

ISO Flanges and Fittings

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

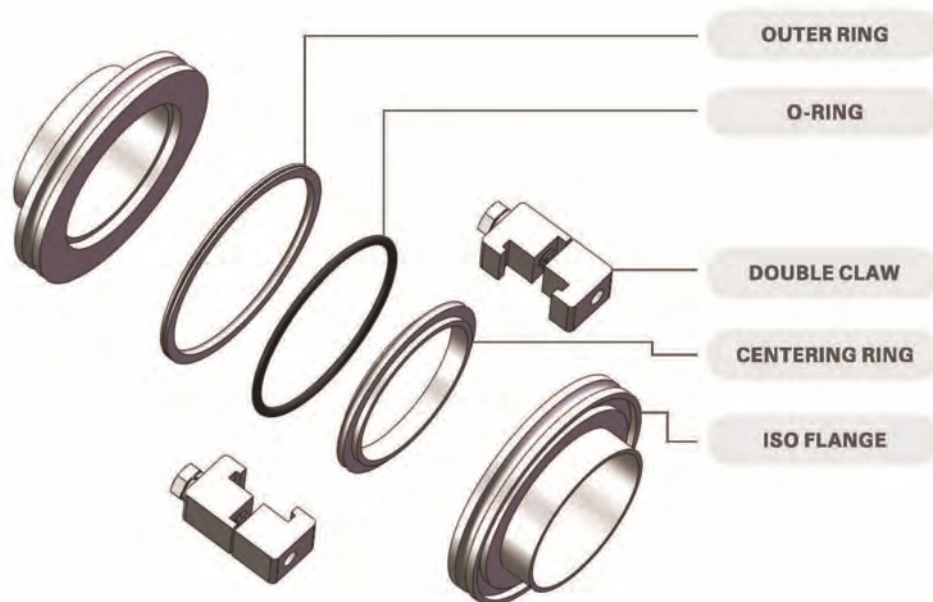
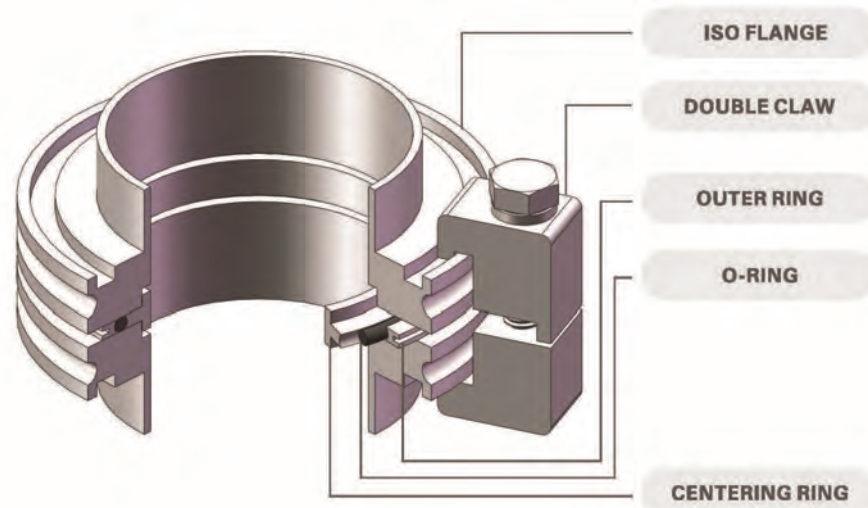
Features:

1. Flanges are designed according to ISO specification and can be changed upon request.
2. Flange sizes are from ISO 63 to ISO 160. Special sizes upon request.
3. Vacuum Range: $\geq 10^{-8}$ Torr
4. Standard materials are 304 and 316L stainless steel.
5. Tube sizes are from 2-1/2" to 6"
6. The ISO flange system consists of two sexless flanges, an O-ring supported by a center ring and a range of clamps.
7. The system can afford up to 400 °F (200 °C). However, sustained heating above 302°F (150°C) may result in deterioration of the O-ring.
8. ISO products are supplied with a machining finish. Other finishes are also available.
9. Flanges and seals are reusable.
10. Quick assembly and disassembly.
11. ISO flanges are 100% tested before shipping.
12. 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

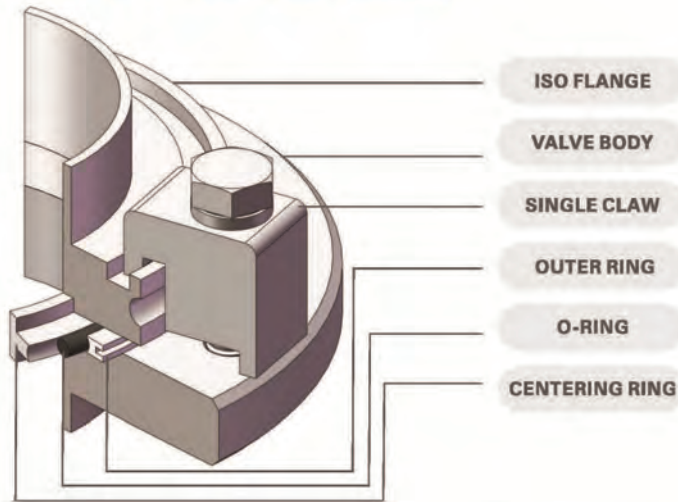
ISO Flanges and Fittings



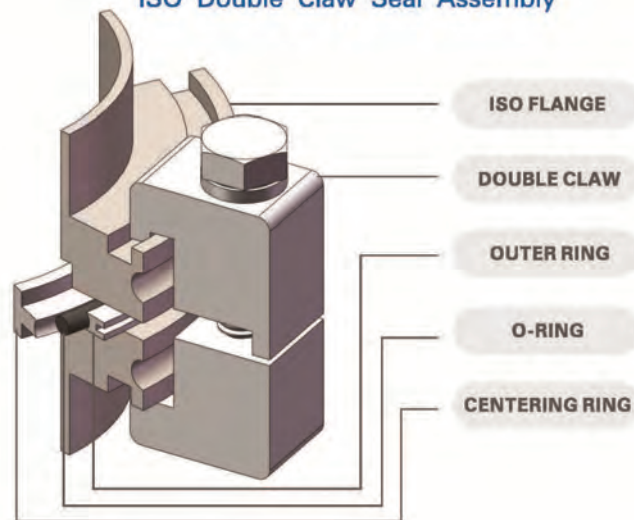
ISO Flanges and Fittings

■ Applications for ISO Components:

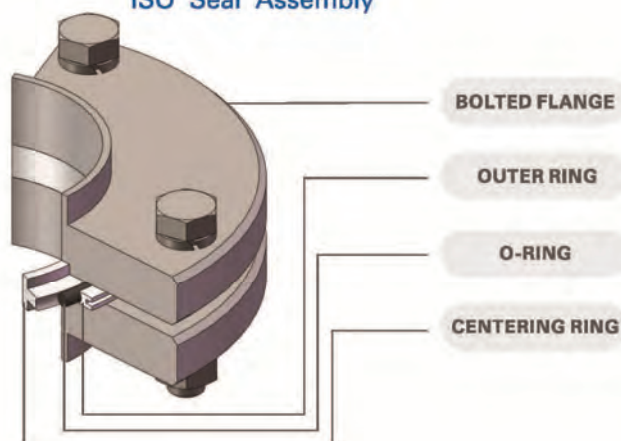
ISO Single Claw Seal Assembly



ISO Double Claw Seal Assembly



ISO Seal Assembly



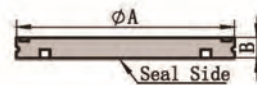
ISO Flanges and Fittings

Bored Flange



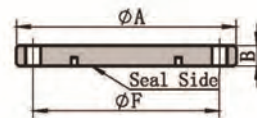
Flange Size	Tube Size	Dimensions, in. (mm)			
		A	B	C	D
ISO63	2 1/2"	3.74" (95.0)	0.47" (12.0)	2.51" (63.8)	2.38" (60.4)
ISO80	3"	4.33" (110.0)	0.47" (12.0)	3.01" (76.5)	2.87" (73.0)
ISO100	4"	5.12" (130.0)	0.47" (12.0)	4.02" (102.0)	3.88" (98.5)
ISO160	6"	7.09" (180.0)	0.47" (12.0)	6.02" (153.0)	5.85" (148.7)
ISO200	8"	9.45" (240.0)	0.47" (12.0)	8.02" (203.7)	7.88" (200.2)

Blank Flange



Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
ISO63	2 1/2"	3.74" (95.0)	0.47" (12.0)
ISO80	3"	4.33" (110.0)	0.47" (12.0)
ISO100	4"	5.12" (130.0)	0.47" (12.0)
ISO160	6"	7.09" (180.0)	0.47" (12.0)
ISO200	8"	9.45" (240.0)	0.47" (12.0)

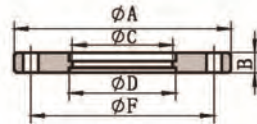
Blank Nonrotatable Flange



Flange Size	Tube Size	Dimensions, in. (mm)			Bolt Holes	Hole Diameter
		A	B	F		
ISO63	2 1/2"	5.12" (130.0)	0.47" (12.0)	4.33" (110.0)	4	0.35" (9.0)
ISO80	3"	5.71" (145.0)	0.47" (12.0)	4.92" (125.0)	8	0.35" (9.0)
ISO100	4"	6.50" (165.0)	0.47" (12.0)	5.71" (145.0)	8	0.35" (9.0)
ISO160	6"	8.86" (225.0)	0.63" (16.0)	7.87" (200.0)	8	0.43" (11.0)
ISO200	8"	11.22" (285.0)	0.63" (16.0)	10.24" (260.0)	12	0.43" (11.0)

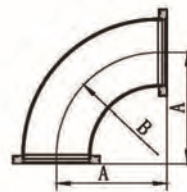
ISO Flanges and Fittings

Nonrotatable Flange



Flange Size	Tube Size	Dimensions, in. (mm)					Bolt Holes	Hole Diameter
		A	B	C	D	F		
ISO63	2 1/2"	5.12" (130.0)	0.47" (12.0)	2.44" (61.9)	2.51" (63.8)	4.33" (110.0)	4	0.35" (9.0)
ISO80	3"	5.71" (145.0)	0.47" (12.0)	2.94" (74.6)	3.01" (76.5)	4.92" (125.0)	8	0.35" (9.0)
ISO100	4"	6.50" (165.0)	0.47" (12.0)	3.91" (99.3)	4.02" (102.0)	5.71" (145.0)	8	0.35" (9.0)
ISO160	6"	8.86" (225.0)	0.63" (16.0)	5.87" (149.0)	6.02" (153.0)	7.87" (200.0)	8	0.43" (11.0)
ISO200	8"	11.22" (285.0)	0.63" (16.0)	7.83" (199.0)	8.02" (203.7)	10.24" (260.0)	12	0.43" (11.0)

90° Elbow



Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
ISO63	2 1/2"	4.02" (102.0)	3.75" (95.3)
ISO80	3"	4.76" (121.0)	4.50" (114.0)
ISO100	4"	6.26" (159.0)	6.00" (152.0)
ISO160	6"	9.25" (235.0)	9.02" (229.0)

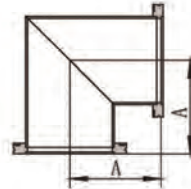
45° Elbow



Flange Size	Tube Size	A, in. (mm)
ISO63	2 1/2"	3.25" (82.6)
ISO80	3"	3.94" (100.0)
ISO100	4"	5.08" (129.0)

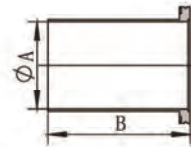
ISO Flanges and Fittings

90° Mitered



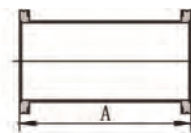
Flange Size	Tube Size	A, in. (mm)
ISO63	2 1/2"	3.25" (82.6)
ISO80	3"	3.50" (88.9)
ISO100	4"	4.13" (105.0)
ISO160	6"	5.24" (133.0)

Half Nipples



Flange Size	Tube Size	Dimensions, in. (mm)	
		A	B
ISO63	2 1/2"	2.37" (60.2)	3.94" (100.0)
ISO80	3"	2.87" (72.9)	3.94" (100.0)
ISO100	4"	3.83" (97.3)	3.94" (100.0)
ISO160	6"	5.78" (147.0)	3.94" (100.0)
ISO200	8"	7.83" (199.0)	3.94" (100.0)

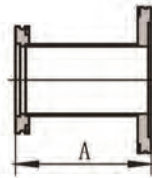
Full Nipples



Flange Size	Tube Size	A, in. (mm)
ISO63	2 1/2"	6.50" (165.0)
ISO80	3"	7.01" (178.0)
ISO100	4"	7.76" (197.0)
ISO160	6"	10.75" (273.0)

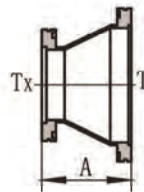
ISO Flanges and Fittings

Reducing Nipples



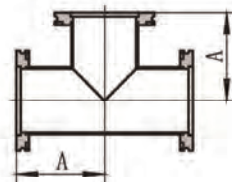
Flange Size	Tube Size	A, in. (mm)
ISO80xISO63	2 1/2"	3.00" (76.2)
ISO100xISO63		3.00" (76.2)
ISO100xISO80	3"	3.00" (76.2)
ISO160xISO63	2 1/2"	3.00" (76.2)
ISO160xISO80	3"	3.00" (76.2)
ISO160xISO100	4"	3.00" (76.2)

Concentric Reducing Nipples



Flange Size	Tube Size		A, in. (mm)
	T	TX	
ISO80xISO63	3"	2 1/2"	4.13" (105.0)
ISO100xISO63	3"	2 1/2"	4.13" (105.0)
ISO100xISO80	4"	3"	4.13" (105.0)

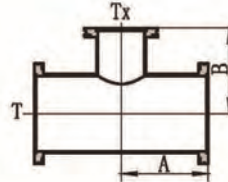
Equal Tee



Flange Size	Tube Size	A, in. (mm)
ISO63	2 1/2"	3.25" (82.6)
ISO80	3"	3.50" (88.9)
ISO100	4"	4.13" (105.0)
ISO160	6"	5.24" (133.0)

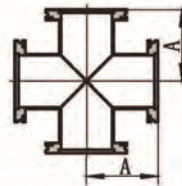
ISO Flanges and Fittings

Reducing Tee



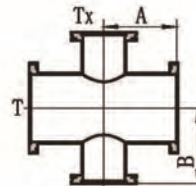
Flange Size		Tube Size		Dimensions, in. (mm)	
Run	Branch	T	Tx	A	B
ISO80	ISO63	3"	2 1/2"	3.50" (88.9)	3.50" (88.9)
ISO100	ISO63	4"	2 1/2"	4.13" (105.0)	4.02" (102.0)
ISO100	ISO80	4"	3"	4.13" (105.0)	4.02" (102.0)
ISO160	ISO63	6"	2 1/2"	5.24" (133.0)	5.00" (127.0)
ISO160	ISO80	6"	3"	5.24" (133.0)	5.00" (127.0)
ISO160	ISO100	6"	4"	5.24" (133.0)	5.12" (130.0)

Equal Cross



Flange Size	Tube Size	A, in. (mm)
ISO63	2 1/2"	3.25" (82.6)
ISO80	3"	3.50" (88.9)
ISO100	4"	4.13" (105.0)
ISO160	6"	5.24" (133.0)

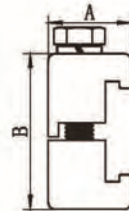
Reducing Cross



Flange Size		Tube Size		Dimensions, in. (mm)	
Run	Branch	T	Tx	A	B
ISO80	ISO63	3"	2 1/2"	3.50" (88.9)	3.50" (88.9)
ISO100	ISO63	4"	2 1/2"	4.13" (105.0)	4.02" (102.0)
ISO100	ISO80	4"	3"	4.13" (105.0)	4.02" (102.0)
ISO160	ISO63	6"	2 1/2"	5.24" (133.0)	5.00" (127.0)
ISO160	ISO80	6"	3"	5.24" (133.0)	5.00" (127.0)
ISO160	ISO100	6"	4"	5.24" (133.0)	5.12" (130.0)

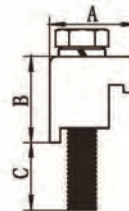
ISO Flanges and Fittings

Double Claw Clamp



Flange Size	Dimensions, in. (mm)		Thread Size	Clamps Required
	A	B		
ISO63	0.94" (24.0)	2.03" (51.5)	5/16-18 UNC	3-4
ISO80	0.94" (24.0)	2.03" (51.5)	5/16-18 UNC	4-8
ISO100	0.94" (24.0)	2.03" (51.5)	5/16-18 UNC	4-8
ISO160	1.08" (27.5)	2.09" (53.0)	5/16-18 UNC	4-8

Single Claw Clamp



Flange Size	Dimensions, in. (mm)			Thread Size	Clamps Required
	A	B	C		
ISO63	0.94" (24.0)	1.16" (29.5)	0.41" (10.5)	5/16-18 UNC	4
ISO80	0.94" (24.0)	1.16" (29.5)	0.41" (10.5)	5/16-18 UNC	8
ISO100	0.94" (24.0)	1.16" (29.5)	0.41" (10.5)	5/16-18 UNC	8
ISO160	1.08" (27.5)	1.24" (31.5)	0.41" (10.5)	5/16-18 UNC	8