

# STAINLESS SOLUTIONS, LLC

SOURCING - INVENTORY - DISTRIBUTION



QUALITY PRODUCTS, COMPETITIVE PRICING AND SERVICE BEYOND YOUR EXPECTATIONS  
Phone (408) 980-9078 Fax (408) 980-9155  
[www.StainlessSolutions.biz](http://www.StainlessSolutions.biz)



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## Product Overview

### Vacuum Components & Bellows

Pages 2-6

SSL NW/KF components are a system of stainless steel vacuum flanges for tube sizes from 3/4" through 2" OD. These flanges can operate in high vacuum environments to pressures in the  $1 \times 10^{-8}$  Torr range. The NW/KF flange system is suited for applications requiring frequent assembly and disassembly, using a simple wing nut clamp. NW/KF flanges comply with all ISO specifications for vacuum mounting hardware and are designed to work well with other NW/KF flanges and components. **All NW/KF flanges are available in both 304 and 316L stainless steel.**

SSL ISO/MF flanges are larger stainless steel vacuum flanges for tube sizes ranging from 2-1/2" through 12" OD. These flanges can operate in high vacuum environments to pressures in the  $1 \times 10^{-8}$  Torr range. The ISO/MF flange system is also suited for applications requiring frequent assembly and disassembly, using the required double claw clamps. The ISO/MF flanges comply with all ISO specifications for vacuum mounting hardware and are designed to work well with other ISO flanges and components. **All ISO flanges are available in both 304 and 316L stainless steel.**

### Tube OD Weld Fittings

Pages 7-9

SSL Tube OD Weld Fittings provide superior fit and corrosion resistance for many applications. These fittings will be provided with close tolerances on all critical dimensions, thus allowing for a smooth connection with our vacuum flanges.

SSL Tube OD Weld Fittings are used in a wide variety of applications where polished finishes are not required. **However our standard finish creates a consistent uniformed appearance that will separate our fittings from other suppliers.**

SSL Tube OD Weld Fittings are offered in sizes 3/4" through 10" in Both 304 and 316L stainless. Standard wall thickness is as follows: 1/2" - 3" .065, 4" .083, and 6" - 10" .083-.120

### Bellows

Page 10

SSL has an assortment of both flexible and rigid metal hose assemblies with NW / ISO flanges in 304 and 316L stainless, usually available from stock. Bellows with tube od weld ends and many other configurations.

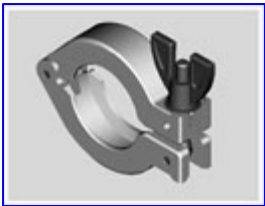
### Tubing

Page 11

Tubing is manufactured to extremely close tolerances and is in compliance with ASTM specifications A269. Domestic micro-weld tubing for all 3/4" - 4" requirements. Other specifications and seamless tubes are also available.

Tubing is stocked in 20' lengths in both 304/304L and 316/316L. Our tubing is stocked to match the wall thickness of our Tube OD fittings: 1/2" - 3" .065, 4" .083, and 6" - 10" .083-.120. (6"-10" A778 Spec)

## NW/KF Vacuum Components 3/4" - 2"



### Aluminum Wing Nut Clamps

FLANGE SIZE	Material	Part #
NW/KF 16	Aluminum	<a href="#">WNC-16</a>
NW/KF 25	Aluminum	<a href="#">WNC-25</a>
NW/KF 40	Aluminum	<a href="#">WNC-40</a>
NW/KF 50	Aluminum	<a href="#">WNC-50</a>



### Stainless Steel Centering Ring Assembly / O-Ring

FLANGE SIZE	O-Ring Material	304 Part #	316L Part #
NW/KF 16	Viton	<a href="#">CRV-16</a>	<a href="#">CRV-16-6L</a>
NW/KF 25	Viton	<a href="#">CRV-25</a>	<a href="#">CRV-25-6L</a>
NW/KF 40	Viton	<a href="#">CRV-40</a>	<a href="#">CRV-40-6L</a>
NW/KF 50	Viton	<a href="#">CRV-50</a>	<a href="#">CRV-50-6L</a>



### Stainless Steel Overpressure Ring

FLANGE SIZE	Material	Part #	Max Pressure
NW/KF 16	304 SS	<a href="#">OPR-16</a>	100 PSIG
NW/KF 25	304 SS	<a href="#">OPR-25</a>	100 PSIG
NW/KF 40	304 SS	<a href="#">OPR-40</a>	75 PSIG
NW/KF 50	304 SS	<a href="#">OPR-50</a>	50 PSIG

## NW/KF Vacuum Components 3/4" - 2"

### Stainless Steel Bored Blank Flanges (Tubing .065 standard)



TUBE OD	FLANGE SIZE	304 Part #	316L Part #
3/4"	NW/KF 16	BBF-16	BBF-16-6L
1"	NW/KF 25	BBF-25	BBF-25-6L
1.5"	NW/KF 40	BBF-40	BBF-40-6L
2"	NW/KF 50	BBF-50	BBF-50-6L

Reducing Flanges Available Upon Request

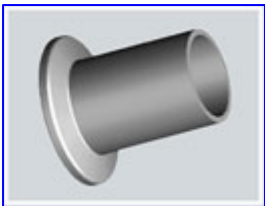
### Stainless Steel Short Weld Flanges (Tubing .065 Standard)



TUBE OD	Length	FLANGE SIZE	304 Part #	316L Part #
3/4"	.50	NW/KF 16	SWF-16	SWF-16-6L
1"	.50	NW/KF 25	SWF-25	SWF-25-6L
1.5"	.75	NW/KF 40	SWF-40	SWF-40-6L
2"	.75	NW/KF 50	SWF-50	SWF-50-6L

Reducing Flanges Available Upon Request

### Stainless Steel Long Weld Flanges (Tubing .065 Standard)



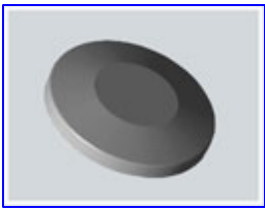
TUBE OD	LENGTH	FLANGE SIZE	304 Part #	316L Part #
3/4"	1.57"	NW/KF 16	LWF-16	LWF-16-6L
1"	1.57"	NW/KF 25	LWF-25	LWF-25-6L
1.5"	1.57"	NW/KF 40	LWF-40	LWF-40-6L
2"	1.57"	NW/KF 50	LWF-50	LWF-50-6L

Reducing Flanges Available Upon Request

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## NW/KF Vacuum Components 3/4" - 2"



### Stainless Steel Blank Flanges

TUBE OD	FLANGE SIZE	304 Part #	316L Part #
3/4"	NW/KF 16	BOF-16	BOF-16-6L
1"	NW/KF 25	BOF-25	BOF-25-6L
1.5"	NW/KF 40	BOF-40	BOF-40-6L
2"	NW/KF 50	BOF-50	BOF-50-6L



### Stainless Steel Trapped Centering Ring *NEW ITEM*

FLANGE SIZE	O-Ring Material	304 PART #	316L PART #
NW/KF 40	Viton	CRV-T-40	CRV-T-40-6L
NW/KF 50	Viton	CRV-T-50	CRV-T-50-6L
Includes SS Centering Ring, O-ring and 304 SS Outer Ring			

Other Sizes Available Upon Request



### Stainless Steel MPT x Flange Adapter

MPT	FLANGE SIZE	304 PART #	316L PART #
3/4"	NW/KF 16	MPT-16	MPT-16-6L
1"	NW/KF 25	MPT-25	MPT-25-6L
1 1/2"	NW/KF 40	MPT-40	MPT-40-6L
2"	NW/KF 50	MPT-50	MPT-50-6L

\*\* Reducing Sizes Shown in picture Available Upon Request

## ISO/MF Vacuum Components 2.5" – 6"



### Stainless Steel Bored Blank Flanges

TUBE OD	FLANGE SIZE	304 PART #	316L PART #
2.5"	ISO 63	BBF-63	BBF-63-6L
3"	ISO 80	BBF-80	BBF-80-6L
4"	ISO 100	BBF-100	BBF-100-6L
6"	ISO 160	BBF-160	BBF-160-6L

Bored Flanges Available up to ISO 320 – 12" Tube OD



### Stainless Steel Blank Flanges

TUBE OD	FLANGE SIZE	304 PART #	316L PART #
2.5"	ISO 63	BOF-63	BOF-63-6L
3"	ISO 80	BOF-80	BOF-80-6L
4"	ISO 100	BOF-100	BOF-100-6L
6"	ISO 160	BOF-160	BOF-160-6L

Blank Flanges Bored to Smaller Tube OD sizes can create low profile reducers



### Stainless Steel Centering Ring Assembly / O-Ring

FLANGE SIZE	O-Ring Material	304 PART #	316L PART #
ISO 63	Viton	CRV-63	CRV-63-6L
ISO 80	Viton	CRV-80	CRV-80-6L
ISO 100	Viton	CRV-100	CRV-100-6L
ISO 160	Viton	CRV-160	CRV-160-6L

Centering Rings Available up to ISO 320- 12"



## ISO/MF Vacuum Components 2.5” – 6”

### Stainless Steel Centering Ring Assembly W/ Overpressure Ring



FLANGE SIZE	O-Ring Material	304 PART #	316L PART #
ISO 63	Viton	CRV-63-OPR	CRV-63-6L-OPR
ISO 80	Viton	CRV-80-OPR	CRV-80-6L-OPR
ISO 100	Viton	CRV-100-OPR	CRV-100-6L-OPR
ISO 160	Viton	CRV-160-OPR	CRV-160-6L-OPR

### Aluminum Double Claw Clamps



FLANGE SIZE	Bolt	Clamps Required	Part #
ISO 63	M8	4	DCC-63/100
ISO 80	M8	4	DCC-63/100
ISO 100	M8	4	DCC-63/100
ISO 160	M10	8	DCC-160/250

Single Claw Clamps are also Available

### Medium Wall Bellow ISO Flanges



FLANGE SIZE	HOSE Thickness	304 PART #	316L PART #
ISO 63	.012	MWB-63	MWB-63-6L
ISO 80	.016	MWB-80	MWB-80-6L
ISO 100	.016	MWB-100	MWB-100-6L
ISO 160	.016	MWB-160	MWB-160-6L

*Turn to Page 10 for other Bellow Assembly Options*

## Tube OD Weld Fittings 3/4" - 6"

Dimensions: Inches

### TUBE OD WELD 90'S (No Tangent)

Tube OD	Centerline	Wall	304 PART #	316L PART #
3/4"	1.125	.065	2WC-750	2WC-750-6L
1"	1.50	.065	2WC-100	2WC-10-6L
1.5"	2.25	.065	2WC-150	2WC-150-6L
2"	3.00	.065	2WC-200	2WC-200-6L
2.5"	3.75	.065	2WC-250	2WC-250-6L
3"	4.50	.065	2WC-300	2WC-300-6L
4"	6.00	.083	2WC-400	2WC-400-6L
6"	9.00	.083	2WC-600	2WC-600-6L

Large OD Fittings Available Upon Request



### TUBE OD WELD 45'S (No Tangent)

Tube OD	Centerline	Wall	304 PART #	316L PART #
3/4"	.466	.065	2WK-750	2WK-750-6L
1"	.625	.065	2WK-100	2WK-100-6L
1.5"	.937	.065	2WK-150	2WK-150-6L
2"	1.25	.065	2WK-200	2WK-200-6L
2.5"	1.56	.065	2WK-250	2WK-250-6L
3"	1.82	.065	2WK-300	2WK-300-6L
4"	2.50	.083	2WK-400	2WK-400-6L
6"	3.75	.083	2WK-600	2WK-600-6L

Large OD Fittings Available upon Request

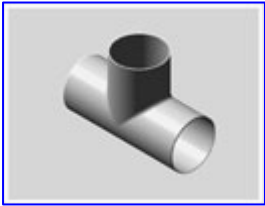




## Tube OD Weld Fittings 3/4" - 4"

Dimensions: Inches

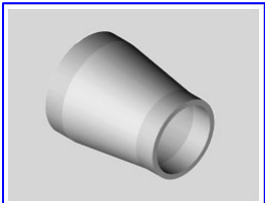
### TUBE OD WELD TEE



Tube OD	Centerline	Wall	304 PART #	316L PART #
3/4"	1.87	.065	7W-750	7W-750-6L
1"	1.87	.065	7W-100	7W-100-6L
1.5"	2.25	.065	7W-150	7W-150-6L
2"	3.00	.065	7W-200	7W-200-6L
2.5"	3.00	.065	7W-250	7W-250-6L
3"	3.25	.065	7W-300	7W-300-6L
4"	3.87	.083	7W-400	7W-400-6L

Reducing Tee Available Upon Request

### TUBE OD WELD CONCENTRIC REDUCER W TANGENT



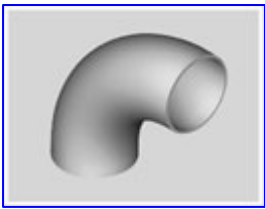
Size x Size		Length	Wall	304 PART #	316 PART #
1.00"	.75"	1.38"	.065	31W-100-750-T	31W-100-750-6L-T
1.50"	1.00"	2.375"	.065	31W-150-100-T	31W-150-100-6L-T
2.00"	1.00"	2.375"	.065	31W-200-100-T	31W-200-100-6L-T
2.00"	1.50"	2.375"	.065	31W-200-150-T	31W-200-150-6L-T
2.50"	2.00"	3.625"	.065	31W-250-200-T	31W-250-200-6L-T
3.00"	1.50"	3.625"	.065	31W-300-150-T	31W-300-150-6L-T
3.00"	2.00"	3.625"	.065	31W-300-200-T	31W-300-200-6L-T
3.00"	2.50"	3.625"	.065	31W-300-250-T	31W-300-250-6L-T
4.00"	1.50"	3.625"	.065	31W-400-150-T	31W-400-150-6L-T
4.00"	2.00"	3.625"	.083	31W-400-200-T	31W-400-200-6L-T
4.00"	3.00"	3.625"	.083	31W-400-300-T	31W-400-300-6L-T

Reducers without tangent and Eccentric Reducers also Available from Stock

## Tube OD Weld Fittings 3/4" - 4"

Dimensions: Inches

### TUBE OD WELD 90'S W/ TANGENTS



Tube OD	Centerline	Wall	304 PART #	316L PART #
1"	2.06	.065	2WS-100	2WS-100-6L
1.5"	2.93	.065	2WS-150	2WS-150-6L
2"	4.06	.065	2WS-200	2WS-200-6L
2.5"	5.18	.065	2WS-250	2WS-250-6L
3"	6.31	.065	2WS-300	2WS-300-6L
4"	8.31	.083	2WS-400	2WS-400-6L

### TUBE OD WELD 45'S W/ TANGENTS



Tube OD	CENTERLINE	Wall	304 PART #	316L PART #
1"	1.18	.065	2WKS-100	2WKS-100-6L
1.5"	1.62	.065	2WKS-150	2WKS-150-6L
2"	2.31	.065	2WKS-200	2WKS-200-6L
2.5"	3.00	.065	2WKS-250	2WKS-250-6L
3"	3.68	.065	2WKS-300	2WKS-300-6L
4"	4.81	.083	2WKS-400	2WKS-400-6L

## Metal Hose Bellows

### Thin Wall Bellow NW/KF Flanged ( Flexible)

FLANGE SIZE	HOSE	LENGTH	304 PART #	316L PART #
NW/KF 25	.006	4"	TWB-25-4	TWB-25-4-6L
NW/KF 40	.006	4"	TWB-40-4	TWB-40-4-6L
NW/KF 50	.006	4"	TWB-50-4	TWB-50-4-6L

Many other configurations available please ask a sales rep for your application requirements.  
316L bellows listed are available from stock



### Medium Wall Bellow NW/KF Flanged

FLANGE SIZE	HOSE	LENGTH	304 PART #	316L PART #
NW/KF 25	.008	6"	MWB-25	MWB-25-6L
NW/KF 40	.010	6"	MWB-40	MWB-40-6L
NW/KF 50	.012	6"	MWB-50	MWB-50-6L

Many other configurations available please ask a sales rep for your application requirements.  
316L Bellows listed are available from stock

### Thin Wall Bellow ISO/MF Flanged ( Flexible )

FLANGE SIZE	HOSE	LENGTH	304 PART #	316L PART #
ISO 63	.006	6"	TWB-63	TWB-63-6L
ISO 80	.008	6"	TWB-80	TWB-80-6L
ISO 100	.008	6"	TWB-100	TWB-100-6L
ISO 160	.010	8"	TWB-160	TWB-160-6L

Many other configurations available please ask a sales rep for your application requirements.  
316L Bellows listed are available from stock in most cases



### Medium Wall Bellow ISO/MF Flanged

FLANGE SIZE	HOSE	LENGTH	304 PART #	316L PART #
ISO 63	.012	6"	MWB-63	MWB-63-6L
ISO 80	.016	6"	MWB-80	MWB-80-6L
ISO 100	.016	6"	MWB-100	MWB-100-6L
ISO 160	.016	6"	MWB-160	MWB-160-6L

Many other configurations available please ask a sales rep for your application requirements.  
316L Bellows listed are available from stock in most cases



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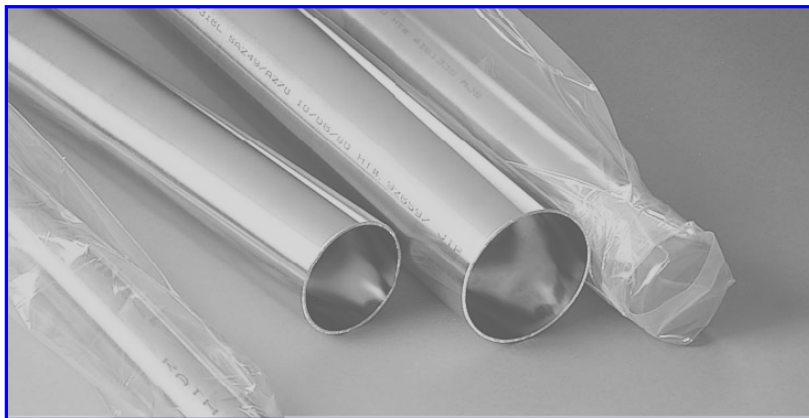
## VACUUM GRADE TUBING A269

Dimensions: Inches & Feet

### Stocking Sizes & Lengths for A269 Domestic Tubing Bright Annealed

TUBE OD	WALL	LENGTH	304 PART #	316 PART #
3/4"	.065	20'	TUBE-BA-750-065W	TUBE-BA-750-065W-6L
1.00"	.065	20'	TUBE-BA-100-065W	TUBE-BA-100-065W-6L
1.50"	.065	20'	TUBE-BA-150-065W	TUBE-BA-150-065W-6L
2.00"	.065	20'	TUBE-BA-200-065W	TUBE-BA-200-065W-6L
2.50"	.065	20'	TUBE-BA-250-065W	TUBE-BA-250-065W-6L
3.00"	.065	20'	TUBE-BA-300-065W	TUBE-BA-300-065W-6L
4.00"	.065	20'	TUBE-BA-400-065W	TUBE-BA-400-065W-6L
4.00"	.083	20'	TUBE-BA-400-083W	TUBE-BA-400-083W-6L

To order Polished OD tubing simply change the "BA" in # to "OD"  
 Seamless & Welded Instrumentation Tubing Available from Stock  
 Large OD Tubing available from 6" – 12" Mill Finish , A778 Specification  
 \*O2 Cleaning and Packaging



### Dimensional Tolerances

Outside Diameter		Wall Thickness
1"	±0.005"	±10%
1-1/2" - 3"	±0.010"	±10%
4"	±0.015"	±10%



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*Quote Request/ Order Form*

Company Name: \_\_\_\_\_  
 Requested By: \_\_\_\_\_

Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

Quantity	Description	Part #	Unit Price	Total	Delivery Date*
Total Pcs		Order Value		\$	

Job Name: \_\_\_\_\_  
 Ship Via: \_\_\_\_\_  
 Date Requested: \_\_\_\_\_  
 P.O.# \_\_\_\_\_

Ship TO: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State, Zip: \_\_\_\_\_



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