

Flanges & Fittings

Section Two



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Flanges & Fittings

ASA Flange General Information

SPECIFICATIONS

General: Rotatable or nonrotatable flanges

Nominal OD sizes: 5 to 16 inches
(125-400mm)

Tube OD sizes: 2 to 12 inches (50-320mm)

Materials

Flange: 304 stainless steel

O-rings: Viton

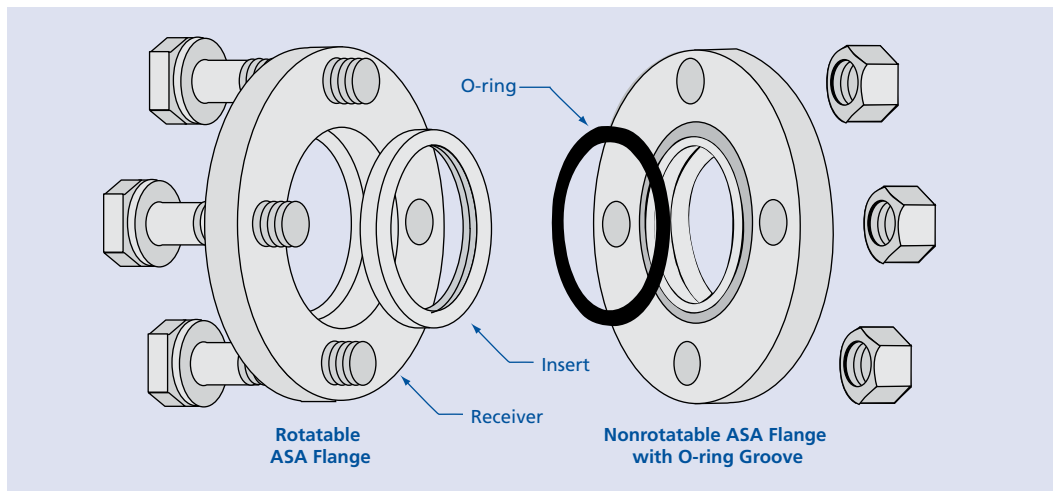
Bolts: 18-8 stainless steel

Vacuum range: $\geq 1 \times 10^{-8}$ mbar - High vacuum

Temperature range: -20° to 204°C

Sustained: -20°C to 150°C

All dimensions are in inches (mm) & weights are in pounds (kg), unless otherwise noted.



Nor-Cal's ASA flanges are manufactured from specially treated 304 stainless steel. These flanges mate with standard 150 lb. ASA flanges or 150 ANSI flanges. They are available from stock for standard tube sizes from 2 to 12 inches (50.8 to 304.8mm). Larger sizes are available upon request.

ASA TO ANSI CONVERSION CHART

ASA	ANSI
5.0	1.5
6.0	2.0
7.5	3.0
9.0	4.0
11.0	6.0
13.5	8.0
16.0	10.0

Nuts and bolts are used to apply pressure between the mating flanges and a seal is effected when a Viton O-ring is compressed. ASA flanges can be baked to 204°C and have a vacuum range of up to 10^{-8} mbar. Besides being sold separately, they are available as standards on nipples, adapters, tees, crosses, elbows and valves.

Rotatable Flange Option

When components of several systems are used interchangeably, use of rotatable flanges is recommended. Assembly is facilitated by rotation of mating flanges, to align bolt holes. Nonrotatable ASA flanges, unlike rotatable, contain both sealing surface and bolt holes in one unit rather than two. This makes the nonrotatable flange less expensive, and therefore the preferred choice when mating component orientation is not a concern. All fittings are priced with nonrotatable flanges. For fittings with rotatable flanges, add the difference between a nonrotatable and rotatable flange of the desired size. Multiply by the number of rotatable flanges required. Be sure to specify the flange numbers which are rotatable.

O-Ring Groove Option

One of each pair of mating ASA flanges requires an O-ring groove. When ordering flanges with grooves indicate this by adding "-G" to the flange model number. An example would be a rotatable ASA-11 flange bored out for six inch (152.4mm) OD tubing with a groove. The model number would be ASA-11-600R-G. The same rule applies when ordering a fitting or adapter flange with only one ASA flange. An example would be adapter flange model number ASA-6-338-200Z-G. When a fitting has more than one ASA flange, such as a four-way cross, indicate which flanges are desired with grooves by using the flange numbers on the drawing. If, for example, you desired a cross with ASA-9 flanges and a six inch (160mm) tube OD with grooved flanges on the left and bottom ports, the model number would be 4C-ASA-9-600-G1-G3. Add the appropriate amount for each O-ring groove to the price of the fitting.



ASA Flanges - 5 to 9 Inch (125-225mm) OD

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

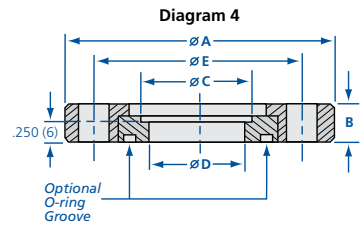
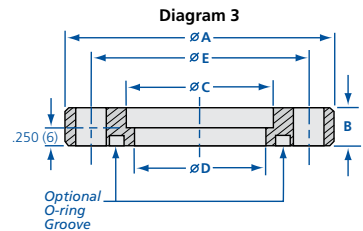
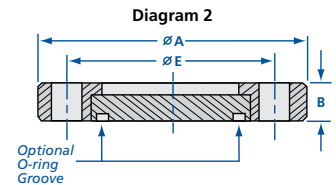
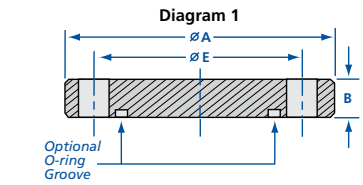
MODEL NUMBER	TYPE	DIAGRAM	A	B	C	D	E	BOLT HOLES	
								NO.	SIZE
ASA-5-000N	Blank	1	5.00 (127.00)	0.500 (12.70)	-	-	3.880 (98.55)	4	0.625 (15.8)
ASA-5-200N	Bored	3	5.00 (127.00)	0.500 (12.70)	2.01 (51.05)	1.938 (49.23)	3.880 (98.55)	4	0.625 (15.8)
ASA-5-250N	Bored	3	5.00 (127.00)	0.500 (12.70)	2.51 (63.75)	2.438 (61.93)	3.880 (98.55)	4	0.625 (15.8)
ASA-5-000R	Blank	2	5.00 (127.00)	0.500 (12.70)	-	-	3.880 (98.55)	4	0.625 (15.8)
ASA-5-200R	Bored	4	5.00 (127.00)	0.500 (12.70)	2.01 (51.05)	1.938 (49.23)	3.880 (98.55)	4	0.625 (15.8)
ASA-5-250R	Bored	4	5.00 (127.00)	0.500 (12.70)	2.51 (63.75)	2.438 (61.93)	3.880 (98.55)	4	0.625 (15.8)
ASA-6-000N	Blank	1	6.00 (152.40)	0.500 (12.70)	-	-	4.750 (120.65)	4	0.750 (19.05)
ASA-6-300N	Bored	3	6.00 (152.40)	0.500 (12.70)	3.01 (76.45)	2.938 (74.63)	4.750 (120.65)	4	0.750 (19.05)
ASA-6-350N	Bored	3	6.00 (152.40)	0.500 (12.70)	3.51 (89.15)	3.438 (87.33)	4.750 (120.65)	4	0.750 (19.05)
ASA-6-000R	Blank	2	6.00 (152.40)	0.612 (15.54)	-	-	4.750 (120.65)	4	0.750 (19.05)
ASA-6-300R	Bored	4	6.00 (152.40)	0.612 (15.54)	3.01 (76.45)	2.938 (74.63)	4.750 (120.65)	4	0.750 (19.05)
ASA-6-350R	Bored	4	6.00 (152.40)	0.612 (15.54)	3.51 (89.15)	3.438 (87.33)	4.750 (120.65)	4	0.750 (19.05)
ASA-7.5-000N	Blank	1	7.50 (190.50)	0.500 (12.70)	-	-	6.000 (152.40)	4	0.750 (19.05)
ASA-7.5-400N	Bored	3	7.50 (190.50)	0.500 (12.70)	4.01 (101.85)	3.910 (99.31)	6.000 (152.40)	4	0.750 (19.05)
ASA-7.5-000R	Blank	2	7.50 (190.50)	0.612 (15.54)	-	-	6.000 (152.40)	4	0.750 (19.05)
ASA-7.5-400R	Bored	4	7.50 (190.50)	0.612 (15.54)	4.01 (101.85)	3.910 (99.31)	6.000 (152.40)	4	0.750 (19.05)
ASA-9-000N	Blank	1	9.00 (228.60)	0.500 (12.70)	-	-	7.500 (190.50)	8	0.750 (19.05)
ASA-9-400N	Bored	3	9.00 (228.60)	0.500 (12.70)	4.01 (101.85)	3.910 (99.31)	7.500 (190.50)	8	0.750 (19.05)
ASA-9-600N	Bored	3	9.00 (228.60)	0.500 (12.70)	6.02 (152.91)	5.875 (149.23)	7.500 (190.50)	8	0.750 (19.05)
ASA-9-000R	Blank	2	9.00 (228.60)	0.612 (15.54)	-	-	7.500 (190.50)	8	0.750 (19.05)
ASA-9-400R	Bored	4	9.00 (228.60)	0.612 (15.54)	4.01 (101.85)	3.910 (99.31)	7.500 (190.50)	8	0.750 (19.05)
ASA-9-600R	Bored	4	9.00 (228.60)	0.612 (15.54)	6.02 (152.91)	5.875 (149.23)	7.500 (190.50)	8	0.750 (19.05)

Model Number Definitions
N = Nonrotatable **R** = Rotatable

O-ring Groove Option

Indicate grooved flanges by adding “-G” to the end of the main part number. Add the appropriate cost for each grooved flange.

Example: ASA-9-000R-G



ASA Flange Hardware

MODEL NUMBER	FLANGE SIZE	DESCRIPTION
BA-5	ASA-5	(4) SS bolts (9/16-12 x 1.5) nuts and washers
OR-2-231	ASA-5	(1) Viton O-ring
BA-6	ASA-6	(4) SS bolts (5/8-11 x 1.5) nuts and washers
OR-2-238	ASA-6	(1) Viton O-ring
BA-7.5	ASA-7.5	(4) SS bolts (5/8-11 x 1.5) nuts and washers
OR-2-243	ASA-7.5	(1) Viton O-ring
BA-9	ASA-9	(8) SS bolts (5/8-11 x 1.5) nuts and washers
OR-2-259	ASA-9	(1) Viton O-ring

ASA Hardware for Mating to Gate Valves

MODEL NUMBER	FLANGE SIZE	DESCRIPTION
BA-6GV	ASA-6	(4) SS bolts (3/8-16x1.0) & reducer bushings (3/8 x 3/4)
BA-7.5GV	ASA-7.5	(4) SS bolts (3/8-16x1.0) & reducer bushings (3/8 x 3/4)
BA-9GV	ASA-9	(8) SS bolts (3/8-16x1.0) & reducer bushings (3/8 x 3/4)

SPECIFICATIONS

General: Rotatable and nonrotatable

Materials

Flanges: 304 stainless steel
 Gaskets: Viton
 Bolts: 18-8 stainless steel

Torque: 21.5 Nm

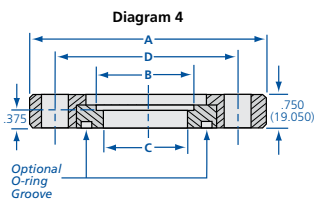
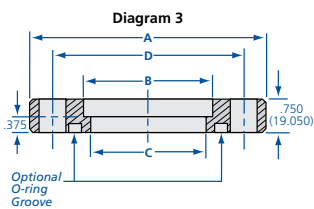
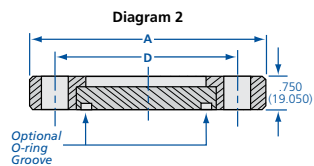
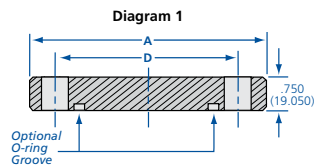
Vacuum range: $\geq 1 \times 10^{-8}$ mbar - High vacuum

Temperature range: -20° to 204°C
 Sustained: -20°C to 150°C



Flanges & Fittings

ASA Flanges & Hardware

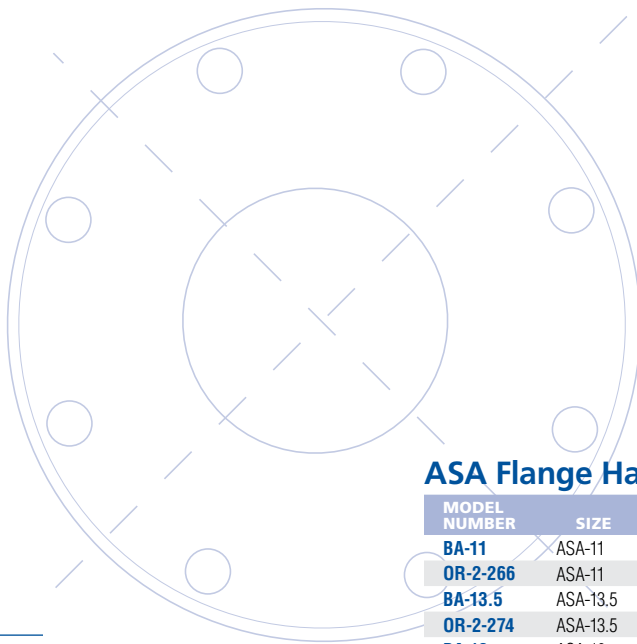


ASA Flanges - 11 to 16 Inch (285-400mm) OD

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

MODEL NUMBER	TYPE	DIAGRAM	A	B	C	D	BOLT HOLES NO.	BOLT HOLES SIZE
ASA-11-000N	Blank	1	11.00 (279.40)	-	-	9.500 (251.3)	8	0.812 (20.62)
ASA-11-600N	Bored	3	11.00 (279.40)	6.02 (152.91)	5.875 (149.225)	9.500 (251.3)	8	0.812 (20.62)
ASA-11-800N	Bored	3	11.00 (279.40)	8.02 (203.71)	7.875 (200.025)	9.500 (251.3)	8	0.812 (20.62)
ASA-11-000R	Blank	2	11.00 (279.40)	-	-	9.500 (251.3)	8	0.812 (20.62)
ASA-11-600R	Bored	4	11.00 (279.40)	6.02 (152.91)	5.875 (149.225)	9.500 (251.3)	8	0.812 (20.62)
ASA-11-800R	Bored	4	11.00 (279.40)	8.02 (203.71)	7.875 (200.025)	9.500 (251.3)	8	0.812 (20.62)
ASA-13.5-000N	Blank	1	13.50 (343.90)	-	-	11.750 (298.45)	8	0.812 (20.62)
ASA-13.5-800N	Bored	3	13.50 (343.90)	8.02 (203.71)	7.875 (200.025)	11.750 (298.45)	8	0.812 (20.62)
ASA-13.5-1000N	Bored	3	13.50 (343.90)	10.03 (254.76)	9.875 (250.825)	11.750 (298.45)	8	0.812 (20.62)
ASA-13.5-000R	Blank	2	13.50 (343.90)	-	-	11.750 (298.45)	8	0.812 (20.62)
ASA-13.5-800R	Bored	4	13.50 (343.90)	8.02 (203.71)	7.875 (200.025)	11.750 (298.45)	8	0.812 (20.62)
ASA-13.5-1000R	Bored	4	13.50 (343.90)	10.03 (254.76)	9.875 (250.825)	11.750 (298.45)	8	0.812 (20.62)
ASA-16-000N	Blank	1	16.00 (406.40)	-	-	14.250 (361.95)	12	0.812 (20.62)
ASA-16-1000N	Bored	3	16.00 (406.40)	10.03 (254.76)	9.875 (250.825)	14.250 (361.95)	12	0.812 (20.62)
ASA-16-1200N	Bored	3	16.00 (406.40)	12.03 (305.56)	11.875 (301.625)	14.250 (361.95)	12	0.812 (20.62)
ASA-16-000R	Blank	2	16.00 (406.40)	-	-	14.250 (361.95)	12	0.812 (20.62)
ASA-16-1000R	Bored	4	16.00 (406.40)	10.03 (254.76)	9.875 (250.825)	14.250 (361.95)	12	0.812 (20.62)
ASA-16-1200R	Bored	4	16.00 (406.40)	12.03 (305.56)	11.875 (301.625)	14.250 (361.95)	12	0.812 (20.62)

Model Number Definitions
N = Nonrotatable **R** = Rotatable



O-ring Groove Option

Indicate grooved flanges by adding “-G” to the end of the main part number. Add the appropriate cost for each grooved flange.
Example: ASA-9-000R-G

SPECIFICATIONS

General: Rotatable and nonrotatable

Material

Flanges: 304 stainless steel
 Gaskets: Viton
 Bolts: 18-8 stainless steel

Torque: 21.5 Nm

Vacuum range: $\geq 1 \times 10^{-8}$ mbar - High vacuum

Temperature range: -20° to 204°C
 Operating: -20°C to 150°C

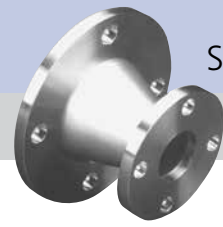
All dimensions are in inches (mm) & weights are in pounds (kg), unless otherwise noted.

ASA Flange Hardware

MODEL NUMBER	SIZE	DESCRIPTION
BA-11	ASA-11	(8) SS bolts (3/4-10 x 2.25) nuts and washers
OR-2-266	ASA-11	(1) Viton O-ring
BA-13.5	ASA-13.5	(8) SS bolts (3/4-10 x 2.25) nuts and washers
OR-2-274	ASA-13.5	(1) Viton O-ring
BA-16	ASA-16	(12) SS bolts (3/4-10 x 2.25) nuts and washers
OR-2-278	ASA-16	(1) Viton O-ring

ASA Hardware for Mating to Gate Valves

MODEL NUMBER	SIZE	DESCRIPTION
BA-11GV	ASA-11	(8) SS bolts (3/8-16 x 1.0)
BA-16GV	ASA-16	(12) SS bolts (3/8-16 x 1.0)



Nor-Cal manufactures a complete line of flanged vacuum component fittings. The tube portions are fabricated from 304 stainless steel. On request, 316 stainless steel can be supplied. Nor-Cal makes its own elbows, and all tees and crosses are made with the pulled-port technique. This allows smooth, crevice-free butt welds to provide the maximum in cleanliness for UHV applications. Bake-out range is up to 200°C. Nor-Cal fittings are also available with CF (Conflat style), NW and ISO flanges.

SPECIFICATIONS

General: Rotatable and nonrotatable

Materials

Flanges: 304 stainless steel
Gaskets: Viton
Bolts: 18-8 stainless steel

Torque: 21.5 Nm

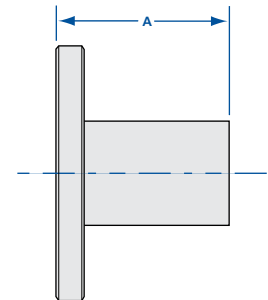
Vacuum range: $\geq 1 \times 10^{-8}$ mbar - High vacuum

Temperature range: -20° to 204°C
Sustained: -20°C to 150°C

ASA Half Nipples

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

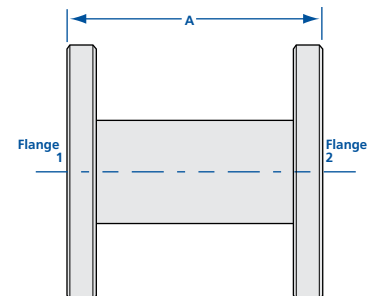
MODEL NUMBER	FLANGE OD	TUBE OD	A
1N-ASA-5-200	5.00 (127.00)	2 (50.80)	3.25 (82.55)
1N-ASA-5-250	5.00 (127.00)	2½ (63.50)	3.25 (82.55)
1N-ASA-5-250V	5.00 (127.00)	2½ (63.50)	4.00 (101.60)
1N-ASA-6-300	6.00 (152.40)	3 (76.20)	3.50 (88.90)
1N-ASA-7.5-400	7.50 (190.50)	4 (101.60)	4.13 (104.90)
1N-ASA-7.5-400V	7.50 (190.50)	4 (101.60)	5.12 (130.05)
1N-ASA-9-400	9.00 (228.60)	4 (101.60)	4.13 (104.90)
1N-ASA-9-400V	9.00 (228.60)	4 (101.60)	5.12 (130.05)
1N-ASA-9-600	9.00 (228.60)	6 (152.40)	2.25 (57.15)
1N-ASA-9-600V	9.00 (228.60)	6 (152.40)	6.31 (160.27)
1N-ASA-11-600	11.00 (279.40)	6 (152.40)	5.38 (136.65)
1N-ASA-11-600V	11.00 (279.40)	6 (152.40)	6.44 (163.58)
1N-ASA-11-800	11.00 (279.40)	8 (203.20)	7.38 (187.45)
1N-ASA-13.5-800	13.50 (342.90)	8 (203.20)	7.75 (196.85)
1N-ASA-13.5-1000	13.50 (342.90)	10 (254.00)	9.88 (250.95)
1N-ASA-16-1000	16.00 (406.40)	10 (254.00)	9.88 (250.95)
1N-ASA-16-1200	16.00 (406.40)	12 (304.80)	9.88 (250.95)



ASA Full Nipples

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

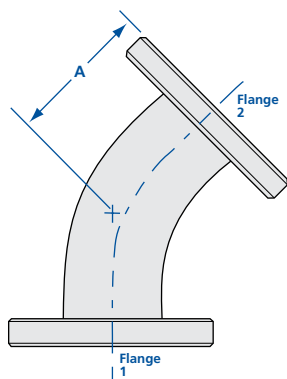
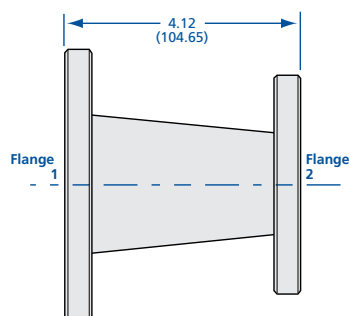
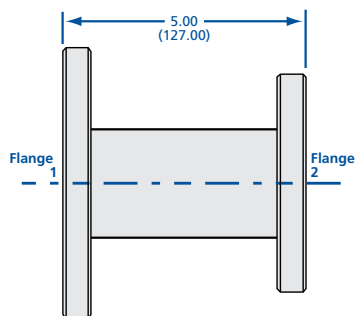
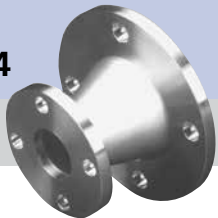
MODEL NUMBER	FLANGE OD	TUBE OD	A
2N-ASA-5-200N	5.00 (127.00)	2 (50.80)	6.50 (165.10)
2N-ASA-5-250N	5.00 (127.00)	2½ (63.50)	6.50 (165.10)
2N-ASA-5-250NV	5.00 (127.00)	2½ (63.50)	8.00 (203.20)
2N-ASA-6-300N	6.00 (152.40)	3 (76.20)	7.00 (177.80)
2N-ASA-7.5-400N	7.50 (190.50)	4 (101.60)	8.26 (209.80)
2N-ASA-7.5-400NV	7.50 (190.50)	4 (101.60)	10.24 (260.10)
2N-ASA-9-400N	9.00 (228.60)	4 (101.60)	8.26 (209.80)
2N-ASA-9-400NV	9.00 (228.60)	4 (101.60)	10.24 (260.10)
2N-ASA-9-600N	9.00 (228.60)	6 (152.40)	10.50 (266.70)
2N-ASA-9-600NV	9.00 (228.60)	6 (152.40)	12.62 (320.55)
2N-ASA-11-600N	11.00 (279.40)	6 (152.40)	10.76 (273.30)
2N-ASA-11-600NV	11.00 (279.40)	6 (152.40)	12.88 (327.15)
2N-ASA-11-800N	11.00 (279.40)	8 (203.20)	14.76 (374.90)
2N-ASA-13.5-800N	13.50 (342.90)	8 (203.20)	15.50 (393.70)
2N-ASA-13.5-1000N	13.50 (342.90)	10 (254.00)	19.76 (501.90)
2N-ASA-16-1000N	16.00 (406.40)	10 (254.00)	19.76 (501.90)
2N-ASA-16-1200N	16.00 (406.40)	12 (304.80)	19.76 (501.90)



O-ring Groove Option

Indicate grooved flanges by adding "-G + Flange number from drawing" to the end of main part number. Add the appropriate cost for each grooved flange.

Example: 4C-ASA-9-600-G1-G3



ASA Reducer Nipples

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

MODEL NUMBER	FLANGE 1	FLANGE 2	TUBE OD
2NR-ASA-9-5-N	ASA-9	ASA-5	2 (50.80)
2NR-ASA-9-6-N	ASA-9	ASA-6	3 (76.20)
2NR-ASA-9-7.5-N	ASA-9	ASA-7.5	4 (101.60)
2NR-ASA-11-5-N	ASA-11	ASA-5	2 (50.80)
2NR-ASA-11-6-N	ASA-11	ASA-6	3 (76.20)
2NR-ASA-11-7.5-N	ASA-11	ASA-7.5	4 (101.60)
2NR-ASA-11-9-N	ASA-11	ASA-9	6 (152.40)
2NR-ASA-13.5-5-N	ASA-13.5	ASA-5	2 (50.80)
2NR-ASA-13.5-6-N	ASA-13.5	ASA-6	3 (76.20)
2NR-ASA-13.5-7.5-N	ASA-13.5	ASA-7.5	4 (101.60)
2NR-ASA-13.5-9-N	ASA-13.5	ASA-9	6 (152.40)
2NR-ASA-13.5-11-N	ASA-13.5	ASA-11	8 (203.20)
2NR-ASA-16-5-N	ASA-16	ASA-5	2 (50.80)
2NR-ASA-16-6-N	ASA-16	ASA-6	3 (76.20)
2NR-ASA-16-7.5-N	ASA-16	ASA-7.5	4 (101.60)
2NR-ASA-16-9-N	ASA-16	ASA-9	6 (152.40)
2NR-ASA-16-11-N	ASA-16	ASA-11	8 (203.20)
2NR-ASA-16-13.5-N	ASA-16	ASA-13.5	10 (254.00)

Conical Reducer Nipples

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

MODEL NUMBER	FLANGE 1 SIZE	FLANGE 1 TUBE OD	FLANGE 2 SIZE	FLANGE 2 TUBE OD
2NRC-ASA-6-5-N	ASA-6	3 (76.20)	ASA-5	2 (50.80)
2NRC-ASA-7.5-5-N	ASA-7.5	4 (101.60)	ASA-5	2 (50.80)
2NRC-ASA-7.5-6-N	ASA-7.5	4 (101.60)	ASA-6	3 (76.20)

ASA 45° Radius Elbows with Tangents

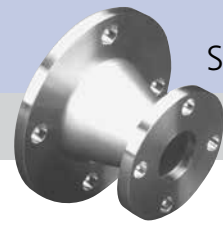
One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

MODEL NUMBER	FLANGE OD	TUBE OD	A
2KL-ASA-5-N	5.00 (127.00)	2 (50.80)	2.09 (53.09)
2KL-ASA-6-N	6.00 (152.40)	3 (76.20)	3.93 (99.82)
2KL-ASA-7.5-N	7.50 (190.50)	4 (101.60)	5.02 (127.51)
2KL-ASA-9-N	9.00 (228.60)	4 (101.60)	5.02 (127.51)

O-ring Groove Option

Indicate grooved flanges by adding "-G + Flange number from drawing" to the end of main part number. Add the appropriate cost for each grooved flange.
Example: 4C-ASA-9-600-G1-G3

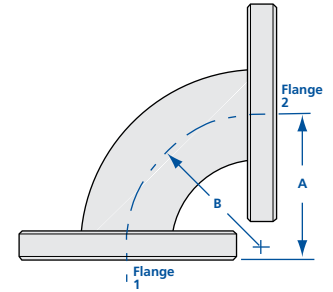
All dimensions are in inches (mm) & weights are in pounds (kg), unless otherwise noted.



ASA 90° Radius Elbows

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

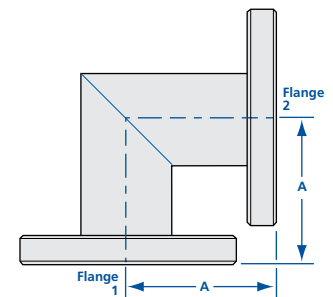
MODEL NUMBER	FLANGE OD	TUBE OD	A	B
2E-ASA-5-N	5.00 (127.0)	2 (50.80)	3.25 (82.55)	3 (76.20)
2E-ASA-6-N	6.00 (152.4)	3 (76.20)	4.75 (120.65)	4½ (114.30)
2E-ASA-9-N	9.00 (228.6)	4 (101.60)	6.25 (158.75)	6 (152.40)
2E-ASA-11-N	11.00 (279.4)	6 (152.40)	9.38 (238.25)	9 (228.60)
2E-ASA-13.5-N	13.50 (342.9)	8 (203.20)	12.38 (314.45)	12 (304.80)
2E-ASA-16-N	16.00 (406.4)	10 (254.00)	15.38 (390.65)	15 (381.00)



ASA 90° Mitered Elbows

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

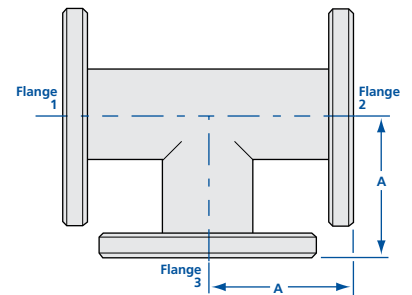
MODEL NUMBER	FLANGE OD	TUBE OD	A
2E-ASA-5-200NM	5.00 (127.00)	2 (50.80)	3.25 (82.55)
2E-ASA-5-250NM	5.00 (127.00)	2½ (63.50)	3.25 (82.55)
2E-ASA-5-250NMV	5.00 (127.00)	2½ (63.50)	4.00 (101.60)
2E-ASA-7.5-400NMV	7.50 (190.50)	4 (101.60)	5.12 (130.05)
2E-ASA-9-400NMV	9.00 (228.60)	4 (101.60)	5.12 (130.05)
2E-ASA-9-600NM	9.00 (228.60)	6 (152.40)	5.25 (133.35)
2E-ASA-9-600NMV	9.00 (228.60)	6 (152.40)	6.31 (160.27)
2E-ASA-11-600NMV	11.00 (279.40)	6 (152.40)	6.44 (163.58)
2E-ASA-11-800NM	11.00 (279.40)	8 (203.20)	7.38 (187.45)
2E-ASA-13.5-800NM	13.50 (342.90)	8 (203.20)	7.75 (196.85)
2E-ASA-13.5-1000NM	13.50 (342.90)	10 (254.00)	9.88 (250.95)
2E-ASA-16-1000NM	16.00 (406.40)	10 (254.00)	9.88 (250.95)



ASA Tees

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.

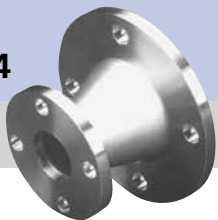
MODEL NUMBER	FLANGE OD	TUBE OD	A
3T-ASA-5-200N	5.00 (127.00)	2 (50.80)	3.25 (82.55)
3T-ASA-5-250N	5.00 (127.00)	2½ (63.50)	3.25 (82.55)
3T-ASA-5-250NV	5.00 (127.00)	2½ (63.50)	4.00 (101.60)
3T-ASA-7.5-400NV	7.50 (190.50)	4 (101.60)	5.12 (130.05)
3T-ASA-9-400NV	9.00 (228.60)	4 (101.60)	5.12 (130.05)
3T-ASA-9-600N	9.00 (228.60)	6 (152.40)	5.25 (133.35)
3T-ASA-9-600NV	9.00 (228.60)	6 (152.40)	6.31 (160.27)
3T-ASA-11-600NV	11.00 (279.40)	6 (152.40)	6.44 (163.58)
3T-ASA-11-800N	11.00 (279.40)	8 (203.20)	7.38 (187.45)
3T-ASA-13.5-800N	13.50 (342.90)	8 (203.20)	7.75 (196.85)
3T-ASA-13.5-1000N	13.50 (342.90)	10 (254.00)	9.88 (250.95)
3T-ASA-16-1000N	16.00 (406.40)	10 (254.00)	9.88 (250.95)



O-ring Groove Option

Indicate grooved flanges by adding “-G + Flange number from drawing” to the end of main part number. Add the appropriate cost for each grooved flange.

Example: 4C-ASA-9-600-G1-G3

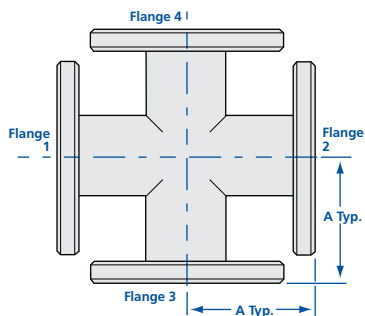


Flanges & Fittings

ASA Fittings

ASA 4-Way Crosses

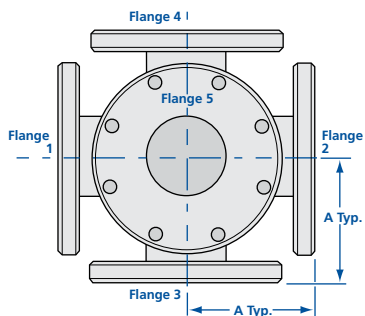
One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.



MODEL NUMBER	FLANGE OD	TUBE OD	A
4C-ASA-5-200N	5.00 (127.00)	2 (50.80)	3.25 (82.55)
4C-ASA-5-250N	5.00 (127.00)	2 1/2 (63.50)	3.25 (82.55)
4C-ASA-5-250NV	5.00 (127.00)	2 1/2 (63.50)	4.00 (101.60)
4C-ASA-7.5-400NV	7.50 (190.50)	4 (101.60)	5.12 (130.05)
4C-ASA-9-400NV	9.00 (228.60)	4 (101.60)	5.12 (130.05)
4C-ASA-9-600N	9.00 (228.60)	6 (152.40)	5.25 (133.35)
4C-ASA-9-600NV	9.00 (228.60)	6 (152.40)	6.31 (160.27)
4C-ASA-11-600NV	11.00 (279.40)	6 (152.40)	6.44 (163.58)
4C-ASA-11-800N	11.00 (279.40)	8 (203.20)	7.38 (187.45)
4C-ASA-13.5-800N	13.50 (342.90)	8 (203.20)	7.75 (196.85)
4C-ASA-13.5-1000N	13.50 (342.90)	10 (254.00)	9.88 (250.95)
4C-ASA-16-1000N	16.00 (406.40)	10 (254.00)	9.88 (250.95)

ASA 5-Way Crosses

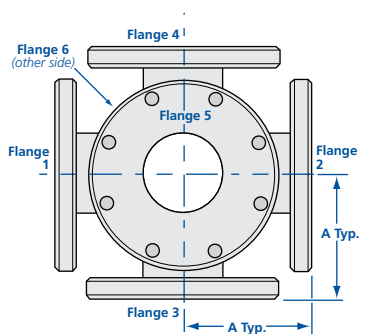
One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.



MODEL NUMBER	FLANGE OD	TUBE OD	A
5C-ASA-5-200N	5.00 (127.00)	2 (50.80)	3.25 (82.55)
5C-ASA-5-250N	5.00 (127.00)	2 1/2 (63.50)	3.25 (82.55)
5C-ASA-5-250NV	5.00 (127.00)	2 1/2 (63.50)	4.00 (101.60)
5C-ASA-7.5-400NV	7.50 (190.50)	4 (101.60)	5.12 (130.05)
5C-ASA-9-400NV	9.00 (228.60)	4 (101.60)	5.12 (130.05)
5C-ASA-9-600N	9.00 (228.60)	6 (152.40)	5.25 (133.35)
5C-ASA-9-600NV	9.00 (228.60)	6 (152.40)	6.31 (160.27)
5C-ASA-11-600NV	11.00 (279.40)	6 (152.40)	6.44 (163.58)
5C-ASA-11-800N	11.00 (279.40)	8 (203.20)	7.38 (187.45)
5C-ASA-13.5-800N	13.50 (342.90)	8 (203.20)	7.75 (196.85)
5C-ASA-13.5-1000N	13.50 (342.90)	10 (254.00)	9.88 (250.95)
5C-ASA-16-1000N	16.00 (406.40)	10 (254.00)	9.88 (250.95)

ASA 6-Way Crosses

One of each pair of mating ASA flanges requires an O-ring groove. To specify grooved flanges refer to the instructions below.



MODEL NUMBER	FLANGE OD	TUBE OD	A
6C-ASA-5-200N	5.00 (127.00)	2 (50.80)	3.25 (82.55)
6C-ASA-5-250N	5.00 (127.00)	2 1/2 (63.50)	3.25 (82.55)
6C-ASA-5-250NV	5.00 (127.00)	2 1/2 (63.50)	4.00 (101.60)
6C-ASA-7.5-400NV	7.50 (190.50)	4 (101.60)	5.12 (130.05)
6C-ASA-9-400NV	9.00 (228.60)	4 (101.60)	5.12 (130.05)
6C-ASA-9-600N	9.00 (228.60)	6 (152.40)	5.25 (133.35)
6C-ASA-9-600NV	9.00 (228.60)	6 (152.40)	6.31 (160.27)
6C-ASA-11-600NV	11.00 (279.40)	6 (152.40)	6.44 (163.58)
6C-ASA-11-800N	11.00 (279.40)	8 (203.20)	7.38 (187.45)
6C-ASA-13.5-800N	13.50 (342.90)	8 (203.20)	7.75 (196.85)
6C-ASA-13.5-1000N	13.50 (342.90)	10 (254.00)	9.88 (250.95)
6C-ASA-16-1000N	16.00 (406.40)	10 (254.00)	9.88 (250.95)

All dimensions are in inches (mm) & weights are in pounds (kg), unless otherwise noted.

O-ring Groove Option

Indicate grooved flanges by adding "-G + Flange number from drawing" to the end of main part number. Add the appropriate cost for each grooved flange.

Example: 4C-ASA-9-600-G1-G3