

Vacuum Flexible Hose and Couplings



- KF flexible hose and couplings
- ISO flexible hose and couplings
- CF flexible hose and couplings
- Convolute stainless steel tubing

Flexible Hose and Couplings

Flexible hose and couplings are typically used to correct misalignment between static connections or provide vibration isolation.

- CF-flanged hose have one rotatable and one nonrotatable end for ease of alignment.
- The minimum static bend radius is measured from the hose center line while the hose is under vacuum.

Dimensions

Dimensions are for reference only and are subject to change.

Ordering Information

Select a hose or coupling ordering number.

Material

Bellows: 321 stainless steel
 Braid: 304 stainless steel (single braid)
 Tube extensions: 304 stainless steel
 Flanges: 304 stainless steel

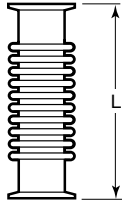
Vacuum Range

- Hose: $\geq 10^{-5}$ Torr
- Coupling
 - Copper seal: $\geq 10^{-12}$ Torr
 - Elastomeric seal: $\geq 10^{-10}$ Torr

Operational Temperature Range

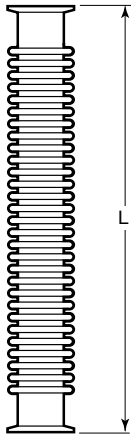
Copper seal: -325 to 932°F (-200 to 500°C)
 Elastomeric seal: -4 to 302°F (-20 to 150°C)

KF Flexible Couplings



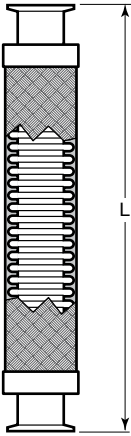
Flange Size	L Length in. (mm)		Ordering Number	Dimensions, in. (mm)	
	Manufactured	Compressed		Bellows ID	Wall Thickness
KF 10	3.20 (81.3)	3.00 (76.2)	JNW2FC10-3.20	0.63 (16.0)	0.006 (0.15)
	4.20 (107)	3.80 (96.5)	JNW2FC10-4.20		
	5.20 (132)	4.60 (117)	JNW2FC10-5.20		
KF 16	3.20 (81.3)	3.00 (76.2)	JNW2FC16-3.20	0.63 (16.0)	
	4.20 (107)	3.80 (96.5)	JNW2FC16-4.20		
	5.20 (132)	4.60 (117)	JNW2FC16-5.20		
KF 25	3.20 (81.3)	3.00 (76.2)	JNW2FC25-3.20	0.98 (24.9)	
	4.20 (107)	3.80 (96.5)	JNW2FC25-4.20		
	5.20 (132)	4.60 (117)	JNW2FC25-5.20		
KF 40	3.20 (81.3)	3.00 (76.2)	JNW2FC40-3.20	1.57 (39.9)	
	4.20 (107)	3.80 (96.5)	JNW2FC40-4.20		
	5.20 (132)	4.60 (117)	JNW2FC40-5.20		
KF 50	3.20 (81.3)	3.00 (76.2)	JNW2FC50-3.20	1.97 (50.0)	
	4.20 (107)	3.80 (96.5)	JNW2FC50-4.20		
	5.20 (132)	4.60 (117)	JNW2FC50-5.20		

KF Flexible Hose



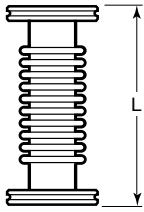
Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
KF 16	12 (305)	JNW2FH16-12.00	0.75 (19.1)	1.18 (30.0)	0.010 (0.25)	1.00 (25.4)
	18 (457)	JNW2FH16-18.00				
	24 (610)	JNW2FH16-24.00				
	36 (914)	JNW2FH16-36.00				
KF 25	12 (305)	JNW2FH25-12.00	1.00 (25.4)	1.48 (37.6)	0.010 (0.25)	1.20 (30.5)
	18 (457)	JNW2FH25-18.00				
	24 (610)	JNW2FH25-24.00				
	36 (914)	JNW2FH25-36.00				
KF 40	12 (305)	JNW2FH40-12.00	1.50 (38.1)	2.09 (53.1)	0.012 (0.30)	1.80 (45.7)
	18 (457)	JNW2FH40-18.00				
	24 (610)	JNW2FH40-24.00				
	36 (914)	JNW2FH40-36.00				
KF 50	12 (305)	JNW2FH50-12.00	2.00 (50.8)	2.62 (66.5)	0.012 (0.30)	2.15 (54.6)
	18 (457)	JNW2FH50-18.00				
	24 (610)	JNW2FH50-24.00				
	36 (914)	JNW2FH50-36.00				

KF Flexible Braided Hose



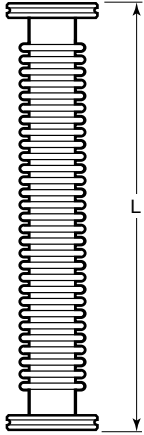
Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
KF 16	12 (305)	JNW2FHB16-12.00	0.75 (19.1)	1.25 (31.8)	0.010 (0.25)	1.38 (35.1)
	18 (457)	JNW2FHB16-18.00				
	24 (610)	JNW2FHB16-24.00				
	36 (914)	JNW2FHB16-36.00				
KF 25	12 (305)	JNW2FHB25-12.00	1.00 (25.4)	1.57 (39.9)	0.010 (0.25)	1.60 (40.6)
	18 (457)	JNW2FHB25-18.00				
	24 (610)	JNW2FHB25-24.00				
	36 (914)	JNW2FHB25-36.00				
KF 40	12 (305)	JNW2FHB40-12.00	1.50 (38.1)	2.18 (55.4)	0.012 (0.30)	2.28 (57.9)
	18 (457)	JNW2FHB40-18.00				
	24 (610)	JNW2FHB40-24.00				
	36 (914)	JNW2FHB40-36.00				
KF 50	12 (305)	JNW2FHB50-12.00	2.00 (50.8)	2.71 (68.8)	0.012 (0.30)	2.73 (69.3)
	18 (457)	JNW2FHB50-18.00				
	24 (610)	JNW2FHB50-24.00				
	36 (914)	JNW2FHB50-36.00				

ISO Flexible Couplings



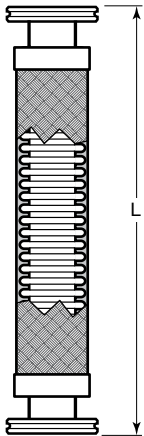
Flange Size	L Length in. (mm)		Ordering Number	Dimensions, in. (mm)	
	Manufactured	Compressed		Bellows ID	Wall Thickness
ISO 63	7.00 (178)	6.20 (158)	JISO2FC63-7.00	2.56 (65.0)	0.008 (0.20)
ISO 80			JISO2FC80-7.00	3.03 (77.0)	
ISO 100			JISO2FC100-7.00	3.94 (100)	
ISO 160			JISO2FC160-7.00	5.83 (148)	

ISO Flexible Hose



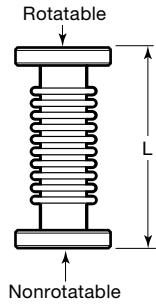
Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
ISO 63	12 (305)	JISO2FH63-12.00	2.50 (63.5)	3.39 (86.1)	0.014 (0.36)	2.80 (71.1)
	18 (457)	JISO2FH63-18.00				
	24 (610)	JISO2FH63-24.00				
	36 (914)	JISO2FH63-36.00				
ISO 80	12 (305)	JISO2FH80-12.00	3.00 (76.2)	3.91 (99.3)	0.014 (0.36)	4.00 (102)
	18 (457)	JISO2FH80-18.00				
	24 (610)	JISO2FH80-24.00				
	36 (914)	JISO2FH80-36.00				
ISO 100	12 (305)	JISO2FH100-12.00	4.00 (102)	4.99 (127)	0.016 (0.41)	7.50 (191)
	18 (457)	JISO2FH100-18.00				
	24 (610)	JISO2FH100-24.00				
	36 (914)	JISO2FH100-36.00				

ISO Flexible Braided Hose



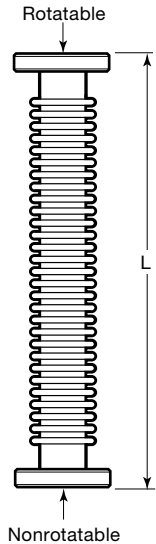
Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
ISO 63	12 (305)	JISO2FHB63-12.00	2.50 (63.5)	3.51 (89.2)	0.014 (0.36)	7.19 (183)
	18 (457)	JISO2FHB63-18.00				
	24 (610)	JISO2FHB63-24.00				
	36 (914)	JISO2FHB63-36.00				
ISO 80	12 (305)	JISO2FHB80-12.00	3.00 (76.2)	4.03 (102)	0.014 (0.36)	8.45 (215)
	18 (457)	JISO2FHB80-18.00				
	24 (610)	JISO2FHB80-24.00				
	36 (914)	JISO2FHB80-36.00				
ISO 100	12 (305)	JISO2FHB100-12.00	4.00 (102)	5.11 (130)	0.016 (0.41)	9.93 (252)
	18 (457)	JISO2FHB100-18.00				
	24 (610)	JISO2FHB100-24.00				
	36 (914)	JISO2FHB100-36.00				

CF Flexible Couplings



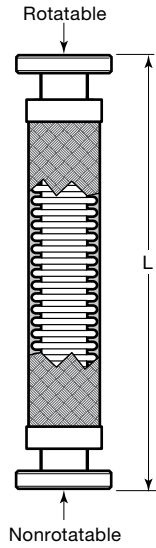
Flange Size	L Length in. (mm)		Ordering Number	Dimensions, in. (mm)	
	Manufactured	Compressed		Bellows ID	Wall Thickness
CF 133	3.20 (81.3)	3.00 (76.2)	JCF2FC133-3.20	0.63 (16.0)	0.006 (0.15)
CF 212			JCF2FC212-3.20	0.98 (24.9)	
CF 275			JCF2FC275-3.20	1.57 (39.9)	
CF 338			JCF2FC338-3.20	1.97 (50.0)	
CF 450	7.00 (178)	6.2 (158)	JCF2FC450-7.00	2.56 (65.0)	
CF 462			JCF2FC462-7.00	3.03 (77.0)	
CF 600			JCF2FC600-7.00	3.94 (100)	

CF Flexible Hose



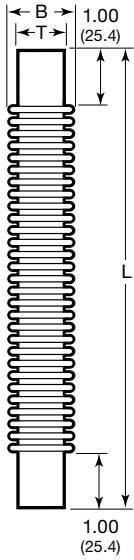
Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
CF 133	12 (305)	JCF2FH133-12.00	0.75 (19.1)	1.18 (30.0)	0.010 (0.25)	1.00 (25.4)
	18 (457)	JCF2FH133-18.00				
	24 (610)	JCF2FH133-24.00				
	36 (914)	JCF2FH133-36.00				
CF 212	12 (305)	JCF2FH212-12.00	1.00 (25.4)	1.48 (37.6)	0.010 (0.25)	1.20 (30.5)
	18 (457)	JCF2FH212-18.00				
	24 (610)	JCF2FH212-24.00				
	36 (914)	JCF2FH212-36.00				
CF 275	12 (305)	JCF2FH275-12.00	1.50 (38.1)	2.09 (53.1)	0.012 (0.30)	1.80 (45.7)
	18 (457)	JCF2FH275-18.00				
	24 (610)	JCF2FH275-24.00				
	36 (914)	JCF2FH275-36.00				
CF 338	12 (305)	JCF2FH338-12.00	2.00 (50.8)	2.62 (66.5)	0.012 (0.30)	2.15 (54.6)
	18 (457)	JCF2FH338-18.00				
	24 (610)	JCF2FH338-24.00				
	36 (914)	JCF2FH338-36.00				
CF 450	12 (305)	JCF2FH450-12.00	2.50 (63.5)	3.39 (86.1)	0.014 (0.36)	2.80 (71.1)
	18 (457)	JCF2FH450-18.00				
	24 (610)	JCF2FH450-24.00				
	36 (914)	JCF2FH450-36.00				
CF 462	12 (305)	JCF2FH462-12.00	3.00 (76.2)	3.91 (99.3)	0.014 (0.36)	4.00 (102)
	18 (457)	JCF2FH462-18.00				
	24 (610)	JCF2FH462-24.00				
	36 (914)	JCF2FH462-36.00				
CF 600	12 (305)	JCF2FH600-12.00	4.00 (102)	4.99 (127)	0.016 (0.41)	7.50 (191)
	18 (457)	JCF2FH600-18.00				
	24 (610)	JCF2FH600-24.00				
	36 (914)	JCF2FH600-36.00				

CF Flexible Braided Hose



Flange Size	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)			
			Nominal ID	Hose OD	Wall Thickness	Minimum Static Bend Radius
CF 133	12 (305)	JCF2FHB133-12.00	0.75 (19.1)	1.25 (31.8)	0.010 (0.25)	1.38 (35.1)
	18 (457)	JCF2FHB133-18.00				
	24 (610)	JCF2FHB133-24.00				
	36 (914)	JCF2FHB133-36.00				
CF 212	12 (305)	JCF2FHB212-12.00	1.00 (25.4)	1.57 (39.9)	0.010 (0.25)	1.60 (40.6)
	18 (457)	JCF2FHB212-18.00				
	24 (610)	JCF2FHB212-24.00				
	36 (914)	JCF2FHB212-36.00				
CF 275	12 (305)	JCF2FHB275-12.00	1.50 (38.1)	2.18 (55.4)	0.012 (0.30)	2.28 (57.9)
	18 (457)	JCF2FHB275-18.00				
	24 (610)	JCF2FHB275-24.00				
	36 (914)	JCF2FHB275-36.00				
CF 338	12 (305)	JCF2FHB338-12.00	2.00 (50.8)	2.71 (68.8)	0.012 (0.30)	2.73 (69.3)
	18 (457)	JCF2FHB338-18.00				
	24 (610)	JCF2FHB338-24.00				
	36 (914)	JCF2FHB338-36.00				
CF 450	12 (305)	JCF2FHB450-12.00	2.50 (63.5)	3.51 (89.2)	0.014 (0.36)	7.19 (183)
	18 (457)	JCF2FHB450-18.00				
	24 (610)	JCF2FHB450-24.00				
	36 (914)	JCF2FHB450-36.00				
CF 462	12 (305)	JCF2FHB462-12.00	3.00 (76.2)	4.03 (102)	0.014 (0.36)	8.45 (215)
	18 (457)	JCF2FHB462-18.00				
	24 (610)	JCF2FHB462-24.00				
	36 (914)	JCF2FHB462-36.00				
CF 600	12 (305)	JCF2FHB600-12.00	4.00 (102)	5.11 (130)	0.016 (0.41)	9.93 (252)
	18 (457)	JCF2FHB600-18.00				
	24 (610)	JCF2FHB600-24.00				
	36 (914)	JCF2FHB600-36.00				

Flexible Hose Without Flanges



T Hose End OD in.	L Overall Length in. (mm)	Ordering Number	Dimensions, in. (mm)				
			Flexible Hose				Hose End Wall Thickness
			Nominal ID	B Hose OD	Wall Thickness	Minimum Static Bend Radius	
0.75	12 (305)	JFH75-12.00	0.75 (19.1)	1.18 (30.0)	0.010 (0.25)	1.00 (25.4)	0.065 (1.65)
	18 (457)	JFH75-18.00					
	24 (610)	JFH75-24.00					
	36 (914)	JFH75-36.00					
1.00	12 (305)	JFH10-12.00	1.00 (25.4)	1.48 (37.6)	0.010 (0.25)	1.20 (30.5)	0.065 (1.65)
	18 (457)	JFH10-18.00					
	24 (610)	JFH10-24.00					
	36 (914)	JFH10-36.00					
1.50	12 (305)	JFH15-12.00	1.50 (38.1)	2.09 (53.1)	0.012 (0.30)	1.80 (45.7)	0.065 (1.65)
	18 (457)	JFH15-18.00					
	24 (610)	JFH15-24.00					
	36 (914)	JFH15-36.00					
2.00	12 (305)	JFH20-12.00	2.00 (50.8)	2.62 (66.5)	0.012 (0.30)	2.15 (54.6)	0.065 (1.65)
	18 (457)	JFH20-18.00					
	24 (610)	JFH20-24.00					
	36 (914)	JFH20-36.00					
2.50	12 (305)	JFH25-12.00	2.50 (63.5)	3.39 (86.1)	0.014 (0.36)	2.80 (71.1)	0.065 (1.65)
	18 (457)	JFH25-18.00					
	24 (610)	JFH25-24.00					
	36 (914)	JFH25-36.00					
3.00	12 (305)	JFH30-12.00	3.00 (76.2)	3.91 (99.3)	0.014 (0.36)	4.00 (102)	0.065 (1.65)
	18 (457)	JFH30-18.00					
	24 (610)	JFH30-24.00					
	36 (914)	JFH30-36.00					
4.00	12 (305)	JFH40-12.00	4.00 (102)	4.99 (127)	0.016 (0.41)	7.50 (191)	0.083 (2.11)
	18 (457)	JFH40-18.00					
	24 (610)	JFH40-24.00					
	36 (914)	JFH40-36.00					

Adapter Fittings

For more information, contact your authorized Swagelok® representative or see the Swagelok *Vacuum Fittings, Adapter Fittings* catalog, MS-03-18.



CF Flanges and Fittings

For more information, contact your authorized Swagelok representative or see the Swagelok *Vacuum Fittings, CF Flanges and Fittings* catalog, MS-03-17.



KF Flanges and Fittings

For more information, contact your authorized Swagelok representative or see the Swagelok *Vacuum Fittings, KF Flanges and Fittings* catalog, MS-03-15.



ISO Flanges and Fittings

For more information, contact your authorized Swagelok representative or see the Swagelok *Vacuum Fittings, ISO Flanges and Fittings* catalog, MS-03-16.



Weld Fittings for Vacuum Service

For more information, contact your authorized Swagelok representative or see the Swagelok *Weld Fittings for Vacuum Service* catalog, MS-03-14.



Swagelok Orbital Welding System

For information on the Swagelok welding system, see the Swagelok *Orbital Welding System Quick Reference Guide*, MS-02-143.



Tubing Products

Swagelok offers a wide variety of tubing products.

Contact your authorized Swagelok representative or see these Swagelok catalogs for more information:

- *Stainless Steel Seamless Tubing, Fractional Sizes*, MS-01-153-SCS
- *Stainless Steel Welded Tubing*, MS-01-161-SCS
- *Stainless Steel Tubing, Imperial Sizes*, MS-01-159-SCS



Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.