COMPONENTS • MANUFACTURING • ASSEMBLY • TESTING

ONE Trusted SOURCE



Valex

Vacuum Components



Trusted Vacuum Components for World Changing Technologies

Since 1976, Valex has set the standard for manufacturing ultra-high purity components and systems for the world's most demanding semiconductor gas delivery applications. We're proud that our engineers have led the industry with the most important advances in component design, electro-polishing, precision cleaning and integrated assemblies.

Technological advancements depend on ever-increasing levels of cleanliness, corrosion resistance, leak integrity and surface finish. Today, our advanced line of vacuum products consistently delivers the highest level of precision and reliability throughout the semiconductor realization process, from IDM facility infrastructure to OEM Capital Equipment.

As more industries including semiconductor, space research, material sciences, biology, chemistry and analytical/medical instrumentation rely on corrosion-resistant, clean vacuum technology to drive further development, Valex continues to prove itself as the **One Trusted Source** for the Vacuum components that drive success.

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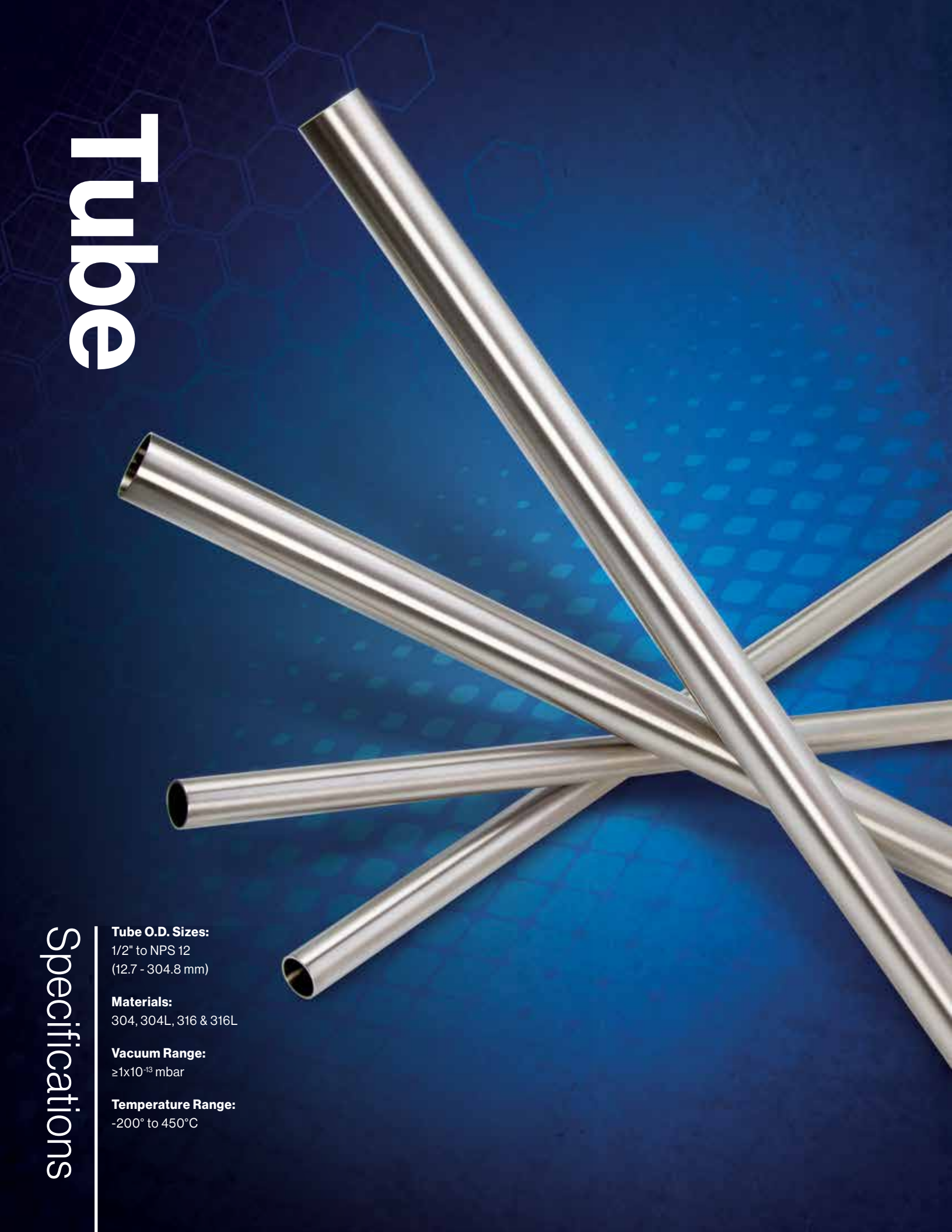
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* Dimensional charts are subject to change. Please visit Valex.com or call your local Valex representative for the latest information.

Tube



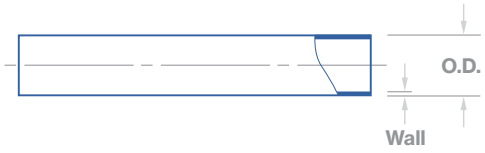
Specifications

Tube O.D. Sizes:
1/2" to NPS 12
(12.7 - 304.8 mm)

Materials:
304, 304L, 316 & 316L

Vacuum Range:
$\geq 1 \times 10^{-13}$ mbar

Temperature Range:
-200° to 450°C



Tube

Bright Annealed (BA)/Annealed & Pickled (AP)

Part Number		Dimensions in Inches & Millimeters			
		Nominal Size (O.D.)		Wall	
316L	304L	inch	mm	inch	mm
CS-1/2X.049-VB	DS-1/2X.049-VB	1/2"	12.70	.049	1.24
CW-3/4X.065-VB	DW-3/4X.065-VB	3/4"	19.05	.065	1.65
CW-1X.065-VB	DW-1X.065-VB	1"	25.40	.065	1.65
CW-1-1/2X.065-VB	DW-1-1/2X.065-VB	1-1/2"	38.10	.065	1.65
CW-2X.065-VB	DW-2X.065-VB	2"	50.80	.065	1.65
CW-2-1/2X.065-VB	DW-2-1/2X.065-VB	2-1/2"	63.50	.065	1.65
CW-3X.065-VB	DW-3X.065-VB	3"	76.20	.065	1.65
CW-4X.083-VB	DW-4X.083-VB	4"	101.60	.083	2.11
CW-6X.083-VB	DW-6X.083-VB	6"	152.40	.083	2.11
CW-8X.120-VB	DW-8X.120-VB	8"	203.20	.120	3.05
CW-10X.120-VB	DW-10X.120-VB	10"	254.00	.120	3.05

* **VB:** Bright Annealed Finish for O.D. sizes 4" and lower. Annealed & Pickled Finish for size 6" and higher.

Mechanically Polished (MP)

Part Number		Dimensions in Inches & Millimeters			
		Nominal Size (O.D.)		Wall	
316L	304L	inch	mm	inch	mm
CW-3/4X.065-MP	DW-3/4X.065-MP	3/4"	19.05	.065	1.65
CW-1X.065-MP	DW-1X.065-MP	1"	25.40	.065	1.65
CW-1-1/2X.065-*MP	DW-1-1/2X.065-MP	1-1/2"	38.10	.065	1.65
CW-2X.065-MP	DW-2X.065-MP	2"	50.80	.065	1.65
CW-2-1/2X.065-MP	DW-2-1/2X.065-MP	2-1/2"	63.50	.065	1.65
CW-3X.065-MP	DW-3X.065-MP	3"	76.20	.065	1.65
CW-4X.083-MP	DW-4X.083-MP	4"	101.60	.083	2.11
CW-6X.083-MP	DW-6X.083-MP	6"	152.40	.083	2.11
CW-8X.120-MP	DW-8X.120-MP	8"	203.20	.120	3.05
CW-10X.120-MP	DW-10X.120-MP	10"	254.00	.120	3.05

Electropolished (EP)

Part Number	Dimensions in Inches & Millimeters			
	Nominal Size (O.D.)		Wall	
316L	inch	mm	inch	mm
T4A-0W-01000-065B0	1"	25.40	.065	1.65
T4A-0W-01500-065B0	1-1/2"	38.10	.065	1.65
T4A-0W-02000-065B0	2"	50.80	.065	1.65
T4A-0W-02500-065B0	2-1/2"	63.50	.065	1.65
T4A-0W-03000-065B0	3"	76.20	.065	1.65
T4A-0W-04000-083B0	4"	101.60	.083	2.11
T4A-0W-06000-083B0	6"	152.40	.083	2.11

Buttweld Fittings



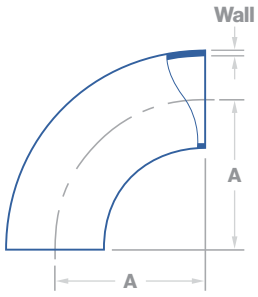
Specifications

Tube O.D. Sizes:
1/2 to 12 inches
(12.7 - 304.8 mm)

Materials:
304, 304L, 316 & 316L

Vacuum Range:
≥1x10^{-13} mbar

Temperature Range:
-200° to 450°C

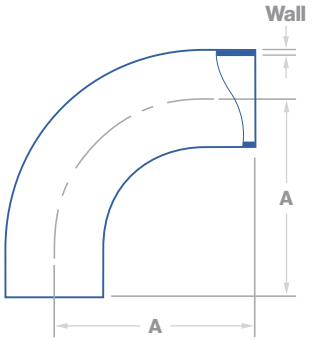


CONFIGURATION 2T

90° Elbow
No Tangent

Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-2T-W12	3/4"	19.05	.065	1.65	1.125	28.58
V*-2T-W16	1"	25.40	.065	1.65	1.500	38.10
V*-2T-W24	1-1/2"	38.10	.065	1.65	2.250	57.15
V*-2T-W32	2"	50.80	.065	1.65	3.000	76.20
V*-2T-W40	2-1/2"	63.50	.065	1.65	3.750	95.25
V*-2T-W48	3"	76.20	.065	1.65	4.500	114.30
V*-2T-W64	4"	101.60	.083	2.11	6.000	152.40
V*-2T-W96	6"	152.40	.083	2.11	9.000	228.60

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION 2

90° Elbow
With Tangent

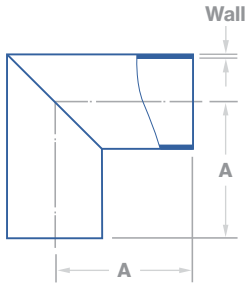
Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-2-W12	3/4"	19.05	.065	1.65	3.000	76.20
V*-2-W16	1"	25.40	.065	1.65	2.063	52.40
V*-2-W24	1-1/2"	38.10	.065	1.65	2.938	74.63
V*-2-W32	2"	50.80	.065	1.65	4.063	103.20
V*-2-W40	2-1/2"	63.50	.065	1.65	5.188	131.78
V*-2-W48	3"	76.20	.065	1.65	6.313	160.35
V*-2-W64	4"	101.60	.083	2.11	8.313	211.15
V*-2-W96	6"	152.40	.083	2.11	12.46	316.48

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 2M

90° Elbow Mitered

No Tangent



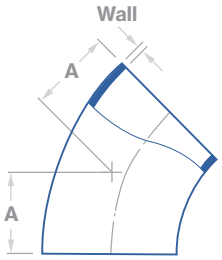
Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-2M-W12	3/4"	19.05	.065	1.65	1.000	25.40
V*-2M-W16	1"	25.40	.065	1.65	1.880	47.75
V*-2M-W24	1-1/2"	38.10	.065	1.65	2.250	57.15
V*-2X-W24	1-1/2"	38.10	.065	1.65	2.410	61.21
V*-2M-W32	2"	50.80	.065	1.65	2.610	66.29
V*-2X-W32	2"	50.80	.065	1.65	3.000	76.20
V*-2M-W40	2-1/2"	63.50	.065	1.65	3.000	76.20
V*-2X-W40	2-1/2"	63.50	.065	1.65	3.750	95.25
V*-2M-W48	3"	76.20	.065	1.65	3.250	82.55
V*-2X-W48	3"	76.20	.065	1.65	3.880	98.55
V*-2M-W64	4"	101.60	.083	2.11	4.250	107.95
V*-2X-W64	4"	101.60	.083	2.11	4.870	123.70
V*-2M-W96	6"	152.40	.083	2.11	5.000	127.00
V*-2X-W96	6"	152.40	.083	2.11	6.060	153.92

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 2N

45° Elbow

No Tangent

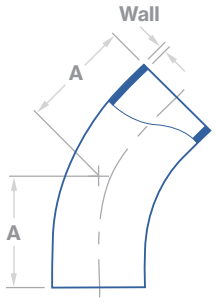


Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-2N-W12	3/4"	19.05	.065	1.65	.469	11.92
V*-2N-W16	1"	25.40	.065	1.65	.625	15.88
V*-2N-W24	1-1/2"	38.10	.065	1.65	.938	23.83
V*-2N-W32	2"	50.80	.065	1.65	1.250	31.75
V*-2N-W40	2-1/2"	63.50	.065	1.65	1.563	39.70
V*-2N-W48	3"	76.20	.065	1.65	1.875	47.63
V*-2N-W64	4"	101.60	.083	2.11	2.500	63.50
V*-2N-W96	6"	152.40	.083	2.11	3.750	95.25

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION **2K**

45° Elbow
With Tangent



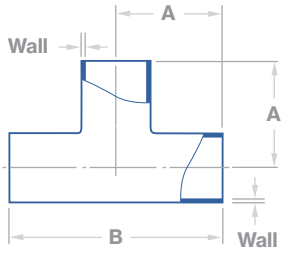
Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-2K-W12	3/4"	19.05	.065	1.65	2.250	57.15
V*-2K-W16	1"	25.40	.065	1.65	1.188	30.18
V*-2K-W24	1-1/2"	38.10	.065	1.65	1.625	41.28
V*-2K-W32	2"	50.80	.065	1.65	2.313	58.75
V*-2K-W40	2-1/2"	63.50	.065	1.65	3.000	76.20
V*-2K-W48	3"	76.20	.065	1.65	3.688	93.68
V*-2K-W64	4"	101.60	.083	2.11	4.813	122.25
V*-2K-W96	6"	152.40	.083	2.11	6.250	158.75

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
7

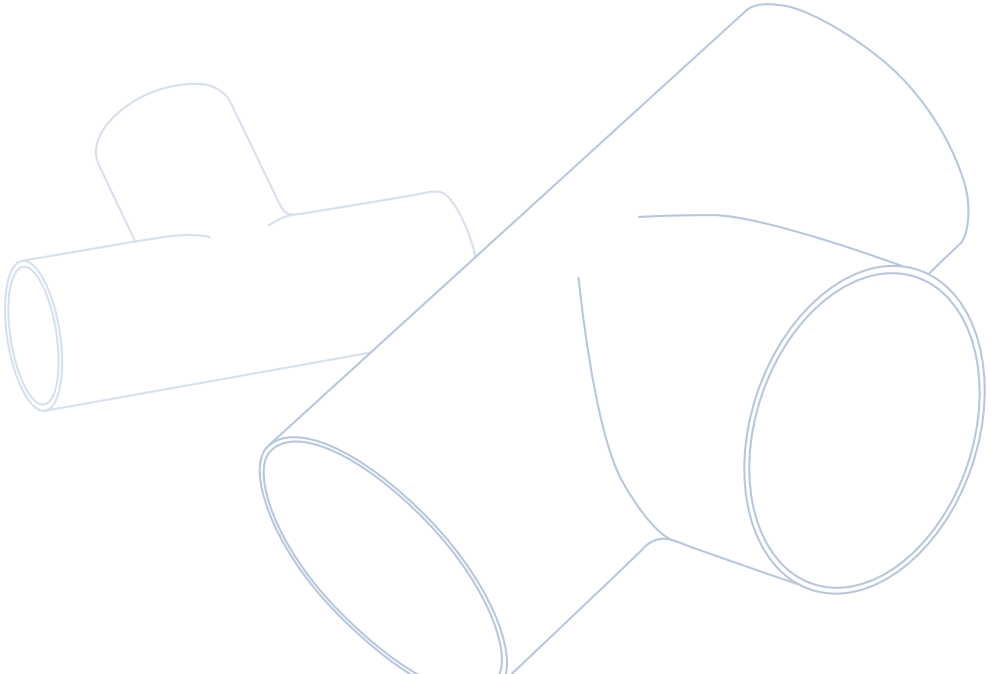
Equal Tee



Part Number	Dimensions in Inches			
	Nominal Size	Wall	A	B
V*-7-W12	3/4"	.065	1.875	3.750
V*-7-W16	1"	.065	1.875	3.750
V*-7-W24	1-1/2"	.065	2.250	4.500
V*-7-W32	2"	.065	3.000	6.000
V*-7-W40	2-1/2"	.065	3.000	6.000
V*-7-W48	3"	.065	3.250	6.500
V*-7-W64	4"	.083	3.875	7.750
V*-7-W96	6"	.083	5.000	10.000

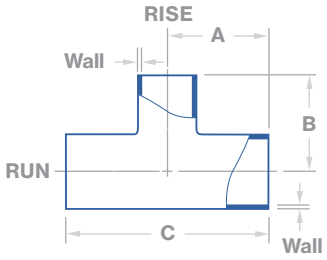
Part Number	Dimensions in Millimeters			
	Nominal Size	Wall	A	B
V*-7-W12	19.05	1.65	47.63	95.25
V*-7-W16	25.40	1.65	47.63	95.25
V*-7-W24	38.10	1.65	57.15	114.30
V*-7-W32	50.80	1.65	76.20	152.40
V*-7-W40	63.50	1.65	76.20	152.40
V*-7-W48	76.20	1.65	82.55	165.10
V*-7-W64	101.60	2.11	98.43	196.85
V*-7-W96	152.40	2.11	127.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
7R

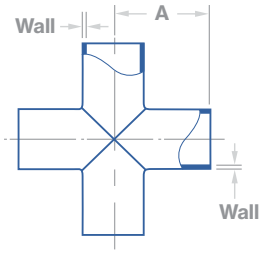
Reducing Tee



Part Number	Dimensions in Inches						
	Nominal Size		Wall		A	B	C
	RUN	RISE	RUN	RISE			
V*-7R-W16XW12	1"	3/4"	.065	.065	1.875	2.125	3.750
V*-7R-W24XW12	1-1/2"	3/4"	.065	.065	2.250	2.250	4.500
V*-7R-W24XW16	1-1/2"	1"	.065	.065	2.250	2.375	4.500
V*-7R-W32XW12	2"	3/4"	.065	.065	3.000	2.375	6.000
V*-7R-W32XW16	2"	1"	.065	.065	3.000	2.375	6.000
V*-7R-W32XW24	2"	1-1/2"	.065	.065	3.000	2.500	6.000
V*-7R-W40XW24	2-1/2"	1-1/2"	.065	.065	3.000	2.750	6.000
V*-7R-W40XW32	2-1/2"	2"	.065	.065	3.000	3.250	6.000
V*-7R-W48XW24	3"	1-1/2"	.065	.065	3.250	3.000	6.500
V*-7R-W48XW32	3"	2"	.065	.065	3.250	3.500	6.500
V*-7R-W48XW40	3"	2-1/2"	.065	.065	3.250	3.250	6.500
V*-7R-W64XW32	4"	2"	.083	.065	3.875	4.000	7.750
V*-7R-W64XW40	4"	2-1/2"	.083	.065	3.875	3.750	7.750
V*-7R-W64XW48	4"	3"	.083	.065	3.875	3.750	7.750
V*-7R-W96XW48	6"	3"	.083	.065	5.000	4.750	10.000
V*-7R-W96XW64	6"	4"	.083	.083	5.000	4.875	10.000

Part Number	Dimensions in Millimeters						
	Nominal Size		Wall		A	B	C
	RUN	RISE	RUN	RISE			
V*-7R-W16XW12	25.40	19.05	1.65	1.65	47.63	53.98	95.25
V*-7R-W24XW12	38.10	19.05	1.65	1.65	57.15	57.15	114.30
V*-7R-W24XW16	38.10	25.40	1.65	1.65	57.15	60.33	114.30
V*-7R-W32XW12	50.80	19.05	1.65	1.65	76.20	60.33	152.40
V*-7R-W32XW16	50.80	25.40	1.65	1.65	76.20	60.33	152.40
V*-7R-W32XW24	50.80	38.10	1.65	1.65	76.20	63.50	152.40
V*-7R-W40XW24	63.50	38.10	1.65	1.65	76.20	69.85	152.40
V*-7R-W40XW32	63.50	50.80	1.65	1.65	76.20	82.55	152.40
V*-7R-W48XW24	76.20	38.10	1.65	1.65	82.55	76.20	165.10
V*-7R-W48XW32	76.20	50.80	1.65	1.65	82.55	88.90	165.10
V*-7R-W48XW40	76.20	63.50	1.65	1.65	82.55	82.55	165.10
V*-7R-W64XW32	101.60	50.80	2.11	1.65	98.43	101.60	196.85
V*-7R-W64XW40	101.60	63.50	2.11	1.65	98.43	95.25	196.85
V*-7R-W64XW48	101.60	76.20	2.11	1.65	98.43	95.25	196.85
V*-7R-W96XW48	152.40	76.20	2.11	1.65	127.00	120.65	254.00
V*-7R-W96XW64	152.40	101.60	2.11	2.11	127.00	123.83	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

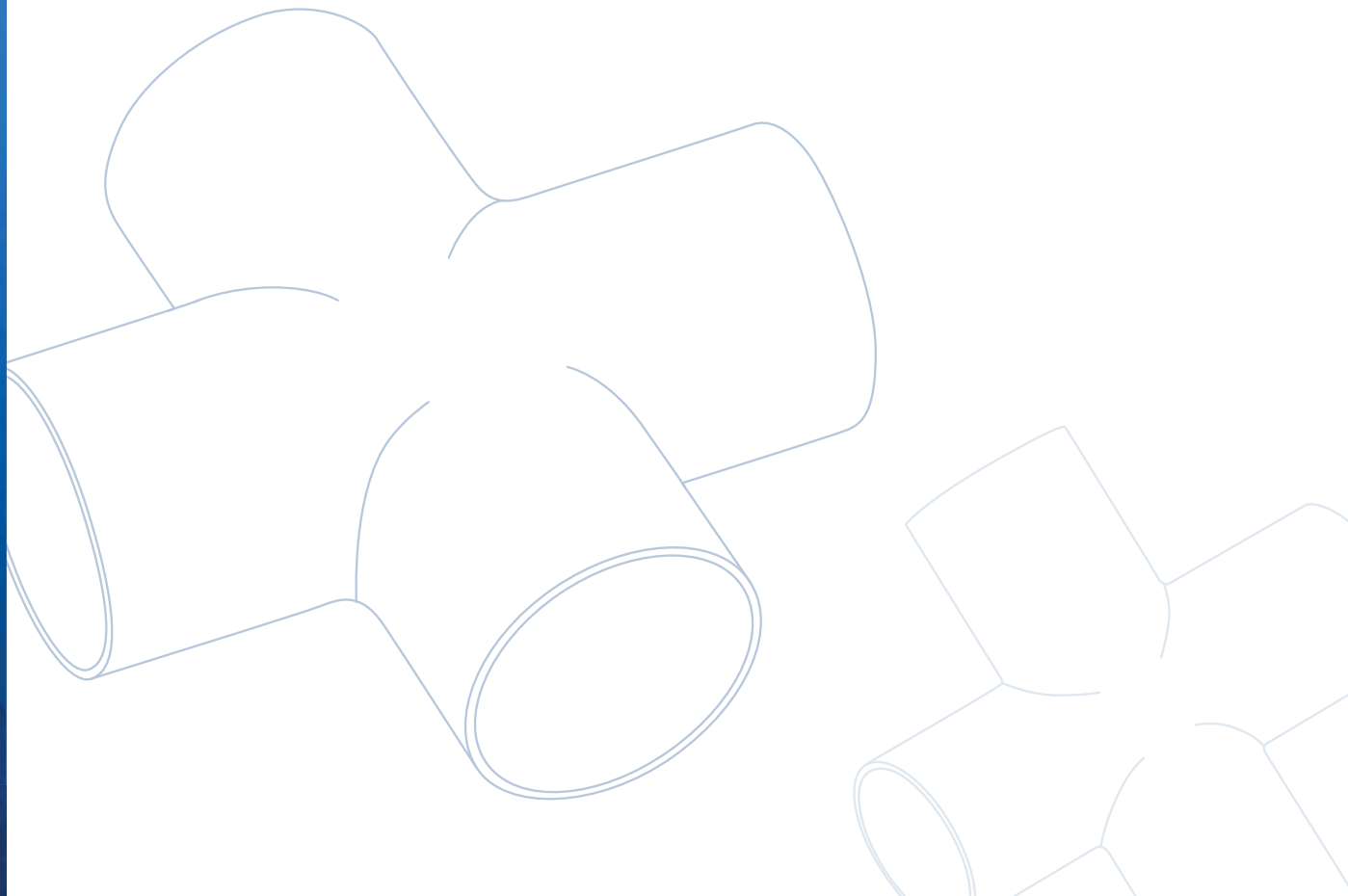


CONFIGURATION 9

4-Way Cross

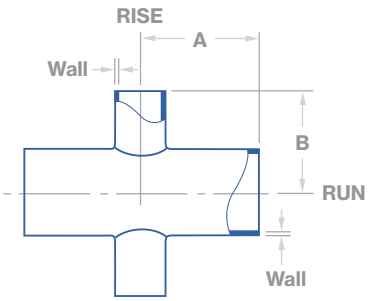
Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-9-W12	3/4"	19.05	.065	1.65	1.875	47.63
V*-9-W16	1"	25.40	.065	1.65	1.875	47.63
V*-9-W24	1-1/2"	38.10	.065	1.65	2.250	57.15
V*-9-W32	2"	50.80	.065	1.65	3.000	76.20
V*-9-W40	2-1/2"	63.50	.065	1.65	3.000	76.20
V*-9-W48	3"	76.20	.065	1.65	3.250	82.55
V*-9-W64	4"	101.60	.083	2.11	3.875	98.43
V*-9-W96	6"	152.40	.083	2.11	5.000	127.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION **9R**

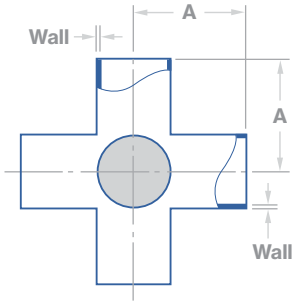
4-Way Reducing Cross



Part Number	Dimensions in Inches					
	Nominal Size		Wall		A	B
	RUN	RISE	RUN	RISE		
V*-9R-W16XW12	1"	3/4"	.065	.065	1.880	1.120
V*-9R-W24XW12	1-1/2"	3/4"	.065	.065	2.250	1.380
V*-9R-W24XW16	1-1/2"	1"	.065	.065	2.250	2.130
V*-9R-W32XW12	2"	3/4"	.065	.065	3.000	1.630
V*-9R-W32XW24	2"	1-1/2"	.065	.065	3.000	2.500
V*-9R-W40XW24	2-1/2"	1-1/2"	.065	.065	3.000	2.750
V*-9R-W40XW32	2-1/2"	2"	.065	.065	3.000	3.250
V*-9R-W48XW24	3"	1-1/2"	.065	.065	3.250	3.000
V*-9R-W64XW24	4"	1-1/2"	.083	.065	3.880	3.500
V*-9R-W64XW32	4"	2"	.083	.065	3.880	4.000
V*-9R-W64XW40	4"	2-1/2"	.083	.065	3.880	3.750
V*-9R-W64XW48	4"	3"	.083	.065	3.880	3.750
V*-9R-W96XW08	6"	1/2"	.083	.065	5.000	5.000
V*-9R-W96XW24	6"	1-1/2"	.083	.065	5.000	4.500
V*-9R-W96XW32	6"	2"	.083	.065	5.000	5.000
V*-9R-W96XW40	6"	2-1/2"	.083	.065	5.000	4.750
V*-9R-W96XW48	6"	3"	.083	.065	5.000	4.750
V*-9R-W96XW64	6"	4"	.083	.083	5.000	4.880

Part Number	Dimensions in Millimeters					
	Nominal Size		Wall		A	B
	RUN	RISE	RUN	RISE		
V*-9R-W16XW12	25.40	19.05	1.65	1.65	47.75	28.45
V*-9R-W24XW12	38.10	19.05	1.65	1.65	57.15	35.05
V*-9R-W24XW16	38.10	25.40	1.65	1.65	57.15	54.10
V*-9R-W32XW12	50.80	19.05	1.65	1.65	76.20	41.40
V*-9R-W32XW24	50.80	38.10	1.65	1.65	76.20	63.50
V*-9R-W40XW24	63.50	38.10	1.65	1.65	76.20	69.85
V*-9R-W40XW32	63.50	50.80	1.65	1.65	76.20	82.55
V*-9R-W48XW24	76.20	38.10	1.65	1.65	82.55	76.20
V*-9R-W64XW24	101.60	38.10	2.11	1.65	98.55	88.90
V*-9R-W64XW32	101.60	50.80	2.11	1.65	98.55	101.60
V*-9R-W64XW40	101.60	63.50	2.11	1.65	98.55	95.25
V*-9R-W64XW48	101.60	76.20	2.11	1.65	98.55	95.25
V*-9R-W96XW08	152.40	12.70	2.11	1.65	127.00	127.00
V*-9R-W96XW24	152.40	38.10	2.11	1.65	127.00	114.30
V*-9R-W96XW32	152.40	50.80	2.11	1.65	127.00	127.00
V*-9R-W96XW40	152.40	63.50	2.11	1.65	127.00	120.65
V*-9R-W96XW48	152.40	76.20	2.11	1.65	127.00	120.65
V*-9R-W96XW64	152.40	101.60	2.11	2.11	127.00	123.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

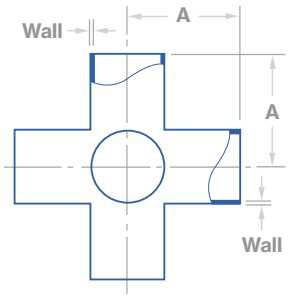


CONFIGURATION
9F

5-Way Cross

Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-9F-W12	3/4"	19.05	.065	1.65	1.000	25.40
V*-9F-W16	1"	25.40	.065	1.65	1.880	47.75
V*-9F-W24	1-1/2"	38.10	.065	1.65	2.250	57.15
V*-9F-W32	2"	50.80	.065	1.65	3.000	76.20
V*-9F-W40	2-1/2"	63.50	.065	1.65	3.000	76.20
V*-9F-W48	3"	76.20	.065	1.65	3.250	82.55
V*-9F-W64	4"	101.60	.083	2.11	3.880	98.55
V*-9F-W96	6"	152.40	.083	2.11	5.000	127.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
9S

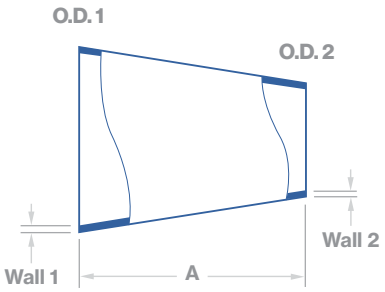
6-Way Cross

Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-9S-W12	3/4"	19.05	.065	1.65	1.000	25.40
V*-9S-W16	1"	25.40	.065	1.65	1.880	47.75
V*-9S-W24	1-1/2"	38.10	.065	1.65	2.250	57.15
V*-9S-W32	2"	50.80	.065	1.65	3.000	76.20
V*-9S-W40	2-1/2"	63.50	.065	1.65	3.000	76.20
V*-9S-W48	3"	76.20	.065	1.65	3.250	82.55
V*-9S-W64	4"	101.60	.083	2.11	3.880	98.55
V*-9S-W96	6"	152.40	.083	2.11	5.000	127.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
31

Concentric Reducer



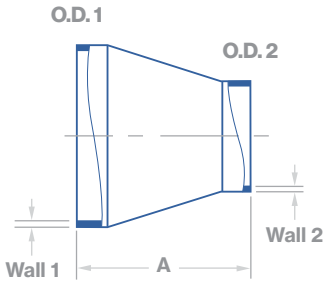
Part Number	Dimensions in Inches				
	O.D. 1	O.D. 2	Wall 1	Wall 2	A
V*-31-W12XW08	3/4"	1/2"	.065	.049	1.000
V*-31-W16XW08	1"	1/2"	.065	.049	1.500
V*-31-W16XW12	1"	3/4"	.065	.065	1.000
V*-31-W24XW08	1-1/2"	1/2"	.065	.049	3.500
V*-31-W24XW12	1-1/2"	3/4"	.065	.065	3.000
V*-31-W24XW16	1-1/2"	1"	.065	.065	2.000
V*-31-W32XW16	2"	1"	.065	.065	4.000
V*-31-W32XW24	2"	1-1/2"	.065	.065	2.000
V*-31-W40XW24	2-1/2"	1-1/2"	.065	.065	4.000
V*-31-W40XW32	2-1/2"	2"	.065	.065	2.000
V*-31-W48XW24	3"	1-1/2"	.065	.065	6.000
V*-31-W48XW32	3"	2"	.065	.065	4.000
V*-31-W48XW40	3"	2-1/2"	.065	.065	2.000
V*-31-W64XW24	4"	1-1/2"	.083	.065	10.000
V*-31-W64XW32	4"	2"	.083	.065	8.000
V*-31-W64XW40	4"	2-1/2"	.083	.065	6.000
V*-31-W64XW48	4"	3"	.083	.065	4.000
V*-31-W96XW48	6"	3"	.083	.065	6.000
V*-31-W96XW64	6"	4"	.083	.083	4.000

Part Number	Dimensions in Millimeters				
	O.D. 1	O.D. 2	Wall 1	Wall 2	A
V*-31-W12XW08	19.05	12.70	1.65	1.24	25.40
V*-31-W16XW08	25.40	12.70	1.65	1.24	38.10
V*-31-W16XW12	25.40	19.05	1.65	1.65	25.40
V*-31-W24XW08	38.10	12.70	1.65	1.24	88.90
V*-31-W24XW12	38.10	19.05	1.65	1.65	76.20
V*-31-W24XW16	38.10	25.40	1.65	1.65	50.80
V*-31-W32XW16	50.80	25.40	1.65	1.65	101.60
V*-31-W32XW24	50.80	38.10	1.65	1.65	50.80
V*-31-W40XW24	63.50	38.10	1.65	1.65	101.60
V*-31-W40XW32	63.50	50.80	1.65	1.65	50.80
V*-31-W48XW24	76.20	38.10	1.65	1.65	152.40
V*-31-W48XW32	76.20	50.80	1.65	1.65	101.60
V*-31-W48XW40	76.20	63.50	1.65	1.65	50.80
V*-31-W64XW24	101.60	38.10	2.11	1.65	254.00
V*-31-W64XW32	101.60	50.80	2.11	1.65	203.20
V*-31-W64XW40	101.60	63.50	2.11	1.65	152.40
V*-31-W64XW48	101.60	76.20	2.11	1.65	101.60
V*-31-W96XW48	152.40	76.20	2.11	1.65	152.40
V*-31-W96XW64	152.40	101.60	2.11	2.11	101.60

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
31T

Concentric Reducer
With Tangent



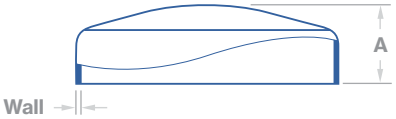
Part Number	Dimensions in Inches				
	O.D. 1	O.D. 2	Wall 1	Wall 2	A
V*-31T-W16XW12	1"	3/4"	.065	.065	2.375
V*-31T-W24XW16	1-1/2"	1"	.065	.065	2.375
V*-31T-W32XW16	2"	1"	.065	.065	2.375
V*-31T-W32XW24	2"	1-1/2"	.065	.065	2.375
V*-31T-W40XW24	2-1/2"	1-1/2"	.065	.065	2.375
V*-31T-W40XW32	2-1/2"	2"	.065	.065	2.375
V*-31T-W48XW24	3"	1-1/2"	.065	.065	3.625
V*-31T-W48XW32	3"	2"	.065	.065	3.625
V*-31T-W48XW40	3"	2-1/2"	.065	.065	3.625
V*-31T-W64XW24	4"	1-1/2"	.083	.065	5.500
V*-31T-W64XW32	4"	2"	.083	.065	3.625
V*-31T-W64XW40	4"	2-1/2"	.083	.065	3.625
V*-31T-W64XW48	4"	3"	.083	.065	3.625
V*-31T-W96XW48	6"	3"	.083	.065	5.500
V*-31T-W96XW64	6"	4"	.083	.083	5.500

Part Number	Dimensions in Millimeters				
	O.D. 1	O.D. 2	Wall 1	Wall 2	A
V*-31T-W16XW12	25.40	19.05	1.65	1.65	60.33
V*-31T-W24XW16	38.10	25.40	1.65	1.65	60.33
V*-31T-W32XW16	50.80	25.40	1.65	1.65	60.33
V*-31T-W32XW24	50.80	38.10	1.65	1.65	60.33
V*-31T-W40XW24	63.50	38.10	1.65	1.65	60.33
V*-31T-W40XW32	63.50	50.80	1.65	1.65	60.33
V*-31T-W48XW24	76.20	38.10	1.65	1.65	92.08
V*-31T-W48XW32	76.20	50.80	1.65	1.65	92.08
V*-31T-W48XW40	76.20	63.50	1.65	1.65	92.08
V*-31T-W64XW24	101.60	38.10	2.11	1.65	139.70
V*-31T-W64XW32	101.60	50.80	2.11	1.65	92.08
V*-31T-W64XW40	101.60	63.50	2.11	1.65	92.08
V*-31T-W64XW48	101.60	76.20	2.11	1.65	92.08
V*-31T-W96XW48	152.40	76.20	2.11	1.65	139.70
V*-31T-W96XW64	152.40	101.60	2.11	2.11	139.70

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

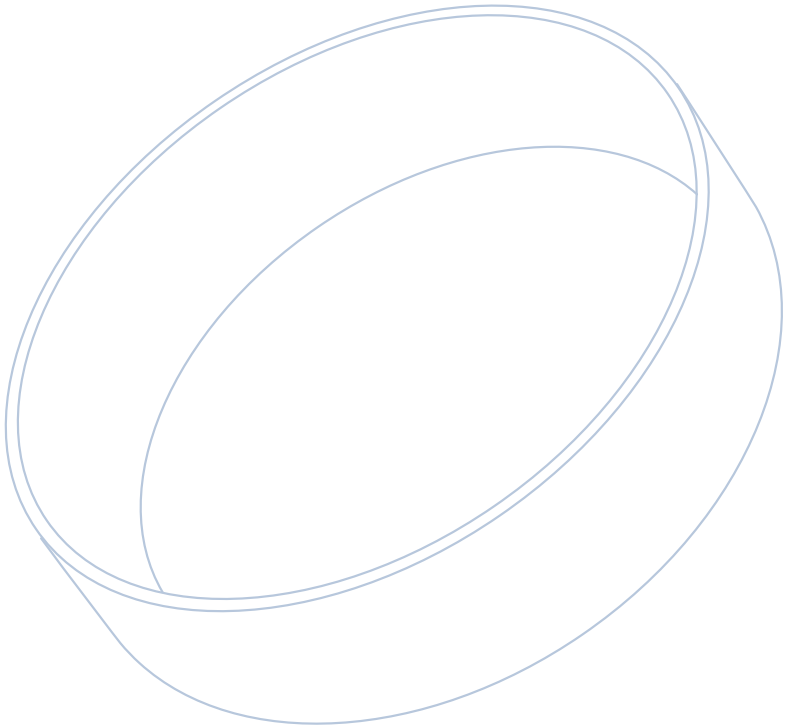
CONFIGURATION
16

Weld Cap



Part Number	Dimensions in Inches & Millimeters					
	Nominal Size		Wall		A	
	inch	mm	inch	mm	inch	mm
V*-16-W12	3/4"	19.05	.065	1.65	.313	7.95
V*-16-W16	1"	25.40	.065	1.65	.469	11.91
V*-16-W24	1-1/2"	38.10	.065	1.65	.594	15.09
V*-16-W32	2"	50.80	.065	1.65	.781	19.84
V*-16-W40	2-1/2"	63.50	.065	1.65	1.063	27.00
V*-16-W48	3"	76.20	.065	1.65	1.094	27.79
V*-16-W64	4"	101.60	.083	2.11	1.281	32.54
V*-16-W96	6"	152.40	.083	2.11	2.125	53.98

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



NW/KF Fittings



Specifications

Flange Material:
304, 304L, 316 & 316L

O-ring Material:
Viton®, Buena-N®, EPDM or Kalrez

Clamp Styles:
Hinged, Chain & Bulkhead
(10-32 thread)

Torque Clamps:
Finger tight wingnut style,
Bulkhead Bolts: 7-10 lb-ft

Vacuum Range:
1x10-8 Torr

Temperature Range:

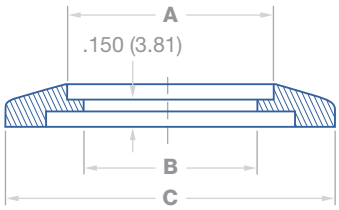
	Minimum	Intermittent	Sustained
Viton®	-20°C	150°C	200°C
Buna-N®	-20°C	80°C	100°C

(Kalrez dependent on the compound)

CONFIGURATION
38B

NW/KF Bored Flange
Diagram A

Diagram A



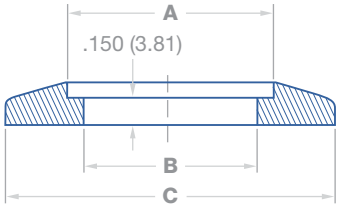
Part Number	Dimensions in Inches & Millimeters								
	Flange Size	Tube O.D.		A		B		C	
	NW	inch	mm	inch	mm	inch	mm	inch	mm
V*-38B-N1AXW08	10	1/2"	12.70	.51	12.95	.451	11.46	1.180	29.97
V*-38B-N1BXW06	16	3/8"	9.53	.38	9.65	.326	8.28	1.180	29.97
V*-38B-N1BXW08	16	1/2"	12.70	.51	12.95	.451	11.46	1.180	29.97
V*-38B-N1CXW06	25	3/8"	9.53	.38	9.65	.326	8.28	1.575	40.01
V*-38B-N1CXW08	25	1/2"	12.70	.51	12.95	.451	11.46	1.575	40.01
V*-38B-N1CXW12	25	3/4"	19.05	.76	19.30	.715	18.16	1.575	40.01
V*-38B-N1CXW16	25	1"	25.40	1.01	25.65	.938	23.83	1.575	40.01
V*-38B-N1DXW06	40	3/8"	9.53	.38	9.65	.326	8.28	2.160	54.86
V*-38B-N1DXW08	40	1/2"	12.70	.51	12.95	.451	11.46	2.160	54.86
V*-38B-N1DXW12	40	3/4"	19.05	.76	19.30	.715	18.16	2.160	54.86
V*-38B-N1DXW16	40	1"	25.40	1.01	25.65	.938	23.83	2.160	54.86
V*-38B-N1DXW24	40	1-1/2"	38.10	1.51	38.35	1.438	36.53	2.160	54.86
V*-38B-N1EXW06	50	3/8"	9.53	.38	9.65	.326	8.28	2.950	74.93
V*-38B-N1EXW08	50	1/2"	12.70	.51	12.95	.451	11.46	2.950	74.93
V*-38B-N1EXW12	50	3/4"	19.05	.76	19.30	.715	18.16	2.950	74.93
V*-38B-N1EXW16	50	1"	25.40	1.01	25.65	.938	23.83	2.950	74.93
V*-38B-N1EXW24	50	1-1/2"	38.10	1.51	38.35	1.438	36.53	2.950	74.93
V*-38B-N1EXW32	50	2"	50.80	2.01	51.05	1.938	49.23	2.950	74.93

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38B

NW/KF Bored Flange
Diagram B

Diagram B

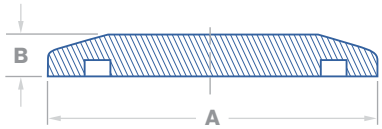


Part Number	Dimensions in Inches & Millimeters								
	Flange Size	Tube O.D.		A		B		C	
	NW	inch	mm	inch	mm	inch	mm	inch	mm
V*-38B-N1BXW12	16	3/4"	19.05	.76	19.30	.680	17.27	1.180	29.97

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38

NW/KF Blank Flange

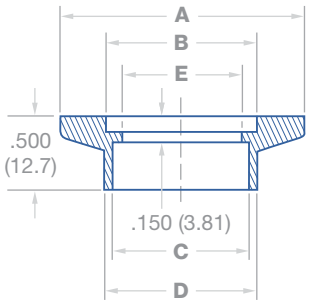


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	NW	inch	mm	inch	mm
V*-38-N1A	10	1.180	29.97	.200	5.08
V*-38-N1B	16	1.180	29.97	.200	5.08
V*-38-N1C	25	1.575	40.01	.200	5.08
V*-38-N1D	40	2.160	54.86	.200	5.08
V*-38-N1E	50	2.950	74.93	.200	5.08

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38S

NW/KF Socket Weld Flange



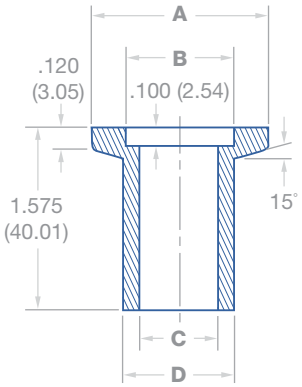
Part Number	Dimensions in Inches						
	Flange Size	Tube O.D.	A	B	C	D	E
	NW	inch					
V*-38S-N1A	10	1/2"	1.180	.480	.51	.610	N/A
V*-38S-N1B	16	3/4"	1.180	.680	.76	.798	N/A
V*-38S-N1C	25	1"	1.575	1.031	1.01	1.140	.938
V*-38S-N1D	40	1-1/2"	2.160	1.620	1.51	1.640	1.438
V*-38S-N1E	50	2"	2.950	2.060	2.01	2.140	1.938

Part Number	Dimensions in Millimeters						
	Flange Size	Tube O.D.	A	B	C	D	E
	NW	mm					
V*-38S-N1A	10	12.70	29.97	12.19	12.95	15.49	N/A
V*-38S-N1B	16	19.05	29.97	17.27	19.30	20.27	N/A
V*-38S-N1C	25	25.40	40.01	26.19	25.65	28.96	23.83
V*-38S-N1D	40	38.10	54.86	41.15	38.35	41.66	36.53
V*-38S-N1E	50	50.80	74.93	52.32	51.05	54.36	49.23

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38L

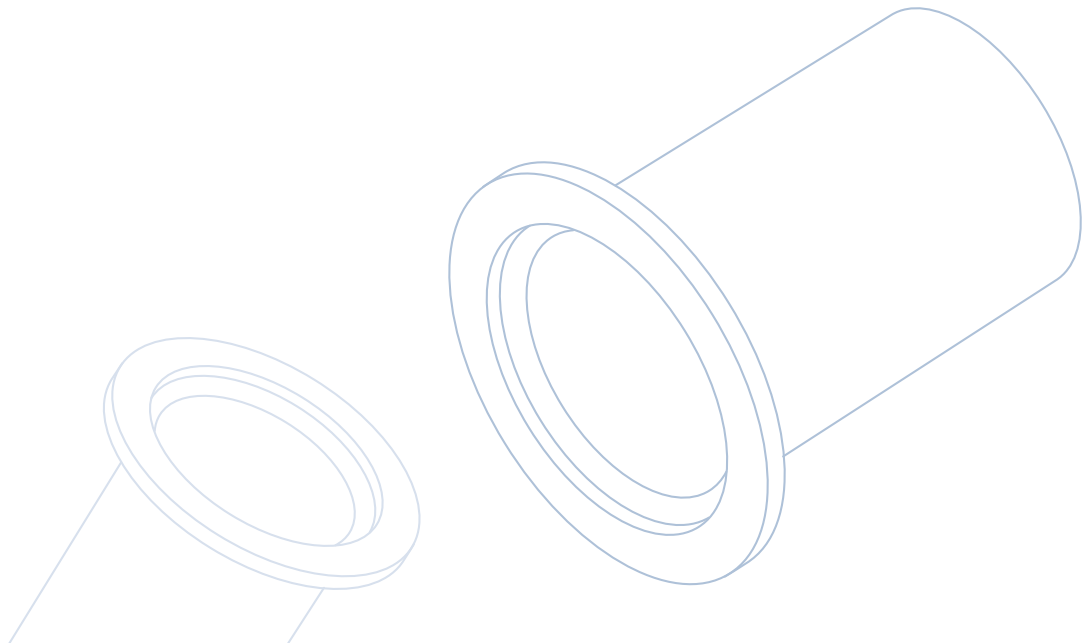
NW/KF
Weld Neck
Bored Flange, Long



Part Number	Dimensions in Inches				
	Flange Size NW	A	B	C	D
V*-38L-N1A	10	1.180	.480	.380	1/2"
V*-38L-N1B	16	1.180	.680	.625	3/4"
V*-38L-N1C	25	1.575	1.031	.870	1"
V*-38L-N1D	40	2.160	1.620	1.370	1-1/2"
V*-38L-N1E	50	2.950	2.060	1.870	2"

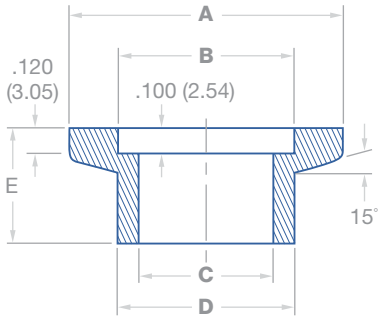
Part Number	Dimensions in Millimeters				
	Flange Size NW	A	B	C	D
V*-38L-N1A	10	29.97	12.19	9.65	12.70
V*-38L-N1B	16	29.97	17.27	15.88	19.05
V*-38L-N1C	25	40.01	26.19	22.10	25.40
V*-38L-N1D	40	54.86	41.15	34.80	38.10
V*-38L-N1E	50	74.93	52.32	47.50	50.80

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
38N

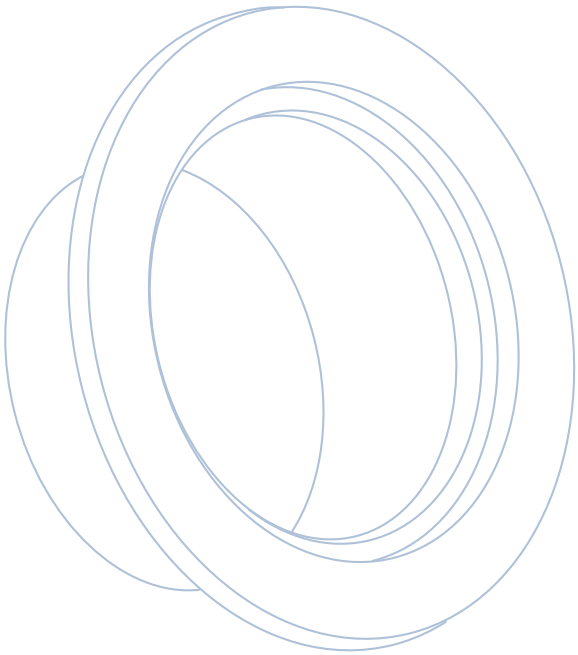
NW/KF Weld Neck Bored Flange, Short



Part Number	Dimensions in Inches						
	Flange Size NW	Tube O.D. inch	A	B	C	D	E
V*-38N-N1A	10	1/2"	1.180	.48	.380	.50	.50
V*-38N-N1B	16	3/4"	1.180	.68	.625	.75	.56
V*-38N-N1C	25	1"	1.575	1.03	.870	1.00	.50
V*-38N-N1D	40	1-1/2"	2.160	1.62	1.370	1.50	.75
V*-38N-N1E	50	2"	2.950	2.06	1.870	2.00	.75

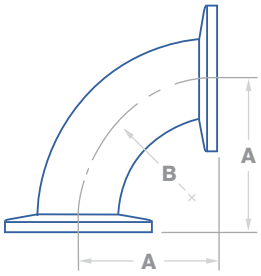
Part Number	Dimensions in Millimeters						
	Flange Size NW	Tube O.D. mm	A	B	C	D	E
V*-38N-N1A	10	12.70	29.97	12.19	9.65	12.70	12.70
V*-38N-N1B	16	19.05	29.97	17.27	15.88	19.05	14.22
V*-38N-N1C	25	25.40	40.01	26.19	22.10	25.40	12.70
V*-38N-N1D	40	38.10	54.86	41.15	34.80	38.10	19.05
V*-38N-N1E	50	50.80	74.93	52.32	47.50	50.80	19.05

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION & 2T 2L

NW/KF 90° Elbow

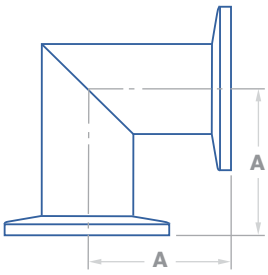


Part Number	Dimensions in Inches & Millimeters						
	Flange Size	Tube O.D.		A		B	
	NW	inch	mm	inch	mm	inch	mm
V*-2T-N1A	10	1/2"	12.70	1.25	31.75	.75	19.05
V*-2T-N1B	16	3/4"	19.05	1.15	29.21	1.00	25.40
V*-2T-N1C	25	1"	25.40	1.65	41.91	1.50	38.10
V*-2T-N1D	40	1-1/2"	38.10	2.40	60.96	2.25	57.15
V*-2-N1D	40	1-1/2"	38.10	2.56	65.02	2.25	57.15
V*-2L-N1D	40	1-1/2"	38.10	5.12	130.05	2.25	57.15
V*-2T-N1E	50	2"	50.80	3.15	80.01	3.00	76.20
V*-2-N1E	50	2"	50.80	5.51	139.95	3.00	76.20

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION & 2M 2X

NW/KF 90° Mitered Elbow



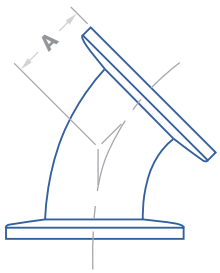
Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-2M-N1B	16	3/4"	19.05	1.15	29.21
V*-2M-N1C	25	1"	25.40	2.03	51.56
V*-2M-N1D	40	1-1/2"	38.10	2.40	60.96
V*-2X-N1D	40	1-1/2"	38.10	2.56	65.02
V*-2M-N1E	50	2"	50.80	2.76	70.10
V*-2X-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

NW/KF 45° Elbow

CONFIGURATION **2N**

No Tangent



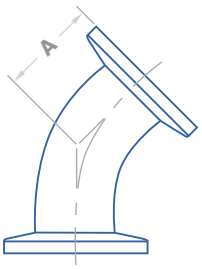
Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-2N-N1C	25	1"	25.40	.77	19.56
V*-2N-N1D	40	1-1/2"	38.10	1.08	27.43
V*-2N-N1E	50	2"	50.80	1.39	35.31

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

NW/KF 45° Elbow

CONFIGURATION **2K**

With Tangent

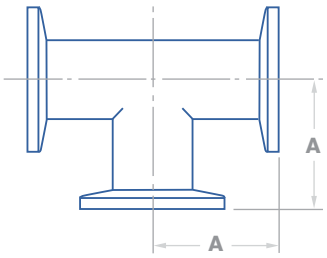


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-2K-N1B	16	3/4"	19.05	.91	23.11
V*-2K-N1C	25	1"	25.40	1.12	28.45
V*-2K-N1D	40	1-1/2"	38.10	1.68	42.67
V*-2K-N1E	50	2"	50.80	1.99	50.55

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 7

NW/KF Equal Tee

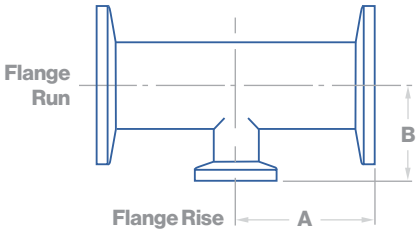


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-7-N1A	10	1/2"	12.70	1.25	31.75
V*-7-N1B	16	3/4"	19.05	1.15	29.21
V*-7-N1C	25	1"	25.40	2.03	51.56
V*-7-N1D	40	1-1/2"	38.10	2.40	60.96
V*-7L-N1D	40	1-1/2"	38.10	2.56	65.02
V*-7-N1E	50	2"	50.80	2.76	70.10
V*-7L-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 7R

NW/KF Reducing Tee



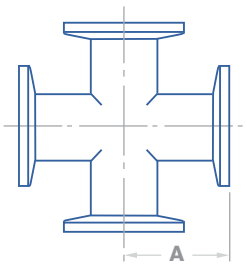
Part Number	Dimensions in Inches					
	Run Size	Rise Size	Tube Run O.D.	Tube Rise O.D.	A	B
	NW	NW				
V*-7R-N1CXN1B	25	16	1"	3/4"	2.03	1.27
V*-7R-N1DXN1B	40	16	1-1/2"	3/4"	2.40	1.53
V*-7R-N1DXN1C	40	25	1-1/2"	1"	2.40	2.28
V*-7R-N1EXN1B	50	16	2"	3/4"	3.15	1.78
V*-7R-N1EXN1D	50	40	2"	1-1/2"	3.15	2.65

Part Number	Dimensions in Millimeters					
	Run Size	Rise Size	Tube Run O.D.	Tube Rise O.D.	A	B
	NW	NW				
V*-7R-N1CXN1B	25	16	25.40	19.05	51.56	32.26
V*-7R-N1DXN1B	40	16	38.10	19.05	60.96	38.86
V*-7R-N1DXN1C	40	25	38.10	25.40	60.96	57.91
V*-7R-N1EXN1B	50	16	50.80	19.05	80.01	45.21
V*-7R-N1EXN1D	50	40	50.80	38.10	80.01	67.31

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
9

NW/KF
4-Way Cross

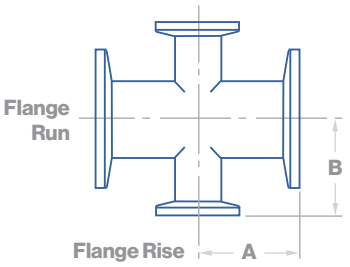


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-9-N1A	10	1/2"	12.70	1.25	31.75
V*-9-N1B	16	3/4"	19.05	1.15	29.21
V*-9-N1C	25	1"	25.40	2.03	51.56
V*-9-N1D	40	1-1/2"	38.10	2.40	60.96
V*-9L-N1D	40	1-1/2"	38.10	2.56	65.02
V*-9-N1E	50	2"	50.80	2.76	70.10
V*-9L-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
9R

NW/KF
4-Way Reducing Cross



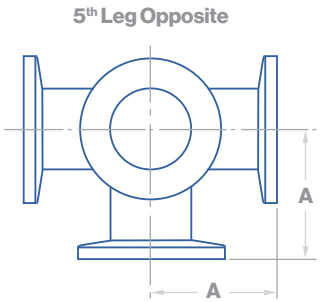
Part Number	Dimensions in Inches					
	Run Size	Rise Size	Tube Run O.D.	Tube Rise O.D.	A	B
	NW	NW				
V*-9R-N1CXN1B	25	16	1"	3/4"	2.03	1.27
V*-9R-N1DXN1B	40	16	1-1/2"	3/4"	2.40	1.53
V*-9R-N1DXN1C	40	25	1-1/2"	1"	2.40	2.28
V*-9R-N1EXN1B	50	16	2"	3/4"	3.15	1.78
V*-9R-N1EXN1D	50	40	2"	1-1/2"	3.15	2.65

Part Number	Dimensions in Millimeters					
	Run Size	Rise Size	Tube Run O.D.	Tube Rise O.D.	A	B
	NW	NW				
V*-9R-N1CXN1B	25	16	25.40	19.05	51.56	32.26
V*-9R-N1DXN1B	40	16	38.10	19.05	60.96	38.86
V*-9R-N1DXN1C	40	25	38.10	25.40	60.96	57.91
V*-9R-N1EXN1B	50	16	50.80	19.05	80.01	45.21
V*-9R-N1EXN1D	50	40	50.80	38.10	80.01	67.31

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION **9F**

NW/KF 5-Way Cross

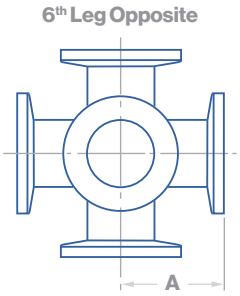


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-9F-N1B	16	3/4"	19.05	1.50	38.10
V*-9F-N1C	25	1"	25.40	2.03	51.56
V*-9F-N1D	40	1-1/2"	38.10	2.40	60.96
V*-9F-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION **9S**

NW/KF 6-Way Cross

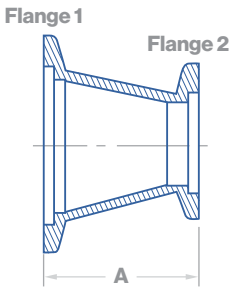


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-9S-N1B	16	3/4"	19.05	1.50	38.10
V*-9S-N1C	25	1"	25.40	2.03	51.56
V*-9S-N1D	40	1-1/2"	38.10	2.40	60.96
V*-9S-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
31

NW/KF Concentric Reducer

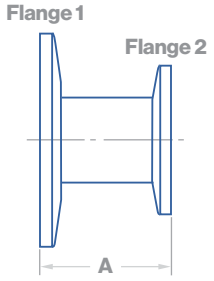


Part Number	Dimensions in Inches & Millimeters							
	Flange 1	Flange 2	Tube O.D. 1		Tube O.D. 2		A	
			inch	mm	inch	mm	inch	mm
V*-31-N1CXN1B	25	16	1"	25.40	3/4"	19.05	1.57	39.88
V*-31-N1DXN1B	40	16	1-1/2"	38.10	3/4"	19.05	1.57	39.88
V*-31-N1DXN1C	40	25	1-1/2"	38.10	1"	25.40	1.57	39.88
V*-31-N1EXN1B	50	16	2"	50.80	3/4"	19.05	1.57	39.88
V*-31-N1EXN1C	50	25	2"	50.80	1"	25.40	1.57	39.88
V*-31-N1EXN1D	50	40	2"	50.80	1-1/2"	38.10	1.57	39.88

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
31L

NW/KF Straight Reducer

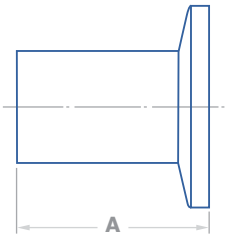


Part Number	Dimensions in Inches & Millimeters					
	Flange 1	Flange 2	Tube O.D.		A	
	NW	NW	inch	mm	inch	mm
V*-31L-N1BXN1A	16	10	1/2"	12.70	1.40	35.56
V*-31L-N1CXN1A	25	10	1/2"	12.70	1.40	35.56
V*-31L-N1CXN1B	25	16	3/4"	19.05	1.30	33.02
V*-31L-N1DXN1A	40	10	1/2"	12.70	1.40	35.56
V*-31L-N1DXN1B	40	16	3/4"	19.05	1.30	33.02
V*-31L-N1DXN1C	40	25	1"	25.40	2.18	55.37
V*-31L-N1EXN1A	50	10	1/2"	12.70	1.40	35.56
V*-31L-N1EXN1B	50	16	3/4"	19.05	1.30	33.02
V*-31L-N1EXN1C	50	25	1"	25.40	2.18	55.37
V*-31L-N1EXN1D	50	40	1-1/2"	38.10	2.55	64.77

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 6H

NW/KF Half Nipple

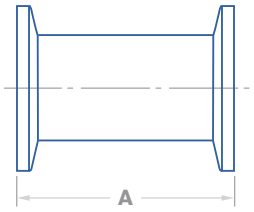


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-6H-N1A	10	1/2"	12.70	1.25	31.75
V*-6H-N1B	16	3/4"	19.05	1.15	29.21
V*-6H-N1C	25	1"	25.40	2.03	51.56
V*-6H-N1D	40	1-1/2"	38.10	2.40	60.96
V*-6H-N1E	50	2"	50.80	3.15	80.01

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 6F

NW/KF Full Nipple



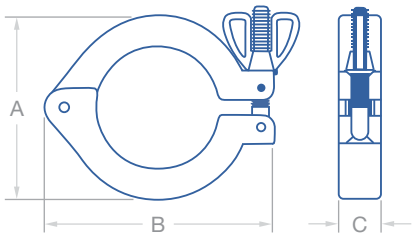
Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	NW	inch	mm	inch	mm
V*-6F-N1A	10	1/2"	12.70	2.50	63.50
V*-6F-N1B	16	3/4"	19.05	2.30	58.42
V*-6F-N1C	25	1"	25.40	4.06	103.12
V*-6F-N1D	40	1-1/2"	38.10	4.80	121.92
V*-6F-N1E	50	2"	50.80	6.30	160.02

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
13W

NW/KF Wing Nut Clamp

(Aluminum) with Single Wingnut Fastner



Part Number	Dimensions in Inches & Millimeters						
Aluminum	Flange Size	A		B		C	
	NW	inch	mm	inch	mm	inch	mm
V0-13W-N1A-C*	10	1.69	42.93	2.392	60.76	.625	15.88
V0-13W-N1B-C*	16	1.69	42.93	2.392	60.76	.625	15.88
V0-13W-N1C-C*	25	2.14	54.36	2.796	71.02	.625	15.88
V0-13W-N1D-C*	40	2.75	69.85	3.437	87.30	.625	15.88
V0-13W-N1E-C*	50	3.50	88.90	4.245	107.82	.710	18.03

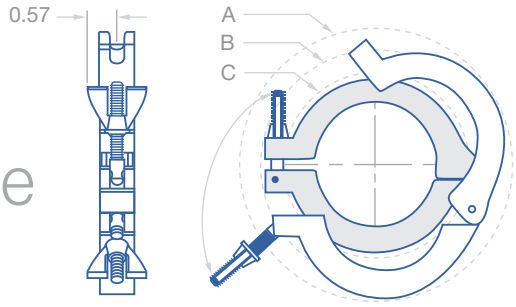
* **Clamp / Thread Material:** CA = Inch Aluminum, CE = Inch 304 SS

CONFIGURATION
38

CONFIGURATION
13W

Installation Clearance

(NW/KF Blank Flange
& NW/KF Wing Nut Clamp)



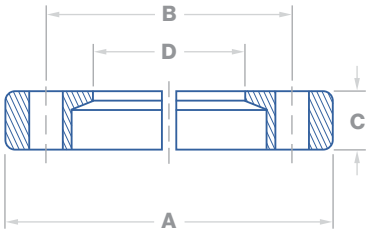
Components		Dimensions in Inches			
Flange	Clamp	Flange & Clamp Size NW	A (Min. Diameter to Install)	B (Min. Diameter Closed)	C (Min. Diameter Closed)
V*-38-N1A	V0-13W-N1A-CA	10	2.86	2.65	1.75
V*-38-N1B	V0-13W-N1B-CA	16	2.86	2.65	1.75
V*-38-N1C	V0-13W-N1C-CA	25	3.32	3.00	2.24
V*-38-N1D	V0-13W-N1D-CA	40	4.00	3.72	2.90
V*-38-N1E	V0-13W-N1E-CA	50	5.45	4.62	3.69

Components		Dimensions in Millimeters			
Flange	Clamp	Flange & Clamp Size NW	A (Min. Diameter to Install)	B (Min. Diameter Closed)	C (Min. Diameter Closed)
V*-38-N1A	V0-13W-N1A-CA	10	72.64	67.31	44.45
V*-38-N1B	V0-13W-N1B-CA	16	72.64	67.31	44.45
V*-38-N1C	V0-13W-N1C-CA	25	84.33	76.20	56.90
V*-38-N1D	V0-13W-N1D-CA	40	101.60	94.49	73.66
V*-38-N1E	V0-13W-N1E-CA	50	138.43	117.35	93.73

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
13B

NW/KF Bulkhead Clamp

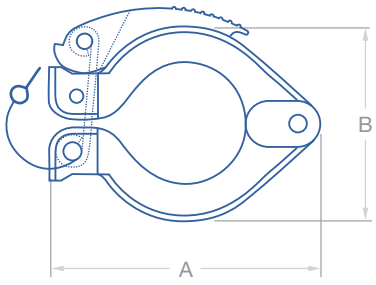


Part Number	Dimensions in Inches					
	Flange Size NW	A	B	C	# of Screws	Through Hole D
V0-13B-N1B	16	2.00	1.50	.361	6	.90
V0-13B-N1C	25	2.37	1.89	.387	6	1.26
V0-13B-N1D	40	2.94	2.44	.366	6	1.84
V0-13B-N1E	50	3.75	3.25	.404	8	2.35

Part Number	Dimensions in Millimeters					
	Flange Size NW	A	B	C	# of Screws	Through Hole D
V0-13B-N1B	16	50.80	38.10	9.17	6	22.86
V0-13B-N1C	25	60.20	48.01	9.83	6	32.00
V0-13B-N1D	40	74.68	61.98	9.30	6	46.74
V0-13B-N1E	50	95.25	82.55	10.26	8	59.69

CONFIGURATION
13L

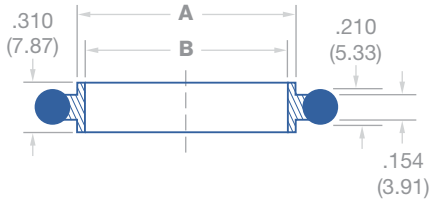
NW/KF Lever Clamp



Part Number	Dimensions in Inches & Millimeters					
	Flange Size		A		B	
	KF	Inch	Inch	mm	Inch	mm
V0-13L-N1B	16	1/2" - 3/4"	2.402	61.01	1.772	45.01
V0-13L-N1C	25	1"	2.835	72.01	2.165	54.99
V0-13L-N1D	40	1-1/2"	3.543	89.99	2.756	70.00
V0-13L-N1E	50	2"	4.449	113.00	3.543	89.99

CONFIGURATION
39C

NW/KF Centering Ring
With O-Ring

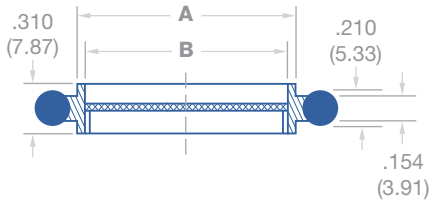


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	NW	inch	mm	inch	mm
V0-39C-N1A-**X	10	.478	12.14	.456	11.58
V0-39C-N1B-**X	16	.669	16.99	.625	15.88
V0-39C-N1C-**X	25	1.024	26.01	.984	24.99
V0-39C-N1D-**X	40	1.614	41.00	1.570	39.88
V0-39C-N1E-**X	50	2.047	51.99	1.967	49.96

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
39M

NW/KF Screened Centering Ring
With O-Ring



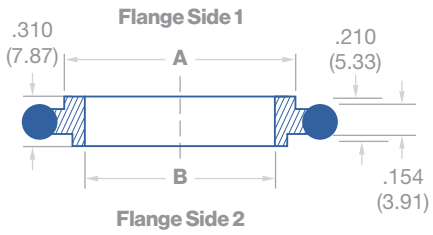
Part Number	Dimensions in Inches & Millimeters					
	Flange Size	A		B		Mesh
	NW	inch	mm	inch	mm	
V0-39M-N1C-**X	25	1.024	26.01	.984	24.99	74
V0-39M-N1D-**X	40	1.614	41.00	1.570	39.88	74
V0-39M-N1E-**X	50	2.047	51.99	1.967	49.96	74

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
39L

NW/KF Reducing Centering Ring

With O-Ring



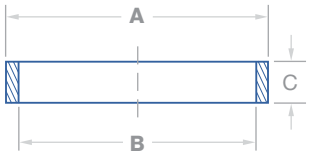
Part Number	Dimensions in Inches			
	Flange Side 1 NW	Flange Side 2 NW	A	B
V0-39L-N1BX1A-**X	16	10	0.67	0.48
V0-39L-N1CX1F-**X	25	20	1.02	0.87
V0-39L-N1DX1G-**X	40	32	1.61	1.34

Part Number	Dimensions in Millimeters			
	Flange Side 1 NW	Flange Side 2 NW	A	B
V0-39L-N1BX1A-**X	16	10	17.02	12.19
V0-39L-N1CX1F-**X	25	20	25.91	22.10
V0-39L-N1DX1G-**X	40	32	40.89	34.04

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
39T

NW/KF Over Pressure Ring



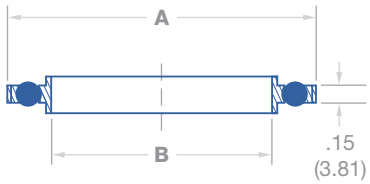
Part Number	Dimensions in Inches & Millimeters						
	Flange Size	A		B		C	
	NW	inch	mm	inch	mm	inch	mm
V0-39T-N1A-***	10	1.25	31.75	1.186	30.12	.346	8.79
V0-39T-N1B-***	16	1.25	31.75	1.186	30.12	.346	8.79
V0-39T-N1C-***	25	1.66	42.16	1.583	40.21	.346	8.79
V0-39T-N1D-***	40	2.25	57.15	2.169	55.09	.346	8.79
V0-39T-N1E-***	50	2.75	69.85	2.620	66.55	.145	3.68

* Pick one of each option.
Over Pressure Ring Material: D = Aluminim, E = 304 SS, F = 316 SS

CONFIGURATION
39E

NW/KF Centering Ring

With O-Ring & Overpressure Ring Assembly



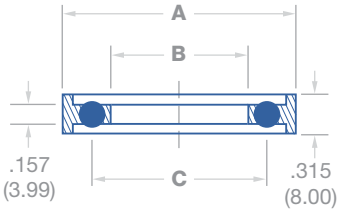
Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	NW	inch	mm	inch	mm
V0-39E-N1B-***	16	1.25	31.75	.625	15.88
V0-39E-N1C-***	25	1.66	42.16	.984	24.99
V0-39E-N1D-***	40	2.25	57.15	1.570	39.88
V0-39E-N1E-***	50	2.75	69.85	1.967	49.96

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Overpressure Ring Material: D = Aluminum, E = 304 SS, F = 316 SS

CONFIGURATION
39F

NW/KF Centering Ring

With O-Ring & Capture Ring Assembly



Part Number	Dimensions in Inches & Millimeters						
	Flange Size	A		B		C	
	NW	inch	mm	inch	mm	inch	mm
V0-39F-N1A-***	10	1.18	29.97	.63	16.00	.91	23.11
V0-39F-N1B-***	16	1.18	29.97	.63	16.00	.91	23.11
V0-39F-N1C-***	25	1.58	40.13	.95	24.13	1.30	33.02
V0-39F-N1D-***	40	2.17	55.12	1.58	40.13	1.89	48.01
V0-39F-N1E-***	50	2.95	74.93	1.97	50.04	2.32	58.93

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Capture Ring Material: G = Aluminum, H = 304 SS, J = 316 SS

CONFIGURATION
72R

O-Ring

O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500



ISO-K Fittings

Specifications

Flange Material:
304, 304L, 316 & 316L

Rotatable Bolt Ring:
Aluminum

O-ring Material:
Viton®, Buna-N®, EPDM or Kalrez

Clamp Styles:
Single & Double Claw
Aluminum or SS Clamps

Torque Value:
Bolts at 7-10 lbs-ft.

Vacuum Range:
1x10-8 torr

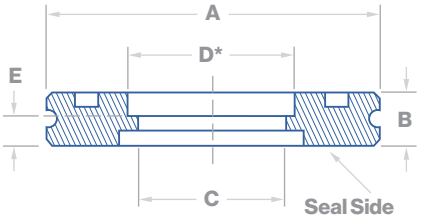
Temperature Range:

	Minimum	Intermittent	Sustained
Viton®	-20°C	150°C	200°C
Buna-N®	-20°C	80°C	100°C

(Kalrez dependent on the compound)

CONFIGURATION
38B

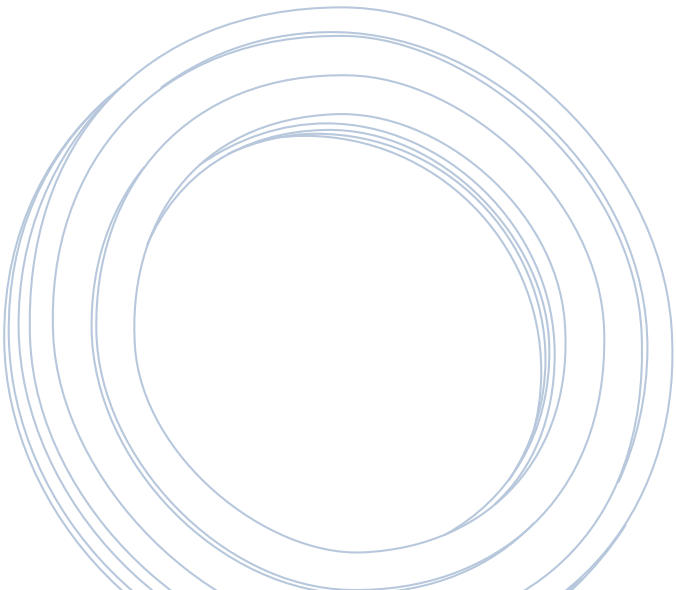
ISO-K
Bored Flange



Part Number	Dimensions in Inches						
	Flange Size ISO	Nominal I.D.	A	B	C	D	E
V*-38B-K2AXW40	63	2-1/2"	3.740	.47	2.438	2.510	.25
V*-38B-K2BXW48	80	3"	4.331	.47	2.938	3.010	.25
V*-38B-K2CXW64	100	4"	5.118	.47	3.910	4.010	.25
V*-38B-K2DXW96	160	6"	7.087	.47	5.875	6.020	.375
V*-38B-K2EXW53	200	8"	9.449	.47	7.875	8.020	.375
V*-38B-K2FXW55	250	10"	11.417	.47	9.875	10.020	.375
V*-38B-K2GXW57	320	12"	14.567	.67	11.760	12.020	.375
V*-38B-K2HXW86	400	16"	17.716	.67	15.624	16.020	.375
V*-38B-K2JXW88	500	20"	21.653	.67	19.624	20.020	.375

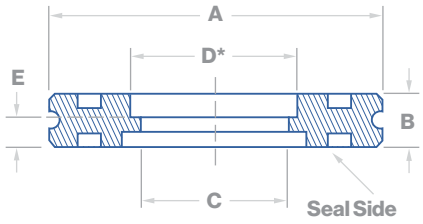
Part Number	Dimensions in Millimeters						
	Flange Size ISO	Nominal I.D.	A	B	C	D	E
V*-38B-K2AXW40	63	63.50	95.00	11.94	61.93	63.75	6.35
V*-38B-K2BXW48	80	76.20	110.01	11.94	74.63	76.45	6.35
V*-38B-K2CXW64	100	101.60	130.00	11.94	99.31	101.85	6.35
V*-38B-K2DXW96	160	152.40	180.01	11.94	149.23	152.91	9.53
V*-38B-K2EXW53	200	203.20	240.00	11.94	200.03	203.71	9.53
V*-38B-K2FXW55	250	254.00	289.99	11.94	250.83	254.51	9.53
V*-38B-K2GXW57	320	304.80	370.00	17.02	298.70	305.31	9.53
V*-38B-K2HXW86	400	406.40	449.99	17.02	396.85	406.91	9.53
V*-38B-K2JXW88	500	508.00	549.99	17.02	498.45	508.51	9.53

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
38B

ISO-K Reducing Bored Flange



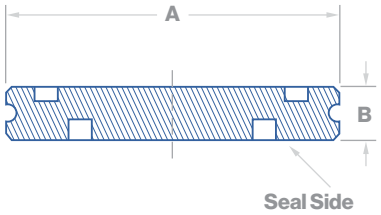
Part Number	Dimensions in Inches						
	Flange Size ISO	Nominal I.D.	A	B	C	D	E
V*-38B-K2AXW16	63	1"	3.740	.47	.938	1.01	.250
V*-38B-K2AXW24	63	1-1/2"	3.740	.47	1.438	1.51	.250
V*-38B-K2AXW32	63	2"	3.740	.47	1.938	2.01	.250
V*-38B-K2BXW16	80	1"	4.331	.47	.938	1.01	.250
V*-38B-K2BXW24	80	1-1/2"	4.331	.47	1.438	1.51	.250
V*-38B-K2BXW32	80	2"	4.331	.47	1.938	2.01	.250
V*-38B-K2BXW40	80	2-1/2"	4.331	.47	2.438	2.51	.250
V*-38B-K2CXW16	100	1"	5.118	.47	.938	1.01	.250
V*-38B-K2CXW24	100	1-1/2"	5.118	.47	1.438	1.51	.250
V*-38B-K2CXW32	100	2"	5.118	.47	1.938	2.01	.250
V*-38B-K2CXW40	100	2-1/2"	5.118	.47	2.438	2.51	.250
V*-38B-K2CXW48	100	3"	5.118	.47	2.938	3.01	.250
V*-38B-K2DXW32	160	2"	7.087	.47	1.938	2.01	.250
V*-38B-K2DXW40	160	2-1/2"	7.087	.47	2.438	2.51	.250
V*-38B-K2DXW48	160	3"	7.087	.47	2.938	3.01	.250
V*-38B-K2DXW64	160	4"	7.087	.47	3.910	4.01	.250
V*-38B-K2EXW64	200	4"	9.449	.47	3.910	4.01	.250
V*-38B-K2EXW96	200	6"	9.449	.47	5.875	6.02	.375

Part Number	Dimensions in Millimeters						
	Flange Size ISO	Nominal I.D.	A	B	C	D	E
V*-38B-K2AXW16	63	25.40	95.00	11.94	23.83	25.65	6.35
V*-38B-K2AXW24	63	38.10	95.00	11.94	36.53	38.35	6.35
V*-38B-K2AXW32	63	50.80	95.00	11.94	49.23	51.05	6.35
V*-38B-K2BXW16	80	25.40	110.01	11.94	23.83	63.75	6.35
V*-38B-K2BXW24	80	38.10	110.01	11.94	36.53	38.35	6.35
V*-38B-K2BXW32	80	50.80	110.01	11.94	49.23	51.05	6.35
V*-38B-K2BXW40	80	63.50	110.01	11.94	61.93	63.75	6.35
V*-38B-K2CXW16	100	25.40	130.00	11.94	23.83	25.65	6.35
V*-38B-K2CXW24	100	38.10	130.00	11.94	36.53	38.35	6.35
V*-38B-K2CXW32	100	50.80	130.00	11.94	49.23	51.05	6.35
V*-38B-K2CXW40	100	63.50	130.00	11.94	61.93	63.75	6.35
V*-38B-K2CXW48	100	76.20	130.00	11.94	74.63	76.45	6.35
V*-38B-K2DXW32	160	50.80	180.01	11.94	49.23	51.05	6.35
V*-38B-K2DXW40	160	63.50	180.01	11.94	61.93	63.75	6.35
V*-38B-K2DXW48	160	76.20	180.01	11.94	74.63	76.45	6.35
V*-38B-K2DXW64	160	101.60	180.01	11.94	99.31	101.85	6.35
V*-38B-K2EXW64	200	101.60	240.00	11.94	99.31	101.85	6.35
V*-38B-K2EXW96	200	152.40	240.00	11.94	149.23	152.91	9.53

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

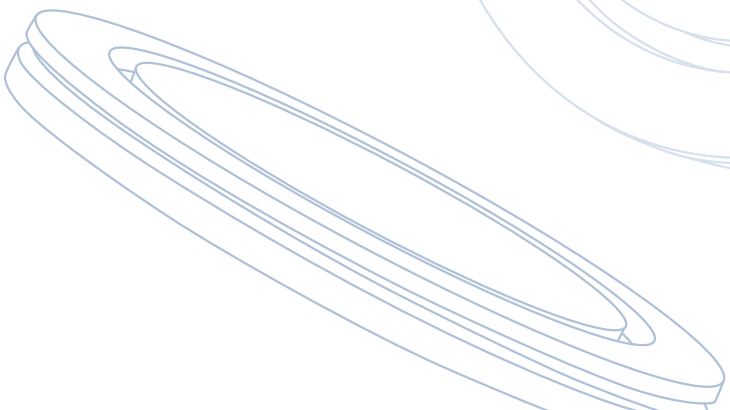
CONFIGURATION
38

ISO-K
Blank Flange



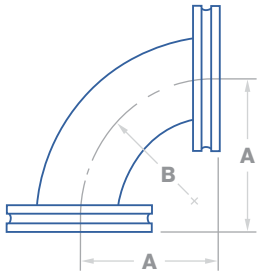
Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V*-38-K2A	63	3.740	95.00	.47	11.94
V*-38-K2B	80	4.331	110.01	.47	11.94
V*-38-K2C	100	5.118	130.00	.47	11.94
V*-38-K2D	160	7.087	180.00	.47	11.94
V*-38-K2E	200	9.449	240.00	.47	11.94
V*-38-K2F	250	11.417	289.99	.47	11.94
V*-38-K2G	320	14.567	370.00	.67	17.02
V*-38-K2H	400	17.716	449.99	.67	17.02
V*-38-K2J	500	21.653	549.99	.67	17.02

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION 2T

ISO-K 90° Elbow
No Tangent

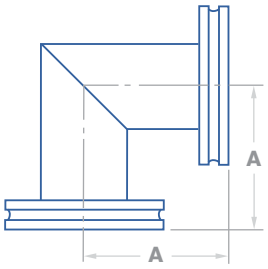


Part Number	Dimensions in Inches & Millimeters						
	Size	Tube O.D.		A		B	
	ISO	inch	mm	inch	mm	inch	mm
V*-2T-K2A	63	2-1/2"	63.50	4.00	101.60	3.75	95.25
V*-2T-K2B	80	3"	76.20	4.75	120.65	4.50	114.30
V*-2T-K2C	100	4"	101.60	6.25	158.75	6.00	152.40
V*-2T-K2D	160	6"	152.40	9.38	238.25	9.00	228.60
V*-2T-K2E	200	8"	203.20	12.38	314.45	12.00	304.80
V*-2T-K2F	250	10"	254.00	15.38	390.65	15.00	381.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

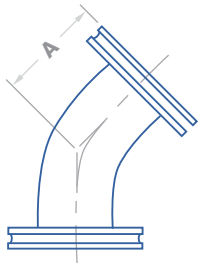
CONFIGURATION 2M

ISO-K
90° Mitered Elbow
No Tangent



Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-2M-K2A	63	2-1/2"	63.50	3.25	82.55
V*-2M-K2B	80	3"	76.20	3.50	88.90
V*-2M-K2C	100	4"	101.60	4.13	104.90
V*-2M-K2D	160	6"	152.40	5.38	136.65
V*-2M-K2E	200	8"	203.20	7.38	187.45
V*-2M-K2F	250	10"	254.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



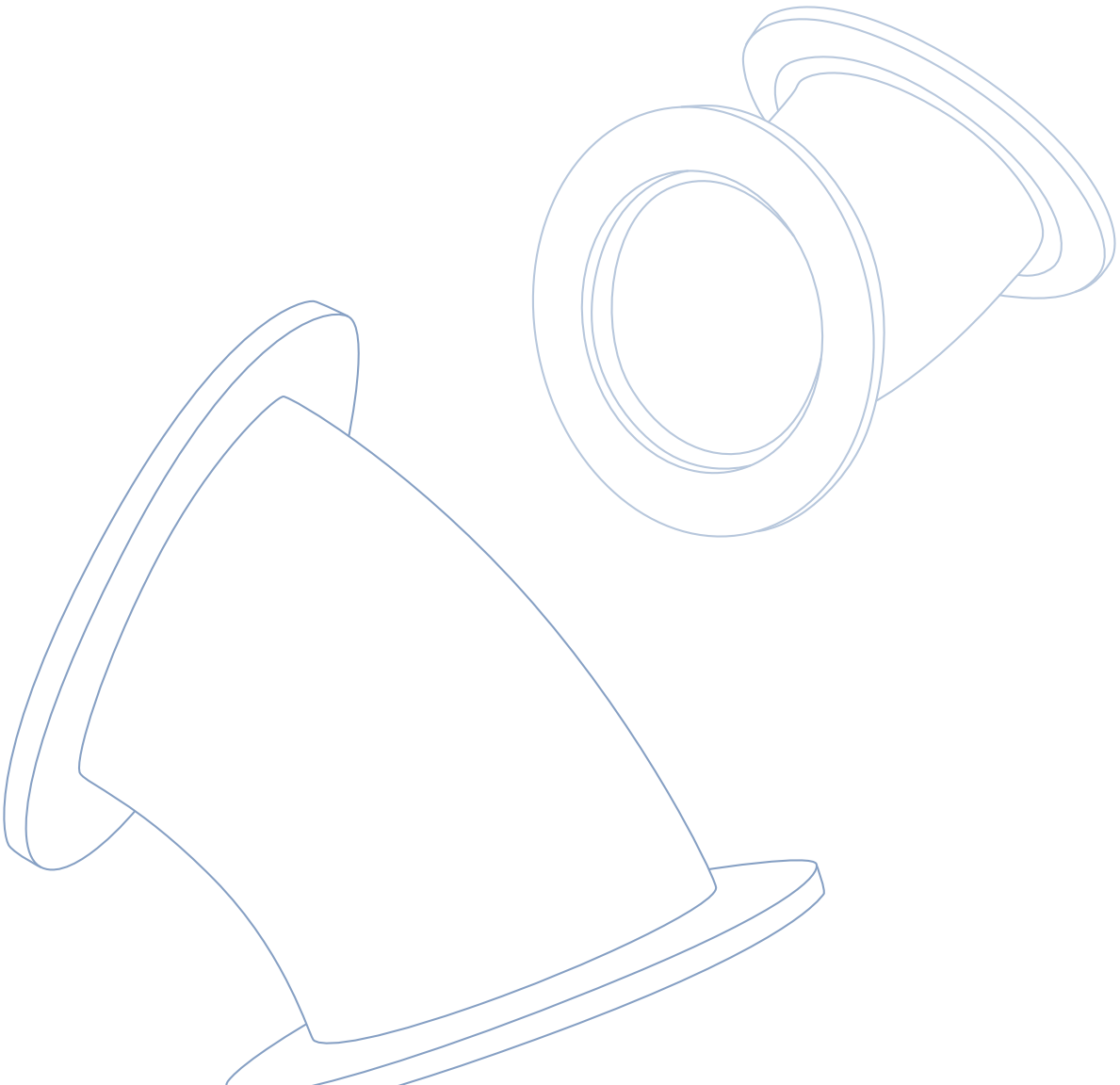
CONFIGURATION **2K**

ISO-K 45° Elbow

With Tangent

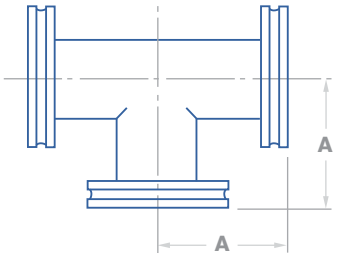
Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-2K-K2A	63	2-1/2"	63.50	3.25	82.55
V*-2K-K2B	80	3"	76.20	3.93	99.82
V*-2K-K2C	100	4"	101.60	5.03	127.76

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



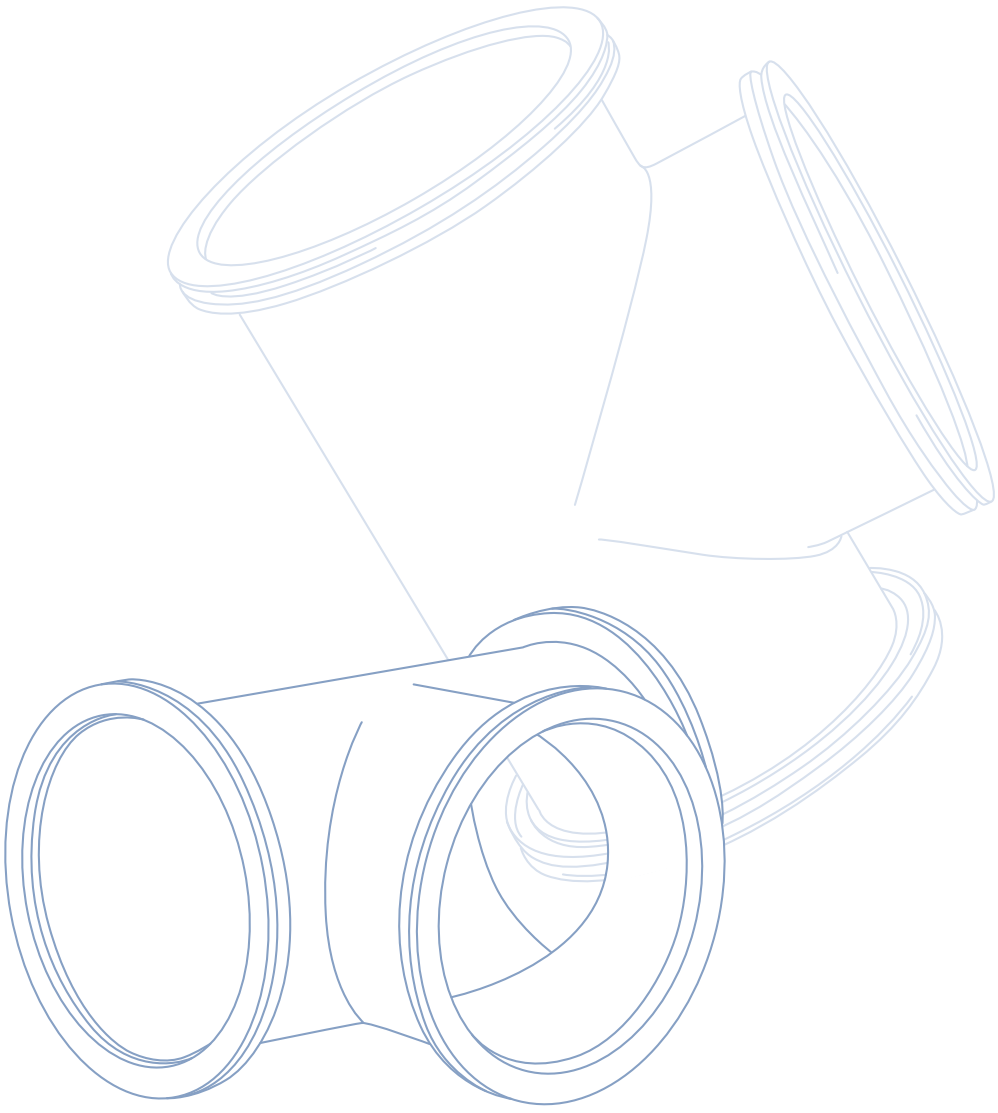
CONFIGURATION 7

ISO-K Equal Tee



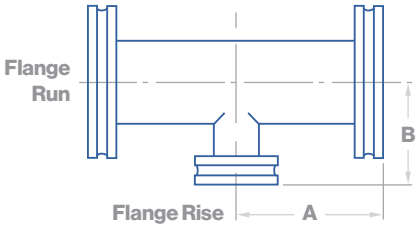
Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-7-K2A	63	2-1/2"	63.50	3.25	82.55
V*-7-K2B	80	3"	76.20	3.50	88.90
V*-7-K2C	100	4"	101.60	4.13	104.90
V*-7-K2D	160	6"	152.40	5.38	136.65
V*-7-K2E	200	8"	203.20	7.38	187.45
V*-7-K2F	250	10"	254.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
7R

ISO-K Reducing Tee



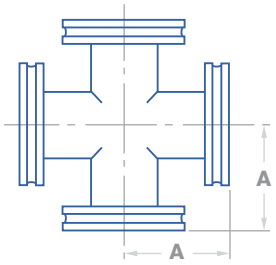
Part Number	Dimensions in Inches					
	Flange Run		Flange Rise		A	B
	ISO	Tube O.D.	ISO	Tube O.D.		
V*-7R-K2BXK2A	80	3"	63	2-1/2"	3.50	3.50
V*-7R-K2CXK2A	100	4"	63	2-1/2"	4.13	4.00
V*-7R-K2CXK2B	100	4"	80	3"	4.13	4.00
V*-7R-K2DXK2A	160	6"	63	2-1/2"	5.38	5.00
V*-7R-K2DXK2B	160	6"	80	3"	5.38	5.00
V*-7R-K2DXK2C	160	6"	100	4"	5.38	5.13
V*-7R-K2EXK2A	200	8"	63	2-1/2"	7.38	6.00
V*-7R-K2EXK2B	200	8"	80	3"	7.38	6.00
V*-7R-K2EXK2C	200	8"	100	4"	7.38	6.13
V*-7R-K2EXK2D	200	8"	160	6"	7.38	6.38

Part Number	Dimensions in Millimeters					
	Flange Run		Flange Rise		A	B
	ISO	Tube O.D.	ISO	Tube O.D.		
V*-7R-K2BXK2A	80	76.20	63	63.50	88.90	88.90
V*-7R-K2CXK2A	100	101.60	63	63.50	104.90	101.60
V*-7R-K2CXK2B	100	101.60	80	76.20	104.90	101.60
V*-7R-K2DXK2A	160	152.40	63	63.50	136.65	127.00
V*-7R-K2DXK2B	160	152.40	80	76.20	136.65	127.00
V*-7R-K2DXK2C	160	152.40	100	101.60	136.65	130.30
V*-7R-K2EXK2A	200	203.20	63	63.50	187.45	152.40
V*-7R-K2EXK2B	200	203.20	80	76.20	187.45	152.40
V*-7R-K2EXK2C	200	203.20	100	101.60	187.45	155.70
V*-7R-K2EXK2D	200	203.20	160	152.40	187.45	162.05

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 9

ISO-K 4-Way Cross

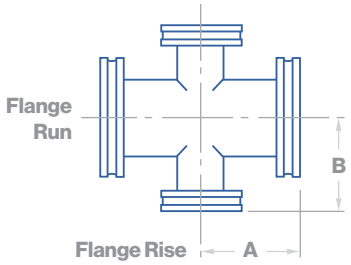


Part Number	Dimensions in Inches & Millimeters				
316L BA	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-9-K2A	63	2-1/2"	63.50	3.25	82.55
V*-9-K2B	80	3"	76.20	3.50	88.90
V*-9-K2C	100	4"	101.60	4.13	104.90
V*-9-K2D	160	6"	152.40	5.38	136.65
V*-9-K2E	200	8"	203.20	7.38	187.45
V*-9-K2F	250	10"	254.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 9R

ISO-K 4-Way Reducing Cross



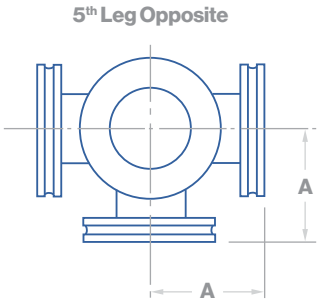
Part Number	Dimensions in Inches					
	Flange Run		Flange Rise		A	B
	ISO	Tube O.D.	ISO	Tube O.D.		
V*-9R-K2BXK2A	80	3"	63	2-1/2"	3.50	3.50
V*-9R-K2CXK2A	100	4"	63	2-1/2"	4.13	4.00
V*-9R-K2CXK2B	100	4"	80	3"	4.13	4.00
V*-9R-K2DXK2A	160	6"	63	2-1/2"	5.38	5.00
V*-9R-K2DXK2B	160	6"	80	3"	5.38	5.00
V*-9R-K2DXK2C	160	6"	100	4"	5.38	5.13
V*-9R-K2EXK2D	200	8"	160	6"	7.38	6.38

Part Number	Dimensions in Millimeters					
	Flange Run		Flange Rise		A	B
	ISO	Tube O.D.	ISO	Tube O.D.		
V*-9R-K2BXK2A	80	76.20	63	63.50	88.90	88.90
V*-9R-K2CXK2A	100	101.60	63	63.50	104.90	101.60
V*-9R-K2CXK2B	100	101.60	80	76.20	104.90	101.60
V*-9R-K2DXK2A	160	152.40	63	63.50	136.65	127.00
V*-9R-K2DXK2B	160	152.40	80	76.20	136.65	127.00
V*-9R-K2DXK2C	160	152.40	100	101.60	136.65	130.30
V*-9R-K2EXK2D	200	203.20	160	152.40	187.45	162.05

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
9F

ISO-K
5-Way Cross

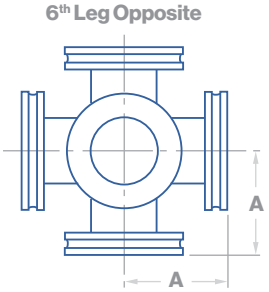


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-9F-K2A	63	2-1/2"	63.50	3.25	82.55
V*-9F-K2B	80	3"	76.20	3.50	88.90
V*-9F-K2C	100	4"	101.60	4.13	104.90
V*-9F-K2D	160	6"	152.40	5.38	136.65
V*-9F-K2E	200	8"	203.20	7.38	187.45
V*-9F-K2F	250	10"	254.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
9S

ISO-K
6-Way Cross

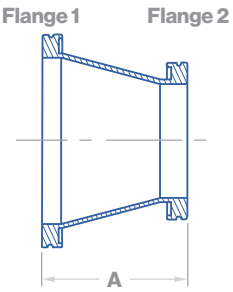


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-9S-K2A	63	2-1/2"	63.50	3.25	82.55
V*-9S-K2B	80	3"	76.20	3.50	88.90
V*-9S-K2C	100	4"	101.60	4.13	104.90
V*-9S-K2D	160	6"	152.40	5.38	136.65
V*-9S-K2E	200	8"	203.20	7.38	187.45
V*-9S-K2F	250	10"	254.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 31

ISO-K Concentric Reducer

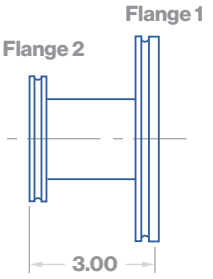


Part Number	Dimensions in Inches & Millimeters							
	Flange 1	Flange 2	Tube O.D. 1		Tube O.D. 2		A	
	ISO	ISO	inch	mm	inch	mm	inch	mm
V*-31-K2BXK2A	80	63	3"	76.20	2-1/2"	63.50	4.125	104.775
V*-31-K2CXK2A	100	63	4"	101.60	2-1/2"	63.50	4.125	104.775
V*-31-K2CXK2B	100	80	4"	101.60	3"	76.20	4.125	104.775
V*-31-K2DXK2B	160	80	6"	152.40	3"	76.20	6.000	152.400
V*-31-K2DXK2C	160	100	6"	152.40	4"	101.60	6.000	152.400

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 31L

ISO-K Straight Reducer

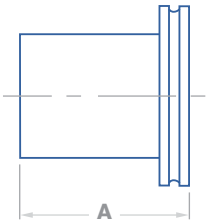


Part Number	Dimensions in Inches & Millimeters			
	Flange 1	Flange 2	Tube O.D.	
	ISO	ISO	inch	mm
V*-31L-K2BXK2A	80	63	2-1/2"	63.50
V*-31L-K2CXK2A	100	63	2-1/2"	63.50
V*-31L-K2CXK2B	100	80	3"	76.20
V*-31L-K2DXK2A	160	63	2-1/2"	63.50
V*-31L-K2DXK2B	160	80	3"	76.20
V*-31L-K2DXK2C	160	100	4"	101.60
V*-31L-K2EXK2A	200	63	2-1/2"	63.50
V*-31L-K2EXK2B	200	80	3"	76.20
V*-31L-K2EXK2C	200	100	4"	101.60
V*-31L-K2EXK2D	200	160	6"	152.40
V*-31L-K2FXK2A	250	63	2-1/2"	63.50
V*-31L-K2FXK2B	250	80	3"	76.20
V*-31L-K2FXK2C	250	100	4"	101.60
V*-31L-K2FXK2D	250	160	6"	152.40
V*-31L-K2FXK2E	250	200	8"	203.20

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
6H

ISO-K
Half Nipple

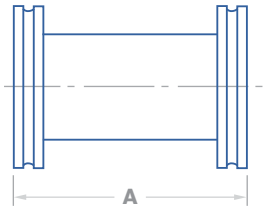


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-6HS-K2A	63	2-1/2"	63.50	3.25	82.55
V*-6H-K2A	63	2-1/2"	63.50	3.94	100.08
V*-6HE-K2A	63	2-1/2"	63.50	4.00	101.60
V*-6HS-K2B	80	3"	76.20	3.50	88.90
V*-6H-K2B	80	3"	76.20	3.94	100.08
V*-6HS-K2C	100	4"	101.60	4.13	104.90
V*-6H-K2C	100	4"	101.60	3.94	130.05
V*-6HE-K2C	100	4"	101.60	5.12	100.08
V*-6HS-K2D	160	6"	152.40	5.38	136.65
V*-6H-K2D	160	6"	152.40	3.94	100.08
V*-6HE-K2D	160	6"	152.40	6.44	163.58
V*-6H-K2E	200	8"	203.20	7.38	187.45
V*-6H-K2F	250	10"	254.00	9.88	250.95
V*-6H-K2G	320	12"	304.80	9.88	250.95
V*-6H-K2H	400	16"	406.40	9.88	250.95
V*-6H-K2J	500	20"	508.00	9.88	250.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
6F

ISO-K Full Nipple

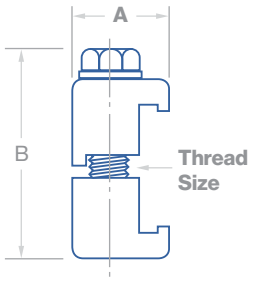


Part Number	Dimensions in Inches & Millimeters				
	Size	Tube O.D.		A	
	ISO	inch	mm	inch	mm
V*-6F-K2A	63	2-1/2"	63.50	6.50	165.10
V*-6F-K2B	80	3"	76.20	7.00	177.80
V*-6F-K2C	100	4"	101.60	8.26	209.80
V*-6F-K2D	160	6"	152.40	10.76	273.30
V*-6F-K2E	200	8"	203.20	14.76	374.90
V*-6F-K2F	250	10"	254.00	19.76	501.90
V*-6F-K2G	320	12"	304.80	19.76	501.90
V*-6F-K2H	400	16"	406.40	19.76	501.90
V*-6F-K2J	500	20"	508.00	19.76	501.90

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
13D

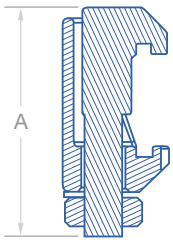
ISO-K Double Claw Clamp
(Aluminum)



Part Number	Dimensions in Inches & Millimeters						
	Flange Size	A		B		Thread Size	Clamps Required
	ISO	inch	mm	inch	mm		
V0-13D-K4A-CA	63	0.94	23.88	1.96	49.78	5/16 – 18	4
V0-13D-K4A-CA	80	0.94	23.88	1.96	49.78	5/16 – 18	4
V0-13D-K4A-CA	100	0.94	23.88	1.96	49.78	5/16 – 18	4
V0-13D-K4B-CA	160	1.10	27.94	1.96	49.78	5/16 – 18	6
V0-13D-K4B-CA	200	1.10	27.94	1.96	49.78	5/16 – 18	8
V0-13D-K4B-CA	250	1.10	27.94	1.96	49.78	5/16 – 18	10
V0-13D-K4C-CA	320	1.34	34.04	2.50	63.50	7/16 – 14	12
V0-13D-K4C-CA	400	1.34	34.04	2.50	63.50	7/16 – 14	16
V0-13D-K4C-CA	500	1.34	34.04	2.50	63.50	7/16 – 14	20

CONFIGURATION
13D

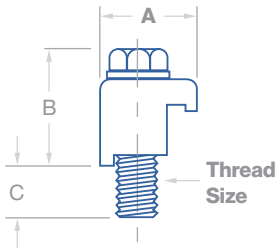
ISO-K Double Claw Clamp
(316 Stainless Steel)



Part Number	Dimensions in Inches & Millimeters					
	Flange Size	A		Bolt	Fits Flange	Clamps Required
	ISO	inch	mm		ISO	
V0-13D-K4D-CD	63	2.42	64.5	M10	63	4
V0-13D-K4D-CD	80	2.42	64.5	M10	80	4
V0-13D-K4D-CD	100	2.42	64.5	M10	100	4
V0-13D-K4D-CD	160	2.42	64.5	M10	160	6
V0-13D-K4D-CD	200	2.42	64.5	M10	200	8
V0-13D-K4D-CD	250	2.42	64.5	M10	250	10

CONFIGURATION
13

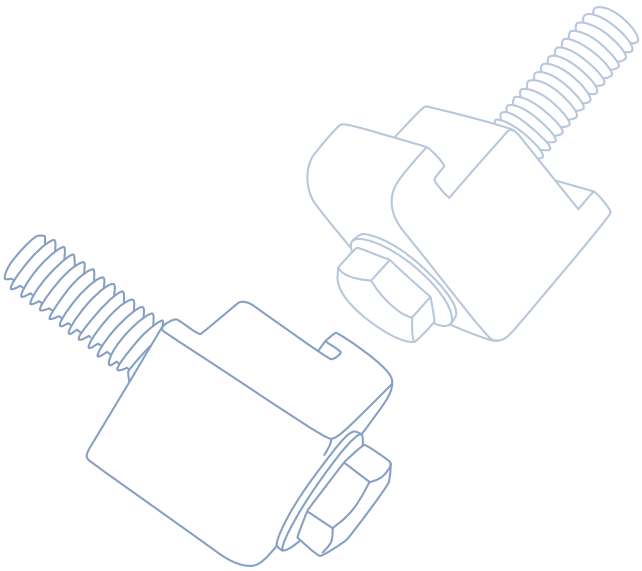
ISO-K Single Claw Clamp



Part Number	Dimensions in Inches					
	Flange Size ISO	A	B	C	Thread Size	Clamps Required
V0-13-K4A-**	63	.94	1.18	.52	5/16 – 18	4
V0-13-K4A-**	80	.94	1.18	.52	5/16 – 18	8
V0-13-K4A-**	100	.94	1.18	.52	5/16 – 18	8
V0-13-K4B-**	160	1.10	1.18	.52	5/16 – 18	8
V0-13-K4B-**	200	1.10	1.18	.52	5/16 – 18	12
V0-13-K4B-**	250	1.10	1.18	.52	5/16 – 18	12
V0-13-K4C-**	320	1.34	1.46	.88	7/16 – 14	12
V0-13-K4C-**	400	1.34	1.46	.88	7/16 – 14	16
V0-13-K4C-**	500	1.34	1.46	.88	7/16 – 14	16

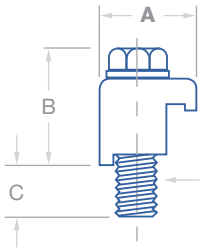
Part Number	Dimensions in Millimeters					
	Flange Size ISO	A	B	C	Thread Size	Clamps Required
V0-13-K4A-**	63	23.88	29.97	13.21	5/16 – 18	4
V0-13-K4A-**	80	23.88	29.97	13.21	5/16 – 18	8
V0-13-K4A-**	100	23.88	29.97	13.21	5/16 – 18	8
V0-13-K4B-**	160	27.94	29.97	13.21	5/16 – 18	8
V0-13-K4B-**	200	27.94	29.97	13.21	5/16 – 18	12
V0-13-K4B-**	250	27.94	29.97	13.21	5/16 – 18	12
V0-13-K4C-**	320	34.04	37.08	22.35	7/16 – 14	12
V0-13-K4C-**	400	34.04	37.08	22.35	7/16 – 14	16
V0-13-K4C-**	500	34.04	37.08	22.35	7/16 – 14	16

* **Clamp Thread / Material:** CA = Inch Aluminum, CC = Inch 316 SS, CE = Inch 304 SS



CONFIGURATION
13

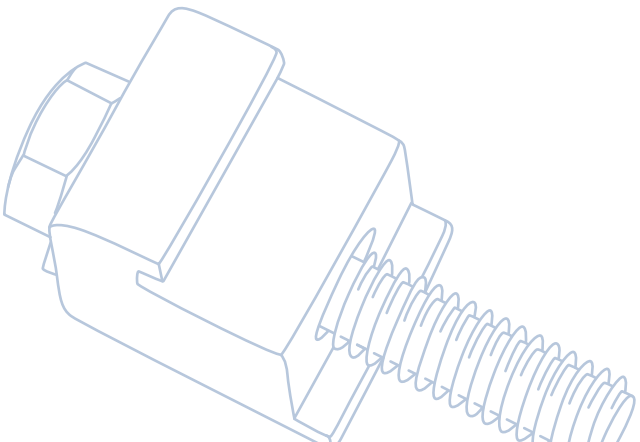
ISO-K Single Claw Clamp, Metric



Part Number	Dimensions in Inches					
	Flange Size ISO	A	B	C	Thread Size	Clamps Required
V0-13-K4A-**	63	.94	1.20	.40	M8 x 1.25	4
V0-13-K4A-**	80	.94	1.20	.40	M8 x 1.25	8
V0-13-K4A-**	100	.94	1.20	.40	M8 x 1.25	8
V0-13-K4B-**	160	1.10	1.20	.40	M10 x 1.50	8
V0-13-K4B-**	200	1.10	1.20	.40	M10 x 1.50	12
V0-13-K4B-**	250	1.10	1.20	.40	M10 x 1.50	12
V0-13-K4C-**	320	1.34	1.48	.79	M12 x 1.75	12
V0-13-K4C-**	400	1.34	1.48	.79	M12 x 1.75	16
V0-13-K4C-**	500	1.34	1.48	.79	M12 x 1.75	16

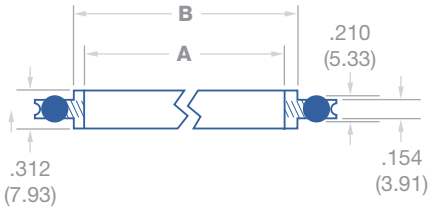
Part Number	Dimensions in Millimeters					
	Flange Size ISO	A	B	C	Thread Size	Clamps Required
V0-13-K4A-**	63	23.88	30.48	10.16	M8 x 1.25	4
V0-13-K4A-**	80	23.88	30.48	10.16	M8 x 1.25	8
V0-13-K4A-**	100	23.88	30.48	10.16	M8 x 1.25	8
V0-13-K4B-**	160	27.94	30.48	10.16	M10 x 1.50	8
V0-13-K4B-**	200	27.94	30.48	10.16	M10 x 1.50	12
V0-13-K4B-**	250	27.94	30.48	10.16	M10 x 1.50	12
V0-13-K4C-**	320	34.04	37.59	20.07	M12 x 1.75	12
V0-13-K4C-**	400	34.04	37.59	20.07	M12 x 1.75	16
V0-13-K4C-**	500	34.04	37.59	20.07	M12 x 1.75	16

* **Clamp Thread / Material:** CB = Metric Aluminum, CD = Metric 316 SS



CONFIGURATION 39D

ISO Centering Ring
with O-Ring & Spacer Ring

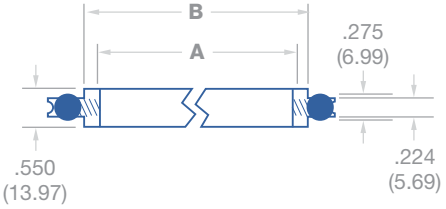


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39D-S2A-**A	63	2.63	66.80	2.74	69.60
V0-39D-S2B-**A	80	3.14	79.76	3.25	82.55
V0-39D-S2C-**A	100	3.89	98.81	4.00	101.60
V0-39D-S2D-**A	160	5.90	149.86	6.01	152.65
V0-39D-S2E-**A	200	8.26	209.80	8.37	212.60
V0-39D-S2F-**A	250	10.14	257.56	10.25	260.35

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum

CONFIGURATION 39D

ISO Centering Ring
with O-Ring & Spacer Ring

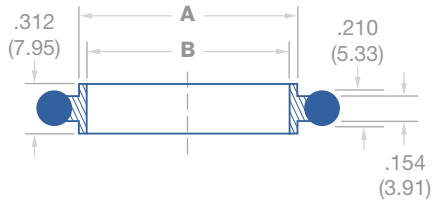


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39D-S2G-**A	320	12.36	313.94	12.52	318.01
V0-39D-S2H-**A	400	15.55	394.97	15.75	400.05

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum

CONFIGURATION
39C

ISO Centering Ring
(Stainless Steel) with O-Ring

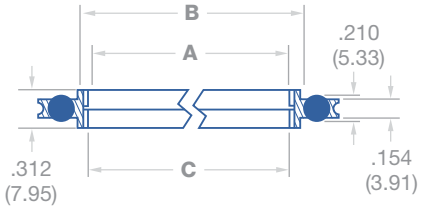


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39C-S2A-**X	63	2.74	69.60	2.63	66.80
V0-39C-S2B-**X	80	3.25	82.55	3.14	79.76
V0-39C-S2C-**X	100	4.00	101.60	3.89	98.81
V0-39C-S2D-**X	160	6.01	152.65	5.90	149.86
V0-39C-S2E-**X	200	8.37	212.60	8.26	209.80
V0-39C-S2F-**X	250	10.25	260.35	10.14	257.56
V0-39C-S2G-**X	320	12.52	318.01	12.32	312.93
V0-39C-S2H-**X	400	15.74	399.80	15.55	394.97

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
39N

ISO Screened Centering Ring
(Stainless Steel) with O-Ring & Spacer Ring



Part Number	Dimensions in Inches & Millimeters							
	Flange Size	A		B		C		Mesh
	ISO	inch	mm	inch	mm	inch	mm	(sq/in)
V0-39N-S2A-**A	63	2.63	66.80	2.74	69.60	2.38	60.45	16
V0-39N-S2B-**A	80	3.14	79.76	3.25	82.55	2.87	72.90	16
V0-39N-S2C-**A	100	3.89	98.81	4.00	101.60	3.50	88.90	16
V0-39N-S2D-**A	160	5.90	149.86	6.01	152.65	5.50	139.70	16

* Pick one of each option.
Centering Ring Material: 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum

CONFIGURATION
72R

O-Ring

O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

ISO-F Fittings



Specifications

Flange Material:
304, 304L, 316 & 316L

Rotatable Bolt Ring:
Aluminum

O-ring Material:
Viton®, Buena-N®, EPDM or Kalrez

Clamp Styles:
Aluminum Claw or SS Claw Clamps

Torque Value:
Bolts at 7-10 lbs-ft.

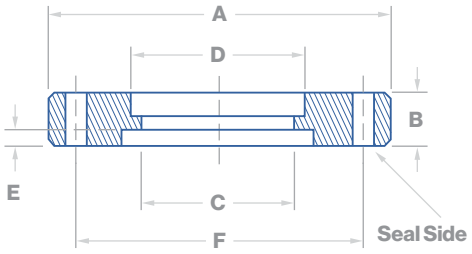
Vacuum Range:
1x10-8 torr

Temperature Range:	Minimum	Intermittent	Sustained
Viton®	-20°C	150°C	200°C
Buna-N®	-20°C	80°C	100°C

(Kalrez dependent on the compound)

CONFIGURATION **38B** Use With **70B**

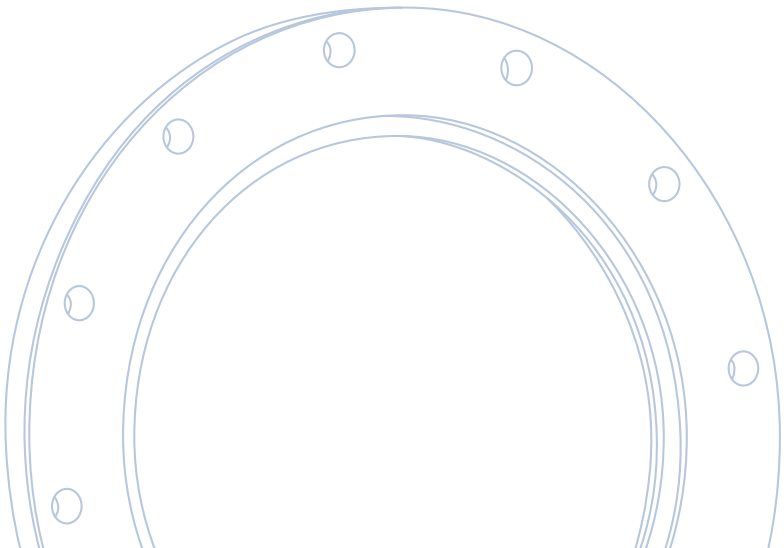
ISO-F Bored Flange



Part Number	Dimensions in Inches									
	Flange ISO	Nominal I.D.	A	B	C	D	E	F	Bolt Holes	Bolt Diameter
V*-38B-F2AXW40-FF	63	2-1/2"	5.118	.472	2.438	2.510	.220	4.331	4	.359
V*-38B-F2BXW48-FF	80	3"	5.709	.472	2.938	3.010	.220	4.921	8	.359
V*-38B-F2CXW64-FF	100	4"	6.496	.472	3.910	4.010	.220	5.709	8	.359
V*-38B-F2DXW96-FF	160	6"	8.858	.630	5.875	6.020	.220	7.874	8	.438
V*-38B-F2EXW53-FF	200	8"	11.220	.630	7.875	8.020	.220	10.236	12	.438
V*-38B-F2FXW55-FF	250	10"	13.189	.630	9.875	10.020	.220	12.205	12	.438
V*-38B-F2GXW57-FF	320	12"	16.732	.787	11.760	12.020	.300	15.551	12	.551
V*-38B-F2HXW86-FF	400	16"	20.079	.787	15.642	16.020	.300	18.898	16	.551
V*-38B-F2JXW88-FF	500	20"	24.016	.787	19.642	20.020	.300	22.835	16	.551

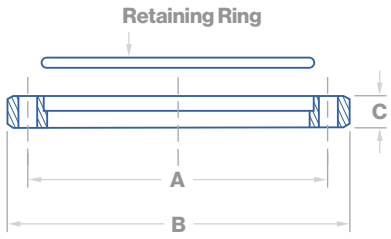
Part Number	Dimensions in Millimeters									
	Flange ISO	Nominal I.D.	A	B	C	D	E	F	Bolt Holes	Bolt Diameter
V*-38B-F2AXW40-FF	63	63.50	130.00	11.99	61.93	63.75	5.59	110.01	4	9.12
V*-38B-F2BXW48-FF	80	76.20	145.01	11.99	74.63	76.45	5.59	124.99	8	9.12
V*-38B-F2CXW64-FF	100	101.06	165.00	11.99	99.32	101.85	5.59	145.01	8	9.12
V*-38B-F2DXW96-FF	160	152.40	224.99	11.99	149.23	152.91	5.59	200.00	8	9.12
V*-38B-F2EXW53-FF	200	203.20	284.99	16.00	200.03	203.71	5.59	259.99	12	11.13
V*-38B-F2FXW55-FF	250	254.00	335.00	16.00	250.83	254.51	5.59	310.01	12	11.13
V*-38B-F2GXW57-FF	320	304.80	424.99	16.00	298.70	305.31	7.62	395.00	12	11.13
V*-38B-F2HXW86-FF	400	406.80	510.01	19.99	397.31	406.91	7.62	480.01	16	14.00
V*-38B-F2JXW88-FF	500	508.00	610.01	19.99	498.91	508.51	7.62	580.01	16	14.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
38B

ISO-F Bored Rotatable Flange
& Retainer Ring



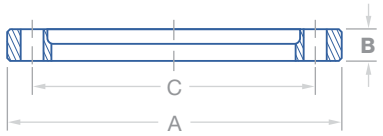
Part Number	Dimensions in Inches			
	Flange Size ISO	A	B	C
V*-38B-F2A-FR	63	4.331	5.118	.472
V*-38B-F2B-FR	80	4.921	5.709	.472
V*-38B-F2C-FR	100	5.709	6.496	.472
V*-38B-F2D-FR	160	7.874	8.858	.630
V*-38B-F2E-FR	200	10.236	11.220	.630
V*-38B-F2F-FR	250	12.205	13.189	.630
V*-38B-F2G-FR	320	15.551	16.732	.787
V*-38B-F2H-FR	400	18.898	20.079	.787
V*-38B-F2J-FR	500	22.835	24.016	.787

Part Number	Dimensions in Millimeters			
	Flange Size ISO	A	B	C
V*-38B-F2A-FR	63	110.01	130.00	11.99
V*-38B-F2B-FR	80	124.99	145.01	11.99
V*-38B-F2C-FR	100	145.01	165.00	11.99
V*-38B-F2D-FR	160	200.00	224.99	16.00
V*-38B-F2E-FR	200	259.99	284.99	16.00
V*-38B-F2F-FR	250	310.01	335.00	16.00
V*-38B-F2G-FR	320	395.00	424.99	19.99
V*-38B-F2H-FR	400	480.01	510.01	19.99
V*-38B-F2J-FR	500	580.01	610.01	19.99

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38B

ISO-F Bored Rotatable Bolted Flange



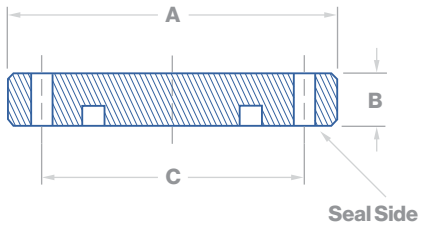
Part Number	Dimensions in Inches						
	Flange Size ISO	Tube Size	A	B	C	# of Bolts	Hole Diameter
V*-38B-F2AXW40-FR	63	2-1/2"	5.170	.470	4.330	4	.359
V*-38B-F2BXW48-FR	80	3"	5.710	.470	4.920	4	.359
V*-38B-F2CXW64-FR	100	4"	6.500	.470	5.710	8	.359
V*-38B-F2DXW96-FR	160	6"	8.860	.630	7.870	8	.438
V*-38B-F2EXW53-FR	200	8"	11.220	.630	10.240	12	.438
V*-38B-F2FXW55-FR	250	10"	13.190	.630	12.200	12	.438
V*-38B-F2GXW57-FR	320	12"	16.730	.790	15.550	12	.516
V*-38B-F2HXW86-FR	400	16"	20.080	.790	18.900	16	.516
V*-38B-F2JXW88-FR	500	20"	24.020	.790	22.830	16	.516

Part Number	Dimensions in Millimeters						
	Flange Size ISO	Tube Size	A	B	C	# of Bolts	Hole Diameter
V*-38B-F2AXW40-FR	63	63.50	131.32	11.94	109.98	4	9.12
V*-38B-F2BXW48-FR	80	76.20	145.03	11.94	124.97	4	9.12
V*-38B-F2CXW64-FR	100	101.60	165.10	11.94	145.03	8	9.12
V*-38B-F2DXW96-FR	160	152.40	225.04	16.00	199.90	8	11.13
V*-38B-F2EXW53-FR	200	203.20	284.99	16.00	260.10	12	11.13
V*-38B-F2FXW55-FR	250	254.00	335.03	16.00	309.88	12	11.13
V*-38B-F2GXW57-FR	320	304.80	424.94	20.07	394.97	12	13.11
V*-38B-F2HXW86-FR	400	406.40	510.03	20.07	480.06	16	13.11
V*-38B-F2JXW88-FR	500	508.00	610.11	20.07	579.88	16	13.11

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
38

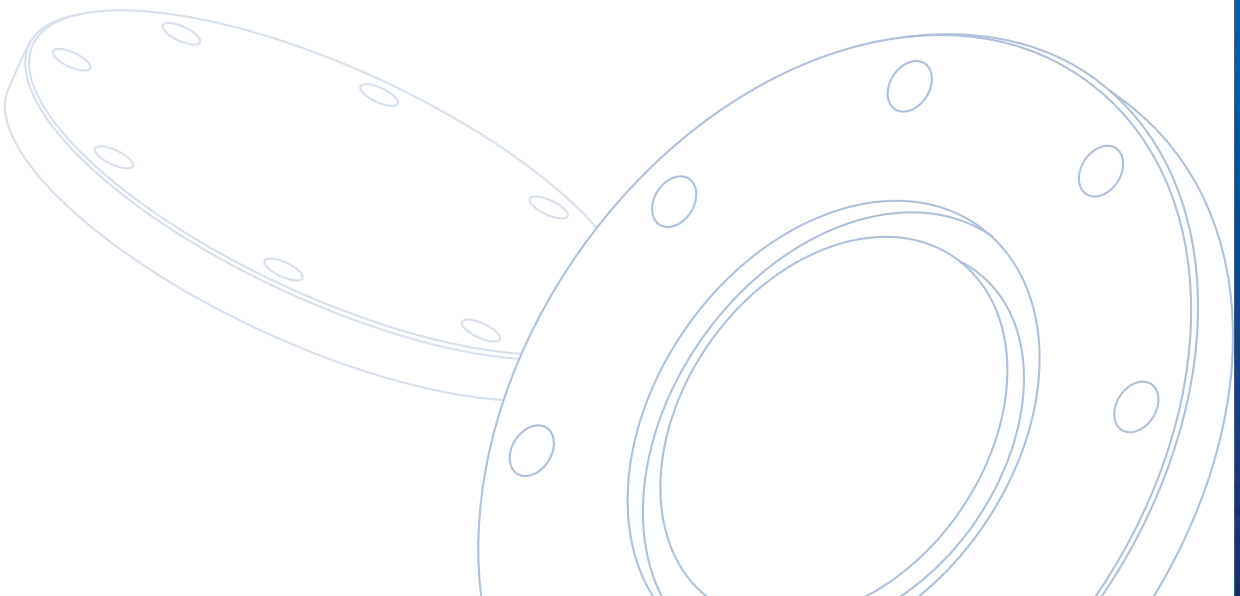
ISO-F
Blank Flange

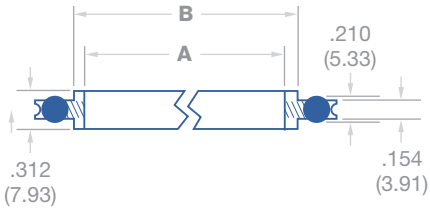


Part Number	Dimensions in Inches					
	Flange Size ISO	A	B	C	Bolt Holes	Bolt Diameter
V*-38-F2A	63	5.118	.472	4.331	4	.359
V*-38-F2B	80	5.709	.472	4.921	8	.359
V*-38-F2C	100	6.496	.472	5.709	8	.359
V*-38-F2D	160	8.858	.630	7.874	8	.438
V*-38-F2E	200	11.220	.630	10.236	12	.438
V*-38-F2F	250	13.189	.630	12.205	12	.438
V*-38-F2G	320	16.732	.787	15.551	12	.551
V*-38-F2H	400	20.079	.787	18.898	16	.551
V*-38-F2J	500	24.016	.787	22.835	16	.551

Part Number	Dimensions in Millimeters					
	Flange Size ISO	A	B	C	Bolt Holes	Bolt Diameter
V*-38-F2A	63	130.00	11.99	110.01	4	9.12
V*-38-F2B	80	145.01	11.99	124.99	8	9.12
V*-38-F2C	100	165.00	11.99	145.01	8	9.12
V*-38-F2D	160	224.99	16.00	200.00	8	11.13
V*-38-F2E	200	284.99	16.00	259.99	12	11.13
V*-38-F2F	250	335.00	16.00	310.01	12	11.13
V*-38-F2G	320	424.99	19.99	395.00	12	14.00
V*-38-F2H	400	510.01	19.99	480.01	16	14.00
V*-38-F2J	500	610.01	19.99	580.01	16	14.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



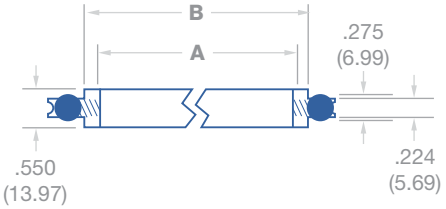


CONFIGURATION
39D

ISO Centering Ring
with O-Ring & Spacer Ring

Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39D-S2A-**A	63	2.63	66.80	2.74	69.60
V0-39D-S2B-**A	80	3.14	79.76	3.25	82.55
V0-39D-S2C-**A	100	3.89	98.81	4.00	101.60
V0-39D-S2D-**A	160	5.90	149.86	6.01	152.65
V0-39D-S2E-**A	200	8.26	209.80	8.37	212.60
V0-39D-S2F-**A	250	10.14	257.56	10.25	260.35

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum



CONFIGURATION
39D

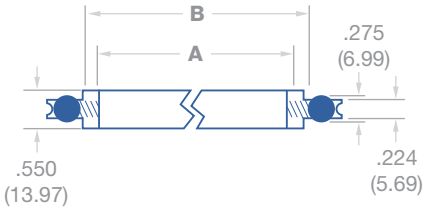
ISO Centering Ring
with O-Ring & Spacer Ring

Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39D-S2G-**A	320	12.36	313.94	12.52	318.01
V0-39D-S2H-**A	400	15.55	394.97	15.75	400.05

* Pick one of each option.
Centering Ring Material: 1 = Aluminum, 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum

CONFIGURATION
39C

ISO Centering Ring
(Stainless Steel) with O-Ring

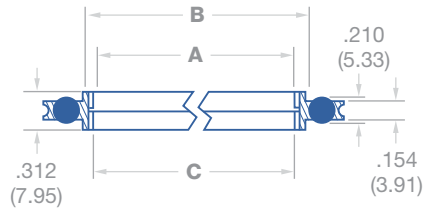


Part Number	Dimensions in Inches & Millimeters				
	Flange Size	A		B	
	ISO	inch	mm	inch	mm
V0-39C-S2A-**X	63	2.63	66.80	2.74	69.60
V0-39C-S2B-**X	80	3.14	79.76	3.25	82.55
V0-39C-S2C-**X	100	3.89	98.81	4.00	101.60
V0-39C-S2D-**X	160	5.90	149.86	6.01	152.65
V0-39C-S2E-**X	200	8.26	209.80	8.37	212.60
V0-39C-S2F-**X	250	10.14	257.56	10.25	260.35
V0-39C-S2G-**X	320	12.32	312.93	12.52	318.01
V0-39C-S2H-**X	400	15.55	394.97	15.74	399.80

* Pick one of each option.
Centering Ring Material: 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
39N

ISO Screened Centering Ring
(Stainless Steel) with O-Ring & Spacer Ring



Part Number	Dimensions in Inches & Millimeters							
	Flange Size	A		B		C		Mesh
	ISO	inch	mm	inch	mm	inch	mm	(sq/in)
V0-39N-S2A-**A	63	2.63	66.80	2.74	69.60	2.38	60.45	16
V0-39N-S2B-**A	80	3.14	79.76	3.25	82.55	2.87	72.90	16
V0-39N-S2C-**A	100	3.89	98.81	4.00	101.60	3.50	88.90	16
V0-39N-S2D-**A	160	5.90	149.86	6.01	152.65	5.50	139.70	16

* Pick one of each option.
Centering Ring Material: 2 = 304 SS, 3 = 316 SS, 4 = 316 SS EP
O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500
Spacer Ring Material: A = Aluminum

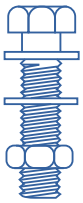
CONFIGURATION
72R

O-ring
O-ring options

O-Ring Material: A = NBR (Buna), B = EPDM, C = FKM (Viton), D = Silicone, E = Kalrez 6375, F = Kalrez 8900, G = Kalrez 9100, H = Kalrez 9500

CONFIGURATION
70B
Use With
38B

ISO-F
Bolt Kits, Metric
Bolts, Nuts & Washers



Part Number	Description			
	ISO	Number of Stainless Steel Bolts	Nuts & Washers	Size
V0-70B-F2A-X*A	63	4	X	M8 x 40mm
V0-70B-F2B-X*A	80	8	X	M8 x 40mm
V0-70B-F2C-X*A	100	8	X	M8 x 40mm
V0-70B-F2D-X*A	160	8	X	M10 x 50mm
V0-70B-F2E-X*A	200	12	X	M10 x 50mm
V0-70B-F2F-X*A	250	12	X	M10 x 50mm
V0-70B-F2G-X*A	320	12	X	M12 x 60mm
V0-70B-F2H-X*A	400	16	X	M12 x 60mm
V0-70B-F2J-X*A	500	16	X	M12 x 60mm

* Pick one of each option.
Material and / or Thread: M = Metric, V = Metric 10-8SS (Bolts), W = Metric 10-8SS Silver-plated (Bolts)

CF Fittings



Specifications

Flange Material:
304, 304L, 316, 316L & 316LN

Gaskets Material:
OFE Copper

Hardware:
Bolt Material:
300 series SS & silver plated
Bolt head type:
Hexagonal or 12-point head
Nut Type:
Hexagonal or two-hole plate nuts

Bolt Torque:

Bolt Size	Fractional Size	Torque
.160-32 UNC	8-32	7 lb-ft
.250-28 UNF	$^{1}/_{4}$-28	12 lb-ft
.312-24 UNF	$^{5}/_{16}$-24	15 lb-ft
.375-24 UNF	$^{3}/_{8}$-24	26 lb-ft

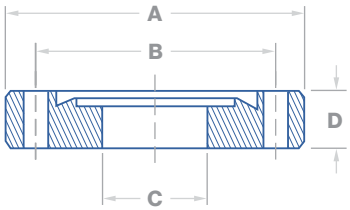
Vacuum Range:
1x10-13 Torr

Temperature Range:
OFE Copper -200°C to 450°C

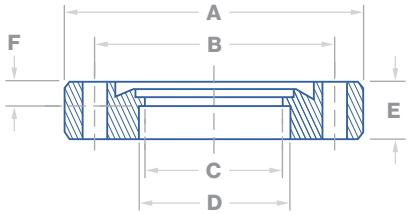
CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Nonrotatable, Clearance Bolt Holes



Part Number	Dimensions in Inches**						
	Flange Size	A	B	C	D	Bolt Holes	Diameter
V*-38B-C3AXW04-FF	1.33	1.330	1.062	.255	.300	6	.172
V*-38B-C3AXW06-FF	1.33	1.330	1.062	.380	.300	6	.172
V*-38B-C3AXW08-FF	1.33	1.330	1.062	.505	.300	6	.172



Part Number	Dimensions in Inches**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Diameter
V*-38B-C3BXW04-FF	2.12	2.120	1.625	.255	N/A	.469	N/A	4	.265
V*-38B-C3BXW08-FF	2.12	2.120	1.625	.505	N/A	.469	N/A	4	.265
V*-38B-C3BXW12-FF	2.12	2.120	1.625	.688	.760	.469	.167	4	.265
V*-38B-C3BXW16-FF	2.12	2.120	1.625	.938	1.010	.469	.167	4	.265
V*-38B-C3CXW04-FF	2.75	2.730	2.312	.255	N/A	.500	N/A	6	.265
V*-38B-C3CXW08-FF	2.75	2.730	2.312	.505	N/A	.500	N/A	6	.265
V*-38B-C3CXW12-FF	2.75	2.730	2.312	.688	.760	.500	.209	6	.265
V*-38B-C3CXW16-FF	2.75	2.730	2.312	.938	1.010	.500	.209	6	.265
V*-38B-C3CXW20-FF	2.75	2.730	2.312	1.188	1.260	.500	.209	6	.265
V*-38B-C3CXW24-FF	2.75	2.730	2.312	1.438	1.510	.500	.209	6	.265
V*-38B-C3CXW26-FF	2.75	2.730	2.312	1.560	1.635	.500	.209	6	.265
V*-38B-C3CXW28-FF	2.75	2.730	2.312	1.620	1.760	.500	.209	6	.265
V*-38B-C3DXW24-FF	3.38	3.360	2.850	1.438	1.510	.687	.225	8	.332
V*-38B-C3DXW32-FF	3.38	3.360	2.850	1.938	2.010	.687	.225	8	.332
V*-38B-C3EXW24-FF	4.50	4.470	3.628	1.438	1.510	.687	.375	8	.332
V*-38B-C3EXW32-FF	4.50	4.470	3.628	1.938	2.010	.687	.375	8	.332
V*-38B-C3EXW40-FF	4.50	4.470	3.628	2.438	2.510	.687	.375	8	.332
V*-38B-C3FXW48-FF	4.62	4.610	4.030	2.938	3.010	.812	.281	10	.332
V*-38B-C3GXW64-FF	6.00	5.970	5.128	3.910	4.010	.781	.438	16	.332
V*-38B-C3HXW80-FF	6.75	6.730	5.969	4.875	5.010	.844	.460	18	.332
V*-38B-C3JXW96-FF	8.00	7.970	7.128	5.875	6.020	.937	.500	20	.332
V*-38B-C3KXW53-FF	10.00	9.970	9.128	7.875	8.020	.968	.500	24	.332
V*-38B-C3LXW55-FF	12.00	12.000	11.181	9.875	10.020	1.125	.500	32	.332
V*-38B-C3MXW55-FF	13.25	13.250	12.055	9.875	10.020	1.125	.500	30	.390
V*-38B-C3NXW57-FF	14.00	14.000	12.810	11.875	12.030	1.125	.500	30	.390
V*-38B-C3QXW85-FF	16.50	16.500	15.310	13.750	14.020	1.125	.500	36	.390

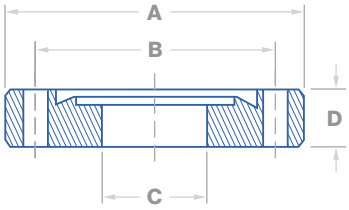
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Millimeter dimensions on the following page

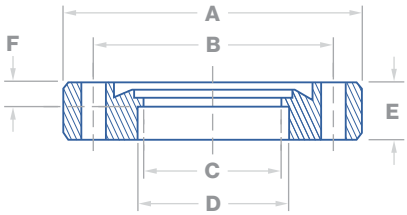
CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Nonrotatable, Clearance Bolt Holes



Part Number	Dimensions in Millimeters**						
	Flange Size	A	B	C	D	Bolt Holes	Diameter
V*-38B-C3AXW04-FF	33.78	33.78	26.98	6.48	7.62	6	4.37
V*-38B-C3AXW06-FF	33.78	33.78	26.98	9.65	7.62	6	4.37
V*-38B-C3AXW08-FF	33.78	33.78	26.98	12.83	7.62	6	4.37



Part Number	Dimensions in Millimeters**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Diameter
V*-38B-C3BXW04-FF	53.85	53.85	41.28	6.48	N/A	11.91	N/A	4	6.73
V*-38B-C3BXW08-FF	53.85	53.85	41.28	12.83	N/A	11.91	N/A	4	6.73
V*-38B-C3BXW12-FF	53.85	53.85	41.28	17.48	19.30	11.91	4.24	4	6.73
V*-38B-C3BXW16-FF	53.85	53.85	41.28	23.83	25.65	11.91	4.24	4	6.73
V*-38B-C3CXW04-FF	69.85	69.34	58.73	6.48	N/A	12.70	N/A	6	6.73
V*-38B-C3CXW08-FF	69.85	69.34	58.73	12.83	N/A	12.70	N/A	6	6.73
V*-38B-C3CXW12-FF	69.85	69.34	58.73	17.48	19.30	12.70	5.31	6	6.73
V*-38B-C3CXW16-FF	69.85	69.34	58.73	23.83	25.65	12.70	5.31	6	6.73
V*-38B-C3CXW20-FF	69.85	69.34	58.73	30.18	32.00	12.70	5.31	6	6.73
V*-38B-C3CXW24-FF	69.85	69.34	58.73	36.53	38.35	12.70	5.31	6	6.73
V*-38B-C3CXW26-FF	69.85	69.34	58.73	39.62	41.53	12.70	5.31	6	6.73
V*-38B-C3CXW28-FF	69.85	69.34	58.73	41.15	44.70	12.70	5.31	6	6.73
V*-38B-C3DXW24-FF	85.85	85.34	72.39	36.53	38.35	17.45	5.72	8	8.43
V*-38B-C3DXW32-FF	85.85	85.34	72.39	49.23	51.05	17.45	5.72	8	8.43
V*-38B-C3EXW24-FF	114.30	113.54	92.15	36.53	38.35	17.45	9.53	8	8.43
V*-38B-C3EXW32-FF	114.30	113.54	92.15	49.23	51.05	17.45	9.53	8	8.43
V*-38B-C3EXW40-FF	114.30	113.54	92.15	61.93	63.75	17.45	9.53	8	8.43
V*-38B-C3FXW48-FF	117.35	117.09	102.36	74.63	76.45	20.62	7.14	10	8.43
V*-38B-C3GXW64-FF	152.40	151.64	130.25	99.31	101.85	19.84	11.13	16	8.43
V*-38B-C3HXW80-FF	171.45	170.94	151.61	123.83	127.25	21.44	11.68	18	8.43
V*-38B-C3JXW96-FF	203.20	202.44	181.05	149.23	152.91	22.71	12.70	20	8.43
V*-38B-C3KXW53-FF	254.00	253.24	231.85	200.03	203.71	24.59	12.70	24	8.43
V*-38B-C3LXW55-FF	304.80	304.80	284.00	250.83	254.51	28.58	12.70	32	8.43
V*-38B-C3MXW55-FF	336.55	336.55	306.20	250.83	254.51	28.58	12.70	30	9.91
V*-38B-C3NXW57-FF	355.60	355.60	325.37	301.63	305.56	28.58	12.70	30	9.91
V*-38B-C3QXW85-FF	419.10	419.10	388.87	349.25	356.11	28.58	12.70	36	9.91

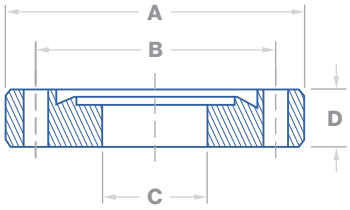
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Inch dimensions on the previous page

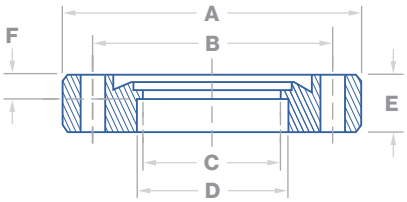
CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Nonrotatable, Tapped Bolt Holes



Part Number	Dimensions in Inches**						
	Flange Size	A	B	C	D	Bolt Holes	Thread
V*-38B-C3AXW04-FS	1.33	1.330	1.062	.255	.300	6	8–32
V*-38B-C3AXW06-FS	1.33	1.330	1.062	.380	.300	6	8–32
V*-38B-C3AXW08-FS	1.33	1.330	1.062	.505	.300	6	8–32



Part Number	Dimensions in Inches**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Thread
V*-38B-C3BXW04-FS	2.12	2.120	1.625	.255	N/A	.469	N/A	4	1/4–28
V*-38B-C3BXW08-FS	2.12	2.120	1.625	.505	N/A	.469	N/A	4	1/4–28
V*-38B-C3BXW12-FS	2.12	2.120	1.625	.688	.760	.469	.167	4	1/4–28
V*-38B-C3BXW16-FS	2.12	2.120	1.625	.938	1.010	.469	.167	4	1/4–28
V*-38B-C3CXW04-FS	2.75	2.730	2.312	.255	N/A	.500	N/A	6	1/4–28
V*-38B-C3CXW08-FS	2.75	2.730	2.312	.505	N/A	.500	N/A	6	1/4–28
V*-38B-C3CXW12-FS	2.75	2.730	2.312	.688	.760	.500	.209	6	1/4–28
V*-38B-C3CXW16-FS	2.75	2.730	2.312	.938	1.010	.500	.209	6	1/4–28
V*-38B-C3CXW20-FS	2.75	2.730	2.312	1.188	1.260	.500	.209	6	1/4–28
V*-38B-C3CXW24-FS	2.75	2.730	2.312	1.438	1.510	.500	.209	6	1/4–28
V*-38B-C3CXW26-FS	2.75	2.730	2.312	1.560	1.635	.500	.209	6	1/4–28
V*-38B-C3CXW28-FS	2.75	2.730	2.312	1.620	1.760	.500	.209	6	1/4–28
V*-38B-C3DXW24-FS	3.38	3.360	2.850	1.438	1.510	.687	.225	8	5/16–24
V*-38B-C3DXW32-FS	3.38	3.360	2.850	1.938	2.010	.687	.225	8	5/16–24
V*-38B-C3EXW24-FS	4.50	4.470	3.628	1.438	1.510	.687	.375	8	5/16–24
V*-38B-C3EXW32-FS	4.50	4.470	3.628	1.938	2.010	.687	.375	8	5/16–24
V*-38B-C3EXW40-FS	4.50	4.470	3.628	2.438	2.510	.687	.375	8	5/16–24
V*-38B-C3FXW48-FS	4.62	4.610	4.030	2.938	3.010	.812	.281	10	5/16–24
V*-38B-C3GXW64-FS	6.00	5.970	5.128	3.910	4.010	.781	.438	16	5/16–24
V*-38B-C3HXW80-FS	6.75	6.730	5.969	4.875	5.010	.844	.460	18	5/16–24
V*-38B-C3JXW96-FS	8.00	7.970	7.128	5.875	6.020	.937	.500	20	5/16–24
V*-38B-C3KXW53-FS	10.00	9.970	9.128	7.875	8.020	.968	.500	24	5/16–24
V*-38B-C3LXW55-FS	12.00	12.000	11.181	9.875	10.020	1.125	.500	32	5/16–24
V*-38B-C3MXW55-FS	13.25	13.250	12.055	9.875	10.020	1.125	.500	30	3/8–24
V*-38B-C3NXW57-FS	14.00	14.000	12.810	11.875	12.030	1.125	.500	30	3/8–24
V*-38B-C3QXW85-FS	16.50	16.500	15.310	13.750	14.020	1.125	.500	36	3/8–24

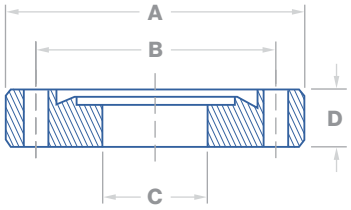
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Millimeter dimensions on the following page

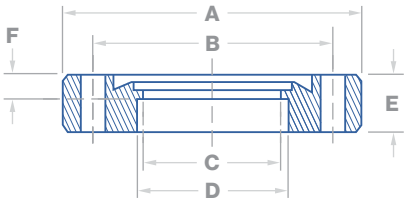
CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Nonrotatable, Tapped Bolt Holes



Part Number	Dimensions in Millimeters**						
	Flange Size	A	B	C	D	Bolt Holes	Thread
V*-38B-C3AXW04-FS	33.78	33.78	26.98	6.48	7.62	6	8–32
V*-38B-C3AXW06-FS	33.78	33.78	26.98	9.65	7.62	6	8–32
V*-38B-C3AXW08-FS	33.78	33.78	26.98	12.83	7.62	6	8–32



Part Number	Dimensions in Millimeters**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Thread
V*-38B-C3BXW04-FS	53.85	53.85	41.28	6.48	N/A	11.91	N/A	4	1/4–28
V*-38B-C3BXW08-FS	53.85	53.85	41.28	12.83	N/A	11.91	N/A	4	1/4–28
V*-38B-C3BXW12-FS	53.85	53.85	41.28	17.48	19.30	11.91	4.24	4	1/4–28
V*-38B-C3BXW16-FS	53.85	53.85	41.28	23.83	25.65	11.91	4.24	4	1/4–28
V*-38B-C3CXW04-FS	69.85	69.34	58.73	6.48	N/A	12.70	N/A	6	1/4–28
V*-38B-C3CXW08-FS	69.85	69.34	58.73	12.83	N/A	12.70	N/A	6	1/4–28
V*-38B-C3CXW12-FS	69.85	69.34	58.73	17.48	19.30	12.70	5.31	6	1/4–28
V*-38B-C3CXW16-FS	69.85	69.34	58.73	23.83	25.65	12.70	5.31	6	1/4–28
V*-38B-C3CXW20-FS	69.85	69.34	58.73	30.18	32.00	12.70	5.31	6	1/4–28
V*-38B-C3CXW24-FS	69.85	69.34	58.73	36.53	38.35	12.70	5.31	6	1/4–28
V*-38B-C3CXW26-FS	69.85	69.34	58.73	39.62	41.53	12.70	5.31	6	1/4–28
V*-38B-C3CXW28-FS	69.85	69.34	58.73	41.15	44.70	12.70	5.31	6	1/4–28
V*-38B-C3DXW24-FS	85.85	85.34	72.39	36.53	38.35	17.45	5.72	8	5/16–24
V*-38B-C3DXW32-FS	85.85	85.34	72.39	49.23	51.05	17.45	5.72	8	5/16–24
V*-38B-C3EXW24-FS	114.30	113.54	92.15	36.53	38.35	17.45	9.53	8	5/16–24
V*-38B-C3EXW32-FS	114.30	113.54	92.15	49.23	51.05	17.45	9.53	8	5/16–24
V*-38B-C3EXW40-FS	114.30	113.54	92.15	61.93	63.75	17.45	9.53	8	5/16–24
V*-38B-C3FXW48-FS	117.35	117.09	102.36	74.63	76.45	20.62	7.14	10	5/16–24
V*-38B-C3GXW64-FS	152.40	151.64	130.25	99.31	101.85	19.84	11.13	16	5/16–24
V*-38B-C3HXW80-FS	171.45	170.94	151.61	123.83	127.25	21.44	11.68	18	5/16–24
V*-38B-C3JXW96-FS	203.20	202.44	181.05	149.23	152.91	22.71	12.70	20	5/16–24
V*-38B-C3KXW53-FS	254.00	253.24	231.85	200.03	203.71	24.59	12.70	24	5/16–24
V*-38B-C3LXW55-FS	304.80	304.80	284.00	250.83	254.51	28.58	12.70	32	5/16–24
V*-38B-C3MXW55-FS	336.55	336.55	306.20	250.83	254.51	28.58	12.70	30	3/8–24
V*-38B-C3NXW57-FS	355.60	355.60	325.37	301.63	305.56	28.58	12.70	30	3/8–24
V*-38B-C3QXW85-FS	419.10	419.10	388.87	349.25	356.11	28.58	12.70	36	3/8–24

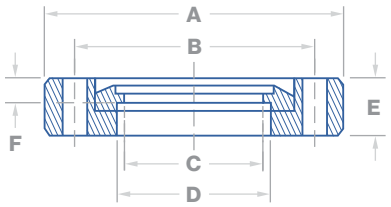
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Inch dimensions on the previous page

CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Rotatable, Clearance Bolt Holes



Part Number	Dimensions in Inches**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Diameter
V*-38B-C3AXW04-FR	1.33	1.330	1.062	.255	N/A	.300	N/A	6	.172
V*-38B-C3AXW06-FR	1.33	1.330	1.062	.380	N/A	.300	N/A	6	.172
V*-38B-C3AXW08-FR	1.33	1.330	1.062	.505	N/A	.300	N/A	6	.172
V*-38B-C3AXW12-FR	1.33	1.330	1.062	.625	N/A	.300	N/A	6	.172
V*-38B-C3BXW04-FR	2.12	2.120	1.625	.255	N/A	.469	N/A	4	.265
V*-38B-C3BXW08-FR	2.12	2.120	1.625	.505	N/A	.469	N/A	4	.265
V*-38B-C3BXW12-FR	2.12	2.120	1.625	.688	.760	.469	.167	4	.265
V*-38B-C3BXW16-FR	2.12	2.120	1.625	.938	1.010	.469	.167	4	.265
V*-38B-C3CXW04-FR	2.75	2.730	2.312	.255	N/A	.500	N/A	6	.265
V*-38B-C3CXW08-FR	2.75	2.730	2.312	.505	N/A	.500	N/A	6	.265
V*-38B-C3CXW12-FR	2.75	2.730	2.312	.688	.760	.500	.209	6	.265
V*-38B-C3CXW16-FR	2.75	2.730	2.312	.938	1.010	.500	.209	6	.265
V*-38B-C3CXW20-FR	2.75	2.730	2.312	1.188	1.260	.500	.209	6	.265
V*-38B-C3CXW24-FR	2.75	2.730	2.312	1.438	1.510	.500	.209	6	.265
V*-38B-C3DXW24-FR	3.38	3.360	2.850	1.438	1.510	.687	.225	8	.332
V*-38B-C3DXW32-FR	3.38	3.360	2.850	1.938	2.010	.687	.225	8	.332
V*-38B-C3EXW24-FR	4.50	4.470	3.628	1.438	1.510	.750	.375	8	.332
V*-38B-C3EXW32-FR	4.50	4.470	3.628	1.938	2.010	.750	.375	8	.332
V*-38B-C3EXW40-FR	4.50	4.470	3.628	2.438	2.510	.750	.375	8	.332
V*-38B-C3FXW48-FR	4.62	4.610	4.030	2.938	3.010	.812	.281	10	.332
V*-38B-C3GXW64-FR	6.00	5.970	5.128	3.910	4.010	.844	.438	16	.332
V*-38B-C3HXW80-FR	6.75	6.730	5.969	4.875	5.010	.844	.460	18	.332
V*-38B-C3JXW96-FR	8.00	7.970	7.128	5.875	6.020	.937	.500	20	.332
V*-38B-C3KXW53-FR	10.00	9.970	9.128	7.875	8.020	.968	.500	24	.332
V*-38B-C3LXW55-FR	12.00	12.000	11.181	9.875	10.020	1.125	.500	32	.332
V*-38B-C3MXW55-FR	13.25	13.250	12.055	9.875	10.020	1.125	.500	30	.390
V*-38B-C3NXW57-FR	14.00	14.000	12.810	11.875	12.030	1.125	.500	30	.390
V*-38B-C3QXW85-FR	16.50	16.500	15.310	13.750	14.020	1.125	.500	36	.390

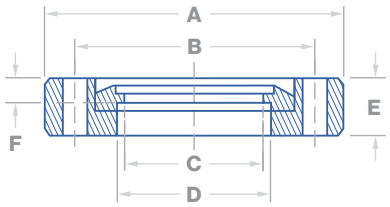
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Millimeter dimensions on the following page

CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Rotatable, Clearance Bolt Holes



Part Number	Dimensions in Millimeters**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Diameter
V*-38B-C3AXW04-FR	33.78	33.78	26.98	6.48	N/A	7.62	N/A	6	4.37
V*-38B-C3AXW06-FR	33.78	33.78	26.98	9.65	N/A	7.62	N/A	6	4.37
V*-38B-C3AXW08-FR	33.78	33.78	26.98	12.83	N/A	7.62	N/A	6	4.37
V*-38B-C3AXW12-FR	33.78	33.78	26.98	15.88	N/A	7.62	N/A	6	4.37
V*-38B-C3BXW04-FR	53.85	53.85	41.28	6.48	N/A	11.91	N/A	4	6.73
V*-38B-C3BXW08-FR	53.85	53.85	41.28	12.83	N/A	11.91	N/A	4	6.73
V*-38B-C3BXW12-FR	53.85	53.85	41.28	17.48	19.30	11.91	4.24	4	6.73
V*-38B-C3BXW16-FR	53.85	53.85	41.28	23.83	25.65	11.91	4.24	4	6.73
V*-38B-C3CXW04-FR	69.85	69.34	58.73	6.48	N/A	12.70	N/A	6	6.73
V*-38B-C3CXW08-FR	69.85	69.34	58.73	12.83	N/A	12.70	N/A	6	6.73
V*-38B-C3CXW12-FR	69.85	69.34	58.73	30.18	19.30	12.70	5.31	6	6.73
V*-38B-C3CXW16-FR	69.85	69.34	58.73	23.83	25.65	12.70	5.31	6	6.73
V*-38B-C3CXW20-FR	69.85	69.34	58.73	30.18	32.00	12.70	5.31	6	6.73
V*-38B-C3CXW24-FR	69.85	69.34	58.73	36.53	38.35	12.70	5.31	6	6.73
V*-38B-C3DXW24-FR	85.85	85.34	72.39	36.53	38.35	17.45	5.72	8	8.43
V*-38B-C3DXW32-FR	85.85	85.34	72.39	49.23	51.05	17.45	5.72	8	8.43
V*-38B-C3EXW24-FR	114.30	113.54	92.15	36.53	38.35	19.05	9.53	8	8.43
V*-38B-C3EXW32-FR	114.30	113.54	92.15	49.23	51.05	19.05	9.53	8	8.43
V*-38B-C3EXW40-FR	114.30	113.54	92.15	61.93	63.75	19.05	9.53	8	8.43
V*-38B-C3FXW48-FR	117.35	117.09	102.36	74.63	76.45	20.62	7.14	10	8.43
V*-38B-C3GXW64-FR	152.40	151.64	130.25	99.31	101.85	21.44	11.13	16	8.43
V*-38B-C3HXW80-FR	171.45	170.94	151.61	123.83	127.25	21.44	11.68	18	8.43
V*-38B-C3JXW96-FR	203.20	202.44	181.05	149.23	152.91	22.71	12.70	20	8.43
V*-38B-C3KXW53-FR	254.00	253.24	231.85	200.03	203.71	24.59	12.70	24	8.43
V*-38B-C3LXW55-FR	304.80	304.80	284.00	250.83	254.51	28.58	12.70	32	8.43
V*-38B-C3MXW55-FR	336.55	336.55	306.20	250.83	254.51	28.58	12.70	30	9.91
V*-38B-C3NXW57-FR	355.60	355.60	325.37	301.63	305.56	28.58	12.70	30	9.91
V*-38B-C3QXW85-FR	419.10	419.10	388.87	349.25	356.11	28.58	12.70	36	9.91

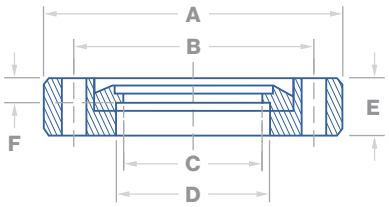
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
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** Inch dimensions on the previous page

CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Rotatable, Tapped Bolt Holes



Part Number	Dimensions in Inches**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Thread
V*-38B-C3AXW04-FT	1.33	1.330	1.062	.255	N/A	.300	N/A	6	8–32
V*-38B-C3AXW06-FT	1.33	1.330	1.062	.380	N/A	.300	N/A	6	8–32
V*-38B-C3AXW08-FT	1.33	1.330	1.062	.505	N/A	.300	N/A	6	8–32
V*-38B-C3AXW12-FT	1.33	1.330	1.062	.625	N/A	.300	N/A	6	8–32
V*-38B-C3BXW04-FT	2.12	2.120	1.625	.255	N/A	.469	N/A	4	1/4–28
V*-38B-C3BXW08-FT	2.12	2.120	1.625	.505	N/A	.469	N/A	4	1/4–28
V*-38B-C3BXW12-FT	2.12	2.120	1.625	.688	.760	.469	.167	4	1/4–28
V*-38B-C3BXW16-FT	2.12	2.120	1.625	.938	1.010	.469	.167	4	1/4–28
V*-38B-C3CXW04-FT	2.75	2.730	2.312	.255	N/A	.500	N/A	6	1/4–28
V*-38B-C3CXW08-FT	2.75	2.730	2.312	.505	N/A	.500	N/A	6	1/4–28
V*-38B-C3CXW12-FT	2.75	2.730	2.312	.688	.760	.500	.209	6	1/4–28
V*-38B-C3CXW16-FT	2.75	2.730	2.312	.938	1.010	.500	.209	6	1/4–28
V*-38B-C3CXW20-FT	2.75	2.730	2.312	1.188	1.260	.500	.209	6	1/4–28
V*-38B-C3CXW24-FT	2.75	2.730	2.312	1.438	1.510	.500	.209	6	1/4–28
V*-38B-C3DXW24-FT	3.38	3.360	2.850	1.438	1.510	.687	.225	8	5/16–24
V*-38B-C3DXW32-FT	3.38	3.360	2.850	1.938	2.010	.687	.225	8	5/16–24
V*-38B-C3EXW24-FT	4.50	4.470	3.628	1.438	1.510	.750	.375	8	5/16–24
V*-38B-C3EXW32-FT	4.50	4.470	3.628	1.938	2.010	.750	.375	8	5/16–24
V*-38B-C3EXW40-FT	4.50	4.470	3.628	2.438	2.510	.750	.375	8	5/16–24
V*-38B-C3FXW48-FT	4.62	4.610	4.030	2.938	3.010	.812	.281	10	5/16–24
V*-38B-C3GXW64-FT	6.00	5.970	5.128	3.910	4.010	.844	.438	16	5/16–24
V*-38B-C3HXW80-FT	6.75	6.730	5.969	4.875	5.010	.844	.460	18	5/16–24
V*-38B-C3JXW96-FT	8.00	7.970	7.128	5.875	6.020	.937	.500	20	5/16–24
V*-38B-C3KXW53-FT	10.00	9.970	9.128	7.875	8.020	.968	.500	24	5/16–24
V*-38B-C3LXW55-FT	12.00	12.000	11.181	9.875	10.020	1.125	.500	32	5/16–24
V*-38B-C3MXW55-FT	13.25	13.250	12.055	9.875	10.020	1.125	.500	30	3/8–24
V*-38B-C3NXW57-FT	14.00	14.000	12.810	11.875	12.030	1.125	.500	30	3/8–24
V*-38B-C3QXW85-FT	16.50	16.500	15.310	13.750	14.020	1.125	.500	36	3/8–24

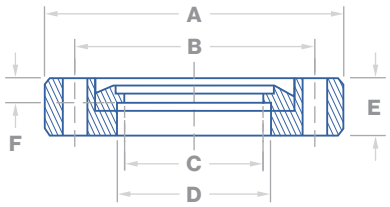
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** Millimeter dimensions on the following page

CONFIGURATION
38B
Use With
70
& 72

CF Bored Flange

Rotatable, Tapped Bolt Holes



Part Number	Dimensions in Millimeters**								
	Flange Size	A	B	C	D	E	F	Bolt Holes	Thread
V*-38B-C3AXW04-FT	33.78	33.78	26.98	6.48	N/A	7.62	N/A	6	8–32
V*-38B-C3AXW06-FT	33.78	33.78	26.98	9.65	N/A	7.62	N/A	6	8–32
V*-38B-C3AXW08-FT	33.78	33.78	26.98	12.83	N/A	7.62	N/A	6	8–32
V*-38B-C3AXW12-FT	33.78	33.78	26.98	15.88	N/A	7.62	N/A	6	8–32
V*-38B-C3BXW04-FT	53.85	53.85	41.28	6.48	N/A	11.91	N/A	4	1/4–28
V*-38B-C3BXW08-FT	53.85	53.85	41.28	12.83	N/A	11.91	N/A	4	1/4–28
V*-38B-C3BXW12-FT	53.85	53.85	41.28	17.48	19.30	11.91	4.24	4	1/4–28
V*-38B-C3BXW16-FT	53.85	53.85	41.28	23.83	25.65	11.91	4.24	4	1/4–28
V*-38B-C3CXW04-FT	69.85	69.34	58.73	6.48	N/A	12.70	N/A	6	1/4–28
V*-38B-C3CXW08-FT	69.85	69.34	58.73	12.83	N/A	12.70	N/A	6	1/4–28
V*-38B-C3CXW12-FT	69.85	69.34	58.73	30.18	19.30	12.70	5.31	6	1/4–28
V*-38B-C3CXW16-FT	69.85	69.34	58.73	23.83	25.65	12.70	5.31	6	1/4–28
V*-38B-C3CXW20-FT	69.85	69.34	58.73	30.18	32.00	12.70	5.31	6	1/4–28
V*-38B-C3CXW24-FT	69.85	69.34	58.73	36.53	38.35	12.70	5.31	6	1/4–28
V*-38B-C3DXW24-FT	85.85	85.34	72.39	36.53	38.35	17.45	5.72	8	5/16–24
V*-38B-C3DXW32-FT	85.85	85.34	72.39	49.23	51.05	17.45	5.72	8	5/16–24
V*-38B-C3EXW24-FT	114.30	113.54	92.15	36.53	38.35	19.05	9.53	8	5/16–24
V*-38B-C3EXW32-FT	114.30	113.54	92.15	49.23	51.05	19.05	9.53	8	5/16–24
V*-38B-C3EXW40-FT	114.30	113.54	92.15	61.93	63.75	19.05	9.53	8	5/16–24
V*-38B-C3FXW48-FT	117.35	117.09	102.36	74.63	76.45	20.62	7.14	10	5/16–24
V*-38B-C3GXW64-FT	152.40	151.64	130.25	99.31	101.85	21.44	11.13	16	5/16–24
V*-38B-C3HXW80-FT	171.45	170.94	151.61	123.83	127.25	21.44	11.68	18	5/16–24
V*-38B-C3JXW96-FT	203.20	202.44	181.05	149.23	152.91	22.71	12.70	20	5/16–24
V*-38B-C3KXW53-FT	254.00	253.24	231.85	200.03	203.71	24.59	12.70	24	5/16–24
V*-38B-C3LXW55-FT	304.80	304.80	284.00	250.83	254.51	28.58	12.70	32	5/16–24
V*-38B-C3MXW55-FT	336.55	336.55	306.20	250.83	254.51	28.58	12.70	30	3/8–24
V*-38B-C3NXW57-FT	355.60	355.60	325.37	301.63	305.56	28.58	12.70	30	3/8–24
V*-38B-C3QXW85-FT	419.10	419.10	388.87	349.25	356.11	28.58	12.70	36	3/8–24

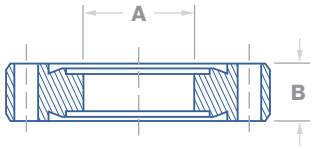
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Inch dimensions on the previous page

CONFIGURATION
38D
Use With
72G
&70B

CF Double-Sided Flange

Nonrotatable, Clearance Bolt Holes



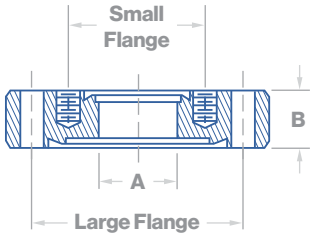
Part Number	Dimensions in Inches & Millimeters						
	Nominal O.D.		Made From Flange	A		B	
	inch	mm		inch	mm	inch	mm
V*-38D-C3A-FF	1.33	33.78	V*-38-C3A-FF	N/A	N/A	.300	7.62
V*-38D-C3AXW04-FF	1.33	33.78	V*-38-C3A-FF	.255	6.48	.300	7.62
V*-38D-C3AXW06-FF	1.33	33.78	V*-38-C3A-FF	.380	9.65	.300	7.62
V*-38D-C3AXW08-FF	1.33	33.78	V*-38-C3A-FF	.505	12.83	.300	7.62
V*-38D-C3AXW12-FF	1.33	33.78	V*-38-C3A-FF	.630	16.00	.300	7.62
V*-38D-C3B-FF	2.12	53.85	V*-38-C3B-FF	N/A	N/A	.470	11.94
V*-38D-C3BXW16-FF	2.12	53.85	V*-38-C3B-FF	1.010	25.65	.470	11.94
V*-38D-C3C-FF	2.75	69.85	V*-38-C3C-FF	N/A	N/A	.500	12.70
V*-38D-C3CXW04-FF	2.75	69.85	V*-38-C3C-FF	.255	6.48	.500	12.70
V*-38D-C3CXW08-FF	2.75	69.85	V*-38-C3C-FF	.505	12.83	.500	12.70
V*-38D-C3CXW12-FF	2.75	69.85	V*-38-C3C-FF	.760	19.30	.500	12.70
V*-38D-C3CXW16-FF	2.75	69.85	V*-38-C3C-FF	1.010	25.65	.500	12.70
V*-38D-C3CXW20-FF	2.75	69.85	V*-38-C3C-FF	1.260	32.00	.500	12.70
V*-38D-C3CXW24-FF	2.75	69.85	V*-38-C3C-FF	1.510	38.35	.500	12.70
V*-38D-C3D-FF	3.38	85.85	V*-38-C3D-FF	N/A	N/A	.687	17.45
V*-38D-C3DXW24-FF	3.38	85.85	V*-38-C3D-FF	1.510	38.35	.687	17.45
V*-38D-C3DXW32-FF	3.38	85.85	V*-38-C3D-FF	2.010	51.05	.687	17.45
V*-38D-C3E-FF	4.50	114.30	V*-38-C3E-FF	N/A	N/A	.687	17.45
V*-38D-C3EXW24-FF	4.50	114.30	V*-38-C3E-FF	1.510	38.35	.687	17.45
V*-38D-C3EXW32-FF	4.50	114.30	V*-38-C3E-FF	2.010	51.05	.687	17.45
V*-38D-C3EXW40-FF	4.50	114.30	V*-38-C3E-FF	2.510	63.75	.687	17.45
V*-38D-C3F-FF	4.62	117.35	V*-38-C3F-FF	N/A	N/A	.812	20.62
V*-38D-C3FXW48-FF	4.62	117.35	V*-38-C3F-FF	3.010	76.45	.812	20.62
V*-38D-C3G-FF	6.00	152.40	V*-38-C3G-FF	N/A	N/A	.781	19.84
V*-38D-C3GXW64-FF	6.00	152.40	V*-38-C3G-FF	4.010	101.85	.781	19.84
V*-38D-C3H-FF	6.75	171.45	V*-38-C3H-FF	N/A	N/A	.844	21.44
V*-38D-C3HXW80-FF	6.75	171.45	V*-38-C3H-FF	5.010	127.25	.844	21.44
V*-38D-C3J-FF	8.00	203.20	V*-38-C3J-FF	N/A	N/A	.875	22.23
V*-38D-C3JXW96-FF	8.00	203.20	V*-38-C3J-FF	6.020	152.91	.875	22.23
V*-38D-C3K-FF	10.00	254.00	V*-38-C3K-FF	N/A	N/A	.968	24.59
V*-38D-C3KXW53-FF	10.00	254.00	V*-38-C3K-FF	8.020	203.71	.968	24.59
V*-38D-C3M-FF	13.25	336.55	V*-38-C3M-FF	N/A	N/A	1.125	28.58
V*-38D-C3MXW55-FF	13.25	336.55	V*-38-C3M-FF	10.020	254.51	1.125	28.58
V*-38D-C3N-FF	14.00	355.60	V*-38-C3N-FF	N/A	N/A	1.125	28.58
V*-38D-C3NXW57-FF	14.00	355.60	V*-38-C3N-FF	12.020	305.31	1.125	28.58

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CF Zero Length Reducer Flange

CONFIGURATION
38Z

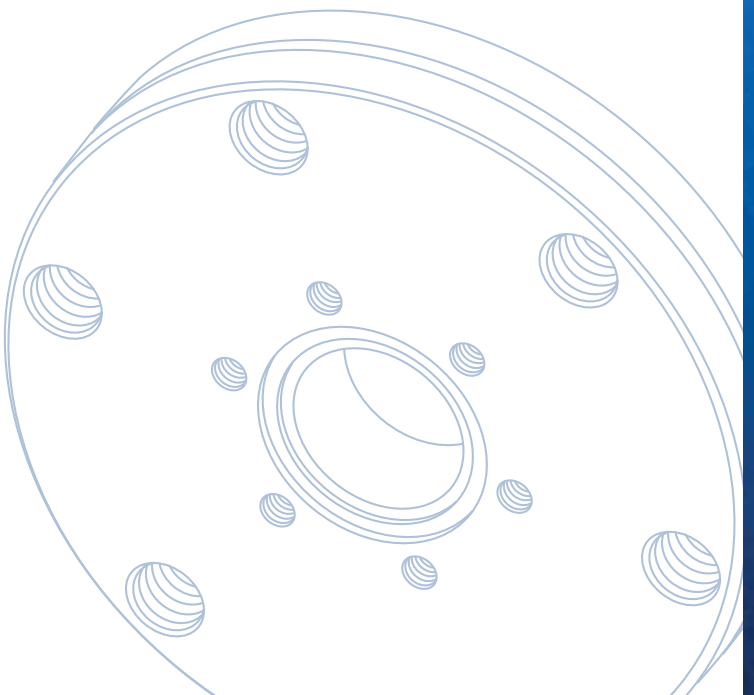
Large Flange: Nonrotatable, Tapped Bolt Holes
Small Flange: Nonrotatable, Tapped Bolt Holes



Part Number	Dimensions in Inches					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3BXC3A-FS	V*-38-C3B-FS	V*-38-C3A-FS	2.12"	1.33"	.625	.470
V*-38Z-C3CXC3B-FS	V*-38-C3C-FS	V*-38-C3B-FS	2.75"	2.12"	1.000	.500
V*-38Z-C3DXC3B-FS	V*-38-C3D-FS	V*-38-C3B-FS	3.38"	2.12"	1.000	.687
V*-38Z-C3DXC3C-FS	V*-38-C3D-FS	V*-38-C3C-FS	3.38"	2.75"	1.500	.687
V*-38Z-C3EXC3D-FS	V*-38-C3E-FS	V*-38-C3D-FS	4.50"	3.38"	2.000	.687
V*-38Z-C3GXC3F-FS	V*-38-C3G-FS	V*-38-C3F-FS	6.00"	4.62"	3.000	.781
V*-38Z-C3HXC3G-FS	V*-38-C3H-FS	V*-38-C3G-FS	6.75"	6.00"	4.000	.844
V*-38Z-C3JXC3H-FS	V*-38-C3J-FS	V*-38-C3H-FS	8.00"	6.75"	5.000	.875

Part Number	Dimensions in Millimeters					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3BXC3A-FS	V*-38-C3B-FS	V*-38-C3A-FS	53.85	33.78	15.88	11.94
V*-38Z-C3CXC3B-FS	V*-38-C3C-FS	V*-38-C3B-FS	69.85	53.85	25.40	12.70
V*-38Z-C3DXC3B-FS	V*-38-C3D-FS	V*-38-C3B-FS	85.85	53.85	25.40	17.45
V*-38Z-C3DXC3C-FS	V*-38-C3D-FS	V*-38-C3C-FS	85.85	69.85	38.10	17.45
V*-38Z-C3EXC3D-FS	V*-38-C3E-FS	V*-38-C3D-FS	114.30	85.85	50.80	17.45
V*-38Z-C3GXC3F-FS	V*-38-C3G-FS	V*-38-C3F-FS	152.40	117.35	76.20	19.84
V*-38Z-C3HXC3G-FS	V*-38-C3H-FS	V*-38-C3G-FS	171.45	152.40	101.60	21.44
V*-38Z-C3JXC3H-FS	V*-38-C3J-FS	V*-38-C3H-FS	203.20	171.45	127.00	22.23

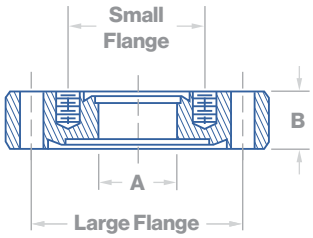
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CF Zero Length Reducer Flange

CONFIGURATION
38Z

Large Flange: Nonrotatable, Clearance Bolt Holes
Small Flange: Nonrotatable, Tapped Bolt Holes



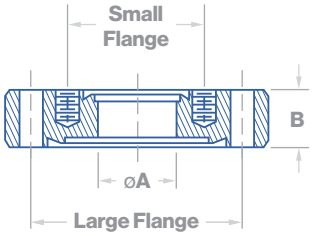
Part Number	Dimensions in Inches**					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3CXC3A-FF	V*-38-C3C-FF	V*-38-C3A-FS	2.75	1.33	.625	.500
V*-38Z-C3DXC3A-FF	V*-38-C3D-FF	V*-38-C3A-FS	3.38	1.33	.625	.687
V*-38Z-C3EXC3A-FF	V*-38-C3E-FF	V*-38-C3A-FS	4.50	1.33	.625	.687
V*-38Z-C3EXC3B-FF	V*-38-C3E-FF	V*-38-C3B-FS	4.50	2.12	1.000	.687
V*-38Z-C3EXC3C-FF	V*-38-C3E-FF	V*-38-C3C-FS	4.50	2.75	1.500	.687
V*-38Z-C3FXC3A-FF	V*-38-C3F-FF	V*-38-C3A-FS	4.62	1.33	.625	.812
V*-38Z-C3FXC3B-FF	V*-38-C3F-FF	V*-38-C3B-FS	4.62	2.12	1.000	.812
V*-38Z-C3FXC3C-FF	V*-38-C3F-FF	V*-38-C3C-FS	4.62	2.75	1.500	.812
V*-38Z-C3FXC3D-FF	V*-38-C3F-FF	V*-38-C3D-FS	4.62	3.38	2.000	.812
V*-38Z-C3GXC3A-FF	V*-38-C3G-FF	V*-38-C3A-FS	6.00	1.33	.625	.781
V*-38Z-C3GXC3B-FF	V*-38-C3G-FF	V*-38-C3B-FS	6.00	2.12	1.000	.781
V*-38Z-C3GXC3C-FF	V*-38-C3G-FF	V*-38-C3C-FS	6.00	2.75	1.500	.781
V*-38Z-C3GXC3D-FF	V*-38-C3G-FF	V*-38-C3D-FS	6.00	3.38	2.000	.781
V*-38Z-C3GXC3E-FF	V*-38-C3G-FF	V*-38-C3E-FS	6.00	4.50	2.500	.781
V*-38Z-C3HXC3A-FF	V*-38-C3H-FF	V*-38-C3A-FS	6.75	1.33	.625	.844
V*-38Z-C3HXC3B-FF	V*-38-C3H-FF	V*-38-C3B-FS	6.75	2.12	1.000	.844
V*-38Z-C3HXC3C-FF	V*-38-C3H-FF	V*-38-C3C-FS	6.75	2.75	1.500	.844
V*-38Z-C3HXC3D-FF	V*-38-C3H-FF	V*-38-C3D-FS	6.75	3.38	2.000	.844
V*-38Z-C3HXC3E-FF	V*-38-C3H-FF	V*-38-C3E-FS	6.75	4.50	2.500	.844
V*-38Z-C3HXC3F-FF	V*-38-C3H-FF	V*-38-C3F-FS	6.75	4.62	3.000	.844
V*-38Z-C3JXC3A-FF	V*-38-C3J-FF	V*-38-C3A-FS	8.00	1.33	.625	.875
V*-38Z-C3JXC3B-FF	V*-38-C3J-FF	V*-38-C3B-FS	8.00	2.12	1.000	.875
V*-38Z-C3JXC3C-FF	V*-38-C3J-FF	V*-38-C3C-FS	8.00	2.75	1.500	.875
V*-38Z-C3JXC3D-FF	V*-38-C3J-FF	V*-38-C3D-FS	8.00	3.38	2.000	.875
V*-38Z-C3JXC3E-FF	V*-38-C3J-FF	V*-38-C3E-FS	8.00	4.50	2.500	.875
V*-38Z-C3JXC3F-FF	V*-38-C3J-FF	V*-38-C3F-FS	8.00	4.62	3.000	.875
V*-38Z-C3JXC3G-FF	V*-38-C3J-FF	V*-38-C3G-FS	8.00	6.00	4.000	.875
V*-38Z-C3KXC3A-FF	V*-38-C3K-FF	V*-38-C3A-FS	10.00	1.33	.625	.968
V*-38Z-C3KXC3B-FF	V*-38-C3K-FF	V*-38-C3B-FS	10.00	2.12	1.000	.968
V*-38Z-C3KXC3C-FF	V*-38-C3K-FF	V*-38-C3C-FS	10.00	2.75	1.500	.968
V*-38Z-C3KXC3D-FF	V*-38-C3K-FF	V*-38-C3D-FS	10.00	3.38	2.000	.968
V*-38Z-C3KXC3E-FF	V*-38-C3K-FF	V*-38-C3E-FS	10.00	4.50	2.500	.968
V*-38Z-C3KXC3F-FF	V*-38-C3K-FF	V*-38-C3F-FS	10.00	4.62	3.000	.968
V*-38Z-C3KXC3G-FF	V*-38-C3K-FF	V*-38-C3G-FS	10.00	6.00	4.000	.968
V*-38Z-C3KXC3H-FF	V*-38-C3K-FF	V*-38-C3H-FS	10.00	6.75	5.000	.968
V*-38Z-C3KXC3J-FF	V*-38-C3K-FF	V*-38-C3J-FS	10.00	8.00	6.000	.968
V*-38Z-C3MXC3A-FF	V*-38-C3M-FF	V*-38-C3A-FS	13.25	1.33	0.625	1.125
V*-38Z-C3MXC3B-FF	V*-38-C3M-FF	V*-38-C3B-FS	13.25	2.12	1.000	1.125
V*-38Z-C3MXC3C-FF	V*-38-C3M-FF	V*-38-C3C-FS	13.25	2.75	1.500	1.125
V*-38Z-C3MXC3D-FF	V*-38-C3M-FF	V*-38-C3D-FS	13.25	3.38	2.000	1.125
V*-38Z-C3MXC3E-FF	V*-38-C3M-FF	V*-38-C3E-FS	13.25	4.50	2.500	1.125
V*-38Z-C3MXC3F-FF	V*-38-C3M-FF	V*-38-C3F-FS	13.25	4.62	3.000	1.125

CF Zero Length Reducer Flanges

CONFIGURATION **38Z**

Large Flange: Nonrotatable, Clearance Bolt Holes
Small Flange: Nonrotatable, Tapped Bolt Holes

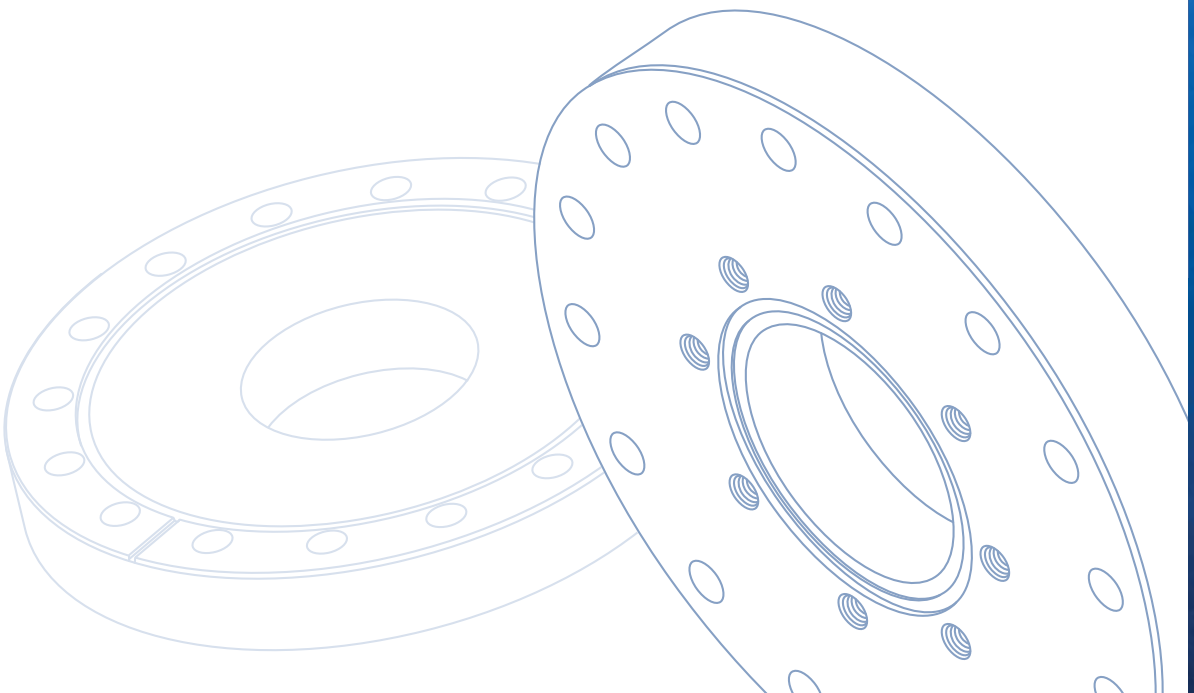
CONTINUED



Part Number	Dimensions in Inches**					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3MXC3G-FF	V*-38-C3M-FF	V*-38-C3G-FS	13.25	6.00	4.000	1.125
V*-38Z-C3MXC3H-FF	V*-38-C3M-FF	V*-38-C3H-FS	13.25	6.75	5.000	1.125
V*-38Z-C3MXC3J-FF	V*-38-C3M-FF	V*-38-C3J-FS	13.25	8.00	6.000	1.125
V*-38Z-C3MXC3K-FF	V*-38-C3M-FF	V*-38-C3K-FS	13.25	10.00	8.000	1.125

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
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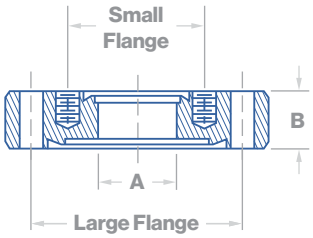
** Millimeter dimensions on the following page



CF Zero Length Reducer Flange

CONFIGURATION
38Z

Large Flange: Nonrotatable, Clearance Bolt Holes
Small Flange: Nonrotatable, Tapped Bolt Holes



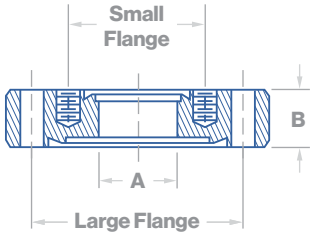
Part Number	Dimensions in Millimeters**					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3CXC3A-FF	V*-38-C3C-FF	V*-38-C3A-FS	69.85	33.78	15.88	12.70
V*-38Z-C3DXC3A-FF	V*-38-C3D-FF	V*-38-C3A-FS	85.85	33.78	15.88	17.45
V*-38Z-C3EXC3A-FF	V*-38-C3E-FF	V*-38-C3A-FS	114.30	33.78	15.88	17.45
V*-38Z-C3EXC3B-FF	V*-38-C3E-FF	V*-38-C3B-FS	114.30	53.85	25.40	17.45
V*-38Z-C3EXC3C-FF	V*-38-C3E-FF	V*-38-C3C-FS	114.30	69.85	38.10	17.45
V*-38Z-C3FXC3A-FF	V*-38-C3F-FF	V*-38-C3A-FS	117.35	33.78	15.88	20.62
V*-38Z-C3FXC3B-FF	V*-38-C3F-FF	V*-38-C3B-FS	117.35	53.85	25.40	20.62
V*-38Z-C3FXC3C-FF	V*-38-C3F-FF	V*-38-C3C-FS	117.35	69.85	38.10	20.62
V*-38Z-C3FXC3D-FF	V*-38-C3F-FF	V*-38-C3D-FS	117.35	85.85	50.80	20.62
V*-38Z-C3GXC3A-FF	V*-38-C3G-FF	V*-38-C3A-FS	152.40	33.78	15.88	19.84
V*-38Z-C3GXC3B-FF	V*-38-C3G-FF	V*-38-C3B-FS	152.40	53.85	25.40	19.84
V*-38Z-C3GXC3C-FF	V*-38-C3G-FF	V*-38-C3C-FS	152.40	69.85	38.10	19.84
V*-38Z-C3GXC3D-FF	V*-38-C3G-FF	V*-38-C3D-FS	152.40	85.85	50.80	19.84
V*-38Z-C3GXC3E-FF	V*-38-C3G-FF	V*-38-C3E-FS	152.40	114.30	63.50	19.84
V*-38Z-C3HXC3A-FF	V*-38-C3H-FF	V*-38-C3A-FS	171.45	33.78	15.88	21.44
V*-38Z-C3HXC3B-FF	V*-38-C3H-FF	V*-38-C3B-FS	171.45	53.85	25.40	21.44
V*-38Z-C3HXC3C-FF	V*-38-C3H-FF	V*-38-C3C-FS	171.45	69.85	38.10	21.44
V*-38Z-C3HXC3D-FF	V*-38-C3H-FF	V*-38-C3D-FS	171.45	85.85	50.80	21.44
V*-38Z-C3HXC3E-FF	V*-38-C3H-FF	V*-38-C3E-FS	171.45	114.30	63.50	21.44
V*-38Z-C3HXC3F-FF	V*-38-C3H-FF	V*-38-C3F-FS	171.45	117.35	76.20	21.44
V*-38Z-C3JXC3A-FF	V*-38-C3J-FF	V*-38-C3A-FS	203.20	33.78	15.88	22.23
V*-38Z-C3JXC3B-FF	V*-38-C3J-FF	V*-38-C3B-FS	203.20	53.85	25.40	22.23
V*-38Z-C3JXC3C-FF	V*-38-C3J-FF	V*-38-C3C-FS	203.20	69.85	38.10	22.23
V*-38Z-C3JXC3D-FF	V*-38-C3J-FF	V*-38-C3D-FS	203.20	85.85	50.80	22.23
V*-38Z-C3JXC3E-FF	V*-38-C3J-FF	V*-38-C3E-FS	203.20	114.30	63.50	22.23
V*-38Z-C3JXC3F-FF	V*-38-C3J-FF	V*-38-C3F-FS	203.20	117.35	76.20	22.23
V*-38Z-C3JXC3G-FF	V*-38-C3J-FF	V*-38-C3G-FS	203.20	152.40	101.60	22.23
V*-38Z-C3KXC3A-FF	V*-38-C3K-FF	V*-38-C3A-FS	254.00	85.85	15.88	24.59
V*-38Z-C3KXC3B-FF	V*-38-C3K-FF	V*-38-C3B-FS	254.00	53.85	25.40	24.59
V*-38Z-C3KXC3C-FF	V*-38-C3K-FF	V*-38-C3C-FS	254.00	69.85	38.10	24.59
V*-38Z-C3KXC3D-FF	V*-38-C3K-FF	V*-38-C3D-FS	254.00	85.85	50.80	24.59
V*-38Z-C3KXC3E-FF	V*-38-C3K-FF	V*-38-C3E-FS	254.00	114.30	63.50	24.59
V*-38Z-C3KXC3F-FF	V*-38-C3K-FF	V*-38-C3F-FS	254.00	117.35	76.20	24.59
V*-38Z-C3KXC3G-FF	V*-38-C3K-FF	V*-38-C3G-FS	254.00	152.40	101.60	24.59
V*-38Z-C3KXC3H-FF	V*-38-C3K-FF	V*-38-C3H-FS	254.00	69.85	127.00	24.59
V*-38Z-C3KXC3J-FF	V*-38-C3K-FF	V*-38-C3J-FS	254.00	203.20	152.40	24.59
V*-38Z-C3MXC3A-FF	V*-38-C3M-FF	V*-38-C3A-FS	336.55	85.85	15.88	28.58
V*-38Z-C3MXC3B-FF	V*-38-C3M-FF	V*-38-C3B-FS	336.55	53.85	25.40	28.58
V*-38Z-C3MXC3C-FF	V*-38-C3M-FF	V*-38-C3C-FS	336.55	69.85	38.10	28.58
V*-38Z-C3MXC3D-FF	V*-38-C3M-FF	V*-38-C3D-FS	336.55	85.85	50.80	28.58
V*-38Z-C3MXC3E-FF	V*-38-C3M-FF	V*-38-C3E-FS	336.55	114.30	63.50	28.58
V*-38Z-C3MXC3F-FF	V*-38-C3M-FF	V*-38-C3F-FS	336.55	117.35	76.20	28.58

CF Zero Length Reducer Flanges

CONFIGURATION **38Z**

Large Flange: Nonrotatable, Clearance Bolt Holes
Small Flange: Nonrotatable, Tapped Bolt Holes

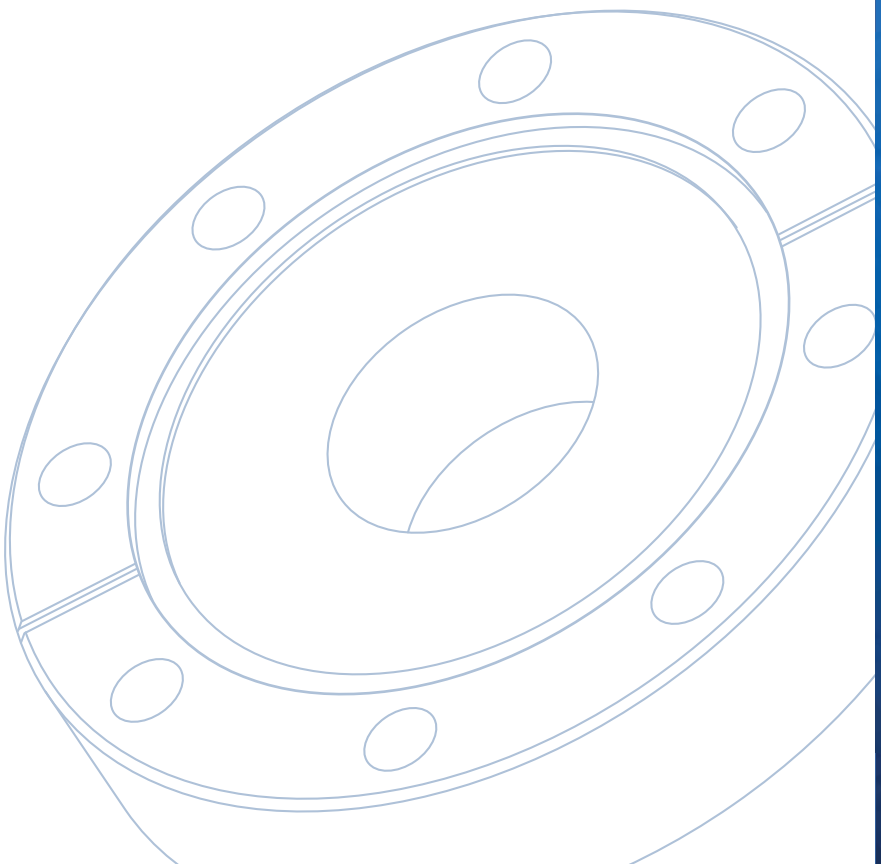
CONTINUED



Part Number	Dimensions in Millimeters**					
	Large Flange Part Number	Small Flange Part Number	Lg. Flange Size	Sm. Flange Size	A	B
V*-38Z-C3MXC3G-FF	V*-38-C3M-FF	V*-38-C3G-FS	336.55	152.40	101.60	28.58
V*-38Z-C3MXC3H-FF	V*-38-C3M-FF	V*-38-C3H-FS	336.55	171.45	127.00	28.58
V*-38Z-C3MXC3J-FF	V*-38-C3M-FF	V*-38-C3J-FS	336.55	203.20	152.40	28.58
V*-38Z-C3MXC3K-FF	V*-38-C3M-FF	V*-38-C3K-FS	336.55	254.00	203.20	28.58

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

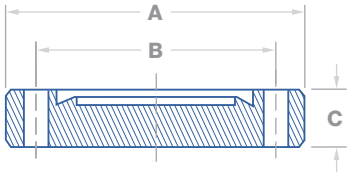
** Inch dimensions on the previous pages



CONFIGURATION
38
Use With
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& 72

CF Blank Flange

Nonrotatable, Clearance Bolt Holes



Part Number	Dimensions in Inches					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FF	1.33	1.330	1.062	.300	6	.172
V*-38-C3B-FF	2.12	2.120	1.625	.469	4	.265
V*-38-C3C-FF	2.75	2.730	2.312	.500	6	.265
V*-38-C3D-FF	3.38	3.360	2.850	.687	8	.332
V*-38-C3E-FF	4.50	4.470	3.628	.687	8	.332
V*-38-C3F-FF	4.62	4.610	4.030	.812	10	.332
V*-38-C3G-FF	6.00	5.970	5.128	.781	16	.332
V*-38-C3H-FF	6.75	6.730	5.969	.844	18	.332
V*-38-C3J-FF	8.00	7.970	7.128	.937	20	.332
V*-38-C3K-FF	10.00	9.970	9.128	.968	24	.332
V*-38-C3L-FF	12.00	12.000	11.181	1.125	32	.332
V*-38-C3M-FF	13.25	13.250	12.055	1.125	30	.390
V*-38-C3N-FF	14.00	14.000	12.810	1.125	30	.390
V*-38-C3Q-FF	16.50	16.500	15.310	1.125	36	.390

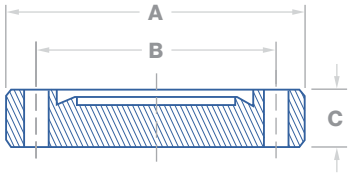
Part Number	Dimensions in Millimeters					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FF	33.78	33.78	26.98	7.62	6	4.37
V*-38-C3B-FF	53.85	53.85	41.28	11.91	4	6.73
V*-38-C3C-FF	69.85	69.34	58.73	12.70	6	6.73
V*-38-C3D-FF	85.85	85.34	72.39	17.45	8	8.43
V*-38-C3E-FF	114.30	113.54	92.15	17.45	8	8.43
V*-38-C3F-FF	117.35	117.09	102.36	20.62	10	8.43
V*-38-C3G-FF	152.40	151.64	130.25	19.84	16	8.43
V*-38-C3H-FF	171.45	170.94	151.61	21.44	18	8.43
V*-38-C3J-FF	203.20	202.44	181.05	22.71	20	8.43
V*-38-C3K-FF	254.00	253.24	231.85	24.59	24	8.43
V*-38-C3L-FF	304.80	304.80	284.00	28.58	32	8.43
V*-38-C3M-FF	336.55	336.55	306.20	28.58	30	9.91
V*-38-C3N-FF	355.60	355.60	325.37	28.58	30	9.91
V*-38-C3Q-FF	419.10	419.10	388.87	28.58	36	9.91

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
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Use With
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& 72

CF Blank Flange

Nonrotatable, Tapped Bolt Holes



Part Number	Dimensions in Inches					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FS	1.33	1.330	1.062	.300	6	8–32
V*-38-C3B-FS	2.12	2.120	1.625	.469	4	1/4–28
V*-38-C3C-FS	2.75	2.730	2.312	.500	6	1/4–28
V*-38-C3D-FS	3.38	3.360	2.850	.687	8	5/16–24
V*-38-C3E-FS	4.50	4.470	3.628	.687	8	5/16–24
V*-38-C3F-FS	4.62	4.610	4.030	.812	10	5/16–24
V*-38-C3G-FS	6.00	5.970	5.128	.781	16	5/16–24
V*-38-C3H-FS	6.75	6.730	5.969	.844	18	5/16–24
V*-38-C3J-FS	8.00	7.970	7.128	.937	20	5/16–24
V*-38-C3K-FS	10.00	9.970	9.128	.968	24	5/16–24
V*-38-C3L-FS	12.00	12.000	11.181	1.125	32	5/16–24
V*-38-C3M-FS	13.25	13.250	12.055	1.125	30	3/8–24
V*-38-C3N-FS	14.00	14.000	12.810	1.125	30	3/8–24
V*-38-C3Q-FS	16.50	16.500	15.310	1.125	36	3/8–24

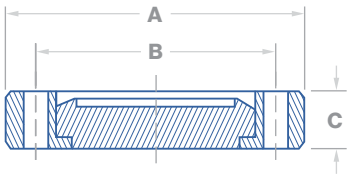
Part Number	Dimensions in Millimeters					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FS	33.78	33.78	26.98	7.62	6	8–32
V*-38-C3B-FS	53.85	53.85	41.28	11.91	4	1/4–28
V*-38-C3C-FS	69.85	69.34	58.73	12.70	6	1/4–28
V*-38-C3D-FS	85.85	85.34	72.39	17.45	8	5/16–24
V*-38-C3E-FS	114.30	113.54	92.15	17.45	8	5/16–24
V*-38-C3F-FS	117.35	117.09	102.36	20.62	10	5/16–24
V*-38-C3G-FS	152.40	151.64	130.25	19.84	16	5/16–24
V*-38-C3H-FS	171.45	170.94	151.61	21.44	18	5/16–24
V*-38-C3J-FS	203.20	202.44	181.05	22.71	20	5/16–24
V*-38-C3K-FS	254.00	253.24	231.85	24.59	24	5/16–24
V*-38-C3L-FS	304.80	304.80	284.00	28.58	32	5/16–24
V*-38-C3M-FS	336.55	336.55	306.20	28.58	30	3/8–24
V*-38-C3N-FS	355.60	355.60	325.37	28.58	30	3/8–24
V*-38-C3Q-FS	419.10	419.10	388.87	28.58	36	3/8–24

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

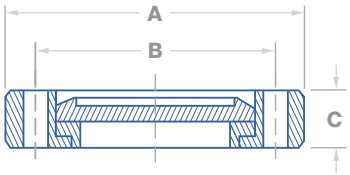
CONFIGURATION
38
Use With
70
& 72

CF Blank Flange

Rotatable, Clearance Bolt Holes



Part Number	Dimensions in Inches**					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FR	1.33	1.330	1.062	.300	6	0.172



Part Number	Dimensions in Inches**					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3B-FR	2.12	2.120	1.625	.469	4	.265
V*-38-C3C-FR	2.75	2.730	2.312	.500	6	.265
V*-38-C3D-FR	3.38	3.360	2.850	.687	8	.332
V*-38-C3E-FR	4.50	4.470	3.628	.750	8	.332
V*-38-C3F-FR	4.62	4.610	4.030	.812	10	.332
V*-38-C3G-FR	6.00	5.970	5.128	.844	16	.332
V*-38-C3H-FR	6.75	6.730	5.969	.844	18	.332
V*-38-C3J-FR	8.00	7.970	7.128	.937	20	.332
V*-38-C3K-FR	10.00	9.970	9.128	.968	24	.332
V*-38-C3L-FR	12.00	12.000	11.181	1.125	32	.332
V*-38-C3M-FR	13.25	13.250	12.055	1.125	30	.390
V*-38-C3N-FR	14.00	14.000	12.810	1.125	30	.390
V*-38-C3Q-FR	16.50	16.500	15.310	1.125	36	.390

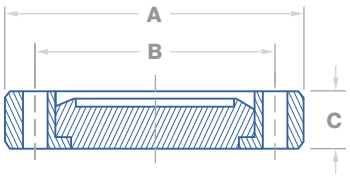
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Millimeter dimensions on the following page

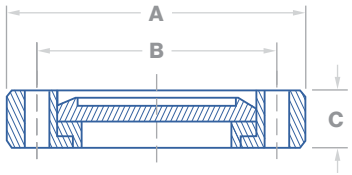
CONFIGURATION
38
Use With
70
& 72

CF Blank Flange

Rotatable, Clearance Bolt Holes



Part Number	Dimensions in Millimeters**					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3A-FR	33.78	33.78	26.98	7.62	6	4.369



Part Number	Dimensions in Millimeters**					
	Flange Size	A	B	C	Bolt Holes	Diameter
V*-38-C3B-FR	53.85	53.85	41.28	11.91	4	6.73
V*-38-C3C-FR	69.85	69.34	58.73	12.70	6	6.73
V*-38-C3D-FR	85.85	85.34	72.39	17.45	8	8.43
V*-38-C3E-FR	114.30	113.54	92.15	19.05	8	8.43
V*-38-C3F-FR	117.35	117.09	102.36	20.62	10	8.43
V*-38-C3G-FR	152.40	151.64	130.25	21.44	16	8.43
V*-38-C3H-FR	171.45	170.94	151.61	21.44	18	8.43
V*-38-C3J-FR	203.20	202.44	181.05	22.71	20	8.43
V*-38-C3K-FR	254.00	253.24	231.85	24.59	24	8.43
V*-38-C3L-FR	304.80	304.80	284.00	28.58	32	8.43
V*-38-C3M-FR	336.55	336.55	306.20	28.58	30	9.91
V*-38-C3N-FR	355.60	355.60	325.37	28.58	30	9.91
V*-38-C3Q-FR	419.10	419.10	388.87	28.58	36	9.91

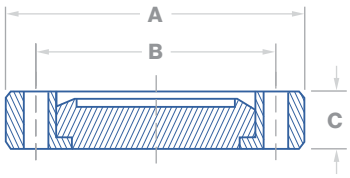
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Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Inch dimensions on the previous page

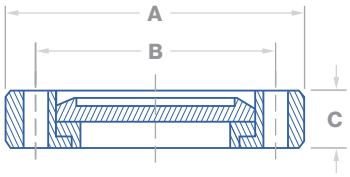
CONFIGURATION
38
Use With
70
& 72

CF Blank Flange

Rotatable, Tapped Bolt Holes



Part Number	Dimensions in Inches**					
	Flange Size	A	B	C	Bolt Holes	Threads
V*-38-C3A-FS	1.33	1.330	1.062	.300	6	8–32



Part Number	Dimensions in Inches**					
	Flange Size	A	B	C	Bolt Holes	Threads
V*-38-C3B-FS	2.12	2.120	1.625	.469	4	1/4–28
V*-38-C3C-FS	2.75	2.730	2.312	.500	6	1/4–28
V*-38-C3D-FS	3.38	3.360	2.850	.687	8	5/16–24
V*-38-C3E-FS	4.50	4.470	3.628	.750	8	5/16–24
V*-38-C3F-FS	4.62	4.610	4.030	.812	10	5/16–24
V*-38-C3G-FS	6.00	5.970	5.128	.844	16	5/16–24
V*-38-C3H-FS	6.75	6.730	5.969	.844	18	5/16–24
V*-38-C3J-FS	8.00	7.970	7.128	.937	20	5/16–24
V*-38-C3K-FS	10.00	9.970	9.128	.968	24	5/16–24
V*-38-C3L-FS	12.00	12.000	11.181	1.125	32	5/16–24
V*-38-C3M-FS	13.25	13.250	12.055	1.125	30	3/8–24
V*-38-C3N-FS	14.00	14.000	12.810	1.125	30	3/8–24
V*-38-C3Q-FS	16.50	16.500	15.310	1.125	36	3/8–24

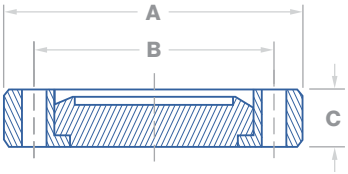
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Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Millimeter dimensions on the following page

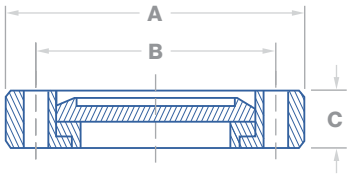
CONFIGURATION
38
Use With
70
& 72

CF Blank Flange

Rotatable, Tapped Bolt Holes



Part Number	Dimensions in Millimeters**					
	Flange Size	A	B	C	Bolt Holes	Threads
V*-38-C3A-FS	33.78	33.78	26.98	7.62	6	8–32



Part Number	Dimensions in Millimeters**					
	Flange Size	A	B	C	Bolt Holes	Threads
V*-38-C3B-FS	53.85	53.85	41.28	11.91	4	1/4–28
V*-38-C3C-FS	69.85	69.34	58.73	12.70	6	1/4–28
V*-38-C3D-FS	85.85	85.34	72.39	17.45	8	5/16–24
V*-38-C3E-FS	114.30	113.54	92.15	19.05	8	5/16–24
V*-38-C3F-FS	117.35	117.09	102.36	20.62	10	5/16–24
V*-38-C3G-FS	152.40	151.64	130.25	21.44	16	5/16–24
V*-38-C3H-FS	171.45	170.94	151.61	21.44	18	5/16–24
V*-38-C3J-FS	203.20	202.44	181.05	22.71	20	5/16–24
V*-38-C3K-FS	254.00	253.24	231.85	24.59	24	5/16–24
V*-38-C3L-FS	304.80	304.80	284.00	28.58	32	5/16–24
V*-38-C3M-FS	336.55	336.55	306.20	28.58	30	3/8–24
V*-38-C3N-FS	355.60	355.60	325.37	28.58	30	3/8–24
V*-38-C3Q-FS	419.10	419.10	388.87	28.58	36	3/8–24

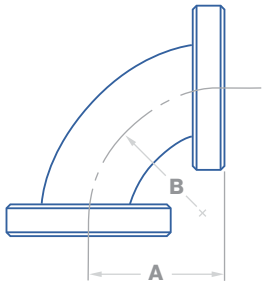
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

** Inch dimensions on the following page

CONFIGURATION
2T

CF 90° Elbow

No Tangent, Rotatable Flanges



Part Number	Dimensions in Inches			
	Flange Size	Tube O.D.	A	B
V*-2T-C3A-TG	1.33	3/4"	1.50	1.00
V*-2T-C3B-TG	2.12	1"	1.67	1.50
V*-2T-C3C-TG	2.75	1-1/2"	2.46	2.25
V*-2T-C3D-TG	3.38	2"	3.22	3.00
V*-2T-C3E-TG	4.50	2-1/2"	4.12	3.75
V*-2T-C3F-TG	4.62	3"	4.78	4.50
V*-2T-C3G-TG	6.00	4"	6.44	6.00
V*-2T-C3J-TG	8.00	6"	9.50	9.00
V*-2T-C3K-TG	10.00	8"	12.50	12.00
V*-2T-C3M-TG	13.25	10"	15.50	15.00

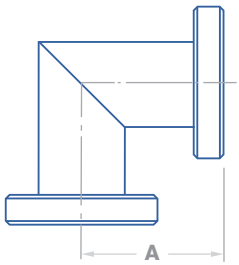
Part Number	Dimensions in Millimeters			
	Flange Size	Tube O.D.	A	B
V*-2T-C3A-TG	33.78	19.05	38.10	25.40
V*-2T-C3B-TG	52.85	25.40	42.42	38.10
V*-2T-C3C-TG	69.85	38.10	62.48	57.15
V*-2T-C3D-TG	85.85	50.80	81.79	76.20
V*-2T-C3E-TG	114.30	63.50	104.65	95.25
V*-2T-C3F-TG	117.35	76.20	121.41	114.30
V*-2T-C3G-TG	152.40	101.60	163.58	152.40
V*-2T-C3J-TG	203.20	152.40	241.30	228.60
V*-2T-C3K-TG	254.00	203.20	317.50	304.80
V*-2T-C3M-TG	336.55	254.00	393.70	381.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CF 90° Mitered Elbow

CONFIGURATION 2M

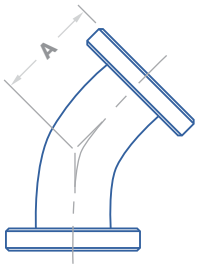
Rotatable Flanges



Part Number	Dimensions in Inches		
	Flange Size	Tube O.D.	A
V*-2M-C3A-TG	1.33	3/4"	1.50
V*-2M-C3B-TG	2.12	1"	2.05
V*-2M-C3C-TG	2.75	1-1/2"	2.46
V*-2M-C3D-TG	3.38	2"	3.22
V*-2M-C3E-TG	4.50	2-1/2"	3.38
V*-2X-C3E-TG	4.50	2-1/2"	4.12
V*-2M-C3F-TG	4.62	3"	3.53
V*-2M-C3G-TG	6.00	4"	4.32
V*-2X-C3G-TG	6.00	4"	5.31
V*-2M-C3H-TG	6.75	5"	4.71
V*-2M-C3J-TG	8.00	6"	5.50
V*-2X-C3J-TG	8.00	6"	6.56
V*-2M-C3K-TG	10.00	8"	7.50
V*-2M-C3M-TG	13.25	10"	10.00

Part Number	Dimensions in Millimeters		
	Flange Size	Tube O.D.	A
V*-2M-C3A-TG	33.78	19.05	38.10
V*-2M-C3B-TG	53.85	25.40	52.07
V*-2M-C3C-TG	69.85	38.10	62.48
V*-2M-C3D-TG	85.85	50.80	81.79
V*-2M-C3E-TG	114.30	63.50	85.85
V*-2X-C3E-TG	114.30	63.50	104.65
V*-2M-C3F-TG	117.35	76.20	89.66
V*-2M-C3G-TG	152.40	101.60	109.73
V*-2X-C3G-TG	152.40	101.60	134.87
V*-2M-C3H-TG	171.45	127.00	119.63
V*-2M-C3J-TG	203.20	152.40	139.70
V*-2X-C3J-TG	203.20	152.40	166.62
V*-2M-C3K-TG	254.00	203.20	190.50
V*-2M-C3M-TG	336.55	254.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION 2K

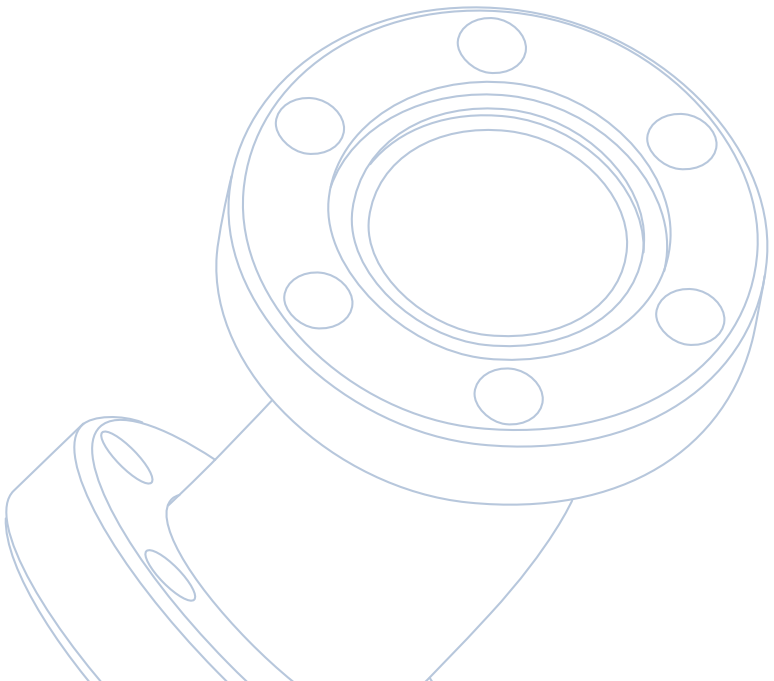
CF 45° Elbow

With Tangent, Rotatable Flanges

Part Number	Dimensions in Inches		
	Flange Size	Tube O.D.	A
V*-2K-C3A-TG	1.33	3/4"	.94
V*-2K-C3B-TG	2.12	1"	1.14
V*-2K-C3C-TG	2.75	1-1/2"	1.74
V*-2K-C3D-TG	3.38	2"	2.07
V*-2K-C3E-TG	4.50	2-1/2"	3.37
V*-2K-C3F-TG	4.62	3"	3.96
V*-2K-C3G-TG	6.00	4"	5.22

Part Number	Dimensions in Millimeters		
	Flange Size	Tube O.D.	A
V*-2K-C3A-TG	33.78	19.05	23.88
V*-2K-C3B-TG	53.85	25.40	28.96
V*-2K-C3C-TG	69.85	38.10	44.20
V*-2K-C3D-TG	85.85	50.80	52.58
V*-2K-C3E-TG	114.30	63.50	85.60
V*-2K-C3F-TG	117.35	76.20	100.58
V*-2K-C3G-TG	152.40	101.60	132.59

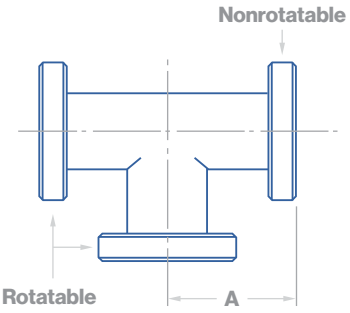
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
7

CF Equal Tee

Nonrotatable, Rotatable Flanges



Part Number	Dimensions in Inches		
	Flange Size	Tube O.D.	A
V*-7-C3A-TB	1.33	3/4"	1.50
V*-7-C3B-TB	2.12	1"	2.05
V*-7-C3C-TB	2.75	1-1/2"	2.46
V*-7-C3D-TB	3.38	2"	3.22
V*-7-C3E-TB	4.50	2-1/2"	3.38
V*-7L-C3E-TB	4.50	2-1/2"	4.12
V*-7-C3F-TB	4.62	3"	3.53
V*-7-C3G-TB	6.00	4"	4.32
V*-7L-C3G-TB	6.00	4"	5.31
V*-7-C3H-TB	6.75	5"	4.71
V*-7-C3J-TB	8.00	6"	5.50
V*-7L-C3J-TB	8.00	6"	6.56
V*-7-C3K-TB	10.00	8"	7.50
V*-7-C3M-TB	13.25	10"	10.00

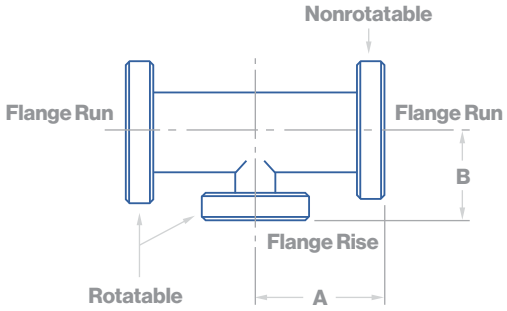
Part Number	Dimensions in Millimeters		
	Flange Size	Tube O.D.	A
V*-7-C3A-TB	33.78	19.05	38.10
V*-7-C3B-TB	53.85	25.40	52.07
V*-7-C3C-TB	69.85	38.10	62.48
V*-7-C3D-TB	85.85	50.80	81.79
V*-7-C3E-TB	114.30	63.50	85.85
V*-7L-C3E-TB	114.30	63.50	104.65
V*-7-C3F-TB	117.35	76.20	89.66
V*-7-C3G-TB	152.40	101.60	109.73
V*-7L-C2GTB	152.40	101.60	134.87
V*-7-C3H-TB	171.45	127.00	119.63
V*-7-C3J-TB	203.20	152.40	139.70
V*-7L-C3J-TB	203.20	152.40	166.62
V*-7-C3K-TB	254.00	203.20	190.50
V*-7-C3M-TB	336.55	254.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION **7R**

CF Reducing Tee

Nonrotatable, Rotatable Flanges



Part Number	Dimensions in Inches					
	Flange Run (Rotatable)		**Flange Rise** (Nonrotatable)		A	B
	Flange Size	Tube O.D.	Flange O.D.	Tube O.D.		
V*-7R-C3CXC3A-TB	2.75	1-1/2"	1.33	3/4"	2.46	1.87
V*-7R-C3CXC3B-TB	2.75	1-1/2"	2.12	1"	2.46	2.29
V*-7R-C3DXC3A-TB	3.38	2"	1.33	3/4"	3.22	2.13
V*-7R-C3DXC3C-TB	3.38	2"	2.75	1-1/2"	3.22	2.71
V*-7R-C3EXC3C-TB	4.50	2-1/2"	2.75	1-1/2"	3.38	2.96
V*-7R-C3EXC3D-TB	4.50	2-1/2"	3.38	2"	3.38	3.48
V*-7R-C3FXC3D-TB	4.62	3"	3.38	2"	3.53	3.73
V*-7R-C3FXC3E-TB	4.62	3"	4.50	2-1/2"	3.53	3.63
V*-7R-C3GXC3C-TB	6.00	4"	2.75	1-1/2"	4.32	3.71
V*-7R-C3GXC3D-TB	6.00	4"	3.38	2"	4.32	4.23
V*-7R-C3GXC3E-TB	6.00	4"	4.50	2-1/2"	4.32	4.13
V*-7R-C3GXC3F-TB	6.00	4"	4.62	3"	4.32	4.03
V*-7R-C3HXC3G-TB	6.75	5"	6.00	4"	4.71	4.82
V*-7R-C3JXC3C-TB	8.00	6"	2.75	1-1/2"	5.50	4.71
V*-7R-C3JXC3D-TB	8.00	6"	3.38	2"	5.50	5.23
V*-7R-C3JXC3E-TB	8.00	6"	4.50	2-1/2"	5.50	5.13
V*-7R-C3JXC3G-TB	8.00	6"	6.00	4"	5.50	5.32
V*-7R-C3KXC3G-TB	10.00	8"	8.00	6"	7.50	6.50

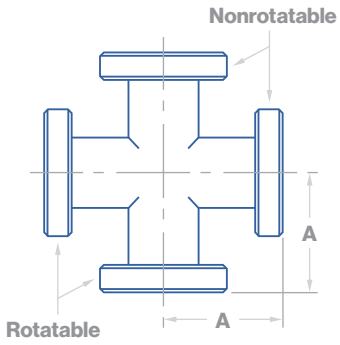
Part Number	Dimensions in Millimeters					
	Flange 1 & 2 (Rotatable)		**Flange 3** (Nonrotatable)		A	B
	Flange Size	Tube O.D.	Flange O.D.	Tube O.D.		
V*-7R-C3CXC3A-TB	69.85	38.10	33.78	19.05	62.48	47.50
V*-7R-C3CXC3B-TB	69.85	38.10	53.85	25.40	62.48	58.17
V*-7R-C3DXC3A-TB	85.85	50.80	33.78	19.05	81.79	54.10
V*-7R-C3DXC3C-TB	85.85	50.80	69.85	38.10	81.79	68.83
V*-7R-C3EXC3C-TB	114.30	63.50	69.85	38.10	85.85	75.18
V*-7R-C3EXC3D-TB	114.30	63.50	85.85	50.80	85.85	88.39
V*-7R-C3FXC3D-TB	117.35	76.20	85.85	50.80	89.66	94.74
V*-7R-C3FXC3E-TB	117.35	76.20	114.30	63.50	89.66	92.20
V*-7R-C3GXC3C-TB	152.40	101.60	69.85	38.10	109.73	94.23
V*-7R-C3GXC3D-TB	152.40	101.60	85.85	50.80	109.73	107.44
V*-7R-C3GXC3E-TB	152.40	101.60	114.30	63.50	109.73	104.90
V*-7R-C3GXC3F-TB	152.40	101.60	117.35	76.20	109.73	102.36
V*-7R-C3HXC3G-TB	171.45	127.00	152.40	101.60	119.63	122.43
V*-7R-C3JXC3C-TB	203.20	152.40	69.85	38.10	139.70	119.63
V*-7R-C3JXC3D-TB	203.20	152.40	85.85	50.80	139.70	132.84
V*-7R-C3JXC3E-TB	203.20	152.40	114.30	63.50	139.70	130.30
V*-7R-C3JXC3G-TB	203.20	152.40	152.40	101.60	139.70	135.13
V*-7R-C3KXC3G-TB	254.00	203.20	203.20	152.40	190.50	165.10

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION 9

CF 4-Way Cross

Nonrotatable, Rotatable Flanges



Part Number	Dimensions in Inches		
	Flange Size	Tube O.D.	A
V*-9-C3A-TC	1.33	3/4"	1.50
V*-9-C3B-TC	2.12	1"	2.05
V*-9-C3C-TC	2.75	1-1/2"	2.46
V*-9-C3D-TC	3.38	2"	3.22
V*-9-C3E-TC	4.50	2-1/2"	3.38
V*-9L-C3E-TC	4.50	2-1/2"	4.12
V*-9-C3F-TC	4.62	3"	3.53
V*-9-C3G-TC	6.00	4"	4.32
V*-9L-C3G-TC	6.00	4"	5.31
V*-9-C3H-TC	6.75	5"	4.71
V*-9-C3J-TC	8.00	6"	5.50
V*-9L-C3J-TC	8.00	6"	6.56
V*-9-C3K-TC	10.00	8"	7.50
V*-9-C3M-TC	13.25	10"	10.00

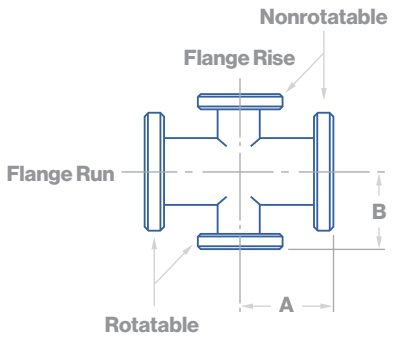
Part Number	Dimensions in Millimeters		
	Flange Size	Tube O.D.	A
V*-9-C3A-TC	33.78	19.05	38.10
V*-9-C3B-TC	53.85	25.40	52.07
V*-9-C3C-TC	69.85	38.10	62.48
V*-9-C3D-TC	85.85	50.80	81.79
V*-9-C3E-TC	114.30	63.50	85.85
V*-9L-C3E-TC	114.30	63.50	104.65
V*-9-C3F-TC	117.35	76.20	89.66
V*-9-C3G-TC	152.40	101.60	109.73
V*-9L-C3G-TC	152.40	101.60	134.87
V*-9-C3H-TC	171.45	127.00	119.63
V*-9-C3J-TC	203.20	152.40	139.70
V*-9L-C3J-TC	203.20	152.40	166.62
V*-9-C3K-TC	254.00	203.20	190.50
V*-9-C3M-TC	336.55	254.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
9R

CF 4-Way Reducing Cross

Nonrotatable, Rotatable Flanges



Part Number	Dimensions in Inches					
	Flange Run		Flange Rise		A	B
	Flange Size	Tube O.D.	Flange Size	Tube O.D.		
V*-9R-C3CXC3A-TC	2.75	1-1/2"	1.33	3/4"	2.46	1.87
V*-9R-C3CXC3B-TC	2.75	1-1/2"	2.12	1"	2.46	2.29
V*-9R-C3DXC3A-TC	3.38	2"	1.33	3/4"	3.22	2.13
V*-9R-C3DXC3C-TC	3.38	2"	2.75	1-1/2"	3.22	2.71
V*-9R-C3EXC3C-TC	4.50	2-1/2"	2.75	1-1/2"	3.38	2.96
V*-9R-C3EXC3D-TC	4.50	2-1/2"	3.38	2"	3.38	3.48
V*-9R-C3FXC3D-TC	4.62	3"	3.38	2"	3.53	3.73
V*-9R-C3FXC3E-TC	4.62	3"	4.50	2-1/2"	3.53	3.63
V*-9R-C3GXC3C-TC	6.00	4"	2.75	1-1/2"	4.32	3.71
V*-9R-C3GXC3D-TC	6.00	4"	3.38	2"	4.32	4.23
V*-9R-C3GXC3E-TC	6.00	4"	4.50	2-1/2"	4.32	4.13
V*-9R-C3GXC3F-TC	6.00	4"	4.62	3"	4.32	4.03
V*-9R-C3HXC3G-TC	6.75	5"	6.00	4"	4.71	4.82
V*-9R-C3JXC3C-TC	8.00	6"	2.75	1-1/2"	5.50	4.71
V*-9R-C3JXC3D-TC	8.00	6"	3.38	2"	5.50	5.23
V*-9R-C3JXC3E-TC	8.00	6"	4.50	2-1/2"	5.50	5.13
V*-9R-C3JXC3G-TC	8.00	6"	6.00	4"	5.50	5.32
V*-9R-C3KXC3J-TC	10.00	6"	8.00	6"	7.50	6.50

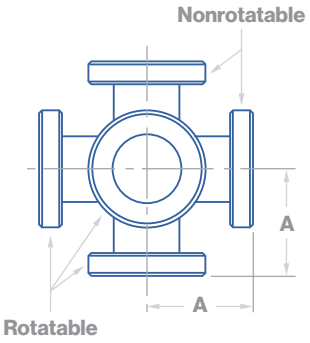
Part Number	Dimensions in Millimeters					
	Flange Run		Flange Rise		A	B
	Flange Size	Tube O.D.	Flange Size	Tube O.D.		
V*-9R-C3CXC3A-TC	69.85	38.10	33.78	19.05	62.48	47.50
V*-9R-C3CXC3B-TC	69.85	38.10	53.85	25.40	62.48	58.17
V*-9R-C3DXC3A-TC	85.85	50.80	33.78	19.05	81.79	54.10
V*-9R-C3DXC3C-TC	85.85	50.80	69.85	38.10	81.79	68.83
V*-9R-C3EXC3C-TC	114.30	63.50	69.85	38.10	85.85	75.18
V*-9R-C3EXC3D-TC	114.30	63.50	85.85	50.80	85.85	88.39
V*-9R-C3FXC3D-TC	117.35	76.20	85.85	50.80	89.66	94.74
V*-9R-C3FXC3E-TC	117.35	76.20	114.30	63.50	89.66	92.20
V*-9R-C3GXC3C-TC	152.40	101.60	69.85	38.10	109.73	94.23
V*-9R-C3GXC3D-TC	152.40	101.60	85.85	50.80	109.73	107.44
V*-9R-C3GXC3E-TC	152.40	101.60	114.30	63.50	109.73	104.90
V*-9R-C3GXC3F-TC	152.40	101.60	117.35	76.20	109.73	102.36
V*-9R-C3HXC3G-TC	171.45	127.00	152.40	101.60	119.63	122.43
V*-9R-C3JXC3C-TC	203.20	152.40	69.85	38.10	139.70	119.63
V*-9R-C3JXC3D-TC	203.20	152.40	85.85	50.80	139.70	132.84
V*-9R-C3JXC3E-TC	203.20	152.40	114.30	63.50	139.70	130.30
V*-9R-C3JXC3G-TC	203.20	152.40	152.40	101.60	139.70	135.13
V*-9R-C3KXC3J-TC	254.00	152.40	203.20	152.40	190.50	165.10

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION **9F**

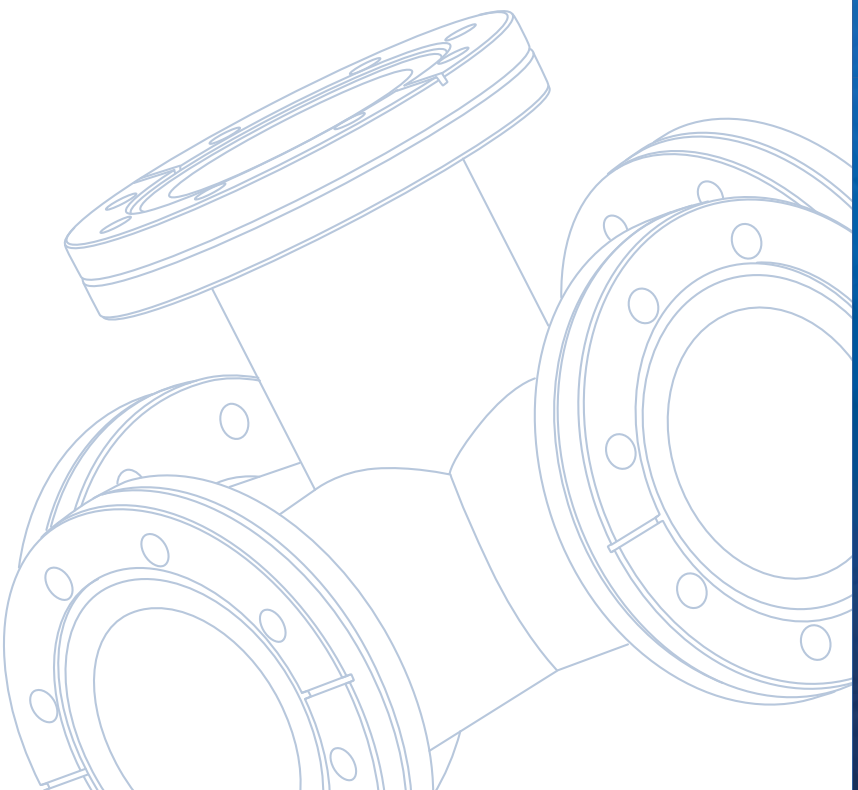
CF 5-Way Cross

Nonrotatable, Rotatable Flanges



Part Number	Dimensions in Inches & Millimeters					
	Flange Size		Tube O.D.		A	
	inch	mm	inch	mm	inch	mm
V*-9F-C3A-TD	1.33	33.78	3/4"	19.05	1.50	38.10
V*-9F-C3B-TD	2.12	53.85	1"	25.40	2.05	52.07
V*-9F-C3C-TD	2.75	69.85	1-1/2"	38.10	2.46	62.48
V*-9F-C3D-TD	3.38	85.85	2"	50.80	3.22	81.79
V*-9F-C3E-TD	4.50	114.30	2-1/2"	63.50	3.38	85.85
V*-9E-C3E-TD	4.50	114.30	2-1/2"	63.50	4.12	104.65
V*-9F-C3F-TD	4.62	117.35	3"	76.20	3.53	89.66
V*-9F-C3G-TD	6.00	152.40	4"	101.60	4.32	109.73
V*-9E-C3G-TD	6.00	152.40	4"	101.60	5.31	134.87
V*-9F-C3H-TD	6.75	171.45	5"	127.00	4.71	119.63
V*-9F-C3J-TD	8.00	203.20	6"	152.40	5.50	139.70
V*-9E-C3J-TD	8.00	203.20	6"	152.40	6.56	166.62
V*-9F-C3K-TD	10.00	254.00	8"	203.20	7.50	190.50
V*-9F-C3M-TD	13.25	336.55	10"	254.00	10.00	254.00

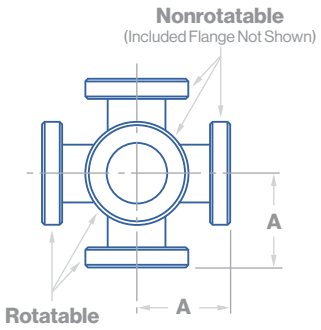
* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
9S

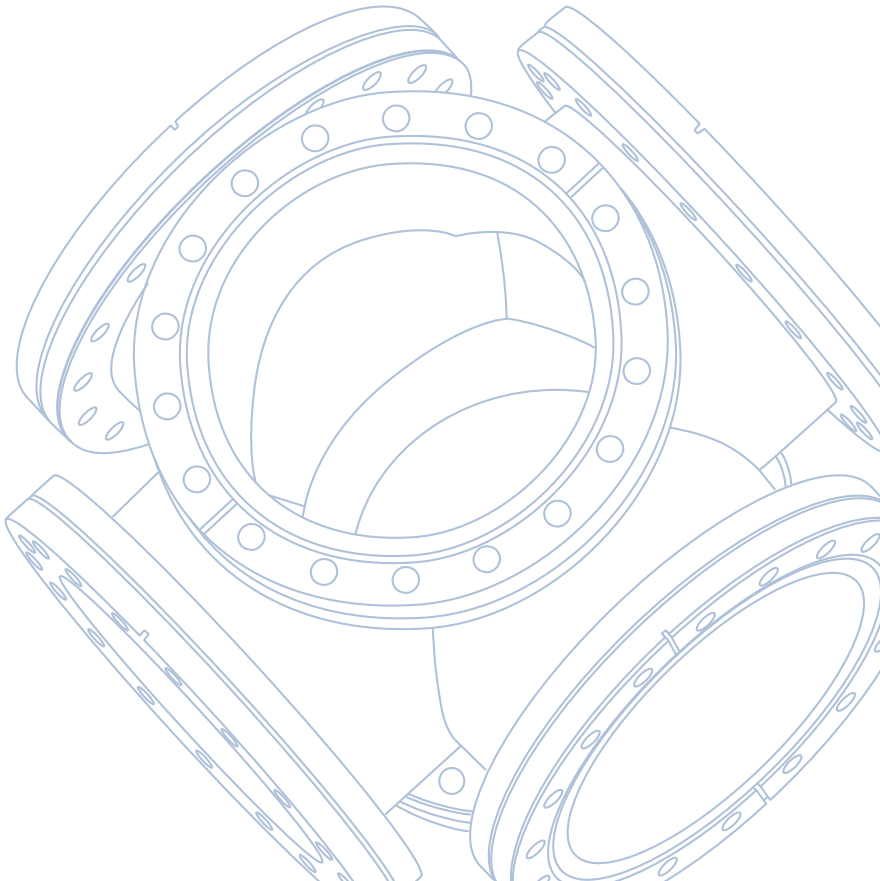
CF 6-Way Cross

Nonrotatable, Rotatable Flanges



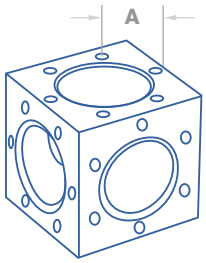
Part Number	Dimensions in Inches & Millimeters					
	Flange Size		Tube O.D.		A	
	inch	mm	inch	mm	inch	mm
V*-9S-C3A-TE	1.33	33.78	3/4"	19.05	1.50	38.10
V*-9S-C3B-TE	2.12	53.85	1"	25.40	2.05	52.07
V*-9S-C3C-TE	2.75	69.85	1-1/2"	38.10	2.46	62.48
V*-9S-C3D-TE	3.38	85.85	2"	50.80	3.22	81.79
V*-9S-C3E-TE	4.50	114.30	2-1/2"	63.50	3.38	85.85
V*-9T-C3E-TE	4.50	114.30	2-1/2"	63.50	4.12	104.65
V*-9S-C2F-TE	4.62	117.35	3"	76.20	3.53	89.66
V*-9S-C2G-TE	6.00	152.40	4"	101.60	4.32	109.73
V*-9T-C2G-TE	6.00	152.40	4"	101.60	5.31	134.87
V*-9S-C2H-TE	6.75	171.45	5"	127.00	4.71	119.63
V*-9S-C2J-TE	8.00	203.20	6"	152.40	5.50	139.70
V*-9T-C2J-TE	8.00	203.20	6"	152.40	6.56	116.62
V*-9S-C2K-TE	10.00	254.00	8"	203.20	7.50	109.50
V*-9S-C2M-TE	13.25	336.55	10"	254.00	10.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



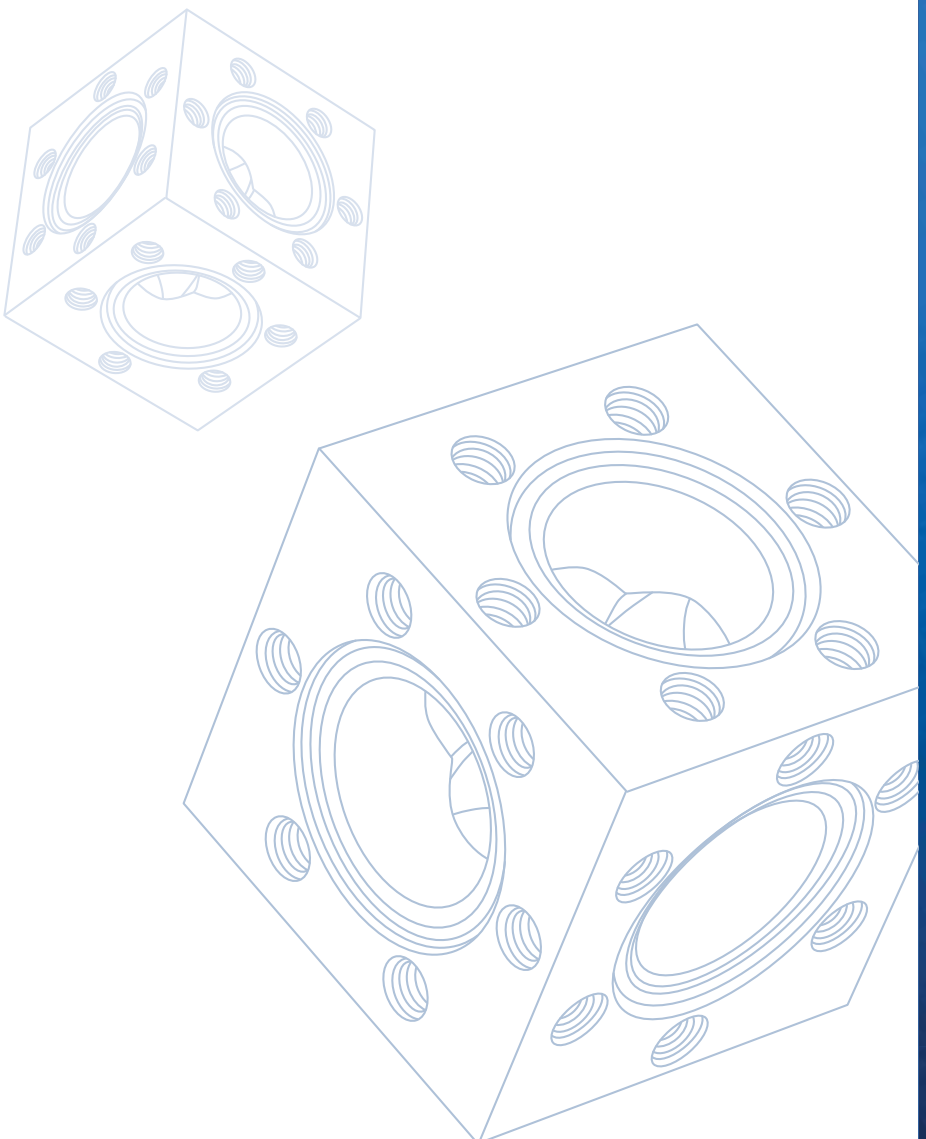
CONFIGURATION
9C

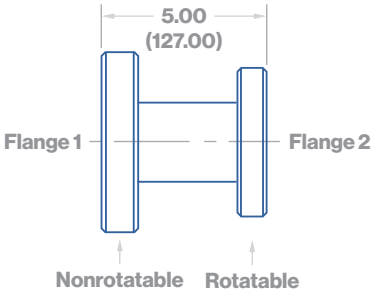
CF 6-Way Cube Cross



Part Number	Dimensions in Inches & Millimeters			
	Nominal Flange Size		A	
	inch	mm	inch	mm
V*-9C-C3A	1.33	33.78	.67	17.02
V*-9C-C3C	2.75	69.85	1.37	34.80
V*-9C-C3E	4.50	114.30	2.24	56.90
V*-9C-C3G	6.00	152.40	2.98	75.69
V*-9C-C3J	8.00	203.20	3.98	101.09

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP





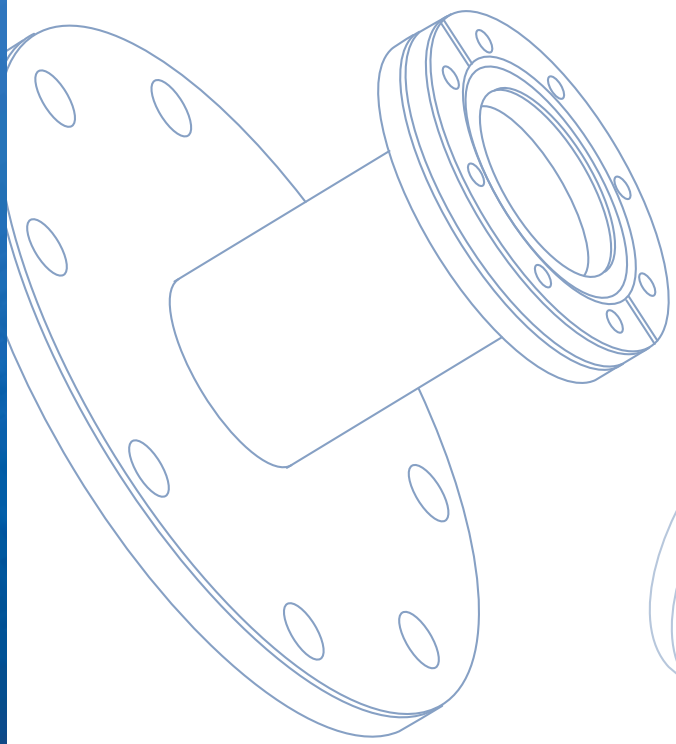
CONFIGURATION
31L

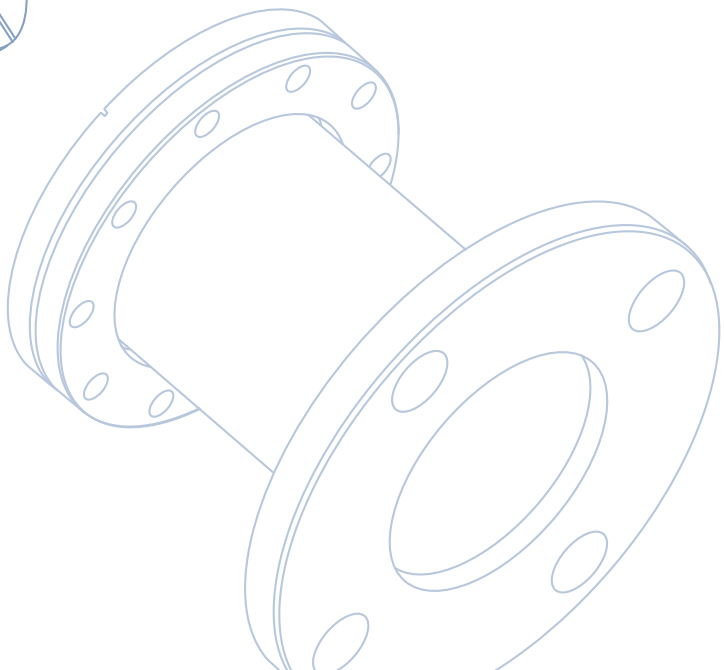
CF Straight Reducer

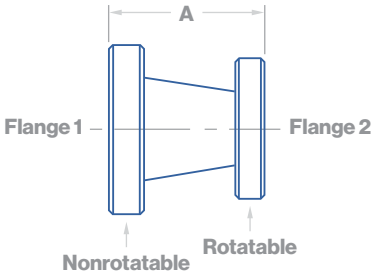
Nonrotatable x Rotatable

Part Number	Dimensions in Millimeters					
	Flange 1		Flange 2		Tube O.D.	
	inch	mm	inch	mm	inch	mm
V*-31L-C3GXC3C-TA	6.00	152.40	2.75	69.85	1.50	38.10
V*31L-C3JXC3C-TA	8.00	203.20	2.75	69.85	1.50	38.10
V*-31L-C3JXC3E-TA	8.00	203.20	4.50	114.30	2.50	63.50
V*-31L-C3JXC3G-TA	8.00	203.20	6.00	152.40	4.00	101.60
V*-31L-C3KXC3C-TA	10.00	254.00	2.75	69.85	1.50	38.10
V*-31L-C3KXC3E-TA	10.00	254.00	4.50	114.30	2.50	63.50
V*-31L-C3KXC3G-TA	10.00	254.00	6.00	152.40	4.00	101.60
V*-31L-C3KXC3J-TA	10.00	254.00	8.00	203.20	6.00	152.40
V*-31L-C3MXC3K-TA	13.25	336.55	10.00	254.00	8.00	203.20
V*-31L-C3NXC3L-TA	14.00	355.60	12.00	304.80	10.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP







CONFIGURATION
31

CF Conical Reducer

Nonrotatable x Rotatable

Part Number	Dimensions in Inches				
	Flange 1		Flange 2		A
	Flange Size	Tube O.D.	Flange Size	Tube O.D.	
V*-31-C3BXC3A-TA	2.12	1"	1.33	3/4"	2.04
V*-31-C3CXC3A-TA	2.75	1-1/2"	1.33	3/4"	3.08
V*-31-C3CXC3B-TA	2.75	1-1/2"	2.12	1"	2.75
V*-31-C3DXC3B-TA	3.38	2"	2.12	1"	2.77
V*-31-C3DXC3C-TA	3.38	2"	2.75	1-1/2"	2.81
V*-31-C3EXC3C-TA	4.50	2-1/2"	2.75	1-1/2"	2.96
V*-31-C3EXC3D-TA	4.50	2-1/2"	3.38	2"	2.98
V*-31-C3FXC3C-TA	4.62	3"	2.75	1-1/2"	4.12
V*-31-C3FXC3D-TA	4.62	3"	3.38	2"	4.13
V*-31-C3FXC3E-TA	4.62	3"	4.50	2-1/2"	4.28
V*-31-C3GXC3D-TA	6.00	4"	3.38	2"	4.29
V*-31-C3GXC3E-TA	6.00	4"	4.50	2-1/2"	4.44
V*-31-C3GXC3F-TA	6.00	4"	4.62	3"	4.34

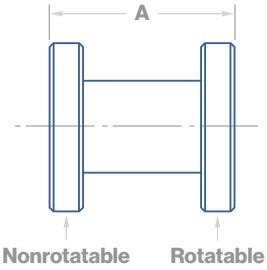
Part Number	Dimensions in Millimeters				
	Flange 1		Flange 2		A
	Flange Size	Tube O.D.	Flange Size	Tube O.D.	
V*-31-C3BXC3A-TA	53.85	25.40	33.78	19.05	51.82
V*-31-C3CXC3A-TA	69.85	38.10	33.78	19.05	78.23
V*-31-C3CXC3B-TA	69.85	38.10	53.85	25.40	69.85
V*-31-C3DXC3B-TA	85.85	50.80	53.85	25.40	70.36
V*-31-C3DXC3C-TA	85.85	50.80	69.85	38.10	71.37
V*-31-C3EXC3C-TA	114.30	63.50	69.85	38.10	75.18
V*-31-C3EXC3D-TA	114.30	63.50	85.85	50.80	75.69
V*-31-C3FXC3C-TA	117.35	76.20	69.85	38.10	104.65
V*-31-C3FXC3D-TA	117.35	76.20	85.85	50.80	104.90
V*-31-C3FXC3E-TA	117.35	76.20	114.30	63.50	108.71
V*-31-C3GXC3D-TA	152.40	101.60	85.85	50.80	108.97
V*-31-C3GXC3E-TA	152.40	101.60	114.30	63.50	112.78
V*-31-C3GXC3F-TA	152.40	101.60	117.35	76.20	110.24

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
6F

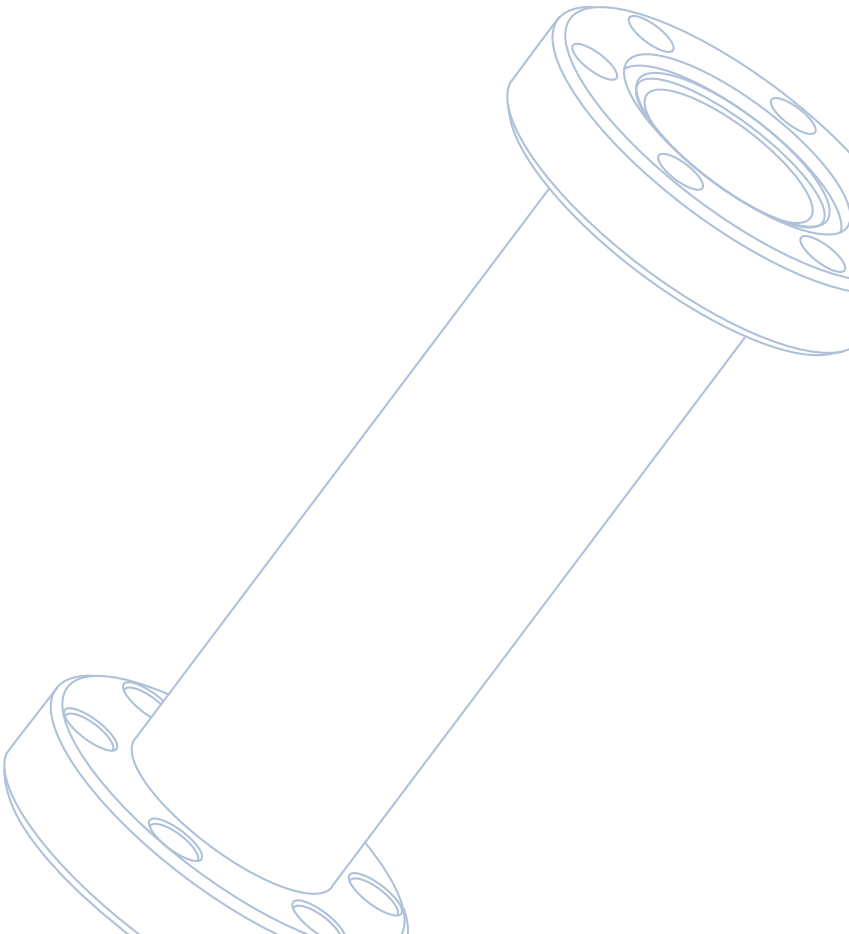
CF Full Nipple

Nonrotatable x Rotatable



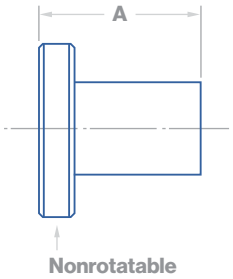
Part Number	Dimensions in Inches & Millimeters					
	Flange Size		Tube O.D.		A	
	inch	mm	inch	mm	inch	mm
V*-6F-C3A-TA	1.33	33.78	3/4"	19.05	3.00	76.20
V*-6F-C3B-TA	2.12	53.85	1"	25.40	4.10	104.14
V*-6F-C3C-TA	2.75	69.85	1-1/2"	38.10	4.92	124.97
V*-6F-C3D-TA	3.38	85.85	2"	50.80	6.44	163.58
V*-6F-C3E-TA	4.50	114.30	2-1/2"	63.50	6.76	171.70
V*-6E-C3E-TA	4.50	114.30	2-1/2"	63.50	8.24	209.30
V*-6F-C3F-TA	4.62	117.35	3"	76.20	7.06	179.32
V*-6F-C3G-TA	6.00	152.40	4"	101.60	8.64	219.46
V*-6E-C3G-TA	6.00	152.40	4"	101.60	10.62	269.75
V*-6F-C3J-TA	8.00	203.20	6"	152.40	11.00	279.40
V*-6E-C3J-TA	8.00	203.20	6"	152.40	13.12	333.25
V*-6F-C3K-TA	10.00	254.00	8"	203.20	15.00	381.00
V*-6F-C3M-TA	13.25	336.55	10"	254.00	20.00	508.00
V*-6F-C3N-TA	14.00	355.60	12"	304.80	20.00	508.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



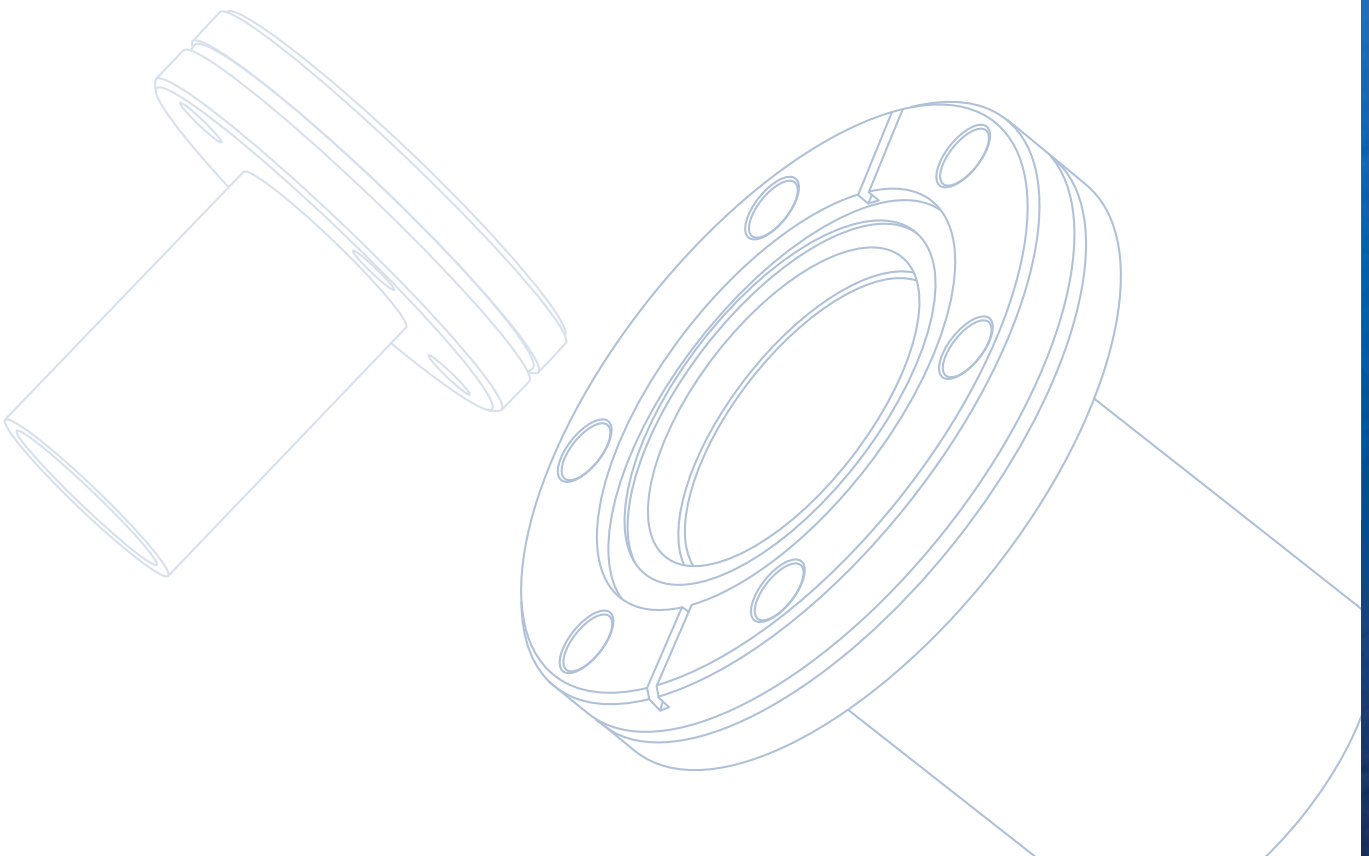
CONFIGURATION
6H

CF Half Nipple
Nonrotatable



Part Number	Dimensions in Inches & Millimeters					
	Flange Size		Tube O.D.		A	
	inch	mm	inch	mm	inch	mm
V*-6H-C3AXW-TF	1.33	33.78	3/4"	19.05	1.50	38.10
V*-6H-C3B-TF	2.12	53.85	1"	25.40	2.05	52.07
V*-6H-C3C-TF	2.75	69.85	1-1/2"	38.10	2.46	62.48
V*-6H-C3D-TF	3.38	85.85	2"	50.80	3.22	81.79
V*-6H-C3E-TF	4.50	114.30	2-1/2"	63.50	3.38	85.85
V*-6HE-C3E-TF	4.50	114.30	2-1/2"	63.50	4.12	104.65
V*-6H-C3F-TF	4.62	117.35	3"	76.20	3.53	89.66
V*-6H-C3G-TF	6.00	152.40	4"	101.60	4.32	109.73
V*-6HE-C3G-TF	6.00	152.40	4"	101.60	5.31	134.87
V*-6H-C3J-TF	8.00	203.20	6"	152.40	5.50	139.70
V*-6HE-C3J-TF	8.00	203.20	6"	152.40	6.56	166.62
V*-6H-C3K-TF	10.00	254.00	8"	203.20	7.50	190.50
V*-6H-C3M-TF	13.25	336.55	10"	254.00	10.00	254.00
V*-6H-C3N-TF	14.00	355.60	12"	304.80	10.00	254.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP



CONFIGURATION
70P
Use With
70*

CF Plate Nut

Plate nut for 1-1/3" and 2-3/4" flanges

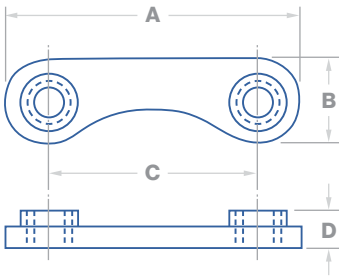
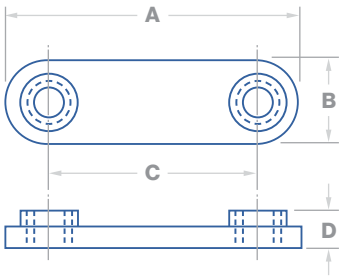


Plate nut for flanges larger than 2-3/4"



Part Number	Dimensions in Inches					
	Flange Size	Thread Size	A	B	C	D
V0-70P-C3A-PSX	1.33	8–32	.80	.30	.53	.15
V0-70P-C3C-PSX	2.75	1/4–28	1.59	.50	1.15	.18
V0-70P-C3C-PMX	2.75	M6	1.59	.50	1.15	.18
V0-70P-C3D-PSX	3.38	5/16–24	1.75	.50	1.09	.22
V0-70P-C3E-PSX	4.50	5/16–24	2.03	.50	1.39	.22
V0-70P-C3E-PMX	4.50	M8	2.03	.50	1.39	.22
V0-70P-C3F-PSX	4.62	5/16–24	1.75	.50	1.25	.22
V0-70P-C3G-PSX	6	5/16–24	1.75	.50	1.00	.22
V0-70P-C3G-PMX	6	M8	1.75	.50	1.00	.22
V0-70P-C3J-PSX	8	5/16–24	1.75	.50	1.12	.22
V0-70P-C3J-PMX	8	M8	1.75	.50	1.12	.22
V0-70P-C3K-PSX	10	5/16–24	1.75	.50	1.19	.22

Part Number	Dimensions in Millimeters					
	Flange Size	Thread Size	A	B	C	D
V0-70P-C3A-PSX	33.78	8–32	20.32	7.62	13.46	3.81
V0-70P-C3C-PSX	69.85	1/4–28	40.39	12.70	29.21	4.57
V0-70P-C3C-PMX	69.85	M6	40.39	12.70	29.21	4.57
V0-70P-C3D-PSX	85.85	5/16–24	44.45	12.70	27.69	5.59
V0-70P-C3E-PSX	114.30	5/16–24	51.56	12.70	35.31	5.59
V0-70P-C3E-PMX	114.30	M8	51.56	12.70	35.31	5.59
V0-70P-C3F-PSX	117.35	5/16–24	44.45	12.70	31.75	5.59
V0-70P-C3G-PSX	152.40	5/16–24	44.45	12.70	25.40	5.59
V0-70P-C3G-PMX	152.40	M8	44.45	12.70	25.40	5.59
V0-70P-C3J-PSX	203.20	5/16–24	44.45	12.70	28.45	5.59
V0-70P-C3J-PMX	203.20	M8	44.45	12.70	28.45	5.59
V0-70P-C3K-PSX	254.00	5/16–24	44.45	12.70	30.23	5.59

* **Use with hardware:** 70Q, 70R & 70T

CONFIGURATION
70Q

CF Plate Nut Hardware

Plate Nuts & Bolts

Part Number	Description					
	Flange Size		Plate Nuts	Bolts		
	inch	mm	Quantity	Quantity	Length	Size
V0-70Q-C3A-PTA	1.33	33.78	12	24	3/4"	8–32 x 3/4"

CONFIGURATION 70R
Use With 70P

CF Plate Nut Hardware

Plate Nuts, Bolts & Washers

Part Number	Dimensions in Inches & Millimeters				
	Flange O.D.		Plate Nut Quantity	Stainless Steel Bolts & Washers	
	inch	mm		Quantity	Size
V0-70R-C3A-P*B	1.33	33.78	12	24	8–32 x 3/4"
V0-70R-C3C-P*B	2.75	69.85	12	24	1/4"–28 X 1-1/4"
V0-70R-C3D-P*B	3.38	85.85	16	32	5/16"–24 X 1-3/4"
V0-70R-C3E-P*B	4.50	114.30	16	32	5/16"–24 X 2"
V0-70R-C3F-P*B	4.62	117.35	20	40	5/16"–24 X 2-1/4"
V0-70R-C3G-P*B	6.00	152.40	16	32	5/16"–24 X 2-1/4"
V0-70R-C3J-P*B	8.00	203.20	20	40	5/16"–24 X 2-1/4"
V0-70R-C3K-P*B	10.00	254.00	24	48	5/16"–24 X 2-1/2"

* **Thread:** T = Inch, 10-8SS (Bolts), U = Inch, 10-8SS, Silver-Plated (Bolts), V = Metric, 10-8SS (Bolts), W = Metric, 10-8SS, Silver-Plated (Bolts)

CONFIGURATION 70T

CF 12-Point Plate Nut Hardware

Plate Nuts, 12-Point Bolts & Washers

Part Number	Description				
	Flange Size		Plate Nuts	Bolts	
	inch	mm	Quantity	Quantity	Size
V0-70T-C3C-PTA	2.75"	69.85	12	24	1/4"–28 x 1-1/4"
V0-70T-C3D-PTA	3.38"	85.85	16	32	5/16"–24 x 1-3/4"
V0-70T-C3E-PTA	4.50"	114.30	16	32	5/16"–24 x 2"
V0-70T-C3F-PTA	4.62"	117.35	20	40	5/16"–24 x 2-1/4"
V0-70T-C3G-PTA	6.00"	152.40	16	32	5/16"–24 x 2-1/4"
V0-70T-C3J-PTA	8.00"	203.20	20	40	5/16"–24 x 2-1/4"
V0-70T-C3K-PTA	10.00"	254.00	24	48	5/16"–24 x 2-1/4"

CONFIGURATION **70** Use With **38B & 38**

CF Bolt & Washer Hardware

Part Number		Description			
		Flange Size			
Stainless Steel	Silver Plated Stainless Steel	inch	mm	Quantity	Bolt Size
V0-70-C3A-XTA	V0-70-C3A-XUA	1.33	33.78	25	8–32 x .56"
V0-70-C3B-XTA		2.12	53.85	25	1/4"–28 x 7/8"
V0-70-C3C-XTA		2.75	69.85	25	1/4"–28 x 1"
V0-70-C3D-XTA		3.38	85.85	25	5/16"–24 x 1-1/4"
V0-70-C3E-XTA		4.50	114.30	25	5/16"–24 x 1-1/4"
V0-70-C3F-XTA		4.62	117.35	25	5/16"–24 x 1-1/4"
V0-70-C3G-XTA		6.00	152.40	25	5/16"–24 x 1-1/4"
V0-70-C3H-XTA		6.75	171.45	25	5/16"–24 x 1-1/2"
V0-70-C3J-XTA		8.00	203.20	25	5/16"–24 x 1-3/4"
V0-70-C3K-XTA		10.00	254.00	25	5/16"–24 x 1-3/4"
V0-70-C3L-XTA		12.00	304.80	32	5/16"–24 x 1-3/4"
V0-70-C3M-XTA		13.25	336.55	30	3/8"–24 x 2"
V0-70-C3N-XTA		14.00	355.60	30	3/8"–24 x 2"
V0-70-C3Q-XTA		16.50	419.10	36	3/8"–24 x 2"

CONFIGURATION **70C** Use With **38B & 38**

CF 12 Point Bolt & Washer Hardware

Part Number		Description			
		Flange Size			
Stainless Steel	Silver Plated Stainless Steel	inch	mm	Quantity	Bolt Size
V0-70C-C3B-XTA		2.12	53.85	25	1/4"–28 x 7/8"
V0-70C-C3C-XTA		2.75	69.85	25	1/4"–28 x 1"
	V0-70C-C3C-XUB	2.75	69.85	25	1/4"–28 x 7/8"
V0-70C-C3D-XTA	V0-70C-C3D-XUA	3.38	85.85	25	5/16"–24 x 1-1/4"
V0-70C-C3E-XTA	V0-70C-C3E-XUA	4.50	114.3	25	5/16"–24 x 1-1/4"
V0-70C-C3F-XTA		4.62	117.35	25	5/16"–24 x 1-1/4"
V0-70C-C3G-XTA	V0-70C-C3G-XUA	6.00	152.40	25	5/16"–24 x 1-1/4"
V0-70C-C3H-XTA		6.75	171.45	25	5/16"–24 x 1-3/4"
V0-70C-C3J-XTA	V0-70C-C3J-XUA	8.00	203.20	25	5/16"–24 x 1-3/4"
V0-70C-C3K-XTA	V0-70C-C3K-XUA	10.00	254.00	25	5/16"–24 x 1-3/4"

CONFIGURATION 70
Use With 38B & 38

CF Bolt & Washer Hardware
(Metric)

Part Number	Description			
Stainless Steel	Flange Size		Quantity	Bolt Size
	inch	mm		
V0-70-C3C-XVA	2.75	69.85	25	M6 x 1 x 25mm
V0-70-C3E-XVA	4.50	114.30	25	M8 x 1-1/4 x 35mm
V0-70-C3G-XVA	6.00	152.40	25	M8 x 1-1/4 x 35mm
V0-70-C3J-XVA	8.00	203.20	25	M8 x 1-1/4 x 45mm
V0-70-C3K-XVA	10.00	254.00	25	M8 x 1-1/4 x 45mm

CONFIGURATION 70B
Use With 38B & 38

CF Bolt, Nut & Washer Hardware

Part Number		Description			
Stainless Steel	Silver Plated Stainless Steel	Flange Size		Quantity	Bolt Size
		inch	mm		
V0-70B-C3A-XTA	V0-70B-C3A-XUA	1.33	33.78	25	8–32 x .75"
V0-70B-C3B-XTA		2.12	53.85	25	1/4"–28 x 1-1/4"
V0-70B-C3C-XTA		2.75	69.85	25	1/4"–28 x 1-1/4"
V0-70B-C3D-XTA		3.38	85.85	25	5/16"–24 x 1-3/4"
V0-70B-C3E-XTA		4.50	114.30	25	5/16"–24 x 2"
V0-70B-C3F-XTA		4.62	117.35	25	5/16"–24 x 2-1/4"
V0-70B-C3G-XTA		6.00	152.40	25	5/16"–24 x 2-1/4"
V0-70B-C3H-XTA		6.75	171.45	25	5/16"–24 x 2-1/4"
V0-70B-C3J-XTA		8.00	203.20	25	5/16"–24 x 2-1/4"
V0-70B-C3K-XTA		10.00	254.00	25	5/16"–24 x 2-1/2"
V0-70B-C3L-XTA		12.00	304.80	32	5/16"–24 x 3"
V0-70B-C3M-XTA		13.25	336.55	30	3/8"–24 x 3"
V0-70B-C3N-XTA		14.00	355.60	30	3/8"–24 x 3"
V0-70B-C3Q-XTA		16.50	419.10	36	3/8"–24 x 3"

CONFIGURATION
70D
Use With
38B
& 38

CF 12 Point
Bolt, Nut & Washer Hardware

Part Number		Description			
		Flange Size			
Stainless Steel	Silver Plated Stainless Steel	inch	mm	Quantity	Bolt Size
V0-70D-C3B-XTA		2.12	53.85	25	1/4"–28 x 1-1/4"
V0-70D-C3C-XTA	V0-70D-C3C-XUA	2.75	69.85	25	1/4"–28 x 1-1/4"
V0-70D-C3D-XTA	V0-70D-C3D-XUA	3.38	85.85	25	5/16"–24 x 1-3/4"
V0-70D-C3E-XTA	V0-70D-C3E-XUA	4.50	114.30	25	5/16"–24 x 2"
V0-70D-C3F-XTA		4.62	117.35	25	5/16"–24 x 2-1/4"
V0-70D-C3G-XTA	V0-70D-C3G-XUA	6.00	152.40	25	5/16"–24 x 2-1/4"
V0-70D-C3H-XTA		6.75	171.45	25	5/16"–24 x 2-1/4"
V0-70D-C3J-XTA	V0-70D-C3J-XUA	8.00	203.20	25	5/16"–24 x 2-1/4"
V0-70D-C3K-XTA	V0-70D-C3K-XUA	10.00	254.00	25	5/16"–24 x 2-1/2"

CONFIGURATION 70G Use With 38B & 38

CF Gasket Hardware
(Copper or Silver Plated Copper)

Part Number		Description		
Copper Gaskets	Silver Plated Copper Gaskets	Flange Size inch	Flange Size mm	Quantity
V0-72G-C3A-G1	V0-72G-C3A-G2	1.33	33.78	10
V0-72G-C3B-G1		2.12	53.85	10
V0-72G-C3C-G1	V0-72G-C3C-G2	2.75	69.85	10
V0-72G-C3D-G1	V0-72G-C3D-G2	3.38	85.85	10
V0-72G-C3E-G1	V0-72G-C3E-G2	4.50	114.30	10
V0-72G-C3F-G1		4.62	117.35	10
V0-72G-C3G-G1	V0-72G-C3G-G2	6.00	152.40	10
V0-72G-C3H-G1		6.75	171.45	10
V0-72G-C3J-G1	V0-72G-C3J-G2	8.00	203.20	10
V0-72G-C3K-G1	V0-72G-C3K-G2	10.00	254.00	10
V0-72G-C3L-G1		12.00	304.80	1
V0-72G-C3M-G1		13.25	336.55	1
V0-72G-C3N-G1		14.00	355.60	1
V0-72G-C3Q-G1		16.50	419.10	1

CONFIGURATION 70G Use With 38B & 38

CF Gasket Hardware
(PTFE)

Part Number	Description		
Part Number	Flange Size inch	Flange Size mm	Quantity
V0-72G-C3A-G3	1.33	33.78	5
V0-72G-C3B-G3	2.12	53.85	5
V0-72G-C3C-G3	2.75	69.85	5
V0-72G-C3D-G3	3.38	85.85	1
V0-72G-C3E-G3	4.50	114.30	1
V0-72G-C3F-G3	4.62	117.35	1
V0-72G-C3G-G3	6.00	152.40	1
V0-72G-C3H-G3	6.75	171.45	1
V0-72G-C3J-G3	8.00	203.20	1
V0-72G-C3K-G3	10.00	254.00	1
V0-72G-C3M-G3	13.25	336.55	1
V0-72G-C3N-G3	14.00	355.60	1
V0-72G-C3Q-G3	16.50	419.10	1

CONFIGURATION 72G Use With 38M

CF Gasket Double-Sided Hardware
(Copper or Silver Plated Copper)

Part Number		Description		
		Nominal O.D.		
Copper	Silver Plated Copper	inch	mm	Quantity
V0-72G-C3A-G1	V0-72G-C3A-G2	1.33	33.78	10
V0-72G-C3B-G1	V0-72G-C3B-G2	2.12	53.85	10
V0-72G-C3C-G1	V0-72G-C3C-G2	2.75	69.85	10
V0-72G-C3D-G1	V0-72G-C3D-G2	3.38	85.85	10
V0-72G-C3E-G1	V0-72G-C3E-G2	4.50	114.30	10
V0-72G-C3F-G1	V0-72G-C3F-G2	4.62	117.35	10
V0-72G-C3G-G1	V0-72G-C3G-G2	6.00	152.40	10
V0-72G-C3H-G1	V0-72G-C3H-G2	6.75	171.45	10
V0-72G-C3J-G1	V0-72G-C3J-G2	8.00	203.20	10
V0-72G-C3K-G1	V0-72G-C3K-G2	10.00	254.00	10
V0-72G-C3M-G1	V0-72G-C3M-G2	13.25	336.55	1

CONFIGURATION 72G Use With 38M

CF Gasket Double-Sided Hardware
(PTFE)

Part Number	Description		
	Nominal O.D.		
	inch	mm	Quantity
V0-72G-C3A-G3	1.33	33.78	5
V0-72G-C3B-G3	2.12	52.85	5
V0-72G-C3C-G3	2.75	69.85	5
V0-72G-C3D-G3	3.38	85.85	1
V0-72G-C3E-G3	4.50	114.30	1
V0-72G-C3F-G3	4.62	117.35	1
V0-72G-C3G-G3	6.00	152.40	1
V0-72G-C3H-G3	6.75	171.45	1
V0-72G-C3J-G3	8.00	203.20	1
V0-72G-C3K-G3	10.00	254.00	1
V0-72G-C3M-G3	13.25	336.55	1

CONFIGURATION
70B
Use With
38M

CF Bolt, Nut & Washer Double-Sided Hardware

Part Number		Description			
		Nominal O.D.			
Stainless Steel	Silver Plated Stainless Steel	inch	mm	Quantity	Bolt Size
V0-70B-C3A-XTB	V0-70B-C3A-XUB	1.33	33.78	5	8–32 x 1-1/4"
V0-70B-C3B-XTB	V0-70B-C3B-XUB	2.12	53.85	25	1/4"–28 x 1-3/4"
V0-70B-C3C-XTB	V0-70B-C3C-XUB	2.75	69.85	25	1/4"–28 x 1-3/4"
V0-70B-C3D-XTB	V0-70B-C3D-XUB	3.38	85.85	25	5/16"–24 x 2-1/2"
V0-70B-C3E-XTB	V0-70B-C3E-XUB	4.50	114.30	25	5/16"–24 x 32-3/4"
V0-70B-C3F-XTB	V0-70B-C3F-XUB	4.62	117.35	25	5/16"–24 x 3"
V0-70B-C3G-XTB	V0-70B-C3G-XUB	6.00	152.40	25	5/16"–24 x 3"
V0-70B-C3H-XTB	V0-70B-C3H-XUB	6.75	171.45	25	5/16"–24 x 3"
V0-70B-C3J-XTB	V0-70B-C3J-XUB	8.00	203.20	25	5/16"–24 x 3"
V0-70B-C3K-XTB	V0-70B-C3K-XUB	10.00	254.00	25	5/16"–24 x 3-1/2"

CONFIGURATION
70R

CF Plate Nut Double-Sided Hardware

Plate Nuts, Bolts & Washers

Part Number		Description				
		Nominal O.D.		Plate Nuts		Bolts
Stainless Steel	Silver Plated Stainless Steel	inch	mm	Quantity	Size	Quantity
V0-70R-C3C-PTA	V0-70R-C3C-PUA	2.75"	69.85	6	1/4"–28 x 2"	12

Fittings
Adapter

Specifications

Flange Material:
304, 304L, 316 & 316L

Sealing Material:
NW/ISO Flanges: Viton®, Buena-N®, EPDM or Kalrez
CF: OFE Copper
VCR: SS Metal Gasket

Clamp Styles:
NW: Wingnut or SS Clamp
ISO: Aluminim Claw or SS Claw Clamps, M10-1.50 thread & Bolts
CF: OFE Copper
VCR: SS Metal Gasket

Torque Value:
KF/ISO Bolts: 7-10 lbs-ft.

CF Bolts:

Bolt Size	Fractional Size	Torque
.160-32 UNC	8-32	7 lb-ft
.250-28 UNF	1/4-28	12 lb-ft
.312-24 UNF	5/16-24	15 lb-ft

Vacuum Range:
1x10-13 Torr

Temperature Range:

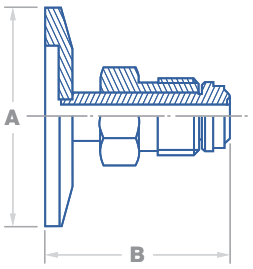
	Minimum	Intermittent	Sustained
Viton®	-20°C	150°C	200°C
Buna-N®	-20°C	80°C	100°C

(Kalrez dependent on the compound)



CONFIGURATION
34V

NW/KF Face Seal Male Adapter



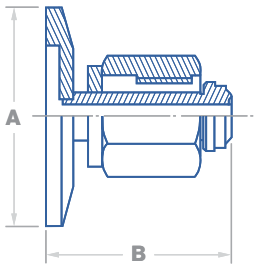
Part Number	Dimensions in Inches				
	Flange Size		Face Seal Size	A	B
	NW	inch			
V*-34V-N1BXZ04	16	3/4"	1/4"	1.180	1.460
V*-34V-N1BXZ08	16	3/4"	1/2"	1.180	1.650
V*-34V-N1CXZ04	25	1"	1/4"	1.575	1.460
V*-34V-N1CXZ08	25	1"	1/2"	1.575	1.650
V*-34V-N1DXZ04	40	1-1/2"	1/4"	2.160	1.460
V*-34V-N1DXZ08	40	1-1/2"	1/2"	2.160	1.650
V*-34V-N1EXZ04	50	2"	1/4"	2.950	1.460
V*-34V-N1EXZ08	50	2"	1/2"	2.950	1.650

Part Number	Dimensions in Millimeters				
	Flange Size		Face Seal Size	A	B
	NW	mm			
V*-34V-N1BXZ04	16	19.05	6.35	29.97	37.08
V*-34V-N1BXZ08	16	19.05	12.70	29.97	41.91
V*-34V-N1CXZ04	25	25.40	6.35	40.01	37.08
V*-34V-N1CXZ08	25	25.40	12.70	40.01	41.91
V*-34V-N1DXZ04	40	38.10	6.35	54.86	37.08
V*-34V-N1DXZ08	40	38.10	12.70	54.86	41.91
V*-34V-N1EXZ04	50	50.80	6.35	74.93	37.08
V*-34V-N1EXZ08	50	50.80	12.70	74.93	41.91

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34A

NW/KF Face Seal Female Adapter



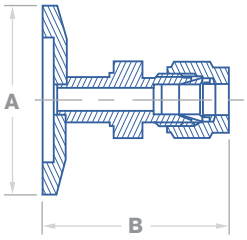
Part Number	Dimensions in Inches				
	Flange Size		Face Seal Size	A	B
	NW	inch			
V*-34A-N1BXZ04	16	3/4"	1/4"	1.180	1.460
V*-34A-N1BXZ08	16	3/4"	1/2"	1.180	1.650
V*-34A-N1CXZ04	25	1"	1/4"	1.575	1.460
V*-34A-N1CXZ08	25	1"	1/2"	1.575	1.650
V*-34A-N1DXZ04	40	1-1/2"	1/4"	2.160	1.460
V*-34A-N1DXZ08	40	1-1/2"	1/2"	2.160	1.650
V*-34A-N1EXZ04	50	2"	1/4"	2.950	1.460
V*-34A-N1EXZ08	50	2"	1/2"	2.950	1.650

Part Number	Dimensions in Millimeters				
	Flange Size		Face Seal Size	A	B
	NW	mm			
V*-34A-N1BXZ04	16	19.05	6.35	29.97	37.08
V*-34A-N1BXZ08	16	19.05	12.70	29.97	41.91
V*-34A-N1CXZ04	25	25.40	6.35	40.01	37.08
V*-34A-N1CXZ08	25	25.40	12.70	40.01	41.91
V*-34A-N1DXZ04	40	38.10	6.35	54.86	37.08
V*-34A-N1DXZ08	40	38.10	12.70	54.86	41.91
V*-34A-N1EXZ04	50	50.80	6.35	74.93	37.08
V*-34A-N1EXZ08	50	50.80	12.70	74.93	41.91

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34C

NW/KF Compression Adapter



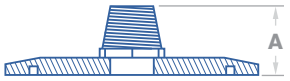
Part Number	Dimensions in Inches				
	Flange Size		Compression	A	B
	NW	inch			
V*-34C-N1BXZ04	16	3/4"	1/4"	1.180	1.470
V*-34C-N1BXZ08	16	3/4"	1/2"	1.180	1.630
V*-34C-N1CXZ04	25	1"	1/4"	1.575	1.470
V*-34C-N1CXZ08	25	1"	1/2"	1.575	1.630
V*-34C-N1DXZ04	40	1-1/2"	1/4"	2.160	1.470
V*-34C-N1DXZ08	40	1-1/2"	1/2"	2.160	1.630
V*-34C-N1EXZ04	50	2"	1/4"	2.950	1.470
V*-34C-N1EXZ08	50	2"	1/2"	2.950	1.630

Part Number	Dimensions in Millimeters				
	Flange Size		Compression	A	B
	NW	mm			
V*-34C-N1BXZ04	16	19.05	6.35	29.97	44.20
V*-34C-N1BXZ08	16	19.05	12.70	29.97	41.40
V*-34C-N1CXZ04	25	25.40	6.35	40.01	37.34
V*-34C-N1CXZ08	25	25.40	12.70	40.01	41.40
V*-34C-N1DXZ04	40	38.10	6.35	54.86	37.34
V*-34C-N1DXZ08	40	38.10	12.70	54.86	41.40
V*-34C-N1EXZ04	50	50.80	6.35	74.93	37.34
V*-34C-N1EXZ08	50	50.80	12.70	74.93	41.40

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34M

NW/KF – NPT Male Adapter

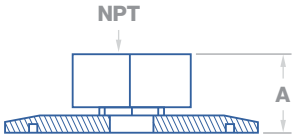


Part Number	Dimensions in Inches & Millimeters						
	Flange Size			NPT		A	
	NW	inch	mm	inch	mm	inch	mm
V*-34M-N1BXZ67	16	3/4"	19.05	1/8"	3.175	.880	22.35
V*-34M-N1BXZ68	16	3/4"	19.05	1/4"	6.35	1.090	27.69
V*-34M-N1CXZ68	25	1"	25.40	1/4"	6.35	1.090	27.69
V*-34M-N1DXZ68	40	1-1/2"	38.10	1/4"	6.35	1.090	27.69
V*-34M-N1DXZ70	40	1-1/2"	38.10	1/2"	12.70	1.340	34.04
V*-34M-N1EXZ68	50	2"	50.80	1/4"	6.35	1.090	27.69
V*-34M-N1EXZ70	50	2"	50.80	1/2"	12.70	1.340	34.04

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34F

NW/KF – NPT Female Adapter

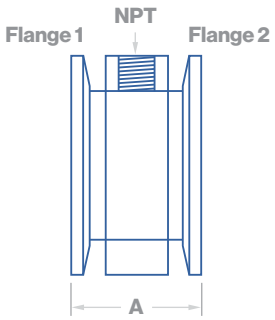


Part Number	Dimensions in Inches & Millimeters						
	Flange Size			NPT		A	
	NW	inch	mm	inch	mm	inch	mm
V*-34F-N1BXZ67	16	3/4"	19.05	1/8"	3.18	.880	22.35
V*-34F-N1BXZ68	16	3/4"	19.05	1/4"	6.35	1.090	27.69
V*-34F-N1CXZ68	25	1"	25.40	1/4"	6.35	1.090	27.69
V*-34F-N1DXZ68	40	1-1/2"	38.10	1/4"	6.35	1.090	27.69
V*-34F-N1DXZ70	40	1-1/2"	38.10	1/2"	12.70	1.340	34.04
V*-34F-N1EXZ68	50	2"	50.80	1/4"	6.35	1.100	27.94
V*-34F-N1EXZ70	50	2"	50.80	1/2"	12.70	1.340	34.04

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34G

NW/KF
Gauge Tee Adapter

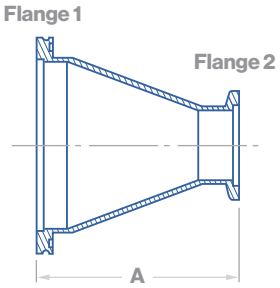


Part Number	Dimensions in Inches & Millimeters				
	Flange 1 & 2 Size	FNPT		A	
	NW	inch	mm	inch	mm
V*-34G-N1BXZ67	16	1/8"	3.175	1.570	39.88
V*-34G-N1BXZ68	16	1/4"	6.35	1.570	39.88
V*-34G-N1CXZ67	25	1/8"	3.175	1.570	39.88
V*-34G-N1CXZ68	25	1/4"	6.35	1.570	39.88
V*-34G-N1DXZ67	40	1/8"	3.175	1.570	39.88
V*-34G-N1DXZ68	40	1/4"	6.35	1.570	39.88
V*-34G-N1EXZ67	50	1/8"	3.175	1.570	39.88
V*-34G-N1EXZ68	50	1/4"	6.35	1.570	39.88

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34L

ISO-K – NW/KF
Concentric Adapter
Low Profile

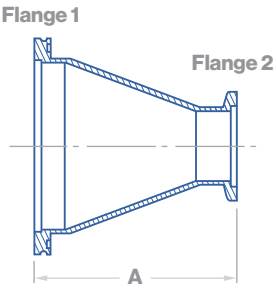


Part Number	Dimensions in Inches & Millimeters							
	Flange 1			Flange 2			A	
	ISO	inch	mm	NW	inch	mm	inch	mm
V*-34L-K2AXN1C	63	2-1/2"	63.50	25	1"	25.40	2.47	62.74
V*-34L-K2AXN1D	63	2-1/2"	63.50	40	1-1/2"	38.10	2.47	62.74
V*-34L-K2AXN1E	63	2-1/2"	63.50	50	2"	50.80	2.47	62.74
V*-34L-K2BXN1D	80	3"	76.20	40	1-1/2"	38.10	2.47	62.74
V*-34L-K2BXN1E	80	3"	76.20	50	2"	50.80	2.47	62.74
V*-34L-K2CXN1D	100	4"	101.60	40	1-1/2"	38.10	2.47	62.74
V*-34L-K2CXN1E	100	4"	101.60	50	2"	50.80	2.47	62.74

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34

ISO-K – NW/KF
Concentric Adapter

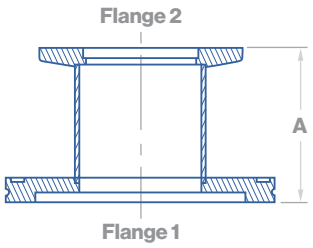


Part Number	Dimensions in Inches & Millimeters							
	Flange 1			Flange 2			A	
	ISO	inch	mm	NW	inch	mm	inch	mm
V*-34-K2AXN1D	63	2-1/2"	63.50	40	1-1/2"	38.10	2.775	70.49
V*-34-K2AXN1E	63	2-1/2"	63.50	50	2"	50.80	4.025	102.24
V*-34-K2BXN1D	80	3"	76.20	40	1-1/2"	38.10	2.775	70.49
V*-34-K2BXN1E	80	3"	76.20	50	2"	50.80	4.025	102.24
V*-34-K2CXN1D	100	4"	101.60	40	1-1/2"	38.10	5.680	144.27
V*-34-K2CXN1E	100	4"	101.60	50	2"	50.80	4.025	102.24

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34S

ISO-K – NW/KF
Straight Adapter

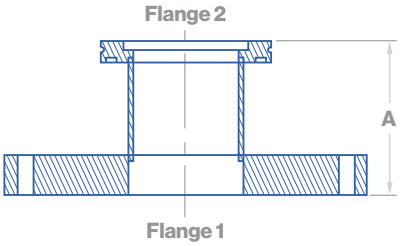


Part Number	Dimensions in Inches & Millimeters							
	Flange 1			Flange 2			A	
	ISO	inch	mm	NW	inch	mm	inch	mm
V*-34S-K2AXN1C	63	2-1/2"	63.50	25	1"	25.40	1.825	46.36
V*-34S-K2AXN1D	63	2-1/2"	63.50	40	1-1/2"	38.10	1.825	46.36
V*-34S-K2AXN1E	63	2-1/2"	63.50	50	2"	50.80	1.825	46.36
V*-34S-K2BXN1C	80	3"	76.20	25	1"	25.40	1.825	46.36
V*-34S-K2BXN1D	80	3"	76.20	40	1-1/2"	38.10	1.825	46.36
V*-34S-K2BXN1E	80	3"	76.20	50	2"	50.80	1.825	46.36
V*-34S-K2CXN1C	100	4"	101.60	25	1"	25.40	1.825	46.36
V*-34S-K2CXN1D	100	4"	101.60	40	1-1/2"	38.10	1.825	46.36
V*-34S-K2CXN1E	100	4"	101.60	50	2"	50.80	1.825	46.36

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34S

ISO-K – CF
Straight Adapter

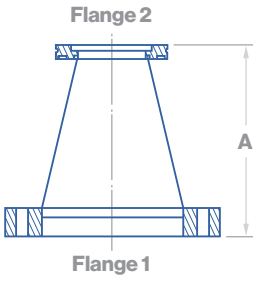


Part Number	Dimensions in Inches & Millimeters						
	Flange 1	Flange 2		Nominal O.D.		A	
	ISO	inch	mm	inch	mm	inch	mm
V*-34S-K2AXC3E	63	4.50	114.30	2.500	63.50	5.000	127.00
V*-34S-K2BXC3F	80	4.62	117.35	3.000	76.20	5.000	127.00
V*-34S-K2CXC3G	100	6.00	152.40	4.000	101.60	5.000	127.00
V*-34S-K2DXC3J	160	8.00	203.20	6.000	152.40	5.000	127.00
V*-34S-K2EXC3K	200	10.00	254.00	8.000	203.20	5.000	127.00

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34

ISO-K – CF
Concentric Adapter

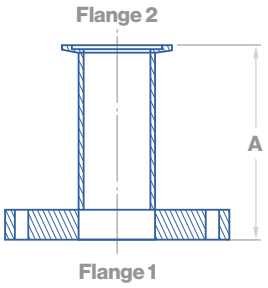


Part Number	Dimensions in Inches & Millimeters				
	Flange 1	Flange 2		A	
	ISO	inch	mm	inch	mm
V*-34-K2AXC3C	63	2.75	69.85	2.83	71.88
V*-34-K2AXC3D	63	3.38	85.85	2.85	72.39
V*-34-K2AXC3F	63	4.62	117.35	4.25	107.95
V*-34-K2AXC3G	63	6.00	152.40	4.31	109.47
V*-34-K2BXC3C	80	2.75	69.85	4.08	103.63
V*-34-K2BXC3D	80	3.38	85.85	4.10	104.14
V*-34-K2BXC3E	80	4.50	114.30	4.25	107.95
V*-34-K2BXC3G	80	6.00	152.40	4.31	109.47
V*-34-K2CXC3D	100	3.38	85.85	4.10	104.14
V*-34-K2CXC3E	100	4.50	114.30	4.25	107.95
V*-34-K2CXC3F	100	4.62	117.35	4.25	107.95

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34S

CF – NW/KF
Straight Adapter

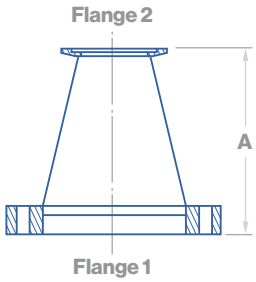


Part Number	Dimensions in Inches & Millimeters				
	Flange 1		Flange 2	A	
	inch	mm	NW	inch	mm
V*-34S-C3AXN1A	1.33	33.78	10	1.750	44.45
V*-34S-C3AXN1B	1.33	33.78	16	1.750	44.45
V*-34S-C3BXN1C	2.12	53.85	25	1.742	44.25
V*-34S-C3CXN1D	2.75	69.85	40	1.784	45.31
V*-34S-C3AXN1E	1.33	33.78	50	1.750	44.45
V*-34S-C3DXN1E	3.38	85.85	50	1.800	45.72

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34

CF – NW/KF
Concentric Adapter

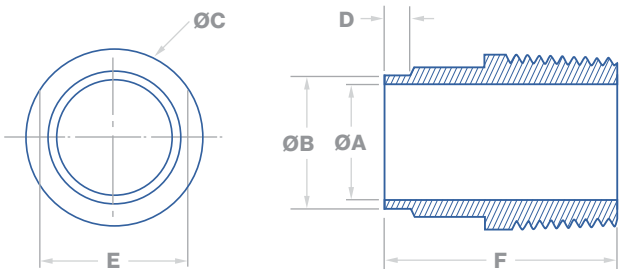


Part Number	Dimensions in Inches & Millimeters				
	Flange 1		Flange 2	A	
	inch	mm	NW	inch	mm
V*-34-C3AXN1C	1.33	33.78	25	2.700	68.58
V*-34-C3AXN1D	1.33	33.78	40	2.700	68.58
V*-34-C3BXN1B	2.12	53.85	16	2.690	68.33
V*-34-C3BXN1D	2.12	53.85	40	2.690	68.33
V*-34-C3BXN1E	2.12	53.85	50	2.690	68.33
V*-34-C3CXN1B	2.75	69.85	16	2.730	69.34
V*-34-C3CXN1C	2.75	69.85	25	2.730	69.34
V*-34-C3CXN1E	2.75	69.85	50	2.730	69.34
V*-34-C3DXN1C	3.38	85.85	25	2.750	69.85
V*-34-C3DXN1D	3.38	85.85	40	2.750	69.85
V*-34-C3EXN1D	4.50	114.30	40	2.900	73.66
V*-34-C3EXN1E	4.50	114.30	50	2.900	73.66
V*-34-C3FXN1D	4.62	117.35	40	4.150	105.41
V*-34-C3FXN1E	4.62	117.35	50	4.150	105.41
V*-34-C3GXN1E	6.00	152.40	50	4.210	106.93

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34M

Male NPT – Tube Adapter



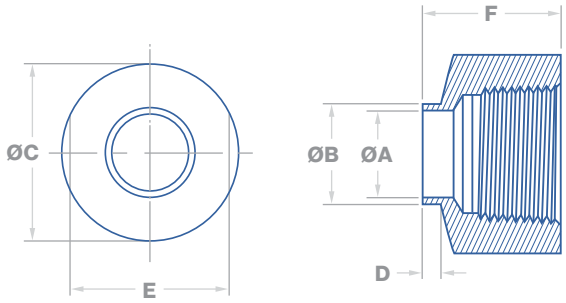
Part Number	Dimensions in Inches							
	Tube Nominal O.D.	A ± 0.12	B ± 0.12	C	D	E	F	Thread NPT
V*-34M-Z70XW08	1/2"	.370	.500	.839	.189	.669	1.626	1/2"
V*-34M-Z71XW12	3/4"	.620	.750	1.051	.189	.866	1.626	3/4"
V*-34M-Z72XW16	1"	.870	1.000	1.315	.189	1.110	1.752	1"
V*-34M-Z74XW24	1-1/2"	1.370	1.500	1.902	.189	1.681	1.752	1-1/2"
V*-34M-Z75XW32	2"	1.870	2.000	2.374	.189	2.114	1.811	2"
V*-34M-Z76XW40	2-1/2"	2.370	2.500	2.874	.250	2.598	2.311	2-1/2"
V*-34M-Z77XW48	3"	2.870	3.000	3.500	.250	3.224	2.500	3"
V*-34M-Z79XW64	4"	3.835	4.000	4.500	.250	4.185	2.563	4"
V*-34M-Z81XW96	6"	5.783	6.000	6.626	.250	6.311	3.000	6"

Part Number	Dimensions in Millimeters							
	Tube Nominal O.D.	A ± 0.12	B ± 0.12	C	D	E	F	Thread NPT
V*-34M-Z70XW08	12.70	9.40	12.70	21.30	4.80	17.00	41.30	1/2"
V*-34M-Z71XW12	19.05	15.75	19.05	26.70	4.80	22.00	41.30	3/4"
V*-34M-Z72XW16	25.40	22.10	25.40	33.40	4.80	28.20	44.50	1"
V*-34M-Z74XW24	38.10	34.80	38.10	48.30	4.80	42.70	44.50	1-1/2"
V*-34M-Z75XW32	50.80	47.50	50.80	60.30	4.80	53.70	46.00	2"
V*-34M-Z76XW40	63.50	60.20	63.50	73.00	6.35	66.00	58.70	2-1/2"
V*-34M-Z77XW48	76.20	72.90	76.20	88.90	6.35	81.90	63.50	3"
V*-34M-Z79XW64	101.60	97.40	101.60	114.30	6.35	106.30	65.10	4"
V*-34M-Z81XW96	152.40	146.90	152.40	168.30	6.35	160.30	76.20	6"

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

CONFIGURATION
34F

Female NPT – Tube Adapter



Part Number	Dimensions in Inches							
	Tube Nominal O.D.	A ± 0.12	B ± 0.12	C	D	E	F	Thread NPT
V*-34F-Z70XW08	1/2"	.370	.500	1.181	.189	1.063	1.299	1/2"
V*-34F-Z71XW12	3/4"	.620	.750	1.220	.189	1.142	1.299	3/4"
V*-34F-Z72XW16	1"	.870	1.000	1.988	.189	1.772	1.374	1"
V*-34F-Z74XW24	1-1/2"	1.370	1.500	2.047	.189	1.929	1.315	1-1/2"
V*-34F-Z75XW32	2"	1.870	2.000	2.559	.189	2.441	1.752	2"
V*-34F-Z76XW40	2-1/2"	2.370	2.500	3.150	.250	2.953	1.815	2-1/2"
V*-34F-Z77XW48	3"	2.870	3.000	3.740	.250	3.583	2.252	3"
V*-34F-Z79XW64	4"	3.835	4.000	4.724	.250	4.528	2.374	4"

Part Number	Dimensions in Millimeters							
	Tube Nominal O.D.	A ± 0.12	B ± 0.12	C	D	E	F	Thread NPT
V*-34F-Z70XW08	12.70	9.40	12.70	30.00	4.80	27.00	33.00	1/2"
V*-34F-Z71XW12	19.05	15.75	19.05	31.00	4.80	29.00	33.00	3/4"
V*-34F-Z72XW16	25.40	22.10	25.40	50.50	4.80	45.00	34.90	1"
V*-34F-Z74XW24	38.10	34.80	38.10	52.00	4.80	49.00	33.40	1-1/2"
V*-34F-Z75XW32	50.80	47.50	50.80	65.00	4.80	62.00	44.50	2"
V*-34F-Z76XW40	63.50	60.20	63.50	80.00	6.35	75.00	46.10	2-1/2"
V*-34F-Z77XW48	76.20	72.90	76.20	95.00	6.35	91.00	57.20	3"
V*-34F-Z79XW64	101.60	97.40	101.60	120.00	6.35	115.00	60.30	4"

* **Standard Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical Polished Finish: VE = 304, VH = 304L, VG = 316L
Electropolished Finish: VK = 304 EP, VN = 304L EP, VM = 316L EP

Bellows & Hoses





Specifications

End Connection Material:
304, 304L, 316 & 316L

Bellows Body Material:
321, 316 & 316L

Vacuum Range:
1x10-8 torr

Temperature Range:	Minimum	Intermittent	Sustained
Viton®	-20°C	150°C	200°C
Buna-N®	-20°C	80°C	100°C

(Kalrez dependent on the compound)

Flexible Hose

Recommended Installation Practices

For maximum Valex flexible hose service life, follow the below directions. Use standard industry installation methods for face-seal and compression fittings.

Evaluation & Selection

Evaluate your system before purchasing to determine hose requirements for proper installation. Specifically identify the following:

SYSTEM TOLERANCE / HOSE LENGTH

To determine the appropriate hose length required, take into consideration possible length changes due to machine motion. Movement, pressurization, and thermal expansion may affect hose longevity.

VIBRATION

Evaluate system vibration. Plan to install loops as close to a single plane (or centered) as possible and account for any additional elbows, adapters or unions needed for sharp bends or bending planes.

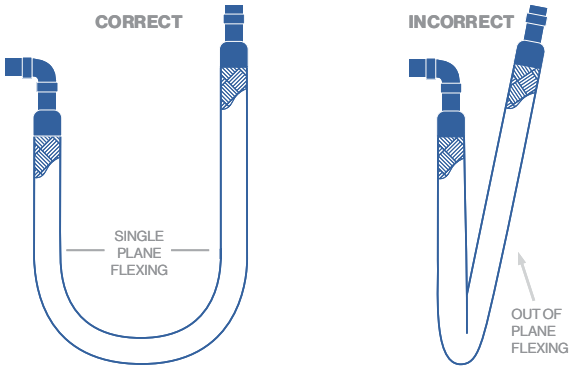


Installation*

To install fit hose in place and take the following instructions into consideration to assure proper set up.

BENDING PLANE

Install bended or flexed hose so that the hose is in alignment with itself. If the hose is spread over multiple planes, install unions to isolate bending to a single plane.

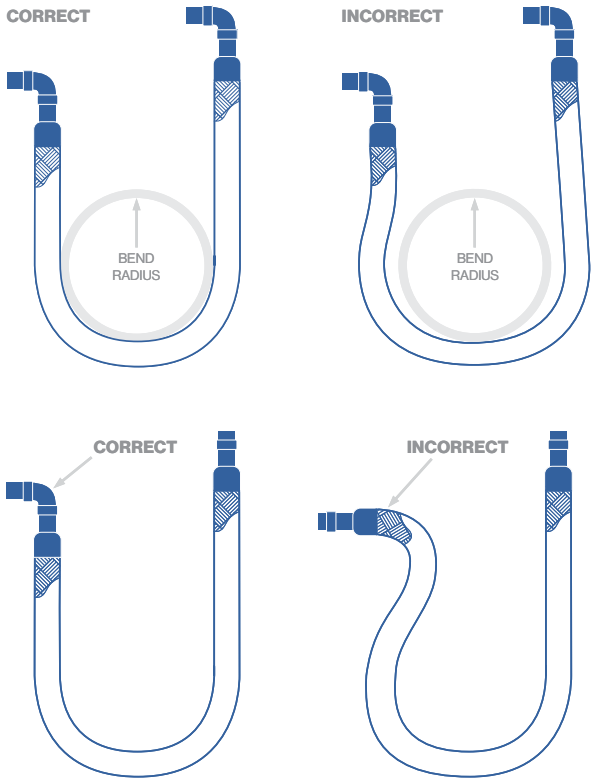


* Contact Valex for operating pressure and bend radius.

Flexible Hose Installation Instructions continued on next page.

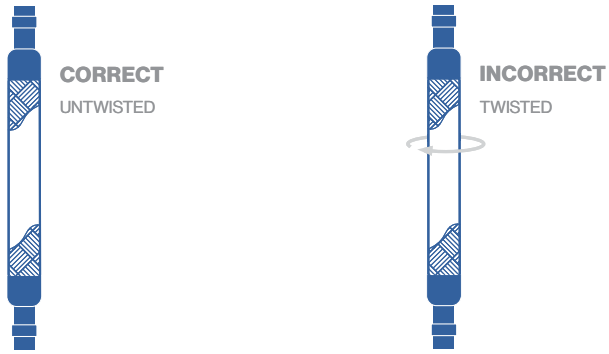
BEND RADIUS

Install any required elbows or adapters to prevent the hose from kinks and over-bending.



TORQUE

Minimize hose tube twisting by using a rotary joint or union when installing hose in place.

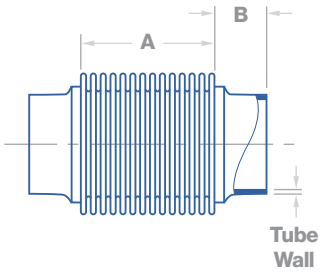


Maintenance

Create and maintain an inspection schedule to periodically check for corrosion, damage, or deterioration of the hose.

CONFIGURATION
42B
Alt. Material
42T

Bellows, (Tube Ends)

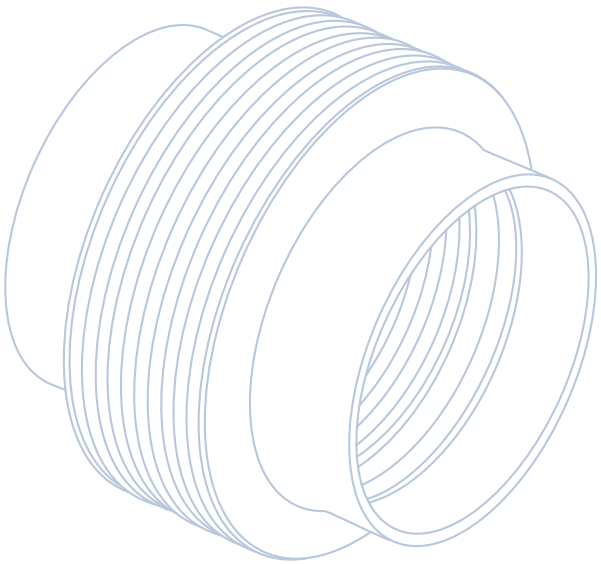


Part Number	Dimensions in Inches						
	Nominal Size	Tube Wall	A	B	Free Length	Convolutions	Bellows Wall
V*-42B-W12XW12-2.5	3/4"	.065	1.500	.500	2.500	11	.005
V*-42B-W16XW16-3.5	1"	.065	2.000	.750	3.500	11	.005
V*-42B-W24XW24-3.5	1-1/2"	.065	2.000	.750	3.500	11	.006
V*-42B-W32XW32-3.5	2"	.065	2.000	.750	3.500	10	.006
V*-42B-W48XW48-5.0	3"	.065	3.000	1.000	5.000	11	.008
V*-42B-W64XW64-6.0	4"	.083	4.000	1.000	6.000	12	.008

Part Number	Dimensions in Millimeters						
	Nominal Size	Tube Wall	A	B	Free Length	Convolutions	Bellows Wall
V*-42B-W12XW12-2.5	19.05	1.65	38.10	12.70	63.50	11	.13
V*-42B-W16XW16-3.5	25.40	1.65	50.80	19.05	88.90	11	.13
V*-42B-W24XW24-3.5	38.10	1.65	50.80	19.05	88.90	11	.15
V*-42B-W32XW32-3.5	50.80	1.65	50.80	19.05	88.90	10	.15
V*-42B-W48XW48-5.0	76.20	1.65	76.20	25.40	127.00	11	.20
V*-42B-W64XW64-6.0	101.60	2.11	101.60	25.40	152.40	12	.20

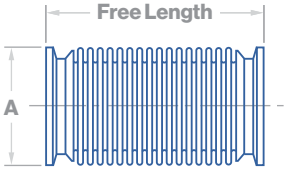
* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

**Axial deflection approximately +10% and -25% of live length. Lateral deflection approximately 10% of live length.



CONFIGURATION
42B
Alt. Material
42T

NW/KF Bellows, Formed

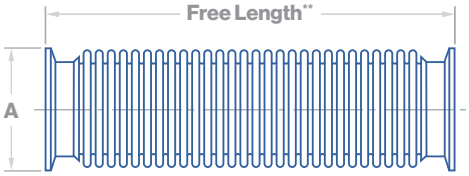


Part Number	Dimensions in Inches & Millimeters						
	Flange Size	Tube O.D.		A		Free Length	
	NW	inch	mm	inch	mm	inch	mm
V*-42B-N1AXN1A-3.2	10	1/2"	12.70	1.180	29.97	3.200	81.28
V*-42B-N1BXN1B-3.2	16	3/4"	19.05	1.180	29.97	3.200	81.28
V*-42B-N1CXN1C-4.2	25	1"	25.40	1.575	40.01	4.200	106.68
V*-42B-N1DXN1D-4.2	40	1-1/2"	38.10	2.160	54.86	4.200	106.68
V*-42B-N1EXN1E-4.2	50	2"	50.80	2.950	74.93	4.200	106.68

* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

CONFIGURATION
42H

NW/KF Hose, Formed



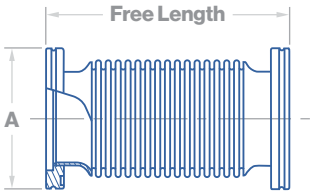
Part Number	Dimensions in Inches & Millimeters						
	Flange Size	Tube O.D.		A		Free Length**	
	NW	inch	mm	inch	mm	inch	mm
V*-42H-N1BXN1B-12	16	3/4"	19.05	1.180	29.97	12.000	304.80
V*-42H-N1BXN1B-18	16	3/4"	19.05	1.180	29.97	18.000	457.20
V*-42H-N1BXN1B-24	16	3/4"	19.05	1.180	29.97	24.000	609.60
V*-42H-N1BXN1B-36	16	3/4"	19.05	1.180	29.97	36.000	914.40
V*-42H-N1CXN1C-12	25	1"	25.40	1.575	40.01	12.000	304.80
V*-42H-N1CXN1C-18	25	1"	25.40	1.575	40.01	18.000	457.20
V*-42H-N1CXN1C-24	25	1"	25.40	1.575	40.01	24.000	609.60
V*-42H-N1CXN1C-36	25	1"	25.40	1.575	40.01	36.000	914.40
V*-42H-N1DXN1D-12	40	1-1/2"	38.10	2.160	54.86	12.000	304.80
V*-42H-N1DXN1D-18	40	1-1/2"	38.10	2.160	54.86	18.000	457.20
V*-42H-N1DXN1D-24	40	1-1/2"	38.10	2.160	54.86	24.000	609.60
V*-42H-N1DXN1D-36	40	1-1/2"	38.10	2.160	54.86	36.000	914.40
V*-42H-N1EXN1E-12	50	2"	50.80	2.950	74.93	12.000	304.80
V*-42H-N1EXN1E-18	50	2"	50.80	2.950	74.93	18.000	457.20
V*-42H-N1EXN1E-24	50	2"	50.80	2.950	74.93	24.000	609.60
V*-42H-N1EXN1E-36	50	2"	50.80	2.950	74.93	36.000	914.40

* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

** For lengths not shown above, please consult factory for availability.

CONFIGURATION
42B
Alt. Material
42T

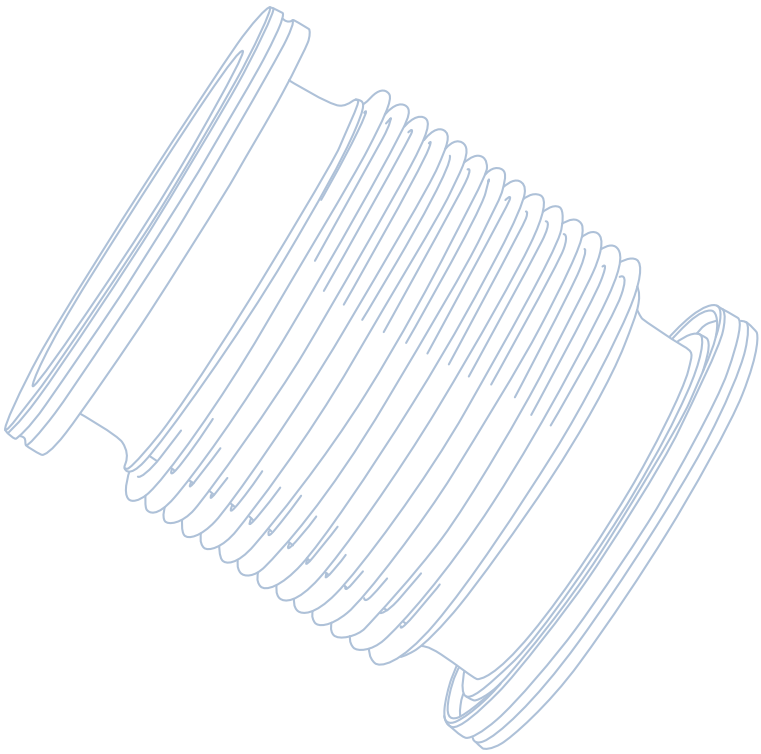
ISO-K Flexible Bellows



Part Number	Dimensions in Inches				
	Flange Size ISO	Tube O.D. inch	A	Free Length	Compressed
V*-42B-K2AXK2A-6.0	63	2-1/2"	3.740	6.000	5.000
V*-42B-K2BXK2B-6.0	80	3"	4.331	6.000	5.000
V*-42B-K2CXK2C-6.0	100	4"	5.118	6.000	5.000
V*-42B-K2DXK2D-6.0	160	6"	7.087	6.000	5.000
V*-42B-K2EXK2E-8.0	200	8"	9.449	8.000	7.000

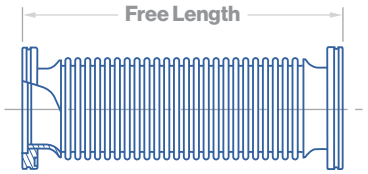
Part Number	Dimensions in Millimeters				
	Flange Size ISO	Tube O.D. mm	A	Free Length	Compressed
V*-42B-K2AXK2A-6.0	63	63.50	95.00	152.40	127.00
V*-42B-K2BXK2B-6.0	80	76.20	110.01	152.40	127.00
V*-42B-K2CXK2C-6.0	100	101.60	130.00	152.40	127.00
V*-42B-K2DXK2D-6.0	160	152.40	180.01	152.40	127.00
V*-42B-K2EXK2E-8.0	200	203.20	240.00	203.20	177.80

* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP



CONFIGURATION
42H

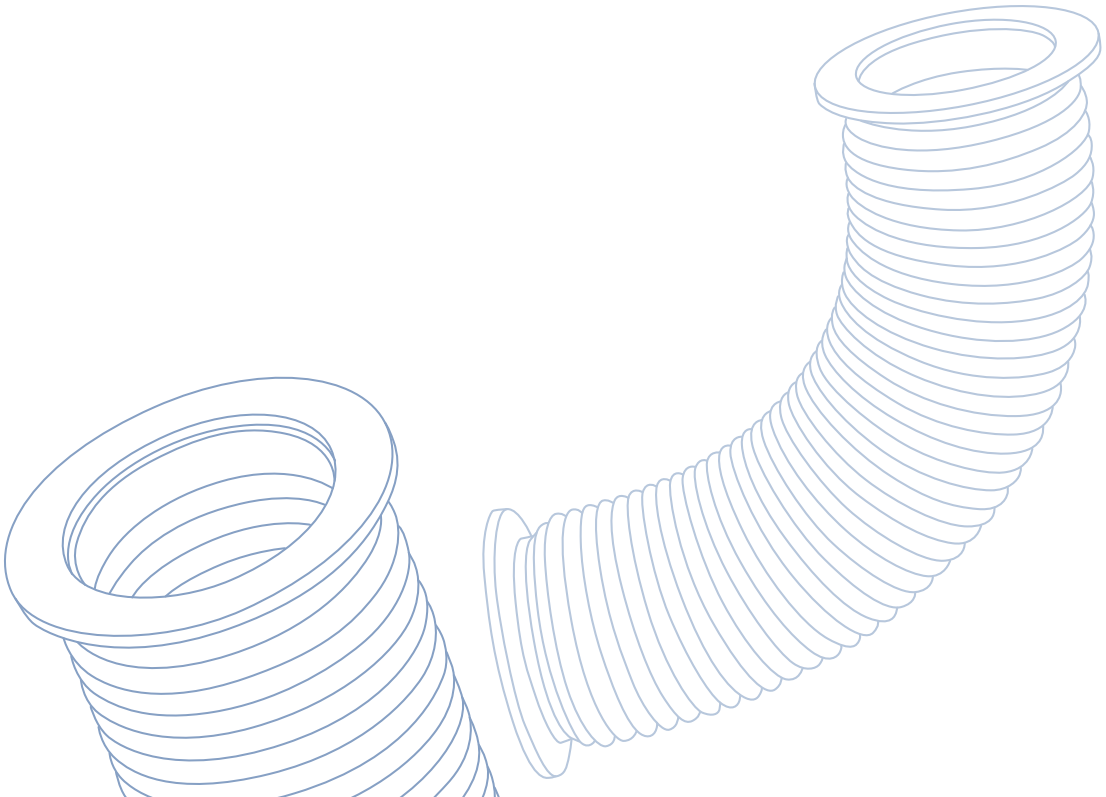
ISO-K
Flexible Hose



Part Number	Dimensions in Inches & Millimeters				
	Flange Size	Tube O.D.		Free Length	
	ISO	inch	mm	inch	mm
V*-42H-K2AXK2A-12	63	2-1/2"	63.50	12.000	304.80
V*-42H-K2AXK2A-18	63	2-1/2"	63.50	18.000	457.20
V*-42H-K2AXK2A-24	63	2-1/2"	63.50	24.000	609.60
V*-42H-K2AXK2A-36	63	2-1/2"	63.50	36.000	914.40
V*-42H-K2AXK2A-40	63	2-1/2"	63.50	40.000	1016.00
V*-42H-K2BXK2B-12	80	3"	76.20	12.000	304.80
V*-42H-K2BXK2B-18	80	3"	76.20	18.000	457.20
V*-42H-K2BXK2B-24	80	3"	76.20	24.000	609.60
V*-42H-K2BXK2B-36	80	3"	76.20	36.000	914.40
V*-42H-K2BXK2B-40	80	3"	76.20	40.000	1016.00
V*-42H-K2CXK2C-12	100	4"	101.60	12.000	304.80
V*-42H-K2CXK2C-18	100	4"	101.60	18.000	457.20
V*-42H-K2CXK2C-24	100	4"	101.60	24.000	609.60
V*-42H-K2CXK2C-36	100	4"	101.60	36.000	914.40
V*-42H-K2CXK2C-40	100	4"	101.60	40.000	1016.00

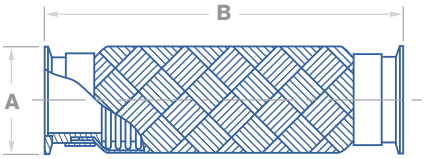
* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

** For lengths not shown above, please consult factory for availability.



CONFIGURATION
42R

NW/KF Braided Flexible Hose

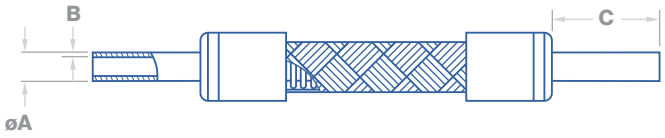


Part Number	Dimensions in Inches & Millimeters						
	Flange Size	Tube O.D.		A		B	
	NW	inch	mm	inch	mm	inch	mm
V*-42R-N1BXN1B-12	16	3/4"	19.05	1.180	29.97	12.00	304.80
V*-42R-N1BXN1B-18	16	3/4"	19.05	1.180	29.97	18.00	457.20
V*-42R-N1BXN1B-24	16	3/4"	19.05	1.180	29.97	24.00	609.60
V*-42R-N1BXN1B-36	16	3/4"	19.05	1.180	29.97	36.00	914.40
V*-42R-N1CXN1C-12	25	1"	25.40	1.575	40.01	12.00	304.80
V*-42R-N1CXN1C-18	25	1"	25.40	1.575	40.01	18.00	457.20
V*-42R-N1CXN1C-24	25	1"	25.40	1.575	40.01	24.00	609.60
V*-42R-N1CXN1C-36	25	1"	25.40	1.575	40.01	36.00	914.40
V*-42R-N1DXN1D-12	40	1-1/2"	38.10	2.160	54.86	12.00	304.80
V*-42R-N1DXN1D-18	40	1-1/2"	38.10	2.160	54.86	18.00	457.20
V*-42R-N1DXN1D-24	40	1-1/2"	38.10	2.160	54.86	24.00	609.60
V*-42R-N1DXN1D-36	40	1-1/2"	38.10	2.160	54.86	36.00	914.40
V*-42R-N1EXN1E-12	50	2"	50.80	2.950	74.93	12.00	304.80
V*-42R-N1EXN1E-18	50	2"	50.80	2.950	74.93	18.00	457.20
V*-42R-N1EXN1E-24	50	2"	50.80	2.950	74.93	24.00	609.60
V*-42R-N1EXN1E-36	50	2"	50.80	2.950	74.93	36.00	914.40

* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

CONFIGURATION
42R

Braided Hose Tube Ends



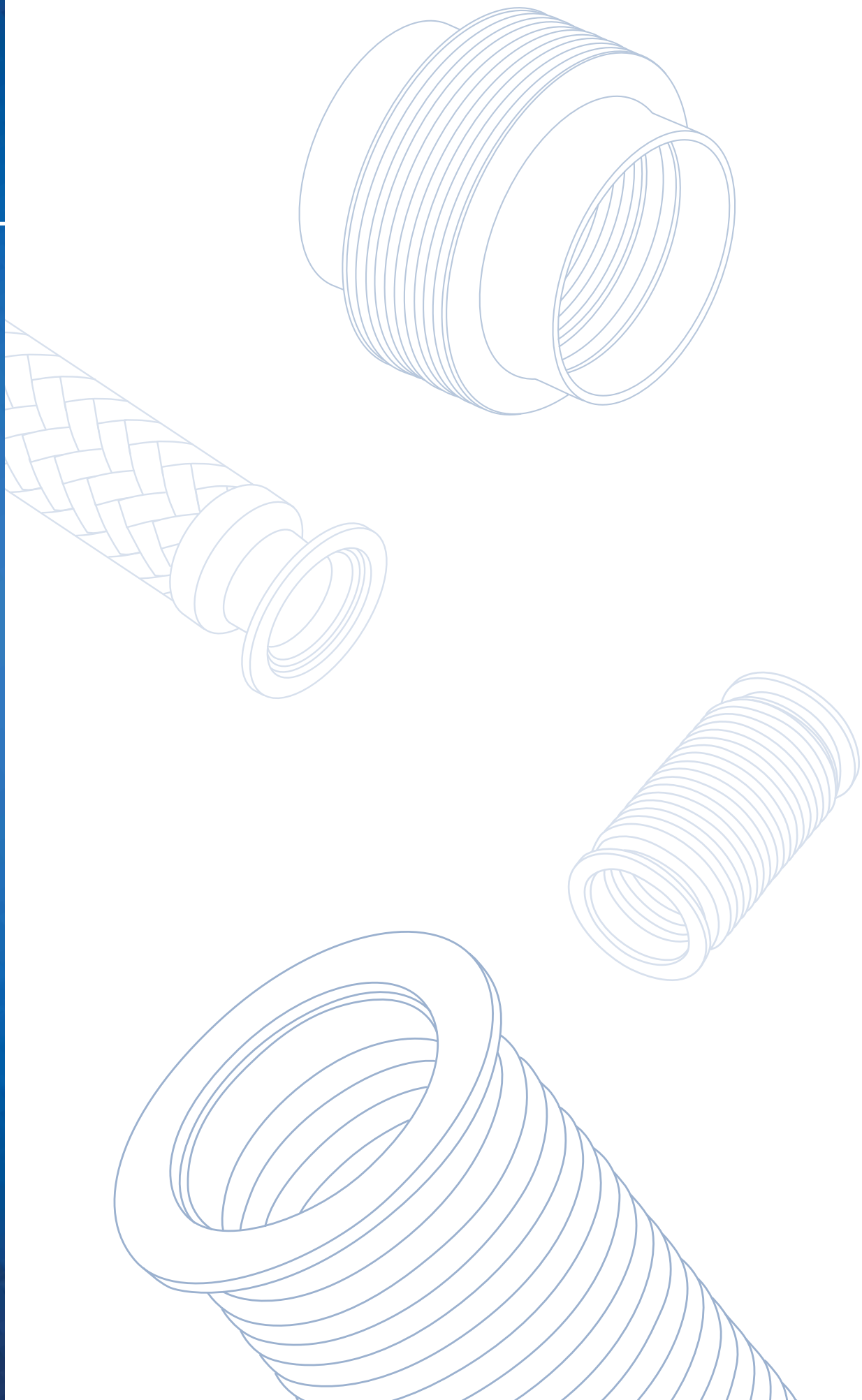
Part Number	Dimensions in Inches				
	Tube Size Nominal O.D.	A	B	C	Max Length Inches
V*-42R-W04XW04-***	1/4"	.250	.035	1.181	984
V*-42R-W06XW06-***	3/8"	.375	.035	1.181	984
V*-42R-W08XW08-***	1/2"	.500	.049	1.181	984
V*-42R-W12XW12-***	3/4"	.750	.065	1.500	984
V*-42R-W16XW16-***	1"	1.000	.065	1.500	472
V*-42R-W24XW24-***	1-1/2"	1.500	.065	1.500	472
V*-42R-W32XW32-***	2"	2.000	.065	1.500	472
V*-42R-W40XW40-***	2-1/2"	2.500	.065	1.500	236
V*-42R-W48XW48-***	3"	3.000	.065	1.500	236
V*-42R-W64XW64-***	4"	4.000	.065	1.500	236

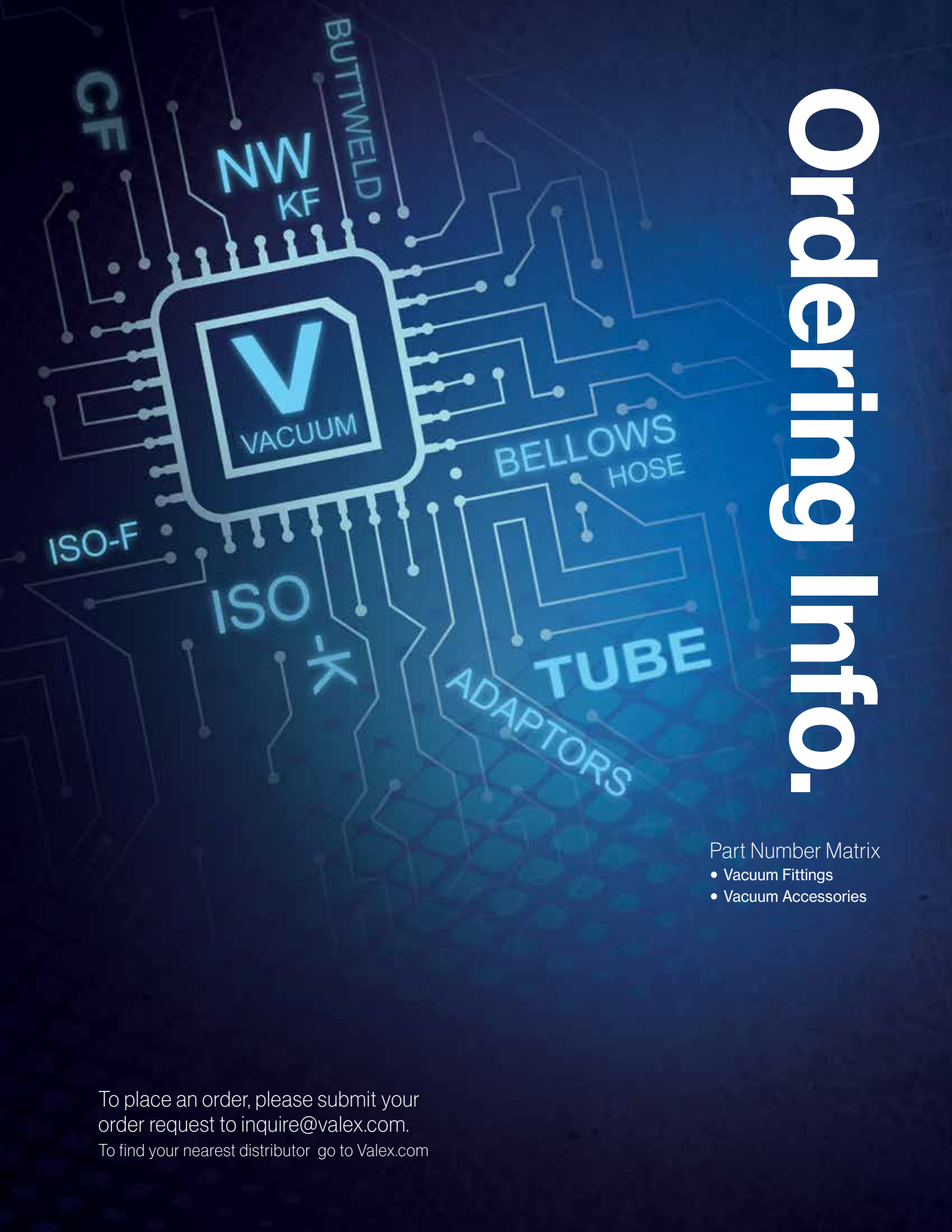
Part Number	Dimensions in Millimeters				
	Tube Size Nominal O.D.	A	B	C	Max Length Meters
V*-42R-W04XW04-***	1/4"	6.35	.90	30.00	25
V*-42R-W06XW06-***	3/8"	9.53	.90	30.00	25
V*-42R-W08XW08-***	1/2"	12.70	1.24	30.00	25
V*-42R-W12XW12-***	3/4"	19.05	1.65	38.10	25
V*-42R-W16XW16-***	1"	25.40	1.65	38.10	12
V*-42R-W24XW24-***	1-1/2"	38.10	1.65	38.10	12
V*-42R-W32XW32-***	2"	50.80	1.65	38.10	12
V*-42R-W40XW40-***	2-1/2"	63.50	1.65	38.10	6
V*-42R-W48XW48-***	3"	76.20	1.65	38.10	6
V*-42R-W64XW64-***	4"	101.60	1.65	38.10	6

* **Standard End Connection Finish:** VA = 304, VD = 304L, VC = 316L, VQ = 316LN
Mechanical End Connection Finish: VE = 304, VH = 304L, VG = 316L
Electropolished End Connection Finish: VK = 304 EP, VN = 304L EP, VM = 316 EP

*** Required length

Bellows & Hoses





Ordering Info.

Part Number Matrix

- Vacuum Fittings
- Vacuum Accessories

To place an order, please submit your order request to inquire@valex.com.

To find your nearest distributor go to Valex.com

Vacuum Tube & Pipe Part Number Matrix

XX	– XXXXX	X
Process / Alloy[1&2]	**Size Code**	**End Type Code**

CW = 316L Welded
DW = 304L Welded

ASTM Tube O.D.

1/4 = .25"
3/8 = .375"
1/2 = .5"
3/4 = .75"
1 = 1"
1-1/2 = 1.5"
2 = 2"
2-1/2 = 2.5"
3 = 3"
4 = 4"
6 = 6"
8 = 8"
10 = 10"

NPS Pipe O.D.

300 = DN 300
(NPS 12/JIS 300A)

ASTM Tube

Blank = Square

NPS Pipe

L = Square

Notes:

1. Per Valex Specification SP-7201.
2. Process codes are not available for all size and finish codes. Please contact Valex for item number availability.
3. VB finish code:
   BA for sizes < 6"
   AP for sizes ≥ 6"
4. For EP grade, refer to Valex 401 Product Line.

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

x XXXX
Wall Code

Tube Wall Thickness
.035 = .035"
.039 = .039"
.049 = .049"
.065 = .065"
.083 = .083"
.120 = .120"

Pipe Schedule
10S = Schedule 10

– XXXX
Finish Code[3 & 4]

MP = O.D. = 150-grit MP
I.D. = 180-grit MP
VB = O.D. = BA/AP
I.D. = BA/AP

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

XX – XXX – X

Material / Finish

Standard Finish SS[1]

VA = 304
VD = 304L
VC = 316L
VQ = 316LN

Mechanical Polished SS[2]

VE = 304
VH = 304L
VG = 316L

Electropolished SS

VK = 304 EP
VN = 304L EP
VM = 316L EP

Configuration Code

2 = 90° Elbow, With Tangent
2T = 90° Elbow, No Tangent
2L = 90° Elbow, Extended Tangent
2M = 90° Elbow, Mitered No Tangent
2X = 90° Elbow, Mitered Extended
2K = 45° Elbow, With Tangent
2N = 45° Elbow, No Tangent

3Y = Y Branch

6HS = Nipple, Half, Short
6H = Nipple, Half
6HE = Nipple, Half, Extended
6F = Nipple, Full
6FE = Nipple, Full, Extended

7 = Tee, Equal
7L = Tee, Equal, Extended
7R = Tee, Reducing

9 = Cross, 4-Way
9R = Cross, 4-Way Reducing
9L = Cross, 4-Way, Extended
9F = Cross, 5-Way
9E = Cross, 5-Way, Extended
9S = Cross, 6-Way
9T = Cross, 6-Way, Extended
9C = Cross, 6-Way Cube

16 = Cap, Weld

31 = Reducer, Concentric / Conical
31T = Reducer, Concentric With Tangent
31L = Reducer, Straight

34 = Adapter, Concentric / Conical
34L = Adapter, Concentric Low Profile
34T = Adapter, Concentric with Tangent
34S = Adapter, Straight
34V = Adapter, Face Seal Male
34A = Adapter, Face Seal Female
34C = Adapter, Compression
34M = Adapter, NPT Male
34F = Adapter, NPT Female
34H = Adapter, Hose
34G = Adapter, Gauge Tee

38 = Flange, Blank
38W = Flange, Blank, Neck Weld
38Q = Flange, Blank, Neck Weld w/ Weld Prep
38D = Flange, Blank, Double Sided
38B = Flange, Bored
38S = Flange, Bored, Socket Weld
38N = Flange, Bored, Short Neck Weld
38L = Flange, Bored, Long Neck Weld
38K = Flange, Bored, Neck Weld
38V = Flange, Bored, Neck Weld w/ Weld Prep
38M = Flange, Bored, Double Sided
38Z = Flange, Bored, Zero Length Reducer

Type Code

Connection Type

W = Weld (Buttweld/Socket)
Z = Fitting Size (NPT, Hose, Face-Seal, Compression)

Flange Type

N = NW / KF
K = ISO-K
F = ISO-F (Bolted)
C = CF

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

XX
Size Code

Tube, Fitting O.D.
02 = 1/8"
04 = 1/4"
06 = 3/8"
08 = 1/2"
10 = 5/8"
12 = 3/4"
14 = 7/8"
16 = 1"
20 = 1-1/4"
24 = 1-1/2"
26 = 1-5/8"
28 = 1-3/4"
32 = 2"
40 = 2-1/2"
48 = 3"
64 = 4"
80 = 5"
96 = 6"
53 = 8"
55 = 10"
57 = 12"

Pipe, Fitting O.D.
67 = 1/8 NPS/NPT
68 = 1/4 NPS/NPT
69 = 3/8 NPS/NPT
70 = 1/2 NPS/NPT
71 = 3/4 NPS/NPT
72 = 1 NPS/NPT
74 = 1-1/2 NPS/NPT
75 = 2 NPS/NPT
76 = 2-1/2 NPS/NPT
77 = 3 NPS/NPT
79 = 4 NPS/NPT
81 = 6 NPS/NPT
84 = 12 NPS (12.75")

NW/KF Flange[3]
1A = NW10 (1.18", 30mm O.D.)
1B = NW16 (1.18", 30mm O.D.)
1C = NW25 (1.58", 40mm O.D.)
1D = NW40 (2.16", 55mm O.D.)
1E = NW50 (2.95", 75mm O.D.)
1F = NW20 (1.58", 40mm O.D.)
1G = NW32 (2.16", 55mm O.D.)
1H = NW80 (4.33", 110mm O.D.)
1J = NW100 (5.12", 130mm O.D.)
1K = NW160 (7.09", 180mm O.D.)

ISO Flange
2A = ISO63 (3.74", 95mm O.D.)
2B = ISO80 (4.33", 110mm O.D.)
2C = ISO100 (5.12", 130mm O.D.)
2D = ISO160 (7.09", 180mm O.D.)
2E = ISO200 (9.45", 240mm O.D.)
2F = ISO250 (11.42", 290mm O.D.)
2G = ISO320 (14.75", 370mm O.D.)
2H = ISO400 (17.72", 450mm O.D.)
2J = ISO500 (21.65", 550mm O.D.)

CF Flange
3A = 1.33" (1.33", 33.8mm O.D.)
3B = 2.12" (2.12", 53.8mm O.D.)
3C = 2.75" (2.73", 69.3mm O.D.)
3D = 3.38" (3.36", 85.3mm O.D.)
3E = 4.50" (4.47", 113.5mm O.D.)
3F = 4.62" (4.61", 117.1mm O.D.)
3G = 6.00" (5.97", 151.6mm O.D.)
3H = 6.75" (6.73", 170.9mm O.D.)
3J = 8.00" (7.97", 202.4mm O.D.)
3K = 10.00" (9.97", 253.2mm O.D.)
3L = 12.00" (11.97", 304.0mm O.D.)
3M = 13.25" (13.25", 336.6mm O.D.)
3N = 14.00" (14.00", 355.6mm O.D.)
3P = 14.50" (14.50", 368.3mm O.D.)
3Q = 16.50" (16.50", 419.1mm O.D.)

NW/KF Flange (Chain Clamp)[4]
5H = NW80 (4.33", 110mm O.D.)
5J = NW100 (5.12", 130mm O.D.)
5K = NW160 (7.09", 180mm O.D.)

x X XX
TYPE SIZE

Used for 2nd Size: Flange, Buttweld/ Socket Weld, or Fitting

If required, build second size by using two previous columns (type and size code)

– XX
Attribute Code

Other
Blank = Configurations not listed below
(Note: for BLANK code, do not include -XX in part number)

Only use for CF & ISO-F Flanges
FF = Nonrotatable
FS = Nonrotatable, Tapped, Inch
FM = Nonrotatable, Tapped, Metric
FR = Rotatable
FT = Rotatable, Tapped, Inch
FN = Rotatable, Tapped, Metric

Only use for: CF Flanged Tees, Crosses, CF Reducers, CF Half & CF Full Nipples
TA = Nonrotatable, Rotatable
TB = Nonrotatable, 2 Rotatable
TC = 2 Nonrotatable, 2 Rotatable
TD = 2 Nonrotatable, 3 Rotatable
TE = 3 Nonrotatable, 3 Rotatable
TF = Nonrotatable
TG = Rotatable

Notes:
1. Standard finish is tumble for buttweld fittings.
2. Standard finish is machined for flanges.
3. Flange sizes 1H, 1J & 1K use with band clamp.
4. Flange sizes 5H, 5J & 5K use with chain clamp.

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

XX	– XXX	– X
Material/Finish	**Configuration Code**	**Type Code**

Other Materials

V0 = Use for: Clamps, Caps, Rings, Gaskets, O-Rings & Hardware

Configuration Code

13 = Clamp, Single Claw
13D = Clamp, Double Claw
13W = Clamp, Wing Nut
13L = Clamp, Lever/Quick
13C = Clamp, Chain
13B = Clamp, Bulkhead
13T = Clamp, Toggle

16D = Cap, Plastic Cap

39 = Ring, Centering
39C = Ring, Centering w/out O-Ring Assembly
39M = Ring, Centering, Screen w/ O-Ring Assembly
39N = Ring, Centering, Screen w/ O-Ring & Spacer Ring Assembly
39S = Ring, Spacer
39D = Ring, Centering w/ O-Ring & Spacer Ring Assembly
39R = Ring, Rotatable Flange Retaining
39T = Ring, Overpressure
39E = Ring, Centering w/ O-Ring & Overpressure Ring Assembly
39P = Ring, Capture
39F = Ring, Centering w/ O-Ring & Capture Ring Assembly
39L = Ring, Reducing Centering w/ O-Ring Assembly

70 = Hardware, Bolts & Washers
70B = Hardware, Bolts, Nuts & Washers
70C = Hardware, 12-pt Bolts & Washers
70D = Hardware, 12-pt Bolts, Nuts & Washers
70P = Hardware, Plate Nuts
70Q = Hardware, Plate Nuts & Bolts
70R = Hardware, Plate Nuts, Bolts & Washers
70S = Hardware, Plate Nuts, & 12-pt Bolts
70T = Hardware, Plate Nuts, 12-pt Bolts & Washers

72R = O-Ring
72G = Gasket

Flange Type[1]

N = NW/KF
K = ISO-K
F = ISO-F (Bolted)
C = CF

Centering Ring Type[2]

N = NW/KF
S = ISO-K/ISO-F

Notes:

1. NW/KF use ISO Flange Type for flange size ISO 80 & above.
2. NW/KF Centering Rings ISO 80 & above use the "S" Type Code designator in P/N.
3. NW/KF use ISO Centering Ring Size Codes for flange size 80 & above.
4. Only for ISO Claw Clamps choose the following material: 4A, 4B & 4C: Aluminum, 4C & 4D: Stainless Steel

Not all possible part number combinations are available. Part number options may be subject to change. For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

XX x XX – XX (XX)

XX Size Code | **x XX** SIZE | **– XX (XX)** Attribute Code

NW/KF[3]

1A = NW10 (1.18", 30mm O.D.)
1B = NW16 (1.18", 30mm O.D.)
1C = NW25 (1.58", 40mm O.D.)
1D = NW40 (2.16", 55mm O.D.)
1E = NW50 (2.95", 75mm O.D.)
1F = NW20 (1.58", 40mm O.D.)
1G = NW32 (2.16", 55mm O.D.)

ISO-K/ISO-F

2A = ISO63 (3.74", 95mm O.D.)
2B = ISO80 (4.33", 110mm O.D.)
2C = ISO100 (5.12", 130mm O.D.)
2D = ISO160 (7.09", 180mm O.D.)
2E = ISO200 (9.45", 240mm O.D.)
2F = ISO250 (11.42", 290mm O.D.)
2G = ISO320 (14.75", 370mm O.D.)
2H = ISO400 (17.72", 450mm O.D.)
2J = ISO500 (21.65", 550mm O.D.)

CF

3A = 1.33" (1.33", 33.8mm O.D.)
3B = 2.12" (2.12", 53.8mm O.D.)
3C = 2.75" (2.73", 69.3mm O.D.)
3D = 3.38" (3.36", 85.3mm O.D.)
3E = 4.50" (4.47", 113.5mm O.D.)
3F = 4.62" (4.61", 117.1mm O.D.)
3G = 6.00" (5.97", 151.6mm O.D.)
3H = 6.75" (6.73", 170.9mm O.D.)
3J = 8.00" (7.97", 202.4mm O.D.)
3K = 10.00" (9.97", 253.2mm O.D.)
3L = 12.00" (11.97", 304.0mm O.D.)
3M = 13.25" (13.25", 336.6mm O.D.)
3N = 14.00" (14.00", 355.6mm O.D.)
3P = 14.50" (14.50", 368.3mm O.D.)
3Q = 16.50" (16.50", 419.1mm O.D.)

ISO-K Claw Clamp

4A = ISO63 – ISO100
4B = ISO160 – ISO250
4C = ISO320 – ISO500
4D = ISO63 – ISO250

NW/KF Claw Clamp

5H = NW80 (4.33", 110mm O.D.)
5J = NW100 (5.12", 130mm O.D.)
5K = NW160 (7.09", 180mm O.D.)

Used for Reducing Centering Ring

If required, build second size by using previous column (size code)

Clamp Thread/Material[4]

CA = Inch, Aluminum
CB = Metric, Aluminum
CC = Inch, 316 SS
CD = Metric, 316 SS
CE = Inch, 304 SS

Gasket Material

G1 = Copper
G2 = Silver Plated Copper
G3 = PTFE

For the Following Configurations Select One from Each Option:

Rings & O-Ring Material

Option 1 – Centering Rings

X = No Centering Ring
1 = Centering Ring, Aluminum
2 = Centering Ring, 304 SS
3 = Centering Ring, 316L SS
4 = Centering Ring, 316L SS, EP
5 = Centering Ring, 316 SS
6 = Centering Ring, 316 SS, EP

Option 2 – O-Rings

X = No O-Ring
A = NBR (Buna)
B = EPDM
C = FKM (Viton)
D = Silicone
E = Kalrez 6375
F = Kalrez 8900
G = Kalrez 9100
H = Kalrez 9500
J = Kalrez 8575
K = Kalrez 4079

Option 3 – Outer Rings

X = No Ring
A = Spacer, Aluminum
D = Overpressure, Aluminum
E = Overpressure, 304 SS
F = Overpressure, 316 SS
G = Capture, Aluminum
H = Capture, 304 SS
J = Capture, 316 SS
K = Retaining, 304 SS

Option 4 – O-Ring Color

Blank = Black
A = Amber (trans)
B = Brown
G = Green
T = Tan
W = White

Hardware Material/Thread

Option 1 – Plate Nut

X = No Plate Nut
P = Plate Nut, 304 SS

Option 2 – Material &/or Thread

X = No Bolts & Washers
S = Inch
M = Metric
T = Inch, 10-8SS (Bolts)
U = Inch, 10-8SS, Silver-Plated (Bolts)
V = Metric, 10-8SS (Bolts)
W = Metric, 10-8SS, Silver-Plated (Bolts)

Option 3 – Bolt Length *(See catalog for lengths)*

X = No Bolt
A = Standard Length A
B = Standard Length B
C = Standard Length C

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Or to find your nearest distributor go to Valex.com.

Vacuum Bellows & Flexible Hose Part Number Matrix

XX – XXX – X

XX — Material/Finish[1]

Standard Finish Stainless Steel

VA = 304
VD = 304L
VC = 316L
VQ = 316LN
VT = V22® Alloy (UNS N06022)*
VW = Alloy 276 (UNS N10276)

Mechanical Polished Stainless Steel

VE = 304
VH = 304L
VG = 316L
VU = V22® Alloy (UNS N06022)*
VY = Alloy 276 (UNS N10276)

Electropolished Stainless Steel

VK = 304 EP
VN = 304L EP
VM = 316L EP
VV = V22® Alloy (UNS N06022)*
VZ = Alloy 276 (UNS N10276)

– XXX — Configuration Code[2]

42B = Bellows, Formed, 316L[3]
42E = Bellows, Edge Welded
42H = Hose, Formed
42R = Hose, Braided Flexible
42T = Bellows, Formed, 321[3]

– X — Type Code

Connection Type

W = Weld (Buttweld/Socket Weld)
T = Compression Fitting
V = Face Seal, Male
U = Face Seal, Female

Flange Type

N = NW/KF
K = ISO-K
F = ISO-F (Bolted)
C = CF

Notes:

1. Finish options are for end connections only.
2. All braided hoses are 304/304L.
3. Bellows body material only.

* Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.

XX	x	– X XX	– XXX
Size Code	**by**	**Type Code/Size Code**	**Attribute Code**

Tube, Fitting O.D.
02 = 1/8"
04 = 1/4"
06 = 3/8"
08 = 1/2"
10 = 5/8"
12 = 3/4"
14 = 7/8"
16 = 1"
20 = 1-1/4"
24 = 1-1/2"
26 = 1-5/8"
28 = 1-3/4"
32 = 2"
40 = 2-1/2"
48 = 3"
64 = 4"
80 = 5"
96 = 6"
53 = 8"
55 = 10"
57 = 12"

Pipe, Fitting O.D.
67 = 1/8 NPS/NPT
68 = 1/4 NPS/NPT
69 = 3/8 NPS/NPT
70 = 1/2 NPS/NPT
71 = 3/4 NPS/NPT
72 = 1 NPS/NPT
74 = 1-1/2 NPS/NPT
84 = 12 NPS (12.75")

NW/KF Flange
1A = NW10 (1.18", 30mm O.D.)
1B = NW16 (1.18", 30mm O.D.)
1C = NW25 (1.58", 40mm O.D.)
1D = NW40 (2.16", 55mm O.D.)
1E = NW50 (2.95", 75mm O.D.)
1F = NW20 (1.58", 40mm O.D.)
1G = NW32 (2.16", 55mm O.D.)
1H = NW80 (4.33", 110mm O.D.)
1J = NW100 (5.12", 130mm O.D.)
1K = NW160 (7.09", 180mm O.D.)

ISO-K/ISO-F Flange
2A = ISO63 (3.74", 95mm O.D.)
2B = ISO80 (4.33", 110mm O.D.)
2C = ISO100 (5.12", 130mm O.D.)
2D = ISO160 (7.09", 180mm O.D.)
2E = ISO200 (9.45", 240mm O.D.)
2F = ISO250 (1.42", 290mm O.D.)
2G = ISO320 (14.75", 370mm O.D.)
2H = ISO400 (17.72", 450mm O.D.)
2J = ISO500 (21.65", 550mm O.D.)

CF Flange
3A = 1.33" (1.33", 33.8mm O.D.)
3B = 2.12" (2.12", 53.8mm O.D.)
3C = 2.75" (2.73", 69.3mm O.D.)
3D = 3.38" (3.36", 85.3mm O.D.)
3E = 4.50" (4.47", 113.5mm O.D.)
3F = 4.62" (4.61", 117.1mm O.D.)
3G = 6.00" (5.97", 151.6mm O.D.)
3H = 6.75" (6.73", 170.9mm O.D.)
3J = 8.00" (7.97", 202.4mm O.D.)
3K = 10.00" (9.97", 253.2mm O.D.)
3L = 12.00" (11.97", 304.0mm O.D.)
3M = 13.25" (13.25", 336.6mm O.D.)
3N = 14.00" (14.00", 355.6mm O.D.)
3P = 14.50" (14.50", 368.3mm O.D.)
3Q = 16.50" (16.50", 419.1mm O.D.)

See previous column's "Type" & "Size" codes for options.

Bellows Length
2.5 = 2.5"
3.0 = 3.0"
3.2 = 3.2"
3.5 = 3.5"
4.0 = 4.0"
4.2 = 4.2"
5.0 = 5.0"
5.2 = 5.2"
6.0 = 6.0"
7.0 = 7.0"
8.0 = 8.0"
8.2 = 8.2"
9.0 = 9.0"

Hose Length
10 = 10.0"
12 = 12.0"
18 = 18.0"
24 = 24.0"
30 = 30.0"
36 = 36.0"
42 = 42.0"
48 = 48.0"
54 = 54.0"
60 = 60.0"
72 = 72.0"
84 = 84.0"
96 = 96.0"
108 = 108.0"
120 = 120.0"
984 = 984.0"

Not all possible part number combinations are available. Part number options may be subject to change.
For part availability or to place an order, please submit your order request to inquire@valex.com. Or to find your nearest distributor go to Valex.com.


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