

## CF Flanges and Fittings

- Flanges
- Elbows
- Nipples
- Tees
- Crosses

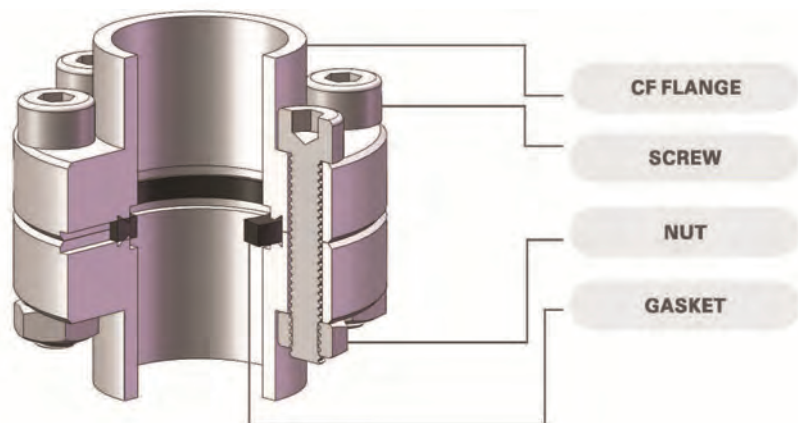
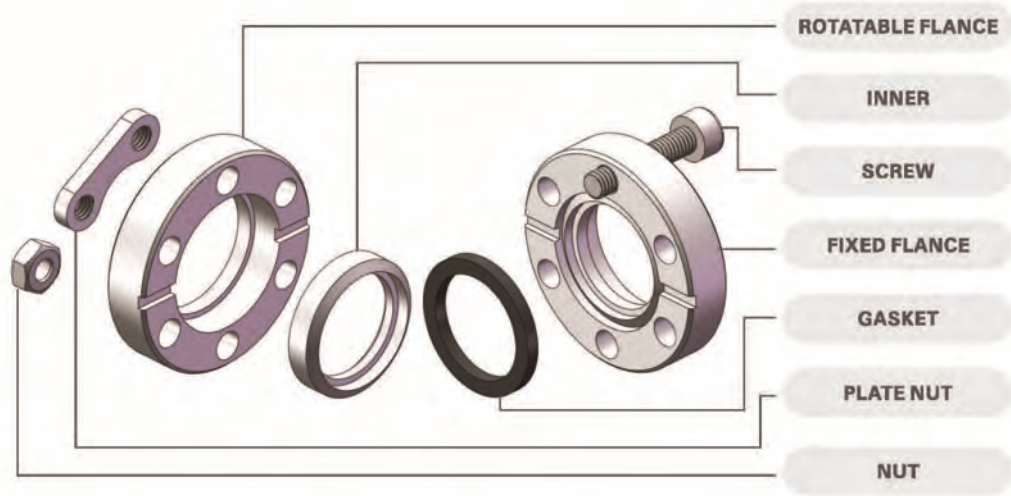
### Features:

1. CF flanges are designed in accordance with ISO 3669 and can be changed upon request.
2. Flange sizes are from CF 16 to CF250.
3. CF flanges are available in both rotatable and non-rotatable models with through holes or tapped holes.
4. Standard materials are 304 and 316L stainless steel.
5. CF products are supplied with a machining finish. Other finishes are also available.
6. Easy assembly or disassembly
7. The system can afford up to 932 °F (500 °C) for copper gaskets; 399 °F(204 °C) for Viton gaskets. However, sustained heating above 302°F (150°C) may result in deterioration of the O-ring.
8. CF flanges are 100 % tested before shipping.
9. Vacuum Range:
  - Copper gasket:  $\geq 10^{-12}$  Torr
  - Fluorocarbon FKM (Viton) gasket:  $\geq 10^{-8}$  Torr
10. Seal Temperature Range:
  - Copper: -325 to 842 °F (-200 to 450 °C)
  - Fluorocarbon FKM (Viton): -4 to 302 °F (-20 to 150 °C)

### Application:

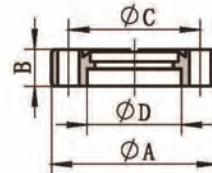
1. High vacuum and ultra high vacuum

## CF Flanges and Fittings



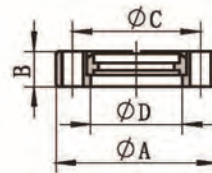
## CF Flanges and Fittings

### Nonrotatable Flange (CF-F)



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.30" (7.5)	1.06" (26.9)	0.76" (19.3)
CF40	1 1/2"	2.74" (69.5)	0.50" (12.7)	2.31" (58.7)	1.51" (38.3)
CF63	2 1/2"	4.47" (113.6)	0.71" (18.0)	3.63" (92.1)	2.51" (63.7)
CF100	4"	5.97" (151.6)	0.79" (20.0)	5.13" (130.3)	4.01" (101.8)
CF160	6"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	6.03" (153.1)
CF200	8"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	8.02" (203.7)
CF250	10"	13.25" (336.5)	1.12" (28.5)	12.07" (306.5)	10.02" (254.5)

### Rotatable Flange (CF-R)

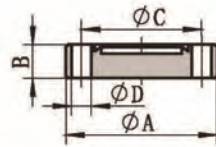


Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.30" (7.5)	1.06" (26.9)	0.76" (19.3)
CF40	1 1/2"	2.74" (69.5)	0.50" (12.7)	2.31" (58.7)	1.51" (38.3)
CF63	2 1/2"	4.47" (113.6)	0.75" (19.0)	3.63" (92.1)	2.51" (63.7)
CF100	4"	5.97" (151.6)	0.85" (21.5)	5.13" (130.3)	4.01" (101.8)
CF160	6"	7.97" (202.5)	0.94" (24.0)	7.13" (181.0)	6.03" (153.1)
CF200	8"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	8.02" (203.7)
CF250	10"	13.25" (336.5)	1.12" (28.5)	12.07" (306.5)	10.02" (254.5)



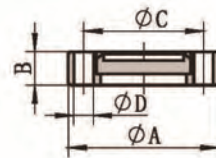
## CF Flanges and Fittings

### Nonrotatable Blank Flanges (CF-F)



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.30" (7.5)	1.06" (26.9)	0.17" (4.4)
CF40	1 1/2"	2.74" (69.5)	0.50" (12.7)	2.31" (58.7)	0.26" (6.7)
CF63	2 1/2"	4.47" (113.6)	0.71" (18.0)	3.63" (92.1)	0.33" (8.4)
CF100	4"	5.97" (151.6)	0.79" (20.0)	5.13" (130.3)	0.33" (8.4)
CF160	6"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	0.33" (8.4)
CF200	8"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	0.33" (8.4)
CF250	10"	13.25" (336.5)	1.12" (28.5)	12.07" (306.5)	0.41" (10.3)

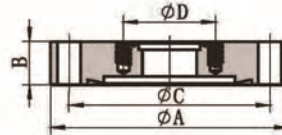
### Rotatable Blank Flange (CF-R)



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.30" (7.5)	1.06" (26.9)	0.76" (19.3)
CF40	1 1/2"	2.74" (69.5)	0.50" (12.7)	2.31" (58.7)	1.51" (38.3)
CF63	2 1/2"	4.47" (113.6)	0.71" (18.0)	3.63" (92.1)	2.51" (63.7)
CF100	4"	5.97" (151.6)	0.79" (20.0)	5.13" (130.3)	4.01" (101.8)
CF160	6"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	6.03" (153.1)
CF200	8"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	8.02" (203.7)
CF250	10"	13.25" (336.5)	1.12" (28.5)	12.07" (306.5)	10.02" (254.5)

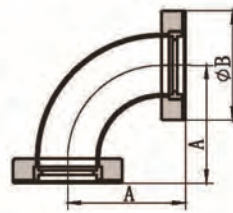
## CF Flanges and Fittings

### CF Reducing Flange



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF40xCF16	3/4"	2.74" (69.5)	0.50" (12.7)	2.31" (58.7)	1.06" (26.9)
CF63xCF40	1 1/2"	4.47" (113.6)	0.71" (18.0)	3.63" (92.1)	2.31" (58.7)
CF100xCF40		5.97" (151.6)	0.79" (20.0)	5.13" (130.3)	2.31" (58.7)
CF100xCF63	2 1/2"	5.97" (151.6)	0.79" (20.0)	5.13" (130.3)	3.63" (92.1)
CF160xCF40	1 1/2"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	2.31" (58.7)
CF160xCF63	2 1/2"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	3.63" (92.1)
CF160xCF100	4"	7.97" (202.5)	0.87" (22.0)	7.13" (181.0)	5.13" (130.3)
CF200xCF40	1 1/2"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	2.31" (58.7)
CF200xCF100	4"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	5.13" (130.3)
CF200xCF160	6"	9.97" (253.2)	0.97" (24.7)	9.13" (231.8)	7.13" (181.0)
CF250xCF200	8"	13.25" (336.5)	1.12" (28.5)	12.07" (306.5)	9.13" (231.8)

### CF Rotatable Flange 90° Elbow



Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
CF16	3/4"	1.68" (42.7)	1.33" (33.8)
CF40	1 1/2"	3.15" (79.9)	2.74" (69.5)
CF63	2 1/2"	5.56" (141.3)	4.47" (113.6)
CF100	4"	8.75" (222.2)	5.97" (151.6)

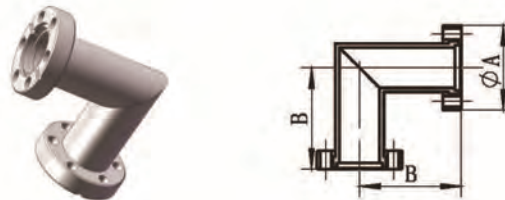
## CF Flanges and Fittings

### Rotatable Equal Tee



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.86" (47.2)	0.75" (19.1)	1.33" (33.8)	3.72" (94.4)
CF40	1 1/2"	2.46" (62.5)	1.50" (38.1)	2.74" (69.5)	4.92" (125.0)
CF63	2 1/2"	3.37" (85.7)	2.50" (63.5)	4.47" (113.6)	6.75" (171.4)
CF100	4"	4.31" (109.5)	4.00" (101.6)	5.97" (151.6)	8.62" (219.0)

### Rotatable Flange 90° Mitered

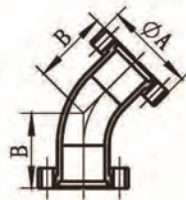


Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
CF16	3/4"	1.33" (33.8)	1.50" (38.1)
CF25	1"	2.12" (53.8)	2.04" (51.8)
CF40	1 1/2"	2.74" (69.5)	2.46" (62.5)
CF50	2"	3.36" (85.3)	3.22" (81.8)
CF63	2 1/2"	4.47" (113.6)	3.38" (85.9)
CF76	3"	4.61" (117.0)	3.53" (89.7)
CF100	4"	5.97" (151.6)	4.29" (109.0)



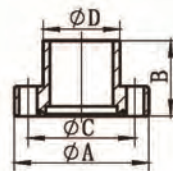
## CF Flanges and Fittings

### Rotatable Flange 45° Elbow



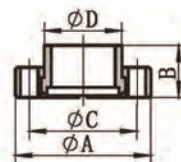
Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
CF16	3/4"	1.33" (33.8)	0.97" (24.6)
CF25	1"	2.12" (53.8)	1.36" (34.5)
CF40	1 1/2"	2.74" (69.5)	1.83" (46.5)
CF50	2"	3.36" (85.3)	2.54" (64.5)
CF63	2 1/2"	4.47" (113.6)	3.38" (85.9)
CF76	3"	4.61" (117.0)	3.98" (101.0)
CF100	4"	5.97" (151.6)	5.24" (133.0)

### Bored CF Weld Neck Nonrotatable



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.50" (12.7)	1.06" (27.0)	0.75" (19.1)

### Bored CF Weld Neck Rotatable



Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
CF16	3/4"	1.33" (33.8)	0.50" (12.7)	1.06" (27.0)	0.75" (19.1)

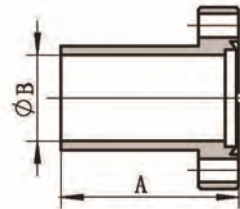
# CF Flanges and Fittings

## Gasket



Flange Size	Tube Size	Dimensions, in. (mm)		
		A	B	C
CF16	3/4"	0.83" (21.0)	0.63" (16.0)	0.08" (2.0)
CF40	1 1/2"	1.89" (48.0)	1.46" (37.0)	0.08" (2.0)
CF63	2 1/2"	3.23" (82.0)	2.48" (63.0)	0.08" (2.0)
CF100	4"	4.72" (120.0)	3.98" (101.0)	0.08" (2.0)
CF160	6"	6.73" (171.0)	5.98" (152.0)	0.08" (2.0)
CF200	8"	8.74" (222.0)	7.99" (203.0)	0.08" (2.0)
CF250	10"	11.57" (294.0)	10.59" (269.0)	0.08" (2.0)

## Half Nipples

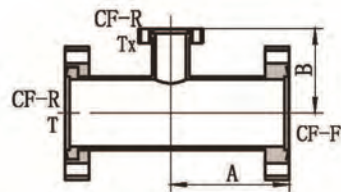


Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
CF16	3/4"	1.50" (38.1)	0.62" (15.7)
CF40	1 1/2"	2.46" (62.5)	1.37" (34.8)
CF63	2 1/2"	3.38" (85.9)	2.37" (60.2)
CF100	4"	4.33" (110.0)	3.83" (97.3)



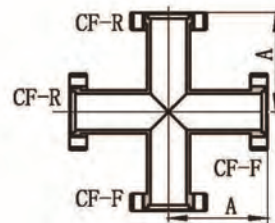
## CF Flanges and Fittings

### Rotatable Reducing Tee



Flange Size	Tube Size		Dimensions, in. (mm)	
	T	Tx	A	B
CF40xCF16	1 1/2"	3/4"	2.46" (62.5)	1.88" (47.8)
CF40xCF25	1 1/2"	1"	2.46" (62.5)	2.29" (58.2)
CF50xCF16	2"	3/4"	3.22" (81.8)	2.12" (53.8)
CF50xCF40	2"	1 1/2"	3.22" (81.8)	2.71" (68.8)
CF63xCF40	2 1/2"	1 1/2"	3.38" (85.9)	2.96" (75.2)
CF63xCF50	2 1/2"	2"	3.38" (85.9)	3.48" (88.4)
CF80xCF50	3"	2"	3.53" (89.7)	3.72" (94.5)
CF80xCF63	3"	2 1/2"	3.53" (89.7)	3.62" (91.9)
CF100xCF40	4"	1 1/2"	4.29" (109.0)	3.83" (97.3)
CF100xCF50	4"	2"	4.29" (109.0)	4.21" (107.0)
CF100xCF63	4"	2 1/2"	4.29" (109.0)	4.13" (105.0)
CF100xCF80	4"	3"	4.29" (109.0)	4.02" (102.0)

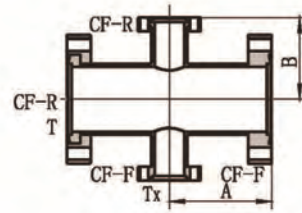
### CF Equal Cross



Flange Size	Tube Size	A, in. (mm)
CF16	3/4"	1.50" (38.1)
CF25	1"	2.04" (51.8)
CF40	1 1/2"	2.45" (62.5)
CF50	2"	3.22" (81.8)
CF63	2 1/2"	3.38" (85.9)
CF76	3"	3.53" (89.7)
CF100	4"	4.29" (109.0)

## CF Flanges and Fittings

### CF Reducing Cross



Flange Size	Tube Size		Dimensions, in. (mm)	
	T	Tx	A	B
CF40xCF16	1 1/2"	3/4"	2.46" (62.5)	1.88" (47.8)
CF40xCF25	1 1/2"	1"	2.46" (62.5)	2.29" (58.2)
CF50xCF16	2"	3/4"	3.22" (81.8)	2.12" (53.8)
CF50xCF40	2"	1 1/2"	3.22" (81.8)	2.71" (68.8)
CF63xCF40	2 1/2"	1 1/2"	3.38" (85.9)	2.96" (75.2)
CF63xCF50	2 1/2"	2"	3.38" (85.9)	3.48" (88.4)
CF80xCF50	3"	2"	3.53" (89.7)	3.72" (94.5)
CF80xCF63	3"	2 1/2"	3.53" (89.7)	3.62" (91.9)
CF100xCF40	4"	1 1/2"	4.29" (109.0)	3.83" (97.3)
CF100xCF50	4"	2"	4.29" (109.0)	4.21" (107.0)
CF100xCF63	4"	2 1/2"	4.29" (109.0)	4.13" (105.0)
CF100xCF80	4"	3"	4.29" (109.0)	4.02" (102.0)