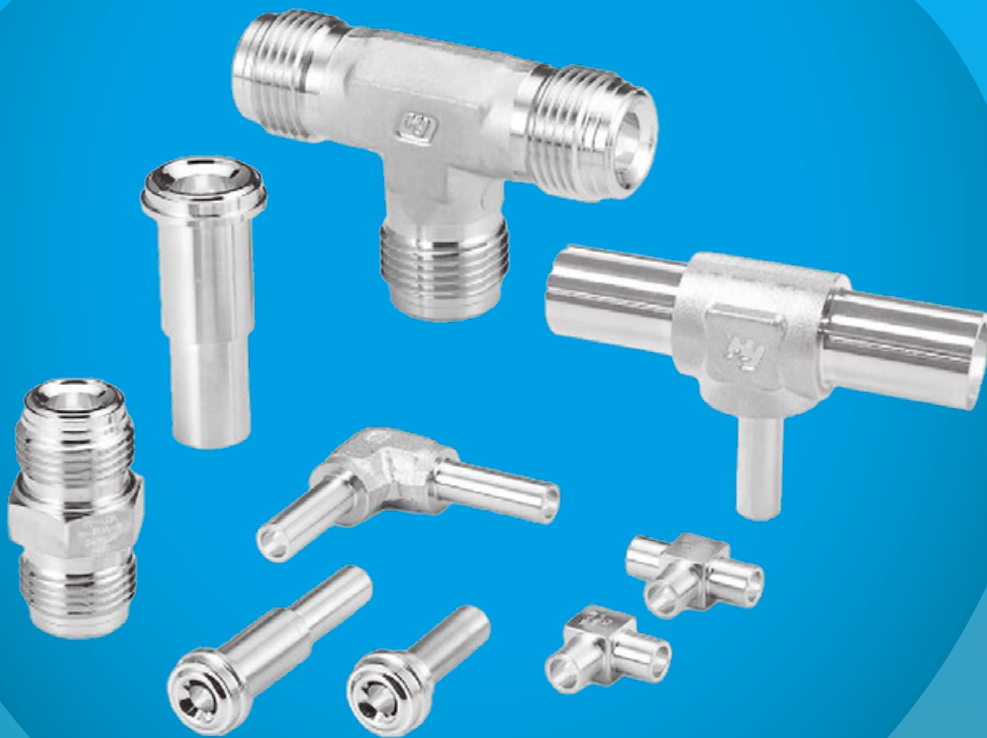


# Clean Fittings for Tube Weld and Metal Gasket Face Seal

**Hy-Lok**

- Weld Fitting for manual or Automatic welding equipment
- 316L Stainless Steel (Single & Double Melt)
- 1/4 to 1 inch and 6 to 18mm size



**FLOWTEKNIK**  
SCANDINAVIA APS



Tube Weld Fittings

Mini Tube Butt Weld Fittings

Mini Elbow <b>H-MLA</b>		<b>06</b>
Mini Tee <b>H-MTA</b>		<b>06</b>
Mini Cross <b>H-MXA</b>		<b>06</b>
Mini Reducing Elbow <b>H-MLA</b>		<b>07</b>
Mini Reducing Tee <b>H-MTA</b>		<b>07</b>
Mini Reducing Coupling <b>H-MCA</b>		<b>07</b>

Tube Butt Weld Fittings

Long Elbow <b>H-ML</b>		<b>08</b>
Long Tee <b>H-MT</b>		<b>08</b>
Long Cross <b>H-MX</b>		<b>08</b>
Long Reducing Tee <b>H-MT</b>		<b>09</b>
Reducing Union <b>H-MU</b>		<b>09</b>

Automatic Tube Butt Weld Fittings















Long Elbow with Shoulder <b>H-ML-A</b>		<b>10</b>
Long Tee with Shoulder <b>H-MT-A</b>		<b>10</b>
Long Cross with Shoulder <b>H-MX-A</b>		<b>10</b>
Long Reducing Tee with Shoulder <b>H-MT-A</b>		<b>11</b>
Union with Shoulder <b>H-MU-A</b>		<b>11</b>
Reducing Union with Shoulder <b>H-MU-A</b>		<b>11</b>

Metal Gasket Face Seal Fittings








Glands

Short Tube Butt Weld Gland <b>H-ZSG</b>		<b>13</b>
Long Tube Butt Weld Gland <b>H-ZLG</b>		<b>13</b>
Mini Short Tube Butt Weld Gland <b>H-ZMSG</b>		<b>13</b>
Mini Long Tube Weld Gland <b>H-ZMLG</b>		<b>14</b>
Short Tube Weld Gland with Shoulder <b>H-ZSG-A</b>		<b>14</b>
Long Tube Weld Gland with Shoulder <b>H-ZLG-A</b>		<b>14</b>
Mini Short Tube Weld Gland with Shoulder <b>H-ZMSG-A</b>		<b>15</b>
Male Weld Gland <b>H-ZGM</b>		<b>15</b>
Socket Weld Gland <b>H-ZGS</b>		<b>15</b>
Reducing Socket Weld Gland <b>H-ZGS</b>		<b>15</b>
Short Socket Weld Gland <b>H-ZGS</b>		<b>16</b>
Tube Adapter Gland <b>H-ZGT</b>		<b>16</b>
Blind Gland <b>H-ZBG</b>		<b>16</b>
Coupling <b>H-ZC</b>		<b>16</b>

## Union, Elbow, Tee, Connectors

Double Male Union <b>H-ZUA</b>		17
Union Elbow <b>H-ZLA</b>		17
Union Tee <b>H-ZTA</b>		17
Union Cross <b>H-ZXA</b>		17
Double Male Reducing Union <b>H-ZUR</b>		18
Bulkhead Union <b>H-ZBHU</b>		18
Hy-Lok Tube Fitting Connector <b>H-ZHC</b>		18
Hy-Lok Tube Fitting Bulkhead Connector <b>H-ZBHC</b>		19
Male NPT Connector <b>H-ZMC</b>		19
Male NPT Elbow <b>H-ZLMA</b>		19
Straight thread O-Ring Seal Male Connector <b>H-ZSC</b>		20
Female NPT Connector <b>H-ZFC</b>		20
Bulkhead Male Connector <b>H-ZBMC</b>		20
Tube Butt Weld Bulkhead Connector <b>H-ZBT</b>		21

## Swivel Union, Elbow, Tee, Connectors

Swivel Male/Female Union <b>H-ZSMU</b>		21
Swivel Female Union <b>H-ZSUA</b>		21
Swivel Male NPT Connector <b>H-ZSMC</b>		21
Swivel Female NPT Connector <b>H-ZSFC</b>		22
Swivel Hy-Lok Tube Fitting Connector <b>H-ZSMH</b>		22
Swivel Elbow <b>H-ZSLA</b>		22
Swivel Tee <b>H-ZSTA</b>		22

## Nut, Cap, Plug & Gasket

Female Nut <b>H-ZFN</b>		23
Male Nut <b>H-ZMN</b>		23
Cap <b>H-ZCP</b>		23
Plug <b>H-ZP</b>		23
Gasket <b>H-ZGSK</b>		24
Gasket Retainer Assembly <b>H-ZGRT</b>		24

## High-Flow Connections

High Flow Tube Butt Weld Gland <b>H-ZHG</b>		25
High Flow Tube Butt Weld Reducer <b>H-ZR</b>		25
High Flow Tube Weld Reducer with Shoulder <b>H-ZR-A</b>		25
High Flow Tube Butt Weld Bulkhead Connector <b>H-ZHBT</b>		25
High Flow Union Elbow <b>H-ZHLA</b>		26
High Flow Union Tee <b>H-ZHTA</b>		26
High Flow Female Nut <b>H-ZHFN</b>		26
High Flow Male Nut <b>H-ZHMN</b>		26

### Pressure Ratings

The Hy-Lok clean weld fittings and metal gasket face seal fittings are manufactured from material in accordance with material table, and calculated in accordance with ASME code for Pressure Piping B 31.3, Process Piping for allowable stress value of 20,000 psi (equivalent ASTM A269-tubing) wall thickness.

Pressure ratings for fittings are also determined by temperature applied to the fittings.

Allowable working pressure at temperatures greater than 100°F (37°C) may be obtained by multiplying factors shown in Table 1

To determine pressure ratings in accordance with ASME B31.1, Power Piping, multiply working pressure by 0.94

**Table 1. Derating Factors**

Temperature °F (°C)	Factor	
	316 Stainless Steel	316L Stainless Steel
-20 to 100 (-28 to 37)	1.00	0.83
200 (93)	1.00	0.83
300 (148)	1.00	0.83
400 (204)	0.96	0.77
500 (260)	0.89	0.72
600 (315)	0.85	0.67
650 (343)	0.83	0.66
700 (371)	0.81	0.64
750 (398)	0.80	0.63
800 (426)	0.79	0.62
850 (454)	0.78	0.60
900 (482)	0.77	-
950 (510)	0.77	-
1000 (537)	0.76	-

### Temperature Rating

Type	Material	Temperature, °F (°C)
Fittings	Single Melt 316L Stainless Steel	1000 (537)
	Double Melt 316L Stainless Steel	
Gaskets	316L Stainless Steel	1000 (537)
	Nickel	600 (315)

### Material

Material	Designator	Specification	
		Bar Stock	Forging
Single Melt 316L Stainless Steel	SM6L	ASME SA479 ASTM A479 ASTM A276	ASME SA182 ASTM A182
Double Melt 316L Stainless Steel	VV6L		

### Surface Finishes

Grade	Designator	Roughness Average Ra	EP	Material	Packing Standard Class 10
B.A.	B	0.25 μm (10 μin)	N/A	S316, 316L or SM6L	Double
High	H	0.13 μm (5 μin)	Yes	SM6L or VV6L	Double

### Cleaning

Passivation is done in a Nitric environment.

Precision cleaning is done by Ultra-sonic cleansing with resistivity over 18MΩ D.I. water after finishing the passivation.

### Packing & Handling

Hy-Lok clean fittings are double-packaged in anti-static polyethylene bags pressurized with high-purity nitrogen gas.

Care must be taken to maintain cleanliness.

Packaging performed in a Class 10 clean room requires additional packaging.

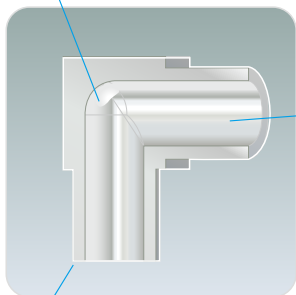
- A. Maintain and transport in standard-packed condition.
- B. Remove particles from the outer package and open the cardboard box or the outer package before bringing it into the clean room.
- C. Move in double-packed condition within the clean room, and remove the first package when ready to use.
- D. Remove the second package just before welding.

### Mini Tube Butt Weld Fittings

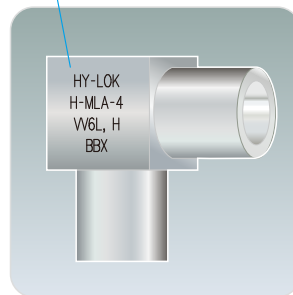
- are suitable for the miniature tubing system.
- are available for installing the parts close together.
- have equivalent flow capacity to larger-sized weld fittings.
- The maximum working temperature is 100°F (37°C)

Radius junction provides smooth flow transitions and eliminates pockets and entrapment zones.

Laser etch Marking & Heat Code Traceability  
Hy-Lok Clean fittings are marked with Manufacturer, Part No., Material, Surface finish, Heat Code No. designation.



Typical surface finish is average Ra 0.25 μm (Ra 10 μin)

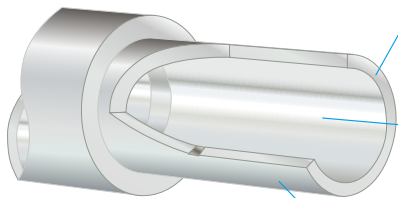


Square, sharp, burr-free tube weld end.

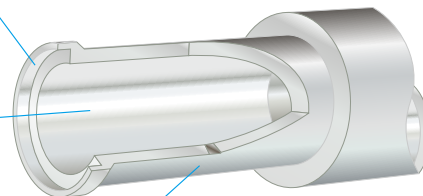
### TBW (Tube Butt Weld) and ATW (Automatic Tube Butt Weld) Fittings

- Hy-Lok clean fittings are applicable for two welding types : TBW (Tube Butt Weld) and ATW (Automatic Tube Butt Weld).
- TBW fittings are designed for optimal tube butt welding by an automatic TIG welder.

Tube ends are machined with a square face and corners to enhance alignment and maintain tube wall uniformity.

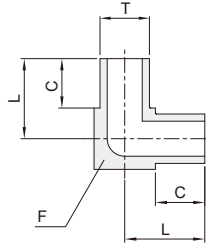


Typical surface finish is average Ra 0.25 μm (Ra 10 μin)



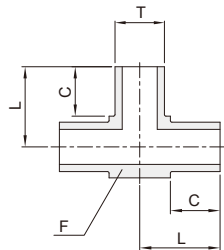
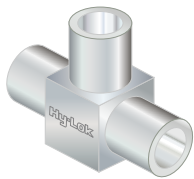
Precisely finished diameter matches tube diameter.

## Mini Elbow H-MLA



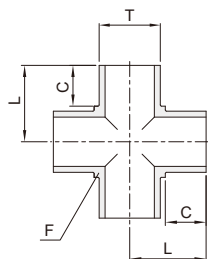
Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Cube		Working Pressure	
			mm	in.	mm	in.	in.	psig	bar	
H-MLA- 4	1/4	0.035 in.	10.4	0.41	6.35	0.25	5/16	5100	351	
H-MLA- 6	3/8		11.9	0.47			7/16	3300	227	
H-MLA- 8	1/2	0.049 in.	13.5	0.53			9/16	3700	254	
H-MLA-12	3/4	0.065 in.	16.68	0.66			13/16	3300	227	
H-MLA- 6M	6mm	1.0 mm	10.4	0.41			5/16	6095	420	
H-MLA- 8M	8mm		7/16	11.9			0.47	4499	310	
H-MLA-10M	10mm			3483			240			
H-MLA-12M	12mm		13.5	0.53			9/16	2902	200	

## Mini Tee H-MTA



Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Cube		Working Pressure	
			mm	in.	mm	in.	in.	psig	bar	
H-MTA- 4	1/4	0.035 in.	10.4	0.41	6.35	0.25	5/16	5100	351	
H-MTA- 6	3/8		11.9	0.47			7/16	3300	227	
H-MTA- 8	1/2	0.049 in.	13.5	0.53			9/16	3700	254	
H-MTA-12	3/4	0.065 in.	16.68	0.66			13/16	3300	227	
H-MTA- 6M	6mm	1.0 mm	10.4	0.41			5/16	6095	420	
H-MTA- 8M	8mm		7/16	11.9			0.47	4499	310	
H-MTA-10M	10mm			3483			240			
H-MTA-12M	12mm		13.5	0.53			9/16	2902	200	

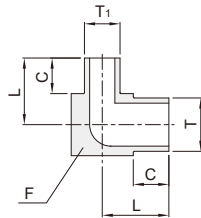
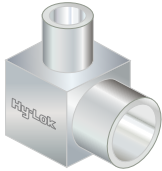
## Mini Cross H-MXA



Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Cube		Working Pressure	
			mm	in.	mm	in.	in.	psig	bar	
H-MXA- 4	1/4	0.035 in.	10.4	0.41	6.35	0.25	5/16	5100	351	
H-MXA- 6	3/8		11.9	0.47			7/16	3300	227	
H-MXA- 8	1/2	0.049 in.	13.5	0.53			9/16	3700	254	
H-MXA-12	3/4	0.065 in.	16.68	0.66			13/16	3300	227	
H-MXA- 6M	6mm	1.0 mm	10.4	0.41			5/16	6095	420	
H-MXA- 8M	8mm		7/16	11.9			0.47	4499	310	
H-MXA-10M	10mm			3483			240			
H-MXA-12M	12mm		13.5	0.53			9/16	2902	200	

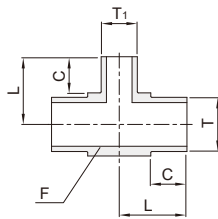
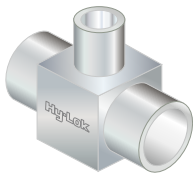
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

### Mini Reducing Elbow H-MLA



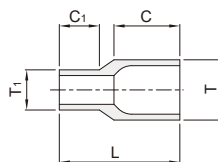
Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		F Body Cube		Working Pressure	
					mm	in.	mm	in.	in.	psig	bar	
H-MLA 6-4	3/8	0.035 in.	1/4	0.035 in.	11.9	0.47	6.35	0.25	7/16	3300	227	254
H-MLA 8-4	1/2	0.049 in.	3/8		13.5	0.53						
H-MLA 8-6	3/4	0.065 in.	1/2		16.68	0.66						
H-MLA12-4	3/4	0.065 in.	1/4	0.049 in.	16.68	0.66	6.35	0.25	13/16	3300	227	
H-MLA12-6			3/8									
H-MLA12-8			1/2									
H-MLA 8M-6M	8mm	1.0 mm	6mm	1.0 mm	11.9	0.47	6.35	0.25	7/16	4499	310	
H-MLA10M-6M	10mm				13.5	0.53				3483	240	
H-MLA12M-6M	12mm				16.68	0.66				2902	200	
H-MLA12M-8M	8mm				19.05	0.75				2902	200	

### Mini Reducing Tee H-MTA



Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		F Body Cube		Working Pressure	
					mm	in.	mm	in.	in.	psig	bar	
H-MTA 6-4	3/8	0.035 in.	1/4	0.035 in.	11.9	0.47	6.35	0.25	7/16	3300	227	254
H-MTA 8-4	1/2	0.049 in.	3/8		13.5	0.53						
H-MTA 8-6	3/4	0.065 in.	1/2		16.68	0.66						
H-MTA12-4	3/4	0.065 in.	1/4	0.049 in.	16.68	0.66	6.35	0.25	13/16	3300	227	
H-MTA12-6			3/8									
H-MTA12-8			1/2									
H-MTA 8M-6M	8mm	1.0 mm	6mm	1.0 mm	11.9	0.47	6.35	0.25	7/16	4499	310	
H-MTA10M-6M	10mm				13.5	0.53				3483	240	
H-MTA12M-6M	12mm				16.68	0.66				2902	200	
H-MTA12M-8M	8mm				19.05	0.75				2902	200	

### Mini Reducing Coupling H-MCA

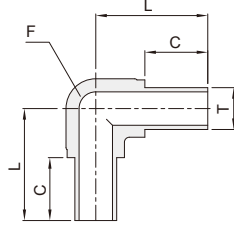


Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		C <sub>1</sub>		Working Pressure	
					mm	in.	mm	in.	mm	in.	psig	bar
H-MCA 6-4	3/8	0.035 in.	1/4	0.035 in.	19.05	0.75	10.41	0.41	6.35	0.25	3300	227
H-MCA 8-4	1/2	0.049 in.	3/8									
H-MCA 8-6	3/4	0.065 in.	1/2								3300	227
H-MCA12-4	3/4	0.065 in.	1/4	0.049 in.	19.05	0.75	10.41	0.41	6.35	0.25	3300	227
H-MCA12-6			3/8									
H-MCA12-8			1/2									
H-MCA 8M- 6M	8mm	1.0 mm	6mm	1.0 mm	19.05	0.75	10.41	0.41	6.35	0.25	4499	310
H-MCA10M- 8M	10mm										3483	240
H-MCA12M- 8M	12mm										2902	200
H-MCA12M-10M	8mm										2902	200

DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

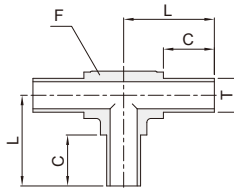
# Clean Fittings

## Long Elbow H-ML



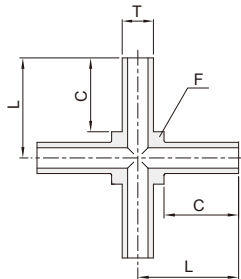
Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-ML- 4	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-ML- 6	3/8							3300	227
H-ML- 8	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-ML-12	3/4						25.0mm	2400	165
H-ML-16	1	0.065 in.	38.3	1.51	23.3	0.92	30.0mm	2400	165
H-ML- 6M	6mm	1.0 mm	25.0	0.98	19.05	0.75	7/16	6095	420
H-ML- 8M	8mm							4499	310
H-ML-10M	10mm		29.0	1.14			11/16	3483	240
H-ML-12M	12mm						2902	200	
H-ML-18M	18mm	1.5 mm	33.5	1.32			15/16	2902	200

## Long Tee H-MT



Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-MT- 4	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-MT- 6	3/8							3300	227
H-MT- 8	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-MT-12	3/4						25.0mm	2400	165
H-MT-16	1	0.065 in.	38.3	1.51	23.3	0.92	30.0mm	2400	165
H-MT- 6M	6mm	1.0 mm	25.0	0.98	19.05	0.75	7/16	6095	420
H-MT- 8M	8mm							4499	310
H-MT-10M	10mm		29.0	1.14			11/16	3483	240
H-MT-12M	12mm						2902	200	
H-MT-18M	18mm	1.5 mm	33.5	1.32			15/16	2902	200

## Long Cross H-MX

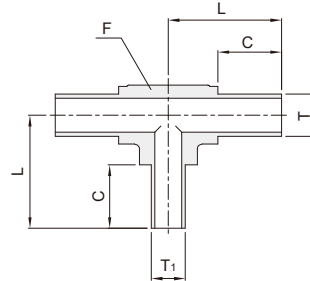


Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-MX- 4	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-MX- 6	3/8							3300	227
H-MX- 8	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-MX- 6M	6mm						25.0	0.98	7/16
H-MX- 8M	8mm	4499	310						
H-MX-10M	10mm	1.0 mm	29.0	1.14	19.05	0.75	17.0mm	3483	240
H-MX-12M	12mm							2902	200

DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

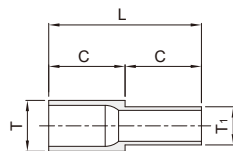


## Long Reducing Tee H-MT



Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		F Body Flat	Working Pressure	
					mm	in.	mm	in.		in.(mm)	psig
H-MT 6-4	3/8	0.035 in.	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	3300	227
H-MT 8-4	1/2	0.049 in.			29.0	1.14				17.0mm	3700
H-MT 8-6			33.5		1.32	25.0mm			3300		227
H-MT12-6	3/4		6mm		29.0				1.14	17.0mm	2400
H-MT12-4			1/4	7/16		4499	310				
H-MT 8M-6M	8mm	1.0 mm	6mm	1.0 mm	25.0	0.98	19.05	0.75	7/16	3483	240
H-MT10M-6M	10mm		8mm							29.0	1.14
H-MT10M-8M			12mm		6mm	29.0			1.14		
H-MT12M-6M	8mm				7/16					4499	310
H-MT12M-8M	12mm	8mm	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	3300	227

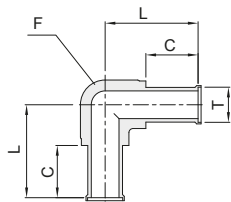
## Reducing Union H-MU



Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		Working Pressure						
					mm	in.	mm	in.	psig	bar					
H-MU 6- 4	3/8	0.035 in.	1/4	0.035 in.	38.1	1.50	19.05	0.75	3300	227					
H-MU 8- 4	1/2	0.049 in.							3700	254					
H-MU 8- 6			3/8						3300	227					
H-MU12- 8	3/4	1/2	2400						165						
H-MU16- 8	1	0.065 in.	3/4	1.0 mm	38.1	1.50	19.05	0.75	3483	240					
H-MU16-12			6mm								2902	200			
H-MU10M- 6M	10mm	1.0 mm	8mm						1.0 mm	38.1	1.50	19.05	0.75	2902	200
H-MU10M- 8M			6mm												
H-MU12M- 6M	12mm		8mm												
H-MU12M- 8M			10mm												
H-MU12M-10M	18mm	1.5 mm	6mm	1.5 mm	38.1	1.50	19.05	0.75	2902	200					
H-MU18M- 6M			12mm												
H-MU18M-12M	12mm	6mm	1.5 mm	38.1	1.50	19.05	0.75	2902	200						

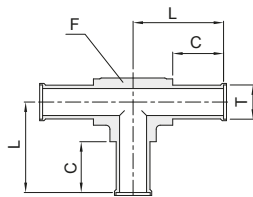
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

## Long Elbow with Shoulder H-ML-A



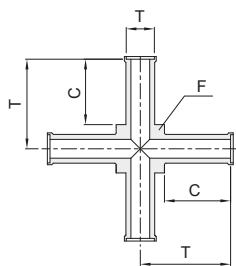
Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-ML- 4A	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-ML- 6A	3/8							3300	227
H-ML- 8A	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-ML-12A	3/4		33.5	1.32			25.0mm	2400	165
H-ML-16A	1	0.065 in.	38.3	1.51	23.3	0.92	30.0mm	2400	165
H-ML- 6MA	6mm	1.0 mm	25.0	0.98	19.05	0.75	7/16	6095	420
H-ML- 8MA	8mm							4499	310
H-ML-10MA	10mm		29.0	1.14			11/16	3483	240
H-ML-12MA	12mm		33.5	1.32			15/16	2902	200
H-ML-18MA	18mm	1.5 mm	33.5	1.32					

## Long Tee with Shoulder H-MT-A



Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-MT- 4A	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-MT- 6A	3/8							3300	227
H-MT- 8A	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-MT-12A	3/4		33.5	1.32			25.0mm	2400	165
H-MT-16A	1	0.065 in.	38.3	1.51	23.3	0.92	30.0mm	2400	165
H-MT- 6MA	6mm	1.0 mm	25.0	0.98	19.05	0.75	7/16	6095	420
H-MT- 8MA	8mm							4499	310
H-MT-10MA	10mm		29.0	1.14			11/16	3483	240
H-MT-12MA	12mm		33.5	1.32			15/16	2902	200
H-MT-18MA	18mm	1.5 mm	33.5	1.32					

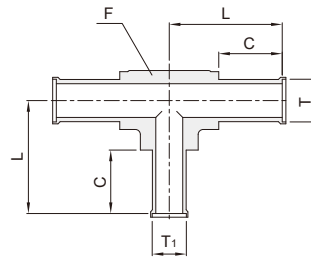
## Long Cross with Shoulder H-MX-A



Part No.	T Tube O.D.	Wall Thickness	L		C		F Body Flat in.(mm)	Working Pressure	
			mm	in.	mm	in.		psig	bar
H-MX- 4A	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	5100	351
H-MX- 6A	3/8							3300	227
H-MX- 8A	1/2	0.049 in.	29.0	1.14			17.0mm	3700	254
H-MX- 6MA	6mm		25.0	0.98			7/16	6095	420
H-MX- 8MA	8mm	1.0 mm	29.0	1.14	17.0mm		4499	310	
H-MX-10MA	10mm						3483	240	
H-MX-12MA	12mm		2902	200					

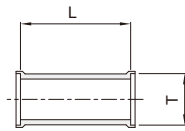
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## Long Reducing Tee with Shoulder H-MT-A



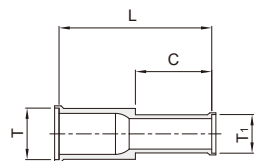
Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		F Body Flat	Working Pressure	
					mm	in.	mm	in.		in.(mm)	psig
H-MT 6- 4A	3/8	0.035 in.	1/4	0.035 in.	25.0	0.98	19.05	0.75	7/16	3300	227
H-MT 8- 4A	1/2	0.049 in.			29.0	1.14			17.0mm	3700	254
H-MT 8- 6A			3/8	33.5	1.32	25.0mm			3300	227	
H-MT12- 6A	3/4	0.049 in.	1/2	0.049 in.	29.0	1.14			17.0mm	2400	165
H-MT12- 8A	12mm	1.0 mm	6mm	1.0 mm	29.0	1.14			17.0mm	2902	200

## Union with Shoulder H-MU-A



Part No.	T Tube O.D.	Wall Thickness	L		Working Pressure	
			mm	in.	psig	bar
H-MU- 4A	1/4	0.035 in.	24.4	0.96	5100	351
H-MU- 6A	3/8		23.8	0.94	3300	227
H-MU- 8A	1/2	0.049 in.	23.4	0.92	3700	254
H-MU-12A	3/4		2400	165		
H-MU-16A	1	0.065 in.	29.8	1.17	2400	165
H-MU- 6MA	6mm	1.0 mm	30.8	1.21	6095	420
H-MU- 8MA	8mm		30.2	1.19	4499	310
H-MU-10MA	10mm		3483	240		
H-MU-12MA	12mm		2902	200		
H-MU-18MA	18mm	1.5 mm	29.8	1.17	2902	200

## Reducing Union with Shoulder H-MU-A

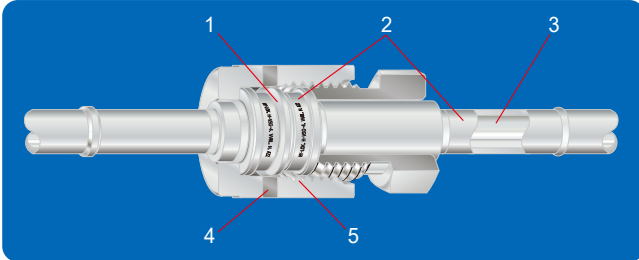


Part No.	T Tube O.D.	Wall Thickness	T <sub>1</sub> Tube O.D.	Wall Thickness	L		C		Working Pressure	
					mm	in.	mm	in.	psig	bar
H-MU 6-4A	3/8	0.035 in.	1 / 4	0.035 in.	38.8	1.53	18.6	0.73	3300	227
H-MU 8-4A	1/2	0.049 in.			38.6	1.52			3700	254
H-MU 8-6A			3 / 8	38.3	1.51	18.3	0.72	3300	227	
H-MU 8M-6MA	8mm	1.0 mm	6mm	1.0 mm	38.6	1.52	18.6	0.73	4499	310
H-MU12M-6MA	12mm		8mm		18.3	0.72	2902	200		
H-MU12M-8MA			8mm		18.3	0.72	2902	200		

DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

**Feature**

- Hy-Lok ZCR fittings provide ultra-high purity metal-to-metal seal for vacuum and positive pressure applications.
- Sealing is accomplished by compressing the gasket between the two beads during assembly of the male nut or body and female nut.



1. Gasket options include silver plated stainless steel 316L, nickel plated, unplated nickel or special requests.
2. Roll stamped or Laser etch Marking & Heat Code Traceability  
Hy-Lok ZCR fittings are marked with Manufacturer, Part No., Material, Surface finish, Heat Code No. designation.
3. Typical surface finish is average Ra 0.25 μm (Ra 10 μin).
4. The QA leak test port allows visual inspection of the sealing gasket prior to assembly.
5. The internal surface of the female nut is silver plated to ensure consistent low make-up torque.

**Plating**

- The internal surface of the female nut is silver plated to avoid galling and reduce the pull up torque.
- Gasket options include silver plated stainless steel 316L, nickel plated, unplated nickel or special requests.

**Testing**

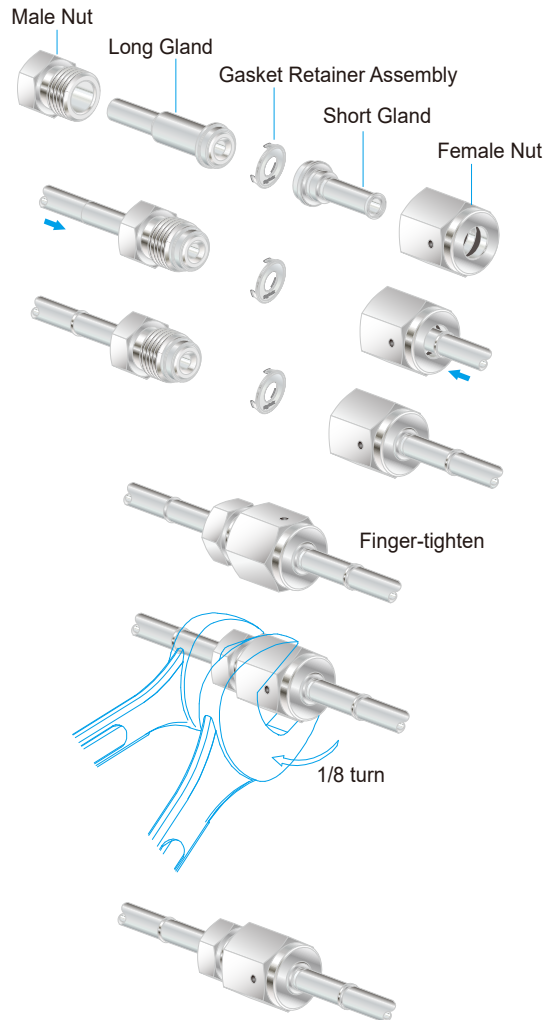
- ZCR Fittings have been helium leak tested to a rate of 1 X 10<sup>-10</sup> atm cc/sec with unplated, silver plated and copper gasket.
- Optional tests are available upon request.

**Installation Precautions**

- Do not reuse gaskets. Always use a new gasket when reinstalling.
- Protect the bead end of ZCR during welding, shipping or storage by using the appropriate cap or plug.
- ZCR Fittings will not compensate for tube misalignment.
- Protect the internal silver plating on female nut threads during polishing, brazing, operations, or additional cleaning.
- These operations may remove the silver plating and cause thread galling.

**Assembly Instruction**

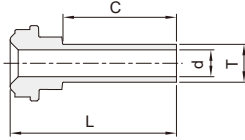
- Step 1. Prior to tightening the fittings, make sure the beads and gaskets are free of scratches and dirt.
- Step 2. Insert the non-retained gasket into the female nut. The gasket is self-aligning. Use caution not to damage the sealing surfaces while inserting the gasket into the female nut.
- Step 3. Finger-tighten the male and female nuts ensuring that all components have made proper contact and are in position for final tightening with wrenches. The inspection port in the female nut allows for easy visual inspection.
- Step 4. Make a reference mark on both the female nut and male nut or body hex.
- Step 5. Hold the male nut or male body with the appropriate backup wrench and tighten the female nut 1/8 turn past finger tight (for 316L and Ni gaskets)



**! Caution**  
Do not rotate fixed thread components against the gasket. Hold the fixed thread component and tighten the corresponding rotating female or male nut 1/8 ~ 1/4 turn past finger tight.

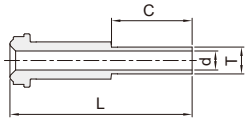
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

Short Tube Butt Weld Gland  
**H-ZSG**



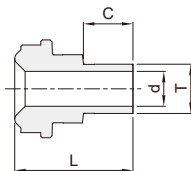
Part No.	ZGR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZSG - 2	1/8	1/8	0.028 in.	1.50	0.06	27.4	1.08	19.05	0.75	8500 (585)	6800 (468)	
H-ZSG - 4	1/4	1/4	0.035 in.	4.55	0.18	27.9	1.10			5100 (351)		
H-ZSG8- 4	1/2	3/8		7.67	0.30	28.4	1.12			3500 (241)	4300 (296)	2800 (192)
H-ZSG - 6		1/2	3/8	7.67	0.30	28.4	1.12			3300 (227)	2600 (179)	
H-ZSG - 8	1/2	1/2	0.049 in.	10.14	0.40	29.5	1.16			3500 (241)	2800 (192)	
H-ZSG - 6M	1/4	6mm	4.06	0.16	6800 (468)					5400 (372)		
H-ZSG - 8M	1/4	8mm	1.0 mm	6.12	0.24	4900 (337)						
H-ZSG -10M	1/2	10mm	8.12	0.32	3500 (241)	2800 (192)						
H-ZSG -12M		12mm	9.96	0.39	3100 (213)	2400 (165)						
H-ZSG -18M	3/4	18mm	1.5 mm	15.00	0.59	31.0	1.22			3000 (206)		

Long Tube Butt Weld Gland  
**H-ZLG**



Part No.	ZGR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZLG - 2	1/8	1/8	0.028 in.	1.50	0.06	36.1	1.42	19.05	0.75	8500 (585)	6800 (468)	
H-ZLG - 4	1/4	1/4	0.035 in.	4.55	0.18	43.2	1.70			5100 (351)		
H-ZLG8- 4	1/2	3/8		7.67	0.30	45.7	1.80			3500 (241)	4300 (296)	2800 (192)
H-ZLG - 6		1/2	3/8	7.67	0.30	45.5	1.79			3300 (227)	2600 (179)	
H-ZLG - 8	1/2	1/2	0.049 in.	10.14	0.40	51.6	2.03			3500 (241)	2800 (192)	
H-ZLG -12	3/4	3/4	16.50	0.65	2400 (165)					1900 (130)		
H-ZLG -12T065	3/4	3/4	0.065 in.	15.75	0.62	51.6	2.03					
H-ZLG -16	1	1	0.065 in.	22.10	0.87	58.9	2.32			6800 (468)	5400 (372)	
H-ZLG - 6M	1/4	6mm	1.0 mm	4.06	0.16	43.2	1.70			4900 (337)		
H-ZLG - 8M	1/4	8mm	6.12	0.24	45.5	1.79	3500 (241)			2800 (192)		
H-ZLG -10M	1/2	10mm	8.12	0.32			3100 (213)			2400 (165)		
H-ZLG -12M	1/2	12mm	9.96	0.39			3000 (206)					
H-ZLG -18M	3/4	18mm	1.5 mm	15.00	0.59	51.6	2.03					

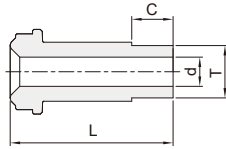
Mini Short Tube Butt Weld Gland  
**H-ZMSG**



Part No.	ZGR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZMSG- 4	1/4	1/4	0.035 in.	4.55	0.18	15.2	0.60	6.35	0.25	5100 (351)		
H-ZMSG- 6	1/2	3/8		7.67	0.30	15.8	0.62			3300 (227)	2600 (179)	
H-ZMSG- 8		1/2	3/8	7.67	0.30	15.8	0.62			3500 (241)	2800 (192)	
H-ZMSG- 6M	1/4	6mm	0.049 in.	10.14	0.40	15.2	0.60			6800 (468)	5400 (372)	
H-ZMSG- 8M		8mm	1.0 mm	6.12	0.24	4900 (337)						
H-ZMSG-10M	1/2	10mm	8.12	0.32	15.8	0.62	3500 (241)			2800 (192)		
H-ZMSG-12M		12mm	9.96	0.39	3100 (213)	2400 (165)						

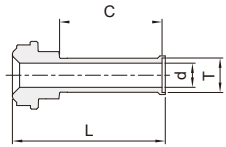
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## Mini Long Tube Weld Gland H-ZMLG



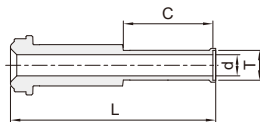
Part No.	ZCR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZMLG- 4	1/4	1/4	0.035 in.	4.55	0.18	30.5	1.20	6.35	0.25	5100 (351)		
H-ZMLG- 6	1/2	3/8		7.67	0.30	32.8	1.29			3300 (227)	2600 (179)	
H-ZMLG- 8		1/2	0.049 in.	10.14	0.40					3500 (241)	2800 (192)	
H-ZMLG- 6M	1/4	6mm	1.0 mm	4.06	0.16	31.0	1.22			6800 (468)	5400 (372)	
H-ZMLG- 8M		8mm		6.12	0.24	31.2	1.23			4900 (337)		
H-ZMLG-10M	1/2	10mm		8.12	0.32	32.8	1.29			3500 (241)	2800 (192)	
H-ZMLG-12M		12mm		9.96	0.39	33.8	1.33			3100 (213)	2400 (165)	

## Short Tube Weld Gland with Shoulder H-ZSG-A



Part No.	ZCR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZSG- 4A	1/4	1/4	0.035 in.	4.55	0.18	28.4	1.12	19.05	0.75	5100 (351)		
H-ZSG- 6A	1/2	3/8		7.67	0.30	29.2	1.15			3300 (227)	2600 (179)	
H-ZSG- 8A		1/2	0.049 in.	10.14	0.40	29.5	1.16			3500 (241)	2800 (192)	
H-ZSG- 6MA	1/4	6mm	1.0 mm	4.06	0.16	30.0	1.18			6800 (468)	5400 (372)	
H-ZSG- 8MA		8mm		6.12	0.24	30.2	1.19			4900 (337)		
H-ZSG-10MA	1/2	10mm		8.12	0.32	31.0	1.22			3500 (241)	2800 (192)	
H-ZSG-12MA		12mm		9.96	0.39	30.5	1.20			3100 (213)	2400 (165)	

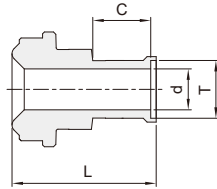
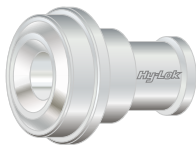
## Long Tube Weld Gland with Shoulder H-ZLG-A



Part No.	ZCR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)			
				mm	in.	mm	in.	mm	in.	NI	SS	CU	
H-ZLG - 4A	1/4	1/4	0.035 in.	4.55	0.18	43.7	1.72	19.05	0.75	5100 (351)			
H-ZLG8- 4A	1/2					3/8	46.2			1.82	3500 (241)	2800 (192)	
H-ZLG - 6A		1/2	0.049 in.	7.67	0.30	46.5	1.83			3300 (227)	2600 (179)		
H-ZLG - 8A	3/4	1/2	10.14	0.40	46.5	1.83	3500 (241)			2800 (192)			
H-ZLG -12A		3/4	3/4	0.049 in.	16.50	0.65	52.6			2.07	2400 (165)	1900 (130)	
H-ZLG -16A	1	1	0.065 in.	22.10	0.87	65.3	2.57			24.40	0.87	6800 (468)	5400 (372)
H-ZLG - 6MA	1/4	6mm	1.0 mm	4.06	0.16	43.7	1.72			19.05	0.75	4900 (337)	
H-ZLG - 8MA		8mm		6.12	0.24	43.9	1.73					3500 (241)	2800 (192)
H-ZLG -10MA	1/2	10mm		8.12	0.32	46.5	1.83	3100 (213)	2400 (165)				
H-ZLG -12MA		12mm		9.96	0.39			3000 (206)	2400 (165)				
H-ZLG -18MA	3/4	18mm		1.5 mm	15.00	0.59	52.6	2.07					

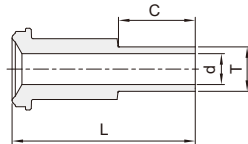
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Mini Short Tube Weld Gland with Shoulder  
**H-ZMSG-A**



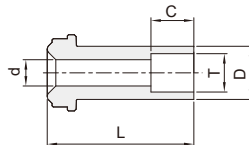
Part No.	ZCR Size	T Tube O.D.	Nominal Wall Thickness	d		L		C		Working Pressure psig (bar)		
				mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZMSG- 4A	1/4	1/4	0.035 in.	4.55	0.18	15.7	0.62	6.35	0.25	5100 (351)		
H-ZMSG- 6A	1/2	3/8		7.67	0.30	16.6	0.65			3300 (227)	2600 (179)	
H-ZMSG- 8A		1/2	0.049 in.	10.14	0.40	16.8	0.66			3500 (241)	2800 (192)	
H-ZMSG- 6MA	1/4	6mm	1.0 mm	4.06	0.16	15.7	0.62			6800 (468)	5400 (372)	
H-ZMSG- 8MA		8mm		6.12	0.24	16.6	0.65			4900 (337)		
H-ZMSG-10MA	1/2	10mm		8.12	0.32	16.8	0.66			3500 (241)	2800 (192)	
H-ZMSG-12MA		12mm		9.96	0.39					3100 (213)	2400 (165)	

Male Weld Gland  
**H-ZGM**



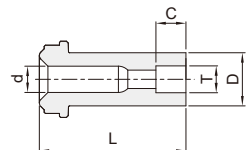
Part No.	ZCR Size	T Tube O.D.	d		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZGM - 2	1/8	1/8	1.50	0.06	17.8	0.70	7.1	0.28	9000 (620)	11200 (771)	7200 (496)
H-ZGM4- 2	1/4				33.3	1.31			8000 (551)	10000 (689)	6400 (440)
H-ZGM - 4		1/4	3.00	0.12	38.1	1.50	10.4	0.41	3500 (241)	4300 (296)	2800 (192)
H-ZGM8- 4											
H-ZGM - 6	1/2	3/8	7.10	0.28	12.7	0.50	3500 (241)				
H-ZGM - 8	1/2	10.14	0.40								
H-ZGM -12	3/4	3/4	13.50	0.53	50.8	2.00	15.7	0.62	3000 (206)	3700 (254)	2400 (165)
H-ZGM -16	1	1	19.10	0.75	56.4	2.22	20.6	0.81	2400 (165)	3000 (206)	1900 (130)

Socket Weld Gland  
**H-ZGS**



Part No.	ZCR Size	T Tube Socket	d		D		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZGS- 2S	1/8	1/8	2.30	0.09	5.1	0.20	17.8	0.70	2.5	0.10	7100 (489)		
H-ZGS- 4S	1/4	1/4	4.55	0.18	8.9	0.35	33.3	1.31	7.1	0.28	5500 (378)		
H-ZGS- 6S	1/2	3/8	7.67	0.30	15.2	0.60	38.1	1.50	7.9	0.31	3500 (241)	4300 (291)	2800 (192)
H-ZGS- 8S		1/2	10.14	0.40					9.7	0.38	3000 (206)	2400 (165)	
H-ZGS-12S	3/4	3/4	13.50	0.53	22.4	0.88	50.8	2.00	11.2	0.44	2800 (192)	2200 (151)	
H-ZGS-16S	1	1	19.10	0.75	30.2	1.19	56.4	2.22	15.7	0.62	2400 (165)	3000 (306)	1900 (130)

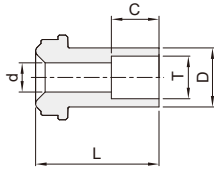
Reducing Socket Weld Gland  
**H-ZGS**



Part No.	ZCR Size	T Tube Socket	d		D		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZGS4-2S	1/4	1/8	2.30	0.09	8.9	0.35	33.3	1.31	2.5	0.10	8000 (551)		
H-ZGS8-4S	1/2	1/4	4.55	0.18	15.2	0.60	38.1	1.50	7.1	0.28	3500 (241)		

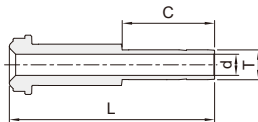
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

Short Socket Weld Gland  
**H-ZGS**



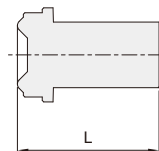
Part No.	ZCR Size	T Tube Socket	d		D		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZGS-4SL12.7	1/4	1/4	4.55	0.18	8.9	0.35	12.7	0.50	7.1	0.28	5500 (378)		
H-ZGS-4SL19.1							19.1	0.75					

Tube Adapter Gland  
**H-ZGT**



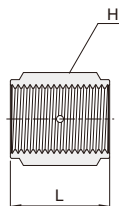
Part No.	ZCR Size	T Tube Socket	d		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZGT-4	1/4	1/4	4.30	0.17	41.0	1.62	16.2	0.64	8000 (511)	10000 (689)	6400 (440)
H-ZGT-6	1/2	3/8	6.80	0.27	46.0	1.81	17.8	0.70	3500 (241)	4300 (296)	2800 (192)
H-ZGT-8		1/2	9.40	0.37	49.3	1.94	24.4	0.96			

Blind Gland  
**H-ZBG**



Part No.	ZCR Size	L	
		mm	in.
H-ZBG- 2	1/8	17.8	0.70
H-ZBG- 4	1/4	33.3	1.31
H-ZBG- 8	1/2	38.1	1.50
H-ZBG-12	3/4	50.8	2.00
H-ZBG-16	1	56.4	2.22

Coupling  
**H-ZC**

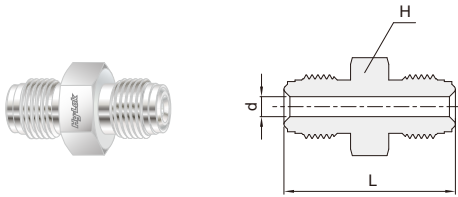


Part No.	ZCR Size	L		H
		mm	in.	in.
H-ZC- 2	1/8	16.8	0.66	7/16
H-ZC- 4	1/4	30.2	1.19	3/4
H-ZC- 8	1/2	33.3	1.31	1 1/16
H-ZC-12	3/4	42.7	1.68	1 1/2
H-ZC-16	1	51.8	2.04	1 3/4

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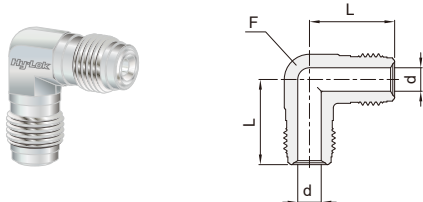


Double Male Union  
**H-ZUA**



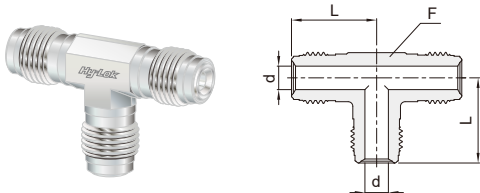
Part No.	ZCR Size	d		L		H	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZUA- 2	1/8	2.30	0.09	28.7	1.13	3/8	9000 (620)	11200 (771)	7200 (496)
H-ZUA- 4	1/4	4.55	0.18	39.4	1.55	5/8	8000 (551)	10000 (689)	6400 (440)
H-ZUA- 8	1/2	10.14	0.40	46.7	1.84	15/16	3500 (241)	4300 (296)	2800 (192)
H-ZUA-12	3/4	15.70	0.62	62.0	2.44	1 5/16	3000 (206)	3700 (254)	2400 (165)

Union Elbow  
**H-ZLA**



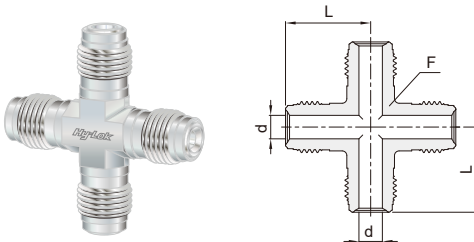
Part No.	ZCR Size	d		L		F Body Flat	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZLA- 2	1/8	2.30	0.09	22.6	0.89	7/16	9000 (620)	11200 (771)	7200 (496)
H-ZLA- 4	1/4	4.55	0.18	27.2	1.07	1/2	8000 (551)	10000 (689)	6400 (440)
H-ZLA- 8	1/2	10.14	0.40	36.8	1.45	13/16	3500 (241)	4300 (296)	2800 (192)
H-ZLA-12	3/4	15.70	0.62	48.8	1.92	1 1/4	3000 (206)	3700 (254)	2400 (165)

Union Tee  
**H-ZTA**



Part No.	ZCR Size	d		L		F Body Flat	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZTA- 2	1/8	2.30	0.09	22.6	0.89	7/16	9000 (620)	11200 (771)	7200 (496)
H-ZTA- 4	1/4	4.55	0.18	27.2	1.07	1/2	8000 (551)	10000 (689)	6400 (440)
H-ZTA- 8	1/2	10.14	0.40	36.8	1.45	13/16	3500 (241)	4300 (296)	2800 (192)
H-ZTA-12	3/4	15.70	0.62	48.8	1.92	1 1/4	3000 (206)	3700 (254)	2400 (165)

Union Cross  
**H-ZXA**

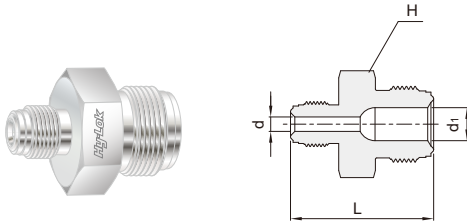


Part No.	ZCR Size	d		L		F Body Flat	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZXA- 2	1/8	2.30	0.09	22.6	0.89	7/16	9000 (620)	11200 (771)	7200 (496)
H-ZXA- 4	1/4	4.55	0.18	27.2	1.07	1/2	8000 (551)	10000 (689)	6400 (440)
H-ZXA- 8	1/2	10.14	0.40	36.8	1.45	13/16	3500 (241)	4300 (296)	2800 (192)
H-ZXA-12	3/4	15.70	0.62	48.8	1.92	1 1/4	3000 (206)	3700 (254)	2400 (165)

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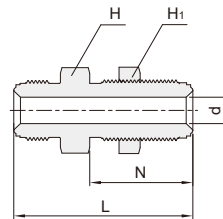
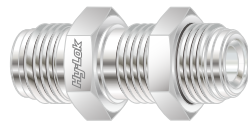
## Clean Fittings

### Double Male Reducing Union H-ZUR



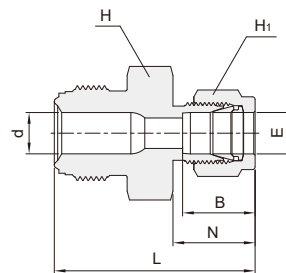
Part No.	ZCR Size		d		d <sub>1</sub>		L		H	Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	in.	NI	SS	CU
H-ZUR4-2	1/4	1/8	4.55	0.18	2.30	0.09	34.8	1.37	5/8	8000 (551)	10000 (689)	6400 (440)
H-ZUR8-4	1/2	1/4	10.14	0.40	4.55	0.18	43.4	1.71	15/16	3500 (241)	4300 (296)	2800 (192)

### Bulkhead Union H-ZBHU



Part No.	ZCR Size	d		L		N		H	H <sub>1</sub>	Panel Hole size		Max. Panel Thickness		Working Pressure psig (bar)		
		mm	in.	mm	in.	mm	in.	in.	in.	mm	in.	mm	inch	NI	SS	CU
H-ZBHU-4	1/4	4.55	0.18	56.6	2.23	33.0	1.30	3/4	3/4	14.5	0.57	11.10	0.44	8000 (551)	10000 (689)	6400 (440)
H-ZBHU-4L46				46.2	1.82	25.1	0.99					3.30	0.13			
H-ZBHU-8	1/2	10.14	0.40	65.3	2.57	37.6	1.48	1 1/16	1 1/16	22.5	0.89	12.70	0.50	3500 (241)	4300 (296)	2800 (192)
H-ZBHU-8L54				54.4	2.14	28.2	1.11					3.30	0.13			

### Hy-Lok Tube Fitting Connector H-ZHC

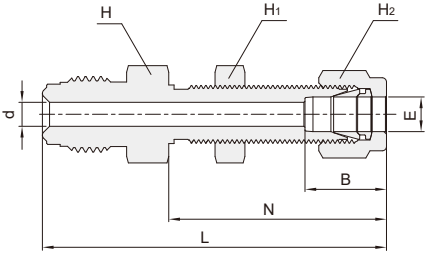


Part No.	ZCR Size	E Tube O.D.	d		L		B		N		H	H <sub>1</sub>	Working Pressure* psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	in.	in.	NI	SS	CU
H-ZHC4-2	1/4	1/8	4.55	0.18	38.6	1.52	12.7	0.50	15.2	0.60	5/8	7/16	8000 (551)	10000 (689)	6400 (440)
H-ZHC4-4		1/4			41.1	1.62	15.2	0.60	17.8	0.70		9/16			
H-ZHC4-6		3/8			43.0	1.70	16.8	0.66	19.3	0.76	11/16	11/16	6500 (447)	3500 (241)	4300 (296)
H-ZHC8-6	1/2	10.14	0.40	46.7	1.84	22.9	0.90	21.8	0.86	15/16	7/8				
H-ZHC8-8				1/2	49.5						1.95	22.9	0.90	21.8	0.86

Note : B,N,L are finger - tight dimensions.

DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

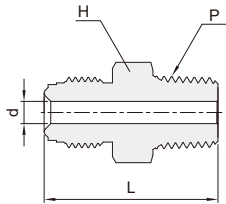
Hy-Lok Tube Fitting Bulkhead Connector  
**H-ZBHC**



Part No.	ZCR Size	E Tube O.D.	d		L		B		N		H	H <sub>1</sub>	H <sub>2</sub>	Panel Hole size		Max. Panel Thickness		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.				mm	in.	mm	in.	mm	in.	NI
H-ZBHC4-4	1/4	1/4	4.55	0.18	57.2	2.25	15.2	0.60	33.5	1.32	5/8	5/8	9/16	11.9	15/32	10.2	0.40	8000 (551)	10000 (689)	6400 (440)
H-ZBHC4-4L48					47.8	1.88			26.7	1.05						3.3	0.13			
H-ZBHC8-6	1/2	3/8	7.10	0.28	64.5	2.54	16.8	0.66	36.8	1.45	15/16	3/4	11/16	15.1	19/32	11.1	0.44	3500 (241)	4300 (296)	2800 (192)
H-ZBHC8-8		1/2	10.14	0.40	69.6	2.74														

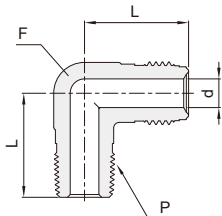
Note : B,N,L are finger - tight dimensions.

Male NPT Connector  
**H-ZMC**



Part No.	ZCR Size	d		L		H	P NPT	Working Pressure psig (bar)		
		mm	in.	mm	in.			NI	SS	CU
H-ZMC 2- 1N	1/8	2.30	0.09	27.2	1.07	3/8	1/16	9000 (620) 7200 (496)		
H-ZMC 2- 2N										
H-ZMC 4- 2N	1/4	4.55	0.18	33.3	1.31	5/8	1/8	8000 (551) 10000 (689) 6400 (440)		
H-ZMC 4- 4N				37.8	1.49					
H-ZMC 8- 6N	1/2	9.65	0.38	41.9	1.65	15/16	3/8	3500 (241) 4300 (296) 2800 (192)		
H-ZMC 8- 8N							1/2			
H-ZMC12-12N	3/4	15.70	0.62	55.6	2.19	1 5/8	3/4	3000 (206)	3700 (254)	2400 (165)

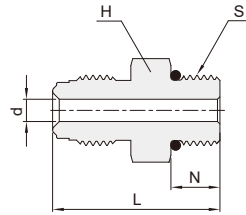
Male NPT Elbow  
**H-ZLMA**



Part No.	ZCR Size	d		L		L <sub>1</sub>		P NPT	F	Working Pressure psig (bar)		
		mm	in.	mm	in.	mm	in.			Flat	NI	SS
H-ZLMA4-2N	1/4	4.55	0.18	27.2	1.07	22.1	0.87	1/8	1/2	8000 (551) 10000 (689) 6400 (440)		
H-ZLMA4-4N						26.7	1.05					
H-ZLMA8-6N	1/2	10.14	0.40	36.8	1.45	32.0	1.26	3/8	13/16	3500 (241) 4300 (296) 2800 (192)		
H-ZLMA8-8N						36.8	1.45					

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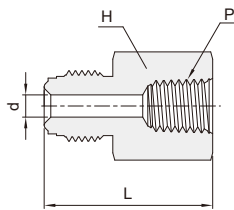
## Straight thread O-Ring Seal Male Connector H-ZSC



Part No.	ZCR Size	d		L		N		H	S Straight Thread	O-Ring Uniform Size	Working Pressure psig (bar)		
		mm	in.	mm	in.	mm	in.				in.	NI	SS
H-ZSC4- 6U	1/4	4.55	0.18	33.8	1.33	9.9	0.39	3/4	9/16-18	-906	4500 (310)		
H-ZSC8- 6U	1/2	10.14	0.40	37.6	1.48			1			15/16	2800 (192)	
H-ZSC8-10U				42.2	1.66	12.7	0.50	1	7/8-14	-910	3500 (241)	2800 (192)	

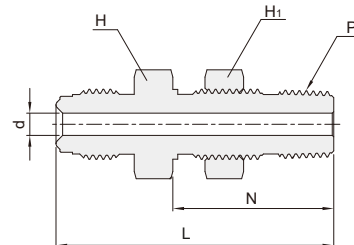
Note : Standard O-Ring is viton other materials are available upon request.

## Female NPT Connector H-ZFC



Part No.	ZCR Size	d		L		H	P NPT	Working Pressure psig (bar)		
		mm	in.	mm	in.			in.	NI	SS
H-ZFC 2- 1N	1/8	2.30	0.09	27.9	1.10	7/16	1/16	6700 (461)		
H-ZFC 2- 2N				30.2	1.19	9/16		6500 (447)		
H-ZFC 4- 2N	1/4	4.55	0.18	35.8	1.41	5/8	1/8	8000 (551)	6400 (440)	
H-ZFC 4- 4N				39.1	1.54	3/4		1/4	6600 (454)	5200 (358)
H-ZFC 8- 6N	1/2	10.14	0.40	44.7	1.76	15/16	3/8	3500 (241)	4300 (296)	2800 (192)
H-ZFC 8- 8N				50.5	1.99	1 1/16				
H-ZFC12-12N	3/4	15.70	0.62	59.9	2.36	1 5/16	3/4	3000 (206)	3700 (254)	2400 (165)

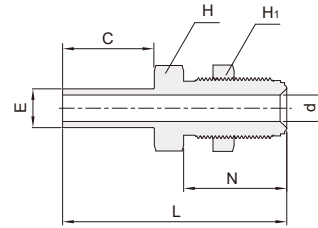
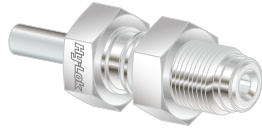
## Bulkhead Male Connector H-ZBMC



Part No.	ZCR Size	d		L		N		H	H1	P NPT	Panel Hole size		Max. Panel Thickness		Working Pressure psig (bar)		
		mm	in.	mm	in.	mm	in.				mm	in.	mm	in.	NI	SS	CU
H-ZBMC4-4N	1/4	4.55	0.18	56.1	2.21	31.5	1.24	13/16	13/16	1/4	16.7	0.66	9.6	0.38	8000 (551)		6400 (440)
H-ZBMC8-4N	1/2	10.14	0.40	59.4	2.34			15/16							3500 (241)	4370 (301)	2800 (192)

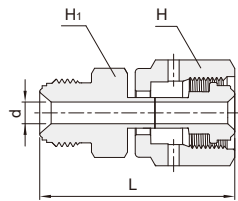
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

Tube Butt Weld Bulkhead Connector  
**H-ZBT**



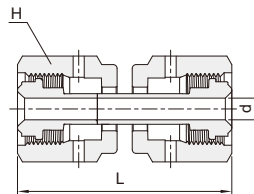
Part No.	ZCR Size	E Tube O.D.	d		L		N		C		H	H <sub>1</sub>	Panel Hole size		Max. Panel Thickness		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	in.	in.	mm	in.	mm	in.	NI	SS	CU
H-ZBT4-4	1/4	1/4	4.55	0.18	59.9	2.36	33.0	1.30	19.1	0.75	3/4	3/4	14.5	0.57	11.1	0.44	5100 (351)		
H-ZBT4-4L50					49.5	1.95	25.1	0.99					3.30	0.13					

Swivel Male/Female Union  
**H-ZSMU**



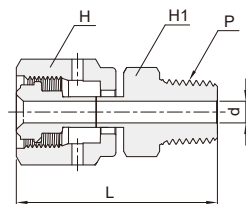
Part No.	ZCR Size	d		L		H	H <sub>1</sub>	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	in.	NI	SS	CU
H-ZSMU-4	1/4	4.55	0.18	42.9	1.69	3/4	5/8	8000 (551)	10000 (689)	6400 (440)

Swivel Female Union  
**H-ZSUA**



Part No.	ZCR Size	d		L		H	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZSUA-4	1/4	4.55	0.18	43.4	1.71	3/4	8000 (551)	10000 (689)	6400 (440)
H-ZSUA-8	1/2	10.14	0.40	46.7	1.84	1 1/16	3500 (241)	4300 (296)	2800 (192)

Swivel Male NPT Connector  
**H-ZSMC**

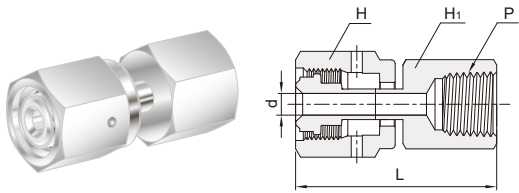


Part No.	ZCR Size	d		L		H	H <sub>1</sub>	P NPT	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	in.	NPT	NI	SS	CU
H-ZSMC4-2N	1/4	4.55	0.18	40.1	1.58	3/4	7/16	1/8	8000 (551)		6400 (440)
H-ZSMC4-4N				9/16	1/4						
H-ZSMC8-6N	1/2	10.14	0.40	48.0	1.89	1 1/16	11/16	3/8	3500 (241)	4300 (296)	2800 (192)
H-ZSMC8-8N				7/8	1/2						

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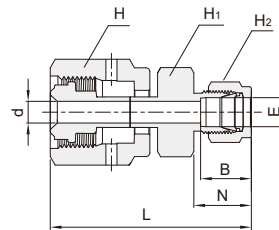
## Clean Fittings

### Swivel Female NPT Connector H-ZSFC



Part No.	ZCR Size	d		L		H	H <sub>1</sub>	P NPT	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	in.		NI	SS	CU
H-ZSFC4-4N	1/4	4.55	0.18	45.0	1.77	3/4	3/4	1/4	6600 (454)		5200 (358)
H-ZSFC8-6N	3/8	10.14	0.40	49.5	1.95	1 1/16	7/8	3/8	3500 (241)	4300 (296)	2800 (192)
H-ZSFC8-8N	1/2			55.4	2.18		1 1/16	1/2			

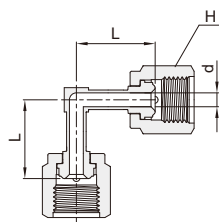
### Swivel Hy-Lok Tube Fitting Connector H-ZSMH



Part No.	Tube O.D.	E Tube O.D.	d		L		B		N		H	H <sub>1</sub>	H <sub>2</sub>	Working Pressure* psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	in.	in.	in.	NI	SS	CU
H-ZSMH4-4	1/4	1/4	4.55	0.18	49.3	1.94	15.2	0.60	17.8	0.70	3/4	1/2	9/16	8000 (551)	10000 (689)	6400 (440)
H-ZSMH4-6		3/8			50.0	1.97	16.8	0.66	19.3	0.76		5/8	11/16	6500 (447)		5200 (358)
H-ZSMH8-8	1/2	1/2	10.14	0.40	56.6	2.23	22.9	0.90	21.8	0.86	1 1/16	13/16	7/8	3500 (241)	4300 (296)	2800 (192)

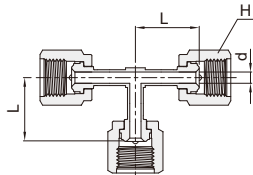
Note : B,N,L are finger - tight dimensions.

### Swivel Elbow H-ZSLA



Part No.	ZCR Size	d		L		H	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZSLA-4	1/4	4.55	0.18	25.4	1.00	3/4	5100 (351)		

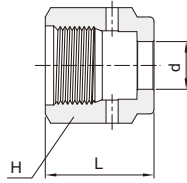
### Swivel Tee H-ZSTA



Part No.	ZCR Size	d		L		H	Working Pressure psig (bar)		
		mm	in.	mm	in.	in.	NI	SS	CU
H-ZSTA-4	1/4	4.55	0.18	25.4	1.00	3/4	5100 (351)		

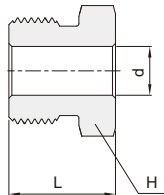
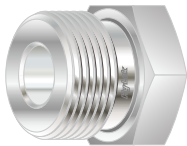
DIMENSIONS ARE REFERENCE ONLY, SUBJECT TO CHANGE

Female Nut  
**H-ZFN**



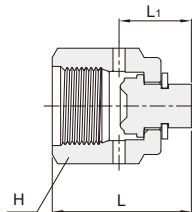
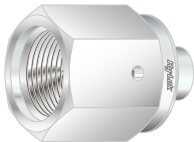
Part No.	ZCR Size	d		L		H
		mm	in.	mm	in.	in.
H-ZFN- 2	1/8	5.30	0.21	13.5	0.53	7/16
H-ZFN- 4	1/4	9.15	0.36	20.6	0.81	3/4
H-ZFN- 8	1/2	15.50	0.61	22.4	0.88	1 1/16
H-ZFN-12	3/4	22.60	0.89	28.4	1.12	1 1/2
H-ZFN-16	1	30.50	1.20	34.0	1.34	1 3/4

Male Nut  
**H-ZMN**



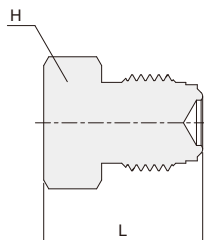
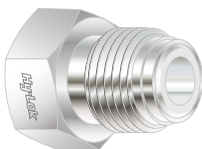
Part No.	ZCR Size	d		L		H
		mm	in.	mm	in.	in.
H-ZMN- 2	1/8	5.30	0.21	12.7	0.50	3/8
H-ZMN- 4	1/4	9.15	0.36	18.0	0.71	5/8
H-ZMN- 8	1/2	15.50	0.61	20.6	0.81	15/16
H-ZMN-12	3/4	22.60	0.89	25.4	1.00	1 5/16
H-ZMN-16	1	30.50	1.20	30.2	1.19	1 5/8

Cap  
**H-ZCP**



Part No.	ZCR Size	L		L <sub>1</sub>		H
		mm	in.	mm	in.	in.
H-ZCP- 2	1/8	16.0	0.63	7.6	0.30	7/16
H-ZCP- 4	1/4	23.9	0.94	11.3	0.44	3/4
H-ZCP- 8	1/2	25.6	1.01	11.4	0.45	1 1/16
H-ZCP-12	3/4	32.8	1.29	13.7	0.54	1 1/2
H-ZCP-16	1	39.1	1.54	16.0	0.63	1 3/4

Plug  
**H-ZP**

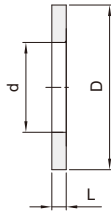
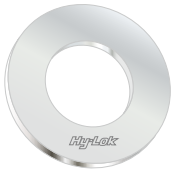


Part No.	ZCR Size	L		H
		mm	in.	in.
H-ZP- 2	1/8	17.3	0.68	3/8
H-ZP- 4	1/4	23.4	0.92	5/8
H-ZP- 8	1/2	27.4	1.08	15/16
H-ZP-12	3/4	36.3	1.43	1 5/16
H-ZP-16	1	38.6	1.52	1 5/8

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## Clean Fittings

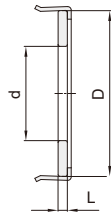
### Gasket H-ZGSK



Part No.	ZCR Size	d		D		L	
		mm	in.	mm	in.	mm	in.
H-ZGSK- 2	1/8	2.3	0.09	6.6	0.26	0.8	0.02
H-ZGSK- 4	1/4	5.6	0.22	12.5	0.49		
H-ZGSK- 8	1/2	11.2	0.44	19.8	0.78		
H-ZGSK-12	3/4	16.8	0.66	29.0	1.14		
H-ZGSK-16	1	22.6	0.89	35.6	1.40		

**Note :** Cannot be used in a gasket retainer assembly.

### Gasket Retainer Assembly H-ZGRT



Part No.	ZCR Size	d		D		L	
		mm	in.	mm	in.	mm	in.
H-ZGRT- 4	1/4	5.6	0.22	11.9	0.47	0.8	0.03
H-ZGRT- 8	1/2	11.2	0.44	19.5	0.77		
H-ZGRT-12	3/4	16.8	0.66	27.4	1.08		
H-ZGRT-16	1	22.6	0.89	34.0	1.34		

## Ordering Information for Gasket & Gasket Retainer Assembly

**H**  
Hy-Lok Clean

**ZGSK**  
**Product Pattern Designator**  
• ZGSK - Gasket  
• ZGRT - Gasket Retainer Assembly

**8**  
**SP**  
Gasket Plating Option\*  
• Nil - unplated (standard)  
• SP - with silver plated

**BL**  
**BL**  
Blind Gasket Option\*  
• Nil - Standard  
• BL - Blind gasket

**316L**  
**316L**  
Gasket Material Designator  
• 316L - 316L stainless steel  
• NI - Nickel

#### Note

- The Gasket Material is 316L Stainless Steel, Nickel, but the Retainer Material only uses 316L Stainless Steel.
- \* No designator is required for standard gasket e.g. H-ZGSK-8 - 316L
- For application of Blind Gaskets exceed not a differential pressure rating of 100 psi(6.8 bar)

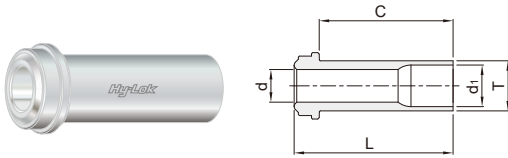
#### Size Designator

Designator	ZCR Size
2	1/8
4	1/4
8	1/2
12	3/4
16	1

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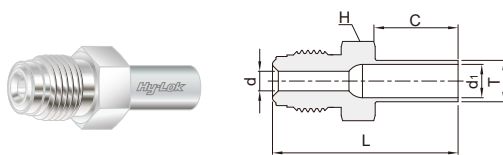


### High Flow Tube Butt Weld Gland H-ZHG



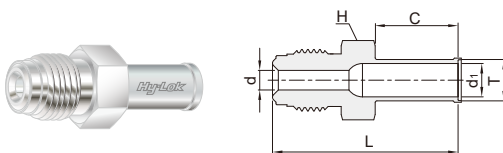
Part No.	ZCR Size	T Tube O.D.	d		d <sub>1</sub>		L		C		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	NI	SS	CU
H-ZHG-6L15.2							15.2	0.60	10.4	0.41	3300 (227)		
H-ZHG-6L30.2	1/4	3/8	6.35	0.25	7.9	0.31	30.2	1.19	25.4	1.00			
H-ZHG-6L33.3							33.3	1.31	28.5	1.12			

### High Flow Tube Butt Weld Reducer H-ZR



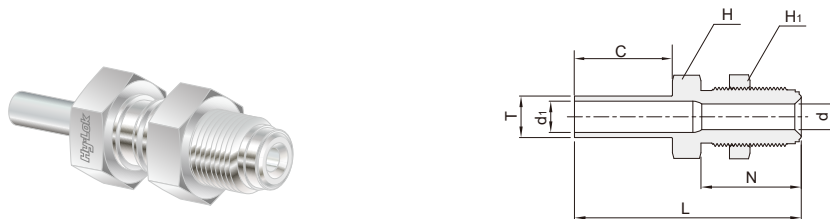
Part No.	ZCR Size	T Tube O.D.	d		d <sub>1</sub>		L		C		H	Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	in.	NI	SS	CU
H-ZR4-6	1/4	3/8	6.35	0.25	7.9	0.31	42.7	1.68	19.1	0.75	5/8	3300 (227)		

### High Flow Tube Weld Reducer with Shoulder H-ZR-A



Part No.	ZCR Size	T Tube O.D.	d		d <sub>1</sub>		L		C		H	Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	in.	NI	SS	CU
H-ZR4-6A	1/4	3/8	6.35	0.25	7.9	0.31	43.4	1.71	19.1	0.75	5/8	3300 (227)		

### High Flow Tube Butt Weld Bulkhead Connector H-ZHBT

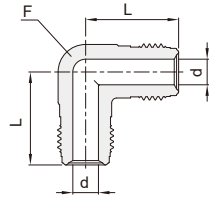


Part No.	ZCR Size	E Tube O.D.	d		d <sub>1</sub>		L		N		C		H	H <sub>1</sub>	Panel Hole size		Max. Panel Thickness		Working Pressure psig (bar)		
			mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	NI
H-ZHBT4-6	1/4	3/8	6.35	0.25	7.9	0.31	59.9	2.36	33.0	1.30	19.1	075	3/4	3/4	14.5	0.57	11.1	0.44	3300 (227)		

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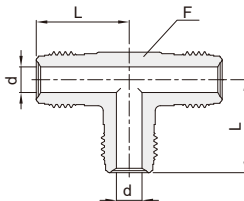
## Clean Fittings

### High Flow Union Elbow H-ZHLA



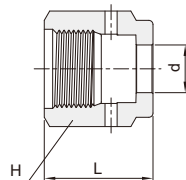
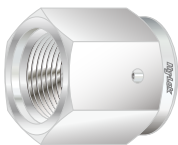
Part No.	ZCR Size	d		L		F Body Flat in.	Working Pressure psig (bar)		
		mm	in.	mm	in.		NI	SS	CU
H-ZHLA-4	1/4	6.35	0.25	27.2	1.07	1/2	8000 (551)	10000 (689)	6400 (440)

### High Flow Union Tee H-ZHTA



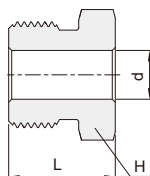
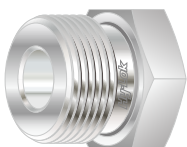
Part No.	ZCR Size	d		L		F Body Flat in.	Working Pressure psig (bar)		
		mm	in.	mm	in.		NI	SS	CU
H-ZHTA-4	1/4	6.35	0.25	27.2	1.07	1/2	8000 (551)	10000 (689)	6400 (440)

### High Flow Female Nut H-ZHFN



Part No.	ZCR Size	d		L		H
		mm	in.	mm	in.	in.
H-ZHFN-4	1 / 4	9.9	0.39	20.6	0.81	3/4

### High Flow Male Nut H-ZHMN



Part No.	ZCR Size	d		L		H
		mm	in.	mm	in.	in.
H-ZHMN-4	1 / 4	9.9	0.39	18.0	0.71	5/8

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## Ordering Information



1. Clean Fitting : Designator "H"
2. Name of Fitting : See Title Name of product.
3. Tube O.D. : See Tube O.D. or ZCR Size Designator.
4. Reduced Ends : See Tube O.D. or ZCR Size Designator in case of Reducing or other connection.
5. Type of Weld : See Weld Designator
6. Surface Grade : See Surface Finish Designator.
7. Material : See Material Designator.

Tube O.D. Designator					
Size (Inch)	1/4	3/8	1/2	3/4	1
Identifier	4	6	8	12	16
Size (Metric)	6mm	8mm	10mm	12mm	18mm
Identifier	6M	8M	10M	12M	18M

Weld Designator	
Type of Weld	Identifier
Butt Weld (Without Shoulder)	Standard
Automatic Weld (With Shoulder)	A
Socket Weld	S
Male Weld	M

ZCR Size Designator					
Size (Inch)	1/8	1/4	1/2	3/4	1
Identifier	2	4	8	12	16

Surface Finish Designator		
Grade	B.A Grade	High Grade
Identifier	B	H

Note : Surface Finishes Information see page 4.

Material Designator	
Identifier	Material
SM6L	Single Melt 316L Stainless Steel
VV6L	Double Melt 316L Stainless Steel

### **SAFETY in FITTING SELECTION**

For proper, safe, trouble-free installation, operation and maintenance of fluid systems, material compatibility, pressure/temperature ratings, and application details must be considered in the selection of fittings. Improper selection or use of products described in this catalog can cause personal injury or property losses. It is the responsibility of system designer and user to select and use the products for their specific applications.

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