

## PNEUROP FLANGES AND FITTINGS

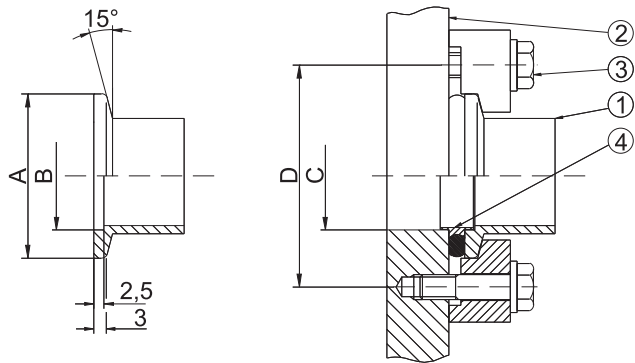
Our products include all recommended diameters according to PNEUROP and ISO standards. For our quality vacuum components we utilize 304 L stainless steel with low carbon and high weldability. The weldings are made by TIG techniques in argon atmosphere. The surface are polished or microsanded for improving the vacuum tightness and joint life and lowering the wall outgassing. All welded components are tested with an helium leak detector to a leak level of  $10^{-9}$  mbar l/s. Furthermore, on request we can realise with the same technology any combination of non standard fittings. In our company it is available a stock of all standard flanges and fittings to warranty a really short delivery time.

## ISO-KF FLANGES AND FITTINGS

Conform to PNEUROP 6606/1981 and DIN 28403.



The RIAL range of small flanges, fittings and components includes all sizes with nominal diameters: DN 10, DN 16, DN 25, DN 40, DN 50 KF. Sealing Materials: Buna, Viton, Aluminium. Flanges and fittings are made of stainless steel AISI 304 L. High vacuum sealed KF connections can be realized without tools simply by tightening the wing nut on the clamping ring.



### TECHNICAL DATA

Pressure range for application of stainless steel fittings:  
from 2 bar to  $10^{-8}$  mbar

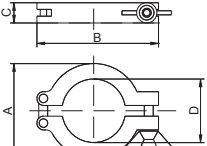
Maximum bakeout temperature for the seals:  
Buna 90°C - Viton 145°C - Aluminium 200°C

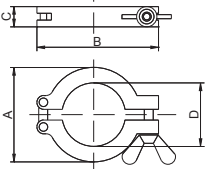
### DIMENSIONS

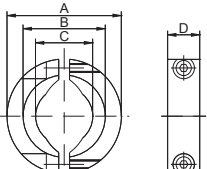
1. Small flange
2. Housing wall with threaded tap
3. Claw grip
4. Seal

Nominal diameter	A	B	C	D	E	Number of claw grip
DN10	30	12,2	12,2	44		4
DN16	30	17,2	17,2	44		4
DN25	40	26,2	26,2	54		4
DN40	55	41,2	41,2	69		4
DN50	75	52,4	52,4	91		4

## CONNECTION ELEMENTS

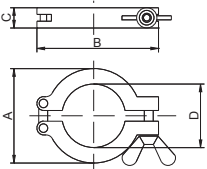
	Materials	Nominal diameter	A	B	C	D	E	Code
<i>Clamping ring</i>								
	Al for elastomere seals	DN10/16	45	62	15	22		010100145
		DN20/25	55	72	15	32		010100146
		DN32/40	70	90	15	47		010100147
		DN50	95	123	25	63		010100148

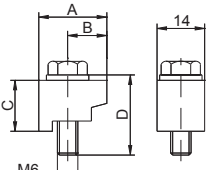
<i>Amagnetic clamping ring</i>								
	Al for elastomere seals	DN10/16	45	62	15	22		010100001
		DN20/25	55	72	15	32		010100002
		DN32/40	70	90	15	47		010100003
		DN50	95	123	25	63		010100004
		Full Amagnetic						

<i>Clamping ring for metallic seals</i>								
	AISI 304 L	DN10/16	54	36	22	18		010100275
		DN20/25	64	46	32	18		010100276
		DN32/40	82	62	47	18		010100277
		DN50	112	84	62	18		010100278

<i>Aluminium Clamps with ratchet closure</i>								
	Al	DN10/16 DN20/25 DN32/40 DN50						010101600 010101601 010101602 010101603

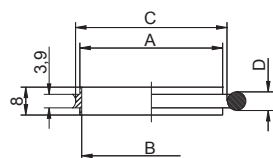
<i>Aluminium chain Clamps for metallic seal</i>								
	Al	DN10/16 DN20/25 DN32/40 DN50						010101604 010101605 010101606 010101607

<i>Spanning Clamps (for glass connection)</i>								
	Plastic	DN10/16	47	62,5	20			010101608
		DN20/25	57	80	20			010101609
		DN32/40	73	91,5	20			010101610
		DN50	95	123	20			010101611
		Al	DN10/16	47	62,5	20		
	DN20/25	57	80	20			010101613	
	DN32/40	73	91,5	20			010101614	
	DN50	95	123	20			010101615	

<i>Claw Grip</i>								
	Al/Screw and washer AISI 304 L	DN10	20	11,5	15	20		010100046 (set of 4 pcs)
		DN16	20	11,5	15	20		
		DN25	20	11,5	15	20		
		DN40	20	11,5	15	20		
		DN50	20	11,5	15	20		

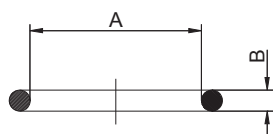
## SEALS

### Centering ring



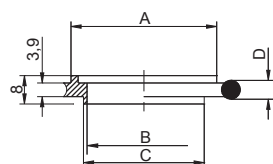
Materials	Nominal diameter	A	B	C	D	E	Code
AISI 304 L O-ring Viton	DN10	12	10	15,3	5,33		010100019
	DN16	17	16	18,5	5,33		010100020
	DN25	26	25	28,5	5,33		010100022
	DN40	41	40	43	5,33		010100024
	DN50	52	50	55,5	5,33		010100025
AISI 304 L O-ring Buna	DN10	12	10	15,3	5,33		010100026
	DN16	17	16	18,5	5,33		010100027
	DN25	26	25	28,5	5,33		010100029
	DN40	41	40	43	5,33		010100031
	DN50	52	50	55,5	5,33		010100032

### O-Ring



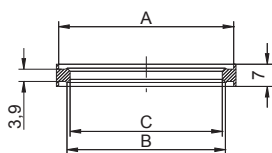
Viton	DN10	15	5,33		set of 10		010100297
	DN16	18	5,33		set of 10		010100298
	DN25	28	5,33		set of 10		010100300
	DN40	40,64	5,33		set of 10		010100302
	DN50	53,34	5,33		set of 10		010100303

### Adapting centering ring



AISI 304 L O-ring Viton	DN10/16	17	10	12	5,33		010100033
	DN20/25	26	21	22	5,33		010100034
	DN32/40	41	32	34	5,33		010100035
AISI 304 L O-ring Buna	DN10/16	17	10	12	5,33		010100036
	DN20/25	26	21	22	5,33		010100037
	DN32/40	41	32	34	5,33		010100038

### Metallic Seal



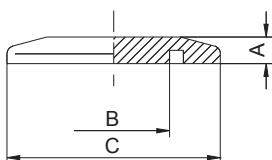
Al	DN10/16	30,1	25	23			010100279
	DN20/25	40,2	35	33			010100280
	DN32/40	55,2	50	48			010100281
	DN50	75,2	70	68			010100282

### Centering Ring with Screen (72 mesh)

AISI 304L Viton	DN16						010101620
	DN25						010101621
	DN40						010101622
	DN50						010101623

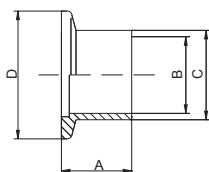
## FLANGES AND FITTINGS

### Blank flanges



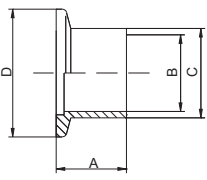
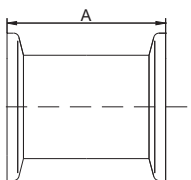
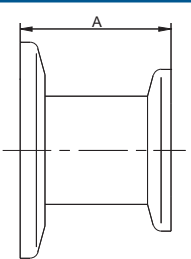
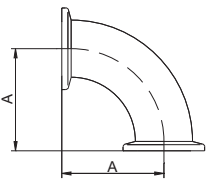
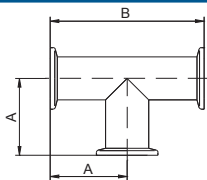
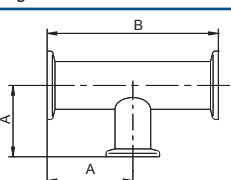
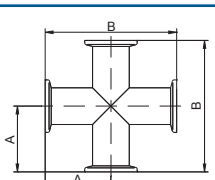
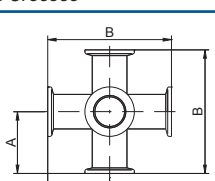
AISI 304 L	DN10	5	7,2	30			010100039
	DN16	5	12,2	30			010100040
	DN25	5	21,2	40			010100042
	DN40	5	36,2	55			010100044
	DN50	5	47,2	75			010100045

### Short welding flanges

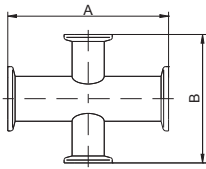


AISI 304 L	DN10	22	10	14	30		010100005
	DN16	22	16	20	30		010100006
	DN25	22	24	28	40		010100008
	DN40	22	41	45	55		010100010
	DN50	22	50	57	75		010100011

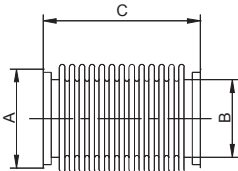
## FLANGES AND FITTINGS

	Materials	Nominal diameter	A	B	C	D	E	Code
<i>Long welding flanges</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	52 52 55 58 58	10 16 24 41 50	14 20 28 45 57	30 30 40 55 75		010100012 010100013 010100015 010100017 010100018
<i>Nipples</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	80 80 100 130 140					010100047 010100048 010100050 010100052 010100053
<i>Reducing nipples</i>								
	AISI 304 L	DN16/10 DN25/16 DN40/16 DN40/25 DN50/10 DN50/16 DN50/25 DN50/40	28 28 28 28 28 28 28 28					010100054 010100056 010100058 010100060 010100061 010100062 010100064 010100066
<i>90° Elbows</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	30 40 50 65 70					010100067 010100068 010100070 010100072 010100073
<i>90° Tees</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	30 40 50 65 70	60 80 100 130 140				010100074 010100075 010100077 010100079 010100080
<i>Adapting 90° Tees</i>								
	AISI 304 L	DN25/25/16 DN40/40/25 DN50/50/25 DN50/50/40	50 65 70 70	100 130 140 140				010100081 010100082 010100083 010100084
<i>90° Crosses</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	30 40 50 65 70	60 80 100 130 140				010100085 010100086 010100088 010100090 010100091
<i>6 Ways Crosses</i>								
	AISI 304 L	DN10 DN16 DN25 DN40 DN50	30 40 50 65 70	60 80 100 130 140				010101031 010101032 010101033 010101034 010101035

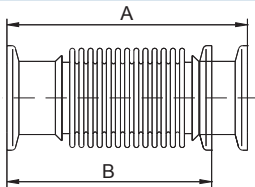
Materials	Nominal diameter	A	B	C	D	E	Code
<i>Reducing Crosses</i>							
AISI 304 L	DN25/25/16/16	100	80				010100094
	DN40/40/16/16	130	90				010100097
	DN40/40/25/25	130	100				010100098
	DN40/40/25/16	65	130				010100099
	DN50/50/25/25	70	140				010100100



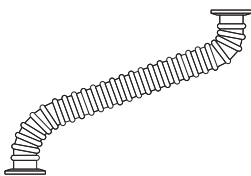
Materials	Nominal diameter	A	B	C	D	E	Code
<i>Bellows</i>							
AISI 316 T AISI 316 L	S 14	14	9,1	48			010100316
	S 17	17	11,7	60			010100317
	S 25	25,6	17	60			010100318
	S 28	28,6	19	78			010100319
	S 38	38	25	78			010100320
	S 46	46	31,5	88			010100321
	S 56	56	41	88			010100322
	S 66	66	49	88			010100323
	S 90	89	67,5	70			010100324
	S 100	100	79	87			010100325
	S 120	120	98	78			010100326
	S 146	146	125	107			010100327
	S 175	175	154	85			010100328
	S 232	232	206	130			010100329
	S 285	285	260	207			010100330
	S 345	345	320	207			010100331
	S 430	430	402	207			010100332
S 510	512	480	227			010100333	



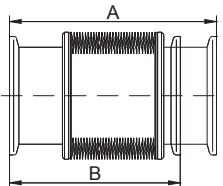
Materials	Nominal diameter	A	B	C	D	E	Code
<i>Flanged bellows</i>							
AISI 304 L AISI 316 L	DN10	90	80				010100115
	DN16	120	110				010100116
	DN25	120	105				010100118
	DN40	120	100				010100120
	DN50	120	100				010100121



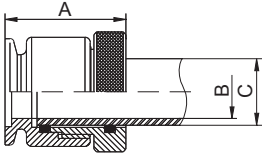
Materials	Nominal diameter	A	B	C	D	E	Code
<i>Flexible pipes</i>							
AISI 304 L	DN10	250					010100122
	DN16	250					010100123
	DN25	250					010100125
	DN40	250					010100127
	DN50	250					010100128
	DN10	500					010100129
	DN16	500					010100130
	DN25	500					010100132
	DN40	500					010100134
	DN50	500					010100135
	DN10	750					010101041
	DN16	750					010101042
	DN25	750					010101044
	DN40	750					010101046
	DN50	750					010101047
	DN10	1000					010100136
	DN16	1000					010100137
	DN25	1000					010100139
	DN40	1000					010100141
	DN50	1000					010100142



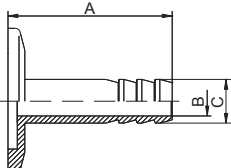
FLANGES AND FITTINGS

	Materials	Nominal diameter	A	B	C	D	E	Code
<i>Diaphragm bellows</i>								
	AISI 316 L AM 350	DN10	77	68				010101051
		DN16	77	68				010101052
		DN25	87	69				010101054
		DN40	96	68				010101056
		DN50	126	78				010101057

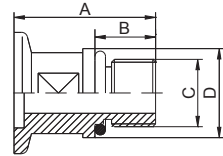
*Metal glass connections*

	AISI 304 L	DN10	40	8	10			010100304
		DN16	40	14	16			010100305
		DN25	45	20	25			010100306
		DN40	45	16	20			010100307
		DN50	45	22	25,4			010100308

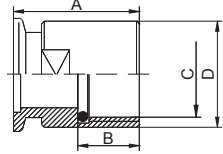
*Hose nipple*

	AISI 304 L	DN10	45	8	12			010100101
		DN16	45	8	12			010100102
		DN25	45	8	12			010100104
		DN40	45	8	12			010100106
		DN50	45	8	12			010100107

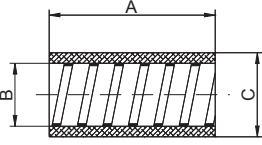
*Screw-in flange*

	AISI 304 L Viton	DN10	35	15	G 3/8"	22		010101321
		DN16	35	16	G 1/2"	26		010101322
		DN25	45	24	G 1"	39		010101323
		DN40	56	24	G 1 1/2"	50		010101324

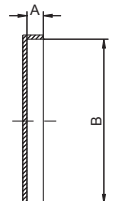
*Screw-on flange*

	AISI 304 L Viton	DN10	35	15,5	G 3/8"	20		010101326
		DN16	35	16	G 1/2"	24		010101327
		DN25	45	22	G 1"	38		010101328
		DN40	45	22	G 1 1/2"	52		010101329

*Plastique tubes*

	AISI 304 L Viton	DN16	1 m.	18	24			010100108
		DN25	1 m.	25	35			010100110
		DN40	1 m.	40	50			010100112
		DN50	1 m.	50	60			010100113

*Protective cover*

	Poliethylene	DN16	3	30				010101161
		DN25	3	40				010101162
		DN40	3	55				010101163
		DN50	3	75				010101164

*Vacuum grease*

Silicone tube gr.100	These lubricants is used in assemblies with sliding elastomer seals to eliminate very small leaks. They have low vapour pressure (<10 <sup>-8</sup> mbar)							010101501
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