


Vacuum Plumbing Parts


NW (KF) Flexible Tubes

■ **Related Products:** For O-Ring of large diameter, refer to P.1429.


■ **Standard**




■ **Compact**



■ **Connected with Stainless Steel Pipe**



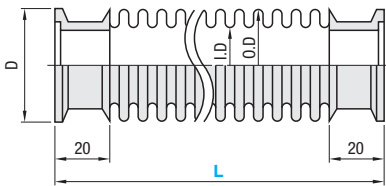
■ **JIS Flanged**



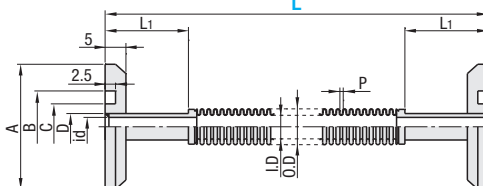
Type	Material	Standards	Operating Pressure	Allowable Leak Amount	Max. Operating Temp.	Features
FRNW	SUS304	ISO2861/1-1974	0.1MPa~0.1MPa	1×10 ⁻⁹ Torr-ℓ/sec or lower	200°C	These vacuum pipes are for auxiliary exhaust system of High Vacuum System or rough vacuum fitting of an Ultrahigh Vacuum System. The flexibility of the tube enables it to absorb the vibration from vacuum pumps and vacuum system to weaken the swing of vacuum fittings. Distance adjustment is available due to its flexibility of length.
FRNFR	*	Compliant with JISB8365: 1988.				
FRNFC						
FRNFS	SUS316L					

* Flexible Hose, Pipe: SUS316L. NW Flange: SUS304

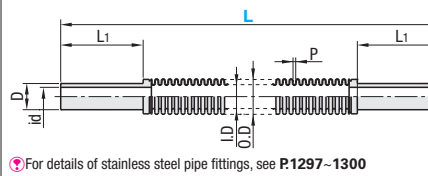
FRNW (Standard)



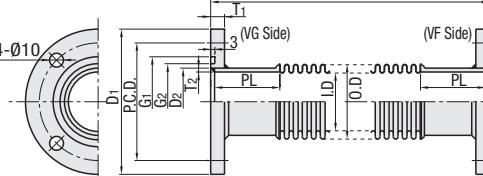
FRNFC (Compact)



FRNFS (Connected with Stainless Steel Pipe)



FRNFR (JIS Flanged)



For details of stainless steel pipe fittings, see P.1297~1300

■ **How to Connect**

• Flanged connection at one side VG and the other side VF. Both ends fixed flange.

■ **Applicable O-Ring Specifications**

No.	O-Ring Size	Material
20	V34	NBR/Viton
25	V40	NBR/Viton
40	V55	NBR/Viton
50	V70	NBR/Viton

Part Number	Type	No.	L 50mm Increment	I.D.	O.D.	D	Min. Bending Radius (mm)	Unit Price 1 ~ 4 pc(s).				
								L100, 150	L200, 250	Unit Price	Additional Tube Price /50mm	
FRNW			100~200	10	12.5	16.5	30	40				
				16	21.5	28.5	30	50				
				25	26.5	36.5	40	70				
				40	41.5	54	55	100				
			50	50.5	65	75	120					

When L≥300: Total Price = Unit Price + [(Specified L Dimension - 300) / 50] x Tube Price/50mm

Part Number	Type	No.	L 50mm Increment	A	B	C	D	I.D.	O.D.	P	id	L1	Min. Bending Radius (mm)	Unit Price 1 ~ 4 pc(s).				
														L100, 150	L200, 250	Unit Price	Additional Tube Price /50mm	
FRNFC			100~1000	16	30	17.2	11	6.35	5.5	8.5	1.6	4.5	20	25				
				25	40	26.2	20	9.52	10	13.5	2.5	7	25	25				
				40	55	41.2	35	12.7	12.5	16.5	2.8	10	30	40				

When L≥300: Total Price = Unit Price + [(Specified L Dimension - 300) / 50] x Tube Price/50mm

Part Number	Type	No.	L 50mm Increment	D	I.D.	O.D.	P	id	L1	Min. Bending Radius (mm)	Unit Price 1 ~ 4 pc(s).				
											L100, 150	L200, 250	Unit Price	Additional Tube Price /50mm	
FRNFS			100~1000	16	6.35	5.5	8.5	1.6	4.5	20	25				
				25	9.52	10	13.5	2.5	7	25	25				
				40	12.7	12.5	16.5	2.8	10	30	40				

When L≥300: Total Price = Unit Price + [(Specified L Dimension - 300) / 50] x Tube Price/50mm

Part Number	Type	No.	L 50mm Increment	I.D.	O.D.	D1	D2	T1	T2	G1	G2	P.C.D.	PL	Unit Price 1 ~ 4 pc(s).				
														L100, 150	L200, 250	Unit Price	Additional Tube Price /50mm	
FRNFR			100~1000	20	26.5	36	80	27.2	8	2.1	44	34	60	30				
				25	33	44	90	34	8	2.8	50	40	70	50				
				40	50.5	65	105	48.6	10	2.8	65	55	85	50				
				50	66	86	120	60.5	10	2.8	80	70	100	50				


When L≥300: Total Price = Unit Price + [(Specified L Dimension - 300) / 50] x Tube Price/50mm

Ordering Example
Part Number - L
FRNW10 - 200

Note that, for some of the types shown here, order might be unable to be received by the MISUMI Indonesia offices.


Both Sides Weld-On Vacuum Pipes

■ **Both Sides NW Flanged**




RoHS

■ **NW Flanged x Elbow**




RoHS

■ **NW Flanged x Tees**




RoHS

■ **NW Flanged x Threaded**




RoHS

■ **NW Flanged x VF Flanged**



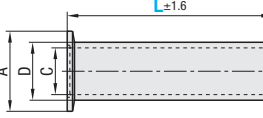
RoHS

■ **NW Flanged x VG Flanged**

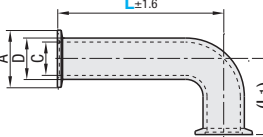


RoHS

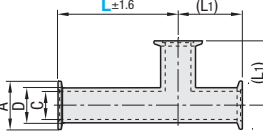
Type	Material
FRNRF	SUS304



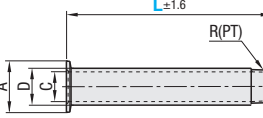
Type	Material
FRNRE	SUS304



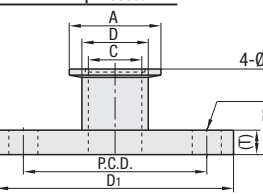
Type	Material
FRNRT	SUS304



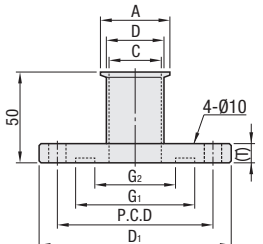
Type	Material
FRNRF	SUS304



Type	Material
FRNRF	SUS304



Type	Material
FRNRF	SUS304



Part Number	Type	No.	L 10mm Increment	A	C	D	Unit Price 1 ~ 4 pc(s).		
							Unit Price	L Pipe Price /100mm	
FRNRF			110~1000	10	30	10	13.8		
				16	30	17.5	21.7		
				25	40	23	27.2		
				40	55	37.1	42.7		

For the type with L dimension of 100mm, select FRNWN in P.1375.
 <Price Calculation Example>: Price = Unit Price + L Pipe Price
 For L pipe price, a charge is added for every 100mm of L dimension. 110 ~ 200: Round up to 200.

Part Number	Type	No.	L 10mm Increment	A	C	D	(L1)	Unit Price 1 ~ 4 pc(s).	
								Unit Price	L Pipe Price /100mm
FRNRE			100~1000	16	30	17.5	21.7	58.1	
				25	40	23	27.2	58.1	
				40	55	37.1	42.7	67.6	

<Price Calculation Example>: Price = Unit Price + L Pipe Price
 For L pipe price, a charge is added for every 100mm of L dimension. 110 ~ 200: Round up to 200.

Part Number	Type	No.	L 10mm Increment	A	C	D	(L1)	Unit Price 1 ~ 4 pc(s).	
								Unit Price	L Pipe Price /100mm
FRNRT			100~1000	16	30	17.5	21.7	45.4	
				25	40	23	27.2	48.6	
				40	55	37.1	42.7	67.6	

<Price Calculation Example>: Price = Unit Price + L Pipe Price
 For L pipe price, a charge is added for every 100mm of L dimension. 110 ~ 200: Round up to 200.

Part Number	Type	No.	L 10mm Increment	A	C	D	R(PT)	Unit Price 1 ~ 4 pc(s).	
								Unit Price	L Pipe Price /100mm
FRNRF			100~1000	16	30	7.1	10.5	1/8	
				25	40	9.4	13.8	1/4	
				40	55	12.7	17.3	3/8	

<Price Calculation Example>: Price = Unit Price + L Pipe Price
 For L pipe price, a charge is added for every 100mm of L dimension. 110 ~ 200: Round up to 200.

Part Number	Type	No.	A	C	D	D1	(T)	P.C.D.	Unit Price	
									1 ~ 4 pc(s).	
FRNRF			10	30	10	13.8	70	8	50	
			16	30	17.5	21.7	70	8	50	
			25	40	23	27.2	80	8	60	
			40	55	37.1	42.7	105	10	85	

Part Number	Type	No.	A	C	D	D1	G1	G2	(T)	P.C.D.	Applicable O-Ring Size	Unit Price		
												1 ~ 4 pc(s).		
FRNRF			10	30	10	13.8	70	34	24	8	50	V24		
			16	30	17.5	21.7	70	34	24	8	50	50	V24	
			25	40	23	27.2	80	44	34	8	60	60	V34	
			40	55	37.1	42.7	105	65	55	10	85	85	V55	

Ordering Example
Part Number - L
FRNRF25 - 300


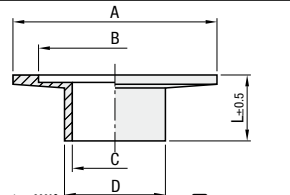

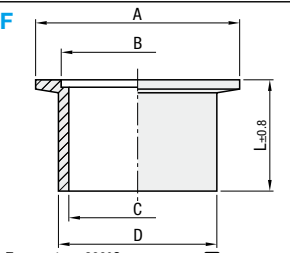

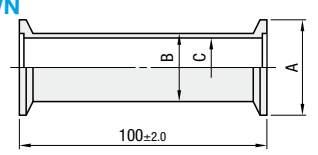

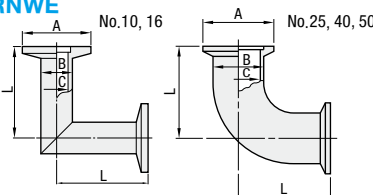

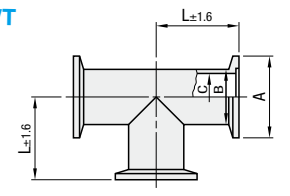

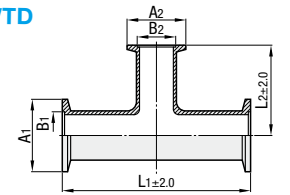

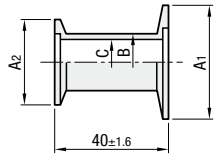
Common Specifications
 Max. Operation Temperature: 200°C
 Surface Finish: Shot Blasted

Fittings for Vacuum Plumbing

NW (KF) Flanged

Fittings for Vacuum Plumbing

NW (KF) Flanged / JIS Flanged

<p>NW Flanged</p>  <p>RoHS</p>	<p>FRNWF</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>NW Long Flanged</p>  <p>RoHS</p>	<p>FRNWLFL</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>Nipple</p>  <p>RoHS</p>	<p>FRNWN</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>Elbow</p>  <p>RoHS</p>	<p>FRNWE</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>Tees</p>  <p>RoHS</p>	<p>FRNWT</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>Reducing Tees</p>  <p>RoHS</p>	<p>FRNWTDL</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>Reducer</p>  <p>RoHS</p>	<p>FRNWIJ</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>

Part Number	Type	No.	A	B	C	D	L	Unit Price
FRNWF	10	30	12.2	10.0	13.8		20	
	16	30	17.2	17.5	21.7			
	25	40	26.2	23.0	27.2			
	40	55	41.2	37.1	42.7			
	50	75	52.2	54.9	60.5			

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	C	D	L	Unit Price
FRNWLFL	10	30	12.2	10.0	13.8		50	
	16	30	17.2	17.5	21.7			
	25	40	26.2	23.0	27.2			
	40	55	41.2	37.1	42.7			
	50	75	52.2	54.9	60.5			

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	C	Unit Price
FRNWN	10	30	13.8	10.0		
	16	30	21.7	17.5		
	25	40	27.2	23.0		
	40	55	42.7	37.1		
	50	75	60.5	54.9		

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	C	L±2.0	Unit Price
FRNWE	10	30	13.8	10	40		
	16	30	21.7	16	40		
	25	40	27.2	23	50		
	40	55	42.7	37.1	65		
	50	75	60.5	54.9	80		

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	C	L	Unit Price
FRNWT	10	30	13.8	10	40		
	16	30	21.7	16	40		
	25	40	27.2	23	50		
	40	55	42.7	37.1	65		
	50	75	60.5	54.9	80		


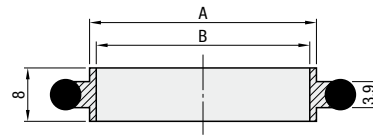

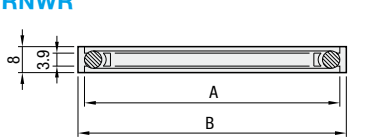

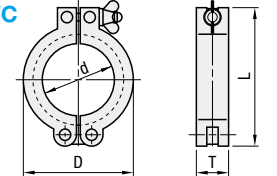

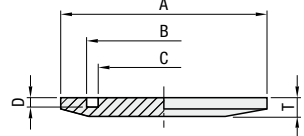

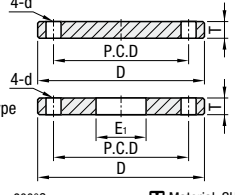
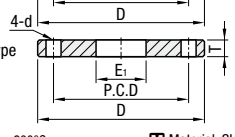

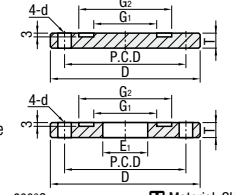
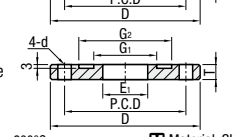
For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A1	B1	L1	A2	B2	L2	Unit Price
FRNWTDL	25-16	40	27.2	97.2	30	21.7	48.6		
	40-25	55	42.7	135.2	40	27.2	67.6		

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A1	A2	B	C	Unit Price
FRNWIJ	25-10	40	30	13.8	10.0		
	25-16	40	30	21.7	17.5		
	40-16	55	30	21.7	17.5		
	40-25	55	40	27.2	23.0		
	50-25	75	40	27.2	23.0		

For orders larger than indicated quantity, please check with WOS.

<p>Center Rings</p>  <p>RoHS</p>	<p>FRNWCRCR</p>  <p>Max. Operation Temperature: 150°C Material Ring: SUS304 O-Ring: Fluororubber</p>
<p>Center Rings - With Outer Ring</p>  <p>RoHS</p>	<p>FRNWCRCRW</p>  <p>Max. Operation Temperature: 150°C Material Ring: SUS304 O-Ring: Fluororubber</p>
<p>Clamps</p>  <p>RoHS</p>	<p>FRNWCRC</p>  <p>Max. Operation Temperature: 200°C Material Main Body: Aluminum Thread: SUS304</p>
<p>NW Blind Flanged</p>  <p>RoHS</p>	<p>FRNWCRCBF</p>  <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>JIS Flanged - VF Type</p>  <p>RoHS</p>	<p>FRVVF</p>  <p>Blank Type</p> <p>FRVVFHA</p>  <p>Hole Machined Type</p> <p>Max. Operation Temperature: 200°C Material: SUS304</p>
<p>JIS Flanged - VG Type</p>  <p>RoHS</p>	<p>FRVVG</p>  <p>Blank Type</p> <p>FRVVGHA</p>  <p>Hole Machined Type</p> <p>Max. Operation Temperature: 200°C Material: SUS304</p>

Part Number	Type	No.	A	B	Unit Price
FRNWCRCR	16	17	16		
	25	26	25		
	40	41	40		
	50	52	50		

FRNWCRCR16 cannot be used in combination with Vacuum Plumbing No.10.
For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	Unit Price
FRNWCRCRW	16	30	32		
	25	40	42		
	40	55	57		
	50	75	77		

FRNWCRCRW can be commonly used for No.10 and 16.
For orders larger than indicated quantity, please check with WOS.
Features Center rings prevent O-Rings from falling off and suppress deformation.

Part Number	Type	No.	d	D	L	T	Unit Price
FRNWCRC	16	20	42	61	17		
	25	30	52	72	17		
	40	44	70	90	17		
	50	62	94	123	25		

Commonly used for No.10 and 16.
For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	C	D	T	Unit Price
FRNWCRCBF	10	30	12.2	6.0				
	16	30	17.2	11.0				
	25	40	26.2	20.0	2.5	5		
	40	55	41.2	35.0				
	50	75	52.2	46.0				

For orders larger than indicated quantity, please check with WOS.

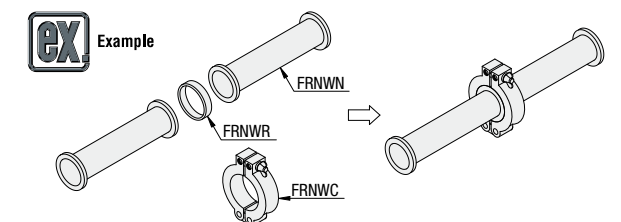
Part Number	Type	No.	D	P.C.D	T	d	Hole Machined Type	Unit Price
FRVVF	10A	70	50	8	10	17.8	E1	FRVVF FRVFA
	20A	80	60	8	10	27.7		
	25A	90	70	8	10	34.4		
	40A	105	85	10	10	49.1		
	50A	120	100	10	10	61.1		

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	D	P.C.D	T	d	G1	G2	Hole Machined Type	Applicable O-Ring Size	Unit Price
FRVVG	10A	70	50	8	10	24	34	17.8	V24		
	20A	80	60	8	10	34	44	27.7	V34		
	25A	90	70	8	10	40	50	34.4	V40		
	40A	105	85	10	10	55	65	49.1	V55		
	50A	120	100	10	10	70	80	61.1	V70		

For orders larger than indicated quantity, please check with WOS.

Ordering Example Part Number FRNWCRC25



Features
These vacuum pipes are for auxiliary exhaust system of High Vacuum System or rough vacuum fitting of an Ultrahigh Vacuum System. The plumbing parts of NW (KF) Flanged Type enables frequent detachment without tools compliant with ISO or KF.

Specifications
Dimensions and shapes are compliant with ISO2861/1-1974 - JISB8365: 1988.

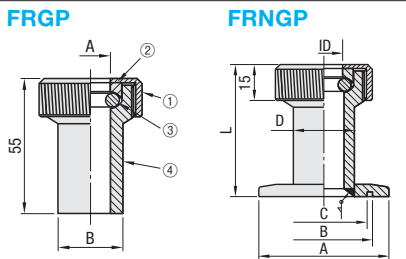
Fittings for Vacuum Plumbing

Gage Port / Adapter Fitting

Gage Port - Single Unit / Welded



RoHS



Gage Ports only

Part Number	Type	Connection Diameter	A	B	Unit Price Qty. 1 ~ 4
FRGP	15	16	25		
	18	19	28		

For orders larger than indicated quantity, please check with WOS.

Welded

Part Number	Type	No.	Flange	Connection Diameter	Gage Ports	L	Unit Price Qty. 1 ~ 4
FRNGP	25-15	40	26.2	15	16	25	75
	25-18	40	26.2	18	19	28	
	40-15	55	41.2	15	16	25	57
	40-18	55	41.2	18	19	28	

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	A	B	Connection Diameter	C	D	L1	L2	Unit Price Qty. 1 ~ 4
FRNWGP	25-15	40	26.2	15	16	25	97.2	83.6		
	25-18	40	26.2	18	19	28				
	40-15	55	41.2	15	16	25	135.2	102.6		
	40-18	55	41.2	18	19	28				

For orders larger than indicated quantity, please check with WOS.

Gage Port Specifications

No.	Product Name	Material
①	Swaging Sleeve Nut	SUS304
②	Collar	SUS304
③	O-Ring	NBR
④	Sleeve	SUS304
-	Flange	SUS304
-	Nipple	SUS304

Part Number	Type	No.	Nominal	R (PT)	A	D	ID	L	Unit Price Qty. 1 ~ 10
FRNFA	16	1	1/8	30	10.5	7.5			
	25	1	1/8	40	13.8	9.8		50	
	40	2	1/4	40	17.3	13.3			
		3	3/8	40	17.3	13.3			
	40	2	1/4	55	21.7	15.7			
		3	3/8	55	21.7	15.7			

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	Nominal	Rc (PT)	A	B	L	H	D	Unit Price Qty. 1 ~ 10
FRNFM	16	2	1/4	30	17.2	26	17	13		
	25	2	1/4	40	26.2	27	17	13		
	40	3	3/8	40	27	21	16			
		2	1/4	55	27	17	13			

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	Applicable Hose I.D.	A	B	D	L	Unit Price Qty. 1 ~ 10
FRNHA	16	19	30	17.2	19	60		
	25	22	40	26.2	24	80		
	40	38	55	41.2	38	80		

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	Applicable Duct Nominal Dia.	A	B	Unit Price Qty. 1 ~ 4
FRNWH	16	38	30	17.2		
	25	38	40	26.2		

For orders larger than indicated quantity, please check with WOS.

Features: Connecting duct hoses to the exhaust port of vacuum pump prevents emission from being exhausted into air. Suitable for use in clean room.

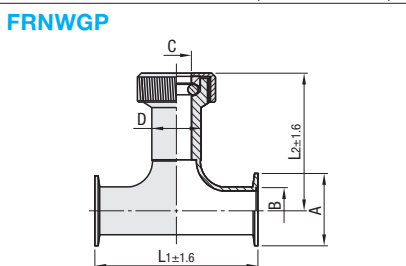
Applicable Duct Hose

Product Name	Type	Nominal	Page
Lightweight	HOSSE□	38	P.1324
Flexible	HOSSD□		P.1324
Friction Resistant, Antistatic	HOSH□	38	P.1324
Non-PVC	HOSCD□		P.1325
Non-PVC	HOSCE□		P.1325
Aluminum	HOAD		P.1326

Nipples with Gauge Port



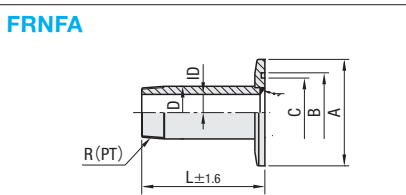
RoHS



Male Adapter



RoHS

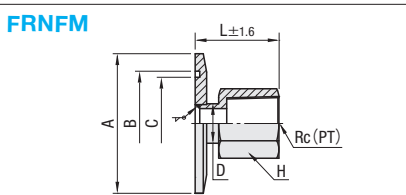


Max. Operation Temperature: 200°C Material: SUS304

Female Adapter

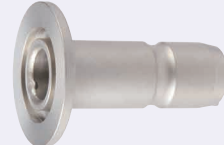


RoHS

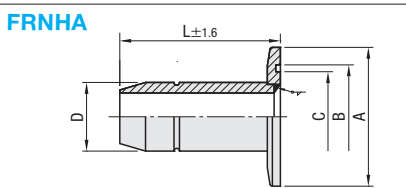


Max. Operation Temperature: 200°C Material: SUS304

Hose Adapter



RoHS

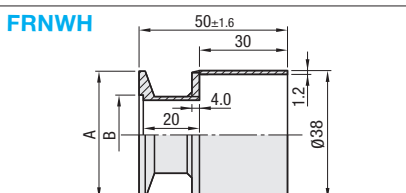


Max. Operation Temperature: 200°C Material: SUS304

Duct Adapter



RoHS



Max. Operation Temperature: 200°C Material: SUS304

Ordering Example Part Number - Nominal
FRNWGP25-18 - 3
FRNFM25 - 3

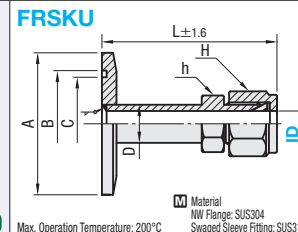
Fittings for Vacuum Plumbing

NW Flanged x Swaged Sleeve Fitting / NW x Stainless Steel Pipe

NW Flanged x Swaged Sleeve Fitting



RoHS



Max. Operation Temperature: 200°C Material: SUS304 NW Flange: SUS304 Swaged Sleeve Fitting: SUS316

Ordering Example Part Number - ID
FRSKU25 - 6

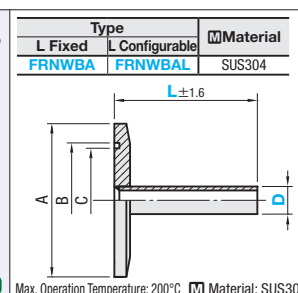
[Specifications of Applicable Pipes]

- Pipe Type: Stainless Steel Pipe
Stainless Steel Pipe compliant with SUS304TP or SUS316TP prescribed on JIS G3459 Stainless Steel Pipes for Piping.
- O.D. Tolerance: ±0.05mm
- Pipe Surface Hardness: HV190 or lower (HRB90 or less)
- Conditions of Pipe Surface: Avoid using pipes with defects such as surface roughness and scratches.

NW Flanged x Stainless Steel Pipe - Single Nozzle

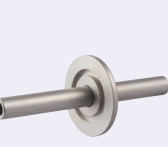


RoHS

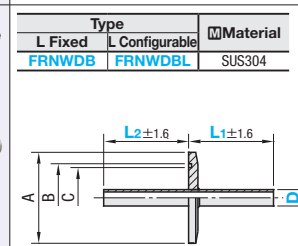


Max. Operation Temperature: 200°C Material: SUS304

NW Flanged x Stainless Steel Pipe - Double Nozzle



RoHS



Max. Operation Temperature: 200°C Material: SUS304

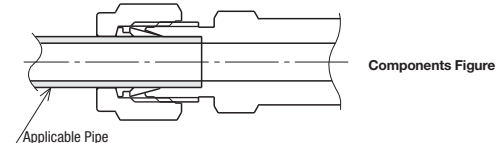
Ordering Example Part Number - D - L - L1 - L2
FRNWBA25 - 9.53
FRNWBA40 - 8 - 100
FRNWDBL16 - 8 - 50 - 50

Part Number	Type	No.	Applicable Tube O.D. Dia.	A	B	D	ID	L	Opposite Side	Unit Price Qty. 1 ~ 4
FRSKU	16	4	30	17.2	6	4	43.8	14	14	
	25	6	40	26.2	8	6	43.9	14	14	
		6.35	40	26.2	9.53	6.35	48.9	14	14	
	40	6.35	55	41.2	9.53	6.35	48.9	14	14	

For orders larger than indicated quantity, please check with WOS.

Features and Structure of Fittings

A stainless steel pipe fitting is composed of a main body, a front ferrule, a back ferrule and a nut.



Part Number	Type	No.	Stainless Steel Pipe O.D. Selection	L Fixed	L Configurable	Unit Price Qty. 1 ~ 4
FRNWBA (L Fixed)	16	6	6.35 8 9.53	75	30-100	30 17.2
	25	6	6.35 8 9.53 10	75	30-100	40 26.2
FRNWBAL (L Configurable)	40	6	6.35 8 9.53 10	75	30-100	55 41.2

For orders larger than indicated quantity, please check with WOS.

Part Number	Type	No.	Stainless Steel Pipe O.D. Selection	Fixed L1 L2	Configurable 5mm Increment L1 L2	A	B	Unit Price Qty. 1 ~ 4
FRNWDB (L Fixed)	16	6	6.35 8 9.53	75 75	30-100 30-100	30	17.2	
	25	6	6.35 8 9.53 10	75 75	30-100 30-100	40	26.2	
FRNWDBL (L Configurable)	40	6	6.35 8 9.53 10	75 75	30-100 30-100	55	41.2	

Welding may cause small deformations. For orders larger than indicated quantity, please check with WOS.

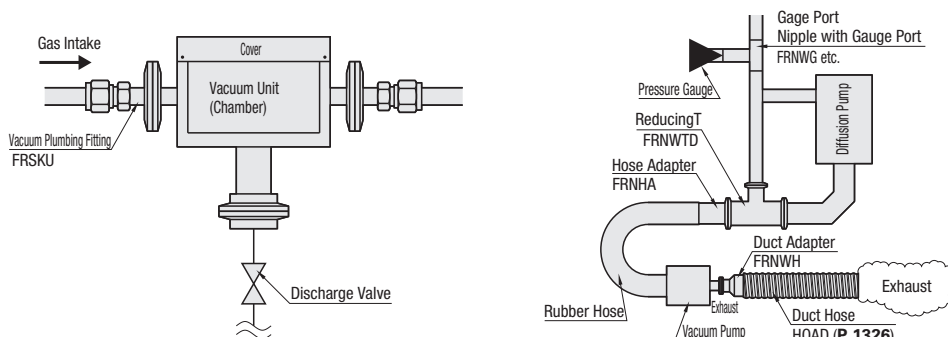
Stainless Steel Pipe

JIS G 3459

Surface Finish: Shot Blasted


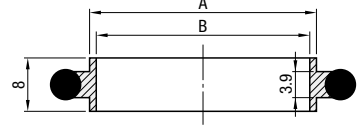


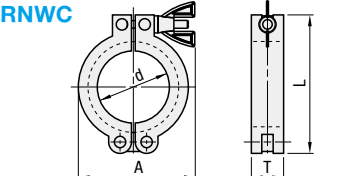

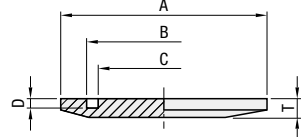

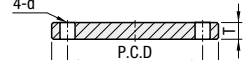
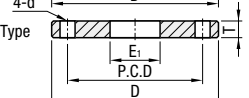

D	Thickness on One Pipe Side
6	1
6.35(1/4 inch)	1
8	1
9.53(3/8 inch)	1
10	1

Example



Fittings for Vacuum Plumbing

NW (KF) Flanged / JIS Flanged

Center Ring  RoHS	FRNWCR  Max. Operation Temperature: 150°C Material Ring : SUS304 O-Ring : Fluororubber
	Center Ring - With Outer Ring  RoHS
Clamp  RoHS	FRNWC  Max. Operation Temperature: 200°C Material Main Body : Aluminum Thread : SUS304
NW Blind Flanged  RoHS	FRNWB  Max. Operation Temperature: 200°C Material : SUS304
JIS Flanged - VF Type  RoHS	FRVF Blank Type  FRVFA Hole Machined Type  Max. Operation Temperature: 200°C Material : SUS304
	JIS Flanged - VG Type  RoHS

Part Number		A	B	Unit Price
Type	No.			
FRNWCR	16	17	16	
	25	26	24	
	40	41	39	
	50	52	50	

FRNWCR16 cannot be used in combination with Vacuum Plumbing No.10.
 For orders larger than indicated quantity, please check with WOS.

Part Number		A	B	C	Unit Price
Type	No.				
FRNWR	16	17	16	32.4	
	25	26	24	42	
	40	41	39	56.4	
	50	52	50	70.2	

FRNWR can be commonly used for No.10 and 16.
 For orders larger than indicated quantity, please check with WOS.

Features Center rings prevent O-Rings from falling off and suppress deformation.

Part Number		d	A	L	T	Unit Price
Type	No.					
FRNWC	16	22	56.5	61	17	
	25	32	60	72	17.5	
	40	47	68	90	19	
	50	63	91	123	26	

Commonly used for No.10 and 16.
 For orders larger than indicated quantity, please check with WOS.

Part Number		A	B	C	D	T	Unit Price
Type	No.						
FRNWB	16	30	12.2	6.0	2.5	5	
	10	30	17.2	11.0			
	25	40	26.2	20.0			
	40	55	41.2	35.0			
	50	75	52.2	46.0			

For orders larger than indicated quantity, please check with WOS.

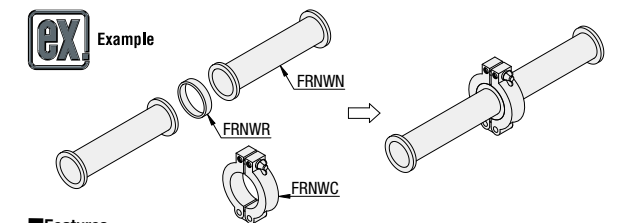
Part Number		D	P.C.D	T	d	Hole Machined Type	Unit Price
Type	No.						
FRVF FRVFA	10A	70	50	8	10	17.8	
	20A	80	60	8	10	27.7	
	25A	90	70	8	10	34.4	
	40A	105	85	10	10	49.1	
	50A	120	100	10	10	61.1	

For orders larger than indicated quantity, please check with WOS.

Part Number		D	P.C.D	T	d	G1	G2	Hole Machined Type	Applicable O-Ring Size	Unit Price
Type	No.									
FRVG FRVGA	10A	70	50	8	10	24	34	17.8	V24	
	20A	80	60	8	10	34	44	27.7	V34	
	25A	90	70	8	10	40	50	34.4	V40	
	40A	105	85	10	10	55	65	49.1	V55	
	50A	120	100	10	10	70	80	61.1	V70	

For orders larger than indicated quantity, please check with WOS.

Ordering Example
 Part Number
FRNWC25



Features These vacuum pipes are for auxiliary exhaust system of High Vacuum System or rough vacuum fitting of an Ultrahigh Vacuum System. The plumbing parts of NW (KF) Flanged Type enables frequent attachment/detachment without having to use ISO/KF-compliant tools.
 Specifications Dimensions and shapes are compliant with ISO2861/1-1974 -JISB8365: 1988.