

RADIAL PISTON PUMP & ACCESSORIES

Pressure up to 700 Bar

Flow up to 91.2 lpm@1450 rpm



Index

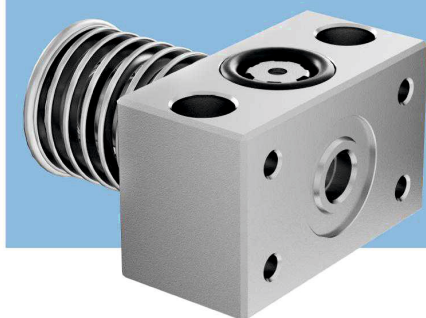
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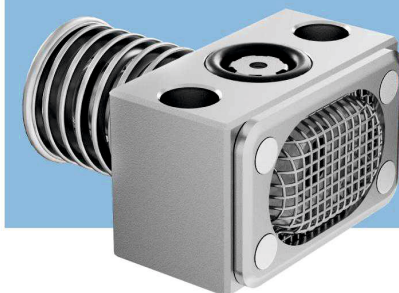


TS-MSE Plunger Valves for Radial Piston Pumps

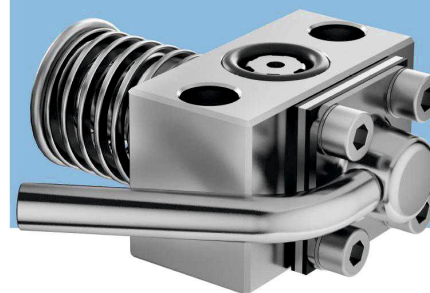
TS-MSE HC



TS-MSE



TS-MSE HKL

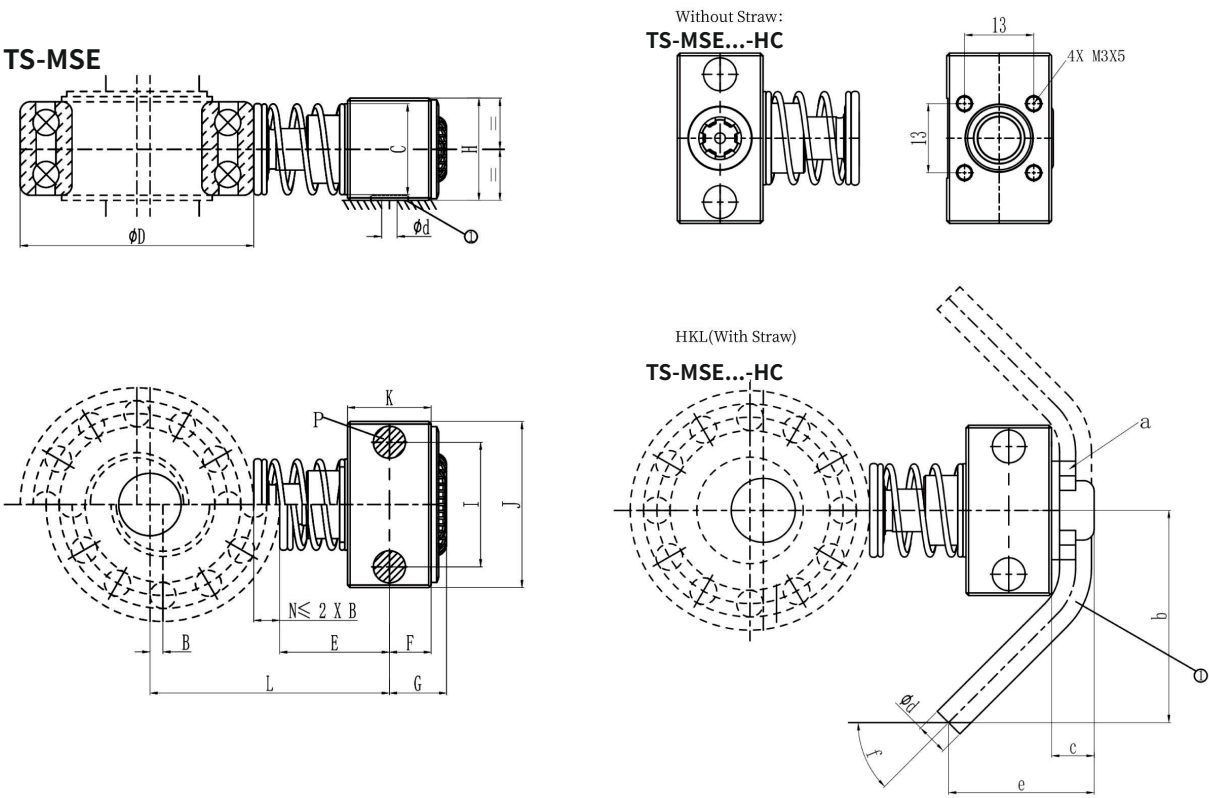


Technical Specifications

Type	Piston Diameter (mm)	A Rev Flow Volume Vg (cm ³ /r)	Flow Volume Q (L/min)		Piston Force On Stroke Direction (Per 1bar) (N)	Power Requirement (Per 100bar) (kN)		Working Pressure Pmax (bar)
			1450 min ⁻¹	2850 min ⁻¹		1450 min ⁻¹	2850 min ⁻¹	
TS-MSE HC: Without Filter Screen	4	0.062	0.09	0.18	1.26	0.018 k	0.033 k	700
	5	0.096	0.14	0.27	1.96	0.026 k	0.050 k	700
TS-MSE: Normal Type (With Filter Screen But Without Straw)	6	0.14	0.2	0.4	2.83	0.036 k	0.073 k	700
	7	0.19	0.28	0.54	3.85	0.050 k	0.10 k	700
TS-MSE HKL: With Straw	8	0.25	0.36	0.71	5.03	0.070 k	0.13 k	700
	9	0.31	0.45	0.89	6.36	0.087 k	0.17 k	550



TS-MSE Plunger Valves for Radial Piston Pumps



Type	b	c	e	Ød	f	a	Type	Eccentric Bearing DIN 628	ØD	Range L±0.1
TS-MSE4...9-HC	74	8	39	6x0.8	45°	4xM3x6	TS-MSE	3204	47	46

Type	J	H	K	Ød	B	C	I±0.1	G	E	F	P	O-ring (NBR 90 Shore)
TS-MSE4...9	32	19.7-0.04	16	3	2.5 ^{+0.05}	18.5	24	11	20	8	M6-8.8 (9Nm)	8X2

Attention:
Do not exceed the max allowable piston stroke length! (Refer to size L!)
Avoid damaging the suction valves!
 $L \pm 0.1 = E + D / 2 + B$



TS-MSB Plunger Valves for Radial piston pumps

TS-MSB HC



TS-MSB



TS-MSB HKL



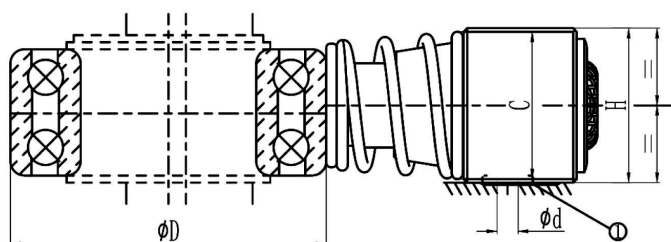
Technical Specifications

Type	Piston Diameter (mm)	A Rev Flow Volume Vg (cm ³ /r)	Flow Volume Q (L/min)		Piston Force On Stroke Direction (Per 1bar) (N)	Power Requirement (Per 100bar) (kN)		Working Pressure Pmax (bar)
			1450 min ⁻¹	2850 min ⁻¹		1450 min ⁻¹	2850 min ⁻¹	
TS-MSB HC: Without Filter Screen	11	0.70	1.0	2.0	9.5	0.18 k	0.36 k	560
TS-MSB: Normal Type (With Filter Screen But Without Straw)	12	0.84	1.2	2.4	11.3	0.22 k	0.44 k	560
TS-MSB HKL: With Straw								

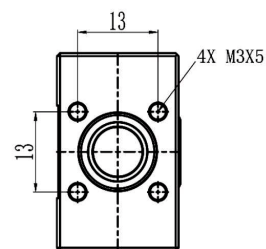
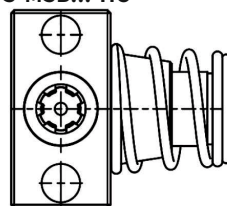


TS-MSB Plunger Valves for Radial piston pumps

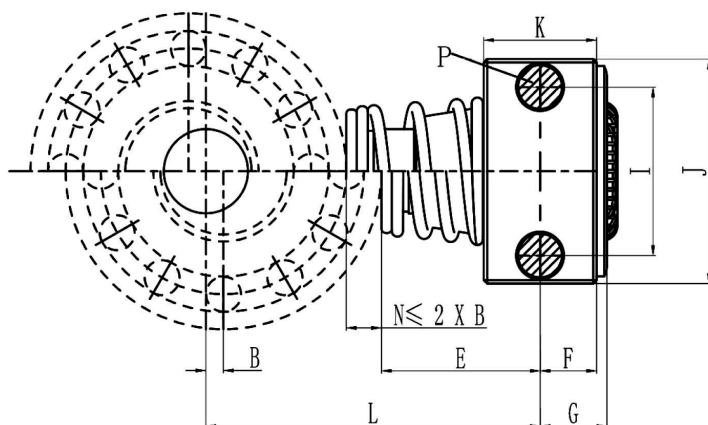
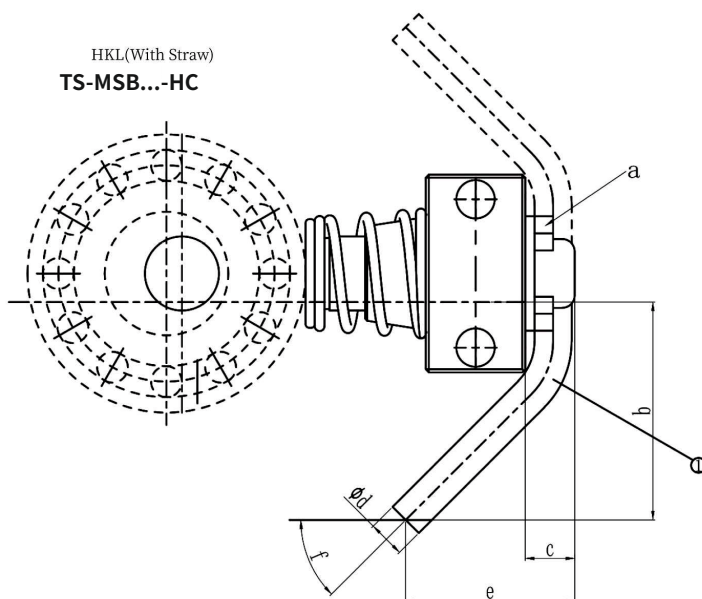
TS-MSB



Without Straw:
TS-MSB...-HC



HKL(With Straw)
TS-MSB...-HC



Type	b	c	e	Ød	f	a	Type	Eccentric Bearing DIN 628	ØD	Range L±0.1
TS-MSB11, 12	74	8	39	6x0.8	45°	4xM3x6	TS-MPB	3204	47	46

Type	J	H	K	Ød	B	C	I±0.1	G	E	F	P	O-ring (NBR 90 Shore)
TS-MSB11, 12	32	22 ^{-0.04}	16	6	2.5 ^{+0.05}	21	24	11	20	8	M6-8.8 (9Nm)	8X2

Attention:

Do not exceed the max allowable piston stroke length! (Refer to size L!)

Avoid damaging the suction valves!

$L \pm 0.1 = E + D/2 + B$



TS-SE Plunger Valves for Radial piston pumps

TS-SE HC



TS-SE



TS-SE HKL



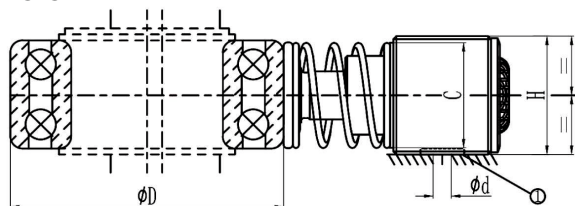
Technical Specifications

Type	Piston Diameter (mm)	A Rev Flow Volume Vg (cm ³ /r)	Flow Volume Q (L/min)		Piston Force On Stroke Direction (Per 1bar) (N)	Power Requirement (Per 100bar) (kN)		Working Pressure Pmax (bar)
			1450 min ⁻¹	2850 min ⁻¹		1450 min ⁻¹	2850 min ⁻¹	
TS-SE HC: Without Filter Screen	6	0.21	0.3	0.6	2.83	0.055k	0.12 k	700
	7	0.29	0.4	0.8	3.90	0.07 k	0.16 k	700
	8	0.38	0.5	1.0	5.03	0.09 k	0.18 k	700
TS-SE: Normal Type (With Filter Screen But Without Straw)	10	0.59	0.8	1.6	7.85	0.15 k	0.29 k	560
	12	0.84	1.2	2.4	11.3	0.22 k	0.44 k	390
	13	1.0	1.45	2.8	13.3	0.26 k	0.52 k	330
TS-SE HKL: With Straw	14	1.15	1.7	3.3	15.4	0.31 k	0.63 k	290
	15	1.32	1.9	3.7	17.7	0.35 k	0.70 k	250
	16	1.52	2.2	4.2	20.0	0.43 k	0.84 k	220



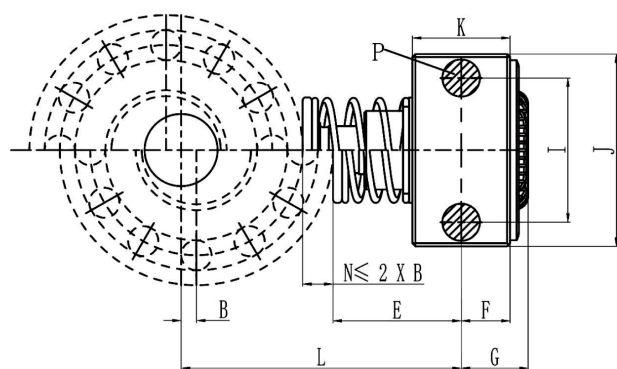
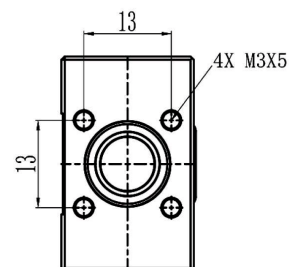
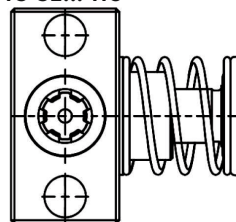
TS-SE Plunger Valves for Radial piston pumps

TS-SE



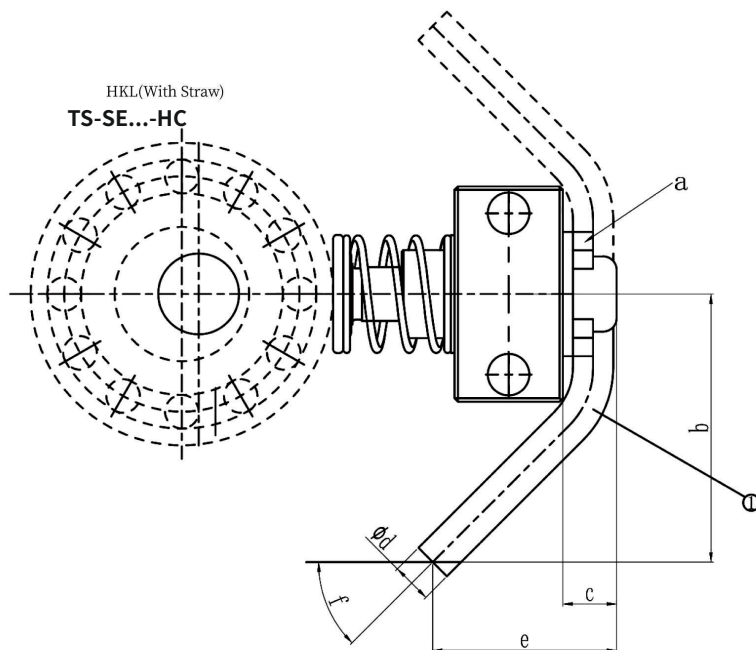
Without Straw:

TS-SE...-HC



HKL(With Straw)

TS-SE...-HC



Type	Eccentric Bearing	ϕD	Range $L \pm 0.1$
TS-SE	3205	52	60
TS-SE	3206	62	65
TS-SE	3207	72	70
TS-SE	3208	80	74

Type	b	c	e	ϕd	f	a
TS-SE6..16-HC34	70	13	100	8x1	30°	4xM5x10
TS-SE6..16-HC32	80	20	55	12x1	60°	4xM5x25
TS-SE6..16 HKL	47	13	45	8x1	45°	4xM5x10

Type	J	H	K	ϕd	B	C	$I \pm 0.1$	G	E	F	P	O-ring (NBR 90 Shore)
TS-SE6..16	50	31.7 ± 0.02	22.9	6	$3.8^{+0.05}$	26	35	18.1	30.2	8	M6-8.8 (9Nm)	8X2

Attention:

Do not exceed the max allowable piston stroke length! (Refer to size L!)

Avoid damaging the suction valves!

$L \pm 0.1 = E + D/2 + B$



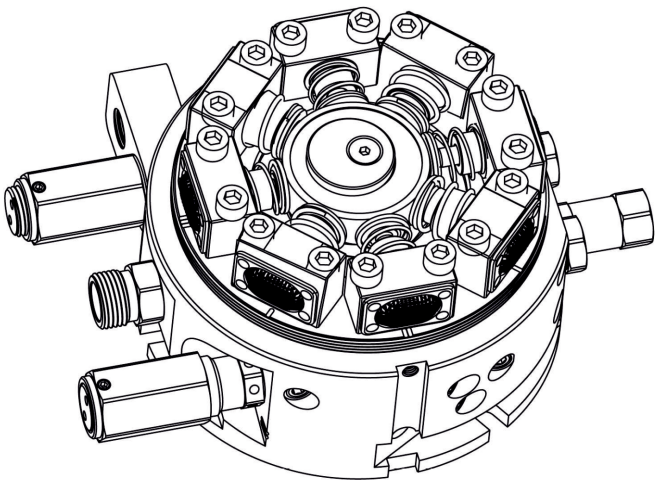
Radial Piston Assembly for Hydraulic Torque Wrench (TS-SB)

Radial Piston Pump Assembly For Hydraulic Torque Wrench (TS-SB) is a three-stage pump group, it usually consists of 4 TS-MPE plunger valves and 4 TS-MSB plunger valves. These plunger valves are independent of each other. It is equipped with high & low load relief valves and a filter hood. It is connected to a motor through a flange, driven by the motor. It supports a large flow output. Its installation mode is oil-immersed, which is often used to drive a hydraulic torque wrench.

Type (Component)	Radial Plunger Pump
Type (Structural)	Single Pump
	Motor Pump
	Pump Station

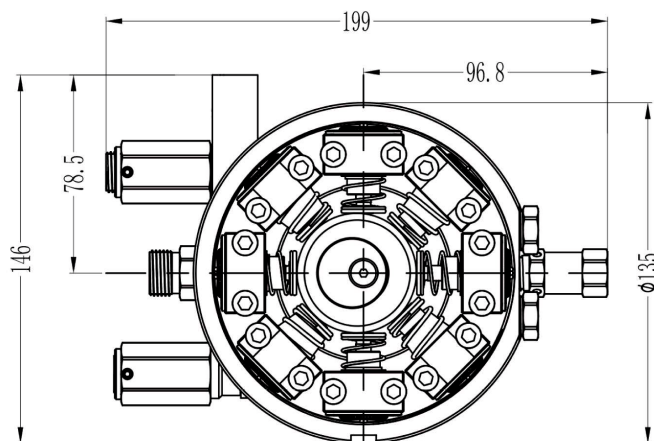
Vmax tank ≈7.6L

Working Pressure (Mpa)			Flow Volume (L/min)		
High Pressure	Medium Pressure	Low Pressure	High Pressure	Medium Pressure	Low Pressure
70	32	6	0.8	1.6	8
70	32	6	0.8	1.6	8

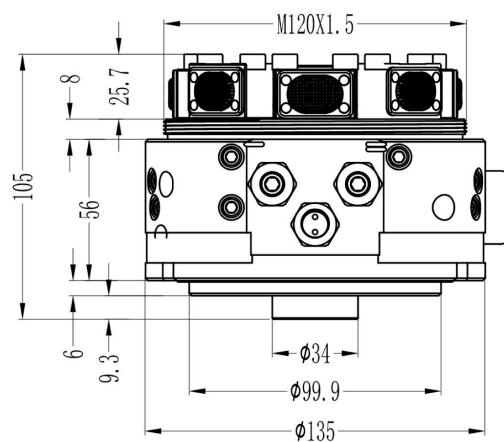




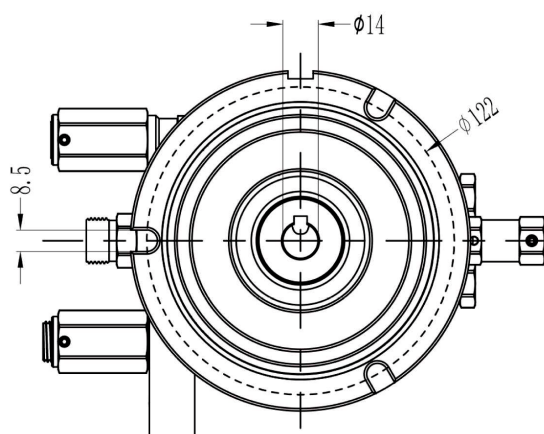
Radial Piston Assembly for Hydraulic Torque Wrench (TS-SB)



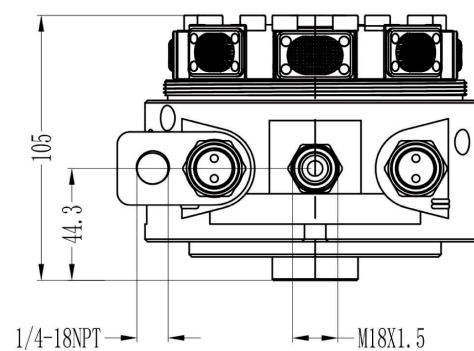
Top View



Right View



Bottom View



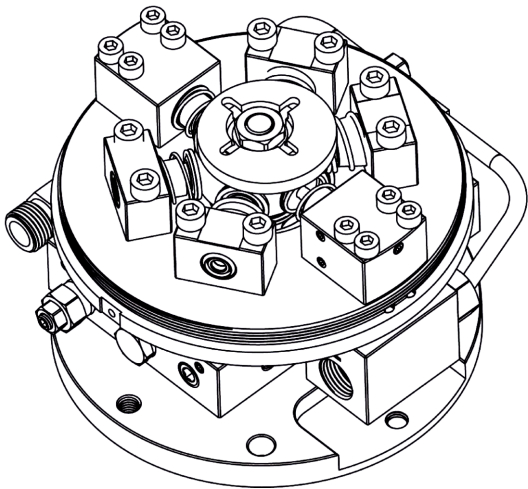
Left View



Radial Piston Assembly for Hydraulic Bolt Tensioner (TS-SL)

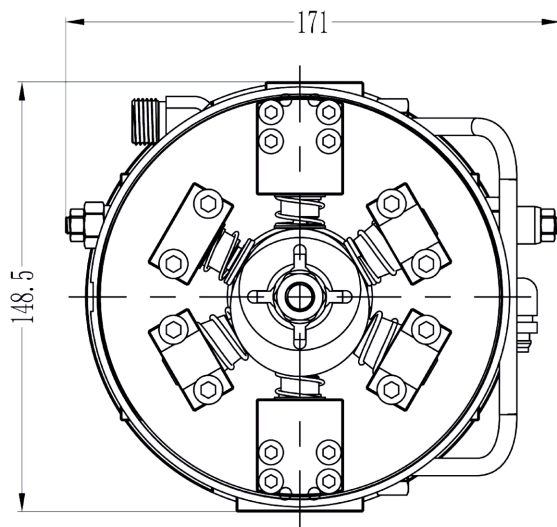
Radial Piston Pump Assembly For Hydraulic Bolt Tensioner (TS-SL) is a two-stage pump group, it usually consists of 2 TS-MSE plunger valves, 2 TS-MSB plungers and 2 TS-MSE plunger valves. It is equipped with high & low load relief valves and a filter hood. It is connected to a motor through a flange, driven by the motor. Its installation mode is oil-immersed, which is often used to drive hydraulic bolt tensioners.

Type (Component)	Radial Plunger Pump
Type (Structural)	Single Pump Motor Pump Pump Station
Pmax	1500 bar
Vmax tank	≈ 4L
High Pressure Flow Volume (L/min)	Low Pressure Flow Volume (L/min)
0.3	2.5

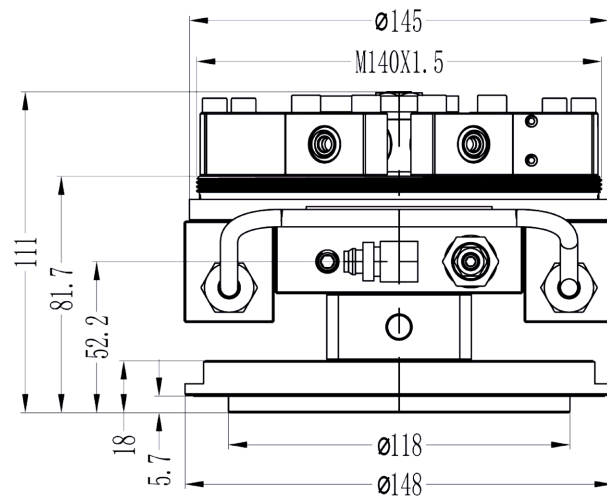




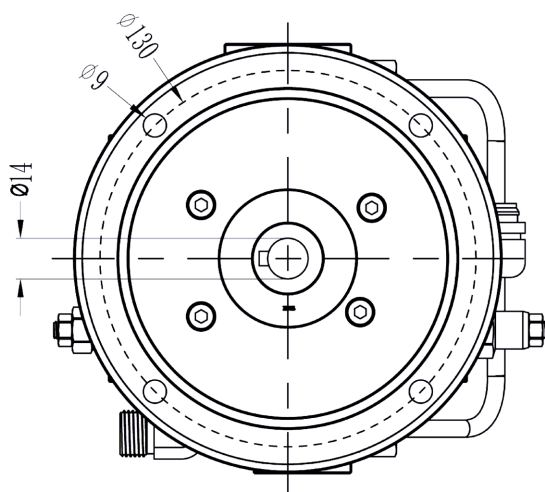
Radial Piston Assembly for Hydraulic Bolt Tensioner (TS-SL)



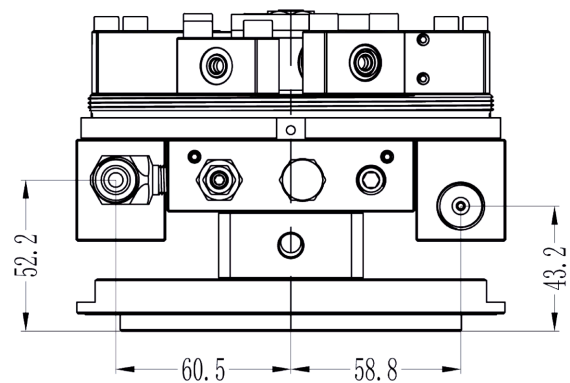
Top View



Right View



Bottom View



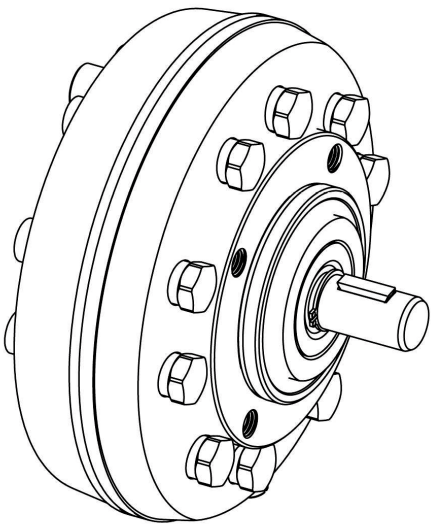
Left View



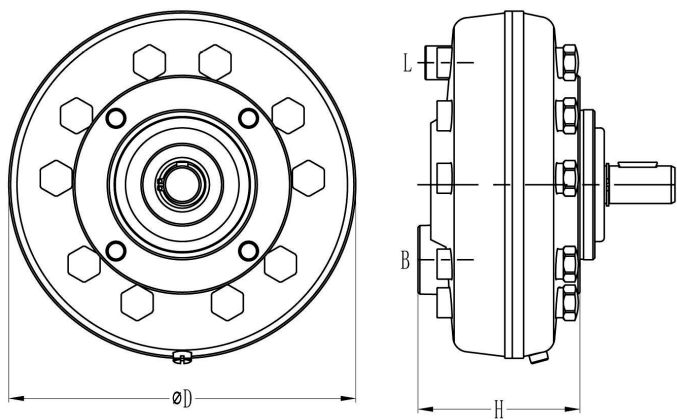
TS-S & SG Radial Piston Assembly

TS-R&RG Radial Piston Pump Assembly (TS-S & SG) is composed of a few piston cylinders, which are arranged in a star pattern. It supports a large flow output. It is connected to the motor by flange and coupler, driven by the motor.

Type (Component)	Radial Plunger Pump
Type (Structural)	Single Pump Motor Pump Pump Station
Pmax	700 bar
Qmax	91.2 L/min (A Rev Flow Volume Vg=64.18 cm³/rev)
Vmax tank	≈470L



Dimension



Serial No.	φ D	L	L1 (MAX)	Weight (KG)
7631	130	53	109	3.2
6010	174	82.5	113	3.1
6011	185	86	155	5.8
6012	185	146	188	10.5
6014	218	250	188	24.2
6016	238	311	212	39.1



TS-S & SG Radial Piston Assembly

Serial No.	Quantity of Plunger	Pump Flow Volume Qpu (L/min) @ 1450 r/min & Pmax (bar)				
		700 bar	550 bar	450 bar	250 bar	160 bar
7631	2	TS-S 0.18	TS-S 0.28	TS-S 0.43	TS-S 0.92	
	3	TS-S 0.27	TS-S 0.42	TS-S 0.64	TS-S 1.35	
	5	TS-S 0.46	TS-S 0.70	TS-S 1.08	TS-S 2.27	
6010	1	TS-S(G) 0.3	TS-S(G) 0.5	TS-S(G) 0.8	TS-S(G) 1.7	TS-S(G) 2.2
	2	TS-S(G) 0.6	TS-S(G) 1.0	TS-S(G) 1.6	TS-S(G) 3.3	TS-S(G) 4.4
	3	TS-S(G) 0.9	TS-S(G) 1.5	TS-S(G) 2.5	TS-S(G) 5.1	TS-S(G) 6.5
	5	TS-S(G) 1.4	TS-S(G) 2.6	TS-S(G) 4.2	TS-S(G) 8.3	TS-S(G) 10.9
6011	7	TS-S(G) 2.1	TS-S(G) 3.7	TS-S(G) 5.8	TS-S(G) 11.8	TS-S(G) 15.3
6012	10	TS-S(G) 2.7	TS-S(G) 5.3	TS-S(G) 8.2	TS-S(G) 16.8	TS-S(G) 21.7
	14	TS-S(G) 4.0	TS-S(G) 7.4	TS-S(G) 11.6	TS-S(G) 23.5	TS-S(G) 30.4
6014	20	TS-S(G) 6.1	TS-S(G) 11.0	TS-S(G) 17.4	TS-S(G) 35.0	TS-S(G) 43.4
	28	TS-S(G) 8.0	TS-S(G) 15.0	TS-S(G) 23.0	TS-S(G) 47.0	TS-S(G) 60.8
6016	42	TS-S(G) 12.7	TS-S(G) 22.0	TS-S(G) 34.5	TS-S(G) 70.0	TS-S(G) 91.2



Instructions and Operating Specifications:

Compliance

- All pumps and components in this catalogue are only used for hydraulic applications (fluid technology).
- Users must follow instructions.
- Absolute prerequisites for the right and safe operation of the products:
- Pay attention to all the information in this document, especially to all safety measures and warning tips.
- The products can only be assembled and operated by qualified professionals.
- The product can only operate within a specified technical parameters. This document describes the technical specifications in detail.
- When using components, all components should be in suitable conditions. In addition, always pay attention to the operating instructions of parts, assemblies and special integrated equipment.
- If the product can no longer operate safely:
- Stop product operation and mark accordingly.
- Then, forbid further using or operating of the product.

⚠ Danger! Wrong disassembly is likely to cause sudden stroke of hydraulic driver, which may cause life danger, serious injury and even death!

Installation:

Make sure the following:

- Depress the hydraulic system.
- Implement safety measures for maintenance preparations.

Operation:

⚠ Attention! Use a filter to ensure the purity of the hydraulic oil!
⚠ Attention! Contamination on a microscopic scale may seriously affect the function of the hydraulic pump station. Pollution can cause irreparable damage.

Possible contamination at the micro scale includes:

- Metal shavings
- Rubber particles and seals in the hose
- Becomes dirty due to assembly and maintenance
- Mechanical wear
- Chemical aging of hydraulic oil

⚠ Attention! Fresh hydraulic oil in drums purity may not meet the requirement and needs to be filtered before filling.

Maintenance

These products are maintenance free.

Function

- Drive mode: By motor, by axis of rotation.
- Axis rotation direction: any (conveying direction unchanged)
- Roller bearing eccentric located on shaft. Among them, the outer ring of the roller bearing acts on the rear of the piston of the pump element.
- Thus, the combined spring resets to form stroke motion.
- Volume flow control is achieved by an automatic suction valve and a pressure valve, which are installed in the matrix of the pump element.

