

# 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 OST8 - L 250

**Swaged Sleeve Fittings for Hydraulics Connectors**

**KTGS**

Material: Main Body, Nut: EN 1.1158 Equiv. 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 H1 H	F	l	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
KTGS	6-1	6	1/8	4	3.97	34.5	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, JIS-STPG (P.1265). Sleeves of No.6A, 8A, 10A, 15A is different from those for KTGS (P.1302). 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: EN 1.1158 Equiv. 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	Wrench Flats h	Hex Socket H	F	l	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
KTGE	6-1	6	1/8	4	4	3.97	30.5	14	14	7	20		
	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, JIS-STPG (P.1265). Sleeves of No.8A, 10A, 15A is different from those for KTGS (P.1302). No. 8 has approx. 1.4mm protrusion for improving pressure resistance.

**Swaged Sleeve Fittings for Hydraulics Union**

**KTGR**

Material: Main Body, Nut: EN 1.1158 Equiv. Surface Treatment: Trivalent Chromate. Sleeve: Carbon Steel.

RoHS10

Part Number Type	No.	Applicable Pipe O.D. D	E	Hex Socket H1 H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
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: EN 1.1158 Equiv. 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.
KTGLB	6	6	4	14	14	7	20	30.5		
	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: EN 1.1158 Equiv. 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.
KTGTE	6	6	4	14	14	7	20	30.5		
	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: EN 1.1158 Equiv. 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 H1 H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
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: EN 1.1158 Equiv. 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 H1 H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
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: EN 1.1158 Equiv. 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 H1 H	F	l	Tightening by Hand Approx. L	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
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.
KTGSL	6	6	14		
	8	8	14		
	10	10	15		
	12	12	15		

**Swaged Sleeve Fittings for Hydraulics Nut**

**KTGNT**

Material: EN 1.1158 Equiv. Surface Treatment: Trivalent Chromate.

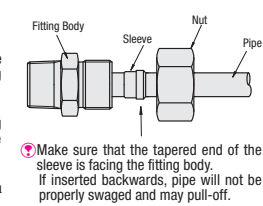
RoHS10

Part Number Type	No.	D	T	H Hex Socket	L	Unit Price 1-9 pc(s)	Volume Discount Rate 10-30 pcs.
KTGNT	6	7.3	M12x1.5	14	15		
	8	9.3	M14x1.5	17	15		
	10	11.3	M16x1.5	19	16		
	12	13.3	M18x1.5	22	16		

Ordering Example: Part Number KTGSR-1 KTGRE6

## 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	
15A	21.7	40MPa

**[Applicable Pipes]**  
 (1) JIS G 3454 Carbon Steel Pipe for Pressure Service EN 1.0254 Equiv.  
 (2) JIS G 3455 Carbon Steel Pipe for High Pressure Service STS370  
 (3) JIS G 3456 Carbon Steel Pipe for High Temperature Service STP370  
 (4) JIS G 3459 Stainless Steel Pipe for Plumbing EN 1.4301 Equiv. and EN 1.4401 Equiv.  
 (5) Japan Fluid Power Association Standard JHFS-102 Accurate Carbon Steel Pipes for Hydraulics OST