

## FS Series Vacuum Flange Sets

### Features:

- Available in Brass and Type 304 stainless steel
- Set includes Viton® O-ring and bolts
- Available for 1/4" OD to 6" OD tube
- Available as individual units



### Description:

These versatile flange sets are manufactured in a complete line to match most standard tube diameters. These flanges are machined to at least a #32 finish or better. **FS SERIES** flanges are designed to be effective to 5 x 10<sup>-8</sup> torr and are bakeable to 200°C.

### Ordering Information Suffix of -BR = Brass, Suffix of -SS = Stainless Steel

Part Number	C'bore dia.	C'bore Depth	Bore dia.	Flange Dia.	Bolt Circle	# of holes / Size	Flange Width	Price
FS-25-BR	.258	1/16"	3/16"	1-1/8"	7/8"	3 holes 5/32"	3/16"	\$ 46.00
FS-25-SS	.258	1/16"	3/16"	1-1/8"	7/8"	3 holes 5/32"	3/16"	\$ 78.00
FS-37-BR	.388	1/16"	5/16"	1-1/8"	7/8"	3 holes 5/32"	1/4"	\$ 46.00
FS-37-SS	.388	1/16"	5/16"	1-1/8"	7/8"	3 holes 5/32"	1/4"	\$ 78.00
FS-50-BR	.508	3/32"	3/8"	1-3/8"	1-1/8"	3 holes 11/64"	1/4"	\$ 46.00
FS-50-SS	.508	3/32"	3/8"	1-3/8"	1-1/8"	3 holes 11/64"	1/4"	\$ 78.00
FS-62-BR	.633	3/32"	1/2"	1-3/8"	1-1/8"	3 holes 11/64"	1/4"	\$ 46.00
FS-62-SS	.633	3/32"	1/2"	1-3/8"	1-1/8"	3 holes 11/64"	1/4"	\$ 78.00
FS-75-BR	.765	3/32"	5/8"	1-3/4"	1-13/32"	3 holes 11/64"	1/4"	\$ 46.00
FS-75-SS	.765	3/32"	5/8"	1-3/4"	1-13/32"	3 holes 11/64"	1/4"	\$ 78.00
FS-100-BR	1.008	1/8"	7/8"	2-1/4"	1-3/4"	3 holes 7/32"	5/16"	\$ 46.00
FS-100-SS	1.008	1/8"	7/8"	2-1/4"	1-3/4"	3 holes 7/32"	5/16"	\$ 78.00
FS-112-BR	1.133	1/8"	1"	2-1/4"	1-3/4"	3 holes 7/32"	5/16"	\$ 46.00
FS-112-SS	1.133	1/8"	1"	2-1/4"	1-3/4"	3 holes 7/32"	5/16"	\$ 78.00
FS-150-BR	1.510	1/8"	1-1/4"	3"	2-9/16"	3 holes 7/32"	5/16"	\$ 56.00
FS-150-SS	1.510	1/8"	1-1/4"	3"	2-9/16"	4 holes 17/64"	5/16"	\$ 102.00
FS-162-BR	1.635	1/8"	1-3/8"	3"	2-9/16"	4 holes 17/64"	5/16"	\$ 56.00
FS-162-SS	1.635	1/8"	1-3/8"	3"	2-9/16"	4 holes 17/64"	5/16"	\$ 102.00
FS-200-BR	2.010	5/32"	1-3/4"	3-1/2"	3"	4 holes 17/64"	3/8"	\$ 70.00
FS-200-SS	2.010	5/32"	1-3/4"	3-1/2"	3"	4 holes 17/64"	3/8"	\$ 128.00
FS-212-BR	2.135	5/32"	1-7/8"	3-1/2"	3"	4 holes 17/64"	3/8"	\$ 87.00
FS-212-SS	2.135	5/32"	1-7/8"	3-1/2"	3"	4 holes 17/64"	3/8"	\$ 138.00
FS-250-BR	2.510	5/32"	2-1/4"	4"	3-1/2"	4 holes 17/64"	3/8"	\$ 98.00
FS-250-SS	2.510	5/32"	2-1/4"	4"	3-1/2"	4 holes 17/64"	3/8"	\$ 167.00
FS-300-BR	3.010	3/16"	2-3/4"	5"	4-1/4"	6 holes 17/64"	7/16"	\$ 98.00
FS-300-SS	3.010	3/16"	2-3/4"	5"	4-1/4"	6 holes 17/64"	7/16"	\$ 167.00
FS-312-BR	3.135	3/16"	2-7/8"	5"	4-1/4"	6 holes 17/64"	7/16"	\$ 125.00
FS-312-SS	3.135	3/16"	2-7/8"	5"	4-1/4"	6 holes 17/64"	7/16"	\$ 182.00
FS-400-BR	4.010	1/4"	3-3/4"	6"	5-1/4"	6 holes 21/64"	1/2"	\$ 125.00
FS-400-SS	4.010	1/4"	3-3/4"	6"	5-1/4"	6 holes 21/64"	1/2"	\$ 182.00
FS-412-BR	4.135	1/4"	3-7/8"	6"	5-1/4"	6 holes 21/64"	1/2"	\$ 125.00
FS-412-SS	4.135	1/4"	3-7/8"	6"	5-1/4"	6 holes 21/64"	1/2"	\$ 182.00
FS-500-BR	5.010	1/4"	4-3/4"	7"	6-1/4"	6 holes 21/64"	1/2"	\$ 164.00
FS-500-SS	5.010	1/4"	4-3/4"	7"	6-1/4"	6 holes 21/64"	1/2"	\$ 232.00
FS-600-BR	6.010	1/4"	5-3/4"	8"	7-1/8"	8 holes 21/64"	1/2"	\$ 196.00
FS-600-SS	6.010	1/4"	5-3/4"	8"	7-1/8"	8 holes 21/64"	1/2"	\$ 270.00

Note: Individual flanges may be ordered, see examples below.

**FS-150-BR-1** (Bored flange 1.5", Brass)

**FS-150-BR-O** (Bored flange, 1.5", Brass, With O-ring Groove)

**FS-150-BR-BL** (Blank flange, Brass)

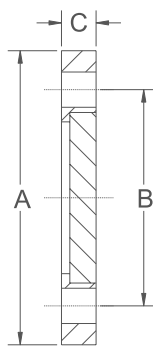
**FS-150-BR-BL-O** (Blank flange, Brass, With O-ring Groove)

Price structure is determined by taking the price of the set and dividing by two.

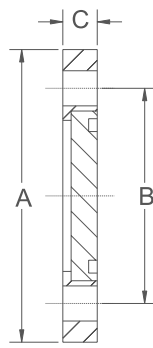
Examples: **FS-150-BR** = \$ 48.00 ÷ 2 = \$ 24.00



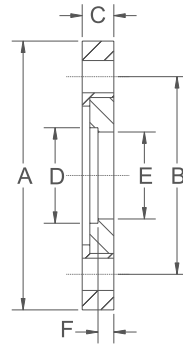
## Rotatable ASA Flanges



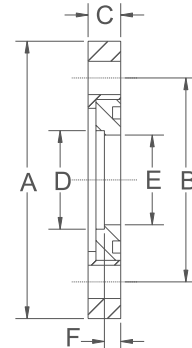
**Plain**



**Plain with O-Ring**



**Bored**



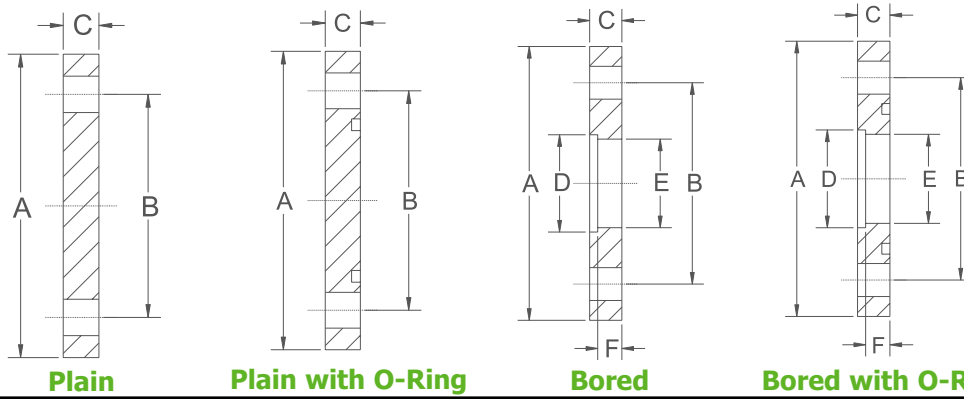
**Bored with O-Ring**

Part Number	A Flange Dia	B	C	D	E	F	Number of Holes	Hole Dia	O-Ring No.	Price
R-ASA-4-P	4.250"	3.125"	.500"	-	-	-	4	.625"	-	\$ 108.00
R-ASA-4-P-O	4.250"	3.125"	.500"	-	-	-	4	.625"	2-226	\$ 133.00
R-ASA-4-B	4.250"	3.125"	.500"	1.510"	1.375"	.250"	4	.625"	-	\$ 123.00
R-ASA-4-B-O	4.250"	3.125"	.500"	1.510"	1.375"	.250"	4	.625"	2-226	\$ 143.00
R-ASA-5-P	5.000"	3.880"	.500"	-	-	-	4	.625"	-	\$ 138.00
R-ASA-5-P-O	5.000"	3.880"	.500"	-	-	-	4	.625"	2-231	\$ 163.00
R-ASA-5-B	5.000"	3.880"	.500"	2.010"	1.875"	.250"	4	.625"	-	\$ 148.00
R-ASA-5-B-O	5.000"	3.880"	.500"	2.010"	1.875"	.250"	4	.625"	2-231	\$ 173.00
R-ASA-5-B-25	5.000"	3.880"	.500"	2.510"	2.375"	.250"	4	.625"	-	\$ 148.00
R-ASA-5-B-25-O	5.000"	3.880"	.500"	2.510"	2.375"	.250"	4	.625"	2-231	\$ 173.00
R-ASA-6-P	6.000"	4.750"	.625"	-	-	-	4	.687"	-	\$ 188.00
R-ASA-6-P-O	6.000"	4.750"	.625"	-	-	-	4	.687"	2-238	\$ 213.00
R-ASA-6-B	6.000"	4.750"	.625"	3.010"	2.937"	.312"	4	.687"	-	\$ 198.00
R-ASA-6-B-O	6.000"	4.750"	.625"	3.010"	2.937"	.312"	4	.687"	2-238	\$ 218.00
R-ASA-6-B-35	6.000"	4.750"	.625"	3.510"	3.437"	.312"	4	.687"	-	\$ 198.00
R-ASA-6-B-35-O	6.000"	4.750"	.625"	3.510"	3.437"	.312"	4	.687"	2-239	\$ 218.00
R-ASA-7-P	7.500"	6.000"	.625"	-	-	-	4	.750"	-	\$ 218.00
R-ASA-7-P-O	7.500"	6.000"	.625"	-	-	-	4	.750"	2-243	\$ 258.00
R-ASA-7-B	7.500"	6.000"	.625"	4.015"	3.875"	.312"	4	.750"	-	\$ 238.00
R-ASA-7-B-O	7.500"	6.000"	.625"	4.015"	3.875"	.312"	4	.750"	2-243	\$ 278.00
R-ASA-9-P	9.000"	7.500"	.625"	-	-	-	8	.687"	-	\$ 248.00
R-ASA-9-P-O	9.000"	7.500"	.625"	-	-	-	8	.687"	2-258	\$ 288.00
R-ASA-9-B	9.000"	7.500"	.625"	4.015"	3.875"	.312"	8	.687"	-	\$ 258.00
R-ASA-9-B-O	9.000"	7.500"	.625"	4.015"	3.875"	.312"	8	.687"	2-258	\$ 298.00
R-ASA-9-B-6	9.000"	7.500"	.625"	6.025"	5.875"	.312"	8	.687"	-	\$ 258.00
R-ASA-9-B-6-O	9.000"	7.500"	.625"	6.025"	5.875"	.312"	8	.687"	2-258	\$ 298.00
R-ASA-11-P	11.000"	9.500"	.750"	-	-	-	8	.812"	-	\$ 388.00
R-ASA-11-P-O	11.000"	9.500"	.750"	-	-	-	8	.812"	2-266	\$ 444.00
R-ASA-11-B	11.000"	9.500"	.750"	6.025"	5.875"	.375"	8	.812"	-	\$ 418.00
R-ASA-11-B-O	11.000"	9.500"	.750"	6.025"	5.875"	.375"	8	.812"	2-266	\$ 468.00
R-ASA-11-B-8	11.000"	9.500"	.750"	8.025"	7.875"	.375"	8	.812"	-	\$ 418.00
R-ASA-11-B-8-O	11.000"	9.500"	.750"	8.025"	7.875"	.375"	8	.812"	2-266	\$ 468.00
R-ASA-13-P	13.500"	11.750"	.750"	-	-	-	8	.812"	-	\$ 473.00
R-ASA-13-P-O	13.500"	11.750"	.750"	-	-	-	8	.812"	2-274	\$ 533.00
R-ASA-13-B	13.500"	11.750"	.750"	8.025"	7.875"	.375"	8	.812"	-	\$ 508.00
R-ASA-13-B-O	13.500"	11.750"	.750"	8.025"	7.875"	.375"	8	.812"	2-274	\$ 568.00
R-ASA-13-B-10	13.500"	11.750"	.750"	10.025"	9.875"	.375"	8	.812"	-	\$ 508.00
R-ASA-13-B-10-O	13.500"	11.750"	.750"	10.025"	9.875"	.375"	8	.812"	2-274	\$ 568.00
R-ASA-16-P	16.000"	14.250"	.750"	-	-	-	12	.812"	-	\$ * POR
R-ASA-16-P-O	16.000"	14.250"	.750"	-	-	-	12	.812"	2-278	\$ * POR
R-ASA-16-B	16.000"	14.250"	.750"	10.025"	9.875"	.375"	12	.812"	-	\$ * POR
R-ASA-16-B-O	16.000"	14.250"	.750"	10.025"	9.875"	.375"	12	.812"	2-278	\$ * POR
R-ASA-16-B-12	16.000"	14.250"	.750"	12.025"	11.875"	.375"	12	.812"	-	\$ * POR
R-ASA-16-B-12-O	16.000"	14.250"	.750"	12.025"	11.875"	.375"	12	.812"	2-278	\$ * POR

\* Price on request



## Non-Rotatable ASA Flanges



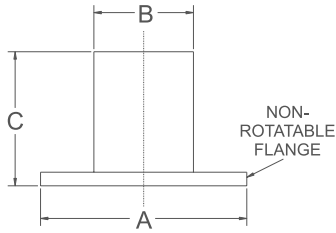
Part Number	A Flange Dia	B	C	D	E	F	Number of Holes	Hole Dia	O-Ring No.	Price
ASA-4-P	4.250"	3.125"	.500"	-	-	-	4	.625"	-	\$ 63.00
ASA-4-P-O	4.250"	3.125"	.500"	-	-	-	4	.625"	2-226	\$ 85.00
ASA-4-B	4.250"	3.125"	.500"	1.510"	1.375"	.375"	4	.625"	-	\$ 69.00
ASA-4-B-O	4.250"	3.125"	.500"	1.510"	1.375"	.375"	4	.625"	2-226	\$ 90.00
ASA-5-P	5.000"	3.880"	.500"	-	-	-	4	.625"	-	\$ 87.00
ASA-5-P-O	5.000"	3.880"	.500"	-	-	-	4	.625"	2-231	\$ 110.00
ASA-5-B	5.000"	3.880"	.500"	2.010"	1.875"	.375"	4	.625"	-	\$ 98.00
ASA-5-B-O	5.000"	3.880"	.500"	2.010"	1.875"	.375"	4	.625"	2-231	\$ 123.00
ASA-5-B-25	5.000"	3.880"	.500"	2.510"	2.375"	.375"	4	.625"	-	\$ 98.00
ASA-5-B-25-O	5.000"	3.880"	.500"	2.510"	2.375"	.375"	4	.625"	2-231	\$ 123.00
ASA-6-P	6.000"	4.750"	.500"	-	-	-	4	.687"	-	\$ 103.00
ASA-6-P-O	6.000"	4.750"	.500"	-	-	-	4	.687"	2-238	\$ 128.00
ASA-6-B	6.000"	4.750"	.500"	3.010"	2.937"	.375"	4	.687"	-	\$ 115.00
ASA-6-B-O	6.000"	4.750"	.500"	3.010"	2.937"	.375"	4	.687"	2-238	\$ 138.00
ASA-6-B-35	6.000"	4.750"	.500"	3.510"	3.437"	.375"	4	.687"	-	\$ 115.00
ASA-6-B-35-O	6.000"	4.750"	.500"	3.510"	3.437"	.375"	4	.687"	2-239	\$ 138.00
ASA-7-P	7.500"	6.000"	.500"	-	-	-	4	.750"	-	\$ 128.00
ASA-7-P-O	7.500"	6.000"	.500"	-	-	-	4	.750"	2-243	\$ 169.00
ASA-7-B	7.500"	6.000"	.500"	4.015"	3.875"	.375"	4	.750"	-	\$ 128.00
ASA-7-B-O	7.500"	6.000"	.500"	4.015"	3.875"	.375"	4	.750"	2-243	\$ 183.00
ASA-9-P	9.000"	7.500"	.500"	-	-	-	8	.687"	-	\$ 158.00
ASA-9-P-O	9.000"	7.500"	.500"	-	-	-	8	.687"	2-259	\$ 198.00
ASA-9-B	9.000"	7.500"	.500"	4.015"	3.875"	.375"	8	.687"	-	\$ 168.00
ASA-9-B-O	9.000"	7.500"	.500"	4.015"	3.875"	.375"	8	.687"	2-259	\$ 198.00
ASA-9-B-6	9.000"	7.500"	.500"	6.025"	5.875"	.375"	8	.687"	-	\$ 168.00
ASA-9-B-6-O	9.000"	7.500"	.500"	6.025"	5.875"	.375"	8	.687"	2-259	\$ 208.00
ASA-11-P	11.000"	9.500"	.750"	-	-	-	8	.812"	-	\$ 255.00
ASA-11-P-O	11.000"	9.500"	.750"	-	-	-	8	.812"	2-266	\$ 313.00
ASA-11-B	11.000"	9.500"	.750"	6.025"	5.875"	.375"	8	.812"	-	\$ 289.00
ASA-11-B-O	11.000"	9.500"	.750"	6.025"	5.875"	.375"	8	.812"	2-266	\$ 343.00
ASA-11-B-8	11.000"	9.500"	.750"	8.025"	7.875"	.375"	8	.812"	-	\$ 289.00
ASA-11-B-8-O	11.000"	9.500"	.750"	8.025"	7.875"	.375"	8	.812"	2-266	\$ 343.00
ASA-13-P	13.500"	11.750"	.750"	-	-	-	8	.812"	-	\$ 338.00
ASA-13-P-O	13.500"	11.750"	.750"	-	-	-	8	.812"	2-274	\$ 403.00
ASA-13-B	13.500"	11.750"	.750"	8.025"	7.875"	.375"	8	.812"	-	\$ 373.00
ASA-13-B-O	13.500"	11.750"	.750"	8.025"	7.875"	.375"	8	.812"	2-274	\$ 438.00
ASA-13-B-10	13.500"	11.750"	.750"	10.025"	9.875"	.375"	8	.812"	-	\$ 373.00
ASA-13-B-10-O	13.500"	11.750"	.750"	10.025"	9.875"	.375"	8	.812"	2-274	\$ 438.00
ASA-16-P	16.000"	14.250"	.750"	-	-	-	12	.812"	-	\$ * POR
ASA-16-P-O	16.000"	14.250"	.750"	-	-	-	12	.812"	2-278	\$ * POR
ASA-16-B	16.000"	14.250"	.750"	10.025"	9.875"	.375"	12	.812"	-	\$ * POR
ASA-16-B-O	16.000"	14.250"	.750"	10.025"	9.875"	.375"	12	.812"	2-278	\$ * POR
ASA-16-B-12	16.000"	14.250"	.750"	12.025"	11.875"	.375"	12	.812"	-	\$ * POR
ASA-16-B-12-O	16.000"	14.250"	.750"	12.025"	11.875"	.375"	12	.812"	2-278	\$ * POR

\* Price on request



# ASA Nipples

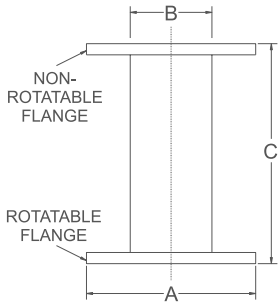
## ASA Half Nipples



Part Number	A Flange Diameter	B	C	Price	Add per O-Ring groove
550100	5.00"	2.00"	3-1/4"	\$ 97.00	\$133.00
550101	5.00"	2.50"	3-1/4"	\$ 97.00	\$133.00
550102	5.00"	2.50"	4"	\$ 113.00	\$133.00
550103	6.00"	3.00"	3-1/2"	\$ 129.00	\$148.00
550104	7.50"	4.00"	4-1/8"	\$ 160.00	\$189.00
550105	7.50"	4.00"	5-1/8"	\$ 170.00	\$189.00
550106	9.00"	4.00"	4-1/8"	\$ 175.00	\$203.00
550107	9.00"	4.00"	5-1/8"	\$ 180.00	\$213.00
550108	9.00"	6.00"	5-1/4"	\$ 191.00	\$225.00
550109	9.00"	6.00"	6-5/16"	\$ 201.00	\$230.00
550110	11.00"	6.00"	5-3/8"	\$ 273.00	\$313.00
550111	11.00"	6.00"	6-7/16"	\$ 278.00	\$324.00
550112	11.00"	8.00"	7-3/8"	\$ 299.00	\$343.00
550113	13.50"	8.00"	7-3/4"	\$ 353.00	\$398.00
550114	13.50"	10.00"	9-7/8"	\$ 385.00	\$433.00
550115	16.00"	10.00"	9-7/8"	\$ 577.00	\$ * POR
550116	16.00"	12.00"	9-7/8"	\$ 603.00	\$ * POR

\* Price on request

## ASA Full Nipples



Part Number	A Flange Diameter	B	C	Price	Add per O-Ring groove
560100	5.00"	2.00"	6-1/2"	\$ 220.00	\$243.00
560101	5.00"	2.50"	6-1/2"	\$ 220.00	\$243.00
560102	5.00"	2.50"	8"	\$ 226.00	\$248.00
560103	6.00"	3.00"	7"	\$ 293.00	\$280.00
560104	7.50"	4.00"	8-1/4"	\$ 334.00	\$343.00
560105	7.50"	4.00"	10-1/4"	\$ 407.00	\$355.00
560106	9.00"	4.00"	8-1/4"	\$ 359.00	\$359.00
560107	9.00"	4.00"	10-1/4"	\$ 365.00	\$365.00
560108	9.00"	6.00"	10-1/2"	\$ 375.00	\$375.00
560109	9.00"	6.00"	12-5/8"	\$ 380.00	\$380.00
560110	11.00"	6.00"	10-3/4"	\$ 581.00	\$623.00
560111	11.00"	6.00"	12-7/8"	\$ 587.00	\$628.00
560112	11.00"	8.00"	14-3/4"	\$ 627.00	\$673.00
560113	13.50"	8.00"	15-1/2"	\$ 741.00	\$740.00
560114	13.50"	10.00"	19-3/4"	\$ 771.00	\$773.00
560115	16.00"	10.00"	19-3/4"	\$ 1,259.00	\$ * POR
560116	16.00"	12.00"	19-3/4"	\$ 1,259.00	\$ * POR

\* Price on request

### Ordering Information:

Add "-01" to part number if O-Ring required on non-rotatable flange.

Add "-02" to part number if O-Ring required on rotatable flange.

Add "-03" to part number if O-Ring required on both flanges.



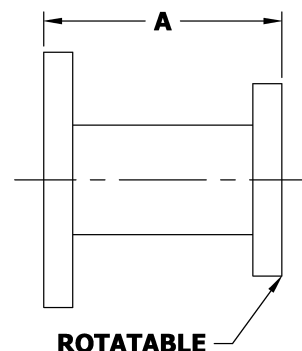
# ASA Nipples

## ASA Reducers

Part Number	Flange Sizes	A	Tube	Price
RN-ASA-9-5	9" OD to 5" OD	4.50	2" OD	\$ 353.00
RN-ASA-9-6	9" OD x 6" OD	4.50	3" OD	\$ 373.00
RN-ASA-9-7.5	9" OD x 7-1/2" OD	4.50	4" OD	\$ 418.00
RN-ASA-11-5	11" OD x 5" OD	4.75	2" OD	\$ 438.00
RN-ASA-11-6	11" OD x 6" OD	4.75	3" OD	\$ 458.00
RN-ASA-11-7.5	11" OD x 7-1/2" OD	4.75	4" OD	\$ 508.00
RN-ASA-11-9	11" OD x 9" OD	4.75	6" OD	\$ 543.00
RN-ASA-13.5-9	13-1/2" OD x 9" OD	5.00	6" OD	\$ 623.00
RN-ASA-13.5-11	13-1/2" OD x 11" OD	5.00	8" OD	\$ 753.00
RN-ASA-16-11	16" OD x 11" OD	5.00	8" OD	\$ * POR
RN-ASA-16-13.5	16" OD x 13-1/2 OD	5.00	10" OD	\$ * POR

\* Price on request

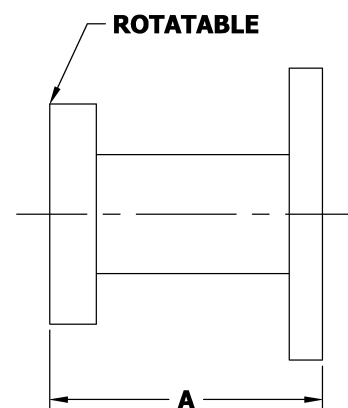
Note: O-ring grooves are available on ASA flanges. Designate which flange is required with O-ring groove; - Add -1OR to suffix of part number. If two o-ring grooves are required; - Add -2OR to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate charges.



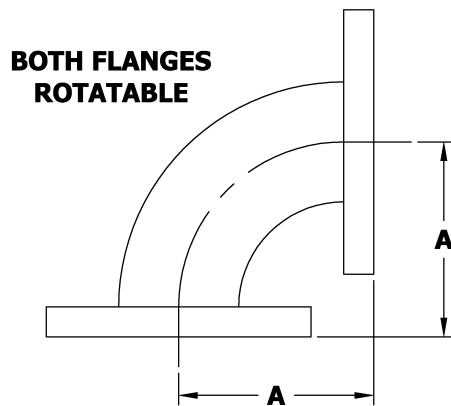
## ASA to MET-SEAL Adapter Nipples

Part Number	MET-SEAL OD	ASA OD	A	Tube OD	Price
FN133-ASA4	1-1/3"	4-1/4"	5.00	3/4"	\$ 133.00
FN133-ASA5	1-1/3"	5"	5.00	3/4"	\$ 148.00
FN275-ASA5	2-3/4"	5"	5.00	1-1/2"	\$ 163.00
FN275-ASA6	2-3/4"	6"	5.00	1-1/2"	\$ 178.00
FN275-ASA7.5	2-3/4"	7-1/2"	5.00	1-1/2"	\$ 188.00
FN275-ASA9	2-3/4"	9"	5.00	1-1/2"	\$ 223.00
FN275-ASA11	2-3/4"	11"	5.00	1-1/2"	\$ 328.00
FN338-ASA5	3-3/8"	5"	5.00	2"	\$ 176.00
FN338-ASA6	3-3/8"	6"	5.00	2"	\$ 203.00
FN338-ASA7.5	3-3/8"	7-1/2"	5.00	2"	\$ 196.00
FN338-ASA9	3-3/8"	9"	5.00	2"	\$ 248.00
FN338-ASA11	3-3/8"	11"	5.00	2"	\$ 348.00
FN450-ASA5	4-1/2"	5"	5.00	2-1/2"	\$ 191.00
FN450-ASA6	4-1/2"	6"	5.00	2-1/2"	\$ 213.00
FN450-ASA7.5	4-1/2"	7-1/2"	5.00	2-1/2"	\$ 206.00
FN450-ASA9	4-1/2"	9"	5.00	2-1/2"	\$ 268.00
FN450-ASA11	4-1/2"	11"	5.00	2-1/2"	\$ 368.00
FN600-ASA7.5	6"	7-1/2"	5.00	4"	\$ 246.00
FN600-ASA9	6"	9"	5.00	4"	\$ 288.00
FN600-ASA11	6"	11"	5.00	4"	\$ 388.00
FN800-ASA7.5	8"	7-1/2"	5.00	4"	\$ 378.00
FN800-ASA9	8"	9"	5.00	6"	\$ 398.00
FN800-ASA11	8"	11"	5.00	6"	\$ 428.00
FN1000-ASA7.5	10"	7-1/2"	5.00	4"	\$ 638.00
FN1000-ASA9	10"	9"	5.00	6"	\$ 698.00
FN1000-ASA11	10"	11"	5.00	8"	\$ 644.00

Note: O-ring grooves are available on all ASA flanges. Designate which flange is required with O-ring groove; - Add -1OR to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate additional charges.



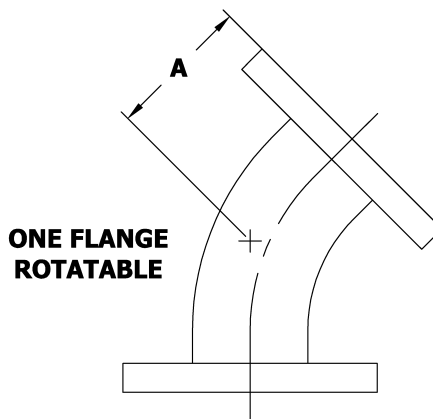
# ASA Elbows



## ASA 90° Radius Elbows

Part Number	Flange Size	A	Tube OD	Price
EL-ASA-5	5" OD	3.25	2" OD	\$ 333.00
EL-ASA-6	6" OD	4.75	3" OD	\$ 433.00
EL-ASA-7.5	7-1/2" OD	6.25	4" OD	\$ 493.00
EL-ASA-9	9" OD	6.25	4" OD	\$ 543.00
EL-ASA-11	11" OD	9.37	6" OD	\$ 823.00
EL-ASA-13.5	13-1/2" OD	12.37	8" OD	\$ 1,193.00

Note: O-ring grooves are available on all ASA flanges; - Add **-1OR** to suffix of part number. If two o-ring grooves are required; - Add **-2OR** to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate additional charges.

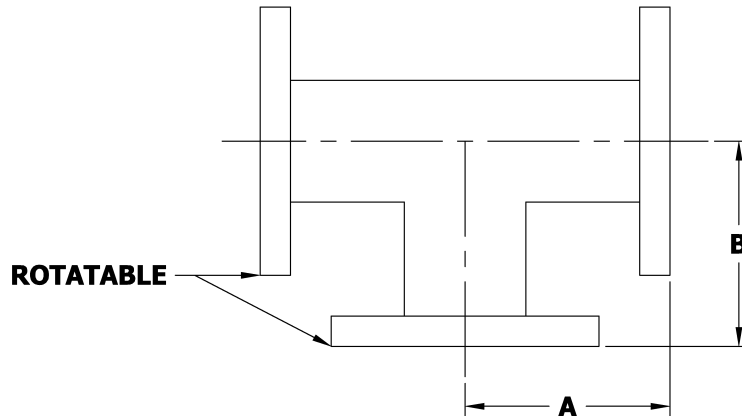


## ASA 45° Radius Elbows

Part Number	Flange Size	A	Tube	Price
EL45-ASA-5	5" OD	2.10	2" OD	\$ 333.00
EL45-ASA-6	6" OD	3.93	3" OD	\$ 403.00
EL45-ASA-7.5	7-1/2" OD	5.06	4" OD	\$ 493.00
EL45-ASA-9	9" OD	5.06	4" OD	\$ 518.00

Note: O-ring grooves are available on all ASA flanges; - Add **-1OR** to suffix of part number. If two o-ring grooves are required; - Add **-2OR** to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate additional charges.

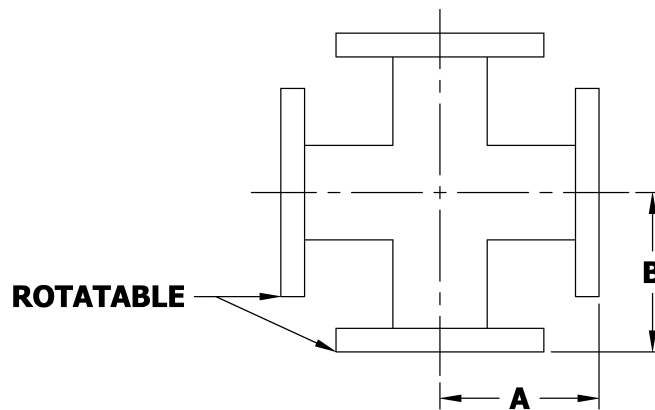
## ASA Tees and Crosses



### ASA Tees

Part Number	Flange Size	A	B	Tube OD	Price
<b>T-ASA-5</b>	5" OD	3.25	3.25	2"	\$ 513.00
<b>T-ASA-7.5</b>	7-1/2" OD	5.12	5.12	4"	\$ 823.00
<b>T-ASA-9-6</b>	9" OD	5.12	5.12	4"	\$ 828.00
<b>T-ASA-11</b>	11" OD	6.37	6.37	6"	\$1,398.00
<b>T-ASA-13.5</b>	13-1/2" OD	7.75	7.75	8"	\$1,923.00

Note: O-ring grooves are available on all ASA flanges. Designate which flange is required with o-ring groove; - Add **-1OR** to suffix of part number. If two o-ring grooves are required; - Add **-2OR** to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate additional charges.



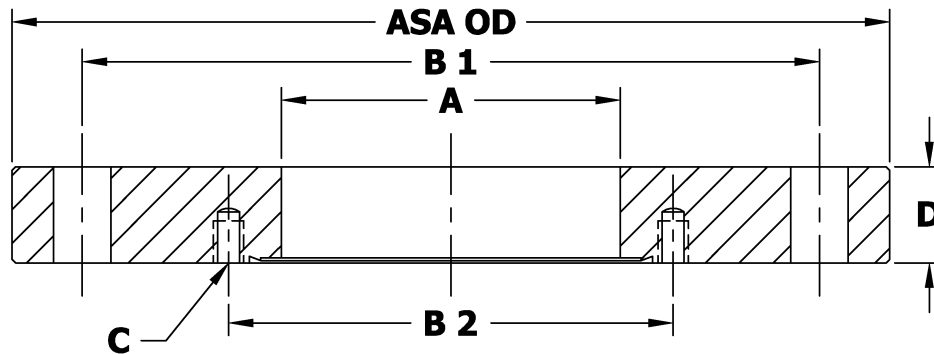
### ASA 4 Way Crosses

Part Number	Flange Size	A	B	Tube OD	Price
<b>C-ASA-5</b>	5" OD	3.25	3.25	2"	\$ 683.00
<b>C-ASA-7.5</b>	7-1/2" OD	5.12	5.12	4"	\$1,078.00
<b>C-ASA-9-6</b>	9" OD	5.25	5.25	6"	\$1,368.00
<b>C-ASA-11</b>	11" OD	6.37	6.37	6"	\$1,905.00
<b>C-ASA-13.5</b>	13-1/2" OD	7.75	7.75	8"	\$2,380.00

Note: O-ring grooves are available on all ASA flanges. Designate which flange is required with o-ring groove; Add **-1OR** to suffix of part number. If two o-ring grooves are required; - Add **-2OR** to suffix of part number. Additional charges will apply, use individual ASA flange sheet for appropriate additional charges.



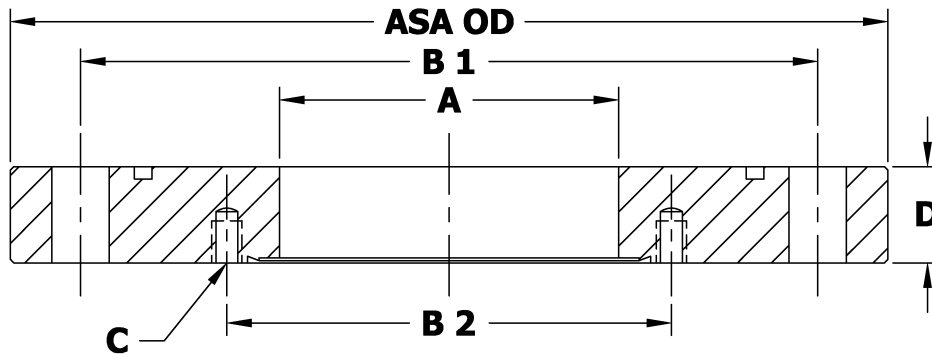
## ASA to MET-SEAL Zero Length Reducers



### ASA to MET-SEAL Zero Length Reducers Without O-ring Groove

Part Number	ASA OD	B 1	Bolt No.	B 2	A	C	D	Price
ZLR-ASA4-133	4-1/4"	3.12	4	1.062	.62	8-32	.50	\$ 143.00
ZLR-ASA5-133	5"	3.87	4	1.062	.62	8-32	.50	\$ 188.00
ZLR-ASA5-275	5"	3.87	4	2.312	1.50	1/4-28	.50	\$ 198.00
ZLR-ASA6-133	6"	4.75	4	1.062	.62	8-32	.50	\$ 233.00
ZLR-ASA6-275	6"	4.75	4	2.312	1.50	1/4-28	.50	\$ 238.00
ZLR-ASA6-338	6"	4.75	4	2.85	2.00	5/16-24	.50	\$ 248.00
ZLR-ASA7-133	7-1/2"	6.00	4	1.062	.62	8-32	.50	\$ 248.00
ZLR-ASA7-275	7-1/2"	6.00	4	2.312	1.50	1/4-28	.50	\$ 248.00
ZLR-ASA7-338	7-1/2"	6.00	4	2.850	2.00	5/16-24	.50	\$ 269.00
ZLR-ASA9-133	9"	7.50	8	1.062	.62	8-32	.50	\$ 283.00
ZLR-ASA9-275	9"	7.50	8	2.312	1.50	1/4-28	.50	\$ 283.00
ZLR-ASA9-338	9"	7.50	8	2.850	2.00	5/16-24	.50	\$ 298.00
ZLR-ASA9-450	9"	7.50	8	3.625	2.50	5/16-24	.50	\$ 328.00
ZLR-ASA9-600	9"	7.50	8	5.128	4.00	5/16-24	.50	\$ 368.00
ZLR-ASA11-133	11"	9.50	8	1.062	.62	8-32	.75	\$ 358.00
ZLR-ASA11-275	11"	9.50	8	2.312	1.50	1/4-28	.75	\$ 358.00
ZLR-ASA11-338	11"	9.50	8	2.850	2.00	5/16-24	.75	\$ 383.00
ZLR-ASA11-450	11"	9.50	8	3.628	2.50	5/16-24	.75	\$ 383.00
ZLR-ASA11-600	11"	9.50	8	5.128	4.00	5/16-24	.75	\$ 408.00
ZLR-ASA11-800	11"	9.50	8	7.128	6.00	5/16-24	.75	\$ 433.00

## ASA to MET-SEAL Zero Length Reducers



### ASA to MET-SEAL Zero Length Reducer With O-ring Groove

Part Number	ASA OD	B 1	Bolt No.	B 2	A	C	D	Price
ZLR-ASA4-133-O	4-1/4"	3.12	4	1.062	.62	8-32	.50	\$ 158.00
ZLR-ASA5-133-O	5"	3.87	4	1.062	.62	8-32	.50	\$ 203.00
ZLR-ASA5-275-O	5"	3.87	4	2.312	1.50	1/4-28	.50	\$ 213.00
ZLR-ASA6-133-O	6"	4.75	4	1.062	.62	8-32	.50	\$ 248.00
ZLR-ASA6-275-O	6"	4.75	4	2.312	1.50	1/4-28	.50	\$ 253.00
ZLR-ASA6-338-O	6"	4.75	4	2.850	2.00	5/16-24	.50	\$ 263.00
ZLR-ASA7-133-O	7-1/2"	6.00	4	1.062	.62	8-32	.50	\$ 263.00
ZLR-ASA7-275-O	7-1/2"	6.00	4	2.312	1.50	1/4-28	.50	\$ 263.00
ZLR-ASA7-338-O	7-1/2"	6.00	4	2.850	2.00	5/16-24	.50	\$ 284.00
ZLR-ASA9-133-O	9"	7.50	4	1.062	.62	8-32	.50	\$ 298.00
ZLR-ASA9-275-O	9"	7.50	4	2.312	1.50	1/4-28	.50	\$ 298.00
ZLR-ASA9-338-O	9"	7.50	4	2.850	2.00	5/16-24	.50	\$ 313.00
ZLR-ASA9-450-O	9"	7.50	4	3.625	2.50	5/16-24	.50	\$ 343.00
ZLR-ASA9-600-O	9"	7.50	4	5.128	4.00	5/16-24	.50	\$ 383.00
ZLR-ASA11-133-O	11"	9.50	8	1.062	.62	8-32	.75	\$ 373.00
ZLR-ASA11-275-O	11"	9.50	8	2.312	1.50	1/4-28	.75	\$ 373.00
ZLR-ASA11-338-O	11"	9.50	8	2.850	2.00	5/16-24	.75	\$ 398.00
ZLR-ASA11-450-O	11"	9.50	8	3.628	2.50	5/16-24	.75	\$ 398.00
ZLR-ASA11-600-O	11"	9.50	8	5.128	4.00	5/16-24	.75	\$ 423.00
ZLR-ASA11-800-O	11"	9.50	8	7.128	6.00	5/16-24	.75	\$ 448.00

