

# Series 31

ISO-KF FITTINGS  
SIZES NW 10 TO NW 100  
(1/2" TO 4")



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Dena Vacuum Industry Co., LTD.

Design and Manufacturing of Laboratory, Pilot and Production Freeze Dryers

Address: Unit 16, 4th Floor, No. 67, Ostad Moein Av., 30 Metri-e Jey St., Tehran, Iran

Website: <http://Denavacuum.ir>

Tel: +98 021 668 47 644v

Cell: +98 0912 226 73 10

Email: [denavacuum@yahoo.com](mailto:denavacuum@yahoo.com)



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## Introduction

HPS® Series 31 is a line of ISO-KF standard vacuum components. The ISO-KF system refers to the family of small vacuum components (up to 2"), including flanges, elbows, tees and crosses. The International Standards Organization (ISO) has defined the interface dimensions, allowing the interchanging of components that conform to the standard's dimensions.

## Applications

ISO-KF fittings can be used in a wide variety of applications including:

- Roughing and foreline plumbing
- Small systems
- Systems requiring frequent cleaning or modification
- Research and teaching laboratories.

ISO-KF components are primarily designed for use at subatmospheric pressure. Because of the large number of elastomer seals used, typical limiting pressure without baking is about  $10^{-7}$  Torr. Baked systems using Viton® seals can be used to two decades lower.

Standard components can be used to slight overpressure. If the ISO-KF system contains significant overpressure, i.e., 5-100 psig, then use the HPS® overpressure rings.

## Description

The ISO-KF system is a modular, building block method of creating a piping system. There are several advantages in the use of ISO components. Since

component dimensions are standardized, elbows, tees, crosses or valves for a given size may be interchanged. The flanges are "sexless" and the seal is symmetrical, so that the components are rotatable. By using ISO components, system assembly is quick and cost effective.

See Figure 1 for the ISO dimensions of flange sizes 10, 16, 25, 40 and 50. These dimensions apply to ISO-KF flanges of these nominal diameters throughout this catalog. The catalog contains dimension specifics.

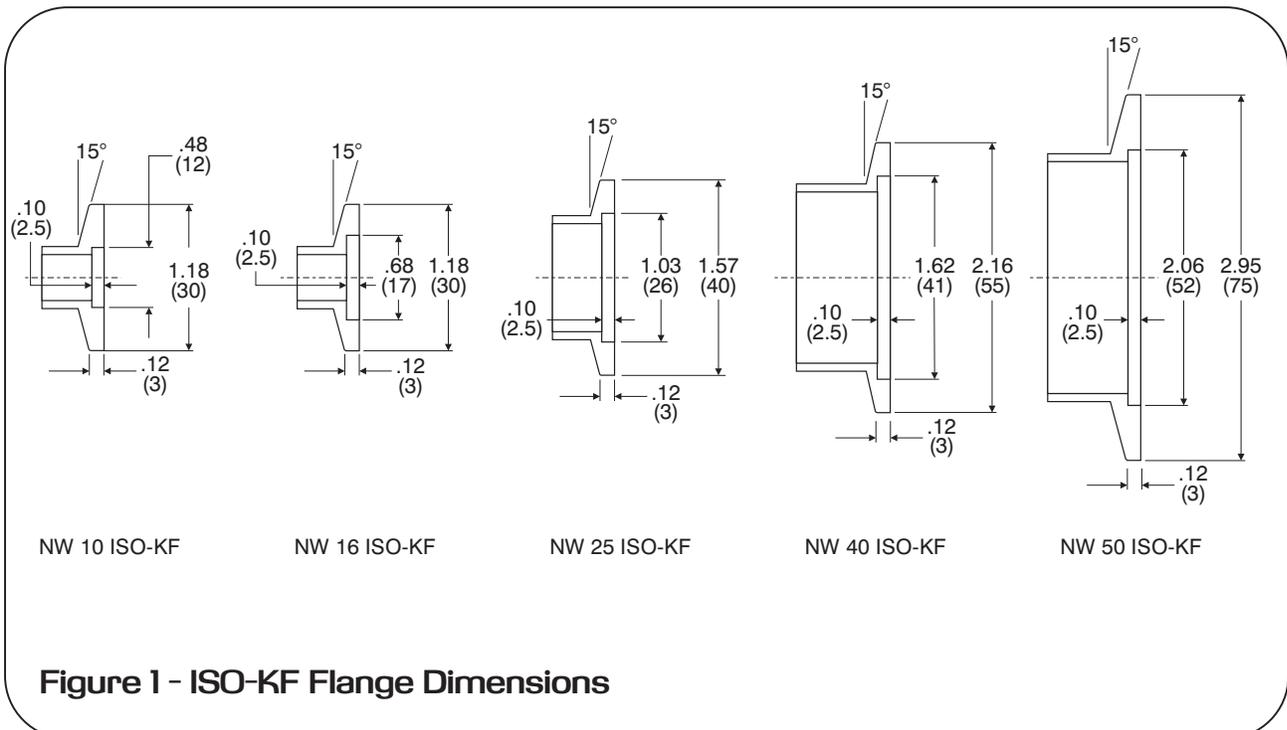
The Series 31 component line also includes a few components in NW 80 (3") and NW 100 (4") sizes. There is no international standard for these sizes in the KF style. MKS has designed the flanging using series consistencies and customer requirements. The dimensions are listed on page 8.

## Installation

The ISO-KF components are assembled by inserting a centering ring between the two flange faces, then securing the assembly with a flange encompassing clamp (see Figure 2).

There are a variety of clamp choices in the HPS® line. The wing-nut clamp, shown in Figure 2, is hand tightened until metal contact is felt. A version of the wing-nut clamp with a washer is available, contact MKS for more information.

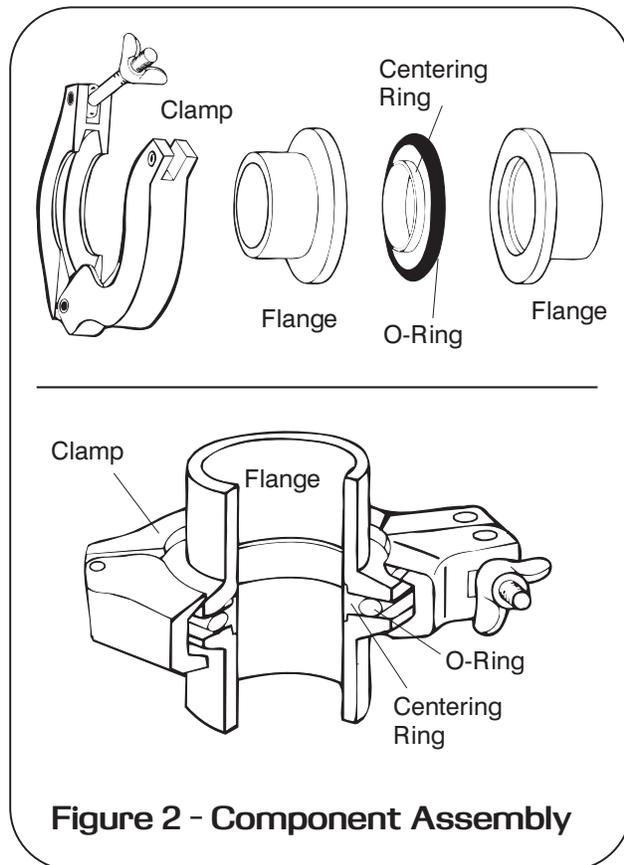
The HPS® toggle clamp is convenient and easy to use. The clamp provides enough sealing force to fully compress the O-Ring, so that the flanges and the centering ring are metal to metal. The heavy-duty spring supports the full range of production tolerance variables. The self-adjusting clamp locks in a positive method. A pin



can be inserted to prevent accidental release of the toggle lever (see Figure 3). The Toggle Clamps are ideal for situations where the clamp must be removed frequently, like leak testing or gauge calibration.

An additional option to the toggle clamp is a model with a fastening pin on a lanyard. The pin is fastened so that it cannot be accidentally removed and the lanyard prevents the pin's loss.

The HPS® ISO-KF line also includes bulkhead clamps.

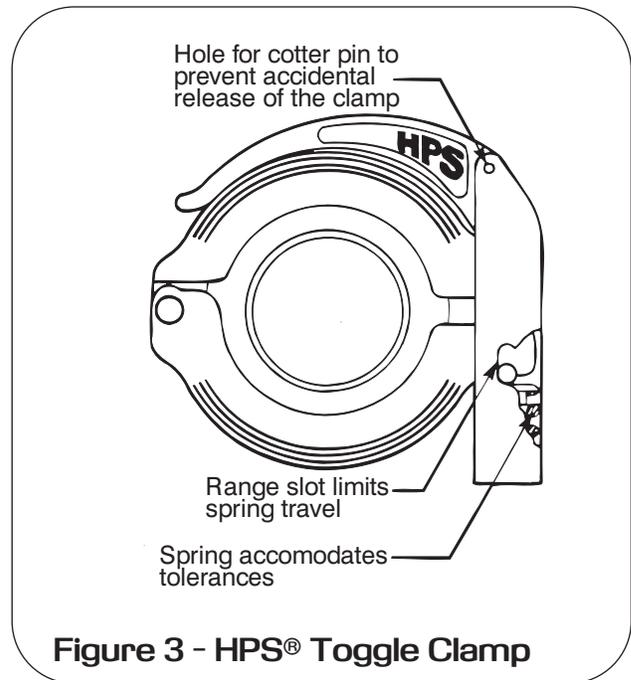


**Figure 2 - Component Assembly**

They are used to attach an ISO-KF flange directly to a chamber or base plate. The two-part, bolted clamp fits over the flange. A centering ring assembly is needed between the flange and the opening. The bulkhead clamp kit includes the two-piece clamp, bolts and washers. See Figure 4.

The NW 10 flange uses the same basic flange and clamp as the NW 16 flange, and the two flanges can join via an adaptive centering ring (see Figure 5). Adaptive centering rings are also available for obsolete sizes (NW 20, NW 32) in the ISO-KF series.

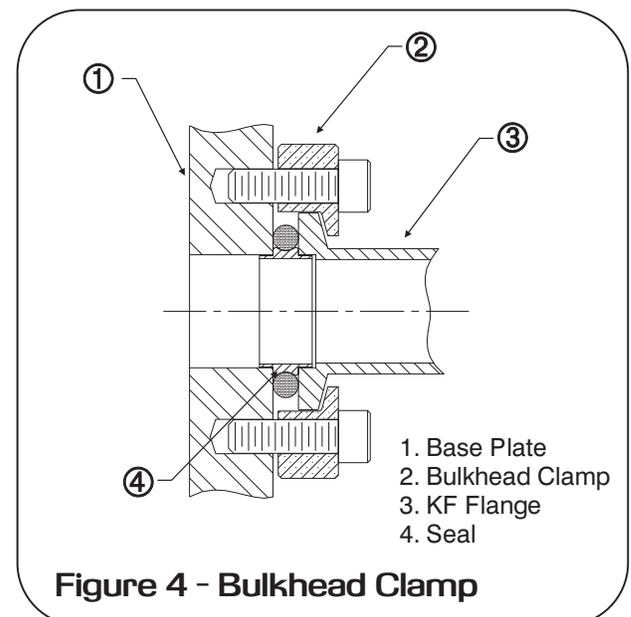
Weld assembly of stainless or aluminum parts should be performed by an experienced TIG welder. Using a rotating fixture simplifies creation of high quality joints. HPS® aluminum weld stubs are chamfered for using filler metal. Improper welding can lead to warping of flanges.



**Figure 3 - HPS® Toggle Clamp**

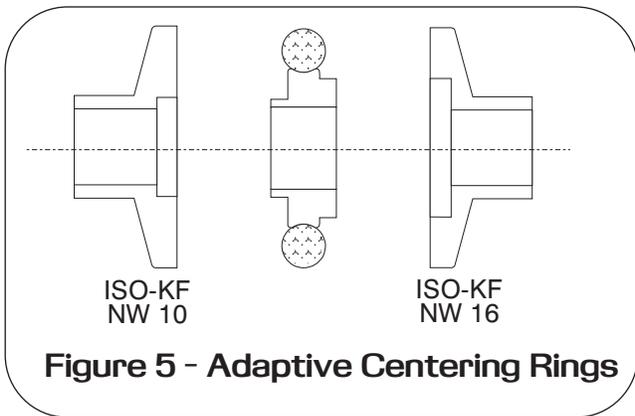
Brass flanges, stub or socket types, are toleranced for silver brazing where clearances of a few thousandths of an inch are optimal for alloy flow. Brass components may be soft soldered. However, it is much more difficult to make leak free assemblies by soft soldering than by silver brazing. Soft soldering has little strength, and the assemblies cannot be cleaned by immersion in a chemical bright dip.

If system pressures are in the positive pressure range, it is recommended that Over Pressure Rings are used. The ISO-KF Over Pressure Rings are installed differently by size. The NW 16, 25, and 40 ISO-KF rings are installed



**Figure 4 - Bulkhead Clamp**

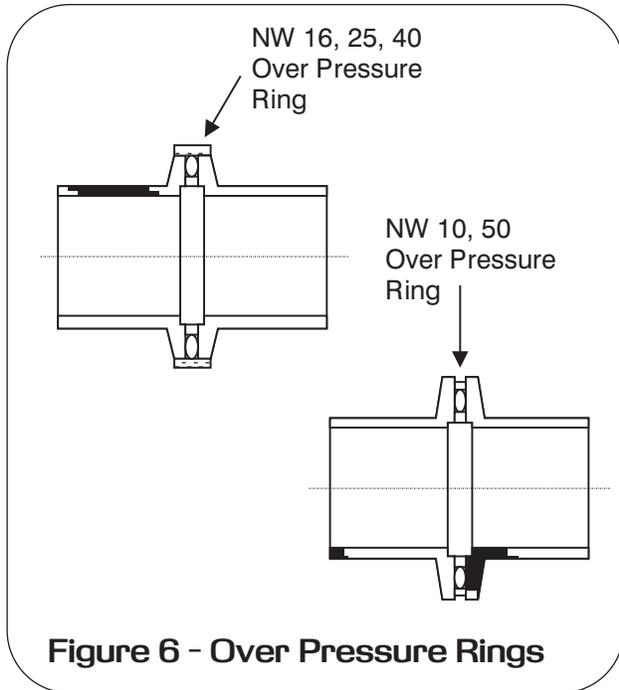




**Figure 5 - Adaptive Centering Rings**

over the two ISO-KF flanges. The NW 10 and 50 ISO-KF rings are installed between the two flange faces. The clamp is installed around all items to secure the assembly. See Figure 6. MKS now has a centering ring assembly that includes the Over Pressure Ring.

Besides the standard components in this catalog, MKS offers many custom engineered products. HPS® Products are available exclusively through MKS Instruments, Inc. sales offices and distribution centers located throughout the world. Component drawings are available on our website at [www.mksinst.com](http://www.mksinst.com). To obtain price, delivery, technical or application information, contact your nearest MKS sales office or MKS Instruments - HPS® Products directly in Boulder, Colorado.



**Figure 6 - Over Pressure Rings**

<b>Elastomer Comparison</b>			
Material	Buna-N	Viton	Silicone
Compound	N674-70	V747-75	S604-70
Color	black	black	rust
Bakeout	80°C	150°C	185°C
Benefits	Seals easier Lower cost	Chemical resistance Lasts longer	High temperature

<b>Specifications</b>	
Maximum Pressure (with Over pressure ring)	NW 10-25: 100 PSIG NW 40: 75 PSIG NW 50: 50 PSIG
Minimum Pressure	10 <sup>-9</sup> Torr
Leak Check	<10 <sup>-9</sup> std-cc/s
Materials Fittings	304 stainless steel or yellow brass or 6061T6 aluminum (316 stainless is available on request)
Clamps	aluminum
Over pressure rings	stainless steel
Seal Assembly	choice of aluminum or stainless steel centering ring, choice of Viton, Silicone or Buna-N elastomer seal

Flange, Short Weld Stub, Stainless Steel							in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price	
	NW 10	1/2"	0.50 (13)	0.065 (1.7)	0.50 (13)	100310300		
	NW 16	1/2"	0.50 (13)	0.065 (1.7)	0.50 (13)	100310301		
	NW 16	3/4"	0.75 (19)	0.065 (1.7)	0.50 (13)	100310311		
	NW 25	1"	1.00 (25)	0.065 (1.7)	0.50 (13)	100310303		
	NW 40	1 1/2"	1.50 (38)	0.065 (1.7)	0.75 (19)	100310305		
	NW 50	2"	2.00 (51)	0.065 (1.7)	0.75 (19)	100310306		
<ul style="list-style-type: none"> <li>• Stainless Steel Type 304</li> <li>• Butt Weld</li> <li>• Standard Inch Stub Diameters</li> </ul>								

Flange, Short Weld Stub, Aluminum							in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price	
	NW 16	1/2"	0.50 (13)	0.065 (1.7)	0.50 (13)	100310101		
	NW 16	3/4"	0.75 (19)	0.065 (1.7)	0.50 (13)	100310111		
	NW 25	1"	1.00 (25)	0.065 (1.7)	0.50 (13)	100310103		
	NW 40	1 1/2"	1.50 (38)	0.083 (2.1)	0.75 (19)	100310105		
	NW 50	2"	2.00 (51)	0.083 (2.1)	0.75 (19)	100310106		
<ul style="list-style-type: none"> <li>• Aluminum Type 6061T6</li> <li>• Butt Weld</li> <li>• Standard Inch Stub Diameters</li> </ul>								

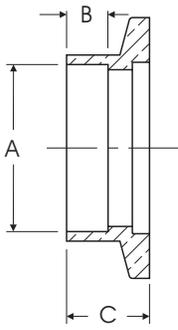
Flange, Long Weld Stub, Stainless Steel							in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price	
	NW 10	1/2"	0.50 (13)	0.065 (1.7)	1.58 (40)	100315700		
	NW 16	1/2"	0.50 (13)	0.065 (1.7)	1.58 (40)	100315701		
	NW 16	3/4"	0.75 (19)	0.065 (1.7)	1.58 (40)	100315711		
	NW 25	1"	1.00 (25)	0.065 (1.7)	1.58 (40)	100315703		
	NW 40	1 1/2"	1.50 (38)	0.065 (1.7)	1.58 (40)	100315705		
	NW 50	2"	2.00 (51)	0.065 (1.7)	1.58 (40)	100315706		
<ul style="list-style-type: none"> <li>• Stainless Steel Type 304</li> <li>• Butt Weld</li> <li>• Standard Inch Stub Diameters</li> </ul>								



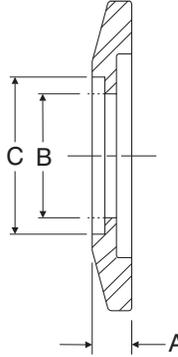
Flange, Long Weld Stub, Aluminum						in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price
	NW 16	1/2"	0.50 (13)	0.065 (1.7)	1.58 (40)	100310201	
	NW 16	3/4"	0.75 (19)	0.065 (1.7)	1.58 (40)	100310211	
	NW 25	1"	1.00 (25)	0.065 (1.7)	1.58 (40)	100310203	
	NW 40	1 1/2"	1.50 (38)	0.083 (2.1)	1.58 (40)	100310205	
	NW 50	2"	2.00 (51)	0.083 (2.1)	1.58 (40)	100310206	
<ul style="list-style-type: none"> <li>Aluminum Type 6061T6</li> <li>Standard Inch Stub Diameters</li> </ul>							

Flange, Braze Stub, Brass						in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B		Part Number	Price
	NW 16	1/2"	0.50 (13)	1.00 (25)		100315401	
	NW 16	5/8"	0.62 (16)	1.00 (25)		100315411	
	NW 16	3/4"	0.75 (19)	1.00 (25)		100315421	
	NW 25	1"	1.00 (25)	1.38 (35)		100315403	
	NW 25	1 1/8"	1.12 (28)	1.38 (35)		100315413	
	NW 40	1 5/8"	1.62 (41)	1.58 (40)		100315405	
	NW 50	2"	2.00 (51)	1.58 (40)		100315406	
NW 50	2 1/8"	2.12 (54)	1.58 (40)		100315416		
<ul style="list-style-type: none"> <li>Yellow Brass</li> <li>Standard Inch Tube O.D.'s</li> </ul>							

Flange, Weld Socket, Stainless Steel						in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price
	NW 16	1/2"	0.61 (15)	0.51 (13)	0.45 (11)	100318301	
	NW 16	5/8"	0.77 (20)	0.64 (16)	0.58 (15)	100318311	
	NW 16	3/4"	0.87 (22)	0.76 (19)	0.68 (17)	100318321	
	NW 25	1"	1.13 (29)	1.02 (26)	0.87 (22)	100318303	
	NW 40	1 1/2"	1.75 (44)	1.50 (38)	1.37 (35)	100318305	
NW 50	2"	2.25 (57)	2.02 (51)	1.87 (47)	100318306		
<ul style="list-style-type: none"> <li>Stainless Steel Type 304</li> <li>Self Aligning</li> <li>Standard Tube Weld Prep.</li> <li>Also Suitable for Butt Weld</li> </ul>							

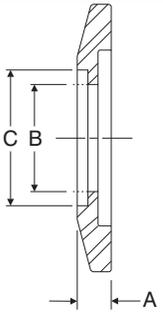
Flange, Braze Socket, Brass						in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price
	NW 16	1/2"	0.50 (13)	0.25 (6)	0.50 (13)	100315301	
	NW 16	5/8"	0.63 (16)	0.25 (6)	0.50 (13)	100315311	
	NW 16	3/4"	0.75 (19)	0.25 (6)	0.62 (16)	100315321	
	NW 25	1"	1.00 (25)	0.25 (6)	0.50 (13)	100315303	
	NW 25	1 1/8"	1.13 (29)	0.25 (6)	0.62 (16)	100315313	
	NW 40	1 5/8"	1.63 (41)	0.50 (13)	1.00 (25)	100315305	
	NW 50	2"	2.00 (51)	0.50 (13)	1.00 (25)	100315306	
	NW 50	2 1/8"	2.13 (54)	0.50 (13)	1.00 (25)	100315316	

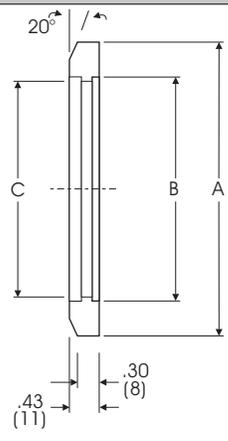
• Yellow Brass  
 • Standard Inch Tube O.D.'s

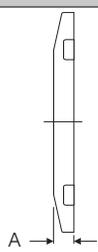
Flange, Blank with Bore, Stainless Steel						in/(mm)	
	Flange Size (ISO)	Bore Size	A	B	C	Part Number	Price
	NW 10	1/4"	0.20 (5)	0.26 (7)	N/A	100319710	
	NW 10	3/8"	0.20 (5)	0.39 (10)	N/A	100319720	
	NW 10	1/2"	0.20 (5)	0.44 (11)	0.51 (13)	100319700	
	NW 16	1/4"	0.20 (5)	0.26 (7)	N/A	100319711	
	NW 16	3/8"	0.20 (5)	0.39 (10)	N/A	100319721	
	NW 16	1/2"	0.20 (5)	0.51 (13)	N/A	100319731	
	NW 16	3/4"	0.20 (5)	0.68 (17)	0.76 (19)	100319701	
	NW 25	1/4"	0.20 (5)	0.26 (7)	N/A	100319713	
	NW 25	3/8"	0.20 (5)	0.39 (10)	N/A	100319723	
	NW 25	1/2"	0.20 (5)	0.51 (13)	N/A	100319733	
	NW 25	3/4"	0.20 (5)	0.63 (16)	0.76 (19)	100319743	
	NW 25	1"	0.20 (5)	0.89 (23)	1.02 (26)	100319703	
	NW 40	1/4"	0.20 (5)	0.26 (7)	N/A	100319715	
	NW 40	3/8"	0.20 (5)	0.39 (10)	N/A	100319725	
	NW 40	1/2"	0.20 (5)	0.51 (13)	N/A	100319735	
	NW 40	3/4"	0.20 (5)	0.63 (16)	0.76 (19)	100319745	
	NW 40	1"	0.20 (5)	0.89 (23)	1.02 (26)	100319755	
	NW 40	1 1/2"	0.20 (5)	1.39 (35)	1.52 (39)	100319705	

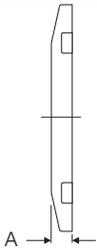
• Stainless Steel Type 304  
 • Standard Inch Tube O.D.'s

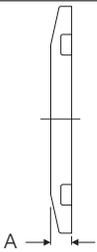


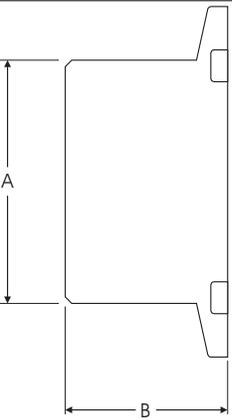
Flange, Blank with Bore, Stainless Steel						in/(mm)	
	Flange Size (ISO)	Bore Size	A	B	C	Part Number	Price
	NW 50	1/4"	0.20 (5)	0.26 (7)	N/A	100319716	
	NW 50	3/8"	0.20 (5)	0.39 (10)	N/A	100319726	
	NW 50	1/2"	0.20 (5)	0.51 (13)	N/A	100319736	
	NW 50	3/4"	0.20 (5)	0.63 (16)	0.76 (19)	100319746	
	NW 50	1"	0.20 (5)	0.89 (23)	1.02 (26)	100319756	
	NW 50	1 1/2"	0.20 (5)	1.39 (35)	1.52 (39)	100319766	
	NW 50	2"	0.20 (5)	1.89 (48)	2.02 (51)	100319706	
<ul style="list-style-type: none"> <li>Stainless Steel Type 304</li> <li>Standard Inch Tube O.D.'s</li> </ul>							

Flange, Blank with Bore, KF 80 and 100, Stainless Steel						in/(mm)	
	Flange Size	Bore Size	A	B	C	Part Number	Price
	NW 80	3"	4.49 (114)	3.27 (83)	2.90 (74)	100319801	
	NW 100	4"	5.28 (134)	4.02 (102)	3.87 (98)	100319803	
<ul style="list-style-type: none"> <li>Stainless Steel Type 304</li> </ul>							

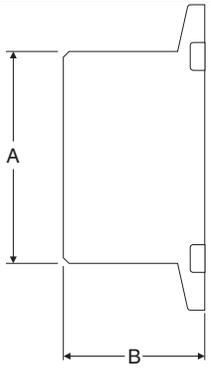
Flange, Blank-Off, Stainless Steel						in/(mm)	
	Flange Size (ISO)		A			Part Number	Price
	NW 10		0.20 (5)			100311700	
	NW 16		0.20 (5)			100311701	
	NW 25		0.20 (5)			100311703	
	NW 40		0.20 (5)			100311705	
	NW 50		0.20 (5)			100311706	
	NW 80		0.43 (11)			100319802	
	NW 100		0.43 (11)			100319804	
<ul style="list-style-type: none"> <li>Stainless Steel Type 304</li> <li>To Close Off Unused Ports</li> </ul>							

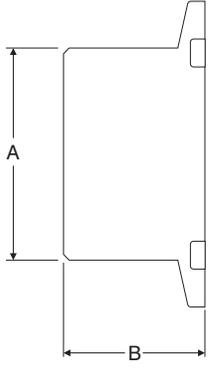
Flange, Blank-Off, Aluminum						in/(mm)	
	Flange Size (ISO)		A			Part Number	Price
	NW 10		0.20 (5)			100311600	
	NW 16		0.20 (5)			100311601	
	NW 25		0.20 (5)			100311603	
	NW 40		0.20 (5)			100311605	
	NW 50		0.20 (5)			100311606	
<ul style="list-style-type: none"> <li>• Aluminum Alloy</li> <li>• To Close Off Unused Ports</li> </ul>							

Flange, Blank-Off, Brass						in/(mm)	
	Flange Size (ISO)		A			Part Number	Price
	NW 16		0.20 (5)			100315501	
	NW 25		0.20 (5)			100315503	
	NW 40		0.20 (5)			100315505	
	NW 50		0.20 (5)			100315506	
<ul style="list-style-type: none"> <li>• Yellow Brass</li> <li>• To Close Off Unused Ports</li> </ul>							

Flange, Unbored Stub, Stainless Steel						in/(mm)	
	Flange Size (ISO)		A	B		Part Number	Price
	NW 10		0.75 (19)	0.75 (19)		100311300	
	NW 16		0.75 (19)	0.75 (19)		100311301	
	NW 25		1.00 (25)	0.75 (19)		100311303	
	NW 40		1.50 (38)	1.00 (25)		100311305	
	NW 50		2.00 (51)	1.00 (25)		100311306	
<ul style="list-style-type: none"> <li>• Stainless Steel Type 304</li> <li>• Stub may be turned, bored, or tapped to fit</li> </ul>							



Flange, Unbored Stub, Aluminum						in/(mm)	
	Flange Size (ISO)		A	B		Part Number	Price
	NW 10		0.75 (19)	0.75 (19)		100311100	
	NW 16		0.75 (19)	0.75 (19)		100311101	
	NW 25		1.00 (25)	0.75 (19)		100311103	
	NW 40		1.50 (38)	1.00 (25)		100311105	
	NW 50		2.00 (51)	1.00 (25)		100311106	
<ul style="list-style-type: none"> <li>Aluminum Type 6061T6</li> <li>Stub may be turned, bored, or tapped to fit</li> </ul>							

Flange Unbored Stub, Brass						in/(mm)	
	Flange Size (ISO)		A	B		Part Number	Price
	NW 16		0.75 (19)	0.75 (19)		100311401	
	NW 25		1.00 (25)	0.75 (19)		100311403	
	NW 40		1.50 (38)	1.00 (25)		100311405	
	NW 50		2.00 (51)	1.00 (25)		100311406	
<ul style="list-style-type: none"> <li>Yellow Brass</li> <li>Stub may be turned, bored, or tapped to fit</li> </ul>							

Seal, Centering Ring Assembly, Stainless Steel/Viton®						in/(mm)	
	Flange Size (ISO)					Part Number	Price
	NW 10					100312700	
	NW 16					100312701	
	NW 25					100312703	
	NW 40					100312705	
	NW 50					100312706	
	NW 80					100760508	
	NW 100					100760510	
<ul style="list-style-type: none"> <li>180°C Max.</li> <li>Replaceable O-Ring</li> <li>NW 80/100 include aluminum spacer ring</li> </ul>							

Seal, Centering Ring Assembly, Aluminum/Viton®							in/(mm)	
 <ul style="list-style-type: none"> <li>• 180°C Max.</li> <li>• Replaceable O-ring</li> <li>• NW 80/100 include aluminum spacer ring</li> </ul>	Flange Size (ISO)					Part Number	Price	
	NW 10					100312600		
	NW 16					100312601		
	NW 25					100312603		
	NW 40					100312605		
	NW 50					100312606		
	NW 80					100760608		
	NW 100					100760610		

Seal, Centering Ring Assembly, Stainless Steel/Buna-N							in/(mm)	
 <ul style="list-style-type: none"> <li>• 80° C Max.</li> <li>• Replaceable O-ring</li> </ul>	Flange Size (ISO)					Part Number	Price	
	NW 10					100312800		
	NW 16					100312801		
	NW 25					100312803		
	NW 40					100312805		
	NW 50					100312806		

Seal, Centering Ring Assembly, Aluminum/Buna-N							in/(mm)	
 <ul style="list-style-type: none"> <li>• 80°C Max.</li> <li>• Replaceable O-ring</li> <li>• NW 80/100 include aluminum spacer ring</li> </ul>	Flange Size (ISO)					Part Number	Price	
	NW 10					100312500		
	NW 16					100312501		
	NW 25					100312503		
	NW 40					100312505		
	NW 50					100312506		
	NW 80					100760708		
	NW 100					100760710		



Seal, Centering Ring Assembly, Stainless Steel/Silicone						in/(mm)	
 <ul style="list-style-type: none"> <li>• 200°C Max.</li> <li>• Replaceable O-ring</li> </ul>	Flange Size (ISO)					Part Number	Price
	NW 10					100317300	
	NW 16					100317301	
	NW 25					100317303	
	NW 40					100317305	
	NW 50					100317306	

Seal, Centering Ring Assembly Overpressure, Stainless Steel/Viton®						in/(mm)	
 <ul style="list-style-type: none"> <li>• Stainless Steel Centering Ring</li> <li>• Replaceable Viton® O-ring</li> <li>• Includes aluminum overpressure ring</li> </ul>	Flange Size (ISO)					Part Number	Price
	NW 25					100936525	
	NW 40					100936524	
	NW 50					100936523	

Seal, Centering Ring Assembly w/ Screen, Stainless Steel/Viton®						in/(mm)	
 <ul style="list-style-type: none"> <li>• Stainless Steel Centering Ring</li> <li>• Replaceable Viton® O-ring</li> <li>• 72 Mesh Screen Stainless Steel</li> </ul>	Flange Size (ISO)					Part Number	Price
	NW 16					100318601	
	NW 25					100318603	
	NW 40					100318605	
	NW 50					100318606	

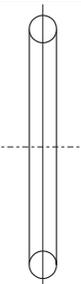


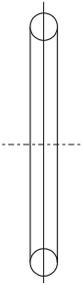
Seal, Adaptive Centering Ring Assembly, Stainless Steel/Viton®							in/(mm)	
 <ul style="list-style-type: none"> <li>• Stainless Steel Centering Ring</li> <li>• Replaceable Viton® O-ring</li> <li>• For obsolete bore sizes</li> </ul>	Flange Size (ISO)	Flange Size (ISO)				Part Number	Price	
	NW 16	NW 10				100315821		
	NW 25	NW 20				100315823		
	NW 40	NW 32				100315825		

Seal, Adaptive Centering Ring Assembly, Aluminum/Viton®							in/(mm)	
 <ul style="list-style-type: none"> <li>• For obsolete bore sizes</li> <li>• Replaceable O-ring</li> </ul>	Flange Size (ISO)	Flange Size (ISO)				Part Number	Price	
	NW 16	NW 10				100315811		
	NW 25	NW 20				100315813		
	NW 40	NW 32				100315815		

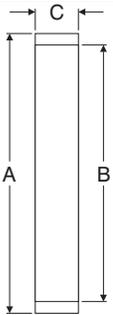
Seal, Adaptive Centering Ring Assembly, Aluminum/Buna-N							in/(mm)	
 <ul style="list-style-type: none"> <li>• For obsolete bore sizes</li> <li>• Replaceable O-ring</li> </ul>	Flange Size (ISO)	Flange Size (ISO)				Part Number	Price	
	NW 16	NW 10				100315801		
	NW 25	NW 20				100315803		
	NW 40	NW 32				100315805		

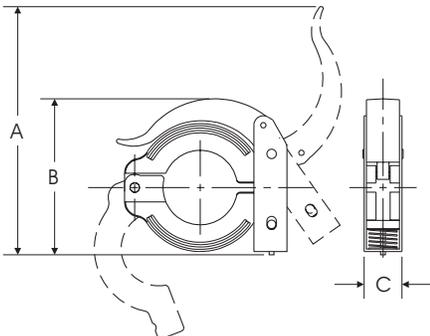


Seal, Replacement O-Ring, Viton®							in/(mm)	
 <p>• Standard inch O-Ring sizes</p>	Flange Size (ISO)	Standard O-Ring Size				Part Number	Price	
	NW 10	2-312				100314000		
	NW 16	2-314				100314001		
	NW 25	2-320				100314003		
	NW 40	2-326				100314005		
	NW 50	2-330				100314006		
	NW 80	2-340				100762008		
	NW 100	2-346				100762010		

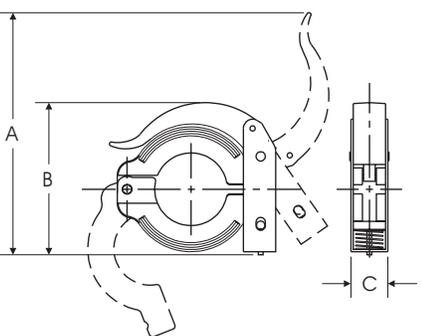
Seal, Replacement O-Ring, Buna-N							in/(mm)	
 <p>• Standard inch O-Ring sizes</p>	Flange Size (ISO)	Standard O-Ring Size				Part Number	Price	
	NW 10	2-312				100313900		
	NW 16	2-314				100313901		
	NW 25	2-320				100313903		
	NW 40	2-326				100313905		
	NW 50	2-330				100313906		
	NW 80	2-340				100761908		
	NW 100	2-346				100761910		

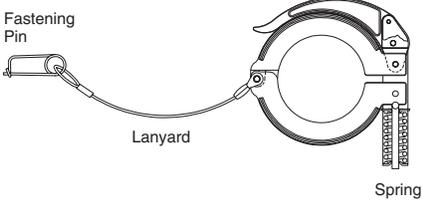
Seal, Replacement O-Ring, Silicone							in/(mm)	
 <p>• Standard Inch O-Ring Sizes</p>	Flange Size (ISO)	Standard O-Ring Size				Part Number	Price	
	NW 10	2-312				100317310		
	NW 16	2-314				100317311		
	NW 25	2-320				100317313		
	NW 40	2-326				100317315		
	NW 50	2-330				100317316		

Rings, Overpressure						in/(mm)	
 <p> <ul style="list-style-type: none"> <li>Stainless Steel</li> <li>Fit over OD of O-Ring</li> <li>See page 4 for installation</li> <li>Use to retain O-ring when system is used at internal pressures over atmospheric</li> </ul> </p>	Flange Size (ISO)	Max. Pressure	A	B	C	Part Number	Price
	NW 10	100 PSIG	1.25 (31)	1.09 (28)	0.14 (4)	100316300	
	NW 16	100 PSIG	1.25 (31)	1.19 (30)	0.35 (9)	100316301	
	NW 25	100 PSIG	1.66 (42)	1.58 (40)	0.35 (9)	100316303	
	NW 40	75 PSIG	2.25 (57)	2.17 (55)	0.35 (9)	100316305	
	NW 50	50 PSIG	2.75 (70)	2.66 (68)	0.14 (4)	100316306	

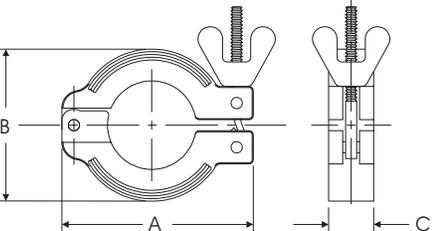
Clamps, Toggle						in/(mm)	
 <p> <ul style="list-style-type: none"> <li>Aluminum</li> <li>Quick operating</li> <li>Positive locking method</li> <li>Self-Adjusting</li> <li>Cannot be overtightened</li> </ul> </p>	Flange Size (ISO)	Fits Sizes	A	B	C	Part Number	Price
	NW 16	16/10	4.05 (103)	2.50 (64)	0.75 (19)	100318801	
	NW 25	25/20	4.31 (109)	2.96 (75)	0.75 (19)	100318803	
	NW 40	40/32	4.87 (124)	3.29 (84)	0.75 (19)	100318805	
	NW 50	50	6.34 (161)	4.73 (120)	0.89 (23)	100318806	



Clamps, Toggle with Lanyard						in/(mm)	
	Flange Size (ISO)	Fits Sizes	A	B	C	Part Number	Price
	NW 16	16/10	4.05 (103)	2.50 (64)	0.75 (19)	100318801-L	
	NW 25	25/20	4.31 (109)	2.96 (75)	0.75 (19)	100318803-L	
	NW 40	40/32	4.87 (124)	3.29 (84)	0.75 (19)	100318805-L	
	NW 50	50	6.34 (161)	4.73 (120)	0.89 (23)	100318806-L	

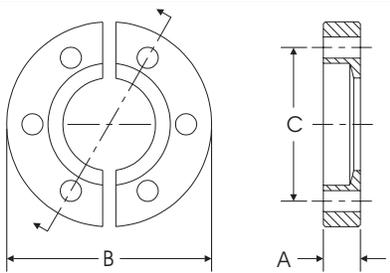


- Aluminum
- Fastening pin on lanyard prevents accidental opening and pin loss
- Positive locking method
- Self-Adjusting
- Heavy duty spring supports the full range of production tolerance variables

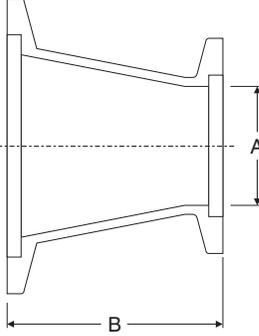
Clamps, Wing Nut						in/(mm)	
	Flange Size (ISO)	Fits Sizes	A	B	C	Part Number	Price
	NW 16	16/10	2.24 (57)	1.69 (43)	0.63 (16)	100312901	
	NW 25	25/20	2.76 (70)	2.17 (55)	0.63 (16)	100312903	
	NW 40	40/32	3.39 (86)	2.76 (70)	0.63 (16)	100312905	
	NW 50	50	4.33 (110)	3.70 (94)	0.79 (20)	100312906	

- Aluminum

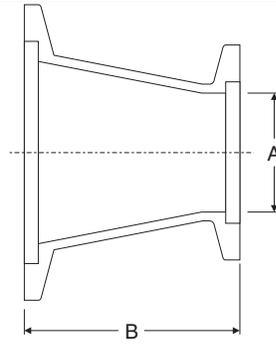


Clamps, Bulkhead							in/(mm)	
 <ul style="list-style-type: none"> <li>• Aluminum</li> <li>• Adapts to a baseplate or fixed flange</li> <li>• Standard KF seal assembly</li> <li>• Stainless Steel bolts and washers included, 10-32X<sup>5</sup>/<sub>8</sub>"</li> </ul>	Flange Size (ISO)	Number of Bolts	A	B	C	Part Number	Price	
	NW 16	6	0.36 (9)	2.00 (51)	1.50 (38)	100318901		
	NW 25	6	0.39 (10)	2.38 (60)	1.89 (48)	100318903		
	NW 40	6	0.37 (9)	2.94 (75)	2.44 (62)	100318905		
	NW 50	8	0.40 (10)	3.75 (95)	3.25 (83)	100318906		

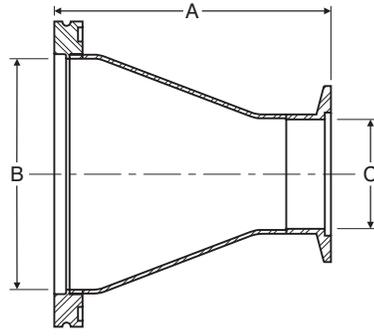
Clamps, Chain							
<ul style="list-style-type: none"> <li>• For use with KF 80 and 100 flanges</li> <li>• Aluminum</li> </ul>	Flange Size					Part Number	Price
	NW 80 NW 100					100993460 100994717	

Conical Reducers, Stainless Steel							in/(mm)	
 <ul style="list-style-type: none"> <li>• Mates differing ISO-KF sizes</li> </ul>	Flange Size (ISO)	Flange Size (ISO)	A	B		Part Number	Price	
	NW 16	NW 25	0.62 (16)	1.57 (40)		100313711		
	NW 16	NW 40	0.62 (16)	1.57 (40)		100313712		
	NW 16	NW 50	0.62 (16)	1.57 (40)		100313713		
	NW 25	NW 40	0.87 (22)	1.57 (40)		100313714		
	NW 25	NW 50	0.87 (22)	1.57 (40)		100313715		
	NW 40	NW 50	1.34 (34)	1.57 (40)		100313716		

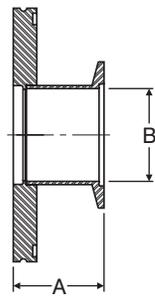


Conical Reducers, Aluminum						in/(mm)	
	Flange Size (ISO)	Flange Size (ISO)	A	B	Part Number	Price	
	NW 16	NW 25	0.62 (16)	1.57 (40)	100313511		
	NW 16	NW 40	0.62 (16)	1.57 (40)	100313512		
	NW 16	NW 50	0.62 (16)	1.57 (40)	100313513		
	NW 25	NW 40	0.87 (22)	1.57 (40)	100313514		
	NW 25	NW 50	0.87 (22)	1.57 (40)	100313515		
	NW 40	NW 50	1.34 (34)	1.57 (40)	100313516		

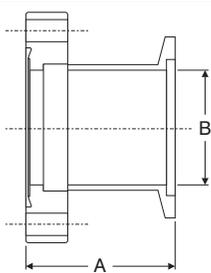
• Mates differing ISO-KF sizes

Conical Adapter, ISO-MF Flange to ISO-KF Flange						in/(mm)	
	Flange Size (ISO)	A	B	C	Part Number	Price	
	NW 63 to NW 40	3.39 (86)	2.37 (60)	1.37 (35)	100765006		
	NW 63 to NW 50	3.39 (86)	2.37 (60)	1.87 (47)	100765017		
	NW 80 to NW 40	4.64 (118)	2.87 (73)	1.37 (35)	100765016		
	NW 80 to NW 50	4.64 (118)	2.87 (73)	1.87 (47)	100765008		
	NW 100 to NW 50	4.64 (118)	3.83 (97)	1.87 (47)	100765018		

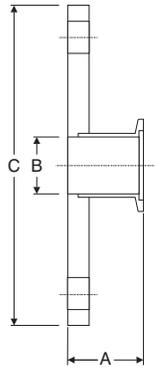
• Stainless steel type 304  
• Special adapters available upon request  
• High conductance adapter

Step Adapters, ISO-MF Flange to ISO-KF Flange						in/(mm)	
	Flange Size (ISO)	A	B	Part Number	Price		
	NW 63 to NW 40	1.77 (45)	1.37 (35)	100762606			
	NW 63 to NW 50	1.77 (45)	1.87 (47)	100762617			
	NW 80 to NW 40	1.77 (45)	1.87 (47)	100762616			
	NW 80 to NW 50	1.77 (45)	1.87 (47)	100762608			
	NW 100 to NW 50	1.77 (45)	1.87 (47)	100762618			

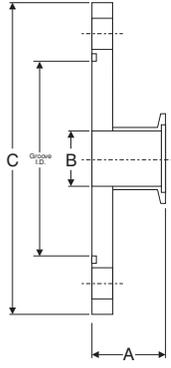
• Stainless Steel Type 304

Adapter, ISO-KF to CF						in/(mm)	
	Flange Size (KF)	Flange Size (CF)	A	B	Part Number	Price	
	NW 16	Mini -1 $\frac{1}{3}$ "	2.08 (53)	0.62 (16)	100315601		
	NW 16	2 $\frac{3}{4}$ "	1.78 (45)	0.62 (16)	100315611		
	NW 25	2 $\frac{1}{8}$ "	1.89 (48)	0.87 (22)	100319812		
	NW 25	2 $\frac{3}{4}$ "	1.78 (45)	0.87 (22)	100315603		
	NW 40	2 $\frac{3}{4}$ "	1.78 (45)	1.33 (34)	100315605		
	NW 50	2 $\frac{3}{4}$ "	2.11 (54)	1.37 (35)	100319813		
	NW 50	4 $\frac{1}{2}$ "	1.95 (50)	1.83 (46)	100315606		

• Stainless Steel type 304

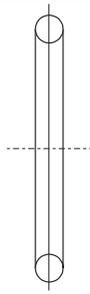
Adapter, ISO-KF to ASA						in/(mm)	
	Flange Size (KF)	Flange Size (ASA)	A	B	C	Part Number	Price
	NW 40	1 $\frac{1}{2}$ "	1.81 (46)	1.33 (34)	5.00 (127)	100316755	
	NW 40	2"	1.81 (46)	1.33 (34)	6.00 (152)	100316705	
	NW 40	3"	1.81 (46)	1.33 (34)	7.50 (191)	100316715	
	NW 50	1 $\frac{1}{2}$ "	1.81 (46)	1.83 (46)	5.00 (127)	100316756	
	NW 50	2"	1.81 (46)	1.83 (46)	6.00 (152)	100316706	
	NW 50	3"	1.81 (46)	1.83 (46)	7.50 (191)	100316716	

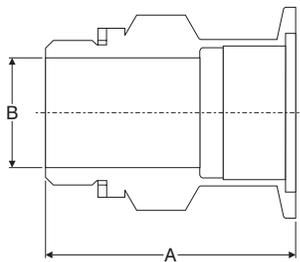
• Stainless Steel type 304  
• Without O-Ring groove

Adapter, ISO-KF to ASA						in/(mm)		
	Flange Size (KF)	Flange Size (ASA)	Groove ID (O-Ring)	A	B	C	Part Number	Price
	NW 40	1 $\frac{1}{2}$ "	2.66" (2-231)	1.81 (46)	1.33 (34)	5.00 (127)	100316775	
	NW 40	2"	3.42" (2-237)	1.81 (46)	1.33 (34)	6.00 (152)	100316725	
	NW 40	3"	4.69" (2-247)	1.81 (46)	1.33 (34)	7.50 (191)	100316735	
	NW 50	1 $\frac{1}{2}$ "	2.66" (2-231)	1.81 (46)	1.83 (46)	5.00 (127)	100316776	
	NW 50	2"	3.42" (2-237)	1.81 (46)	1.83 (46)	6.00 (152)	100316726	
	NW 50	3"	4.69" (2-247)	1.81 (46)	1.83 (46)	7.50 (191)	100316736	

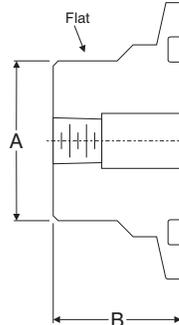
• Stainless Steel type 304  
• Standard with O-Ring groove



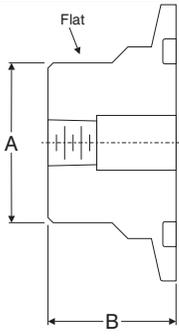
ASA O-Ring, Viton®						in/(mm)	
	Flange Size (ASA)	O-Ring				Part Number	Price
	1½"	2-231				100001380	
	2"	2-237				100006098	
	3"	2-247				100006099	

Adapter, ISO-KF to Welch Pump Connector						in/(mm)	
	Flange Size (KF)	Welch Pump Number	A	B		Part Number	Price
	NW 16	1399, 1400, 1410	1.77 (45)	0.47 (12)		100316601	
	NW 16	1405	2.56 (65)	0.56 (14)		100316621	
	NW 25	1380, 1402, 1403, 8806, 8811, 8816, 8821	2.76 (70)	0.75 (19)		100316603	
NW 40	1374, 1397, 8851	2.56 (65)	1.44 (37)		100316615		

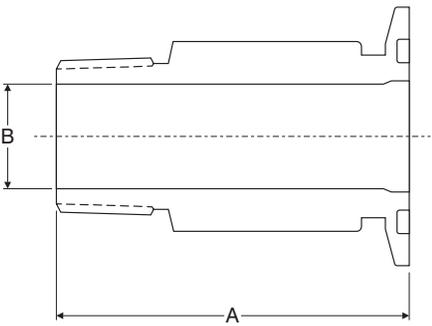
- Includes metal gasket
- Stainless Steel type 304

Adapter, ISO-KF to NPT-F Pipe, Stainless Steel						in/(mm)	
	Flange Size (KF)	Flange Size (NPT)	A	B		Part Number	Price
	NW 10	1/8"	0.62 (16)	0.75 (19)		100312100	
	NW 10	1/4"	0.62 (16)	0.75 (19)		100312300	
	NW 16	1/8"	0.62 (16)	0.75 (19)		100312101	
	NW 16	1/4"	0.62 (16)	0.75 (19)		100312301	
	NW 25	1/8"	0.88 (22)	0.75 (19)		100312103	
	NW 25	1/4"	0.88 (22)	0.75 (19)		100312303	
	NW 40	1/8"	1.25 (32)	1.00 (25)		100312105	
	NW 40	1/4"	1.25 (32)	1.00 (25)		100312305	
	NW 50	1/8"	1.75 (44)	1.00 (25)		100312106	
NW 50	1/4"	1.75 (44)	1.00 (25)		100312306		

- Teflon® tape recommended to seal
- Compatible with most TC and Pirani tubes

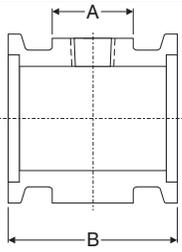
Adapter, ISO-KF to NPT-F Pipe, Aluminum						in/(mm)	
	<b>Flange Size (KF)</b>	<b>Flange Size (NPT)</b>	<b>A</b>	<b>B</b>		<b>Part Number</b>	<b>Price</b>
	NW 10	1/8"	0.62 (16)	0.75 (19)		100312000	
	NW 10	1/4"	0.62 (16)	0.75 (19)		100312200	
	NW 16	1/8"	0.62 (16)	0.75 (19)		100312001	
	NW 16	1/4"	0.62 (16)	0.75 (19)		100312201	
	NW 25	1/8"	0.88 (22)	0.75 (19)		100312003	
	NW 25	1/4"	0.88 (22)	0.75 (19)		100312203	
	NW 40	1/8"	1.25 (32)	1.00 (25)		100312005	
	NW 40	1/4"	1.25 (32)	1.00 (25)		100312205	
	NW 50	1/8"	1.75 (44)	1.00 (25)		100312006	
NW 50	1/4"	1.75 (44)	1.00 (25)		100312206		

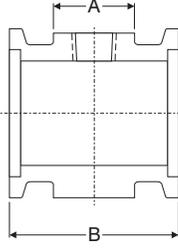
- Compatible with most TC and Pirani tubes
- Teflon® tape recommended to seal

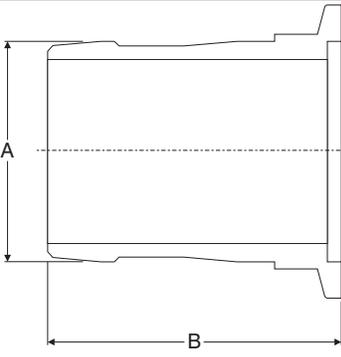
Adapter, ISO-KF to NPT-M Pipe						in/(mm)	
	<b>Flange Size (KF)</b>	<b>Flange Size (NPT)</b>	<b>A</b>	<b>B</b>		<b>Part Number</b>	<b>Price</b>
	NW 16	1/8"	1.57 (40)	0.19 (5)		100316801	
	NW 16	1/4"	1.97 (50)	0.26 (7)		100316811	
	NW 25	1/8"	1.57 (40)	0.19 (5)		100316803	
	NW 25	1/4"	1.97 (50)	0.26 (7)		100316813	
	NW 25	1/2"	2.95 (75)	0.45 (11)		100316823	
	NW 25	3/4"	2.95 (75)	0.78 (20)		100316833	
	NW 40	1/4"	1.97 (50)	0.26 (7)		100316805	
	NW 40	1/2"	2.95 (75)	0.45 (11)		100316815	
	NW 40	3/4"	2.95 (75)	0.78 (20)		100316825	
	NW 40	1"	2.95 (75)	0.88 (22)		100316835	
	NW 40	1 1/4"	2.00 (51)	1.12 (28)		100316844	
	NW 40	1 1/2"	2.00 (51)	1.34 (34)		100316845	
	NW 50	1/4"	1.97 (50)	0.26 (7)		100316806	
	NW 50	1/2"	2.95 (75)	0.45 (11)		100316816	
	NW 50	3/4"	2.95 (75)	0.78 (20)		100316826	
	NW 50	1"	2.95 (75)	0.88 (22)		100316836	
	NW 50	2"	2.00 (51)	1.87 (47)		100316846	

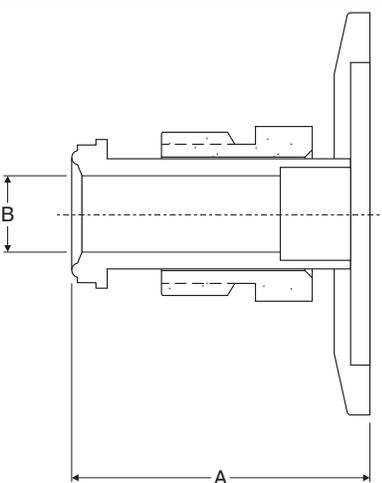
- Stainless Steel
- Hex shank
- Teflon® tape recommended to seal

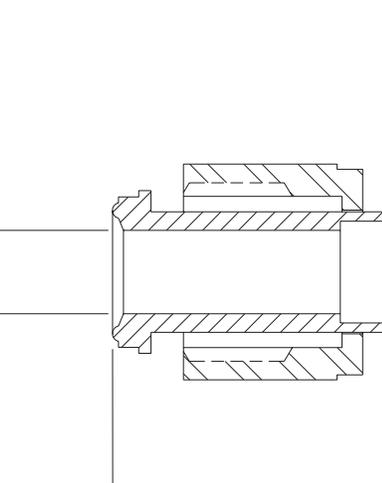


Adapter Tee, ISO-KF to NPT-F Pipe, Stainless Steel						in/(mm)	
 <ul style="list-style-type: none"> <li>• Available with additional NPT holes</li> <li>• Teflon® tape recommended to seal</li> </ul>	Flange Size (KF)	Flange Size (NPT)	A	B	Part Number	Price	
	NW 16	1/8" Tapped	0.76 (19)	1.57 (40)	100319401		
	NW 16	1/4" Tapped	0.76 (19)	1.57 (40)	100319601		
	NW 25	1/8" Tapped	0.76 (19)	1.57 (40)	100319403		
	NW 25	1/4" Tapped	0.76 (19)	1.57 (40)	100319603		
	NW 40	1/8" Tapped	0.76 (19)	1.57 (40)	100319405		
	NW 40	1/4" Tapped	0.76 (19)	1.57 (40)	100319605		
	NW 50	1/8" Tapped	0.76 (19)	1.57 (40)	100319406		
	NW 50	1/4" Tapped	0.76 (19)	1.57 (40)	100319606		

Adapter Tee, ISO-KF to NPT-F Pipe, Aluminum						in/(mm)	
 <ul style="list-style-type: none"> <li>• Available with additional NPT holes</li> <li>• Teflon® tape recommended to seal</li> </ul>	Flange Size (KF)	Flange Size (NPT)	A	B	Part Number	Price	
	NW 16	1/8" Tapped	0.76 (19)	1.57 (40)	100319301		
	NW 16	1/4" Tapped	0.76 (19)	1.57 (40)	100319501		
	NW 25	1/8" Tapped	0.76 (19)	1.57 (40)	100319303		
	NW 25	1/4" Tapped	0.76 (19)	1.57 (40)	100319503		
	NW 40	1/8" Tapped	0.76 (19)	1.57 (40)	100319305		
	NW 40	1/4" Tapped	0.76 (19)	1.57 (40)	100319505		
	NW 50	1/8" Tapped	0.76 (19)	1.57 (40)	100319306		
	NW 50	1/4" Tapped	0.76 (19)	1.57 (40)	100319506		

Adapter, ISO-KF to Rubber Hose						in/(mm)	
 <ul style="list-style-type: none"> <li>• Aluminum</li> <li>• Compatible with standard vacuum hose bores</li> </ul>	Flange Size (ISO)	Hose Size	A	B	Part Number	Price	
	NW 16	1/2" or 5/8"	0.63 (16)	1.65 (42)	100311811		
	NW 16	5/8" or 3/4"	0.75 (19)	1.65 (42)	100311801		
	NW 25	3/4" or 7/8"	0.88 (22)	1.73 (44)	100311803		
	NW 40	1 1/2" or 1 5/8"	1.63 (41)	2.17 (55)	100311805		
	NW 50	1 1/2" or 1 5/8"	1.63 (41)	2.17 (55)	100311806		

Adapter, ISO-KF to VCR®-M						in/(mm)	
	Flange Size (ISO)	Flange Size (VCR®)	A	B	VCR® Size	Part Number	Price
	NW 16	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319111	
	NW 16	8 VCR®	1.63 (41)	0.41 (10)	1/2"	100319121	
	NW 25	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319113	
	NW 25	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319123	
	NW 25	12 VCR®	2.14 (54)	0.62 (16)	3/4"	100319133	
	NW 40	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319115	
	NW 40	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319125	
	NW 40	12 VCR®	2.10 (53)	0.62 (16)	3/4"	100319135	
	NW 50	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319116	
	NW 50	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319126	
	NW 50	12 VCR®	2.10 (53)	0.62 (16)	3/4"	100319136	
<ul style="list-style-type: none"> <li>Stainless Steel</li> </ul>							

Adapter, ISO-KF to VCR®-F						in/(mm)	
	Flange Size (ISO)	Flange Size (VCR®)	A	B	VCR® Size	Part Number	Price
	NW 16	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319211	
	NW 16	8 VCR®	1.63 (41)	0.41 (10)	1/2"	100319221	
	NW 25	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319213	
	NW 25	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319223	
	NW 25	12 VCR®	2.14 (54)	0.62 (16)	3/4"	100319233	
	NW 40	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319215	
	NW 40	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319225	
	NW 40	12 VCR®	2.10 (53)	0.62 (16)	3/4"	100319235	
	NW 50	4 VCR®	1.40 (36)	0.19 (5)	1/4"	100319216	
	NW 50	8 VCR®	1.60 (41)	0.41 (10)	1/2"	100319226	
	NW 50	12 VCR®	2.10 (53)	0.62 (16)	3/4"	100319236	
<ul style="list-style-type: none"> <li>Stainless Steel</li> </ul>							



Adapter, ISO-KF to Pyrex® Tube						in/(mm)	
	Flange Size (ISO)		A	B		Part Number	Price
	NW 16		5.25 (133)	0.50 (13)		100318501	
	NW 16		5.25 (133)	0.75 (19)		100318511	
	NW 25		5.25 (133)	1.00 (25)		100318503	
	NW 40		5.50 (140)	1.50 (38)		100318505	
<ul style="list-style-type: none"> <li>Stainless Steel Type 304</li> </ul>							

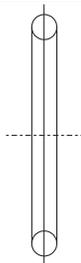
Adapter, ISO-KF to Compression Fitting						in/(mm)	
	Flange Size (ISO)	For Tubing O.D.	A	B	C	Part Number	Price
	NW 10	1/2"	0.41 (10)	2.1 (53)	1.6 (40)	100316910	
	NW 16	1/4"	0.19 (5)	1.4 (36)	1.3 (33)	100316911	
	NW 16	1/2"	0.41 (10)	2.4 (61)	1.6 (40)	100316921	
	NW 16	3/4"	0.62 (16)	2.4 (61)	1.8 (46)	100316931	
	NW 25	1/2"	0.41 (10)	2.4 (61)	1.6 (40)	100316903	
	NW 25	3/4"	0.62 (16)	2.5 (64)	1.8 (46)	100316913	
	NW 25	1"	0.88 (22)	2.4 (62)	1.8 (46)	100316923	
	NW 40	1/2"	0.41 (10)	2.6 (66)	1.6 (40)	100316905	
	NW 40	3/4"	0.62 (16)	2.8 (71)	1.8 (46)	100316915	
	NW 40	1"	0.88 (22)	2.8 (71)	1.8 (46)	100316925	
	NW 40	1 1/8"	1.14 (29)	2.9 (74)	1.9 (49)	100316945	
	NW 40	1 1/2"	1.25 (32)	2.9 (74)	2.0 (51)	100316935	
	NW 50	3/4"	0.62 (16)	2.8 (71)	1.8 (46)	100316926	
	NW 50	1"	0.88 (22)	2.8 (71)	1.8 (46)	100316936	
	NW 50	1 1/8"	1.14 (29)	2.9 (74)	1.9 (49)	100316946	
	NW 50	1 1/2"	1.25 (32)	3.0 (76)	2.0 (51)	100316906	
NW 50	2"	2.01 (51)	3.4 (87)	2.6 (66)	100316916		
<ul style="list-style-type: none"> <li>Stainless Steel</li> <li>Viton® O-Ring</li> <li>Compression fitting tightened by hand</li> <li>Compression connect for tube insertion</li> </ul>							

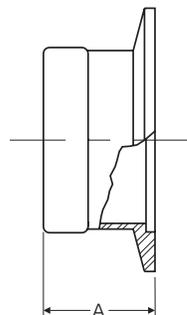
Adapter, ISO-KF to PVC Hose						in/(mm)	
	Flange Size (ISO)	Hose Size	A	B	C	Part Number	Price
	NW 10	1/2"	0.50 (13)	1.26 (32)	0.79 (20)	100316400	
	NW 16	1/2"	0.50 (13)	1.26 (32)	0.79 (20)	100316411	
	NW 16	3/4"	0.75 (19)	1.26 (32)	0.79 (20)	100316401	
	NW 25	1"	1.00 (25)	1.50 (38)	1.02 (26)	100316403	
	NW 40	1 1/2"	1.50 (38)	1.97 (50)	1.50 (38)	100316405	
	NW 50	2"	2.00 (51)	2.17 (55)	1.61 (41)	100316406	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Recommend the use of hose clamps</li> </ul>							

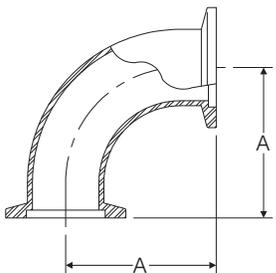
Adapter, ISO-KF to Ball Socket						in/(mm)	
	Flange Size (ISO)	Coupling Size	A	B		Part Number	Price
	NW 40	50/30	2.00 (50)	2.75 (70)		100318205	
	NW 50	75/50	3.00 (75)	3.25 (83)		100318206	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Without O-Ring groove</li> <li>• Mates to standard quartz ball coupling</li> </ul>							

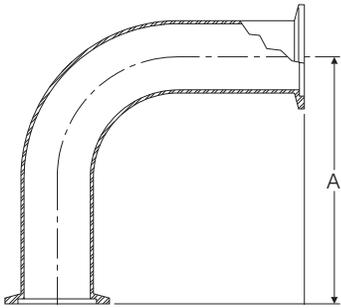
Adapter, ISO-KF to Ball Socket						in/(mm)	
	Flange Size (ISO)	Coupling Size	A	B	O-Ring Size	Part Number	Price
	NW 40	50/30	2.00 (50)	2.75 (70)	(2-224)	100318215	
	NW 50	75/50	3.00 (75)	3.25 (83)	(2-232)	100318216	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• With Viton® O-Ring in groove</li> <li>• Mates to standard quartz ball coupling</li> </ul>							

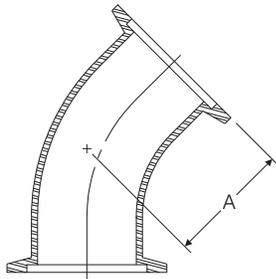


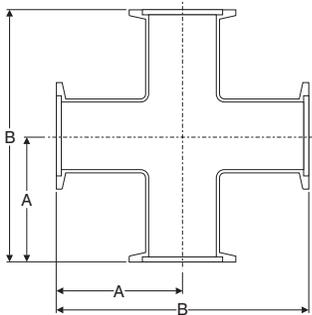
Ball Socket O-Ring, Viton®							in/(mm)	
	Coupling Size	O-Ring Size				Part Number	Price	
	50/30	2-224				100001654		
	75/50	2-232				100001381		

ISO-KF Viewing Port							in/(mm)	
 <ul style="list-style-type: none"> <li>• Stainless Steel flange</li> <li>• Max. temperature 150° C</li> <li>• Optical quality borosilicate glass</li> </ul>	Flange Size (ISO)		A			Part Number	Price	
	NW 40		0.93 (24)			100319005		
	NW 50		1.25 (32)			100319006		

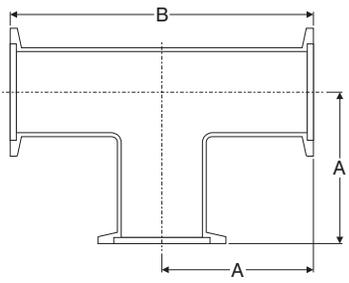
ISO-KF Elbow 90° Smooth Radius							in/(mm)	
 <ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Same size flanges both ports</li> <li>• Standard modulus</li> </ul>	Flange Size (ISO)		A			Part Number	Price	
	NW 16		1.57 (40)			100314401		
	NW 25		1.97 (50)			100314403		
	NW 40		2.56 (65)			100314505		
	NW 50		2.76 (70)			100314506		

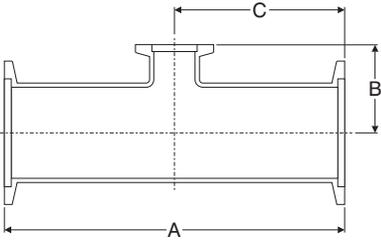
ISO-KF Elbow 90° Smooth, Long Radius						in/(mm)	
	<b>Flange Size (ISO)</b>		<b>A</b>			<b>Part Number</b>	<b>Price</b>
	NW 40		5.12 (130)			100314415	
	NW 50		5.51 (140)			100314416	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Same size flanges both ports</li> <li>• Twice standard modulus</li> </ul>							

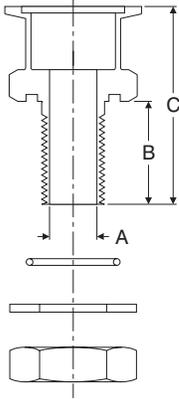
ISO-KF Elbow 45° Smooth Radius						in/(mm)	
	<b>Flange Size (ISO)</b>		<b>A</b>			<b>Part Number</b>	<b>Price</b>
	NW 16		0.91 (23)			100318701	
	NW 25		1.12 (28)			100318703	
	NW 40		1.68 (43)			100318705	
	NW 50		1.99 (51)			100318706	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Same size flanges both ports</li> </ul>							

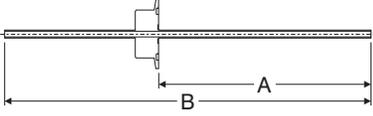
ISO-KF Cross						in/(mm)	
	<b>Flange Size (ISO)</b>		<b>A</b>	<b>B</b>		<b>Part Number</b>	<b>Price</b>
	NW 16		1.57 (40)	3.15 (80)		100314801	
	NW 25		1.97 (50)	3.94 (100)		100314803	
	NW 40		2.56 (65)	5.12 (130)		100314805	
	NW 50		2.76 (70)	5.51 (140)		100314806	
<ul style="list-style-type: none"> <li>• Stainless Steel type 304</li> <li>• Same size flanges all ports</li> <li>• Standard modulus</li> </ul>							

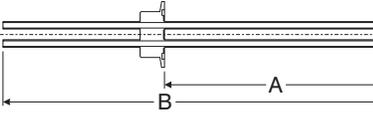


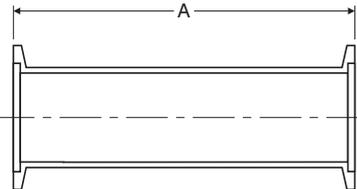
ISO-KF Tee						in/(mm)	
	Flange Size (ISO)		A	B		Part Number	Price
	NW 16		1.57 (40)	3.15 (80)		100314601	
	NW 25		1.97 (50)	3.94 (100)		100314603	
	NW 40		2.56 (65)	5.12 (130)		100314605	
	NW 50		2.76 (70)	5.51 (140)		100314606	
<ul style="list-style-type: none"> <li>Stainless Steel type 304</li> <li>Same size flanges all ports</li> <li>Standard modulus</li> </ul>							

ISO-KF Tee, Reducing						in/(mm)	
	Flange Size (ISO)	Flange Size (ISO) Tee	A	B	C	Part Number	Price
	NW 25	NW 16	3.94 (100)	1.08 (27)	1.97 (50)	100318403	
	NW 40	NW 16	5.12 (130)	1.32 (34)	2.56 (65)	100318405	
	NW 50	NW 16	5.51 (140)	1.58 (40)	2.76 (70)	100318406	
	NW 40	NW 25	4.80 (122)	2.40 (61)	2.40 (61)	100319816	
	NW 50	NW 25	6.29 (160)	2.65 (67)	3.15 (80)	100319815	
	NW 50	NW 40	6.29 (160)	2.65 (67)	3.15 (80)	100319814	
<ul style="list-style-type: none"> <li>Stainless Steel type 304</li> <li>Same size flanges thru ports</li> </ul>							

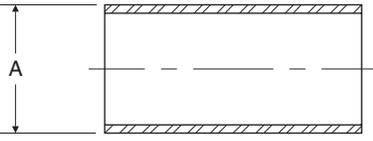
ISO-KF Feedthrough, Base Plate						in/(mm)	
	Flange Size (ISO)	Plate Hole Diameter	A	B	C	Part Number	Price
	NW 25	1"	0.75 (19)	1.62 (41)	2.88 (73)	100317903	
	NW 40	1"	0.75 (19)	1.62 (41)	3.12 (79)	100317905	
<ul style="list-style-type: none"> <li>Stainless Steel</li> <li>Suitable for plates up to 1" thickness</li> <li>Stainless Steel washer, nut and Viton® O-Ring seal (2-216) provided</li> </ul>							

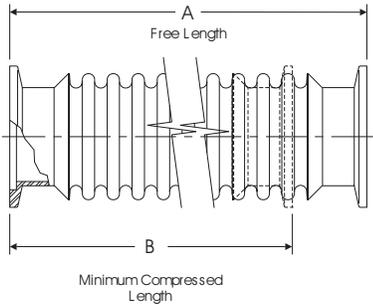
ISO-KF Feedthrough, Liquid/Gas Single Tube							in/(mm)
	Flange Size (ISO)	Feedthrough Tubing O.D.	A	B	Tube Wall	Part Number	Price
	NW 25	0.25 (6)	9.10 (230)	15.70 (400)	0.035 (0.9)	100317203	
	NW 40	0.25 (6)	9.10 (230)	15.70 (400)	0.035 (0.9)	100317205	
<ul style="list-style-type: none"> <li>Stainless Steel type 304</li> </ul>							

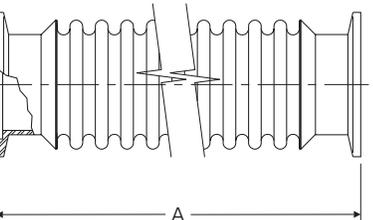
ISO-KF Feedthrough, Liquid/Gas Double Tube							in/(mm)
	Flange Size (ISO)	Feedthrough Tubing O.D.	A	B	Tube Wall	Part Number	Price
	NW 25	0.25 (6)	9.10 (230)	15.70 (400)	0.035 (0.9)	100317213	
	NW 40	0.25 (6)	9.10 (230)	15.70 (400)	0.035 (0.9)	100317215	
<ul style="list-style-type: none"> <li>Stainless Steel type 304</li> </ul>							

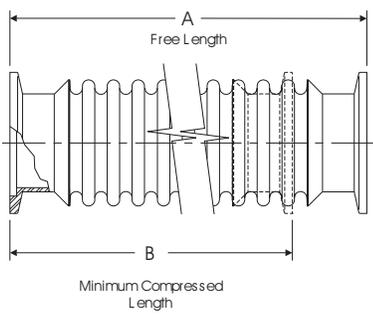
ISO-KF Straight Section							in/(mm)
	Flange Size (ISO)		A			Part Number	Price
	NW 16		3.15 (80)			100315101	
	NW 16		12.60 (320)			100315111	
	NW 25		3.94 (100)			100315103	
	NW 25		12.60 (320)			100315113	
	NW 40		5.12 (130)			100315105	
	NW 40		12.60 (320)			100315115	
	NW 50		5.51 (140)			100315106	
NW 50		12.60 (320)			100315116		
<ul style="list-style-type: none"> <li>Stainless Steel type 304</li> <li>Special Lengths to order</li> </ul>							



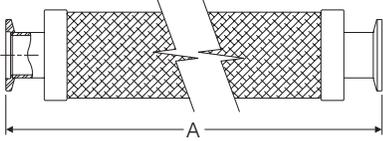
Tubing						in/(mm)	
 <ul style="list-style-type: none"> <li>• Tube ends deburred</li> <li>• Stainless Steel</li> <li>• Add \$25.00 per cut to the per foot price</li> <li>• Lengths are cut to customer specification</li> </ul>	Flange Size (ISO)		A	Tube Wall		Part Number	Price
	NW 10		<b>0.50</b> (13)	<b>0.065</b> (1.7)		<b>100314300</b>	
	NW 16		<b>0.75</b> (19)	<b>0.065</b> (1.7)		<b>100314301</b>	
	NW 25		<b>1.00</b> (25)	<b>0.065</b> (1.7)		<b>100314303</b>	
	NW 40		<b>1.50</b> (38)	<b>0.065</b> (1.7)		<b>100314305</b>	
	NW 50		<b>2.00</b> (51)	<b>0.065</b> (1.7)		<b>100314306</b>	
	NW 80		<b>3.00</b> (76)	<b>0.065</b> (1.7)		<b>100764508</b>	
NW 100		<b>4.00</b> (102)	<b>0.065</b> (1.7)		<b>100764510</b>		
NW 100		<b>4.00</b> (102)	<b>0.083</b> (2.1)		<b>100764511</b>		

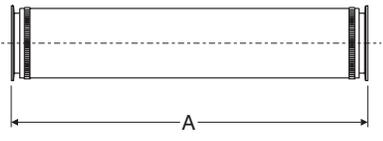
ISO-KF Bellows Section						in/(mm)		
 <ul style="list-style-type: none"> <li>• Stainless Steel type 321</li> </ul>	Flange Size (ISO)	Static Bend Radius	Hose Wall	A	B	Spring Rate	Part Number	Price
	NW 16	1 1/8"	<b>0.006</b> (0.15)	<b>3.94</b> (100)	<b>3.07</b> (78)	56 lb/in	<b>100314911</b>	
	NW 25	1 3/8"	<b>0.006</b> (0.15)	<b>3.94</b> (100)	<b>3.07</b> (78)	44 lb/in	<b>100314913</b>	
	NW 40	2 1/2"	<b>0.006</b> (0.15)	<b>3.94</b> (100)	<b>2.93</b> (74)	32 lb/in	<b>100314915</b>	
	NW 50	3 1/4"	<b>0.006</b> (0.15)	<b>3.94</b> (100)	<b>3.11</b> (79)	32 lb/in	<b>100314916</b>	

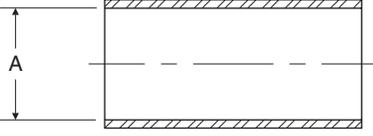
ISO-KF Thick Wall Metal Hose						in/(mm)		
 <ul style="list-style-type: none"> <li>• Stainless Steel</li> <li>• Unsheathed</li> <li>• Butt Welded</li> <li>• Special lengths to order</li> <li>• Thick wall hose static bend radius is to point of permanent deformation</li> </ul>	Flange Size (ISO)	Static Bend Radius	Hose Wall	A		Spring Rate	Part Number	Price
	NW 16	2 1/8"	<b>0.012</b> (0.30)	<b>9.84</b> (250)		256 lb/in	<b>100315901</b>	
	NW 16	2 1/8"	<b>0.012</b> (0.30)	<b>19.69</b> (500)		128 lb/in	<b>100316001</b>	
	NW 16	2 1/8"	<b>0.012</b> (0.30)	<b>39.40</b> (1000)		64 lb/in	<b>100316111</b>	
	NW 25	2 7/8"	<b>0.012</b> (0.30)	<b>9.84</b> (250)		224 lb/in	<b>100315903</b>	
	NW 25	2 7/8"	<b>0.012</b> (0.30)	<b>19.69</b> (500)		112 lb/in	<b>100316003</b>	
	NW 25	2 7/8"	<b>0.012</b> (0.30)	<b>39.40</b> (1000)		56 lb/in	<b>100316113</b>	
	NW 40	3 1/2"	<b>0.012</b> (0.30)	<b>9.84</b> (250)		220 lb/in	<b>100315905</b>	
	NW 40	3 1/2"	<b>0.012</b> (0.30)	<b>19.69</b> (500)		110 lb/in	<b>100316005</b>	
	NW 40	3 1/2"	<b>0.012</b> (0.30)	<b>39.40</b> (1000)		55 lb/in	<b>100316115</b>	
	NW 50	5 1/4"	<b>0.012</b> (0.30)	<b>9.84</b> (250)		220 lb/in	<b>100315906</b>	
NW 50	5 1/4"	<b>0.012</b> (0.30)	<b>19.69</b> (500)		110 lb/in	<b>100316006</b>		
NW 50	5 1/4"	<b>0.012</b> (0.30)	<b>39.40</b> (1000)		55 lb/in	<b>100316116</b>		

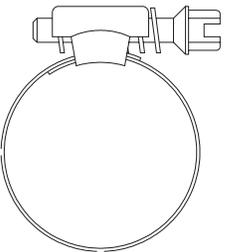
ISO-KF Thin Wall Metal Hose							in/(mm)	
	Flange Size (ISO)	Static Bend Radius	Hose Wall	A	B	Spring Rate	Part Number	Price
	<ul style="list-style-type: none"> <li>• Stainless Steel</li> <li>• Unsheathed</li> <li>• Butt Welded</li> <li>• Special lengths to order</li> </ul>	NW 16	1 <sup>5</sup> / <sub>8</sub> "	0.006 (0.15)	9.84 (250)	6.41 (163)	27 lb/in	100317411
NW 16		1 <sup>5</sup> / <sub>8</sub> "	0.006 (0.15)	12.02 (305)	7.82 (199)	21 lb/in	100319805	
NW 16		1 <sup>5</sup> / <sub>8</sub> "	0.006 (0.15)	19.69 (500)	12.30 (313)	12 lb/in	100317421	
NW 16		1 <sup>5</sup> / <sub>8</sub> "	0.006 (0.15)	24.09 (612)	18.12 (460)	9 lb/in	100319808	
NW 16		1 <sup>5</sup> / <sub>8</sub> "	0.006 (0.15)	39.40 (1000)	24.10 (613)	5.8 lb/in	100317441	
NW 25		1 <sup>3</sup> / <sub>8</sub> "	0.006 (0.15)	9.84 (250)	6.41 (163)	16 lb/in	100317413	
NW 25		1 <sup>3</sup> / <sub>8</sub> "	0.006 (0.15)	11.99 (305)	7.82 (199)	14 lb/in	100319806	
NW 25		1 <sup>3</sup> / <sub>8</sub> "	0.006 (0.15)	19.69 (500)	12.30 (313)	7.3 lb/in	100317423	
NW 25		1 <sup>3</sup> / <sub>8</sub> "	0.006 (0.15)	24.00 (610)	18.12 (460)	6.5 lb/in	100319809	
NW 25		1 <sup>3</sup> / <sub>8</sub> "	0.006 (0.15)	39.40 (1000)	24.10 (613)	3.4 lb/in	100317443	
NW 40		2 <sup>1</sup> / <sub>2</sub> "	0.006 (0.15)	9.84 (250)	6.23 (158)	8.6 lb/in	100317415	
NW 40		2 <sup>1</sup> / <sub>2</sub> "	0.006 (0.15)	12.12 (308)	7.88 (200)	7 lb/in	100319807	
NW 40		2 <sup>1</sup> / <sub>2</sub> "	0.006 (0.15)	19.69 (500)	11.70 (297)	3.9 lb/in	100317425	
NW 40		2 <sup>1</sup> / <sub>2</sub> "	0.006 (0.15)	24.05 (611)	18.12 (460)	3 lb/in	100319810	
NW 40		2 <sup>1</sup> / <sub>2</sub> "	0.006 (0.15)	39.40 (1000)	22.50 (571)	1.9 lb/in	100317445	
NW 50		3 <sup>1</sup> / <sub>4</sub> "	0.006 (0.15)	9.84 (250)	7.05 (179)	13 lb/in	100317416	
NW 50		3 <sup>1</sup> / <sub>4</sub> "	0.006 (0.15)	11.93 (303)	8.64 (219)	12 lb/in	100319817	
NW 50		3 <sup>1</sup> / <sub>4</sub> "	0.006 (0.15)	19.69 (500)	13.50 (342)	5.9 lb/in	100317426	
NW 50		3 <sup>1</sup> / <sub>4</sub> "	0.006 (0.15)	24.08 (612)	18.12 (460)	5 lb/in	100319811	
NW 50		3 <sup>1</sup> / <sub>4</sub> "	0.006 (0.15)	39.40 (1000)	26.30 (667)	2.9 lb/in	100317446	

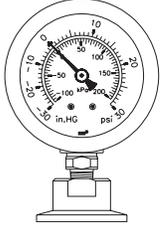


ISO-KF Braided Metal Hose						in/(mm)	
 <ul style="list-style-type: none"> <li>• Ideal for rough pumping line</li> <li>• Stainless Steel</li> <li>• Flexible, yet resistant to contraction</li> </ul>	Flange Size (ISO)	Static Bend Radius	A		Part Number	Price	
	NW 16	2½"	10.23 (259)		100313201		
	NW 16	2½"	20.23 (514)		100313301		
	NW 16	2½"	40.23 (1022)		100313401		
	NW 25	3"	10.27 (261)		100313203		
	NW 25	3"	20.27 (515)		100313303		
	NW 25	3"	40.27 (1023)		100313403		
	NW 40	5"	10.28 (261)		100313205		
	NW 40	5"	20.28 (515)		100313305		
	NW 40	5"	40.28 (1023)		100313405		
	NW 50	6"	10.53 (268)		100313206		
	NW 50	6"	20.53 (522)		100313306		
NW 50	6"	40.53 (1030)		100313406			

ISO-KF PVC Tubing						in/(mm)	
 <ul style="list-style-type: none"> <li>• Flanges, Stainless Steel type 304</li> <li>• Hose clamped on flange</li> <li>• Good for exhaust lines</li> <li>• Special lengths on request</li> <li>• Wire molded in tube wall for reinforcement</li> </ul>	Flange Size (ISO)		A		Part Number	Price	
	NW 10		19.69 (500)		100316500		
	NW 10		39.40 (1000)		100316510		
	NW 16		19.69 (500)		100316501		
	NW 16		39.40 (1000)		100316511		
	NW 25		19.69 (500)		100316503		
	NW 25		39.40 (1000)		100316513		
	NW 40		19.69 (500)		100316505		
	NW 40		39.40 (1000)		100316515		
	NW 50		19.69 (500)		100316506		
NW 50		39.40 (1000)		100316516			

PVC Hose						in/(mm)		
 <ul style="list-style-type: none"> <li>• Cut to length</li> <li>• Good for exhaust lines</li> <li>• Wire molded in tube wall for reinforcement</li> <li>• Larger OD PVC has limited flexibility in short lengths</li> </ul>	Flange Size (ISO)		A			Part Number	Price	
	NW 10			0.50 (13)			100317500	
	NW 16			0.75 (19)			100317501	
	NW 25			1.00 (25)			100317503	
	NW 40			1.50 (38)			100317505	
	NW 50			2.00 (51)			100317506	

PVC Hose Clamps							
	Flange Size	Hose Size				Part Number	Price
	NW 10	1/2"				100000797	
	NW 16	3/4"				100000935	
	NW 25	1"				100000936	
	NW 40	1 1/2"				100000937	
	NW 50	2"				100000938	

Bourdon Vacuum/Pressure Gauge							
 <ul style="list-style-type: none"> <li>• Stainless Steel tube and connections</li> <li>• 30" Hg - 30 PSIG</li> <li>• Easy to read dial</li> </ul>	Flange Size (ISO)					Part Number	Price
	NW 10					100318000	
	NW 16					100318001	
	NW 25					100318003	
	NW 40					100318005	
	NW 50					100318006	

Flange Protector Caps							
<ul style="list-style-type: none"> <li>• Protects flange faces</li> <li>• Plastic</li> </ul>	Flange Size (ISO)					Part Number	Price
	NW 16					100310001	
	NW 25					100310003	
	NW 40					100310005	
	NW 50					100310006	



## Numerical Listing

<b>10000797</b>	PVC Hose Clamp, 1/2"	<b>100311605</b>	Blank-off, NW 40, AL
<b>10000935</b>	PVC Hose Clamp, 3/4"	<b>100311606</b>	Blank-off, NW 50, AL
<b>10000936</b>	PVC Hose Clamp, 1"	<b>100311700</b>	Blank-off, NW 10, SS
<b>10000937</b>	PVC Hose Clamp, 1-1/2"	<b>100311701</b>	Blank-off, NW 16, SS
<b>10000938</b>	PVC Hose Clamp, 2"	<b>100311703</b>	Blank-off, NW 25, SS
		<b>100311705</b>	Blank-off, NW 40, SS
		<b>100311706</b>	Blank-off, NW 50, SS
<b>100001380</b>	Seal, O-ring, ASA 1-1/2", Viton®	<b>100311801</b>	Adapter, hose, NW 16, AL
<b>100001381</b>	Seal, O-ring, Balls Socket 75/50, Viton®	<b>100311803</b>	Adapter, hose, NW 25, AL
<b>100001654</b>	Seal, O-ring, Balls Socket 50/30, Viton®	<b>100311805</b>	Adapter, hose, NW 40, AL
<b>100006098</b>	Seal, O-ring, ASA 2", Viton®	<b>100311806</b>	Adapter, hose, NW 50, AL
<b>100006099</b>	Seal, O-ring, ASA 3", Viton®	<b>100311811</b>	Adapter, hose, NW 16, AL
<b>100310001</b>	Flange protector, NW 16	<b>100312000</b>	Adapter pipe, NW 10, 1/8 NPT-F, AL
<b>100310003</b>	Flange protector, NW 25	<b>100312001</b>	Adapter pipe, NW 16, 1/8 NPT-F, AL
<b>100310005</b>	Flange protector, NW 40	<b>100312003</b>	Adapter pipe, NW 25, 1/8 NPT-F, AL
<b>100310006</b>	Flange protector, NW 50	<b>100312005</b>	Adapter pipe, NW 40, 1/8 NPT-F, AL
		<b>100312006</b>	Adapter pipe, NW 50, 1/8 NPT-F, AL
<b>100310101</b>	Short weld stub, NW 16, AL	<b>100312100</b>	Adapter pipe, NW 10, 1/8 NPT-F, SS
<b>100310103</b>	Short weld stub, NW 25, AL	<b>100312101</b>	Adapter pipe, NW 16, 1/8 NPT-F, SS
<b>100310105</b>	Short weld stub, NW 40, AL	<b>100312103</b>	Adapter pipe, NW 25, 1/8 NPT-F, SS
<b>100310106</b>	Short weld stub, NW 50, AL	<b>100312105</b>	Adapter pipe, NW 40, 1/8 NPT-F, SS
<b>100310111</b>	Short weld stub, NW 16, AL	<b>100312106</b>	Adapter pipe, NW 50, 1/8 NPT-F, SS
<b>100310201</b>	Long weld stub, NW 16, AL	<b>100312200</b>	Adapter pipe, NW 10, 1/4 NPT-F, AL
<b>100310203</b>	Long weld stub, NW 25, AL	<b>100312201</b>	Adapter pipe, NW 16, 1/4 NPT-F, AL
<b>100310205</b>	Long weld stub, NW 40, AL	<b>100312203</b>	Adapter pipe, NW 25, 1/4 NPT-F, AL
<b>100310206</b>	Long weld stub, NW 50, AL	<b>100312205</b>	Adapter pipe, NW 40, 1/4 NPT-F, AL
<b>100310211</b>	Long weld stub, NW 16, AL	<b>100312206</b>	Adapter pipe, NW 50, 1/4 NPT-F, AL
<b>100310300</b>	Short weld stub, NW 10, SS	<b>100312300</b>	Adapter pipe, NW 10, 1/4 NPT-F, SS
<b>100310301</b>	Short weld stub, NW 16, SS	<b>100312301</b>	Adapter pipe, NW 16, 1/4 NPT-F, SS
<b>100310303</b>	Short weld stub, NW 25, SS	<b>100312303</b>	Adapter pipe, NW 25, 1/4 NPT-F, SS
<b>100310305</b>	Short weld stub, NW 40, SS	<b>100312305</b>	Adapter pipe, NW 40, 1/4 NPT-F, SS
<b>100310306</b>	Short weld stub, NW 50, SS	<b>100312306</b>	Adapter pipe, NW 50, 1/4 NPT-F, SS
<b>100310311</b>	Short weld stub, NW 16, SS	<b>100312500</b>	Seal assembly, NW 10, AL/Buna
<b>100311100</b>	Unbored Stub, NW 10, AL	<b>100312501</b>	Seal assembly, NW 16, AL/Buna
<b>100311101</b>	Unbored Stub, NW 16, AL	<b>100312503</b>	Seal assembly, NW 25, AL/Buna
<b>100311103</b>	Unbored Stub, NW 25, AL	<b>100312505</b>	Seal assembly, NW 40, AL/Buna
<b>100311105</b>	Unbored Stub, NW 40, AL	<b>100312506</b>	Seal assembly, NW 50, AL/Buna
<b>100311106</b>	Unbored Stub, NW 50, AL	<b>100312600</b>	Seal assembly, NW 10, AL/Viton®
<b>100311300</b>	Unbored Stub, NW 10, SS	<b>100312601</b>	Seal assembly, NW 16, AL/Viton®
<b>100311301</b>	Unbored Stub, NW 16, SS	<b>100312603</b>	Seal assembly, NW 25, AL/Viton®
<b>100311303</b>	Unbored Stub, NW 25, SS	<b>100312605</b>	Seal assembly, NW 40, AL/Viton®
<b>100311305</b>	Unbored Stub, NW 40, SS	<b>100312606</b>	Seal assembly, NW 50, AL/Viton®
<b>100311306</b>	Unbored Stub, NW 50, SS	<b>100312700</b>	Seal assembly, NW 10, SS/Viton®
<b>100311401</b>	Unbored Stub, NW 16, Brass	<b>100312701</b>	Seal assembly, NW 16, SS/Viton®
<b>100311403</b>	Unbored Stub, NW 25, Brass	<b>100312703</b>	Seal assembly, NW 25, SS/Viton®
<b>100311405</b>	Unbored Stub, NW 40, Brass	<b>100312705</b>	Seal assembly, NW 40, SS/Viton®
<b>100311406</b>	Unbored Stub, NW 50, Brass	<b>100312706</b>	Seal assembly, NW 50, SS/Viton®
<b>100311600</b>	Blank-off, NW 10, AL	<b>100312800</b>	Seal assembly, NW 10, SS/Buna
<b>100311601</b>	Blank-off, NW 16, AL		
<b>100311603</b>	Blank-off, NW 25, AL		

<b>100312801</b>	Seal assembly, NW 16, SS/Buna	<b>100314415</b>	Elbow, NW 40, 90°, long radius, SS
<b>100312803</b>	Seal assembly, NW 25, SS/Buna	<b>100314416</b>	Elbow, NW 50, 90°, long radius, SS
<b>100312805</b>	Seal assembly, NW 40, SS/Buna		
<b>100312806</b>	Seal assembly, NW 50, SS/Buna		
<b>100312901</b>	Clamp, NW 16, AL	<b>100314505</b>	Elbow, NW 40, 90°, SS
<b>100312903</b>	Clamp, NW 25, AL	<b>100314506</b>	Elbow, NW 50, 90°, SS
<b>100312905</b>	Clamp, NW 40, AL		
<b>100312906</b>	Clamp, NW 50, AL		
<b>100313201</b>	Braided Metal Hose, NW 16, 10", SS	<b>100314601</b>	Tee, NW 16, SS
<b>100313203</b>	Braided Metal Hose, NW 25, 10", SS	<b>100314603</b>	Tee, NW 25, SS
<b>100313205</b>	Braided Metal Hose, NW 40, 10", SS	<b>100314605</b>	Tee, NW 40, SS
<b>100313206</b>	Braided Metal Hose, NW 50, 10", SS	<b>100314606</b>	Tee, NW 50, SS
<b>100313301</b>	Braided Metal Hose, NW 16, 20", SS	<b>100314801</b>	Cross, NW 16, SS
<b>100313303</b>	Braided Metal Hose, NW 25, 20", SS	<b>100314803</b>	Cross, NW 25, SS
<b>100313305</b>	Braided Metal Hose, NW 40, 20", SS	<b>100314805</b>	Cross, NW 40, SS
<b>100313306</b>	Braided Metal Hose, NW 50, 20", SS	<b>100314806</b>	Cross, NW 50, SS
<b>100313401</b>	Braided Metal Hose, NW 16, 40", SS	<b>100314911</b>	Bellows, NW 16, SS
<b>100313403</b>	Braided Metal Hose, NW 25, 40", SS	<b>100314913</b>	Bellows, NW 25, SS
<b>100313405</b>	Braided Metal Hose, NW 40, 40", SS	<b>100314915</b>	Bellows, NW 40, SS
<b>100313406</b>	Braided Metal Hose, NW 50, 40", SS	<b>100314916</b>	Bellows, NW 50, SS
<b>100313511</b>	Reducer, NW 25-16, AL	<b>100315101</b>	Straight section, NW 16, 80 mm, SS
<b>100313512</b>	Reducer, NW 40-16, AL	<b>100315103</b>	Straight section, NW 25, 100 mm, SS
<b>100313513</b>	Reducer, NW 50-16, AL	<b>100315105</b>	Straight section, NW 40, 130 mm, SS
<b>100313514</b>	Reducer, NW 40-25, AL	<b>100315106</b>	Straight section, NW 50, 140 mm, SS
<b>100313515</b>	Reducer, NW 50-25, AL	<b>100315111</b>	Straight section, NW 16, 320 mm, SS
<b>100313516</b>	Reducer, NW 50-40, AL	<b>100315113</b>	Straight section, NW 25, 320 mm, SS
<b>100313711</b>	Reducer, NW 25-16, SS	<b>100315115</b>	Straight section, NW 40, 320 mm, SS
<b>100313712</b>	Reducer, NW 40-16, SS	<b>100315116</b>	Straight section, NW 50, 320 mm, SS
<b>100313713</b>	Reducer, NW 50-16, SS	<b>100315301</b>	Flange, braze socket, NW 16, brass
<b>100313714</b>	Reducer, NW 40-25, SS	<b>100315303</b>	Flange, braze socket, NW 25, brass
<b>100313715</b>	Reducer, NW 50-25, SS	<b>100315305</b>	Flange, braze socket, NW 40, brass
<b>100313716</b>	Reducer, NW 50-40, SS	<b>100315306</b>	Flange, braze socket, NW 50, brass
<b>100313900</b>	Seal, O-ring, NW 10, Buna-N	<b>100315311</b>	Flange, braze socket, NW 16, brass
<b>100313901</b>	Seal, O-ring, NW 16, Buna-N	<b>100315313</b>	Flange, braze socket, NW 25, brass
<b>100313903</b>	Seal, O-ring, NW 25, Buna-N	<b>100315316</b>	Flange, braze socket, NW 50, brass
<b>100313905</b>	Seal, O-ring, NW 40, Buna-N	<b>100315321</b>	Flange, braze socket, NW 16, brass
<b>100313906</b>	Seal, O-ring, NW 50, Buna-N	<b>100315401</b>	Flange, braze stub, NW 16, brass
<b>100314000</b>	Seal, O-ring, NW 10, Viton®	<b>100315403</b>	Flange, braze stub, NW 25, brass
<b>100314001</b>	Seal, O-ring, NW 16, Viton®	<b>100315405</b>	Flange, braze stub, NW 40, brass
<b>100314003</b>	Seal, O-ring, NW 25, Viton®	<b>100315406</b>	Flange, braze stub, NW 50, brass
<b>100314005</b>	Seal, O-ring, NW 40, Viton®	<b>100315411</b>	Flange, braze stub, NW 16, brass
<b>100314006</b>	Seal, O-ring, NW 50, Viton®	<b>100315413</b>	Flange, braze stub, NW 25, brass
<b>100314300</b>	Tubing, SS, NW 10, per ft	<b>100315416</b>	Flange, braze stub, NW 50, brass
<b>100314301</b>	Tubing, SS, NW 16, per ft	<b>100315421</b>	Flange, braze stub, NW 16, brass
<b>100314303</b>	Tubing, SS, NW 25, per ft	<b>100315501</b>	Blank-off, NW 16, brass
<b>100314305</b>	Tubing, SS, NW 40, per ft	<b>100315503</b>	Blank-off, NW 25, brass
<b>100314306</b>	Tubing, SS, NW 50, per ft	<b>100315505</b>	Blank-off, NW 40, brass
<b>100314401</b>	Elbow, NW 16, 90°, SS	<b>100315506</b>	Blank-off, NW 50, brass
<b>100314403</b>	Elbow, NW 25, 90°, SS	<b>100315601</b>	Adapter, NW 16 - mini CF
		<b>100315603</b>	Adapter, NW 25 - 2¾" CF



<b>100315605</b>	Adapter, NW 40 - 2 <sup>3</sup> / <sub>4</sub> " CF	<b>100316511</b>	PVC tubing 40", NW 16 flanges
<b>100315606</b>	Adapter, NW 50 - 4 <sup>1</sup> / <sub>2</sub> " CF	<b>100316513</b>	PVC tubing 40", NW 25 flanges
<b>100315611</b>	Adapter, NW 16 - 2 <sup>3</sup> / <sub>4</sub> " CF	<b>100316515</b>	PVC tubing 40", NW 40 flanges
		<b>100316516</b>	PVC tubing 40", NW 50 flanges
<b>100315700</b>	Flange, long weld stub, NW 10, SS	<b>100316601</b>	Adapter, Welch pump, NW 16
<b>100315701</b>	Flange, long weld stub, NW 16, SS	<b>100316603</b>	Adapter, Welch pump, NW 25
<b>100315703</b>	Flange, long weld stub, NW 25, SS	<b>100316615</b>	Adapter, Welch pump, NW 40
<b>100315705</b>	Flange, long weld stub, NW 40, SS	<b>100316621</b>	Adapter, Welch pump, NW 16
<b>100315706</b>	Flange, long weld stub, NW 50, SS		
<b>100315711</b>	Flange, long weld stub, NW 16, SS	<b>100316705</b>	Adapter, NW 40-2 ASA w/o groove
		<b>100316706</b>	Adapter, NW 50-2 ASA w/o groove
<b>100315801</b>	Adapter seal, NW 16-10, Al/Buna	<b>100316715</b>	Adapter, NW 40-3 ASA w/o groove
<b>100315803</b>	Adapter seal, NW 25-20, Al/Buna	<b>100316716</b>	Adapter, NW 50-3 ASA w/o groove
<b>100315805</b>	Adapter seal, NW 40-32, Al/Buna		
		<b>100316725</b>	Adapter, NW 40-2 ASA w/ groove
<b>100315811</b>	Adapter seal, NW 16-10, Al/Viton®	<b>100316726</b>	Adapter, NW 50-2 ASA w/ groove
<b>100315813</b>	Adapter seal, NW 25-20, Al/Viton®	<b>100316735</b>	Adapter, NW 40-3 ASA w/ groove
<b>100315815</b>	Adapter seal, NW 40-32, Al/Viton®	<b>100316736</b>	Adapter, NW 50-3 ASA w/ groove
<b>100315821</b>	Adapter seal, NW 16-10, SS/Viton®	<b>100316755</b>	Adapter, NW 40-1 <sup>1</sup> / <sub>2</sub> ASA w/o groove
<b>100315823</b>	Adapter seal, NW 25-20, SS/Viton®	<b>100316756</b>	Adapter, NW 50-1 <sup>1</sup> / <sub>2</sub> ASA w/o groove
<b>100315825</b>	Adapter seal, NW 40-32, SS/Viton®	<b>100316775</b>	Adapter, NW 40-1 <sup>1</sup> / <sub>2</sub> ASA w/ groove
		<b>100316776</b>	Adapter, NW 50-1 <sup>1</sup> / <sub>2</sub> ASA w/ groove
<b>100315901</b>	Hose, NW 16, thick wall, SS, 10"		
<b>100315903</b>	Hose, NW 25, thick wall, SS, 10"	<b>100316801</b>	Adapter pipe, NW 16- <sup>1</sup> / <sub>8</sub> NPT-M, SS
<b>100315905</b>	Hose, NW 40, thick wall, SS, 10"	<b>100316803</b>	Adapter pipe, NW 25- <sup>1</sup> / <sub>8</sub> NPT-M, SS
<b>100315906</b>	Hose, NW 50, thick wall, SS, 10"	<b>100316805</b>	Adapter pipe, NW 40- <sup>1</sup> / <sub>4</sub> NPT-M, SS
		<b>100316806</b>	Adapter pipe, NW 50- <sup>1</sup> / <sub>4</sub> NPT-M, SS
<b>100316001</b>	Hose, NW 16, thick wall, SS, 20"	<b>100316811</b>	Adapter pipe, NW 16- <sup>1</sup> / <sub>4</sub> NPT-M, SS
<b>100316003</b>	Hose, NW 25, thick wall, SS, 20"	<b>100316813</b>	Adapter pipe, NW 25- <sup>1</sup> / <sub>4</sub> NPT-M, SS
<b>100316005</b>	Hose, NW 40, thick wall, SS, 20"	<b>100316815</b>	Adapter pipe, NW 40- <sup>1</sup> / <sub>2</sub> NPT-M, SS
<b>100316006</b>	Hose, NW 50, thick wall, SS, 20"	<b>100316816</b>	Adapter pipe, NW 50- <sup>1</sup> / <sub>2</sub> NPT-M, SS
		<b>100316823</b>	Adapter pipe, NW 25- <sup>1</sup> / <sub>2</sub> NPT-M, SS
<b>100316111</b>	Hose, NW 16, thick wall, SS, 40"	<b>100316825</b>	Adapter pipe, NW 40- <sup>3</sup> / <sub>4</sub> NPT-M, SS
<b>100316113</b>	Hose, NW 25, thick wall, SS, 40"		
<b>100316115</b>	Hose, NW 40, thick wall, SS, 40"	<b>100316826</b>	Adapter pipe, NW 50- <sup>3</sup> / <sub>4</sub> NPT-M, SS
<b>100316116</b>	Hose, NW 50, thick wall, SS, 40"	<b>100316833</b>	Adapter pipe, NW 25- <sup>3</sup> / <sub>4</sub> NPT-M, SS
		<b>100316835</b>	Adapter pipe, NW 40-1 NPT-M, SS
<b>100316300</b>	Overpressure ring, NW 10	<b>100316836</b>	Adapter pipe, NW 50-1 NPT-M, SS
<b>100316301</b>	Overpressure ring, NW 16	<b>100316844</b>	Adapter pipe, NW 40-1 <sup>1</sup> / <sub>4</sub> , NPT-M, SS
<b>100316303</b>	Overpressure ring, NW 25	<b>100316845</b>	Adapter pipe, NW 40-1 <sup>1</sup> / <sub>2</sub> , NPT-M, SS
<b>100316305</b>	Overpressure ring, NW 40	<b>100316846</b>	Adapter pipe, NW 50-2, NPT-M, SS
<b>100316306</b>	Overpressure ring, NW 50		
		<b>100316903</b>	Adapter tubing, NW 25- <sup>1</sup> / <sub>2</sub> SS
<b>100316400</b>	Adapter, NW 10 - <sup>1</sup> / <sub>2</sub> " PVC tubing	<b>100316905</b>	Adapter tubing, NW 40- <sup>1</sup> / <sub>2</sub> SS
<b>100316401</b>	Adapter, NW 16 - <sup>3</sup> / <sub>4</sub> " PVC tubing	<b>100316906</b>	Adapter tubing, NW 50-1 <sup>1</sup> / <sub>2</sub> SS
<b>100316403</b>	Adapter, NW 25 - 1" PVC tubing	<b>100316910</b>	Adapter tubing, NW 10- <sup>1</sup> / <sub>2</sub> SS
<b>100316405</b>	Adapter, NW 40 - 1 <sup>1</sup> / <sub>2</sub> " PVC tubing	<b>100316911</b>	Adapter tubing, NW 16- <sup>1</sup> / <sub>4</sub> SS
<b>100316406</b>	Adapter, NW 50 - 2" PVC tubing	<b>100316913</b>	Adapter tubing, NW 25- <sup>3</sup> / <sub>4</sub> SS
<b>100316411</b>	Adapter, NW 16 - <sup>1</sup> / <sub>2</sub> " PVC tubing	<b>100316915</b>	Adapter tubing, NW 40- <sup>3</sup> / <sub>4</sub> SS
		<b>100316916</b>	Adapter tubing, NW 50-2 SS
<b>100316500</b>	PVC tubing 20", NW 10 flanges	<b>100316921</b>	Adapter tubing, NW 16- <sup>1</sup> / <sub>2</sub> SS
<b>100316501</b>	PVC tubing 20", NW 16 flanges	<b>100316923</b>	Adapter tubing, NW 25-1 SS
<b>100316503</b>	PVC tubing 20", NW 25 flanges	<b>100316925</b>	Adapter tubing, NW 40-1 SS
<b>100316505</b>	PVC tubing 20", NW 40 flanges	<b>100316926</b>	Adapter tubing, NW 50- <sup>3</sup> / <sub>4</sub> SS
<b>100316506</b>	PVC tubing 20", NW 50 flanges	<b>100316931</b>	Adapter tubing, NW 16- <sup>3</sup> / <sub>4</sub> SS
<b>100316510</b>	PVC tubing 40", NW 10 flanges		

<b>100316935</b>	Adapter tubing, NW 40-1½ SS	<b>100318303</b>	Flange, weld socket, NW 25, SS
<b>100316936</b>	Adapter tubing, NW 50-1 SS	<b>100318305</b>	Flange, weld socket, NW 40, SS
<b>100316945</b>	Adapter tubing, NW 40-1⅝ SS	<b>100318306</b>	Flange, weld socket, NW 50, SS
<b>100316946</b>	Adapter tubing, NW 50-1⅝ SS	<b>100318311</b>	Flange, weld socket, NW 16, SS
<b>100317203</b>	Feedthrough, NW 25, single tube	<b>100318321</b>	Flange, weld socket, NW 16, ¾" tubing, SS
<b>100317205</b>	Feedthrough, NW 40, single tube	<b>100318403</b>	Tee, reducing, NW 25-16, SS
<b>100317213</b>	Feedthrough, NW 25, double tube	<b>100318405</b>	Tee, reducing, NW 40-16, SS
<b>100317215</b>	Feedthrough, NW 40, double tube	<b>100318406</b>	Tee, reducing, NW 50-16, SS
<b>100317300</b>	Seal assembly, NW 10, SS/Silicone	<b>100318501</b>	Adapter, Pyrex® tube, NW 16, ½" OD, SS
<b>100317301</b>	Seal assembly, NW 16, SS/Silicone	<b>100318503</b>	Adapter, Pyrex® tube, NW 25, 1" OD, SS
<b>100317303</b>	Seal assembly, NW 25, SS/Silicone	<b>100318505</b>	Adapter, Pyrex® tube, NW 40, 1 ½" OD, SS
<b>100317305</b>	Seal assembly, NW 40, SS/Silicone	<b>100318511</b>	Adapter, Pyrex® tube, NW 16, ¾" OD, SS
<b>100317306</b>	Seal assembly, NW 50, SS/Silicone	<b>100318601</b>	Seal assembly w/ screen, NW 16, SS/Viton®
<b>100317310</b>	Seal, O-ring, NW 10, Silicone	<b>100318603</b>	Seal assembly w/ screen, NW 25, SS/Viton®
<b>100317311</b>	Seal, O-ring, NW 16, Silicone	<b>100318605</b>	Seal assembly w/ screen, NW 40, SS/Viton®
<b>100317313</b>	Seal, O-ring, NW 25, Silicone	<b>100318606</b>	Seal assembly w/ screen, NW 50, SS/Viton®
<b>100317315</b>	Seal, O-ring, NW 40, Silicone	<b>100318701</b>	Elbow, NW 16, 45°, SS
<b>100317316</b>	Seal, O-ring, NW 50, Silicone	<b>100318703</b>	Elbow, NW 25, 45°, SS
<b>100317411</b>	Hose, NW 16, thin wall, SS, 10"	<b>100318705</b>	Elbow, NW 40, 45°, SS
<b>100317413</b>	Hose, NW 25, thin wall, SS, 10"	<b>100318706</b>	Elbow, NW 50, 45°, SS
<b>100317415</b>	Hose, NW 40, thin wall, SS, 10"	<b>100318801</b>	Clamp, toggle, NW 16, AL
<b>100317416</b>	Hose, NW 50, thin wall, SS, 10"	<b>100318803</b>	Clamp, toggle, NW 25, AL
<b>100317421</b>	Hose, NW 16, thin wall, SS, 20"	<b>100318805</b>	Clamp, toggle, NW 40, AL
<b>100317423</b>	Hose, NW 25, thin wall, SS, 20"	<b>100318806</b>	Clamp, toggle, NW 50, AL
<b>100317425</b>	Hose, NW 40, thin wall, SS, 20"	<b>100318801-L</b>	Clamp, toggle w/ lanyard, NW 16, AL
<b>100317426</b>	Hose, NW 50, thin wall, SS, 20"	<b>100318803-L</b>	Clamp, toggle w/ lanyard, NW 25, AL
<b>100317441</b>	Hose, NW 16, thin wall, SS, 40"	<b>100318805-L</b>	Clamp, toggle w/ lanyard, NW 40, AL
<b>100317443</b>	Hose, NW 25, thin wall, SS, 40"	<b>100318806-L</b>	Clamp, toggle w/ lanyard, NW 50, AL
<b>100317445</b>	Hose, NW 40, thin wall, SS, 40"	<b>100318901</b>	Clamp, bulkhead, NW 16, AL
<b>100317446</b>	Hose, NW 50, thin wall, SS, 40"	<b>100318903</b>	Clamp, bulkhead, NW 25, AL
<b>100317500</b>	Hose, PVC, NW 10, per ft	<b>100318905</b>	Clamp, bulkhead, NW 40, AL
<b>100317501</b>	Hose, PVC, NW 16, per ft	<b>100318906</b>	Clamp, bulkhead, NW 50, AL
<b>100317503</b>	Hose, PVC, NW 25, per ft	<b>100319005</b>	Viewing port, NW 40
<b>100317505</b>	Hose, PVC, NW 40, per ft	<b>100319006</b>	Viewing port, NW 50
<b>100317506</b>	Hose, PVC, NW 50, per ft	<b>100319111</b>	Adapter, NW 16-¼ VCR®-M
<b>100317903</b>	Feedthrough, base plate, NW 25	<b>100319113</b>	Adapter, NW 25-¼ VCR®-M
<b>100317905</b>	Feedthrough, base plate, NW 40	<b>100319115</b>	Adapter, NW 40-¼ VCR®-M
<b>100318000</b>	Gauge, compound vacuum/pressure, NW 10	<b>100319116</b>	Adapter, NW 50-¼ VCR®-M
<b>100318001</b>	Gauge, compound vacuum/pressure, NW 16	<b>100319121</b>	Adapter, NW 16-½ VCR®-M
<b>100318003</b>	Gauge, compound vacuum/pressure, NW 25	<b>100319123</b>	Adapter, NW 25-½ VCR®-M
<b>100318005</b>	Gauge, compound vacuum/pressure, NW 40	<b>100319125</b>	Adapter, NW 40-½ VCR®-M
<b>100318006</b>	Gauge, compound vacuum/pressure, NW 50	<b>100319126</b>	Adapter, NW 50-½ VCR®-M
<b>100318205</b>	Adapter, NW 40-50/30 ball socket, SS	<b>100319133</b>	Adapter, NW 25-¾ VCR®-M
<b>100318206</b>	Adapter, NW 50-75/50 ball socket, SS	<b>100319135</b>	Adapter, NW 40-¾ VCR®-M
<b>100318215</b>	Adapter, NW 40-50/30 ball socket, w/groove, SS	<b>100319136</b>	Adapter, NW 50-¾ VCR®-M
<b>100318216</b>	Adapter, NW 50-75/30 ball socket, w/groove, SS	<b>100319211</b>	Adapter, NW 16-¼ VCR®-F
<b>100318301</b>	Flange, weld socket, NW 16, ½" tubing, SS	<b>100319213</b>	Adapter, NW 25-¼ VCR®-F

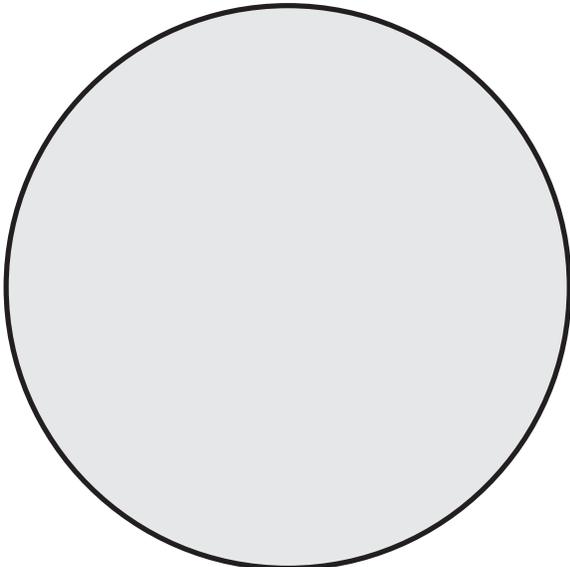


<b>100319215</b>	Adapter, NW 40- <sup>1</sup> / <sub>4</sub> VCR®-F	<b>100319746</b>	Blank with 0.75" bore, NW 50
<b>100319216</b>	Adapter, NW 50- <sup>1</sup> / <sub>4</sub> VCR®-F	<b>100319755</b>	Blank with 1.00" bore, NW 40
		<b>100319756</b>	Blank with 1.00" bore, NW 50
<b>100319221</b>	Adapter, NW 16- <sup>1</sup> / <sub>2</sub> VCR®-F	<b>100319766</b>	Blank with 1.50" bore, NW 50
<b>100319223</b>	Adapter, NW 25- <sup>1</sup> / <sub>2</sub> VCR®-F		
<b>100319225</b>	Adapter, NW 40- <sup>1</sup> / <sub>2</sub> VCR®-F	<b>100319801</b>	Blank with bore, NW 80
<b>100319226</b>	Adapter, NW 50- <sup>1</sup> / <sub>2</sub> VCR®-F	<b>100319802</b>	Blank-off, NW 80, SS
		<b>100319803</b>	Blank with bore, NW 100
<b>100319233</b>	Adapter, NW 25- <sup>3</sup> / <sub>4</sub> VCR®-F	<b>100319804</b>	Blank-off, NW 100, SS
<b>100319235</b>	Adapter, NW 40- <sup>3</sup> / <sub>4</sub> VCR®-F		
<b>100319236</b>	Adapter, NW 50- <sup>3</sup> / <sub>4</sub> VCR®-F	<b>100319805</b>	Hose, NW 16, thin wall, SS, 12"
		<b>100319806</b>	Hose, NW 25, thin wall, SS, 12"
<b>100319301</b>	Adapter tee, pipe, NW 16- <sup>1</sup> / <sub>8</sub> NPT-F, AL	<b>100319807</b>	Hose, NW 40, thin wall, SS, 12"
<b>100319303</b>	Adapter tee, pipe, NW 25- <sup>1</sup> / <sub>8</sub> NPT-F, AL		
<b>100319305</b>	Adapter tee, pipe, NW 40- <sup>1</sup> / <sub>8</sub> NPT-F, AL	<b>100319808</b>	Hose, NW 16, thin wall, SS, 24"
<b>100319306</b>	Adapter tee, pipe, NW 50- <sup>1</sup> / <sub>8</sub> NPT-F, AL	<b>100319809</b>	Hose, NW 25, thin wall, SS, 24"
		<b>100319810</b>	Hose, NW 40, thin wall, SS, 24"
<b>100319401</b>	Adapter tee, pipe, NW 16- <sup>1</sup> / <sub>8</sub> NPT-F, SS	<b>100319811</b>	Hose, NW 50, thin wall, SS, 24"
<b>100319403</b>	Adapter tee, pipe, NW 25- <sup>1</sup> / <sub>8</sub> NPT-F, SS		
<b>100319405</b>	Adapter tee, pipe, NW 40- <sup>1</sup> / <sub>8</sub> NPT-F, SS	<b>100319812</b>	Adapter, NW 25 - 2 <sup>1</sup> / <sub>8</sub> " CF
<b>100319406</b>	Adapter tee, pipe, NW 50- <sup>1</sup> / <sub>8</sub> NPT-F, SS	<b>100319813</b>	Adapter, NW 50 - 2 <sup>3</sup> / <sub>4</sub> " CF
<b>100319501</b>	Adapter tee, pipe, NW 16- <sup>1</sup> / <sub>4</sub> NPT-F, AL	<b>100319814</b>	Tee, reducing, NW 50-40, SS
<b>100319503</b>	Adapter tee, pipe, NW 25- <sup>1</sup> / <sub>4</sub> NPT-F, AL	<b>100319815</b>	Tee, reducing, NW 50-25, SS
<b>100319505</b>	Adapter tee, pipe, NW 40- <sup>1</sup> / <sub>4</sub> NPT-F, AL	<b>100319816</b>	Tee, reducing, NW 40-25, SS
<b>100319506</b>	Adapter tee, pipe, NW 50- <sup>1</sup> / <sub>4</sub> NPT-F, AL		
		<b>100319817</b>	Hose, NW 50, thin wall, SS, 12"
<b>100319601</b>	Adapter tee, pipe, NW 16- <sup>1</sup> / <sub>4</sub> NPT-F, SS		
<b>100319603</b>	Adapter tee, pipe, NW 25- <sup>1</sup> / <sub>4</sub> NPT-F, SS	<b>100760508</b>	Seal assembly, NW 80, SS/Viton®
<b>100319605</b>	Adapter tee, pipe, NW 40- <sup>1</sup> / <sub>4</sub> NPT-F, SS	<b>100760510</b>	Seal assembly, NW 100, SS/Viton®
<b>100319606</b>	Adapter tee, pipe, NW 50- <sup>1</sup> / <sub>4</sub> NPT-F, SS		
		<b>100760608</b>	Seal assembly, NW 80, AL/Viton®
<b>100319700</b>	Blank with 0.50" bore, NW 10	<b>100760610</b>	Seal assembly, NW 100, AL/Viton®
<b>100319701</b>	Blank with 0.75" bore, NW 16		
<b>100319703</b>	Blank with 1.00" bore, NW 25	<b>100760708</b>	Seal assembly, NW 80, AL/Buna
<b>100319705</b>	Blank with 1.50" bore, NW 40	<b>100760710</b>	Seal assembly, NW 100, AL/Buna
<b>100319706</b>	Blank with 2.00" bore, NW 50		
		<b>100761908</b>	Seal, O-ring, NW 80, Buna-N
<b>100319710</b>	Blank with 0.25" bore, NW 10	<b>100761910</b>	Seal, O-ring, NW 100, Buna-N
<b>100319711</b>	Blank with 0.25" bore, NW 16		
<b>100319713</b>	Blank with 0.25" bore, NW 25	<b>100762008</b>	Seal, O-ring, NW 80, Viton®
<b>100319715</b>	Blank with 0.25" bore, NW 40	<b>100762010</b>	Seal, O-ring, NW 100, Viton®
<b>100319716</b>	Blank with 0.25" bore, NW 50		
		<b>100762606</b>	Step Adapter, 40 KF - 63 MF, SS
<b>100319720</b>	Blank with 0.38" bore, NW 10	<b>100762608</b>	Step Adapter, 50 KF - 80 MF, SS
<b>100319721</b>	Blank with 0.38" bore, NW 16	<b>100762616</b>	Step Adapter, 40 KF - 80 MF, SS
<b>100319723</b>	Blank with 0.38" bore, NW 25	<b>100762617</b>	Step Adapter, 50 KF - 63 MF, SS
<b>100319725</b>	Blank with 0.38" bore, NW 40	<b>100762618</b>	Step Adapter, 50 KF - 100 MF, SS
<b>100319726</b>	Blank with 0.38" bore, NW 50		
		<b>100764508</b>	Tubing, SS, NW 80, per ft
<b>100319731</b>	Blank with 0.50" bore, NW 16	<b>100764510</b>	Tubing, SS, NW 100, per ft
<b>100319733</b>	Blank with 0.50" bore, NW 25	<b>100764511</b>	Tubing, SS, NW 100, per ft
<b>100319735</b>	Blank with 0.50" bore, NW 40		
<b>100319736</b>	Blank with 0.50" bore, NW 50	<b>100765006</b>	Conical Adapter, 40 KF - 63 MF, SS
		<b>100765008</b>	Conical Adapter, 50 KF - 80 MF, SS
<b>100319743</b>	Blank with 0.75" bore, NW 25	<b>100765016</b>	Conical Adapter, 40 KF - 80 MF, SS
<b>100319745</b>	Blank with 0.75" bore, NW 40	<b>100765017</b>	Conical Adapter, 50 KF - 63 MF, SS
		<b>100765018</b>	Conical Adapter, 50 KF - 100 MF, SS

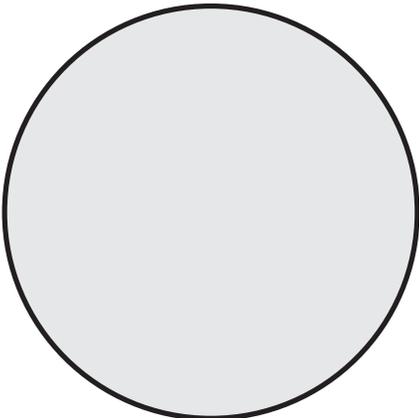
- 1009365243** Seal assembly, Overpressure  
NW 50, SS/Viton®
- 100936524** Seal assembly, Overpressure  
NW 40, SS/Viton®
- 100936525** Seal assembly, Overpressure  
NW 25, SS/Viton®
  
- 100993460** Clamp, NW 80, chain
- 100994717** Clamp, NW 100, chain



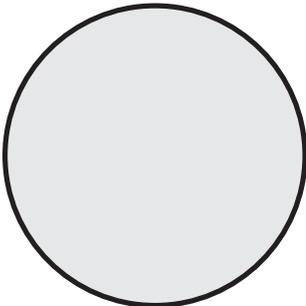
**Reference Sizes**



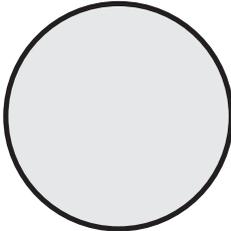
**NW 50  
2.95"**



**NW 40  
2.16"**



**NW 25  
1.57"**



**NW 16 and NW 10  
1.18"**

