

Semiconductor Flow Equipment

Vacuum Tubes & Fittings - IR Catalog



NEUMO | HPT | EGMO

NEUMO Ehrenberg Group



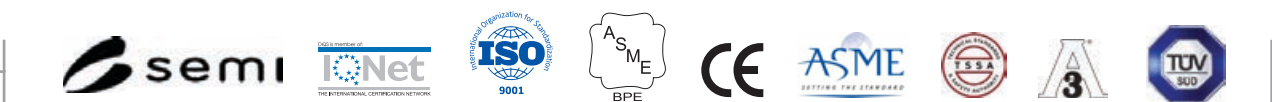
EGMO develops, manufactures, designs and markets high quality stainless steel Vacuum components for the semiconductor industry, gas delivery systems and water purification.

EGMO offers a wide product range that includes:

- ✓ **Machined part** - KF & ISO connections, bellows
- ✓ **Tubular fittings** - Elbows, tees, reducers
- ✓ **Complementary products** - Clamp, centering rings
- ✓ **Customized products**
- ✓ **Tubes**

About EGMO

EGMO, a member of the NEUMO Ehrenberg Group, is a worldwide leading manufacturer of high quality stainless steel products for the semiconductor, biopharmaceutical and food industries. Founded in 1965, EGMO brings its customers decades of experience in the development and production of an innovative and extensive range of tubes, fittings, valves, vessels and other special components. EGMO is ISO 9001:2015, CE, ASME & CRN certified and its products also meet the following standards: TUV, 3A, DIN, ISO, CE, SMS, BS (RJT).



NEUMO Ehrenberg Group

The NEUMO Ehrenberg Group, a diversified multi-national organization headquartered in Germany, was founded by Senator Henry Ehrenberg in 1947.

The know-how, experience, and impressive track record of its companies, NEUMO, HPT and EGMO, have been earned over four decades. Today, the group is a leading manufacturer of worldwide stainless-steel process fittings and components. The Group's worldwide distribution network supports major multinational accounts.



| www.egmo.co.il |

Index

SMV - SCiMax Vacuum Line.....	4
KF Flanges & Fittings.....	6
KF Weld Flanges & Fittings.....	10
ISO Flanges & Fittings	12
ISO Weld Flanges & Fittings.....	17
SM10 - Electropolish Tube & Fittings.....	23
MTR - Material Test Report.....	31



SMV - SciMax Vacuum Line

Material Specification for SciMax SMV Tubes and Fittings

Product	Welded Austenitic Stainless-Steel Tubing								
Specifications	ASTM A269, A270, A632, A778								
	Referenced documents: ASTM A1016, ASTM E112, ASTM A262 Practice-E.								
Dimensional Specification & Tolerances	Tubing	OD Size:			Wall Thickness:				
		½" through 3"			0.065"				
		4" and 6"			0.083"				
		8"			0.120"				
	10"			0.125"					
	Tolerances: Acc. to ASTM A269, A270 Supplement 2								
Fittings	Size	½" to 10"							
	KF	Bored Flange, Long Flange, Short Flange, Blind Flange, Wing Nut Clamp [Al], Over pressure ring, Bellow							
	ISO	Bored Flange, Half Nipple, Blind Flange, Double Claw Clamp [Al] , Bellow							
	Butt-weld	Elbow, TEE, Reduce TEE, Reducer and End Cap							
Center Ring Assembly:	KF	SS centering ring Viton O-ring							
	ISO	SS centering ring with Viton O-ring and Over pressure ring [Al]							
Chemical Composition 304	%	C	Cr	Mn	Mo	Ni	P	Si	S
	min		18		-	8.0			
	max	0.070	20.0	2.0		12.0	0.045	1.00	0.030
Chemical Composition 316L	%	C	Cr	Mn	Mo	Ni	P	Si	S
	min		16		2.0	10.0			
	max	0.030	18.0	2.0	3.0	12.0	0.045	1.00	0.030
Surface Finish	Acceptance Criteria		Acc. to ASTM A270 Supplement 2						
	Surface Designation				I.D - Ra Max			O.D - Ra Max	
	BA - Bright annealed - up to 4"				Free of scratches, mandrel			Bright, free of oxidation, stain,	
	AP - Annealed & Pickled - 6" & up				marks and stains.			and imperfection	
Tube Length	Nominal Lengths				FT.		MT.		
					19-20		5.8-6.1		
Mechanical Tests	Hardness Test - 90 [Rockwell B] Max ASTM A270 S2 (§ S2.3)								
Testing & Inspection	Visual inspection								
	Dimensional measurement								
	Helium-leak testing Where needed								
Plain Ends	All tubing shall be Square ends ready for welding, with no chips, burrs or other imperfections of the welding edge, that can influence the welding results.								
Cleaning	Cleaned for O2 service - All tubing surfaces shall be clean and free of oils, grease, particulates, grinding compounds, dust, rising residuals or electrolytes, and stains.								
Marking and Labeling	Tubes and Fittings shall be permanently marked or marked on the exterior of the bags with the following information.								
	Brand Name	Size O.D	Wall Thick.	Material Grade	Lot Number	Heat Number			
Packing	All products will be capped and packed with polyethylene sleeves and ready to ship								
Certification	Inspection documents certification to be according to DIN EN10204 3.1. Full Material Test Report (MTR) to be provided with the material. standard.								

How to order

Tubing:

S M V - T U B E - 3 0 4 - 1 . 0 X 0 . 0 6 5
 Product Line Shape Material O.D. Size Inch Wall Thickness Inch

Product Line	Shape	Material	O.D. Size Inch	Wall Thickness Inch
SMV - SciMax Vacuum	Tube	304	0.5	0.049
		316L	0.75	0.065
		ALU - Aluminium	1.0	0.083
			1.5	0.120
			2.0	0.125
			2.5	
			3.0	
			4.0	
			6.0	
			8.0	
10.0				

Stainless Steel Tubing

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Surface Finish	O.D. Size inch	Wall Thickness
○	571-00022			SMV-TUBE-....-0.5X0.049	Bright annealed	½"	0.049
○	571-00032			SMV-TUBE-....-0.75X0.065	Bright annealed	¾"	0.065
○	571-00004	⊖	571-00043	SMV-TUBE-....-1.0X0.065	Bright annealed	1.0"	0.065
○	571-00025	⊖	571-00044	SMV-TUBE-....-1.5X0.065	Bright annealed	1½"	0.065
○	571-00026	⊖	571-00045	SMV-TUBE-....-2.0X0.065	Bright annealed	2.0"	0.065
○	571-00027			SMV-TUBE-....-2.5X0.065	Bright annealed	2½"	0.065
○	571-00028	⊖	571-00046	SMV-TUBE-....-3.0X0.065	Bright annealed	3.0"	0.065
○	571-00029	⊖	571-00047	SMV-TUBE-....-4.0X0.083	Bright annealed	4.0"	0.083
○	571-00030	●	571-00042	SMV-TUBE-....-6.0X0.083	Annealed & Pickled	6.0"	0.083
●	571-00001			SMV-TUBE-....-8.0X0.120	Annealed & Pickled	8.0"	0.120
●	571-00002			SMV-TUBE-....-10.0X0.125	Annealed & Pickled	10.0"	0.125

Availability:

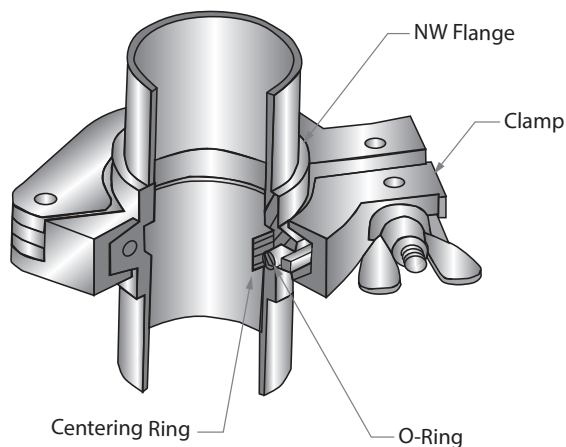
○ Typical IR Stock	⊖ Upon Request	● Long Lead Time
-----------------------	-------------------	---------------------

KF Flanges & Fittings

General

KF flange fittings are simple and flexible O - ring vacuum couplings similar to the ISO certified KF (or Klein Flange), and QF (Quick Flange) flanges. EGMO KF flanges are compatible with vacuum sealing flanges from major vacuum manufacturers; our KF fittings catalogue indicates the tube diameters in inches. An assembly consists of two identical flanges, a clamp, and a centering ring which aligns the flanges and prevents the O - ring from collapsing. The Wingnut clamp typical for KF flanges requires no tools for assembly. The system is ideal for small diameter tubing requiring frequent reassembly. KF flange fittings work in rough vacuum conditions and standard High Vacuum (1×10^{-9} Torr) chambers.

The elastomeric O - ring limits the temperature range and ultimate vacuum of the assembly.



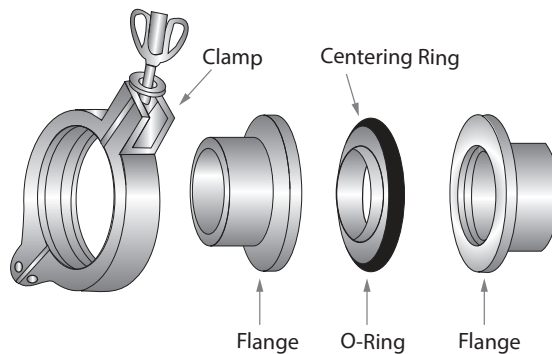
Specifications

The EGMO KF flange fittings were designed according to ISO 2681 specifications for standard USA tube sizes from .5 to 2.00 inches. KF flange fittings can be used in a variety of applications from atmospheric pressure to high vacuum. The KF flange fittings are compatible with other ISO - KF - QF designed flanges.

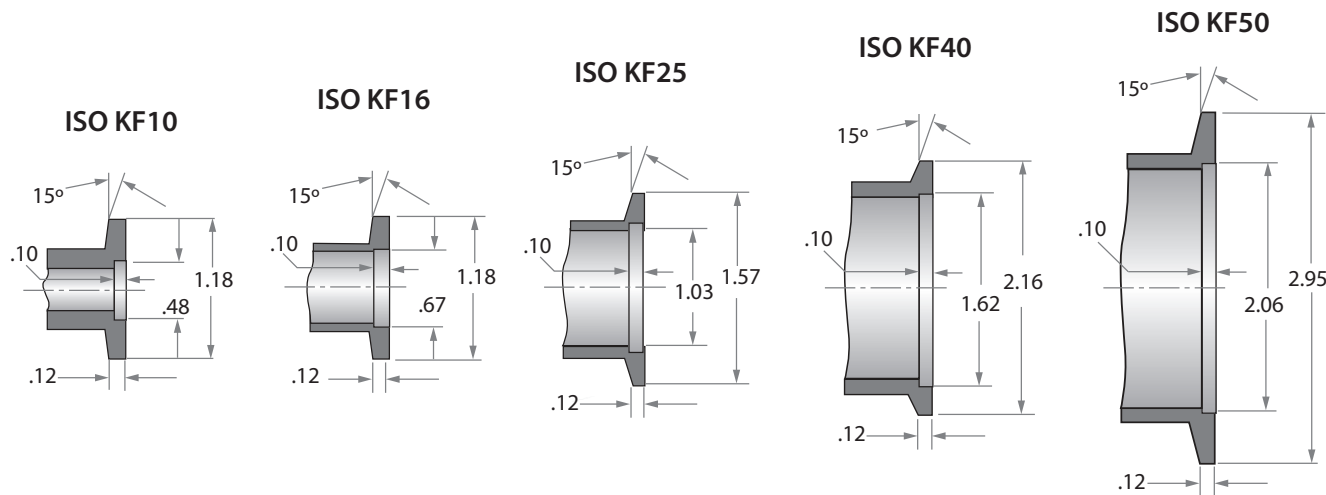
The KF flange fittings are manufactured from 304 and include an aluminum clamp to facilitate frequent disassembly without tools.

KF flange fittings can be baked at 150 °C when using a UHV Viton O - ring seal which extends in vacuum applications up to 10 - 8Torr.

EGMO also offers 316L stainless steel KF flange fittings for rugged corrosion resistance in semiconductor processing, with excellent repeatability in high vacuum applications.



Dimensions



How to order

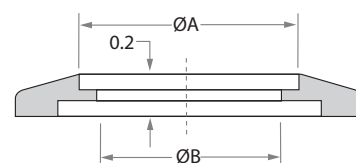
KF Fittings:

S M V - 3 0 4 - C R A - K F 2 5 - 1 . 0
 Product Line Material Shape Type O.D. Size Inch

Product line	Material	Shape	Type	O.D. Size Inch	
SMV - SciMax Vacuum	304	BOF - Board Flange	KF10	0.500	
	316L	BLF - Blind Flange	KF16	0.750	
	ALU - Aluminium		SWF - Short Weld Flange	KF25	1.000
			LWF - Long Weld Flange	KF40	1.500
			CRA - Centering Ring Assembly	KF50	2.000
			OPR - OverPressure ring		
			FB - Flex Bellow		

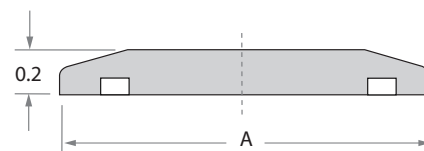
KF Bored Flanges

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O.D. Size inch	A inch	B inch
○	561-00011	●	510-00197	SMV-....-BOF-KF10-0.5	KF-10	½"	0.510	0.451
○	561-00047	●	510-00198	SMV-....-BOF-KF16-0.75	KF-16	¾"	0.760	0.670
○	561-00052	●	510-00093	SMV-....-BOF-KF25-1.0	KF-25	1"	1.010	0.938
○	561-00027	●	510-00012	SMV-....-BOF-KF40-1.5	KF-40	1½"	1.510	1.438
○	561-00033	●	510-00038	SMV-....-BOF-KF50-2.0	KF-50	2"	2.010	1.938



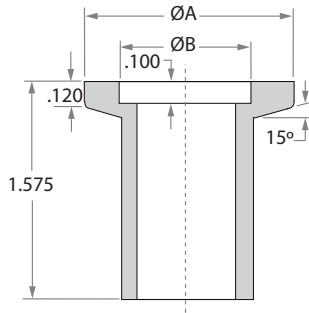
KF Blind Flanges

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	A inch
○	561-00001	●	510-00193	SMV-....-BLF-KF10-0.5	KF-10	1.180
○	561-00006	●	510-00194	SMV-....-BLF-KF16-0.75	KF-16	1.180
○	561-00015	●	561-00016	SMV-....-BLF-KF25-1.0	KF-25	1.575
○	561-00021	●	510-00143	SMV-....-BLF-KF40-1.5	KF-40	2.160
○	561-00028	●	510-00144	SMV-....-BLF-KF50-2.0	KF-50	2.950



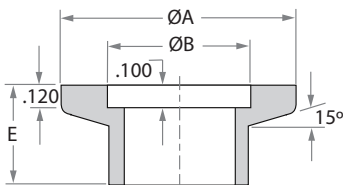
Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



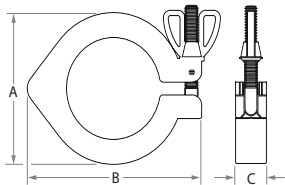
KF Long Butt Weld Flanges

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O.D. Size inch	A inch	B inch
●	561-00002	●	510-00202	SMV-....-LWF-KF10-0.5	KF-10	½"	1.180	0.480
●	561-00054	●	510-00203	SMV-....-LWF-KF16-0.75	KF-16	¾"	1.180	0.680
○	561-00017	●	510-00140	SMV-....-LWF-KF25-1.0	KF-25	1"	1.575	1.031
○	561-00023	●	510-00107	SMV-....-LWF-KF40-1.5	KF-40	1½"	2.160	1.620
○	561-00030	●	561-00133	SMV-....-LWF-KF50-2.0	KF-50	2"	2.950	2.060



KF Short Butt Weld Flanges

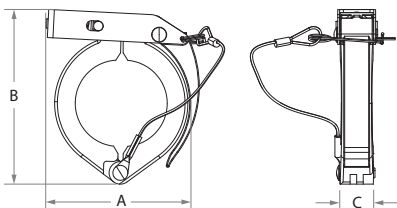
Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O.D. Size inch	A inch	B inch	E inch
●	561-00003			SMV-....-SWF-KF10-0.5	KF-10	½"	1.180	0.480	0.500
●	561-00009			SMV-....-SWF-KF16-0.75	KF-16	¾"	1.180	0.680	0.500
○	561-00018	●	510-00177	SMV-....-SWF-KF25-1.0	KF-25	1"	1.575	1.031	0.500
○	561-00061	●	510-00106	SMV-....-SWF-KF40-1.5	KF-40	1½"	2.160	1.620	0.750
○	561-00060	●	510-00178	SMV-....-SWF-KF50-2.0	KF-50	2"	2.950	2.060	0.750



KF Wingnut Clamps

Ava.	Part No.	Description	Type	A inch	B inch	C inch
○	570-00012	SMV-ALU-WNC-KF10/16-0.5/0.75	KF-16	1.690	2.392	0.625
○	570-00011	SMV-ALU-WNC-KF25-1.0	KF-25	2.140	2.796	0.625
○	570-00005	SMV-ALU-WNC-KF40-1.5	KF-40	2.750	3.437	0.625
○	570-00004	SMV-ALU-WNC-KF50-2.0	KF-50	3.500	4.245	0.710

Aluminium



KF Toggle Clamps

Ava.	Part No.	Description	Type	A inch	B inch	C inch
●	570-00015	MV-ALU-TGCL-KF10/16-0.5/0.75	KF-16	2.720	2.480	0.780
●	570-00016	SMV-ALU-TGCL-KF25-1.0	KF-25	2.950	2.910	0.780
●	570-00017	SMV-ALU-TGCL-KF40-1.5	KF-40	3.350	3.540	0.780
●	570-00018	SMV-ALU-TGCL-KF50-2.0	KF-50	4.640	4.530	0.900

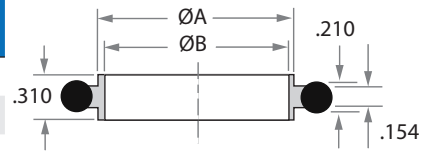
Aluminium

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

KF Centering Ring Assembly with Viton O-ring

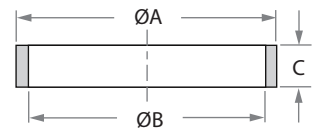
Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O - ring Material	A inch	B inch
○	569-00016	●	569-00060	SMV-....-CRA-KF10-0.5	KF-10	Viton®	0.478	0.456
○	569-00015	●	569-00061	SMV-....-CRA-KF16-0.75	KF-16	Viton®	0.669	0.625
○	569-00012	●	569-00052	SMV-....-CRA-KF25-1.0	KF-25	Viton®	1.024	0.984
○	569-00013	●	569-00062	SMV-....-CRA-KF40-1.5	KF-40	Viton®	1.614	1.570
○	569-00014	●	569-00063	SMV-....-CRA-KF50-2.0	KF-50	Viton®	2.047	1.967



KF Overpressure Rings

Ava.	Part No. 304	Description	Type	A inch	B inch	C inch	Max. PSIG
○	569-00006	SMV-304-OPR-KF10/16-0.5/0.75	KF-16	1.250	1.186	0.346	100
○	569-00007	SMV-304-OPR-KF25-1.0	KF-25	1.660	1.583	0.346	100
○	569-00008	SMV-304-OPR-KF40-1.5	KF-40	2.250	2.169	0.346	75
○	569-00004	SMV-304-OPR-KF50-2.0	KF-50	2.750	2.620	0.145	50

304 Stainless steel



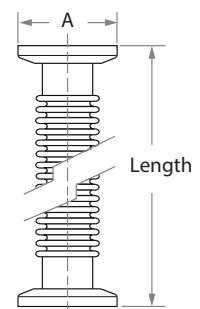
KIT - KF Centering Ring Assembly with Aluminium Over pressure ring

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O-ring Material	A inch	Length
●	508-00002	●	510-00134	SMV-....-CRA-ALOPR-KF10-0.5	KF-10	Viton®	1.186	0.480
●	508-00003	●	510-00135	SMV-....-CRA-ALOPR-KF16-0.75	KF-16	Viton®	1.270	0.620
○	508-00004	●	510-00096	SMV-....-CRA-ALOPR-KF25-1.0	KF-25	Viton®	1.670	0.980
○	508-00005	●	510-00036	SMV-....-CRA-ALOPR-KF40-1.5	KF-40	Viton®	2.260	1.570
○	508-00006	●	510-00039	SMV-....-CRA-ALOPR-KF50-2.0	KF-50	Viton®	3.050	1.960



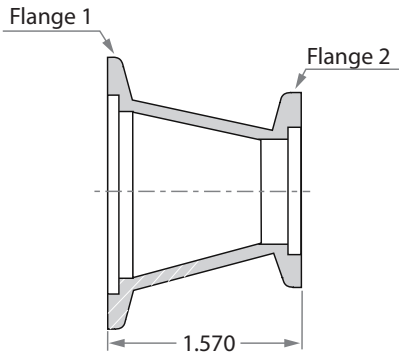
KF Flex Bellow

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	A inch	Length
●	514-00009			SMV-....-FB-KF10-0.5	KF-10	1.180	3.2
●	514-00018			SMV-....-FB-KF16-0.75	KF-16	1.180	3.2
○	514-00001	●	510-00147	SMV-....-FB-KF25-1.0	KF-25	1.575	4.2
○	514-00002	●	510-00148	SMV-....-FB-KF40-1.5	KF-40	2.160	4.2
○	514-00003	●	510-00149	SMV-....-FB-KF50-2.0	KF-50	2.950	4.2



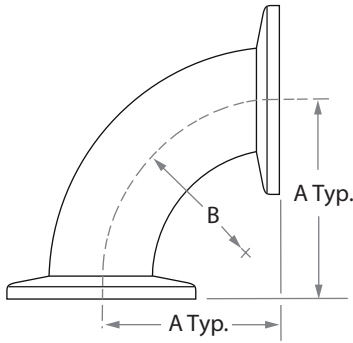
Availability:

○ Typical IR Stock	● Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



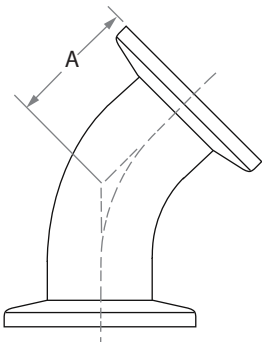
Conical Reducers With Flanges

Ava.	Part No. 304	Description	Flange 1	Flange 2
●	507-00119	SMV-BW-304-CORD-1.0X0.75-FLG	KF-25	KF-16
●	507-00120	SMV-BW-304-CORD-1.5X1.0-FLG	KF-40	KF-25
●	507-00121	SMV-BW-304-CORD-2.0X1.0-FLG	FK-50	KF-25
●	507-00122	SMV-BW-304-CORD-2.0X1.5-FLG	FK-50	KF-40



KF 90° Elbows With Flanges

Ava.	Part No. 304	Description	Type	O.D. Size inch	A inch
●	503-00059	SMV-BW-304-EL90-1.0-FLG	KF-25	1.000	1.65"
●	503-00116	SMV-BW-304-EL90-1.5-FLG	KF-40	1.500	2.4"
●	503-00114	SMV-BW-304-EL90-2.0-FLG	KF-50	2.000	3.15"



KF 45° Elbows With Flanges

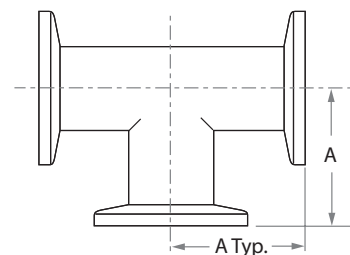
Ava.	Part No. 304	Description	Type	O.D. Size inch	A inch
●	503-00118	SMV-BW-304-EL45-1.0-FLG	KF-25	1.000	1.12"
●	503-00119	SMV-BW-304-EL45-1.5-FLG	KF-40	1.500	1.68"
●	503-00113	SMV-BW-304-EL45-2.0-FLG	KF-50	2.000	1.99"

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

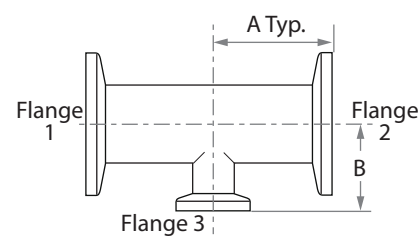
KF Equal TEE 45° With Flanges

Ava. Part No. 304	Description	O.D. Size inch	A inch
● 505-00084	SMV-BW-304-TEE-0.75-FLG	¾"	2.025
● 510-00110	SMV-BW-304-TEE-1.0-FLG	1.0"	2.025
● 505-00085	SMV-BW-304-TEE-1.5-FLG	1.5"	2.405
● 505-00086	SMV-BW-304-TEE-2.0-FLG	2.0"	3.150



KF Reducer Tees With Flanges

Ava. Part No. 304	Description	Size Flange 1 & 2	Size Flange 3	A inch	B inch
● 505-00094	SMV-BW-304-RTEE-1.0X0.75-FLG	1.0"	¾"	2.275	2.275
● 505-00095	SMV-BW-304-RTEE-1.5X1.0-FLG	1.5"	1.0"	2.525	2.525
● 505-00096	SMV-BW-304-RTEE-2.0X1.0-FLG	2.0"	1.0"	2.525	2.525
● 505-00097	SMV-BW-304-RTEE-2.0X1.5-FLG	2.0"	1.5"	2.525	2.650



Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

ISO Flanges & Fittings

General

ISO flanges conform with vacuum flange standards issued by the International Standards Organization (ISO). They share the same underlying concept as the KF flange series in that two faced sexless flanges clamp together with a sealing device between them. Each flange face has a counter - bore and a fitting metal ring with an elastomeric O - ring around its outer diameter.

The centering ring has two roles:

1. It aligns the flanges.
2. It prevents the O - ring from being pushed in by the external atmospheric pressure when the joint is under vacuum.

ISO flanges have two clamping mechanisms holding the flanges together:

1. The first uses separate clamps hooked over the outer edge of the mating flanges and spaced around the circumference (Figure A).
2. The second uses conventional bolt holes in the flange periphery (Figure B).

The clear advantage of the multi - part flange is that it mates simply by using the appropriate pieces in the assembly.

Specifications

The EGMO ISO flange system is designed and manufactured according to ISO standard 2861/1 for simple constructing of vacuum systems in the semiconductor industry.

The ISO flange connection system is shown in figure A (Page 13). The standard material supplied for fittings is stainless steel 304 or 304L.

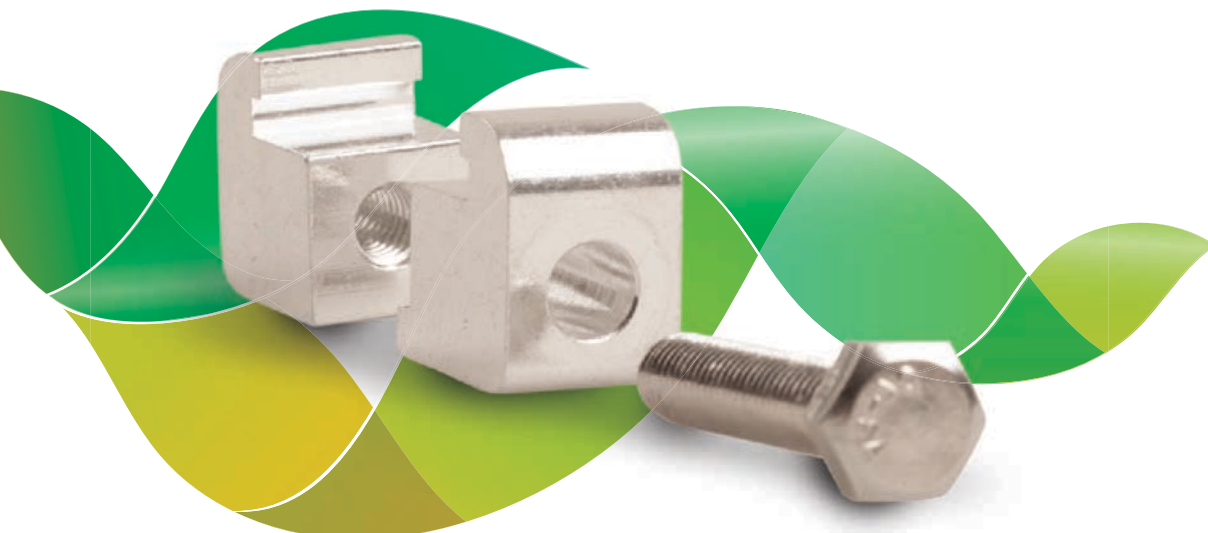
ISO components can be used with standard clamps and aluminium seals to obtain a UHV seal up to 150°C. Double claw clamps are used when a pair of flanges is joined as shown in figure A (Page 13). Alternatively, single claw clamps are used to join a non - rotatable flange with a pump or gate valve.

This method allows the flanges to be rotated for easy component alignment. Additionally, a rotatable bolt ring can be used to fasten the flanges to a non - rotatable flange using bolts (figure B).

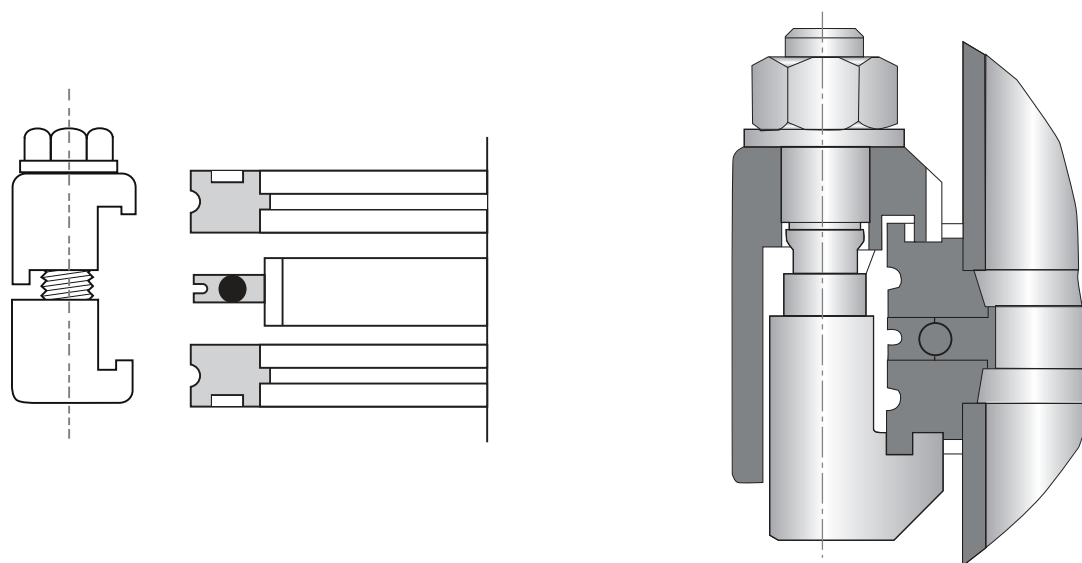
A retainer ring prevents the flanges from slipping through the bolt ring. Non - rotatable ISO flanges are assembled with bolts (figure B).

The ISO flange system is interchangeable with other manufacturers (MF, LF, PF, ISO - K), and the flange interface dimensions are machined according to international standards.

EGMO also offers 316L stainless steel ISO flange fittings for rugged corrosion resistance in semiconductor processing, with excellent repeatability in high vacuum applications.



A. Double Claw Clamp connection

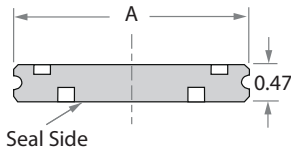


How to order

ISO Fittings:

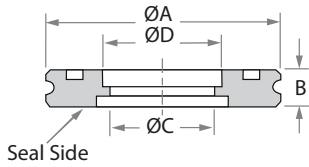
S **M** **V** - **3** **0** **4** - **C** **R** **A** - **I** **S** **O** **1** **5** **0** - **1** **.** **0**
 Product Line Material Shape Type O.D. Size Inch

Product line	Material	Shape	Type	O.D. Size Inch
SMV - SciMax Vacuum	304	BOF - Board Flange	ISO63	2.5
		BLF - Blind Flange	ISO80	3.0
	ALU - Aluminium	LWF - Long Weld Flange	ISO100	4.0
		HNF - Half Nipple Flange	ISO160	6.0
		CRA - Centering Ring Assembly	ISO200	8.0
		DCC - Double Claw Clamp	ISO250	10.0
		FB - Flex Bellow		



ISO Blind Flanges

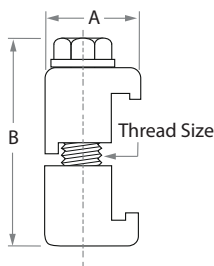
Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	Flange Size	A inch
●	511-00009			SMV-....-BLF-ISO63-2.5	2½"	ISO-63	3.740
○	511-00006	●	510-00145	SMV-....-BLF-ISO80-3.0	3"	ISO-80	4.331
○	511-00010	●	510-00146	SMV-....-BLF-ISO100-4.0	4"	ISO-100	5.118
○	511-00005	●	510-00099	SMV-....-BLF-ISO160-6.0	6"	ISO-160	7.087
●	511-00022	●	510-00195	SMV-....-BLF-ISO200-8.0	8"	ISO-200	9.449
●	511-00023	●	510-00196	SMV-....-BLF-ISO250-10.0	10"	ISO-250	11.420



ISO Board Flanges

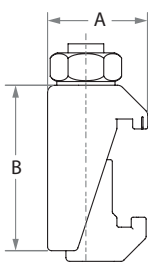
Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	Flange Size	A inch	B inch	C inch	D inch
●	511-00054	●	510-00199	SMV-....-BOF-ISO63-2.5	2½"	ISO-63	3.740	0.470	2.438	2.510
○	511-00002	●	510-00043	SMV-....-BOF-ISO80-3.0	3"	ISO-80	4.331	0.470	2.938	3.010
○	511-00003	●	510-00007	SMV-....-BOF-ISO100-4.0	4"	ISO-100	5.118	0.470	3.910	4.010
○	511-00008	●	510-00001	SMV-....-BOF-ISO160-6.0	6"	ISO-160	7.087	0.470	5.875	6.020
●	511-00011	●	510-00200	SMV-....-BOF-ISO200-8.0	8"	ISO-200	9.449	0.470	7.875	8.020
●	511-00021	●	510-00201	SMV-....-BOF-ISO250-10.0	10"	ISO-250	11.417	0.470	9.875	10.020

* 316L Flanges also available with Electropolish



ISO Double Claw Clamps - Aluminium

Ava.	Part No. 304	Description	Flange Size	A inch	B inch	Thread Size	Clamps Required
○	512-00007	SMV-ALU-DCC-ISO63-100-2.5-4.0	ISO63 - ISO100	0.940	1.960	5/16-18	4-6
○	512-00003	SMV-ALU-DCC-ISO160-250-6.0-10.0	ISO160 - ISO250	1.100	1.96	5/16 -18	6-10
○	512-00019	SMV-ALU-DCC-ISO320-12.75	ISO320	1.340	2.590	5/16 -18	12



ISO Double Claw Clamps - Stainless Steel

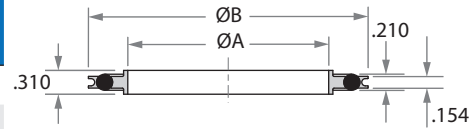
Ava.	Part No. 304	Description	Flange Size	A inch	B inch	Clamps Required
○	512-00017	SMV-304-DCC-ISO63-250-ZNUT	ISO63 - ISO250	M8	2.420	4-10

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
-----------------------	-------------------	---------------------

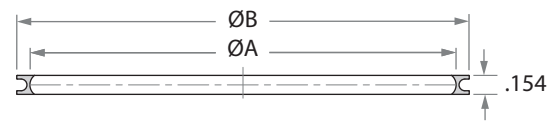
ISO Centering Rings with O-Ring and Aluminum Spacer Ring

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O - ring Material	A inch	B inch
●	569-00029	●	510-00136	SMV-...-CRA-SR-ISO63-2.5	ISO-63	Viton®	2.630	2.740
○	515-00002	●	510-00054	SMV-...-CRA-SR-ISO80-3.0	ISO-80	Viton®	3.140	3.250
○	515-00003	●	510-00060	SMV-...-CRA-SR-ISO100-4.0	ISO-100	Viton®	3.890	4.000
○	515-00004	●	510-00002	SMV-...-CRA-SR-ISO160-6.0	ISO-160	Viton®	5.900	6.010
●	515-00013	●	510-00137	SMV-...-CRA-SR-ISO200-8.0	ISO-200	Viton®	8.260	8.370
		●	510-00138	SMV-...-CRA-SR-ISO250-10.0	ISO-250	Viton®	10.120	10.980



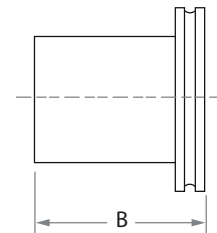
ISO Aluminum Spacer Ring

Ava.	Part No.	Description	Type	A inch	B inch
●	569-00089	SMV-ALU-SR-ISO63-2.5	ISO-63	3.449	3.661
●	569-00031	SMV-ALU-SR-ISO80-3.0	ISO-80	3.957	4.291
●	569-00033	SMV-ALU-SR-ISO100-4.0	ISO-100	4.709	5.039
●	569-00035	SMV-ALU-SR-ISO160-6.0	ISO-160	6.717	7.362
●	569-00037	SMV-ALU-SR-ISO200-8.0	ISO-200	9.079	9.409
●	569-00039	SMV-ALU-SR-ISO250-10.0	ISO-250	10.748	11.339



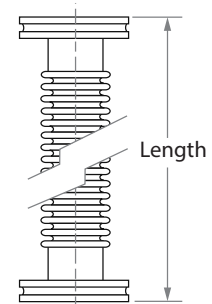
ISO Half Nipples

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Type	O.D. Size inch	B inch
●	561-00132	●	510-00204	SMV-....-HNF-ISO63-2.5	ISO-63	2½"	3.940
○	561-00105	●	510-00141	SMV-....-HNF-ISO80-3.0	ISO-80	3"	3.940
○	561-00109	●	510-00142	SMV-....-HNF-ISO100-4.0	ISO-100	4"	3.940
○	561-00101	●	510-00170	SMV-....-HNF-ISO160-6.0	ISO-160	6"	3.940
●	561-00103	●	510-00205	SMV-....-HNF-ISO200-8.0	ISO-200	8"	7.380



ISO Flexible Bellow

Ava.	Part No. 304	Ava.	Part No. 316L	Description	Flange Type	O.D. Size inch	Length	Compressed Length
●	563-00025	●	510-00189	SMV-....-FB-ISO63-2.5	ISO-63	2½"	7.000	6.000
○	563-00001	●	510-00150	SMV-....-FB-ISO80-3.0	ISO-80	3"	7.000	6.000
○	563-00002	●	510-00103	SMV-....-FB-ISO100-4.0	ISO-100	4"	7.000	6.000
○	563-00017	●	510-00190	SMV-....-FB-ISO160-6.0	ISO-160	6"	7.000	6.000
●	563-00018	●	510-00191	SMV-....-FB-ISO200-8.0	ISO-200	8"	7.000	6.000
●	563-00019	●	510-00192	SMV-....-FB-ISO250-10.0	ISO-250	10"	12.000	8.000

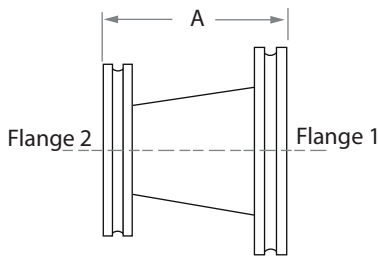


ISO Flexible Bellow - Short

Ava.	Part No. 304	Description	Flange Type	O.D. Size inch	Length	Compressed Length
●	563-00027	SMV-304-FB-ISO63-2.5-L6.0	ISO-63	2½"	6.000	5.000
●	563-00029	SMV-304-FB-ISO80-3.0-L6.0	ISO-80	3"	6.000	5.000
●	563-00031	SMV-304-FB-ISO100-4.0-L6.0	ISO-100	4"	6.000	5.000

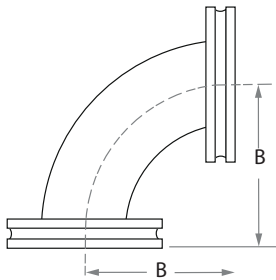
Availability:

○ Typical IR Stock	● Upon Request	● Long Lead Time
-----------------------	-------------------	---------------------



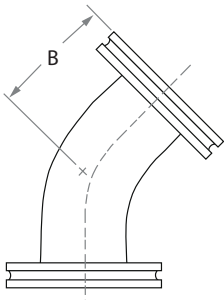
ISO Conical Reducer Nipples With Flanges

Ava.	Part No. 304	Description	Flange 1	Flange 2	A inch
○	507-00123	SMV-BW-304-CORD-3.0X1.5-FLG	ISO-80	KF-40	4.000
○	507-00124	SMV-BW-304-CORD-3.0X2.0-FLG	ISO-80	KF-50	4.000
○	507-00125	SMV-BW-304-CORD-4.0X1.5-FLG	ISO-100	KF-40	4.000
○	507-00126	SMV-BW-304-CORD-4.0X2.0-FLG	ISO-100	KF-50	4.000
○	507-00107	SMV-BW-304-CORD-4.0X3.0-FLG	ISO-100	ISO-80	4.120



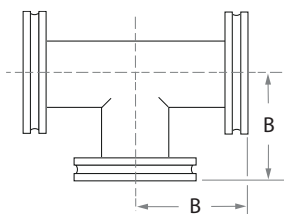
ISO 90° Radius Elbows With Flanges

Ava.	Part No. 304	Description	OD Size [Inch]	B size
○	503-00117	SMV-BW-304-EL90-3.0-FLG	3.0"	4.750
○	510-00109	SMV-BW-304-EL90-4.0-FLG	4.0"	6.250



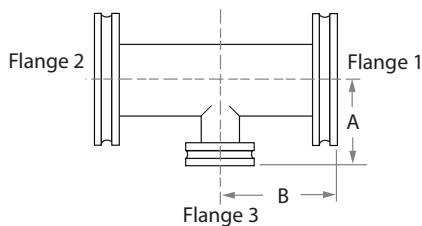
ISO 45° Radius Elbows With Flanges

Ava.	Part No. 304	Description	OD Size [Inch]	B size
○	503-00120	SMV-BW-304-EL45-3.0-FLG	3.0"	3.930
○	503-00121	SMV-BW-304-EL45-4.0-FLG	4.0"	5.030



ISO Equal TEE With Flanges

Ava.	Part No. 304	Description	OD Size [Inch]	B size
○	505-00087	SMV-BW-304-TEE-3.0-FLG	3.0"	3.500
○	505-00088	SMV-BW-304-TEE-4.0-FLG	4.0"	4.130



ISO Reducer Tees With Flanges

Ava.	Part No. 304	Description	Size Flange 1 & 2	Size Flange 3	A size	B size
○	505-00098	SMV-BW-304-RTEE-3.0X1.5-FLG TG	3.0	1.5	3.400	3.500
○	505-00099	SMV-BW-304-RTEE-3.0X2.0-FLG TG	3.0	2.0	3.150	3.500
○	505-00100	SMV-BW-304-RTEE-4.0x2.0-FLG TG	4.0	2.0	4.150	4.000
○	505-00101	SMV-BW-304-RTEE-4.0x3.0-FLG TG	4.0	3.0	3.900	4.000

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

ISO Weld Flanges & Fittings

General

EGMO designs and manufactures a complete butt - weld vacuum fittings line together with its full line of NW, ISO and flanges. EGMO designs and manufactures a complete butt - weld vacuum fittings line together with its full line of NW, and ISO flanges

The standard material supplied for fittings is type 304 stainless steel, specifically prepared for use in high vacuum processes or UHV applications. Special 304L and 316L material can be supplied on request.

Butt - weld fittings are used in vacuum applications where minimizing the number of sealed joints is critical.

EGMO butt - weld vacuum fittings are put together using a pulled port and 100% TIG weld techniques penetration.

All Butt - Weld fittings are leak free and cleaned for high vacuum use and then marked with the heat number of raw material, size and job number enabling full traceability to all material used, and to EGMO production data.

Full Material Test Reports (MTR) are supplied with the finished goods, or via the EGMO website, indicating the item job number. EGMO butt - weld vacuum fittings are packed in individual bags. All EGMO butt - weld vacuum fittings are individually labelled for easy identification.

EGMO develops and fabricates Stainless tubular fittings for the semiconductor industry.

The fittings are suitable for orbital welding and available in ½" - 10" OD sizes. AISI 304L, 316L materials are available. The fittings are fabricated according to ASTM A - 270 / ASTM A - 269 requirements. Surface finish is unpolished Bright Annealed. Other surface finishes are available upon request.

How to order

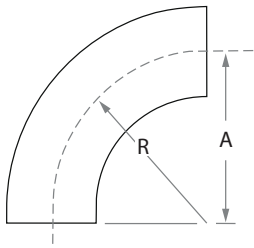
But Weld Fittings:

S M V - **B W** - **3 0 4** - **E L 9 0** - **1 . 0** - **T G**

Product Line Type Material Shape O.D. Size Tangant

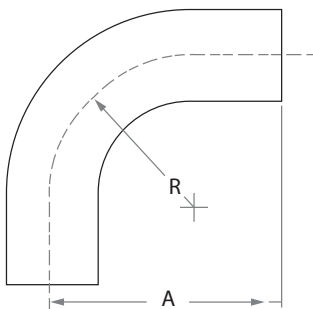
Product line	Type	Material	Shape	O.D. Size	Tangant
SMV - SciMax Vacuum	BW - But Weld Fittings	304	EL90 - Elbows 90	0.5	TG - with Tangent
			EL45 - Elbows 45	0.75	Blank - No Tangent
		316	TEE - Tee	1.0	
			RTEE - Reduce TEE	1.5	
			CORD - Conical Reducer	2.0	
				2.5	
				3.0	
				4.0	
				6.0	
				8.0	
		10.0			

90° Radius Elbows - Type 1



Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch	R
●	503-00101	●	503-00190	SMV-BW-...-EL90-0.5	½"	0.750	0.750
●	503-00035	●	503-00191	SMV-BW-...-EL90-0.75	¾"	1.126	1.126
○	503-00005	●	503-00152	SMV-BW-...-EL90-1.0	1"	1.500	1.500
○	503-00013	●	503-00154	SMV-BW-...-EL90-1.5	1½"	2.250	2.250
○	503-00020	●	503-00156	SMV-BW-...-EL90-2.0	2"	3.000	3.000
○	503-00027	●	503-00192	SMV-BW-...-EL90-2.5	2½"	3.750	3.750
○	503-00032	●	503-00158	SMV-BW-...-EL90-3.0	3"	4.500	4.500
○	503-00040	●	503-00160	SMV-BW-...-EL90-4.0	4"	6.000	6.000
●	503-00044	●	503-00174	SMV-BW-...-EL90-6.0	6"	9.000	9.000
●	503-00049	●	503-00193	SMV-BW-...-EL90-8.0	8"	12.000	12.000
●	503-00053	●	503-00194	SMV-BW-...-EL90-10.0	10"	15.000	15.000

90° Radius Elbows with Tangents - Type 2



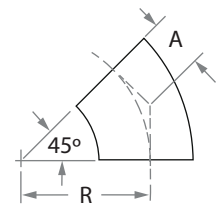
Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch	R
●	503-00105	●	503-00195	SMV-BW-....-EL90-0.5-TG	½"	1.126	0.750
●	503-00102	●	503-00196	SMV-BW-....-EL90-0.75-TG	¾"	1.420	1.126
○	503-00006	●	503-00128	SMV-BW-....-EL90-1.0-TG	1"	1.820	1.500
○	503-00015	●	503-00129	SMV-BW-....-EL90-1.5-TG	1½"	2.940	2.250
○	503-00022	●	503-00130	SMV-BW-....-EL90-2.0-TG	2"	4.060	3.000
○	503-00029	●	503-00197	SMV-BW-....-EL90-2.5-TG	2½"	5.190	3.750
○	503-00034	●	503-00131	SMV-BW-....-EL90-3.0-TG	3"	6.310	4.500
○	503-00042	●	503-00132	SMV-BW-....-EL90-4.0-TG	4"	8.310	6.000
●	503-00045	●	503-00178	SMV-BW-....-EL90-6.0-TG	6"	12.460	9.000

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

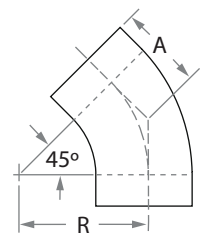
45° Radius Elbows - Type 1

Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch	R
●	503-00055	●	503-00180	SMV-BW-...-EL45-0.5	½"	0.310	0.750
●	503-00056	●	503-00181	SMV-BW-...-EL45-0.75	¾"	0.470	1.126
○	503-00003	●	503-00162	SMV-BW-...-EL45-1.0	1"	0.620	1.500
○	503-00010	●	503-00164	SMV-BW-...-EL45-1.5	1½"	0.930	2.250
○	503-00018	●	503-00166	SMV-BW-...-EL45-2.0	2"	1.250	3.000
○	503-00025	●	503-00182	SMV-BW-...-EL45-2.5	2½"	1.530	3.750
○	503-00031	●	503-00168	SMV-BW-...-EL45-3.0	3"	1.840	4.500
○	503-00038	●	503-00170	SMV-BW-...-EL45-4.0	4"	2.500	6.000
●	503-00043	●	503-00109	SMV-BW-...-EL45-6.0	6"	3.730	9.000
●	503-00048	●	503-00183	SMV-BW-...-EL45-8.0	8"	4.970	12.000
●	503-00054	●	503-00184	SMV-BW-...-EL45-10.0	10"	6.220	14.170



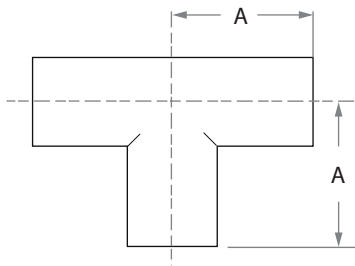
45° Radius Elbows with Tangents - Type 2

Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch	R
●	503-00104	●	503-00186	SMV-BW-....-EL45-0.75-TG	¾"	0.760	1.126
○	503-00001	●	503-00133	SMV-BW-....-EL45-1.0-TG	1"	1.190	1.500
○	503-00011	●	503-00134	SMV-BW-....-EL45-1.5-TG	1½"	1.630	2.250
○	503-00017	●	503-00135	SMV-BW-....-EL45-2.0-TG	2"	2.310	3.000
○	503-00024	●	503-00187	SMV-BW-....-EL45-2.5-TG	2½"	3.000	3.750
○	503-00030	●	503-00136	SMV-BW-....-EL45-3.0-TG	3"	3.680	4.500
○	503-00036	●	503-00111	SMV-BW-....-EL45-4.0-TG	4"	4.810	6.000
●	503-00062	●	503-00176	SMV-BW-....-EL45-6.0-TG	6"	7.330	9.000



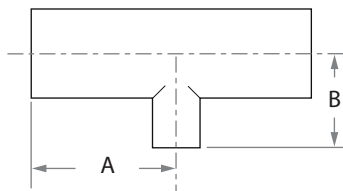
Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



Equal TEE

Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch
●	505-00015	●	505-00136	SMV-BW-....-TEE-0.5	½"	0.750
●	505-00014	●	505-00137	SMV-BW-....-TEE-0.75	¾"	1.000
○	505-00002	●	505-00110	SMV-BW-....-TEE-1.0	1"	1.880
○	505-00005	●	505-00111	SMV-BW-....-TEE-1.5	1½"	2.250
○	505-00008	●	505-00112	SMV-BW-....-TEE-2.0	2"	3.000
○	505-00050	●	505-00138	SMV-BW-....-TEE-2.5	2½"	3.000
○	505-00009	●	505-00113	SMV-BW-....-TEE-3.0	3"	3.250
○	505-00011	●	505-00114	SMV-BW-....-TEE-4.0	4"	3.880
●	505-00023	●	505-00139	SMV-BW-....-TEE-6.0	6"	5.000
●	505-00017	●	505-00140	SMV-BW-....-TEE-8.0	8"	7.000
●	505-00021	●	505-00141	SMV-BW-....-TEE-10.0	10"	8.500



Reducer Tees

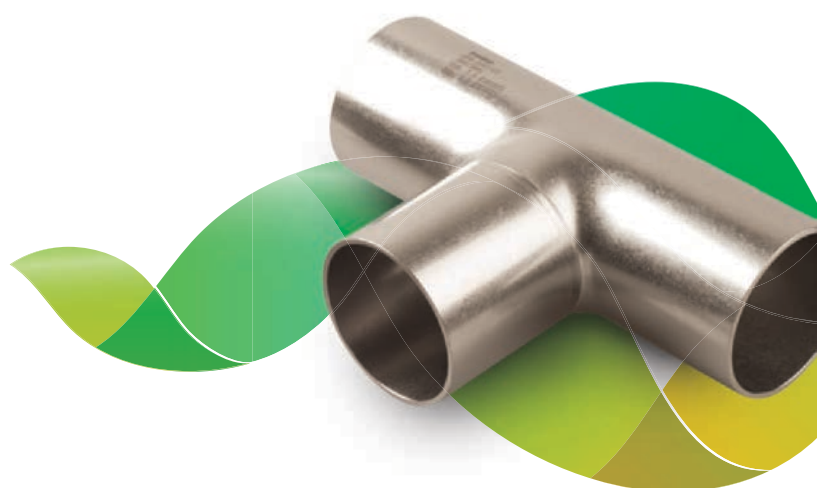
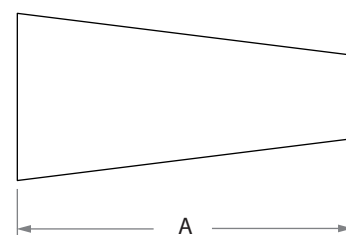
Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch	B inch
○	505-00001			SMV-BW-....-RTEE-1.0X0.75	1" x ¾"	1.880	2.130
●	505-00004			SMV-BW-....-RTEE-1.5X0.75	1½" x ¾"	2.250	2.250
○	505-00003	●	505-00115	SMV-BW-....-RTEE-1.5X1.0	1½" x 1"	2.250	2.380
○	505-00006	●	505-00116	SMV-BW-....-RTEE-2.0X1.0	2" x 1"	3.000	2.380
○	505-00007	●	505-00117	SMV-BW-....-RTEE-2.0X1.5	2" x 1½"	3.000	2.380
●	505-00061			SMV-BW-....-RTEE-2.5X1.5	2½" x 1½"	3.000	2.500
●	505-00051			SMV-BW-....-RTEE-2.5X2.0	2½" x 2"	3.000	2.750
●	505-00063	●	505-00118	SMV-BW-....-RTEE-3.0X1.5	3" X 1½"	3.250	3.000
○	505-00028	●	505-00119	SMV-BW-....-RTEE-3.0X2.0	3" x 2"	3.250	3.250
●	505-00046			SMV-BW-....-RTEE-3.0X2.5	3" x 2½"	3.250	3.250
●	505-00026			SMV-BW-....-RTEE-4.0x1.5	4"x1.5"	3.880	3.500
○	505-00010	●	505-00120	SMV-BW-....-RTEE-4.0x2.0	4"x2"	3.880	4.000
●	505-00052			SMV-BW-....-RTEE-4.0x2.5	4" x 2½"	3.880	3.750
○	505-00053	●	505-00121	SMV-BW-....-RTEE-4.0x3.0	4" x 3"	3.880	3.750
●	505-00135			SMV-BW-....-RTEE-6.0X3.0	6" X 3"	5.000	4.750
●	505-00027			SMV-BW-....-RTEE-6.0X4.0	6"x4"	5.000	4.880
●	505-00029			SMV-BW-....-RTEE-8.0X6.0	8"x6"	7.000	6.000
●	505-00030			SMV-BW-....-RTEE-10.0X8.0	10"x8"	8.500	7.000

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

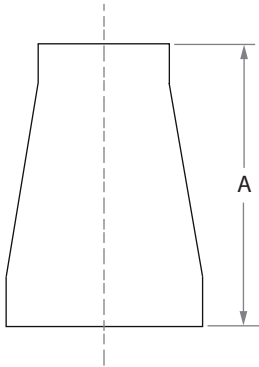
Conical Reducers - Type 1

Ava.	Part No. 304	Description	O.D. Size inch	A inch
●	507-00018	SMV-BW-304-CORD-1.0X0.5	1" x 1/2"	1.500
○	507-00010	SMV-BW-304-CORD-1.0X0.75	1" x 3/4"	1.000
●	507-00012	SMV-BW-304-CORD-1.5X0.75	1 1/2" x 3/4"	3.000
○	507-00001	SMV-BW-304-CORD-1.5X1.0	1 1/2" x 1"	2.000
○	507-00002	SMV-BW-304-CORD-2.0X1.0	2" x 1"	4.000
●	507-00003	SMV-BW-304-CORD-2.0X1.5	2" x 1 1/2"	2.000
●	507-00014	SMV-BW-304-CORD-2.5X1.5	2 1/2" x 1 1/2"	4.000
●	507-00079	SMV-BW-304-CORD-2.5X2.0	2 1/2" x 2"	2.000
●	507-00105	SMV-BW-304-CORD-3.0X1.5	3" x 1.5"	6.000
○	507-00005	SMV-BW-304-CORD-3.0X2.0	3" x 2"	4.000
●	507-00007	SMV-BW-304-CORD-3.0X2.5	3" x 2 1/2"	2.000
●	507-00035	SMV-BW-304-CORD-4.0X1.5	4"x1.5"	10.000
○	507-00006	SMV-BW-304-CORD-4.0X2.0	4"x2"	8.000
●	507-00008	SMV-BW-304-CORD-4.0X2.5	4" x 2 1/2"	6.000
○	507-00009	SMV-BW-304-CORD-4.0X3.0	4" x 3"	4.000
●	507-00015	SMV-BW-304-CORD-6.0X4.0	6"x4"	4.000
●	507-00017	SMV-BW-304-CORD-8.0X6.0	8" x 6"	10.000



Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



Conical Reducers With Tangent - Type 2

Ava.	Part No. 304	Ava.	Part No. 316L	Description	O.D. Size inch	A inch
○	507-00054			SMV-BW-....-CORD-1.0X0.75 TG	1" x ¾"	1.380
○	507-00071			SMV-BW-....-CORD-1.5X0.5 TG	1½" x ½"	1.380
○	507-00072			SMV-BW-....-CORD-1.5X0.75 TG	1½" x ¾"	2.380
○	507-00073	○	507-00135	SMV-BW-....-CORD-1.5X1.0 TG	1½" x 1"	2.380
○	507-00076	○	507-00136	SMV-BW-....-CORD-2.0X1.0 TG	2" x 1"	2.380
○	507-00077	○	507-00137	SMV-BW-....-CORD-2.0X1.5 TG	2" x 1½"	2.380
○	507-00083			SMV-BW-....-CORD-2.5X2.0 TG	2½" x 2"	2.380
○	507-00042	○	507-00138	SMV-BW-....-CORD-3.0X1.5 TG	3" x 1½"	3.630
○	507-00040	○	507-00139	SMV-BW-....-CORD-3.0X2.0 TG	3" x 2"	3.630
○	507-00085			SMV-BW-....-CORD-3.0X2.5 TG	3" x 2½"	3.630
○	507-00044	○	507-00140	SMV-BW-....-CORD-4.0X1.5 TG	4" x 1½"	3.630
○	507-00059	○	507-00141	SMV-BW-....-CORD-4.0X2.0 TG	4" x 2"	3.630
○	507-00087			SMV-BW-....-CORD-4.0X2.5 TG	4" x 2½"	3.630
○	507-00088	○	507-00142	SMV-BW-....-CORD-4.0X3.0 TG	4" x 3"	3.630
●	507-00152			SMV-BW-....-CORD-6.0X3.0 TG	6" x 3"	5.500
●	507-00046			SMV-BW-....-CORD-6.0X4.0 TG	6" x 4"	5.500

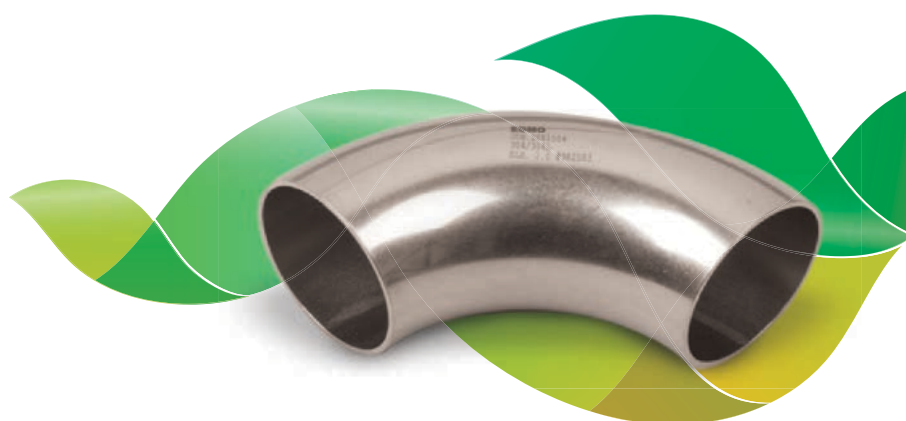
Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

SM10 - Electropolish Tube & Fittings

SciMax Vacuum Electro Polished SM10 SCiMax Vacuum Tubes and Fittings

Product	SM10 316L Electropolished Tube and Fitting								
Specifications	ASTM A269, A270, A632								
Material Grade	316L								
Dimensional & Specification	Tubing	OD Size:	Wall Thickness:			Surface Finish:			
		½" through 3"	0.065"			Electropolished Ra=10 µ Inch max			
		4"	0.083"			Electropolished Ra=10 µ Inch max			
		6"	0.109"			Electropolished Ra=10 µ Inch max			
		KF	Long Flange, Wing Nut Clamp						
	ISO	Half Nipple, Double Claw Clamp							
	Butt-weld	Elbow 45/ 90, Equal TEE, Reduced TEE, Reducer, End Cap							
	Kits:	KF	SS Centring ring + Kalrez O-ring + Over pressure ring						
		ISO	SS Centring ring + Kalrez O-ring + Spacer						
Chemical Composition 316L	%	C	Cr	Mn	Mo	Ni	P	Si	S
	min		16		2.0	10.0			
	max	0.030	18.0	2.0	3.0	14.0	0.045	1.00	0.030
Tube Length	Nominal Lengths				FT.			MT.	
					19-20			5.8-6.1	
Mechanical Tests	Hardness Test - 90 [Rockwell B] Max ASTM A270 S2 (§ S2.3)								
Testing & Inspection:	Visual inspection								
	Dimensional measurement								
	Helium-leak testing Where needed								
Plain Ends	All tubing shall be Square ends ready for welding, with no chips, burs or other imperfections of the welding edge, that can influence the welding results.								
Cleaning	All tubing and Fittings surfaces shall be clean and free of oils, grease, particulates, grinding compounds, dust, rising residuals or electrolytes, and stains.								
Marking and Labeling	Tubes and Fittings shall be permanently marked or marked on the exterior of the bags with the following information.								
	Brand Name	Size O.D	Wall Thick.	Material Grade	Lot Number	Heat Number			
Packing	All products will be capped and packed with polyethylene sleeves.								
Certification	Inspection documents certification to be according to DIN EN10204 3.1. Full Material Tests Report (MTR) to be provided with the material. standard.								

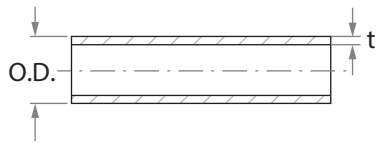


How to order

Tubing:

S M 1 0 3 1 6 L E P S L - **. 7 5 X 0 . 6 5**
 Product Line Material Surface Treatment Type O.D. Size Wall Thickness Inch

Product Line	Material	Surface Treatment	Type	O.D. Size	Wall Thickness Inch
SM10 - SCiMax 10	316L	EP - Electro Polish	WE - Welded	½" - 0.5	0.049
			SL - Seamless	¾" - 0.75	0.065
				1" - 1.0	0.065
				1 ½" - 1.5	0.065
				2" - 2.0	0.065
				2 ½" - 2.5	0.065
				3" - 3.0	0.065
				4" - 4.0	0.083
	6" - 6.0	0.109			



Tube Dimensions - EP

Ava.	Part No.		O.D. Size Inch	Surface Finish	Wall Thickness	
	316L				t inch	t mm
	SCiMax 10	SCiMax 10				
☉	581-00238	SM10316LEPSL-.5X.049SMT1	½"	Seamless	0.049	1.24
☉	581-00239	SM10316LEPSL-.75X.065SMT1	¾"	Seamless	0.065	1.65
☉	581-00240	SM10316LEPSL1.0X.065SMT1	1"	Seamless	0.065	1.65
☉	581-00019	SM10316LEPWE-1.0X.065	1"	Welded	0.065	1.65
☉	581-00026	SM10316LEPWE-1.5X.065	1 ½"	Welded	0.065	1.65
☉	581-00028	SM10316LEPWE-2.0X.065	2"	Welded	0.065	1.65
☉	581-00029	SM10316LEPWE-2.5X.065	2 ½"	Welded	0.065	1.65
☉	581-00030	SM10316LEPWE-3.0X.065	3"	Welded	0.065	1.65
☉	581-00031	SM10316LEPWE-4.0X.083	4"	Welded	0.083	2.11
☉	581-00032	SM10316LEPWE-6.0X.109	6"	Welded	0.109	2.77

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
-----------------------	-------------------	---------------------

How to order - KF Fittings

S M V - 3 1 6 L - L W F - K F 2 5 - 1 . 0 - E P
 Product Line Material Shape O.D. Size KF O.D. Size Inch Surface Treatment

Product Line	Material	Shape	O.D. Size KF	O.D. Size Inch	Surface Treatment
SMV - SciMax Vacuum	316L	LWF - Long Weld Flange	KF25	1	EP - Electro Polish
		CRA - Centering Ring Assembly	KF40	1.5	
			KF50	2	

How to order - ISO Fittings

S M V - 3 1 6 L - H N F - I S O 1 0 0 - 4 . 0 - E P
 Product Line Material Shape O.D. Size ISO O.D. Size Inch SURFACE TREATMENT

Product Line	Material	Shape	O.D. Size ISO	O.D. Size Inch	Surface Treatment
SMV - SciMax Vacuum	340	HNF - Half Nipple Flang	ISO 80	3	EP - Electro Polish
	316	CRA - Centering Ring Assembly	ISO100	4	
			ISO160	6	

How to order - Weld Fittings

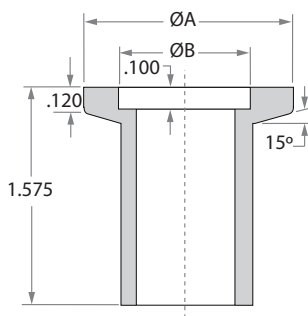
S M 1 0 3 1 6 L E P E L 9 0 - 1 . 5
 Product Line Material Surface Treatment Shape O.D. Size

Product Line	Material	Surface Treatment	Shape	O.D. Size
SM10 - SciMax 10	316L	EP - Electro Polish	EL90 - Elbow 90	1" - 1.0
			EL45 - Elbow 45	1 ½" - 1.5
			ETEE - Equal Tee	2" - 2.0
			ECAP - End Cap	2 ½" - 2.5
				3" - 3.0
				4" - 4.0
	6" - 6.0			

How to order - Reducing Weld Fittings

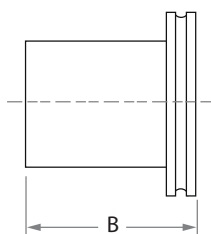
S M 1 0 3 1 6 L E P R T E E - 3 . 0 X 2 . 0
 Product Line Material Surface Treatment Shape O.D. Size Large O.D. Size Small

Product Line	Material	Surface Treatment	Shape	O.D. Size Large	O.D. Size Small
SM10 - SciMax 10	316L	EP - Electro Polish BA - Bright Annealed	RTEE - Reducing Tee	1" - 1.0	¾" - 0.75
			CORD - Concentric Reducer	1 ½" - 1.5	1" - 1.0
				2" - 2.0	1 ½" - 1.5
				2 ½" - 2.5	2" - 2.0
				3" - 3.0	2 ½" - 2.5
				4" - 4.0	3" - 3.0
	6" - 6.0	4" - 4.0			



KF Long Butt Weld Flanges - EP

Ava.	Part No. 316L	Description	Type	O.D. Size inch	A inch	B inch	C inch
○	510-00163	SMV-316L-LWF-KF25-1.0EP	KF-25	1"	1.575	1.031	0.870
○	510-00164	SMV-316L-LWF-KF40-1.5EP	KF-40	1½"	2.160	1.620	1.370
○	510-00165	SMV-316L-LWF-KF50-2.0EP	KF-50	2"	2.950	2.060	1.870



ISO Half Nipples - EP

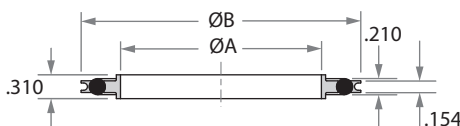
Ava.	Part No. 316L	Description	Type	O.D. Size inch	B inch
○	510-00166	SMV-316L-HNF-ISO80-3.0EP	ISO-80	3"	3.940
○	510-00167	SMV-316L-HNF-ISO100-4.0EP	ISO-100	4"	3.940
○	510-00168	SMV-316L-HNF-ISO160-6.0EP	ISO-160	6"	3.940



KIT - KF Centering Ring with Kalrez O-ring and Overpressure ring

Ava.	Part No. 316L	Description	Type	O-ring Material	A inch	B inch
●	508-00020	SMV-316L-CRA-KLRZ-OPR-KF16-EP	KF-16	*Kalrez®	1.270	0.620
●	508-00021	SMV-316L-CRA-KLRZ-OPR-KF25-EP	KF-25	*Kalrez®	1.670	0.980
●	508-00022	SMV-316L-CRA-KLRZ-OPR-KF40-EP	KF-40	*Kalrez®	2.260	1.570
●	508-00023	SMV-316L-CRA-KLRZ-OPR-KF50-EP	KF-50	*Kalrez®	3.050	1.960

O-Ring - Kalrez® 8900
Other O-rings upon request



KIT - ISO Centering Ring with Kalrez O-ring and Spacer ring

Ava.	Part No. 316L	Description	Type	O-ring Material	A inch	B inch
●	508-00035	SMV-316L-CRA-KLRZ-SR-ISO63-EP	ISO-63	*Kalrez®	2.630	2.740
●	508-00029	SMV-316L-CRA-KLRZ-SR-ISO80-EP	ISO-80	*Kalrez®	3.140	3.250
●	508-00030	SMV-316L-CRA-KLRZ-SR-ISO100-EP	ISO-100	*Kalrez®	3.890	4.000
●	508-00031	SMV-316L-CRA-KLRZ-SR-ISO160-EP	ISO-160	*Kalrez®	5.900	6.010

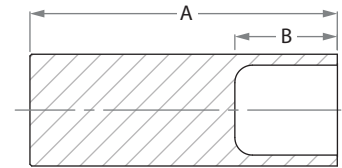
O-Ring - Kalrez® 8900
Other O-rings upon request

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

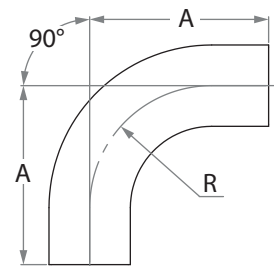
ECAP - End Cap - EP

Ava.	Part No. 316L	O.D. Size Inch	Dimensions				
			A inch	A mm	B inch	B mm	
	SciMax 10						
●	576-00003	SM10316LEPECAP-.5	½"	1.750	44.45	0.583	14.82
●	576-00004	SM10316LEPECAP-.75	¾"	1.750	44.45	0.583	14.82
●	576-00005	SM10316LEPECAP-1.0	1"	1.750	44.45	0.583	14.82
●	576-00006	SM10316LEPECAP-1.5	1 ½"	2.000	50.80	0.667	16.93
●	576-00007	SM10316LEPECAP-2.0	2"	2.000	50.80	0.667	16.93
●	576-00008	SM10316LEPECAP-2.5	2 ½"	2.000	50.80	0.667	16.93
●	576-00009	SM10316LEPECAP-3.0	3"	2.000	50.80	0.667	16.93
●	576-00010	SM10316LEPECAP-4.0	4"	2.500	63.50	0.833	21.17
●	576-00011	SM10316LEPECAP-6.0	6"	3.150	80.00	2.625	66.67



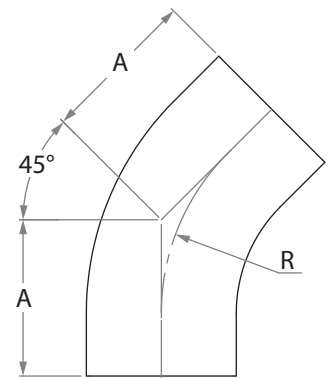
EL90 - Elbow 90° - EP

Ava.	Part No. 316L	O.D. Size Inch	Dimensions				
			A inch	A mm	R inch	R mm	
	SciMax 10						
●	580-00029	SM10316LEPEL90-.5	½"	3.000	76.20	1.130	28.60
●	580-00030	SM10316LEPEL90-.75	¾"	3.000	76.20	1.130	28.60
●	580-00031	SM10316LEPEL90-1.0	1"	3.000	76.20	1.500	38.10
●	580-00032	SM10316LEPEL90-1.5	1 ½"	3.750	95.30	2.250	57.20
●	580-00033	SM10316LEPEL90-2.0	2"	4.750	120.70	3.000	76.20
●	580-00034	SM10316LEPEL90-2.5	2 ½"	5.500	139.70	3.750	95.25
●	580-00035	SM10316LEPEL90-3.0	3"	6.250	158.80	4.500	114.30
●	580-00036	SM10316LEPEL90-4.0	4"	8.000	203.20	6.000	152.40
●	580-00037	SM10316LEPEL90-6.0	6"	11.500	292.10	9.000	228.60



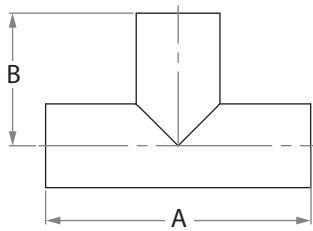
EL45 - Elbow 45° - EP

Ava.	Part No. 316L	O.D. Size Inch	Dimensions				
			A inch	A mm	R inch	R mm	
	SciMax 10						
●	580-00040	SM10316LEPEL45-.5	½"	2.250	57.20	1.130	28.60
●	580-00041	SM10316LEPEL45-.75	¾"	2.250	57.20	1.130	28.60
●	580-00026	SM10316LEPEL45-1.0	1"	2.250	57.20	1.500	38.10
●	580-00043	SM10316LEPEL45-1.5	1 ½"	2.500	63.50	2.250	57.20
●	580-00044	SM10316LEPEL45-2.0	2"	3.000	76.20	3.000	76.20
●	580-00045	SM10316LEPEL45-2.5	2 ½"	3.375	85.70	3.750	95.25
●	580-00046	SM10316LEPEL45-3.0	3"	3.625	92.10	4.500	114.30
●	580-00048	SM10316LEPEL45-4.0	4"	4.500	114.30	6.000	152.40
●	580-00047	SM10316LEPEL45-6.0	6"	6.250	158.80	9.000	228.60



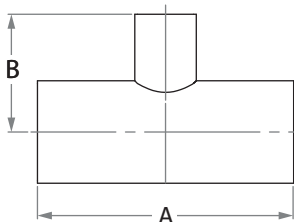
Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



ETEE - Equal Tee - EP

Ava.	Part No. 316L		O.D. Size Inch	Dimensions			
SciMax 10				A inch	A mm	B inch	B mm
○	579-00062	SM10316LEPETEE-.5	½"	3.750	95.25	1.875	47.60
○	579-00065	SM10316LEPETEE-.75	¾"	4.000	101.60	2.000	50.80
○	579-00069	SM10316LEPETEE-1.0	1"	4.250	108.00	2.125	54.00
○	579-00074	SM10316LEPETEE-1.5	1 ½"	4.750	120.60	2.375	60.30
○	579-00080	SM10316LEPETEE-2.0	2"	5.750	146.00	2.875	73.00
○	579-00087	SM10316LEPETEE-2.5	2 ½"	6.250	158.75	3.125	79.40
○	579-00095	SM10316LEPETEE-3.0	3"	6.750	171.40	3.375	85.70
○	579-00102	SM10316LEPETEE-4.0	4"	8.250	209.60	4.125	104.80
○	579-00110	SM10316LEPETEE-6.0	6"	11.250	285.80	5.625	142.90



RTEE - Reducing Tee - EP

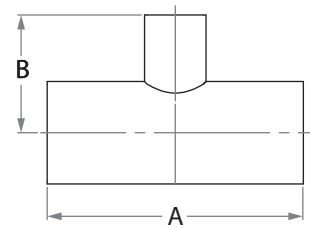
Ava.	Part No. 316L		O.D. Size Inch	Dimensions			
SciMax 10				A inch	A mm	B inch	B mm
○	579-00064	SM10316LEPRTEE-.5X.375	½" x ⅜"	3.750	95.30	1.875	47.65
○	579-00066	SM10316LEPRTEE-.75X.25	¾" x ¼"	4.000	101.60	2.000	50.80
○	579-00067	SM10316LEPRTEE-.75X.375	¾" x ⅜"	4.000	101.60	2.000	50.80
○	579-00068	SM10316LEPRTEE-.75X.5	¾" x ½"	4.000	101.60	2.000	50.80
○	579-00070	SM10316LEPRTEE-1.0X.25	1" x ¼"	4.250	108.00	2.125	54.00
○	579-00071	SM10316LEPRTEE-1.0X.375	1" x ⅜"	4.250	108.00	2.125	54.00
○	579-00072	SM10316LEPRTEE-1.0X.5	1" x ½"	4.250	108.00	2.125	54.00
○	579-00073	SM10316LEPRTEE-1.0X.75	1" x ¾"	4.250	108.00	2.125	54.00
○	579-00075	SM10316LEPRTEE-1.5X.25	1 ½" x ¼"	4.750	120.70	2.375	60.30
○	579-00076	SM10316LEPRTEE-1.5X.375	1 ½" x ⅜"	4.750	120.70	2.375	60.30
○	579-00077	SM10316LEPRTEE-1.5X.5	1 ½" x ½"	4.750	120.70	2.375	60.30
○	579-00078	SM10316LEPRTEE-1.5X.75	1 ½" x ¾"	4.750	120.70	2.375	60.30
○	579-00079	SM10316LEPRTEE-1.5X1.0	1 ½" x 1"	4.750	120.70	2.375	60.30

Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------

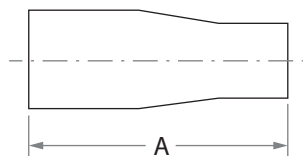
RTEE - Reducing Tee - EP

Ava.	Part No. 316L	O.D. Size Inch	Dimensions				
			A inch	A mm	B inch	B mm	
	SciMax 10						
●	579-00083	SM10316LEPRTEE-2.0X.5	2" x 1/2"	5.750	146.00	2.625	66.70
●	579-00084	SM10316LEPRTEE-2.0X.75	2" x 3/4"	5.750	146.00	2.625	66.70
●	579-00085	SM10316LEPRTEE-2.0X1.0	2" x 1"	5.750	146.00	2.625	66.70
●	579-00086	SM10316LEPRTEE-2.0X1.5	2" x 1 1/2"	5.750	146.00	2.625	66.70
●	579-00090	SM10316LEPRTEE-2.5X.5	2 1/2" x 1/2"	6.250	158.80	2.875	73.00
●	579-00091	SM10316LEPRTEE-2.5X.75	2 1/2" x 3/4"	6.250	158.80	2.875	73.00
●	579-00092	SM10316LEPRTEE-2.5X1.0	2 1/2" x 1"	6.250	158.80	2.875	73.00
●	579-00093	SM10316LEPRTEE-2.5X1.5	2 1/2" x 1 1/2"	6.250	158.80	2.875	73.00
●	579-00094	SM10316LEPRTEE-2.5X2.0	2 1/2" x 2"	6.250	158.80	2.875	73.00
●	579-00096	SM10316LEPRTEE-3.0X.5	3" x 1/2"	6.750	171.50	3.125	79.40
●	579-00097	SM10316LEPRTEE-3.0X.75	3" x 3/4"	6.750	171.50	3.125	79.40
●	579-00098	SM10316LEPRTEE-3.0X1.0	3" x 1"	6.750	171.50	3.125	79.40
●	579-00099	SM10316LEPRTEE-3.0X1.5	3" x 1 1/2"	6.750	171.50	3.125	79.40
●	579-00100	SM10316LEPRTEE-3.0X2.0	3" x 2"	6.750	171.50	3.125	79.40
●	579-00101	SM10316LEPRTEE-3.0X2.5	3" x 2 1/2"	6.750	171.50	3.125	79.40
●	579-00103	SM10316LEPRTEE-4.0X.5	4" x 1/2"	8.250	209.60	3.625	92.10
●	579-00104	SM10316LEPRTEE-4.0X.75	4" x 3/4"	8.250	209.60	3.625	92.10
●	579-00105	SM10316LEPRTEE-4.0X1.0	4" x 1"	8.250	209.60	3.625	92.10
●	579-00106	SM10316LEPRTEE-4.0X1.5	4" x 1 1/2"	8.250	209.60	3.625	92.10
●	579-00107	SM10316LEPRTEE-4.0X2.0	4" x 2"	8.250	209.60	3.875	98.40
●	579-00108	SM10316LEPRTEE-4.0X2.5	4" x 2 1/2"	8.250	209.60	3.875	98.40
●	579-00109	SM10316LEPRTEE-4.0X3.0	4" x 3"	8.250	209.60	3.875	98.40
●	579-00111	SM10316LEPRTEE-6.0X.5	6" x 1/2"	11.250	285.80	4.875	123.80
●	579-00112	SM10316LEPRTEE-6.0X.75	6" x 3/4"	11.250	285.80	4.875	123.80
●	579-00113	SM10316LEPRTEE-6.0X1.0	6" x 1"	11.250	285.80	4.875	123.80
●	579-00114	SM10316LEPRTEE-6.0X1.5	6" x 1 1/2"	11.250	285.80	4.875	123.80
●	579-00115	SM10316LEPRTEE-6.0X2.0	6" x 2"	11.250	285.80	4.875	123.80
●	579-00117	SM10316LEPRTEE-6.0X3.0	6" x 3"	11.250	285.80	4.875	123.80
●	579-00118	SM10316LEPRTEE-6.0X4.0	6" x 4"	11.250	285.80	5.625	142.90



Availability:

○ Typical IR Stock	◐ Upon Request	● Long Lead Time
--------------------------	----------------------	------------------------



CORD - Concentric Reducer - EP

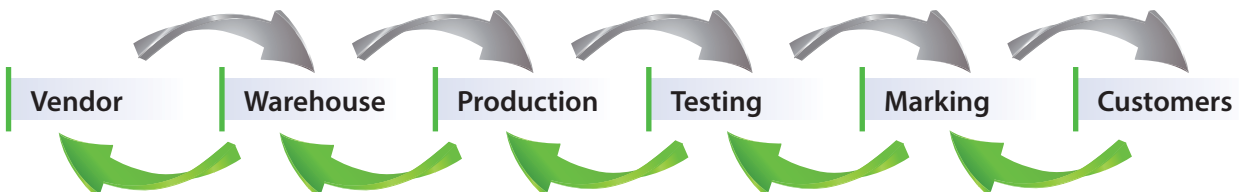
Ava.	Part No. 316L	SCiMax 10	O.D. Size Inch	Dimensions	
				A inch	A mm
○	578-00037	SM10316LEPCORD-.75X.5	¾" x ½"	1.875	47.63
◐	578-00040	SM10316LEPCORD-1.0X.5	1" x ½"	2.125	53.97
◑	578-00041	SM10316LEPCORD-1.0X.75	1" x ¾"	2.125	53.97
◒	578-00044	SM10316LEPCORD-1.5X.5	1 ½ x ½"	2.250	57.15
◓	578-00045	SM10316LEPCORD-1.5X.75	1 ½ x ¾"	2.250	57.15
◔	578-00046	SM10316LEPCORD-1.5X1.0	1 ½ x 1"	2.250	57.15
◕	578-00049	SM10316LEPCORD-2.0X.5	2" x ½"	2.750	69.85
◖	578-00050	SM10316LEPCORD-2.0X.75	2" x ¾"	2.750	69.85
◗	578-00051	SM10316LEPCORD-2.0X1.0	2" x 1"	2.750	69.85
◘	578-00052	SM10316LEPCORD-2.0X1.5	2" x 1 ½"	2.750	69.85
◙	578-00053	SM10316LEPCORD-2.5X.5	2 ½ x ½"	3.500	88.90
◚	578-00054	SM10316LEPCORD-2.5X.75	2 ½ x ¾"	3.500	88.90
◛	578-00055	SM10316LEPCORD-2.5X1.0	2 ½ x 1"	3.500	88.90
◜	578-00056	SM10316LEPCORD-2.5X1.5	2 ½ x 1 ½"	3.500	88.90
◝	578-00057	SM10316LEPCORD-2.5X2.0	2 ½ x 2"	3.500	88.90
◞	578-00058	SM10316LEPCORD-3.0X.5	3" x ½"	4.250	108.00
◟	578-00059	SM10316LEPCORD-3.0X.75	3" x ¾"	4.250	108.00
◠	578-00060	SM10316LEPCORD-3.0X1.0	3" x 1"	4.250	108.00
◡	578-00061	SM10316LEPCORD-3.0X1.5	3" x 1 ½"	4.250	108.00
◢	578-00062	SM10316LEPCORD-3.0X2.0	3" x 2"	4.250	108.00
◣	578-00063	SM10316LEPCORD-3.0X2.5	3" x 2 ½"	4.250	108.00
◤	578-00064	SM10316LEPCORD-4.0X.75	4" x ¾"	5.000	127.00
◥	578-00065	SM10316LEPCORD-4.0X1.0	4" x 1"	5.000	127.00
◦	578-00066	SM10316LEPCORD-4.0X1.5	4" x 1 ½"	5.000	127.00
◧	578-00067	SM10316LEPCORD-4.0X2.0	4" x 2"	5.000	127.00
◨	578-00068	SM10316LEPCORD-4.0X2.5	4" x 2 ½"	5.000	127.00
◩	578-00069	SM10316LEPCORD-4.0X3.0	4" x 3"	5.000	127.00
◪	578-00070	SM10316LEPCORD-6.0X1.0	6" x 1"	6.000	152.40
◫	578-00071	SM10316LEPCORD-6.0X1.5	6" x 1 ½"	6.000	152.40
◬	578-00072	SM10316LEPCORD-6.0X2.0	6" x 2"	6.000	152.40
◭	578-00073	SM10316LEPCORD-6.0X2.5	6" x 2 ½"	6.000	152.40
◮	578-00074	SM10316LEPCORD-6.0X3.0	6" x 3"	6.000	152.40
◯	578-00075	SM10316LEPCORD-6.0X4.0	6" x 4"	6.000	152.40

Availability:

○	◐	●
Typical IR Stock	Upon Request	Long Lead Time

MTR - Material Test Report

The MTR is the reference document for the entire history of the production processes and the raw materials used to make the SciMax component.





The MTR document is easily generated on - line via egmo.co.il using only the job number as input. The job number is the product identification number which represents all processes and raw materials related to the specific item.

ON - LINE MTR

ON - LINE MTR

Please, enter job/certificate number:





The MTR format provides the following information:

- Part number, part description and job number
- Material type
- Heat Number per each component describing the fitting and its associated properties:
 - Tube dimensions and standards
 - Chemical composition
 - Mechanical properties
 - Visual, dimensional, corrosion, EDDY current testing, flaring and flattening, PMI Test
- Certificate of Compliance

NEUMO EHRENBERG GROUP

GLOBAL LOCATIONS



NEUMO GmbH+Co. KG (D)
 Tel: +49 (0) 7043 36 0
 Fax: +49 (0) 7043 36 179
 E - Mail: info@neumo.de
 www.neumo.de
GERMANY



VNE Corporation
 Tel: +1 800 356 1111
 +1 608 756 4930
 Fax: +1 608 756 3643
 E - Mail: stainless@vncorp.com
 www.vnestainless.com
U.S.A



EGMO Ltd.
 Tel: +972 (0) 4 9855 176
 +972 (0) 4 9855 111
 Fax: +972 (0) 4 9855 175
 E - Mail: salese@egmo.co.il
 www.egmo.co.il
ISRAEL



NEUMO - EGMO Spain S.L
 Tel: +34 977 524 914
 Fax: +34 977 524 898
 E - Mail: neumo - es@neumo - es.com
 www.neumo - es.com
SPAIN



HPT Inc.
 Tel: +845.452.1103
 +800.284.4478
 E - Mail: sales@hptinc.com
 http://www.hptinc.com/
U.S.A



Herrli AG
 Tel: +41 (0) 31 750 12 11
 Fax: +41 (0) 31 750 12 00
 E - Mail: info@herrli.net
 www.herrli.net
SWITZERLAND



NEUMO Polska Sp. z.o.o
 Tel: +48 (0) 46 833 4306
 Fax: +48 (0) 46 832 5626
 E - Mail: neumo@neumo.pl
POLAND



NEUMO Turkey
 Tel: +90 (212) 875 01 41
 Fax: +90 (212) 875 23 13
 E - Mail: info@neumo.com.tr
 www.neumo.com.tr
TURKEY



NEUMO Budapest Kft
 Tel: +36 (1) 3174177
 +36 (1) 3185982
 Fax: +36 (1) 266 8765
 E - Mail: neumo@neumo.hu
 www.neumo.hu
HUNGARY



NEUMO LLC
 Tel: +84 908475382
 E-Mail: Minh.Vietnam@neumo.de
 www.awh.eu
VIETNAM



NEUMO - VARGUS (Shanghai)
 Trading Co., Ltd
 Tel: +86 (21) 54177932
 Fax: +86 (21) 54178190
 E - Mail: info@neumo.com.cn
CHINA



NEUMO UK Ltd.
 Tel: +44 (0) 1952 583 999
 Fax: +44 (0) 1952 583 958
 E - Mail: stainless@neumo.co.uk
 www.neumo.co.uk
UNITED KINGDOM



AWH Armaturenwerke (D)
 Hötensleben GmbH
 Tel: +49 (0) 39405 92 0
 Fax: +49 (0) 39405 92 111
 E - Mail: info@awh.de
 www.awh.de



NEUMO
 Tel: +353 (0)21 4975540
 Cel: +353 (0)87 2330469
 E - Mail: dosullivan@neumo.de
 www.neumo.de/en/
IRELAND



Damstahl a/s (Denmark)
 Tel: +45 (0) 8794 4000
 Fax: +45 (0) 8794 4150
 E - Mail: ds@damstahl.com
 www.damstahl.dk
DENMARK

Damstahl GmbH (D)
 Tel: +49 (0) 2173 797 0
 Fax: +49 (0) 2173 797 274
 E - Mail: ds@damstahl.de
 www.damstahl.de



Damstahl a/s Oslo (N)
 Tel: +47 5615 1570
 Fax: +47 5615 1571
 E - Mail: dano@damstahl.com
 www.damstahl.no
NORWAY



Damstahl a/b (Sweden)
 Tel: +46 87 61 71 00
 Fax: +46 87 61 14 05
 www.damstahl.se
SWEDEN

Gebr. Rieger GmbH+Co. KG (D)
 Tel: +49 (0) 7361 5702 0
 Fax: +49 (0) 7361 5702 51
 E - Mail: info@rr - rieger.de
 www.rr - rieger.de
GERMANY

