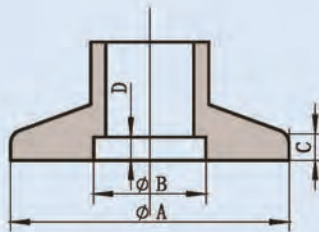


## KF Flanges and Fittings

- Flanges
- Nipples
- Elbows
- Tees
- Crosses
- Clamps and Seals



Flange Size	Material	Tube OD	Dimensions, in. (mm)			
			A	B	C	D
NW10	304/316L	1/2"	1.18" (30.0)	0.48" (12.2)	0.12" (3.0)	0.10" (2.5)
NW16	304/316L	3/4"	1.18" (30.0)	0.68" (17.2)	0.12" (3.0)	0.10" (2.5)
NW25	304/316L	1"	1.57" (40.0)	1.03" (26.2)	0.12" (3.0)	0.10" (2.5)
NW40	304/316L	1 1/2"	2.17" (55.0)	1.62" (41.2)	0.12" (3.0)	0.10" (2.5)
NW50	304/316L	2"	2.95" (75.0)	2.06" (52.3)	0.12" (3.0)	0.10" (2.5)

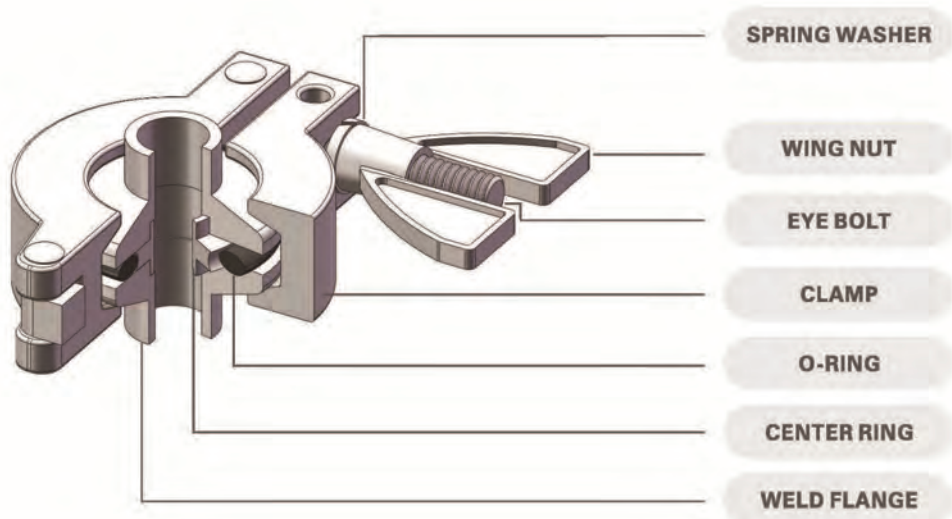
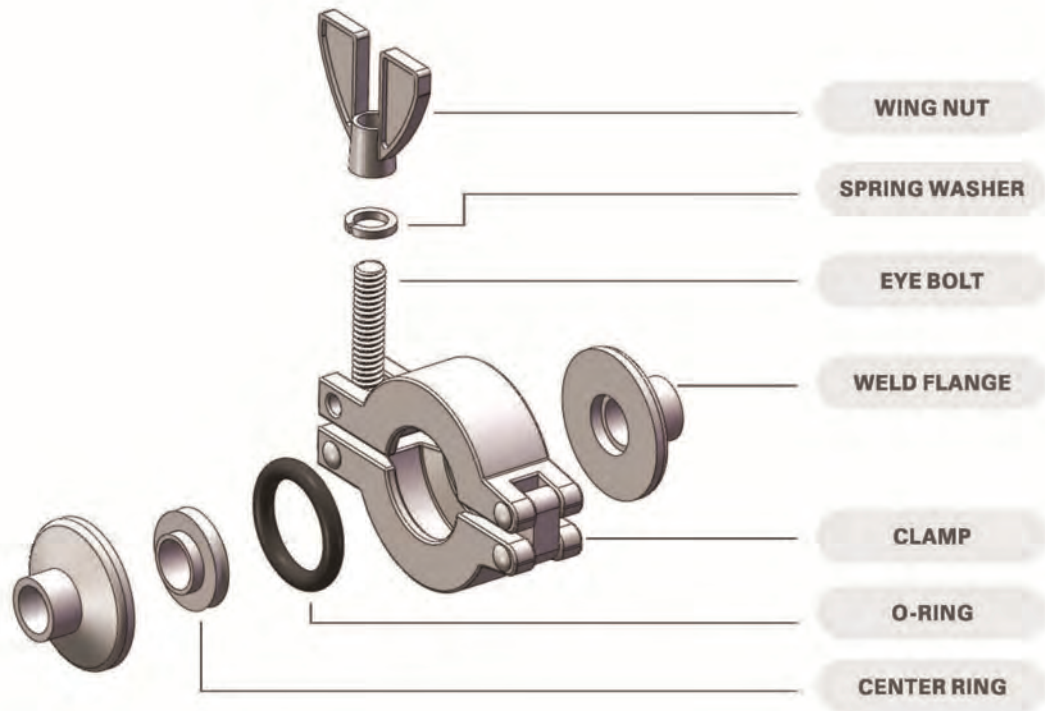
### Features:

1. Flanges are designed according to ISO2861 specification and can be changed upon request.
2. Flange sizes are from NW10 to NW50
3. Vacuum Range:  $\geq 10^{-8}$  Torr
4. Standard materials are 304 and 316L stainless steel.
5. Tube sizes are from 1/2" to 2"
6. The system can afford up to 400 °F (200 °C). However, sustained baking above 302°F (150°C) may result in deterioration of the O-ring.
7. KF products are supplied with a machining finish. Other finishes are also available.
8. Flanges and seals are reusable.
9. No tools for assembly or disassembly.
10. KF flanges are 100% tested before shipping.
11. Seal Temperature Range:
  - Fluorocarbon FKM (Viton): -5 °C ~ 204 °C (23 °F ~ 399 °F)
  - Silicon: -50 °C ~ 180 °C (-58 °F ~ 356°F)
  - Buna-N (NBR): -25 °C ~ 121 °C (-13 °F ~ 250 °F)

### Applications:

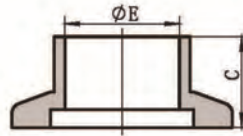
1. High Vacuum
2. Roughing line
3. Vacuum systems, which require cleaning and modified frequently.
4. Experimental system in research laboratories

## KF Flanges and Fittings



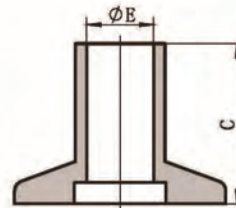
## KF Flanges and Fittings

### Short Weld



Flange Size	Tube Size	Dimensions, in. (mm)	
		C	E
NW10	1/2"	0.50" (12.7)	0.37" (9.4)
NW16	3/4"	0.50" (12.7)	0.62" (15.7)
NW25	1"	0.50" (12.7)	0.87" (22.1)
NW40	1 1/2"	0.75" (19.1)	1.37" (34.8)
NW50	2"	0.75" (19.1)	1.87" (47.5)

### Long Weld



Flange Size	Tube Size	Dimensions, in. (mm)	
		C	E
NW10	1/2"	1.57" (40.0)	0.37" (9.4)
NW16	3/4"	1.57" (40.0)	0.62" (15.7)
NW25	1"	1.57" (40.0)	0.87" (22.1)
NW40	1 1/2"	1.57" (40.0)	1.37" (34.8)
NW50	2"	1.57" (40.0)	1.87" (47.5)

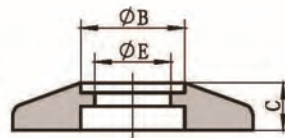
### Blank Flange



Flange Size	Tube Size	Dimensions, in. (mm)	
		C	D
NW10	1/2"	0.20" (5.0)	1.18" (30.0)
NW16	3/4"	0.20" (5.0)	1.18" (30.0)
NW25	1"	0.20" (5.0)	1.57" (40.0)
NW40	1 1/2"	0.20" (5.0)	2.17" (55.0)
NW50	2"	0.20" (5.0)	2.95" (75.0)

## KF Flanges and Fittings

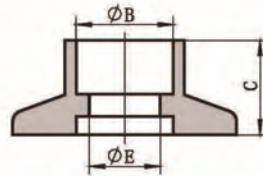
### Bored Flange



Flange Size	Tube Size	Dimensions, in. (mm)		
		C	B	E
NW10	3/8"	0.20" (5.0)	0.38" (9.7)	0.33" (8.4)
	1/2"	0.20" (5.0)	0.51" (13.0)	0.40" (10.2)
NW16	3/8"	0.20" (5.0)	0.38" (9.7)	0.33" (8.4)
	1/2"	0.20" (5.0)	0.51" (13.0)	0.40" (10.2)
	3/4"	0.20" (5.0)	0.76" (19.3)	0.65" (16.5)
NW25	3/8"	0.20" (5.0)	0.38" (9.7)	0.33" (8.4)
	1/2"	0.20" (5.0)	0.51" (13.0)	0.40" (10.2)
	3/4"	0.20" (5.0)	0.76" (19.3)	0.65" (16.5)
	1"	0.20" (5.0)	1.01" (25.7)	0.90" (22.9)
NW40	3/8"	0.20" (5.0)	0.38" (9.7)	0.33" (8.4)
	1/2"	0.20" (5.0)	0.51" (13.0)	0.40" (10.2)
	3/4"	0.20" (5.0)	0.76" (19.3)	0.65" (16.5)
	1"	0.20" (5.0)	1.01" (25.7)	0.90" (22.9)
	1 1/2"	0.20" (5.0)	1.51" (38.4)	1.40" (35.6)
NW50	3/8"	0.20" (5.0)	0.38" (9.7)	0.33" (8.4)
	1/2"	0.20" (5.0)	0.51" (13.0)	0.40" (10.2)
	3/4"	0.20" (5.0)	0.76" (19.3)	0.65" (16.5)
	1"	0.20" (5.0)	1.01" (25.7)	0.90" (22.9)
	1 1/2"	0.20" (5.0)	1.51" (38.4)	1.40" (35.6)
	2"	0.20" (5.0)	2.01" (51.1)	1.90" (48.3)
NW63	2 1/2"	0.47" (12.0)	2.51" (63.7)	2.38" (60.4)
NW80	3"	0.47" (12.0)	3.01" (76.4)	2.87" (73.0)
NW100	4"	0.47" (12.0)	4.01" (101.8)	3.88" (98.5)
NW160	6"	0.47" (12.0)	6.02" (152.9)	5.85" (148.7)

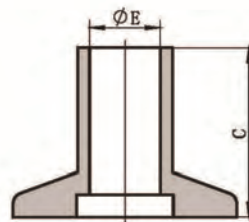
## KF Flanges and Fittings

### Socket Weld



Flange Size	Tube Size	Dimensions, in. (mm)		
		C	B	E
NW10	1/2"	0.50" (12.7)	0.51" (13.0)	0.37" (9.4)
NW16	3/4"	0.50" (12.7)	0.76" (19.3)	0.62" (15.7)
NW25	1"	0.50" (12.7)	1.02" (25.9)	0.87" (22.1)
NW40	1 1/2"	0.50" (12.7)	1.52" (38.6)	1.37" (34.8)
NW50	2"	0.50" (12.7)	2.02" (51.3)	1.87" (47.5)

### Half Nipples



Flange Size	Tube Size	Dimensions, in. (mm)	
		C	E
NW10	1/2"	1.25" (31.8)	0.37" (9.4)
NW16	3/4"	1.15" (29.2)	0.62" (15.7)
NW25	1"	2.03" (51.6)	0.87" (22.1)
NW40	1 1/2"	2.40" (61.0)	1.37" (34.8)
NW50	2"	3.15" (80.0)	1.87" (47.5)

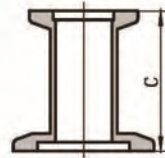
### Full Nipples



Flange Size	Tube Size	C, in. (mm)
NW10	1/2"	2.50" (63.5)
NW16	3/4"	2.30" (58.4)
NW25	1"	4.06" (103.0)
NW40	1 1/2"	4.80" (122.0)
NW50	2"	6.30" (160.0)

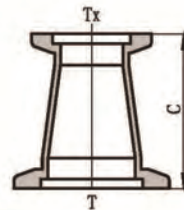
## KF Flanges and Fittings

### Reducing



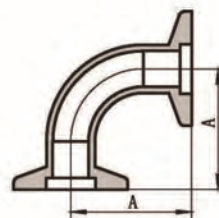
Flange Size	Tube Size	C, in. (mm)
NW25xNW16	3/4"	1.30" (33.0)
NW40xNW16	3/4"	1.30" (33.0)
NW40xNW25	1"	2.18" (55.4)
NW50xNW16	3/4"	1.30" (33.0)
NW50xNW25	1 1/2"	2.18" (55.4)
NW50xNW40	2"	2.55" (64.8)

### Concentric Reducing



Flange Size	Tube Size		C, in. (mm)
	T	TX	
NW25xNW16	1"	3/4"	1.57" (40.0)
NW40xNW16	1 1/2"	3/4"	1.57" (40.0)
NW40xNW25	1 1/2"	1"	1.57" (40.0)
NW50xNW16	2"	3/4"	1.57" (40.0)
NW50xNW25	2"	1"	1.57" (40.0)
NW50xNW40	2"	1 1/2"	1.57" (40.0)

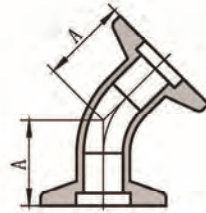
### 90° Elbow



Flange Size	Tube Size	A, in. (mm)
NW10	1/2"	1.25" (31.8)
NW16	3/4"	1.15" (29.2)
NW25	1"	1.65" (41.9)
NW40	1 1/2"	2.40" (61.0)
NW50	2"	3.15" (80.0)

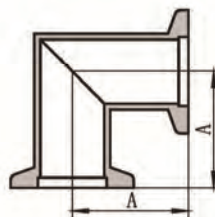
## KF Flanges and Fittings

### 45° Elbow



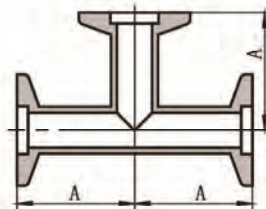
Flange Size	Tube Size	A, in. (mm)
NW16	3/4"	1.62" (41.1)
NW25	1"	0.77" (19.6)
NW40	1 1/2"	1.08" (27.4)
NW50	2"	1.39" (35.3)

### 90° Mitered



Flange Size	Tube Size	A, in. (mm)
NW16	3/4"	1.15" (29.2)
NW25	1"	2.03" (51.6)
NW40	1 1/2"	2.40" (61.0)
NW50	2"	3.15" (80.0)

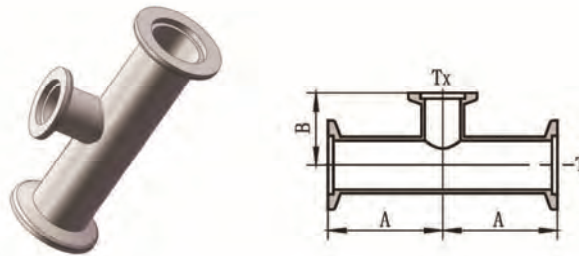
### Equal Tee



Flange Size	Tube Size	A, in. (mm)
NW10	1/2"	1.25" (31.8)
NW16	3/4"	1.15" (29.2)
NW25	1"	2.03" (51.6)
NW40	1 1/2"	2.40" (61.0)
NW50	2"	3.15" (80.0)

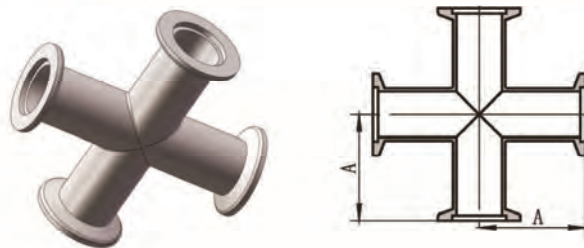
## KF Flanges and Fittings

### Reducing Tee



Flange Size		Tube Size		Dimensions, in. (mm)	
Run	Branch	T	Tx	A	B
NW25	NW16	1"	3/4"	2.03" (51.6)	1.27" (32.3)
NW40	NW16	1 1/2"	3/4"	2.40" (61.0)	1.53" (38.9)
NW40	NW25	1 1/2"	1"	2.40" (61.0)	2.28" (57.9)
NW50	NW16	2"	3/4"	3.15" (80.0)	1.78" (45.2)
NW50	NW40	2"	1 1/2"	3.15" (80.0)	2.65" (67.3)

### Equal Cross

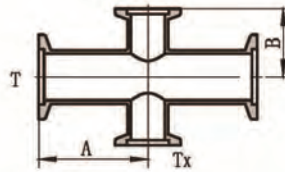


Flange Size	Tube Size	A, in. (mm)
NW10	1/2"	1.25" (31.8)
NW16	3/4"	1.15" (29.2)
NW25	1"	2.03" (51.6)
NW40	1 1/2"	2.40" (61.0)
NW50	2"	3.15" (80.0)



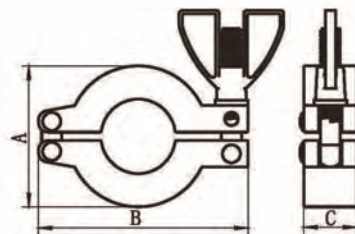
## KF Flanges and Fittings

### Reducing Cross



Flange Size	Tube Size		Dimensions, in. (mm)	
	T	Tx	A	B
NW25xNW16	1"	3/4"	2.03" (51.6)	1.27" (32.3)
NW40xNW16	1 1/2"	3/4"	2.40" (61.0)	1.53" (38.9)
NW40xNW25	1 1/2"	1"	2.40" (61.0)	2.28" (57.9)
NW40xNW16	2"	3/4"	3.15" (80.0)	1.78" (45.2)
NW50xNW40	2"	1 1/2"	3.15" (80.0)	2.65" (67.3)

### KF Clamp



Flange Size	Tube Size	Dimensions, in. (mm)		
		A	B	C
NW10/NW16	1/2" or 3/4"	1.89" (42.9)	2.47" (62.8)	0.63" (16.0)
NW25	1"	2.17" (55.1)	2.82" (71.6)	0.63" (16.0)
NW40	1 1/2"	2.76" (70.1)	3.54" (89.8)	0.63" (16.0)
NW50	2"	3.70" (94.0)	4.43" (112.5)	0.79" (20.1)