

Fittings for Vacuum Plumbing

Gage Port / Adapter Fitting

Gage Port - Single Unit / Welded

FRGP **FRNGP**

RoHS10

Nipples with Gauge Port

FRNWGP

RoHS10

Male Adapter

FRNFA

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

Female Adapter

FRNFM

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

Hose Adapter

FRNHA

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

Duct Adapter

FRNWH

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

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

Gage Ports only

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

Welded

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

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								
		40-15	55	41.2	15	16	25	135.2	102.6	
		40-18								

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	50	
		25	2	1/4	40	13.8	9.8		
		3	3/8	55	17.3	13.3			
		2	1/4	40	13.8	9.8			
		3	3/8	55	17.3	13.3			
		4	1/2	70	21.7	15.7			

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	
		3	3/8	55	27	21	16			
		2	1/4	40	27	17	13			

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	

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	

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	P1324
Flexible	HOSSD□		P1324
Friction Resistant, Antistatic	HOSH□	38	P1324
Non-PVC	HOSCD□		P1325
Non-PVC	HOSCE□	38	P1325
Aluminum	HOAD		P1326

Fittings for Vacuum Plumbing

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

NW Flanged x Swaged Sleeve Fitting

FRSKU

RoHS10

Max. Operation Temperature: 200°C

Material: 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

Type	Material
L Fixed	SUS304
L Configurable	

FRNWBA **FRNWBAL**

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

NW Flanged x Stainless Steel Pipe - Double Nozzle

Type	Material
L Fixed	SUS304
L Configurable	

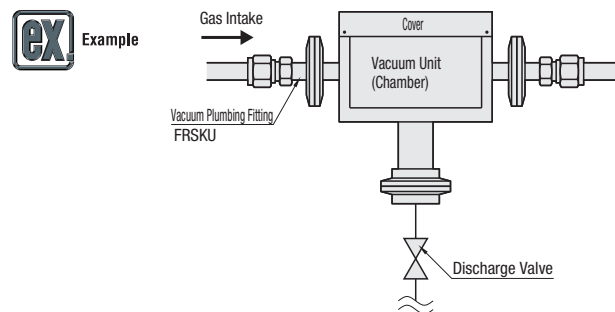
FRNWDB **FRNWBDBL**

RoHS10

Max. Operation Temperature: 200°C

Material: SUS304

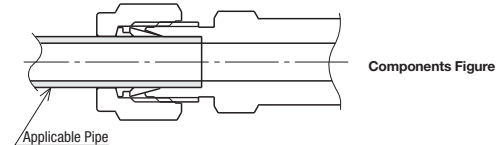
Ordering Example: Part Number - D - L - L1 - L2
FRNWBA25 - 9.53
FRNWBAL40 - 8 - 100
FRNWBDBL16 - 8 - 50 - 50



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	Main Body 14, Nut H 14	
		25	6	40	26.2	8	6	43.9	Main Body 14, Nut H 14	
		40	6.35	40	26.2	9.53	6.35	48.9	Main Body 14, Nut H 14	
		8	55	41.2	10	8	49.8	Main Body 14, Nut H 16		

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	6.35 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	Fixed L2	Configurable L1	Configurable 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	
FRNWBDBL	(L Configurable)	40	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

