



# Flexible Hoses

## High Pressure / Medium Pressure

**Flexible Hoses High Pressure Type**

Type	Material			Applicable Fluids	Operating Temperature Range	Max. Operating Pressure
	Hose	Swage Fittings	Seal Areas			
<b>HOSLTR</b>	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Silicone Rubber	Water, Oil	-50~280°C (Steam: 150°C or less)	See Hose Specifications Table

⚠ Not applicable for air conditioner cooling medium, etc.  
 ⚠ Not applicable for trichloroethane (aromatic materials)  
 ⚠ Not applicable for fuel oils

**Swage Fitting Shapes**

**Shape A** **Shape B**

**Hose Dimensions**

Hose Nominal I.D.	I.D.	Min. Bending Radius (mm)	Max. Operating Pressure (MPa)
8A	7.0	25	6.4
10A	10.5	30	6.4
15A	13.2	35	4.4
20A	19.2	40	3.4
25A	25.5	50	3.4

⚠ For gases, operating pressure is 1.5MPa or less.

**Swage Fittings Size List**

Hose Nominal I.D.	R (PT) G (PF)	Shape A		Shape B		
		X (Wrench Flats)	L	X (Wrench Flats)	Y (Wrench Flats)	
8A	1/4	17	36	17	19	41
10A	3/8	19	38	19	22	43
15A	1/2	22	45	22	27	49
20A	3/4	30	64	30	36	68
25A	1	36	68	36	41	72

**Part Number**

Type	Hose Nominal I.D.	Hose Length 0.1m Increment	L Left End Swaged Shape	R Right End Swaged Shape	Hose I.D. (mm)	Unit Price	Swaging Charge
<b>HOSLTR</b>	8A	0.3~5.0	LA	RB	7.0		
	10A				10.5		
	15A				13.2		
	20A				19.2		
	25A				25.5		

**Application**

- Plumbing in places where ambient temperature is high (with vapor etc.).
- Absorbs variation in elongation of pipe due to temperature change.

**Features**

- Excellent in heat resistance and pressure resistance.

**CAUTION**

- Avoid use in places where hose is constantly moved.

⚠ Hose length includes the Swage Fittings.

**Flexible Hoses Medium Pressure Type**

Type	Material			Applicable Fluids	Operating Temperature Range	Max. Operating Pressure
	Hose	Metal Fitting Shape	Metal Fitting Shape			
<b>HOEMF</b>	EN 1.4301 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Steam, Air, Gas, Water, Oil	0~200°C	2.0MPa
<b>HOEMFG</b>	EN 1.4301 Equiv. + Glass Cloth + Hose Clamps (2 pcs.)	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Steam, Air, Gas, Water, Oil	0~200°C	2.0MPa

**Swage Fitting Shapes**

**Shape A** **Shape B**

**Hose Dimension Table**

Hose Nominal I.D.	I.D. (mm)	O.D. (mm)	Min. Bending Radius (mm)	Spring Constant (N/mm)	Max. Operating Pressure (MPa)
8A	7.2	12.1	25	1677.1	2.0
10A	10.5	16.3	35	2494.1	
15A	13	19.6	50	1894.1	
20A	19	26.9	65	3789.9	
25A	25.2	34	80	2550.1	

**Swage Fittings Size List**

Hose Nominal I.D.	R (PT) Rc (PT)	Shape A			Shape B		
		H1	H3	L	H2	H3	L
8A	1/4	14	17	44.5	17	17	44.5
10A	3/8	17	21	48.5	21	21	48.5
15A	1/2	22	26	58.0	26	26	58.0
20A	3/4	27	32	63.2	32	32	63.2
25A	1	35	38	72.0	38	38	72.0

**Part Number**

Type	Hose Nominal I.D.	Hose Length 0.1m Increment	L Left End Swaged Shape	R Right End Swaged Shape
<b>HOEMF</b> <b>HOEMFG</b> (Glass Cloth Protection)	8A	0.3~2.0	LA	RB
	10A			
	15A			
	20A			
	25A			

**Application**

- General purpose plumbing, such as control of pipe displacement.

**Features**

- Lightweight compared to High Pressure Type.
- Positive Metal Seat Type requires no maintenance.
- Gasketless design

⚠ Hose length includes the Swage Fittings.

Ordering Example: Part Number - Hose Length - Shape L - Shape R  
 Example: HOSLTR8A - 1.0 - LA - RB

**Hose Unit Price**

Hose Nominal I.D.	HOEMF Unit Price		HOEMFG Unit Price	
	Unit Price	Hose Unit Price/0.1m	Unit Price	Hose Unit Price/0.1m
8A				
10A				
15A				
20A				
25A				

**Swaging Charge**

Hose Nominal I.D.	Additional Charge for Swaging		
	Metal Fitting Shape A-A	Metal Fitting Shape A-B	Metal Fitting Shape B-B
8A			
10A			
15A			
20A			
25A			

# Flexible Hoses

## Low Pressure (Non-Welded) Type

**Flexible Hoses Low Pressure (Non-Welded) Type PT / PT Female**

Type	Material		Applicable Fluids	Operating Temperature Range	Max. Operating Pressure
	Hose	Union Fitting			
<b>HOELF</b>	EN 1.4301 Equiv.	FCMB	Steam, Air, Gas, Water, Oil	0~100°C	1.0MPa
<b>HOELFS</b>	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Steam, Air, Gas, Water, Oil	0~100°C	1.0MPa

**Features**

- Excellent in corrosion resistance, as joint of fittings is not welded.
- Suitable to absorb vibration.
- Metal hex portions are swivable and thus, facilitate installation.

**Application**

- General purpose plumbing, such as control of pipe displacement.

**CAUTION**

- Tolerance of a hose length is 0 ~ 3% of the full length.

**Hose Dimensions**

Hose Nominal I.D.	I.D. (mm)	O.D. (mm)	Min. Bending Radius (mm)	Spring Constant (N/mm)	Max. Operating Pressure (MPa)
10A	17	23	60	1534.6	1.0
15A	19.2	25	65	1858.2	
20A	24.1	31	80	1179.9	
25A	29.5	39	100	1510.6	
32A	38.6	47.5	120	1785	
40A	44.8	54	120	3471	
50A	56.4	66	140	3684	

**Swage Fittings Size List**

Hose Nominal I.D.	Rc (PT)	L	H1	H2
10A	3/8	33	23	37
15A	1/2	39	27	42
20A	3/4	40	33	49
25A	1	49	41	59
32A	1 1/4	53	50	69
40A	1 1/2	58	56	78
50A	2	65	69	93

**Part Number**

Type	Hose Nominal I.D.	Hose Length 0.1m Increment	HOELF Unit Price		HOELFS Unit Price	
			Unit Price	Hose Unit Price/0.1m	Unit Price	Hose Unit Price/0.1m
<b>HOELF</b> <b>HOELFS</b>	10A	0.3~2.0				
	15A					
	20A					
	25A					
	32A					
	40A					
	50A					

**Flexible Hoses Low Pressure (Non-Welded) Type PT Male / PT Female**

Type	Material		Applicable Fluids	Operating Temperature Range	Max. Operating Pressure
	Hose	Metal Fitting Shape			
<b>HOEJF</b>	EN 1.4301 Equiv.	FCMB	Steam, Air, Gas, Water, Oil	0~100°C	1.0MPa
<b>HOEJFS</b>	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Steam, Air, Gas, Water, Oil	0~100°C	1.0MPa

**Features**

- Excellent in corrosion resistance, as joint of fittings is not welded.
- Suitable to absorb vibration.
- Gasketless design

**Application**

- General purpose plumbing, such as control of pipe displacement.

**CAUTION**

- Tolerance of a hose length is 0 ~ 3% of the full length.

**Hose Dimensions**

Hose Nominal I.D.	I.D. (mm)	O.D. (mm)	Min. Bending Radius (mm)	Spring Constant (N/mm)	Max. Operating Pressure (MPa)
10A	10.5	16.3	35	2494.1	1.0
15A	13	19.6	50	1894.1	
20A	19	26.9	65	3789.9	
25A	25.2	34	80	2550.1	

**Swage Fittings Size List**

Hose Nominal I.D.	R (PT) Rc (PT)	L	H1	H2
10A	3/8	51.0	24	24
15A	1/2	56.5	27	27
20A	3/4	61.5	32	32
25A	1	68.5	41	41

**Part Number**

Type	Hose Nominal I.D.	Hose Length 0.1m Increment	HOEJF Unit Price		HOEJFS Unit Price	
			Unit Price	Hose Unit Price/0.1m	Unit Price	Hose Unit Price/0.1m
<b>HOEJF</b> <b>HOEJFS</b>	10A	0.3~2.0				
	15A					
	20A					
	25A					

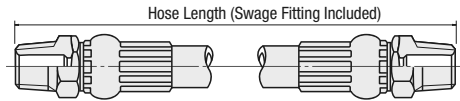
Ordering Example: Part Number - Hose Length  
 HOELF10A - 1.0  
 HOELFS25A - 0.5

# Flexible Fluoro-resin Hoses

## Flexible Fluoro-resin Hoses



Type	Hose	Material	Swage Fittings	Surface Treatment	Max. Operating Pressure
HOSFR	Fluoro-resin	EN 1.4301 Equiv.	EN 1.0038 Equiv.	Trivalent Chromate	See Hose Specifications Table
HOSFRS	Fluoro-resin	EN 1.4301 Equiv.	EN 1.4301 Equiv.	-	See Hose Specifications Table



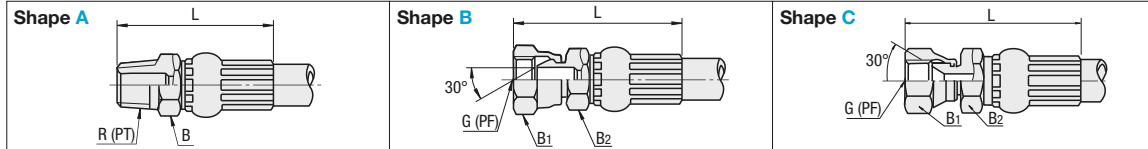
### Features

- Excellent in heat resistance and chemical resistance.
- Suitable for use with viscous materials, such as adhesives and paints.

### CAUTION

- Avoid using the same hose for steam and water or for steam and nitrogen.

## Swage Fitting Shapes



## Hose Specifications

Hose Nominal I.D.	Max. Operating Pressure (MPa)	Min. Destructive Pressure (MPa)	Min. Bending Radius (mm)	Approx. Mass (g/m)
4	20.5	82.0	51	105
6	20.5	82.0	76	120
8	17.0	68.0	102	145

## Swage Fittings Size List

Hose Nominal I.D.	R (PT)	Shape A			Shape B			Shape C		
		B (Wrench Flats)	L	B <sub>1</sub> (Wrench Flats)	B <sub>2</sub> (Wrench Flats)	L	B <sub>1</sub> (Wrench Flats)	B <sub>2</sub> (Wrench Flats)	L	
4	1/4	17	43	19	17	48	19	17	48	
6	1/4	17	43	19	17	48	19	17	48	
8	3/8	19	48	22	19	53	22	19	53	

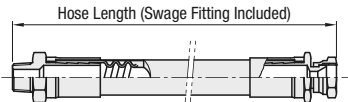
Part Number	Type	Hose Nominal I.D.	Hose Length 0.1m Increment	L Left End Swaged Shape	R Right End Swaged Shape	Hose I.D. (mm)	Hose O.D. (mm)	Unit Price	
								Hose Unit Price/m	Additional Charge for Both Ends Swaged Fittings
HOSFR HOSFRS		4	0.3-20.0	LA LB LC	RA RB RC	4.8	7.7		
		6				6.4	9.5		
		8				7.9	10.9		

Ordering Example: Part Number - Hose Length - Shape L - Shape R  
HOSFR6 - 1.0 - LA - RB

## Flexible Fluoro-resin Hoses High-Flex



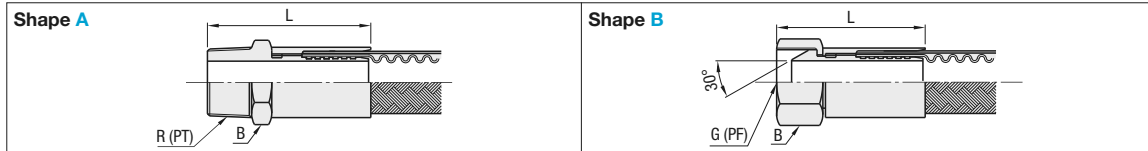
Type	Hose	Material	Swage Fittings	Applicable Fluids	Operating Temperature Range	Max. Operating Pressure
HOSJRS	Fluoro-resin	EN 1.4301 Equiv.	EN 1.4301 Equiv.	Air, Gas, Water, Solvent	-100~120°C	See Hose Specifications Table



### Features

- Spiral corrugated hose provides superior flexibility.
- Suitable for high vibration environment and applications where damages from deformation are expected.

## Swage Fitting Shapes



## Hose Specifications

Hose Nominal I.D.	I.D. (mm)	O.D. (mm)	Min. Bending Radius (mm)	Max. Operating Pressure (MPa)
6A	4.0	7.0	20	3.0
8A	5.0	8.5	20	2.5
10A	9.0	13.0	25	2.0
15A	11.0	16.5	30	2.0

## Swage Fittings Size List

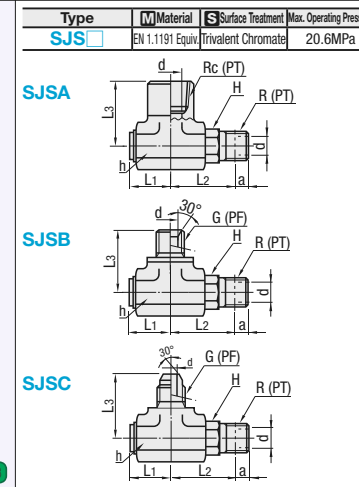
Hose Nominal I.D.	R (PT)	Shape A		Shape B	
		B (Wrench Flats)	L	B (Wrench Flats)	L
6A	1/8	12	39	14	37
8A	1/4	14	47	17	43
10A	3/8	19	53	21	49
15A	1/2	24	60	26	57

Part Number	Type	Hose Nominal I.D.	Hose Length 0.1m Increment	L Left End Swaged Shape	R Right End Swaged Shape	Unit Price	
						Hose Unit Price/0.1m	Unit Price of One End Swaged Fitting
HOSJRS		6A	0.3-2.0	LA LB	RA RB		
		8A					
		10A					
		15A					

Ordering Example: Part Number - Hose Length - Shape L - Shape R  
HOSJRS8A - 1.5 - LB - RA

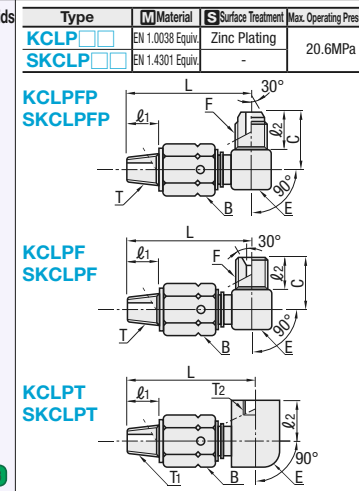
# Swivel Joints / Swivel Fittings for Hydraulic Fluids

## Swivel Joints

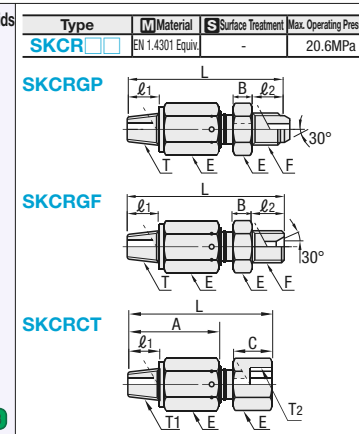


Ordering Example: Part Number SJSB3

## Swivel Fittings for Hydraulic Fluids Elbow



## Swivel Fittings for Hydraulic Fluids Straight



Ordering Example: Part Number KCLPFP4

Part Number	R/Rc (PT)	d	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	a Reference Dia. G	h Wrench Flats	h Wrench Flats	Unit Price	Volume Discount Rate
SJSJA	2	1/4	5	19.5	31.5	30	6.01	22	14	
	3	3/8	8	22	35.7	30	6.35	27	19	
	4	1/2	11.5	24	40.3	35	8.16	32	22	
	6	3/4	16	30	48.5	42	9.53	41	30	

Part Number	G (PF)	R (PT)	d	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	a Reference Dia. G	h Wrench Flats	h Wrench Flats	Unit Price	Volume Discount Rate
SJSJB	2	1/4	5	19.5	31.5	29	6.01	22	14		
	3	3/8	8	22	35.7	30	6.35	27	19		
	4	1/2	11.5	24	40.3	35	8.16	32	22		
	6	3/4	16	30	48	41	9.53	41	30		

Part Number	G (PF)	R (PT)	d	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	a Reference Dia. G	h Wrench Flats	h Wrench Flats	Unit Price	Volume Discount Rate
SJSJC	2	1/4	5	19.5	31.5	30	6.01	22	14		
	3	3/8	8	22	35.7	33	6.35	27	19		
	4	1/2	11.5	24	40.3	38	8.16	32	22		
	6	3/4	16	30	48.5	42.0	9.53	41	30		

### Features

- Joints capable of slow or reciprocating rotary motion.
- They can be used for joining fixed plumbing hoses and hydraulic hoses.

### Specifications

- Applicable Fluid: Oil (-20°C ~ 95°C)
- Oscillating Angle: 360°
- Oscillating Speed: 25 cycles/min. (when Vibrating Angle is 110°)

Part Number	Type	No.	T R (PT)	F G (PF)	L	ℓ <sub>1</sub>	ℓ <sub>2</sub>	C	E (Wrench Flats)	B (Wrench Flats)	KCLPFP		SKCLPFP		
											Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
KCLPFP SKCLPFP			2	1/4	1/4	52	13	16	24	14	19	1-4 pc(s)	5-20 pcs.	1-4 pc(s)	5-20 pcs.
			3	3/8	3/8	57	15	18	28	20	22				
			4	1/2	1/2	66	18	20	32	24	27				

Part Number	Type	No.	T R (PT)	F G (PF)	L	ℓ <sub>1</sub>	ℓ <sub>2</sub>	C	E (Wrench Flats)	B (Wrench Flats)	KCLPF		SKCLPF		
											Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
KCLPF SKCLPF			2	1/4	1/4	52	13	13	21	14	19	1-4 pc(s)	5-20 pcs.	1-4 pc(s)	5-20 pcs.
			3	3/8	3/8	57	15	14	24	20	22				
			4	1/2	1/2	66	18	17	29	24	27				

Part Number	Type	No.	T R (PT)	F <sub>1</sub> G (PF)	F <sub>2</sub> G (PF)	L	ℓ <sub>1</sub>	ℓ <sub>2</sub>	E (Wrench Flats)	B (Wrench Flats)	KCLPT		SKCLPT	
											Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
KCLPT SKCLPT			2	1/4	1/4	53	13	18	19	19	1-4 pc(s)	5-20 pcs.	1-4 pc(s)	5-20 pcs.
			3	3/8	3/8	59	15	18	23	22				
			4	1/2	1/2	69	18	26	30	27				

Part Number	Type	No.	T R (PT)	F G (PF)	L	ℓ <sub>1</sub>	B	ℓ <sub>2</sub>	E (Wrench Flats)	Unit Price		Volume Discount Rate		
										Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
SKCRGP			2	1/4	1/4	68	13	8	16	19	1-4 pc(s)	5-20 pcs.		
			3	3/8	3/8	72	15	8	18	22				
			4	1/2	1/2	84	18	10	20	27				

Part Number	Type	No.	T R (PT)	F G (PF)	L	ℓ <sub>1</sub>	B	ℓ <sub>2</sub>	E (Wrench Flats)	Unit Price		Volume Discount Rate		
										Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
SKCRGF			2	1/4	1/4	68	13	8	13	19	1-4 pc(s)	5-20 pcs.		
			3	3/8	3/8	72	15	8	15	22				
			4	1/2	1/2	82	18	10	18	27				

Part Number	Type	No.	T <sub>1</sub> R (PT)	T <sub>2</sub> Rc (PT)	L	A	ℓ <sub>1</sub>	ℓ <sub>2</sub>	E (Wrench Flats)	Unit Price		Volume Discount Rate		
										Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
SKCRCT			2	1/4	1/4	61	39	13	17	19	1-4 pc(s)	5-20 pcs.		
			3	3/8	3/8	66	41	15	19	22				
			4	1/2	1/2	76	48	18	22	27				

For orders larger than indicated quantity, please check with WOS.

