

# Steel Pipes for Hydraulics / Swaged Sleeve Fittings for Hydraulics

**Steel Pipes for Hydraulics**

**OST**

Material: OST-2 (STPS-2 (JIS B2351))

RoHS10

Part Number Type	D	L 1mm Increment	t	Unit Price 1 ~ 4 pc(s).				
				L20-250	L251-500	L501-750	L751-1000	L1001-1500
OST	6	20-1500	1.0					
	8		1.0					
	10		1.2					
	12		1.5					

Ordering Example  
Part Number - L  
OST8 - 250

**Swaged Sleeve Fittings for Hydraulics Connectors**

**KTGS**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	T R(PT)	E	Reference Dia. G	Tightening by Hand Approx. L	Hex Socket		F	l	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
							H1	H				
KTGS	6-1	6	1/8	4	3.97	30.5	14	14	7	28		
	6-2	6	1/4	4	6.01	37.5	17	14	7	33		
	8-1	8	1/8	4	3.97	35.5	17	17	7	29		
	8-2	8	1/4	6	6.01	37.5	17	17	7	33		
	10-2	10	1/4	7	6.01	38.5	17	19	7	33		
	10-3	10	3/8	8	6.35	39.0	19	19	7	34		
	12-2	12	1/4	7	6.01	38.5	19	22	7	33		
	6A-2	10.5	1/4	7	6.01	34.5	17	19	7	33		
	8A-3	13.8	3/8	9	6.35	40	22	24	7.5	37		
	10A-4	17.3	1/2	12	8.16	44.5	27	32	8	41		
	15A-6	21.7	3/4	16	9.53	48	32	36	9	45		

Use No.6A, 8A, 10A, 15A with the same No. of SUT, STPG (P1265). Sleeves of No.6A, 8A, 10A, 15A is different from those for KTGS (P1302). No. 8, 10 and 12 have approx. 1.4mm protrusion for improving pressure resistance.

**Swaged Sleeve Fittings for Hydraulics Elbow Nipples**

**KTGE**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	T R(PT)	E	E1	Reference Dia. G	Tightening by Hand Approx. L	L1	Wrench Flats h	Hex Socket H	F	l	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
6-2	6	1/4	4	4.5	6.01	33.5	17	17	14	7	23			
8-1	8	1/8	6	4	3.97	33.5	16	17	17	7	23			
8-2	8	1/4	6	7	6.01	33.5	18	17	17	7	23			
10-2	10	1/4	8	7	6.01	34.5	19	17	19	7	23			
10-3	10	3/8	8	9	6.35	35.5	19.5	19	19	7	24			
12-2	12	1/4	10	7	6.01	35.5	20.5	19	22	7	24			
8A-3	13.8	3/8	11	9	6.35	40	22.5	22	24	7.5	28			
10A-4	17.3	1/2	14	12	8.16	44.5	30	27	32	8	32			
15A-6	21.7	3/4	18	16	9.53	46.5	32.5	32	36	9	34			

Use No.8A, 10A, 15A with the same No. of SUT, STPG (P1265). Sleeves of No.8A, 10A, 15A is different from those for KTGS (P1302). No. 8 has approx. 1.4mm protrusion for improving pressure resistance.

**Swaged Sleeve Fittings for Hydraulics Union**

**KTGR**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	E	Hex Socket		F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
				H1	H					
KTGR	6	6	4	14	14	7	30	51		
	8	8	6	17	17	7	31	52		
	10	10	8	17	19	7	31	54		
	12	12	10	19	22	7	31	54		

**Swaged Sleeve Fittings for Hydraulics Elbow**

**KTGLB**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	E	Wrench Flats h	Hex Socket H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
8	8	6	17	17	7	23	33.5			
10	10	8	17	19	7	23	34.5			

**Swaged Sleeve Fittings for Hydraulics Tee**

**KTGTE**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	E	Wrench Flats h	Hex Socket H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
8	8	6	17	17	7	23	33.5			
10	10	8	17	19	7	23	34.5			
12	12	10	19	22	7	24	35.5			

**Swaged Sleeve Fittings for Hydraulics Reducers**

**KTGRE**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Nominal Dia. of Fitting A1	Applicable Pipe O.D. D	E	Hex Socket		F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
					H1	H					
KTGRE	8-6	8	6	4	14	14	7	39	49.5		
	10-6	10	6	4	14	14	7	40	50.5		
	10-8	10	8	6	17	17	7	40	50.5		
	12-6	12	6	4	14	14	7	41	51.5		
	12-8	12	8	6	17	17	7	41	51.5		
	12-10	12	10	8	17	19	7	41	52.5		

**Swaged Sleeve Fittings for Hydraulics Reverse Flow Prevention Union**

**KTGZR**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	Rating Flow l/min	Cracking Pressure MPa	Hex Socket		F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
					H1	H					
KTGZR	10-05	10	18	0.05	24	19	7	49	72		
	10-45	10	18	0.45	24	19	7	49	72		
	12-05	12	18	0.05	24	22	7	51	74		
	12-45	12	18	0.45	24	22	7	51	74		

Features: Fitting with a built-in reverse flow prevention structure.

**Swaged Sleeve Fittings for Hydraulics Reverse Flow Prevention Connectors**

**KTGZC**

Material: Main Body, Nut: S25C | Surface Treatment: Trivalent Chromate | Sleeve: Carbon Steel

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	Rating Flow l/min	Cracking Pressure MPa	T R(PT)	Position of Gauge Dia. G	Hex Socket		F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
							H1	H					
KTGZC	10-05	10	18	0.05	1/4	6.01	24	19	7	53	58.5		
	10-45	10	18	0.45	1/4	6.01	24	19	7	53	58.5		
	12-05	12	18	0.05	3/8	6.35	24	22	7	55	60		
	12-45	12	18	0.45	3/8	6.35	24	22	7	55	60		

Features: Fitting with a built-in reverse flow prevention structure.

**Swaged Sleeve Fittings for Hydraulics Sleeve**

**KTGSL**

Material: Carbon Steel | Surface Treatment: Trivalent Chromate

RoHS10

Part Number Type	No.	A	l	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
8	8	14			
10	10	15			
12	12	15			

**Swaged Sleeve Fittings for Hydraulics Nut**

**KTGNT**

Material: S25C | Surface Treatment: Trivalent Chromate

RoHS10

Part Number Type	No.	D	T	Hex Socket	L	Unit Price 1-9 pc(s).	Volume Discount Rate 10-30 pcs.
8	9.3	M14x1.5	17	15			
10	11.3	M16x1.5	19	16			
12	13.3	M18x1.5	22	16			

Structure and Tightening Procedure of Swaged Sleeve Fittings

Swaged Sleeve Fittings are composed of a main body, a sleeve and a nut.

**[Tightening Procedure]**

For utilizing performance of Swaged Sleeve Fittings for Steel Pipes, use of appropriate pipe and accurate tightening of fitting are required. The following pre-tightening will make plumbing smooth and secure.

- Pre-tightening**
  - Insert the pipe with nut and sleeve inserted as shown in right figure into the fitting body. Make sure that pipe end contacts abutment part. Inadequate swaging due to the inadequate tightening may cause the pipe to pull out.
  - Tighten the nut by hand.
  - Tighten the nut with a wrench while rotating the pipe to the end of its rotation. Put a mark on this position of fitting body and the nut.
  - Further tighten the nut by a wrench with 1-1/4 turn at this mark.
  - Loosen the nut once to see the state of the sleeve in order to confirm the following.
    - There is some millimeter distance between pipe end and sleeve end.
    - No substantial movement of the sleeve toward the direction of pipe axis is allowable. Moving toward circumferential direction is acceptable.
- Full Tightening**

Attach the pre-tightened pipe with fitting body and tighten the nut by a wrench until you feel sudden resistance. Further tighten the nut by 1/4 turn, and tightening will be done.

Make sure that the tapered end of the sleeve is facing the fitting body. If inserted backwards, pipe will not be properly swaged and may pull-off.

**[Disassembly / Retightening]**

- Can be disassembled just by loosening the nut. However, never tighten and loosen the nut while pressurized as it is very dangerous.
- 8 or more disassemblies and retightening are possible by following the Full Tightening Procedure as shown in (2).

**Specifications (KTGZR / KTGZC)**

Applicable Pipe Dia.	Max. Operating Pressure	Operating Temperature Range
10-12mm	10, 12	3MPa -20°C~120°C

**Specifications (Other Than Above)**

Applicable Pipe Dia.	Max. Operating Pressure	Operating Temperature Range
8mm	8	50MPa -20°C~250°C
6A	10.5	
10, 12mm	10, 12	
8A	13.8	
10A	17.3	40MPa
15A	21.7	

**[Applicable Pipes]**

- JIS G 3454 Carbon Steel Pipe for Pressure Service STPG370
- JIS G 3455 Carbon Steel Pipe for High Pressure Service STS370
- JIS G 3456 Carbon Steel Pipe for High Temperature Service STP370
- JIS G 3459 Stainless Steel Pipe for Plumbing SUS304TP and SUS316TP
- Japan Fluid Power Association Standard JFHS-102 Accurate Carbon Steel Pipes for Hydraulics OST