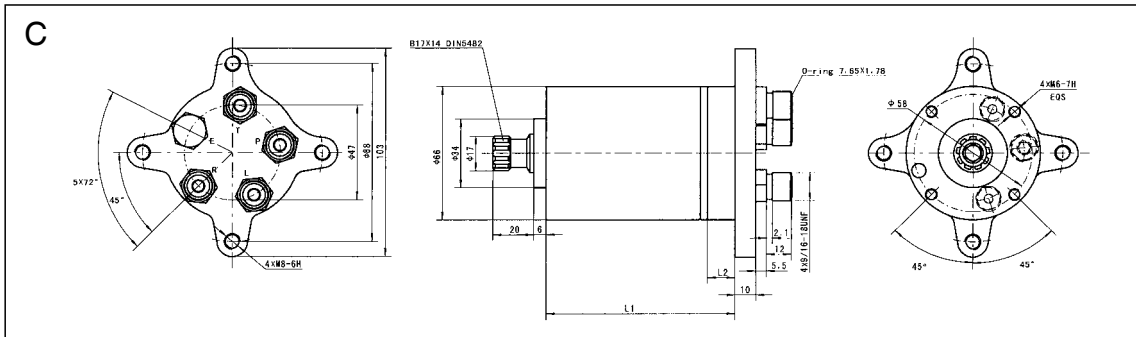






109 系列全液压转向器

109 Series Hydraulic Steering Control Units (SCU)





### 109 系列全液压转向器

109 Series Hydraulic Steering Control Units (SCU)

### 109 产品订货编号 Order Code

	Pos.1		Pos.2		Pos.3		Pos.4		Pos.5
109	*	-	1	-	***	-	**	-	*

Pos.1 - 集成阀参数组合 Integrated Valve Parameter

其中：缺省：不含阀 Omit: Without valve  
 S: 含安全阀、入口单向阀、缓冲阀 S: With Relief Valve, Check Valve, Shock Valves  
 V: 含安全阀、入口单向阀 V: With Relief Valve, Check Valve  
 R: 含安全阀 R: With Relief Valve

Pos.2 - 功能符号 Function Code

1:开芯无反应 1:Open Center Non-Reaction

Pos.3 排量 Displacement mL/r

20、32、40、50、63、80

Pos.4 - 集成阀参数组合 Integrated Valve Parameter

安全阀压力设定值: Relief Valve Pressure Settings(MPa):06、07、08、09、10  
 (缓冲阀压力调定值比安全阀压力高 6 MPa)  
 Shock Valves Pressure Settings is 6 MPa Higher Than Relief Valve.

Pos.5 - 连接尺寸代号 Mounting Data

- A、输入端和输出油口尺寸: A: Tapered 1:20, Key 5x6.5, Ports: 9/16-18UNF;
- B、输入端和输出油口尺寸: B: Tapered 1:12, With 11/16 In-40 Serrations and 5/8-18UNF, Ports: 9/16-18UNF;
- C、输入端和输出油口尺寸: C: DIN 5482 B17x14, Ports: 9/16-18UNF ;
- D、输入端和输出油口尺寸: D: Tapered 1:20,Key 5x6.5, Ports: M14x1.5;
- E、输入端和输出油口尺寸: E: Tapered 1:12, With 11/16 In-40 Serrations and 5/8-18UNF, Ports: M14x1.5;
- F、输入端和输出油口尺寸: F: DIN 5482 B17x14, Ports: M14x1.5。

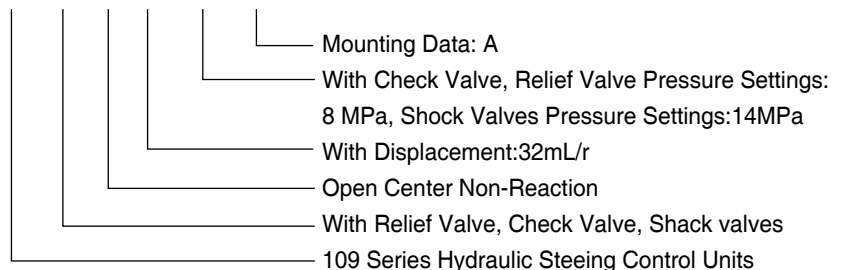
#### 应用举例:

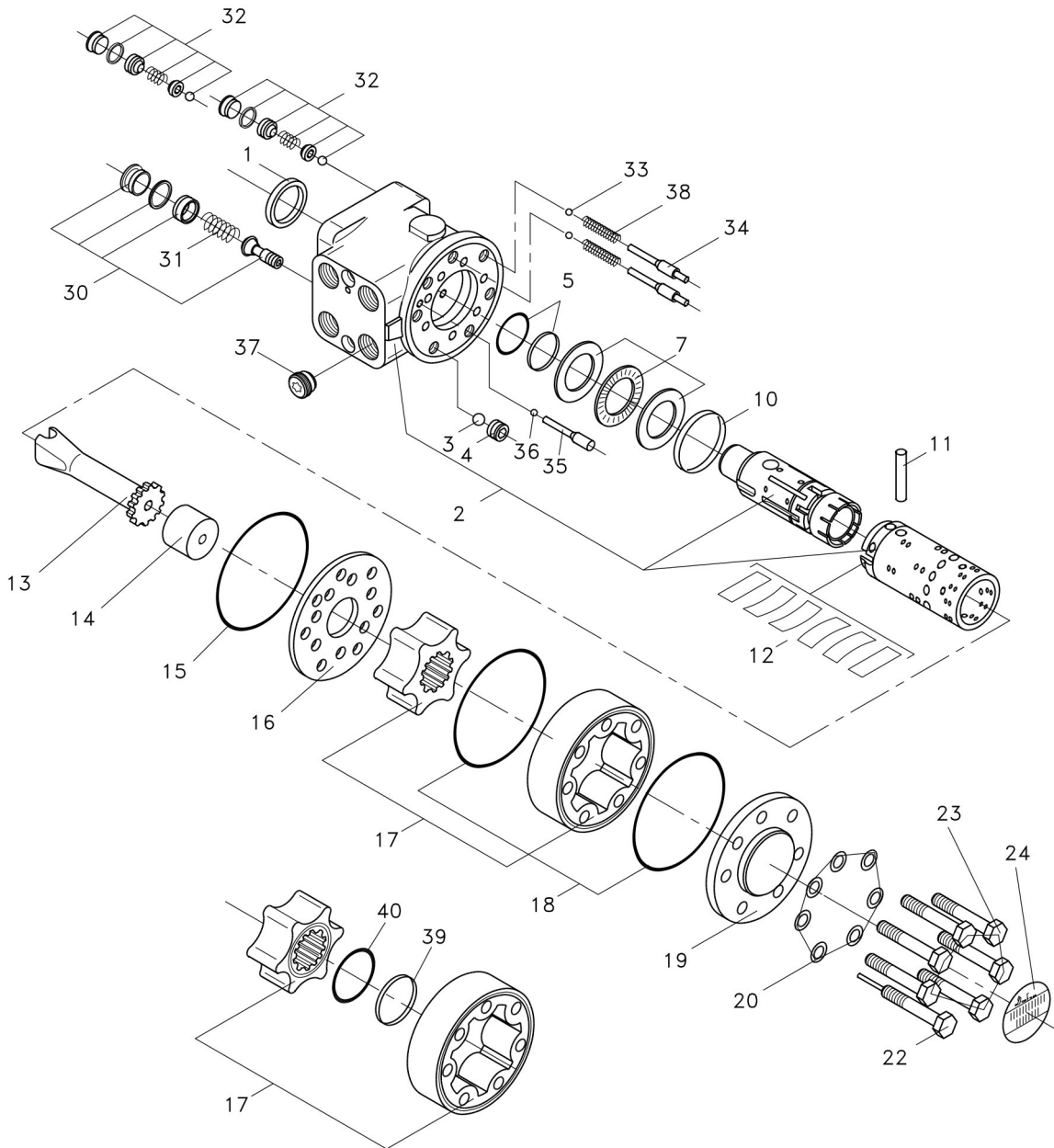
109系列转向器, 开心无反应, 排量32mL/r, 含安全阀、入口单向阀、缓冲阀。安全阀压力8MPa, 连接尺寸A型。其转向器订货编号为: 109S-1-32-08-A。

For example:

Order code

109 S - 1 - 32 - 08 - A





- |                                                                                                         |                      |                           |
|---------------------------------------------------------------------------------------------------------|----------------------|---------------------------|
| 1 Dust seal ring                                                                                        | 14 Spacer            | 24 Name plate             |
| 2 Housing, spool and sleeve.<br>Check valve and the seats for relief<br>and shock valves are locktited. | 13 Cardan shaft      | 30 Complete relief valve  |
| 3 Ball 8.5 mm [0.33 in]                                                                                 | 12 Set of springs    | 31 Spring wire            |
| 4 Thread bushing                                                                                        | 15 O-ring            | 32 Complete shock valve   |
| 5 O-ring used with kin-ring (item 6)                                                                    | 16 Distributor plate | 33 Ball $\frac{3}{16}$ in |
| 6 Kin-ring                                                                                              | 17 Gearwheel set     | 34 Rolled pin             |
| 7 Bearing assembly                                                                                      | 18 O-ring            | 36 Bushing                |
| 10 Ring                                                                                                 | 19 End cover         | 35 Ball                   |
| 11 Cross pin                                                                                            | 20 Washer            | 39 Kin ring               |
|                                                                                                         | 22 Special screw     | 40 O-ring                 |
|                                                                                                         | 23 Screw             |                           |

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