

VACUUM SCIENCE & SYSTEMS

V.S&S. SRL



2025 CATALOG

NW – KF

VACUUM FLANGES AND COMPONENTS



NW/KF PNEUROP FLANGES AND COMPONENTS

NW/KF is a simple sexless sealing flange used in the vacuum systems.

The NW flange is known also as KF flange (for Klein Flansche), QF (for Quick Flange) and DN flange. This flange was adopted by ISO 1609(1986), DIN 28403 and Pneurop 6606 (1981) standards organizations. The NW flange can be made from 304L or 316L stainless, aluminum, or brass. Stainless steel is used for high temperature and corrosion conditions; aluminum and brass are less popular and are used for general rough applications.

An NW connection consists of two symmetrical flanges that can be aligned around its main axis in any direction, one seal positioned and supported with an internal or external centering ring and tightened by wing-nut, quick clamp with thumbscrew, bolt or over-center lever, creating the necessary pressing force over the conical tightening area.

The most common used seal element is a rubber/ elastomeric o-ring mounted in a centering ring, which aligns the flanges and holds the o-ring in position avoiding his collapsing. The choice is normally from O-rings in Buna-N, Viton A, silicon rubber and much less from Chemraz or Kalrez, not easy to find and much more expensive. For mounting a NW flange on a base plate, claw clamps or bulkhead clamps are used as clamping elements.

NW flanges are limited by the o-ring's properties to applications with temperatures between -20°C to 200°C , and pressure from atmosphere to 10^{-8} mbar. Standard sizes are indicated by the nominal inner diameter in millimeters, although in North America the true nominal bore is often that of standard inch dimensioned tubes. The flanges range includes NW10, NW16, NW25, NW32, NW40, NW50 and recently introduced NW80, NW100. Sizes 10, 20, 32, 80 and 100 are less common sizes.

*We provide components for an economical system of reusable interfacing stainless steel vacuum fittings and compatible with most third party ISO NW flanges and components. All welded items are helium leak checked for leak rate less than $1 \cdot 10^{-10}$ mbar*l/s.*

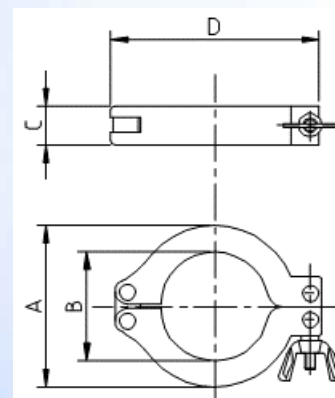
ELASTOMER COMPARISON

	Buna-N	Viton	Silicon
Operating temperature sustained	-10°C . $+100^{\circ}\text{C}$.	-20°C . $+150^{\circ}\text{C}$.	-20°C . $+180^{\circ}\text{C}$.
Operating temperature intermittent	-40°C . $+120^{\circ}\text{C}$.	-40°C . $+200^{\circ}\text{C}$.	-40°C . $+250^{\circ}\text{C}$.
Benefits	Cheaper	Chemical resistance	High temperature



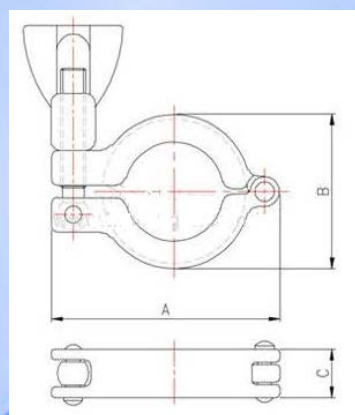
Connections

NW QUICK CLAMPING RING - Aluminum



PART NUMBER	PNEUROP	A	B	C	D
QC10/16	NW10/NW16	43	22	16	62
QC25	NW20/NW25	55	32	16	72
QC40	NW32/NW40	70	47	16	90
QC50	NW50	95	63	20	123

NW QUICK CLAMPING RING – Stainless Steel 304



PART NUMBER	PNEUROP	A	B	C
QC16-304	NW10/NW16	59,5	36	15,5
QC25-304	NW20/NW25	73,5	49	15,5
QC40 -304	NW32/NW40	90	64	16
QC50 -304	NW50	112	82	20

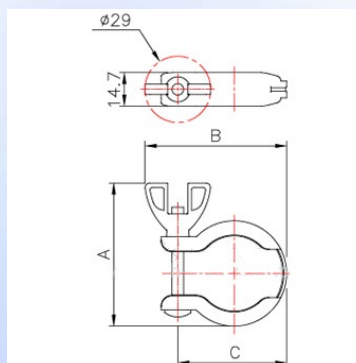


NW SPRING CLAMP - AISI 304

With plastic Nuts (abs) - PART NUMBER	PNEUROP	A	B	C	D
SC10	NW10	43	22	16	62
SC16	NW16	55	32	16	72
SC25	NW25	70	47	16	90
SC40	NW40	95	63	25	123

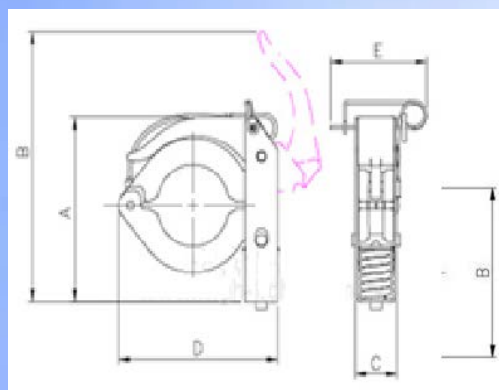


With Wing Nuts AISI 304 SS PART NUMBER	PNEUROP	A	B	C	D
SCS10	NW10	43	22	16	62
SCS16	NW16	55	32	16	72
SCS25	NW25	70	47	16	90
SCS40	NW40	95	63	25	123



Light, without assembly limit.

TOGGLE CLAMP (Aluminum) with Lock (304 S.S.)



A Lock pin can be inserted to prevent accidental release of the toggle lever

Easy for quick installation and uninstall

Self adjusting clamp without manual over tightening

PART NUMBER	PNEUROP	A	B	C	D	E
QC16-TCL	NW16	66	97	20	63	43
QC25-TCL	NW25	75	106	20	74	43
QC40-TCL	NW40	85	123	20	90	43
QC50-TCL	NW50	118	165	23	115	43

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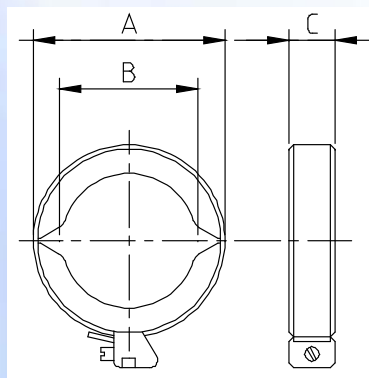
Via A. Volta, 70 - 20010 Mesero (MI) – Italy

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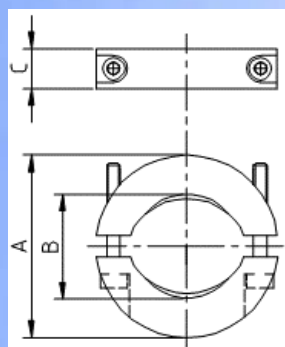
ISOLATED CLAMPING RING - Zelamit



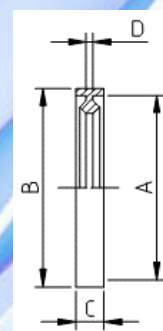
PART NUMBER	PNEUROP	A	B	C
NW-ICR16	NW10-16	54	22	18
NW-ICR25	NW20-25	64	32	18
NW-ICR40	NW32-40	82	47	18
NW-ICR50	NW50	112	62	18

CLAMPING RING FOR METAL SEAL - Stainless Steel

METEL SEAL –Aluminum



PART NUMBER	PNEUROP	A	B	C
MCR10/16	NW10/NW16	54	22	18
MCR25	NW20/NW25	64	32	18
MCR40	NW32/NW40	82	47	18
MCRC50	NW50	114	62	18



PART NUMBER	PNEUROP	A	B	C	D
MSEAL16	NW10-16	30	32	7	2
MSEAL25	NW20 -25	40	42	7	2
MSEAL40	NW32-40	55	57	7	2
MSEAL 50	NW50	75	77	7	2



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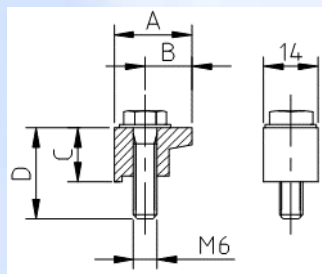
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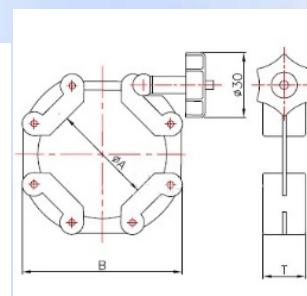
CLAW GRIP - Stainless Steel



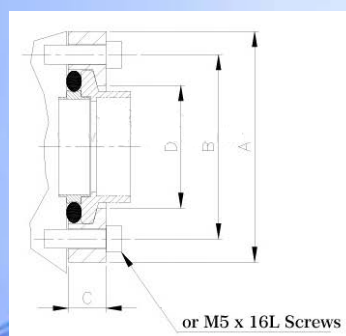
PART NUMBER	PNEUROP	A	B	C
CLGR 10/50	NW10 TO NW50	54	22	18

KF CHAIN CLAMPS (KF16-KF63) Aluminum

PART NUMBER	PNEUROP	A	B	T
MSQC10/16	NW10/NW16	22	56	20,3
MSQC25	NW20/NW25	32	66	20,3
MSQC40	NW32/NW40	46	8	20,3
MSQC50	NW50	69	100	20,3
MSQC63	NW63	78	112	20,3



KF BULKHEAD CLAMPS (KF16-KF63) A606 T6



PART NUMBER	PNEUROP	A	B	C	D
BCP16	NW10/NW16	50,8	38,1	9,17	22,86
BCP25	NW20/NW25	60,2	48,01	9,83	32
BCPC40	NW32/NW40	74,68	61,98	9,3	46,22
BCP50	NW50	95,25	82,6	10,26	59,69

Bolt are included

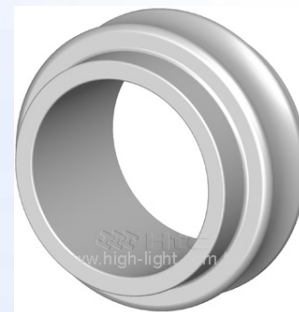
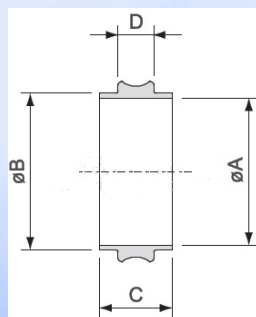
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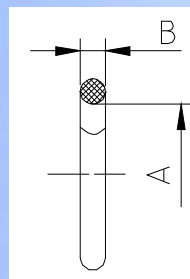
NW CENTER RING



PART NUMBER S.S. 304	PART NUMBER ALUMINIUM	PNEUROP	A	B	C	D
KF10CRS	KF10CRA	NW10	10	12	8	3,9
KF16CRS	KF16CRA	NW16	16	17	8	3,9
KF25CRS	KF25CRA	NW25	25	26	8	3,9
KF40CRS	KF40CRA	NW40	40	41	8	3,9
KF50CRS	KF50CRA	NW50	50	52	8	3,9

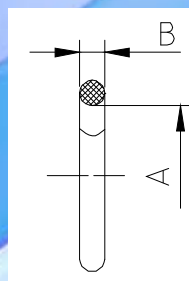
O-ring Viton

PART NUMBER VITON Pack of 5	PNEUROP	A	B
OVIT10	NW10	15	5
OVIT16	NW16	18	5
OVIT25	NW25	28	5
OVIT40	NW40	42	5
OVIT50	NW50	52	5



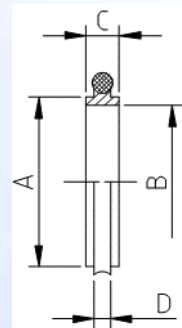
O-ring NBR

PART NUMBER NBR Pack of 10	PNEUROP	A	B
OBRN10	NW10	15	5
OBRN16	NW16	18	5
OBRN25	NW25	28	5
OBRN40	NW40	42	5
OBRN50	NW50	52	5





CENTER RING WITH O'RINGS



PART NUMBER						PNEUROP	A	B	C	D
SS 304L VITON	SS304L NBR	ALUMINUM VITON	ALUMINUM NBR	PTFE VITON	PTFE NBR					
CR10-SSV	CR10-SSB	CR10-ALV	CR10-ALB	CR10-PTV	CR10-PTN	NW10	12	17	8	3,9
CR16-SSV	CR16-SSB	CR160-ALV	CR16-ALB	CR16-PTV	CR16-PTN	NW16	17	16	8	3,9
CR25-SSV	CR25-SSB	CR25-ALV	CR25-ALB	CR25-PTV	CR25-PTN	NW25	26	25	8	3,9
CR40-SSV	CR40-SSB	CR40-ALV	CR40-ALB	CR40-PTV	CR40-PTN	NW40	41	40	8	3,9
CR50-SSV	CR50-SSB	CR50-ALV	CR50-ALB	CR50-PTV	CR50-PTN	NW50	52	50	8	3,9

Pressure range 10^{-7} mbar to 1000 mbar

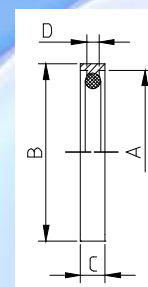
- Temperature range:

SS-Viton, Al-Viton, Teflon Viton: -10°C TO 200°C (Sustained 150°C)

SS-Nitrile, Al-Nitrile, PTFE-Nitrile -10°C TO 100°C

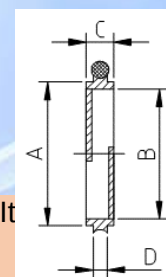
EXTERNAL CENTERING RING WITH O'RING – Aluminum/Viton

PART NUMBER	PNEUROP	A	B	C	D
ECR16	NW10/NW16	30	32	7	3,9
ECR25	NW20/NW25	40	42	7	3,9
ECR40	NW32/NW40	55	57	7	3,9
ECR50	NW50	75	77	7	3,9



CENTERING RING WITH OPTICAL BAFFLE – SS/Viton

PART NUMBER	PNEUROP	A	B	C	D
OBCR16	NW16	17	16	8	3,9
OBCR25	NW25	26	25	8	3,9
OBCR40	NW40	41	40	8	3,9



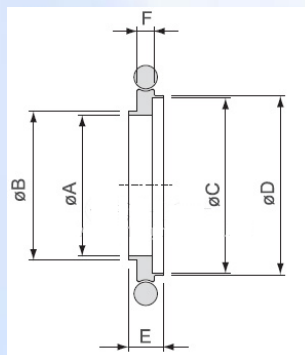
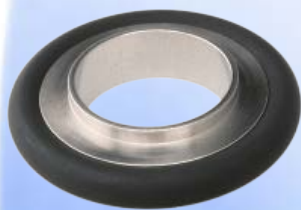
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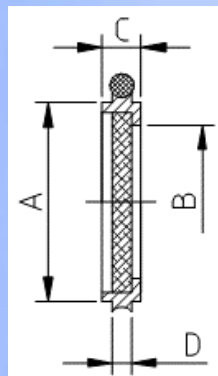


ADAPTER CENTERING RING with O'RING



PART NUMBER 304 SS - VITON	PART NUMBER AL - VITON	PART NUMBER 304 SS -NBR	PART NUMBER AL -NBR	ADATTA	A	B	C	D	E	F
AD10-16SSV	AD10-16ALV	AD10-16SSB	AD10-16SSB	NW16/10	10	12	16	17	8	3,9
AD20-25SSV	AD20-25ALV	AD20-25SSB	AD20-25SSB	NW25/20	20	22	25	26	8	3,9
AD32-40SSV	AD32-40ALV	AD32-40SSB	AD32-40SSB	NW40/32	32	34	40	41	8	3,9

CENTERING RING WITH MESH SCREEN SS/Viton



PART NUMBER	PNEUROP	A	B	C	D
MSCR16	NW16	17	14	8	3,9
MSCR25	NW25	26	23	8	3,9
MSCR40	NW40	41	38	8	3,9



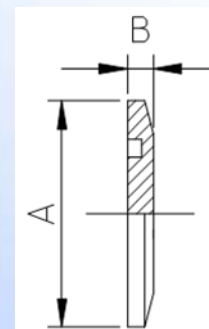
Flanges

We provide components for an economical system of reusable interfacing stainless steel vacuum fittings and compatible with most third party ISO NW flanges and components.

All welded items are He leak checked for leak rate less than $1 \cdot 10^{-10}$ mbar·l/s.

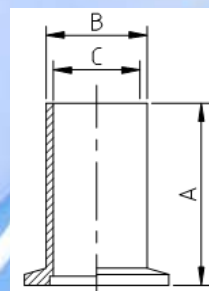
BLANKING FLANGE

PART NUMBER SS 304L	PART NUMBER ALUMINIUM	PNEUROP	A	B
NW-BFS10	NW-BFA10	NW10	30	5
NW-BFS16	NW-BFA16	NW16	30	5
NW-BFS25	NW-BFA25	NW25	40	5
NW-BFS40	NW-BFA40	NW40	55	5
NW-BFS50	NW-BFA50	NW50	75	5



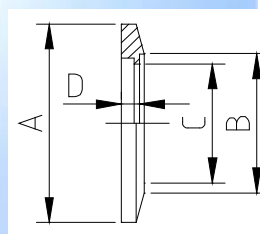
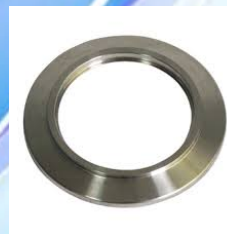
WELD FLANGE WITH TUBE

PART NUMBER A= 30 mm	PART NUMBER A= 70 mm	PNEUROP	B	C
NW-WFS10	NW-WFL10	NW10	14	10
NW-WFS16	NW-WFL16	NW16	20	16
NW-WFS25	NW-WFL25	NW25	28	24
NW-WFS40	NW-WFL40	NW40	45	41
NW-WFS50	NW-WFL50	NW50	57	50



WELD FLANGE

PART NUMBER	PNEUROP	A	B	C	D
NW-WLF10	NW10	30	14	10	3,5
NW-WLF16	NW16	30	20	16	3,5
NW-WLF25	NW25	40	28	24	3,5
NW-WLF40	NW40	55	45	41	3,5
NW-WLF50	NW50	75	57	50	3,5



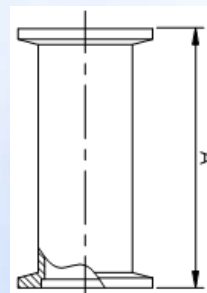


Pipes Components

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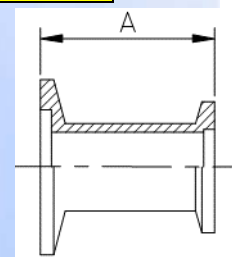
INTERMEDIATE PIECE – FULL NIPPLES

PART NUMBER	PNEUROP	A
NW-INP10	NW10	60
NW-INP16	NW16	80
NW-INP25	NW25	100
NW-INP40	NW40	130
NW-INP50	NW50	140

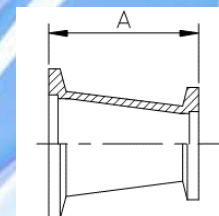


REDUCING PIECE

PART NUMBER	PNEUROP	A	B	C	D
NW-RDP21	NW25/16	50	100	40	80
NW-RDP41	NW40/16	65	130	40	80
NW-RDP42	NW40/25	65	130	50	100
NW-RDP52	NW50/25	70	140	50	100
NW-RDP54	NW50/40	70	140	65	130

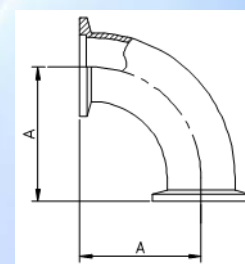


PART NUMBER CONICAL	PNEUROP	A	B	C	D
NW-RPC21	NW25/16	50	100	40	80
NW-RPC41	NW40/16	65	130	40	80
NW-RPC42	NW40/25	65	130	50	100



ELBOW 90°

PART NUMBER	PNEUROP	A
NW-ELB10	NW10	30
NW-ELB16	NW16	40
NW-ELB25	NW25	50
NW-ELB40	NW40	65
NW-ELB50	NW50	70



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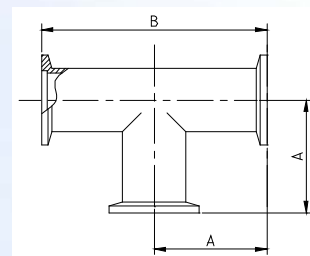
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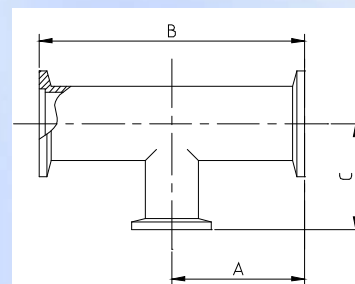
3 WAY TEE

PART NUMBER	PNEUROP	A	B
NW-TWT10	NW10	30	60
NW-TWT16	NW16	40	80
NW-TWT25	NW25	50	100
NW-TWT40	NW40	65	130
NW-TWT50	NW50	70	140



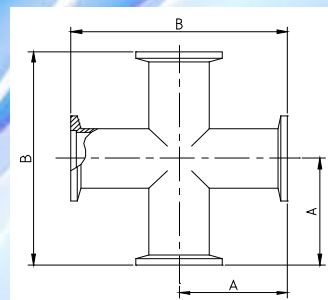
REDUCING TEE

PART NUMBER	PNEUROP	A	B	C
NW-RDT21	NW25/16	50	100	40
NW-RDT41	NW40/16	65	130	40
NW-RDT42	NW40/25	65	130	50
NW-RDT52	NW50/25	70	140	50
NW-RDT54	NW50/40	70	140	65



4 WAY CROSS

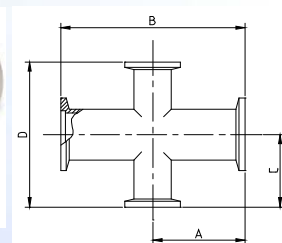
PART NUMBER	PNEUROP	A	B
NW-FWC10	NW10	30	60
NW-FWC16	NW16	40	80
NW-FWC25	NW25	50	100
NW-FWC40	NW40	65	130
NW-FWC50	NW50	70	140





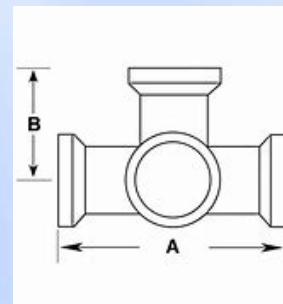
REDUCING CROSS

PART NUMBER	PNEUROP	A	B	C	D
NW-RDC21	NW25/16	50	100	40	80
NW-RDC41	NW40/16	65	130	40	80
NW-RDC42	NW40/25	65	130	50	100
NW-RDC52	NW50/25	70	140	50	100
NW-RDC54	NW50/40	70	140	65	130



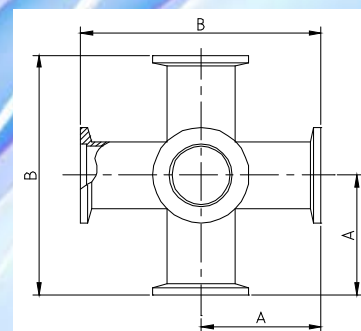
5 WAY CROSS

PART NUMBER	PNEUROP	A	B
NW-D5BC16	NW16	40	80
NW-D5BC25	NW25	50	100
NW-D5BC40	NW40	65	130
NW-D5BC50	NW50	70	140



DOUBLE CROSS

PART NUMBER	PNEUROP	A	B
NW-DBC10	NW10	30	60
NW-DBC16	NW16	38,3	76,6
NW-DBC25	NW25	51,4	102,8
NW-DBC40	NW40	61	122
NW-DBC50	NW50	80	160

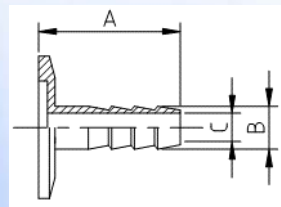




ADAPTERS

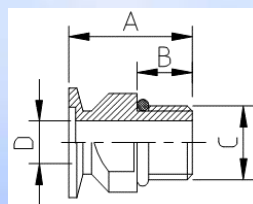
HOSE NIPPLE

PART NUMBER	PNEUROP	A	B	C
NW-HSN16	NW16	40	12	8
NW-HSN25	NW25	40	12	8
NW-HSN40	NW40	40	12	8



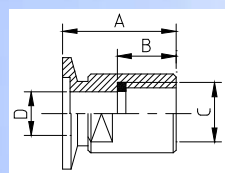
SCREW-IN FLANGE

PART NUMBER	PNEUROP	A	B	C	D
NW-SIF10	NW10-G 3/8"	35	15	G 3/8"	10
NW-SIF16	NW16-G 1/2"	35	16	G 1/2"	16
NW-SIF25	NW25-G1"	45	24	G1"	24
NW-SIF40	NW40-G1 1/2"	50	28	G 1 1/2"	40



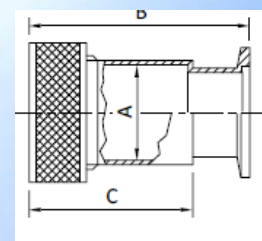
SCREW-OUT FLANGE

PART NUMBER	PNEUROP	A	B	C	D
NW-SOF10	NW10-G 3/8"	35	15	G 3/8"	10
NW-SOF16	NW16-G 1/2"	35	16	G 1/2"	16
NW-SOF25	NW25-G1"	45	24	G1"	24
NW-SOF40	NW40-G1 1/2"	50	28	G 1 1/2"	40



TUBE COMPRESSION FITTING

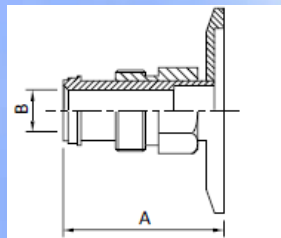
PART NUMBER	PNEUROP	A	D1	2
NW-TCF16	NW16	40	12	8
NW-TCF25	NW25	40	12	8
NW-TCF40	NW40	40	12	8



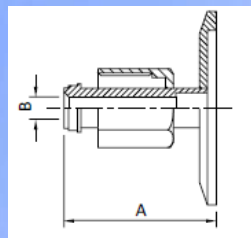


VCR MALE – VCR FEMALE ADAPTOR

PNEUROP VCR MALE	NW16	NW25	NW40	NW50	A	B
VCR 1/4"	16VCR14M	25VCR14M	40VCR14M	50VCR14M	35,6	4,8
VCR 1/2	16VCR12M	25VCR12M	40VCR12M	50VCR12M	40,6	10,4
VCR 3/4		25VCR34M	40VCR34M	50VCR34M	53,3	15,7



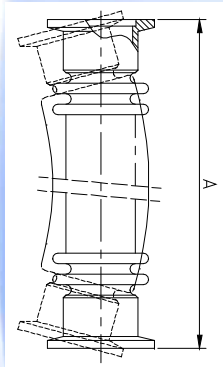
PNEUROP VCR FEMALE	NW16	NW25	NW40	NW50	A	B
VCR 1/4"	16VCR14F	25VCR14F	40VCR14F	50VCR14F	35,6	4,8
VCR 1/2	16VCR12F	25VCR12F	40VCR12F	50VCR12F	40,6	10,4
VCR 3/4		25VCR34F	40VCR34F	50VCR34F	53,3	15,7





BELLOWS

FLEXIBLE ANNEALED METAL HOSE- Stainless Steel



PNEUROP	<u>A =</u> <u>250 mm</u>	<u>A =</u> <u>500mm</u>	<u>A =</u> <u>750mm</u>	<u>A =</u> <u>1000mm</u>
NW10	NW-FMH10-250	NW- FMH10-500	NW- FMH10-750	NW- FMH10-100
NW16	NW-FMH16-250	NW- FMH16-500	NW- FMH16-750	NW- FMH16-100
NW25	NW-FMH25-250	NW- FMH25-500	NW- FMH25-750	NW- FMH25-100
NW40	NW-FMH40-250	NW- FMH40-500	NW- FMH40-750	NW- FMH40-100
NW50	NW-FMH50-250	NW- FMH50-500	NW- FMH50-750	NW- FMH50-100

FLEXIBLE BELLOW - Stainless Steel

PART NUMBER	PNEUROP	A	B
NW-FMB10	NW10	90	15
NW-FMB16	NW16	120	22
NW-FMB25	NW25	120	22
NW-FMB40	NW40	120	22
NW-FMB50	NW50	120	22

