

## 4SP/6SP Series

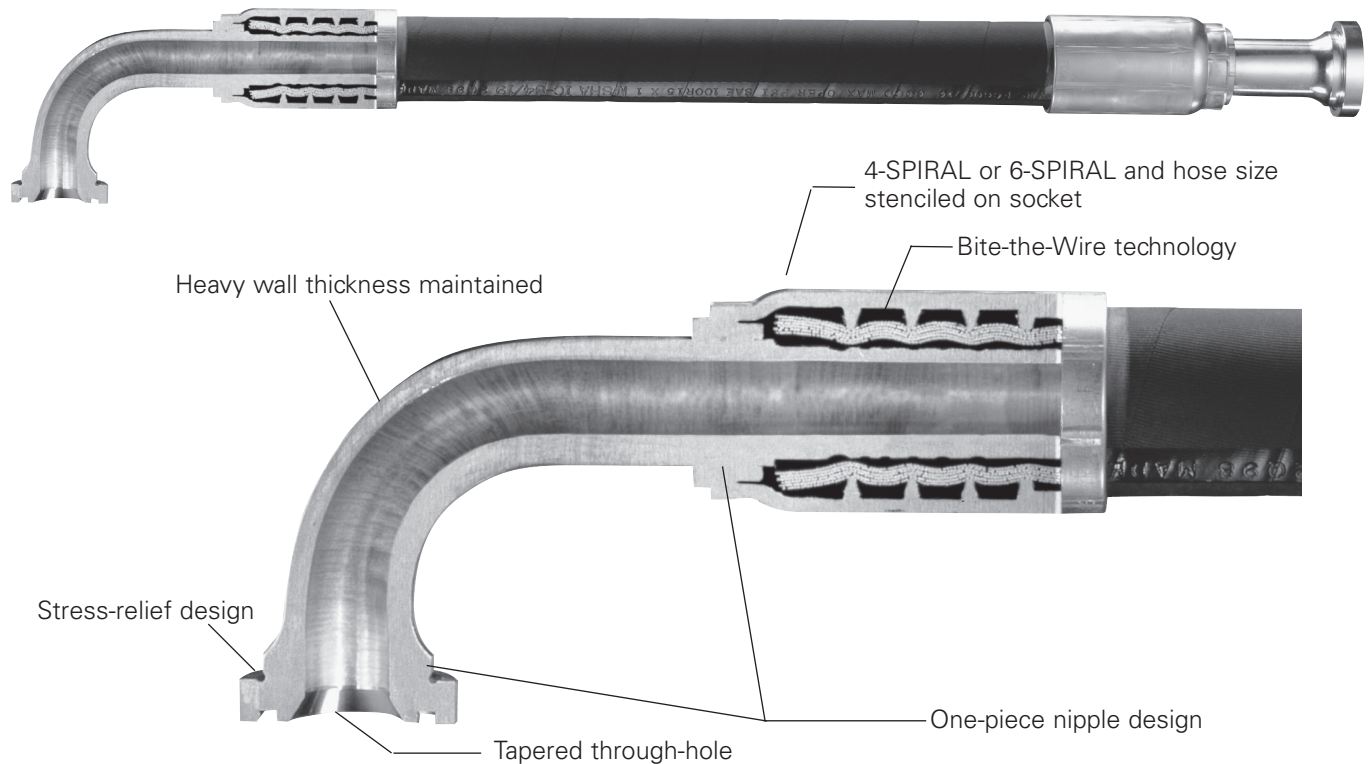
For use with H464, H470 and H485 Hose

Marketing Catalog



**One Piece Bite-the-Wire  
Spiral Hose Ends**

# 4SP/6SP Series Hose Ends



FEATURES	BENEFITS
Bite the Wire technology	Skiving not required, saves time in assembly
One-piece nipple design	Stronger design, no braze joints
One-piece hose end	Easier to assemble
Stress-relief design	Maximizes durability
Heavy wall thickness	Heavy-duty construction for heavy-duty applications
Modern micro-alloy steel	Maximizes fatigue life
Tapered through-hole	Improves flow characteristics
Global design	Global availability
Stenciled socket	Hose insertion depth
Operating pressure to 6000 psi	Perfect for hydrostatic drives and other demanding applications
Available in -12, -16, -20, -24 & -32	Multiple configurations and jump sizes to fit a wide array of applications

## **!** WARNING

Failure to follow Eaton process and product instructions and limitations could lead to premature hose assembly failures, resulting in property damage, serious injury or death.

Eaton Hose End tolerances are engineered to match Weatherhead hose tolerances. The use of Eaton Hose Ends on hose supplied by other manufacturers and/or the use of Weatherhead hose with Hose Ends supplied by other manufacturers, may result in the production of unreliable and unsafe hose assemblies and is neither recommended nor authorized by Eaton.

Read and understand the operator's manual before attempting to operate any equipment.

Eaton hereby disclaims any obligation or liability (including

incidental and consequential damages) arising from breach of contract, warranty, or tort (under negligence or strict liability theories) should Weatherhead hose, Eaton Hose Ends or assembly equipment be used with the hose supplied by another manufacturer, or in the event that product instructions for each specified hose assembly are not followed.

## **!** WARNING

Eaton manufactures the terminal ends of our Hose Ends to the appropriate requirement established by SAE and other industry standards. It is possible to order a hose end with a terminal end that has a performance rating lower than the hose rating. Failure to consider the terminal end performance could lead to premature hose assembly failures, resulting in property damage, serious injury or death.

# Hose

## H464 Very High Pressure Hydraulic Hose

EN856 Type 4SH

MSHA Accepted



### Typical Application:

Perfect for hydraulic system service with petroleum and water-based fluids requiring premium pressure performance and durability. This hose is well suited for injection mold and drill rig applications.

**Inner Tube:** Nitrile

**Reinforcement:**  
4 Spiral Steel Plies

**Cover:** Nitrile

**Cover Color:** Black

**Temp. Range:** -40°F to +212°F (-40°C to +100°C)

CATALOG NUMBER	HOSE I.D.	HOSE O.D.	MAX OPER. PRESS. (PSI)	MIN. BURST PRESS. (PSI)	MIN. BEND RADIUS	WT. PER 100 FT.	AVAIL. LENGTHS
H46412	3/4	1.27	6,090	24,360	11.00	100	50'
H46412-100							100'
H46416	1	1.51	5,510	22,040	13.38	138	50'
H46416-100							100'
H46420	1-1/4	1.79	5,075	20,300	18.11	171	50'
H46420-100							100'
H46424	1-1/2	2.11	4,350	17,400	22.05	220	50'
H46424-100							100'
H46432	2	2.68	3,625	14,500	27.56	308	50'
H46432-100							100'

## H470 Very High Pressure Hydraulic Hose

SAE 100R13

MSHA Accepted

Marine Application J1942/1 (-12 thru -20)



### Typical Application:

For very high pressure hydraulic lines subjected to pressure surges and flexing. Typical applications include construction, mining, farming and high performance industrial equipment.

**Inner Tube:** Nitrile

**Cover:** Vinyl Nitrile

### Reinforcement:

Multi-Spiral Steel (8,12,16, 4 plies) (20,24,32, 6 plies)

**Cover Color:** Black Only

### Temp. Range:

Size -08: -40° F to +212° F (-40° C to +100° C)

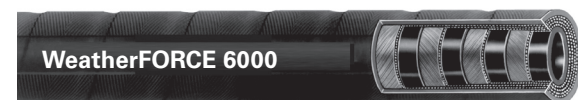
Size -12 thru -32: -40° F to +250° F (-40° C to +121° C)

CATALOG NUMBER	HOSE I.D.	HOSE O.D.	WORKING PRESS. (PSI)	MIN. BURST PRESS. (PSI)	MIN. BEND RADIUS	WT. PER 100 FT.	AVAIL. LENGTHS
H47008*	1/2	31/32	5,000	20,000	7	65	50'
H47012	3/4	1-1/4	5,000	20,000	9-1/2	109	50'
H47016	1	1-17/32	5,000	20,000	12	142	50'
H47020	1-1/4	1-31/32	5,000	20,000	16-1/2	252	50'
H47024	1-1/2	2-1/4	5,000	20,000	20	325	50'
H47032	2	2-13/16	5,000	20,000	25	505	50'

\* Size -8 does not meet SAE 100R13. Also, size -8 in only available with skive hose ends.

## H485 Very High Pressure Hydraulic Hose

SAE 100R15



### Typical Application:

High-pressure hydraulics, hydrostatic transmissions.

**Inner Tube:** Nitrile

**Cover:** Nitrile

### Reinforcement:

4-Spiral Steel Plies (16)  
6-Spiral Steel Plies (20, 24)

**Cover Color:** Black

**Temp. Range:** -40°F to +212°F (-40°C to +100°C)

CATALOG NUMBER	HOSE I.D.	HOSE O.D.	MAX OPER. PRESS. (PSI)	MIN. BURST PRESS. (PSI)	MIN. BEND RADIUS	WT. PER 100 FT.	AVAIL. LENGTHS
H48516	3/4	1.65	6,000	24,000	12.00	138	50'
H48516-100							100'
H48516-150							150'
H48520	1-1/4	1.95	6,000	24,000	16.50	243	50'
H48520-100							100'
H48520-150							150'
H48524	1-1/2	2.30	6,000	24,000	20.00	317	50'
H48524-100							100'
H48524-150							150'

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

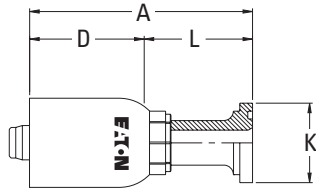
\*H470 with black cover only

Assembled with:

ET4000

### Straight Split Flange

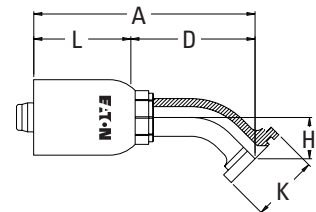
Code 61



FITTING PART NUMBER	FLANGE HEAD DIA. K		HOSE SIZE	A		D		INSERTION LENGTH L		H	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm
<b>Straight split flange - Code 61 (SAE J518)</b>											
4SP12W-G12	1.50	38.1	-12	3.92	99.5	2.15	54.5	1.77	45.0		
4SP12W-G16	1.75	44.4	-12	3.78	96.1	2.01	51.1	1.77	45.0		
4SP16W-G16	1.75	44.4	-16	4.78	121.3	2.22	56.3	2.56	65.0		
4SP16W-G20	2.00	50.8	-16	4.94	125.5	2.38	60.5	2.56	65.0		
4SP20W-G20	2.00	50.8	-20	5.57	141.5	2.62	66.5	2.95	75.0		
4SP20W-G24	2.38	60.3	-20	6.45	163.8	3.50	88.8	2.95	75.0		
4SP24W-G24	2.38	60.3	-24	6.61	167.8	3.54	89.8	3.07	78.0		
4SP24W-G32	2.81	71.4	-24	6.73	170.9	3.66	92.9	3.07	78.0		
4SP32W-G32	2.81	71.4	-32	6.81	173.0	3.74	95.0	3.07	78.0		
6SP20W-G20	2.00	50.8	-20	5.57	141.5	2.62	66.5	2.95	75.0		
6SP24W-G24	2.38	60.3	-24	6.61	167.8	3.54	89.8	3.07	78.0		
6SP32W-G32	2.81	71.4	-32	6.81	173.0	3.74	95.0	3.07	78.0		

### 45° Elbow Split Flange

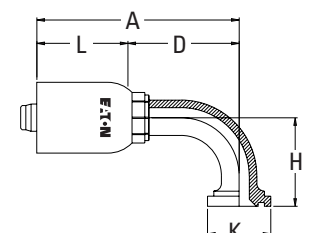
Code 61



<b>45° split flange - Code 61 (SAE J518)</b>											
4SP12W-G42	1.50	38.1	-12	4.93	125.3	3.16	80.3	1.77	45.0	1.06	27.0
4SP12W-G46	1.75	44.4	-12	5.37	136.5	3.60	91.5	1.77	45.0	1.26	32.0
4SP16W-G46	1.75	44.4	-16	6.37	161.7	3.81	96.7	2.56	65.0	1.26	32.0
4SP16W-G50	2.00	50.8	-16	6.99	177.4	4.43	112.4	2.56	65.0	1.54	39.0
4SP20W-G50	2.00	50.8	-20	7.61	193.4	4.66	118.4	2.95	75.0	1.54	39.0
4SP20W-G54	2.38	60.3	-20	8.12	206.3	5.17	131.3	2.95	75.0	1.77	45.0
4SP24W-G54	2.38	60.3	-24	8.28	210.3	5.21	132.3	3.07	78.0	1.77	45.0
4SP24W-G62	2.81	71.4	-24	9.73	247.2	6.66	169.2	3.07	78.0	2.26	57.5
4SP32W-G62	2.81	71.4	-32	9.81	249.3	6.74	171.3	3.07	78.0	2.26	57.5
6SP20W-G50	2.00	50.8	-20	7.61	193.4	4.66	118.4	2.95	75.0	1.54	39.0
6SP24W-G54	2.38	60.3	-24	8.28	210.3	5.21	132.3	3.07	78.0	1.77	45.0
6SP32W-G62	2.81	71.4	-32	9.81	249.3	6.74	171.3	3.07	78.0	2.26	57.5

### 90° Elbow Split Flange

Code 61



<b>90° split flange - Code 61 (SAE J518)</b>											
4SP12W-G72	1.50	38.1	-12	4.72	120.0	2.95	75.0	1.77	45.0	2.32	59.0
4SP12W-G76	1.75	44.4	-12	5.17	131.4	3.40	86.4	1.77	45.0	2.80	71.0
4SP16W-G76	1.75	44.4	-16	6.17	156.6	3.61	91.6	2.56	65.0	2.80	71.0
4SP16W-G80	2.00	50.8	-16	6.79	172.4	4.23	107.4	2.56	65.0	3.50	89.0
4SP20W-G80	2.00	50.8	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0
4SP20W-G84	2.38	60.3	-20	7.92	201.1	4.96	126.1	2.95	75.0	4.09	104.0
4SP24W-G84	2.38	60.3	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
4SP24W-G92	2.81	71.4	-24	9.59	243.6	6.52	165.6	3.07	78.0	5.43	138.0
4SP32W-G92	2.81	71.4	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.43	138.0
6SP20W-G80	2.00	50.8	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0
6SP24W-G84	2.38	60.3	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
6SP32W-G92	2.81	71.4	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.43	138.0

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

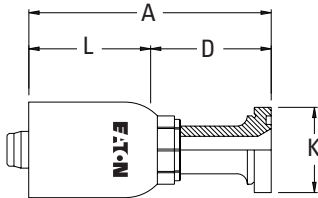
\*H470 with black cover only

Assembled with:

ET4000

### Straight Split Flange

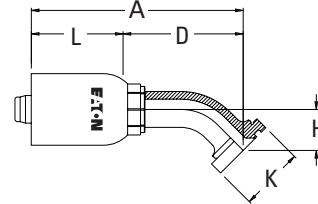
Code 62



FITTING PART NUMBER	FLANGE HEAD DIA. K		HOSE SIZE	A		D		INSERTION LENGTH L		H	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm
<b>Straight split flange - Code 62 (SAE J518)</b>											
4SP12W-D12	1.62	41.3	-12	4.16	105.8	2.39	60.8	1.77	45.0		
4SP12W-D16	1.88	47.6	-12	4.33	110.0	2.56	65.0	1.77	45.0		
4SP16W-D16	1.88	47.6	-16	5.32	135.2	2.76	70.2	2.56	65.0		
4SP16W-D20	2.12	54.0	-16	5.22	132.6	2.66	67.6	2.56	65.0		
4SP20W-D20	2.12	54.0	-20	5.85	148.6	2.90	73.6	2.95	75.0		
4SP20W-D24	2.50	63.5	-20	7.31	185.6	4.35	110.6	2.95	75.0		
4SP24W-D24	2.50	63.5	-24	7.46	189.6	4.39	111.6	3.07	78.0		
4SP24W-D32	3.13	79.4	-24	7.90	200.6	4.83	122.6	3.07	78.0		
4SP32W-D32	3.13	79.4	-32	7.98	202.7	4.91	124.7	3.07	78.0		
6SP20W-D20	2.12	54.0	-20	5.85	148.6	2.90	73.6	2.95	75.0		
6SP20W-D24	2.50	63.5	-20	7.31	185.6	4.35	110.6	2.95	75.0		
6SP24W-D24	2.50	63.5	-24	7.46	189.6	4.39	111.6	3.07	78.0		
6SP24W-D32	3.13	79.4	-24	7.90	200.6	4.83	122.6	3.07	78.0		
6SP32W-D32	3.13	79.4	-32	7.98	202.7	4.91	124.7	3.07	78.0		

### 45° Elbow Split Flange

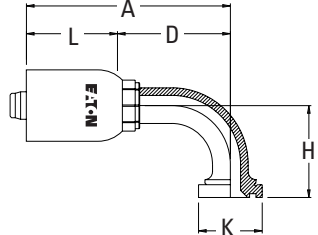
Code 62



<b>45° split flange - Code 62 (SAE J518)</b>											
4SP12W-D42	1.62	41.3	-12	4.93	125.3	3.16	80.3	1.77	45.0	1.06	27.0
4SP12W-D46	1.88	47.6	-12	5.37	136.5	3.60	91.5	1.77	45.0	1.26	32.0
4SP16W-D46	1.88	47.6	-16	6.37	161.7	3.81	96.7	2.56	65.0	1.26	32.0
4SP16W-D50	2.12	54.0	-16	6.99	177.4	4.43	112.4	2.56	65.0	1.54	39.0
4SP20W-D50	2.12	54.0	-20	7.61	193.4	4.66	118.4	2.95	75.0	1.54	39.0
4SP20W-D54	2.50	63.5	-20	8.12	206.3	5.17	131.3	2.95	75.0	1.77	45.0
4SP24W-D54	2.50	63.5	-24	8.28	210.3	5.21	132.3	3.07	78.0	1.77	45.0
4SP24W-D62	3.13	79.4	-24	9.73	247.2	6.66	169.2	3.07	78.0	2.26	57.5
4SP32W-D62	3.13	79.4	-32	9.81	249.3	6.74	171.3	3.07	78.0	2.26	57.5
6SP20W-D50	2.12	54.0	-20	7.61	193.4	4.66	118.4	2.95	75.0	1.54	39.0
6SP20W-D54	2.50	63.5	-20	8.12	206.3	5.17	131.3	2.95	75.0	1.77	45.0
6SP24W-D54	2.50	63.5	-24	8.28	210.3	5.21	132.3	3.07	78.0	1.77	45.0
6SP24W-D62	3.13	79.4	-24	9.73	247.2	6.66	169.2	3.07	78.0	2.26	57.5
6SP32W-D62	3.13	79.4	-32	9.81	249.3	6.74	171.3	3.07	78.0	2.26	57.5

### 90° Elbow Split Flange

Code 62



<b>90° split flange - Code 62 (SAE J518)</b>											
4SP12W-D72	1.62	41.3	-12	4.72	120.0	2.95	75.0	1.77	45.0	2.32	59.0
4SP12W-D76	1.88	47.6	-12	5.17	131.4	3.40	86.4	1.77	45.0	2.80	71.0
4SP16W-D76	1.88	47.6	-16	6.17	156.6	3.61	91.6	2.56	65.0	2.80	71.0
4SP16W-D80	2.12	54.0	-16	6.79	172.4	4.23	107.4	2.56	65.0	3.50	89.0
4SP20W-D80	2.12	54.0	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0
4SP20W-D84	2.50	63.5	-20	7.92	201.1	4.96	126.1	2.95	75.0	4.09	104.0
4SP24W-D84	2.50	63.5	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
4SP24W-D92	3.13	79.4	-24	9.59	243.6	6.52	165.6	3.07	78.0	5.43	138.0
4SP32W-D92	3.13	79.4	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.43	138.0
6SP20W-D80	2.12	54.0	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0
6SP20W-D84	2.50	63.5	-20	7.92	201.1	4.96	126.1	2.95	75.0	4.09	104.0
6SP24W-D84	2.50	63.5	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
6SP24W-D92	3.13	79.4	-24	9.59	243.6	6.52	165.6	3.07	78.0	5.43	138.0
6SP32W-D92	3.13	79.4	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.43	138.0

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

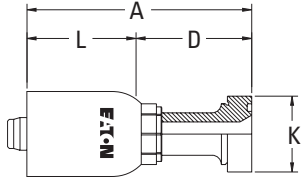
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

ET4000

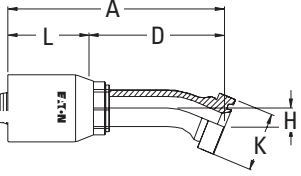
### Thick-Flange Straight



FITTING PART NUMBER	FLANGE HEAD DIA. K		HOSE SIZE	A		D		INSERTION LENGTH L		H	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm
<b>Thick-flange - Straight split flange</b>											
4SP12W-K12	1.62	41.3	-12	4.38	111.3	2.61	66.3	1.77	45.0		
4SP12W-K16	1.88	47.6	-12	4.51	114.7	2.74	69.7	1.77	45.0		
4SP16W-K16	1.88	47.6	-16	5.51	139.9	2.95	74.9	2.56	65.0		
4SP16W-K20	2.12	54.0	-16	5.37	136.5	2.81	71.5	2.56	65.0		
4SP20W-K20	2.12	54.0	-20	6.00	152.5	3.05	77.5	2.95	75.0		
6SP20W-K20	2.12	54.0	-20	6.00	152.5	3.05	77.5	2.95	75.0		
6SP20W-K24	2.50	63.5	-20	7.37	187.3	4.42	112.3	2.95	75.0		
6SP24W-K24	2.50	63.5	-24	7.53	191.3	4.46	113.3	3.07	78.0		
6SP24W-K32	3.13	79.4	-24	7.96	202.3	4.89	124.3	3.07	78.0		
6SP32W-K32	3.13	79.4	-32	8.05	204.4	4.98	126.4	3.07	78.0		

Compatible only with D-Ring FF90319. See page 7.

### Thick-Flange - 22.5° Elbow

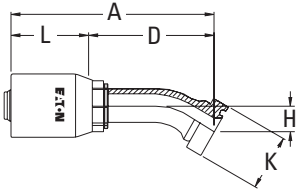


#### Thick-flange - 22.5°

4SP12W-K02	1.62	41.3	-12	5.43	137.9	3.66	92.9	1.77	45.0	0.54	13.7
4SP16W-K03	1.88	47.6	-16	6.88	174.8	4.32	109.8	2.56	65.0	0.60	15.3
4SP16W-K04	2.12	54.0	-16	7.56	191.9	5.00	126.9	2.56	65.0	0.70	17.8
6SP20W-BD20	2.12	54.0	-20	8.19	207.9	5.23	132.9	2.95	75.0	0.70	17.8
6SP20W-BD24	2.50	63.5	-20	8.67	220.1	5.71	145.1	2.95	75.0	0.76	19.4
6SP24W-BD24	2.50	63.5	-24	8.82	224.1	5.75	146.1	3.07	78.0	0.76	19.4

Compatible only with D-Ring FF90319. See page 7.

### Thick-Flange - 30° Elbow

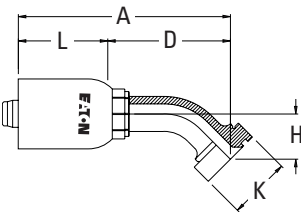


#### Thick-flange - 30°

4SP12W-K22	1.62	41.3	-12	5.34	135.7	3.57	90.7	1.77	45.0	0.75	19.1
4SP16W-K23	1.88	47.6	-16	6.79	172.4	4.23	107.4	2.56	65.0	0.85	21.6
4SP16W-K25	2.12	54.0	-16	7.45	189.1	4.89	124.1	2.56	65.0	1.00	25.3
6SP20W-BD50	2.12	54.0	-20	8.08	205.1	5.12	130.1	2.95	75.0	1.00	25.3
6SP20W-BD54	2.50	63.5	-20	8.55	217.1	5.59	142.1	2.95	75.0	1.09	27.7
6SP24W-BD54	2.50	63.5	-24	8.70	221.1	5.63	143.1	3.07	78.0	1.09	27.7
6SP24W-BD62	3.13	79.4	-24	10.26	260.5	7.19	182.5	3.07	78.0	1.37	34.8
6SP32W-BD62	3.13	79.4	-32	10.34	262.6	7.27	184.6	3.07	78.0	1.37	34.8

Compatible only with D-Ring FF90319. See page 7.

### Thick-Flange - 45° Elbow



#### Thick-flange - 45° split flange

4SP12W-K42	1.62	41.3	-12	5.08	129.2	3.31	84.2	1.77	45.0	1.22	30.9
4SP12W-K46	1.88	47.6	-12	5.50	139.8	3.73	94.8	1.77	45.0	1.39	35.3
4SP16W-K46	1.88	47.6	-16	6.50	165.0	3.94	100.0	2.56	65.0	1.39	35.3
4SP16W-K50	2.12	54.0	-16	7.10	180.2	4.54	115.2	2.56	65.0	1.65	41.8
4SP20W-K50	2.12	54.0	-20	7.72	196.2	4.77	121.2	2.95	75.0	1.65	41.8
6SP20W-K50	2.12	54.0	-20	7.72	196.2	4.77	121.2	2.95	75.0	1.65	41.8
6SP20W-K54	2.50	63.5	-20	8.17	207.5	5.22	132.5	2.95	75.0	1.82	46.2
6SP24W-K54	2.50	63.5	-24	8.33	211.5	5.26	133.5	3.07	78.0	1.82	46.2
6SP24W-K62	3.13	79.4	-24	9.78	248.4	6.71	170.4	3.07	78.0	2.31	58.7
6SP32W-K62	3.13	79.4	-32	9.86	250.5	6.79	172.5	3.07	78.0	2.31	58.7

Compatible only with D-Ring FF90319. See page 7.

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

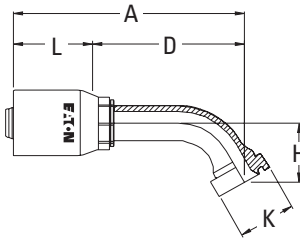
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

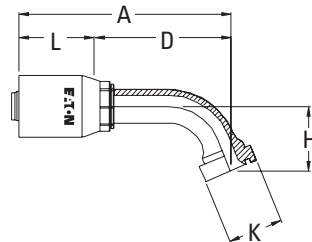
Assembled with:

ET4000

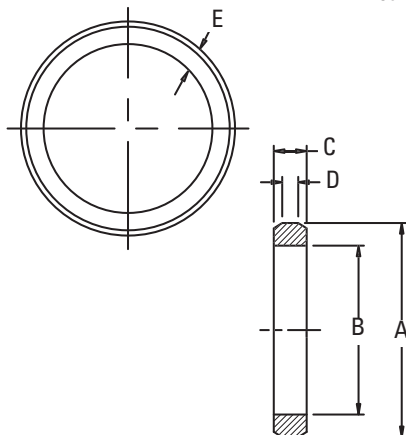
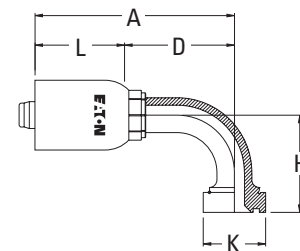
### Thick-Flange - 60° Elbow



### Thick-Flange - 67.5° Elbow



### Thick-Flange - 90° Elbow



FITTING PART NUMBER	FLANGE HEAD DIA. K		HOSE SIZE	A		D		INSERTION LENGTH L		H	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm
<b>Thick-flange - 60°</b>											
4SP12W-K52	1.62	41.3	-12	5.83	148.1	4.06	103.1	1.77	45.0	1.66	42.3
4SP16W-K53	1.88	47.6	-16	7.45	189.3	4.89	124.3	2.56	65.0	1.92	48.7
4SP16W-K54	2.12	54.0	-16	8.36	212.4	5.80	147.4	2.56	65.0	2.33	59.3

6SP20W-BD80	2.12	54,0	-20	8.99	228,4	6.04	153,4	2.95	75,0	2.33	59,3
6SP20W-BD84	2.50	63,5	-20	9.70	246,4	6.75	171,4	2.95	75,0	2.62	66,6
6SP24W-BD84	2.50	63,5	-24	9.86	250,4	6.79	172,4	3.07	78,0	2.62	66,6
6SP24W-BD92	3.13	79,4	-24	11.94	303,2	8.87	225,2	3.07	78,0	3.44	87,3
6SP32W-BD92	3.13	79,4	-32	12.02	305,3	8.95	227,3	3.07	78,0	3.44	87,3

Compatible only with D-Ring FF90319. See below.

### Thick flange - 67.5°

4SP12W-K62	1.62	41.3	-12	5.60	142.2	3.83	97.2	1.77	45.0	1.90	48.2
4SP16W-K63	1.88	47.6	-16	7.18	182.5	4.62	117.5	2.56	65.0	2.20	55.8
4SP16W-K64	2.12	54.0	-16	8.04	204.1	5.48	139.1	2.56	65.0	2.68	68.1

6SP20W-BE20	2.12	54,0	-20	8.67	220,1	5.71	145,1	2.95	75,0	2.68	68,1
6SP20W-BE24	2.50	63,5	-20	9.33	237,0	6.38	162,0	2.95	75,0	3.02	76,8

Compatible only with D-Ring FF90319. See below.

### Thick Flange - 90° split flange

4SP12W-K72	1.62	41.3	-12	4.72	120.0	2.95	75.0	1.77	45.0	2.54	64.5
4SP12W-K76	1.88	47.6	-12	5.17	131.4	3.40	86.4	1.77	45.0	2.98	75.7
4SP16W-K76	1.88	47.6	-16	6.17	156.6	3.61	91.6	2.56	65.0	2.98	75.7
4SP16W-K80	2.12	54.0	-16	6.79	172.4	4.23	107.4	2.56	65.0	3.66	92.9
4SP20W-K80	2.12	54.0	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.66	92.9

6SP20W-K80	2.12	54,0	-20	7.41	188,4	4.46	113,4	2.95	75,0	3.66	92,9
6SP20W-K84	2.50	63,5	-20	7.92	201,1	4.96	126,1	2.95	75,0	4.16	105,7
6SP24W-K84	2.50	63,5	-24	7.92	201,1	4.96	126,1	2.95	75,0	4.16	105,7
6SP24W-K92	3.13	79,4	-24	9.59	243,6	6.52	165,6	3.07	78,0	5.50	139,6
6SP32W-K92	3.13	79,4	-32	9.59	243,6	6.52	165,6	3.07	78,0	5.50	139,6

Compatible only with D-Ring FF90319. See below.

### Thick-Flange D-Ring\*

PART NUMBER	A REF		B REF		C REF		D REF		E REF	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
FF90319-12	1.27	32,3	1.00	25,4	.20	5,1	.10	2,5	.135	3,4
FF90319-16	1.52	36,6	1.25	31,8	.20	5,1	.10	2,5	.135	3,4
FF90319-20	1.77	45,0	1.50	38,1	.20	5,1	.10	2,5	.135	3,4
FF90319-24	2.03	51,6	1.76	44,7	.20	5,1	.10	2,5	.135	3,4
FF90319-32	2.78	70,6	2.52	64,0	.20	5,1	.10	2,5	.135	3,4

Temperature range: -40°F to +212°F.

Material: Nitrile (Buna-N)

\*To be used only with Thick-Flange hose ends.

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

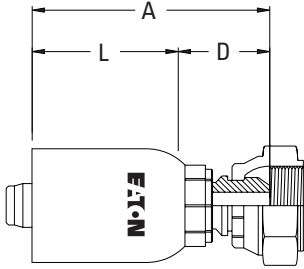
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

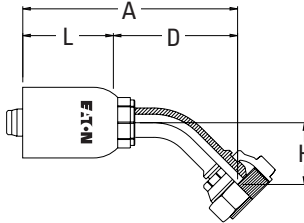
ET4000

### BSP/JIS Female Swivel - Straight



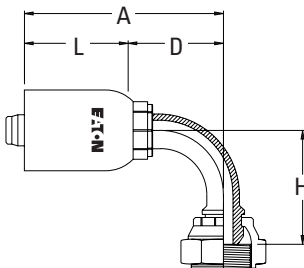
FITTING PART NUMBER	THREAD	HOSE SIZE	A		D		INSERTION LENGTH L		H	
			inch	mm	inch	mm	inch	mm	inch	mm
<b>BSP/JIS Female Swivel</b>										
4SP12W-12P	G 3/4	-12	3.27	83.0	1.50	38.0	1.77	45.0		
4SP12W-16P	G 1	-12	3.22	81.7	1.44	36.7	1.77	45.0		
4SP16W-16P	G 1	-16	4.21	106.9	1.65	41.9	2.56	65.0		
4SP16W-20P	G 1 1/4	-16	4.13	104.9	1.57	39.9	2.56	65.0		
4SP20W-20P	G 1 1/4	-20	4.76	120.9	1.81	45.9	2.95	75.0		
4SP24W-24P	G 1 1/2	-24	6.04	153.5	2.97	75.5	3.07	78.0		
4SP32W-32P	G 2	-32	6.28	159.5	3.21	81.5	3.07	78.0		
6SP24W-24P	G 1 1/2	-24	6.04	153.5	2.97	75.5	3.07	78.0		
6SP32W-32P	G 2	-32	6.28	159.5	3.21	81.5	3.07	78.0		

### BSP/JIS Female Swivel - 45° Elbow



FITTING PART NUMBER	THREAD	HOSE SIZE	A		D		INSERTION LENGTH L		H	
			inch	mm	inch	mm	inch	mm	inch	mm
<b>BSP/JIS Female Swivel, 45° elbow</b>										
4SP12W-52P	G 3/4	-12	4.76	121.0	2.99	76.0	1.77	45.0	1.02	26.0
4SP12W-56P	G 1	-12	5.13	130.4	3.36	85.4	1.77	45.0	1.18	30.0
4SP16W-56P	G 1	-16	6.13	155.6	3.57	90.6	2.56	65.0	1.18	30.0
4SP16W-60P	G 1 1/4	-16	6.57	166.9	4.01	101.9	2.56	65.0	1.34	34.0
4SP20W-60P	G 1 1/4	-20	7.19	182.6	4.25	107.9	2.95	75.0	1.34	34.0
4SP24W-64P	G 1 1/2	-24	8.20	208.2	5.13	130.2	3.07	78.0	1.69	43.0
4SP32W-65P	G 2	-32	9.78	248.5	6.71	170.5	3.07	78.0	2.23	56.6
6SP24W-64P	G 1 1/2	-24	8.20	208.2	5.13	130.2	3.07	78.0	1.69	43.0
6SP32W-65P	G 2	-32	9.78	248.5	6.71	170.5	3.07	78.0	2.23	56.6

### BSP/JIS Female Swivel - 90° Elbow



FITTING PART NUMBER	THREAD	HOSE SIZE	A		D		INSERTION LENGTH L		H	
			inch	mm	inch	mm	inch	mm	inch	mm
<b>BSP/JIS Female Swivel, 90° elbow</b>										
4SP12W-82P	G 3/4	-12	4.51	114.5	2.74	69.5	1.77	45.0	2.24	57.0
4SP12W-86P	G 1	-12	4.94	125.6	3.17	80.6	1.77	45.0	2.68	68.0
4SP16W-86P	G 1	-16	5.94	150.8	3.38	85.8	2.56	65.0	2.68	68.0
4SP16W-90P	G 1 1/4	-16	6.44	163.7	3.89	98.7	2.56	65.0	3.11	79.0
4SP20W-90P	G 1 1/4	-20	7.07	179.7	4.12	104.7	2.95	75.0	3.11	79.0
4SP24W-94P	G 1 1/2	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
4SP32W-95P	G 2	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.28	134.0
6SP24W-94P	G 1 1/2	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
6SP32W-95P	G 2	-32	9.67	245.7	6.60	167.7	3.07	78.0	5.28	134.0

NOTE: The JIS parallel thread and BSPP connection are interchangeable.



# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

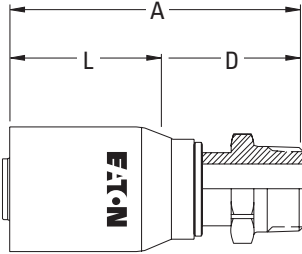
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

ET4000

### Male Pipe Rigid



FITTING PART NUMBER	THREAD	HOSE SIZE	A		D	INSERTION LENGTH L		HEX	
			inch	mm		mm	inch	mm	inch
<b>Male Pipe Rigid</b>									
4SP12W-112	3/4-14	-12	3.89	98.7	2.12	53.7	1.77	45	1 1/4
4SP16W-116	1-11 1/2	-16	4.94	125.4	2.38	60.4	2.56	65	1 1/2
4SP20W-120	1 1/4-11 1/2	-20	5.70	144.8	2.75	69.8	2.95	75	1 7/8
4SP24W-124	1 1/2-11 1/2	-24	5.93	150.6	2.86	72.6	3.07	78	2
4SP32W-132	2-11 1/2	-32	6.03	153.2	2.96	75.2	3.07	78	2 5/8
6SP20W-120	1 1/4-11 1/2	-20	5.70	144.8	2.75	69.8	2.95	75	1 7/8
6SP24W-124	1 1/2-11 1/2	-24	5.93	150.6	2.86	72.6	3.07	78	2
6SP32W-132	2-11 1/2	-32	6.03	153.2	2.96	75.2	3.07	78	2 5/8

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

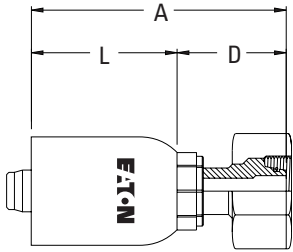
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

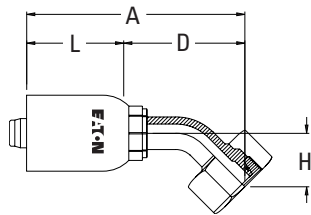
ET4000

### Female Swivel DIN 24° Seat s.Rh. DKO (heavy)



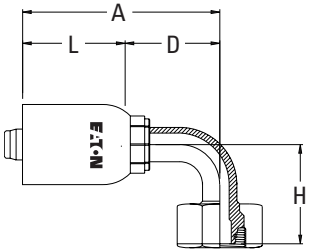
FITTING PART NUMBER	THREAD SIZE	TUBE SIZE	HOSE SIZE	A		D		INSERTION LENGTH L		H	
				inch	mm	inch	mm	inch	mm	inch	mm
<b>DKO Female Swivel, Heavy Duty</b>											
4SP12W-75C	M36 x 2	25	-12	3.87	98.4	2.10	53.4	1.77	45.0		
4SP12W-80C	M42 x 2	30	-12	3.80	96.6	2.03	51.6	1.77	45.0		
4SP16W-80C	M42 x 2	30	-16	4.80	121.8	2.24	56.8	2.56	65.0		
4SP16W-88C	M52 x 2	38	-16	4.82	122.3	2.26	57.3	2.56	65.0		
4SP20W-88C	M52 x 2	38	-20	5.44	138.3	2.49	63.3	2.95	75.0		
6SP20W-88C	M52 x 2	38	-20	5.44	138.3	2.49	63.3	2.95	75.0		

### Female Swivel DIN 24° Seat 45° Tube Elbow S.Rh. DKO (heavy)



FITTING PART NUMBER	THREAD SIZE	TUBE SIZE	HOSE SIZE	A		D		INSERTION LENGTH L		H	
				inch	mm	inch	mm	inch	mm	inch	mm
<b>DKO Female Swivel, Heavy Duty, 45° Elbow</b>											
4SP12W-25E	M36 x 2	25	-12	5.13	130.3	3.36	85.3	1.77	45.0	1.26	32.0
4SP12W-30E	M42 x 2	30	-12	5.49	139.4	3.72	94.4	1.77	45.0	1.38	35.0
4SP16W-30E	M42 x 2	30	-16	6.48	164.6	3.92	99.6	2.56	65.0	1.38	35.0
4SP16W-38E	M52 X 2	38	-16	6.98	177.3	4.42	112.3	2.56	65.0	1.54	39.0
4SP20W-38E	M52 x 2	38	-20	7.61	193.3	4.66	118.3	2.95	75.0	1.54	39.0
6SP20W-38E	M52 x 2	38	-20	7.61	193.3	4.66	118.3	2.95	75.0	1.54	39.0

### Female Swivel DIN 24° Seat 90° Tube Elbow s.Rh. DKO (heavy)



FITTING PART NUMBER	THREAD SIZE	TUBE SIZE	HOSE SIZE	A		D		INSERTION LENGTH L		H	
				inch	mm	inch	mm	inch	mm	inch	mm
<b>DKO Female Swivel, Heavy Duty, 90° elbow</b>											
4SP12W-75E	M36 x 2	25	-12	4.72	120.0	2.95	75.0	1.77	45.0	2.56	65.0
4SP12W-80E	M42 X 2	30	-12	5.17	131.4	3.40	86.4	1.77	45.0	2.99	76.0
4SP16W-80E	M42 x 2	30	-16	6.17	156.8	3.61	91.8	2.56	65.0	2.99	76.0
4SP16W-88E	M52 X 2	38	-16	6.79	172.4	4.23	107.4	2.56	65.0	3.50	89.0
4SP20W-88E	M52 x 2	38	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0
6SP20W-88E	M52 x 2	38	-20	7.41	188.4	4.46	113.4	2.95	75.0	3.50	89.0

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

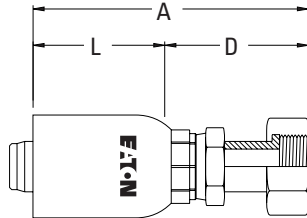
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

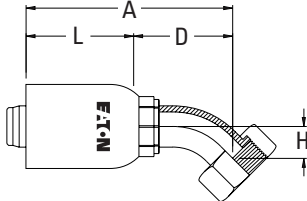
ET4000

### FOR-SEAL Swivel Straight



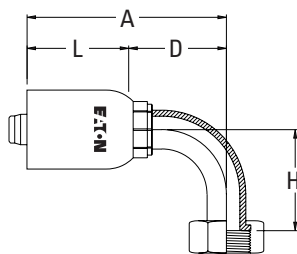
FITTING PART NUMBER	THREAD	HOSE SIZE	A		D		INSERTION LENGTH L		H	
			inch	mm	inch	mm	inch	mm	inch	mm
<b>Female FOR-SEAL Swivel, Straight</b>										
4SP12W-J72	1 3/16-12	-12	3.77	95.9	2.00	50.9	1.77	45.0		
4SP12W-J76	1 7/16-12	-12	3.33	84.6	1.56	39.6	1.77	45.0		
4SP16W-J76	1 7/16-12	-16	4.71	119.5	2.15	54.5	2.56	65.0		
4SP16W-J80	1 11/16-12	-16	4.19	106.4	1.63	41.4	2.56	65.0		
6SP16W-J80	1 11/16-12	-16	4.19	106.4	1.63	41.4	2.56	65.0		
4SP20W-J80	1 11/16-12	-20	5.38	136.7	2.43	61.7	2.95	75.0		
6SP20W-J80	1 11/16-12	-20	5.38	136.7	2.43	61.7	2.95	75.0		
4SP24W-J84	2-12	-24	5.00	126.9	1.93	48.9	3.07	78.0		
6SP24W-J84	2-12	-24	5.00	126.9	1.93	48.9	3.07	78.0		

### FOR-SEAL Swivel 45° Elbow



<b>Female FOR-SEAL Swivel, 45° elbow</b>										
4SP12W-L72	1 3/16-12	-12	4.68	118.9	2.91	73.9	1.77	45.0	0.94	24.0
4SP12W-L76	1 7/16-12	-12	5.05	128.4	3.28	83.4	1.77	45.0	1.10	28.0
4SP16W-L76	1 7/16-12	-16	6.04	153.4	3.48	88.4	2.56	65.0	1.10	28.0
4SP16W-L80	1 11/16-12	-16	6.45	163.9	3.89	98.9	2.56	65.0	1.22	31.0
4SP20W-L80	1 11/16-12	-20	7.08	179.8	4.13	104.8	2.95	75.0	1.22	31.0
6SP20W-L80	1 11/16-12	-20	7.08	179.8	4.13	104.8	2.95	75.0	1.22	31.0

### FOR-SEAL Swivel 90° Elbow



<b>Female FOR-SEAL Swivel, 90° elbow</b>										
4SP12W-J42	1 3/16-12	-12	4.51	114.5	2.74	69.5	1.77	45.0	2.28	58.0
4SP12W-J46	1 7/16-12	-12	4.94	125.6	3.17	80.6	1.77	45.0	2.80	71.0
4SP16W-J46	1 7/16-12	-16	5.93	150.6	3.37	85.6	2.56	65.0	2.80	71.0
4SP16W-J50	1 11/16-12	-16	6.45	163.7	3.89	98.7	2.56	65.0	3.07	78.0
4SP20W-J50	1 11/16-12	-20	7.07	179.6	4.12	104.6	2.95	75.0	3.07	78.0
6SP20W-J50	1 11/16-12	-20	7.07	179.6	4.12	104.6	2.95	75.0	3.07	78.0

# WeatherTIGHT™ 4SP/6SP Series Hose Ends

## 4SP Hose Ends

For Use with Hose:

H464, H485 (-16 only), H470  
(-12 & -16 only)\*

\*H470 with black cover only

Assembled with:

ET4000,  
T-440-1 (-12 & -16 only)

## 6SP Hose Ends

For Use with Hose:

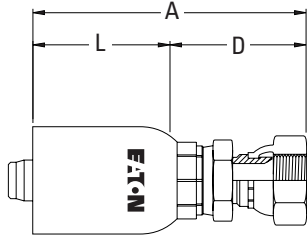
H470 (-20, -24, -32 only)\*  
H485 (-20 & -24 only),

\*H470 with black cover only

Assembled with:

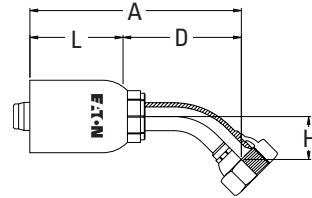
ET4000

### SAE 37° (JIC) Swivel Straight



FITTING PART NUMBER	THREAD	HOSE SIZE	A		D		INSERTION LENGTH L		H	
			inch	mm	inch	mm	inch	mm	inch	mm
<b>SAE 37° (JIC) Swivel, straight</b>										
4SP12W-612	1 1/16-12	-12	4.10	104.2	2.33	59.2	1.77	45.0		
4SP12W-616	1 5/16-12	-12	4.20	106.6	2.43	61.6	1.77	45.0		
4SP16W-616	1 5/16-12	-16	5.19	131.8	2.63	66.8	2.56	65.0		
4SP16W-620	1 5/8-12	-16	5.26	133.7	2.70	68.7	2.56	65.0		
4SP20W-620	1 5/8-12	-20	5.89	149.7	2.94	74.7	2.95	75.0		
6SP20W-620	1 5/8-12	-20	5.89	149.7	2.94	74.7	2.95	75.0		
4SP20W-624	1 7/8-12	-20	6.59	167.5	3.64	92.5	2.95	75.0		
6SP20W-624	1 7/8-12	-20	6.59	167.5	3.64	92.5	2.95	75.0		
4SP24W-624	1 7/8-12	-24	6.75	171.5	3.68	93.5	3.07	78.0		
6SP24W-624	1 7/8-12	-24	6.75	171.5	3.68	93.5	3.07	78.0		
4SP32W-632	2 1/2-12	-32	7.32	186.0	4.25	108.0	3.07	78.0		
6SP32W-632	2 1/2-12	-32	7.32	186.0	4.25	108.0	3.07	78.0		

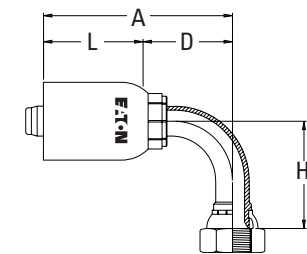
### SAE 37° (JIC) Swivel 45° Elbow



#### SAE 37° (JIC) Swivel, 45° elbow

4SP12W-692	1 1/16-12	-12	4.80	121.9	3.03	76.9	1.77	45.0	1.06	27.0
4SP12W-696	1 5/16-12	-12	5.25	133.4	3.48	88.4	1.77	45.0	1.30	33.0
4SP16W-696	1 5/16-12	-16	6.25	158.6	3.69	93.6	2.56	65.0	1.30	33.0
4SP16W-697	1 5/8-12	-16	6.70	170.2	4.14	105.2	2.56	65.0	1.46	37.0
4SP20W-697	1 5/8-12	-20	7.33	186.2	4.38	111.2	2.95	75.0	1.46	37.0
6SP20W-697	1 5/8-12	-20	7.33	186.2	4.38	111.2	2.95	75.0	1.46	37.0
4SP24W-698	1 7/8-12	-24	8.20	208.2	5.13	130.2	3.07	78.0	1.69	43.0
6SP24W-698	1 7/8-12	-24	8.20	208.2	5.13	130.2	3.07	78.0	1.69	43.0

### SAE 37° (JIC) Swivel 90° Elbow

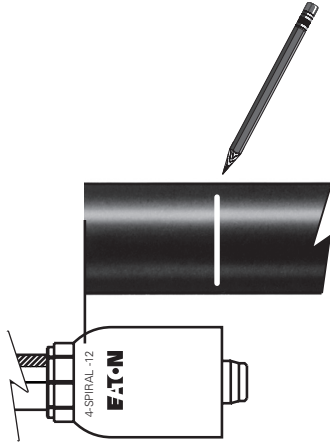


#### SAE 37° (JIC) Swivel, 90° elbow

4SP12W-672	1 1/16-12	-12	4.51	114.5	2.74	69.5	1.77	45.0	2.28	58.0
4SP12W-676	1 5/16-12	-12	4.94	125.6	3.17	80.6	1.77	45.0	2.80	71.0
4SP16W-676	1 5/16-12	-16	5.94	150.8	3.38	85.8	2.56	65.0	2.80	71.0
4SP16W-677	1 5/8-12	-16	6.45	163.9	3.89	98.9	2.56	65.0	3.23	82.0
4SP20W-677	1 5/8-12	-20	7.08	179.9	4.13	104.9	2.95	75.0	3.23	82.0
6SP20W-677	1 5/8-12	-20	7.08	179.9	4.13	104.9	2.95	75.0	3.23	82.0
4SP24W-678	1 7/8-12	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0
6SP24W-678	1 7/8-12	-24	8.07	205.1	5.00	127.1	3.07	78.0	4.09	104.0

# Assembly Instructions

## Assembly Instructions



1. Cut hose to proper length by subtracting appropriate fitting "D" dimensions from overall assembly length.

- To determine hose insertion length (L), align end of hose to top of stenciled part number (located on the socket taper) and mark hose where the socket ends.
- Install hose end onto hose until socket edge aligns with mark.

2. Select proper Collet and Spacer Ring, then crimp to specified diameter.

- To achieve full flat crimp locate back edge of socket approximately 1/8" (3mm) from back edge of crimp jaws as shown in Figure 1.

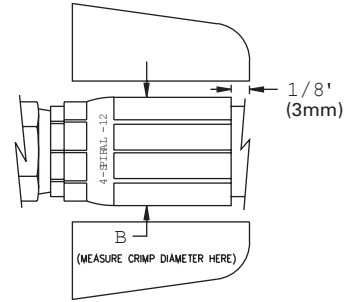


Figure 1

# Notes

# Notes

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**Weatherhead**

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