



HIGH TECHNOLOGY PRODUCTS

VACUUM COMPONENTS



Product Catalogue



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KF COMPONENTS AND FABRICATIONS

The KF range of flanges and fittings are manufactured from high quality 304L (1.4306) Stainless steel*. KF flanges utilize an aluminium clamp with a single wingnut fastener allowing. Frequent disassembly without tools. The vacuum seal is effected by uniform application of pressure by the clamp on the 15° Surface of the flange. The mating flange surfaces compress an “o ”-ring (held in place by a metal centering ring) to produce a seal that can be used in vacuum applications down to 10^{-7} mbar and baked to 200°C (sustained to 150°C).

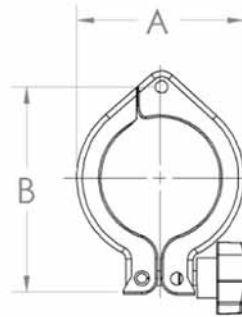
*316L (1.4404) available on request.



NW Quick Clamp p - aluminium

Part number	Pneurop	a	b
HT9-KF16C	NW16	40 (1.57)	64 (2.52)
HT9-KF25C	NW25	50 (1.97)	74 (2.91)
HT9-KF40C	NW40	65 (2.56)	89 (3.50)
HT9-KF50C	NW50	87 (3.43)	109 (4.29)

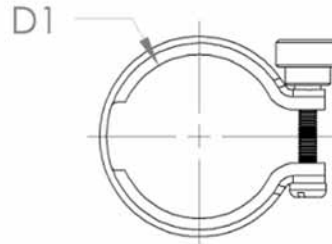
Pressure range 10 mbar to 10 bar
Temperature range -10 to 200 °C



NW Quick Clamp - stainless steel

Part number	Pneurop	To fit Flange OD
HT9-KF16QC	NW16	30 (1.18)
HT9-KF25QC	NW25	40 (1.57)
HT9-KF40QC	NW40	55 (2.17)
HT9-KF50QC	NW50	75 (2.95)

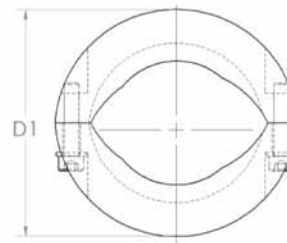
Temperature range -10 to 125 °C



NW Metal Seal Clamp - 304l stainless steel / viton

Part Number	Pneurop	d 1	id
HT9-KF10/16MSC	NW16	54 (2.13)	22 (0.87)
HT9-KF20/25MSC	NW25	64 (2.52)	32 (1.26)
HT9-KF32/40MSC	NW40	82 (3.23)	47 (1.85)
HT9-KF50MSC	NW50	112 (4.41)	62 (2.44)

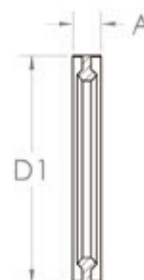
Pressure range 10⁻⁸ mbar to 3 bar.



NW Metal Seal - aluminium

Part number	Pneurop	d 1	a
HT9-KF10/16MS	NW10/16	32 (1.26)	7 (0.28)
HT9-KF20/25MS	NW20/25	42 (1.65)	7 (0.28)
HT9-KF32/40MS	NW32/40	57 (2.24)	7 (0.28)
HT9-KF50MS	NW50	77 (3.03)	7 (0.28)

Pressure range 10⁻⁸ mbar to 3 bar.

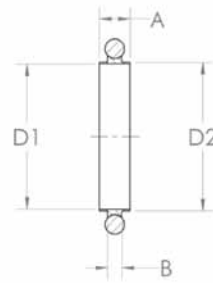


NW Centering Rings - 304l stainless steel / viton

Part number	Pneurop	a	b	d1	d2
HT9-KF16SVCR	NW16	8(0.31)	3.9(0.15)	16(0.63)	17(0.67)
HT9-KF25SVCR	NW25	8(0.31)	3.9(0.15)	25(0.98)	26(1.02)
HT9-KF40SVCR	NW40	8(0.31)	3.9(0.15)	40(1.57)	41(1.61)
HT9-KF50SVCR	NW50	8(0.31)	3.9(0.15)	50(1.97)	52(2.05)

Pressure range 10^{-7} mbar to 1 bar.

Temperature range -10 to 200°C (sustained 150°C).

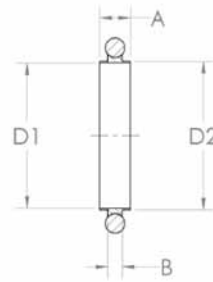


NW Centering Rings - 304l stainless steel / nitrile

Part number	Pneurop	a	b	d1	d2
HT9-KF16SNCR	NW16	8 (0.31)	3.9 (0.15)	16 (0.63)	17 (0.67)
HT9-KF25SNCR	NW25	8 (0.31)	3.9 (0.15)	25 (0.98)	26 (1.02)
HT9-KF40SNCR	NW40	8 (0.31)	3.9 (0.15)	40 (1.57)	41 (1.61)
HT9-KF50SNCR	NW50	8 (0.31)	3.9 (0.15)	50 (1.97)	52 (2.05)

Pressure range 10^{-7} mbar to 1 bar.

Temperature range -10 to 100°C.

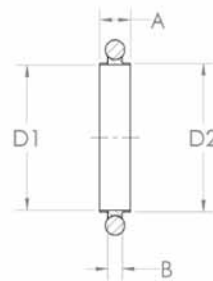


NW Centering Rings - aluminium / viton

Part number	Pneurop	a	b	d1	d2
HT9-KF16AVCR	NW16	8 (0.31)	3.9 (0.15)	16 (0.63)	17 (0.67)
HT9-KF25AVCR	NW25	8 (0.31)	3.9 (0.15)	25 (0.98)	26 (1.02)
HT9-KF40AVCR	NW40	8 (0.31)	3.9 (0.15)	40 (1.57)	41 (1.61)
HT9-KF50AVCR	NW50	8 (0.31)	3.9 (0.15)	50 (1.97)	52 (2.05)

Pressure range 10^{-7} mbar to 1 bar.

Temperature range -10 to 200°C (sustained 150°C).

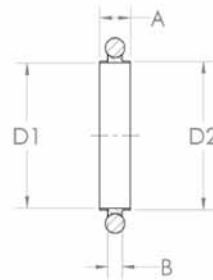


NW Centering Rings - aluminium / nitrile

Part number	Pneurop	a	b	d1	d2
HT9-KF16ANCR	NW16	8 (0.31)	3.9 (0.15)	16 (0.63)	17 (0.67)
HT9-KF25ANCR	NW25	8 (0.31)	3.9 (0.15)	25 (0.98)	26 (1.02)
HT9-KF40ANCR	NW40	8 (0.31)	3.9 (0.15)	40 (1.57)	41 (1.61)
HT9-KF50ANCR	NW50	8 (0.31)	3.9 (0.15)	50 (1.97)	52 (2.05)

Pressure range 10^{-7} mbar to 1 bar.

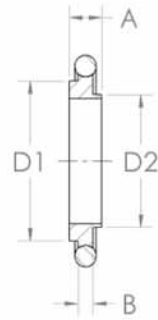
Temperature range -10 to 100°C.



NW Adapter Centering Ring - 304l stainless steel / viton

Part Number	Pneurop	a	b	d1	d2
HT9-KF10/16SVRCR	NW10/16	8 (0.31)	3.9 (0.15)	17 (0.67)	12 (0.47)
HT9-KF20/25SVRCR	NW20/25	8 (0.31)	3.9 (0.15)	26 (1.02)	22 (0.87)
HT9-KF32/40SVRCR	NW32/40	8 (0.31)	3.9 (0.15)	41 (1.61)	34 (1.34)

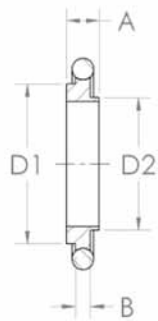
Pressure range 10^{-7} mbar to 1 bar.
 Temperature range -10 to 200°C (sustained 150°C)
 also available in aluminium.



NW Adapter Centering Ring - 304l stainless steel / nitrile

Part Number	Pneurop	a	b	d1	d2
HT9-KF10/16SNRCR	NW10/16	8 (0.31)	3.9 (0.15)	17 (0.67)	12 (0.47)
HT9-KF20/25SNRCR	NW20/25	8 (0.31)	3.9 (0.15)	26 (1.02)	22 (0.87)
HT9-KF32/40SNRCR	NW32/40	8 (0.31)	3.9 (0.15)	41 (1.61)	34 (1.34)

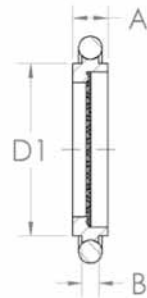
Pressure range 10^{-7} mbar to 1 bar.
 Temperature range -10 to 100°C
 also available in aluminium.



NW Centering Ring with Mesh Screen - 304l st steel / viton

Part number	Pneurop	a	b	d1
HT9-KF16MCRV	NW16	8 (0.31)	3.9 (0.15)	17 (0.67)
HT9-KF25MCRV	NW25	8 (0.31)	3.9 (0.15)	26 (1.02)
HT9-KF40MCRV	NW40	8 (0.31)	3.9 (0.15)	41 (1.61)
HT9-KF50MCRV	NW50	8 (0.31)	3.9 (0.15)	52 (2.05)

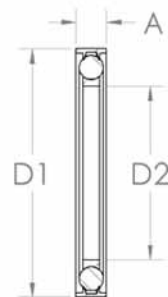
Stainless steel centering ring with 72 mesh screen
 (0.5.x.0.5.x.1.0mm)
 Pressure range 10^{-7} mbar to 1 bar.
 Temperature range -10 to 200°C (sustained 150°C).



NW Trapped Centering Rings - 304l stainless steel / viton

Part number	Pneurop	a	d1	d2
HT9-KF16TCRV	NW16	7 (0.28)	31.5 (1.24)	16 (0.63)
HT9-KF25TCRV	NW25	7 (0.28)	41.5 (1.63)	25 (0.98)
HT9-KF40TCRV	NW40	7 (0.28)	56.5 (2.22)	40 (1.57)
HT9-KF50TCRV	NW50	7 (0.28)	77.5 (3.05)	50 (1.97)

aluminium outer, stainless steel inner.
 Pressure range 10^{-7} mbar to 10 bar.
 Temperature range -10 to 200°C (sustained 150°C).



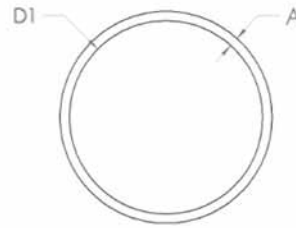
NW O-Ring - viton / nitrile

Part number viton	Pneurop	a	d1	Part number nitrile
HT9-KF16VR	NW16	5 (0.20)	18 (0.71)	HT9-KF16NR
HT9-KF25VR	NW25	5 (0.20)	28 (1.10)	HT9-KF25NR
HT9-KF40VR	NW40	5 (0.20)	42 (1.65)	HT9-KF40NR
HT9-KF50VR	NW50	5 (0.20)	55 (2.17)	HT9-KF50NR

Viton o-ring

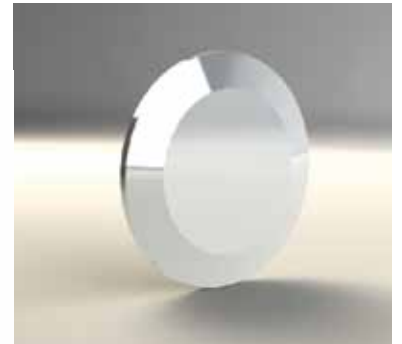
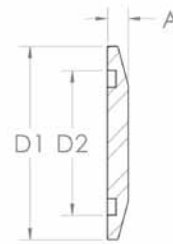
Pressure range 10^{-7} mbar to 1 bar absolute.

Nitrile o-ring



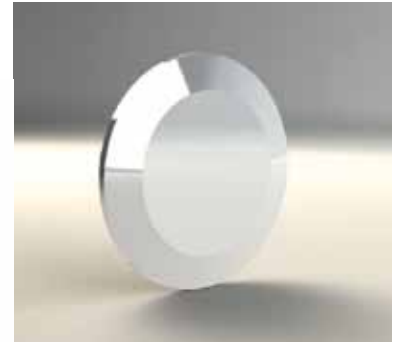
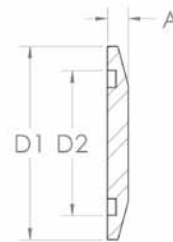
NW Blank Flange - 304l stainless steel

Part number	Pneurop	a	d1	d2
HT9-KF16BS	NW16	6 (0.24)	30 (1.18)	17.2 (0.68)
HT9-KF25BS	NW25	6 (0.24)	40 (1.57)	26.2 (1.03)
HT9-KF40BS	NW40	6 (0.24)	55 (2.17)	41.2 (1.62)
HT9-KF50BS	NW50	6 (0.24)	75 (2.95)	52.2 (2.06)



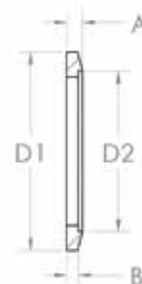
NW Blank Flange - aluminium

Part number	Pneurop	a	d1	d2
HT9-KF16BA	NW16	6 (0.24)	30 (1.18)	17.2 (0.68)
HT9-KF25BA	NW25	6 (0.24)	40 (1.57)	26.2 (1.03)
HT9-KF40BA	NW40	6 (0.24)	55 (2.17)	41.2 (1.62)
HT9-KF50BA	NW50	6 (0.24)	75 (2.95)	52.2 (2.06)



NW Bored Flange - 304l stainless steel

Part number	Pneurop	a	b	d1	d2
HT9-KF16B16	NW16	4.3(0.17)	3.3(0.13)	30(1.18)	20.0(0.79)
HT9-KF16B19	NW16	4.3(0.17)	3.3(0.13)	30(1.18)	19.05(0.75)
HT9-KF25B24	NW25	4.6(0.18)	3.5(0.14)	40(1.57)	28.0(1.10)
HT9-KF25B25	NW25	4.6(0.18)	3.5(0.14)	40(1.57)	25.4(1.00)
HT9-KF40B38	NW40	4.4(0.17)	3.3(0.13)	55(2.17)	38.1(1.50)
HT9-KF40B41	NW40	4.4(0.17)	3.3(0.13)	55(2.17)	44.5(1.75)
HT9-KF50B50	NW50	5.4(0.21)	4.4(0.17)	75(2.95)	50.8(2.00)
HT9-KF50B51	NW50	5.4(0.21)	4.4(0.17)	75(2.95)	57.0(2.24)

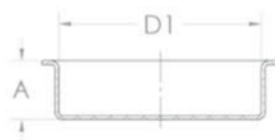


Special bores available on request.

All measurements are in millimetres (inches in brackets)

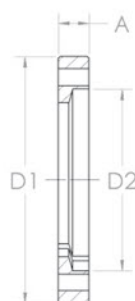
NW Flange Caps

Part number	Pneuop	Pack Size	a	d1
HT9-KF16CAP	NW16	10	11 (0.43)	30 (1.18)
HT9-KF25CAP	NW25	10	11 (0.43)	40 (1.57)
HT9-KF40CAP	NW40	10	11 (0.43)	55 (2.17)
HT9-KF50CAP	NW50	10	11 (0.43)	75 (2.95)



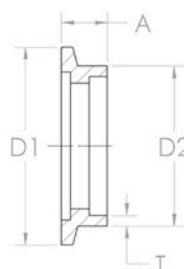
NW Bulkhead Clamp - aluminium

Part number	Pneuop	a	d1	d2
HT9-KF16BHC	NW16	9.2 (0.36)	50.8 (2.00)	30 (1.18)
HT9-KF25BHC	NW25	9.8 (0.39)	60.3 (2.37)	40 (1.57)
HT9-KF40BHC	NW40	9.3 (0.37)	74.6 (2.94)	55 (2.17)
HT9-KF50BHC	NW50	10.3 (0.41)	95.2 (3.75)	75 (2.95)



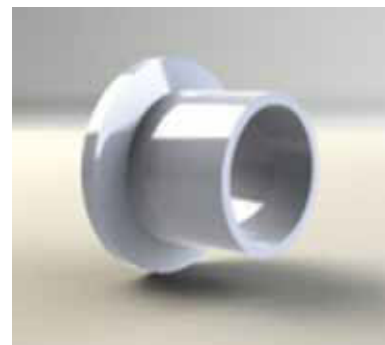
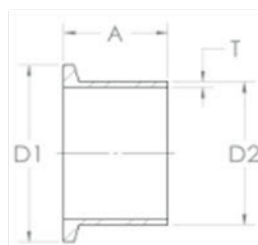
NW Socket Weld Flange - 304l stainless steel

Part number	Pneuop	a	d1	d2	t
HT9-KF16W11	NW16	12.7(0.50)	30(1.18)	15.5(0.61)	1.25(0.05)
HT9-KF16W	NW16	12.7(0.50)	30(1.18)	22.1(0.87)	1.40(0.06)
HT9-KF25W	NW25	12.7(0.50)	40(1.57)	28.6(1.13)	1.35(0.05)
HT9-KF40W	NW40	12.7(0.50)	55(2.17)	44.5(1.75)	2.95(0.12)
HT9-KF50W	NW50	12.7(0.50)	75(2.95)	57.2(2.25)	2.95(0.12)



NW Tubulation Short Weld Flange - 304l stainless steel

Part number	Pneuop	a	d1	d2	t
HT9-KF16TUS	NW16	30.0 (1.18)	30 (1.18)	20.0 (0.79)	2.0 (0.08)
HT9-KF25TUS	NW25	30.0 (1.18)	40 (1.57)	28.0 (1.10)	2.0 (0.08)
HT9-KF40TUS	NW40	30.0 (1.18)	55 (2.17)	44.5 (1.75)	1.6 (0.06)
HT9-KF50TUS	NW50	30.0 (1.18)	75 (2.95)	57.0 (2.24)	3.0 (0.12)
HT9-KF16TUSA	NW16	12.7 (0.50)	30 (1.18)	19.1 (0.75)	1.7 (0.07)
HT9-KF25TUSA	NW25	12.7 (0.50)	40 (1.57)	25.4 (1.00)	1.7 (0.07)
HT9-KF40TUSA	NW40	19.0 (0.75)	55 (2.17)	38.1 (1.50)	1.7 (0.07)
HT9-KF50TUSA	NW50	19.0 (0.75)	75 (2.95)	50.8 (2.00)	1.7 (0.07)

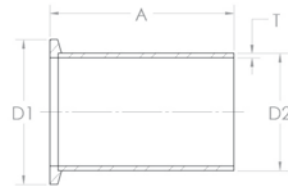


Special lengths, diameters and imperial tube available on request.

NW Tubulation Long Weld Flange - 304l stainless steel

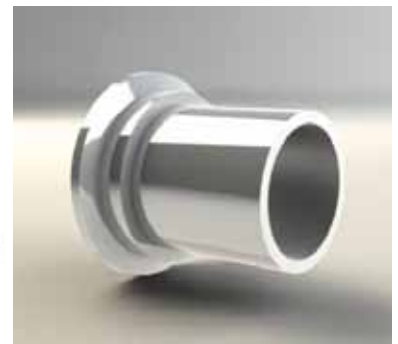
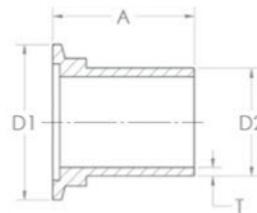
Part number	Pneurop	a	d1	d2	t
HT9-KF16TUL	NW16	70 (2.76)	30.(1.18)	20.0.(0.79)	2.0.(0.08)
HT9-KF25TUL	NW25	70 (2.76)	40.(1.57)	28.0.(1.10)	2.0.(0.08)
HT9-KF40TUL	NW40	70 (2.76)	55.(2.17)	44.5.(1.75)	2.0.(0.08)
HT9-KF50TUL	NW50	70 (2.76)	75.(2.95)	57.0.(2.24)	3.0.(0.12)
HT9-KF16TULA	NW16	40 (1.57)	30.(1.18)	19.1.(0.75)	1.7.(0.07)
HT9-KF25TULA	NW25	40 (1.57)	40.(1.57)	25.4.(1.00)	1.7.(0.07)
HT9-KF40TULA	NW40	40 (1.57)	55.(2.17)	38.1.(1.50)	1.7.(0.07)
HT9-KF50TULA	NW50	40 (1.57)	75.(2.95)	50.8.(2.00)	1.7.(0.07)

Special lengths, diameters and imperial tube available on request.



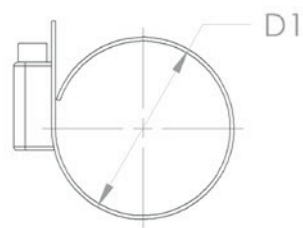
NW Hose Adapter - 304l stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-KF16TUH12	NW16	32.0 (1.26)	30 (1.18)	12.7 (0.50)	1.70 (0.07)
HT9-KF16TUH	NW16	32.0 (1.26)	30 (1.18)	19.1 (0.75)	1.55 (0.06)
HT9-KF25TUH	NW25	38.1 (1.50)	40 (1.57)	25.4 (1.00)	1.70 (0.07)
HT9-KF40TUH	NW40	50.0 (1.97)	55 (2.17)	38.1 (1.50)	1.70 (0.07)
HT9-KF50TUH	NW50	55.0 (2.17)	75 (2.95)	50.8 (2.00)	1.70 (0.07)



NW Hose C lamps

Part number	Pneurop	d1
HT9-KF16HC	NW10/16	25 (0.98)
HT9-KF25HC	NW25	36 (1.42)
HT9-KF40HC	NW40	50 (1.97)
HT9-KF50HC	NW50	60 (2.36)



NW Wire Reinforced Hose - PVC

Part number	Pneurop	a	d1 nominal bore
HT9-PVC16	NW16	1000 (39.37)	19.05 (0.75)
HT9-PVC25	NW25	1000 (39.37)	25.40 (1.00)
HT9-PVC40	NW40	1000 (39.37)	38.10 (1.50)
HT9-PVC50	NW50	1000 (39.37)	50.80 (2.00)



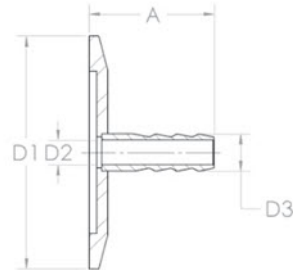
NW Hose Connect ors - PVC / stainless steel

Part Number	Pneuop	a	d1
HT9-KF16PVC25	NW16	250 (9.84)	30 (1.18)
HT9-KF16PVC50	NW16	500 (19.69)	30 (1.18)
HT9-KF16PVC75	NW16	750 (29.53)	30 (1.18)
HT9-KF16PVC100	NW16	1000 (39.37)	30 (1.18)
HT9-KF25PVC25	NW25	250 (9.84)	40 (1.57)
HT9-KF25PVC50	NW25	500 (19.69)	40 (1.57)
HT9-KF25PVC75	NW25	750 (29.53)	40 (1.57)
HT9-KF25PVC100	NW25	1000 (39.37)	40 (1.57)
HT9-KF40PVC25	NW40	250 (9.84)	55 (2.17)
HT9-KF40PVC50	NW40	500 (19.69)	55 (2.17)
HT9-KF40PVC75	NW40	750 (29.53)	55 (2.17)
HT9-KF40PVC100	NW40	1000 (39.37)	55 (2.17)
HT9-KF50PVC25	NW50	250 (9.84)	75 (2.95)
HT9-KF50PVC50	NW50	500 (19.69)	75 (2.95)
HT9-KF50PVC75	NW50	750 (29.53)	75 (2.95)
HT9-KF50PVC100	NW50	1000 (39.37)	75 (2.95)



NW Hose Nozzle Connector - 304l stainless steel

Part Number	Pneuop	a	d1	d2	d3
HT9-KF16HNS	NW16	40(1.57)	30(1.18)	7(0.28)	12(0.47)
HT9-KF25HNS	NW16	40(1.57)	40(1.57)	7(0.28)	12(0.47)
HT9-KF40HNS	NW40	40(1.57)	55(2.17)	7(0.28)	12(0.47)
HT9-KF50HNS	NW50	40(1.57)	75(2.95)	7(0.28)	12(0.47)



NW Straight Connector - 304l stainless steel

Part number	Pneuop	a	d1	d2	t
HT9-KF16SC	NW16	80 (3.15)	30 (1.18)	20.0 (0.79)	2.0 (0.08)
HT9-KF25SC	NW25	100 (3.94)	40 (1.57)	28.0 (1.10)	2.0 (0.08)
HT9-KF40SC	NW40	130 (5.12)	55 (2.17)	44.5 (1.75)	1.6 (0.06)
HT9-KF50SC140	NW50	140 (5.51)	75 (2.95)	57.0 (2.24)	3.0 (0.12)

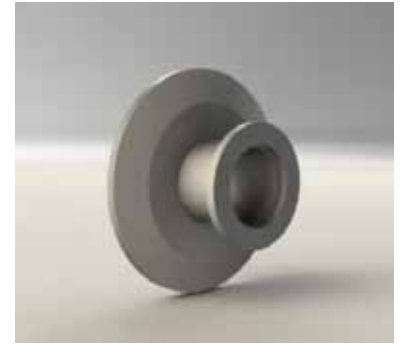
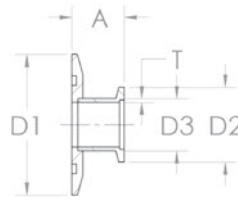
Special lengths, diameters and imperial tube available on request.



NW Reducer Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-KF25R16	NW25/16	28 (1.1)	40 (1.57)	30 (1.18)	20.0 (0.79)	2.0 (0.08)
HT9-KF40R16	NW40/16	28 (1.1)	55 (2.17)	30 (1.18)	20.0 (0.79)	2.0 (0.08)
HT9-KF50R16	NW50/16	28 (1.1)	75 (2.95)	30 (1.18)	20.0 (0.79)	2.0 (0.08)
HT9-KF40R25	NW40/25	28 (1.1)	55 (2.17)	40 (1.57)	28.0 (1.10)	2.0 (0.08)
HT9-KF50R25	NW50/25	28 (1.1)	75 (2.95)	40 (1.57)	28.0 (1.10)	2.0 (0.08)
HT9-KF50R40	NW50/40	28 (1.1)	75 (2.95)	55 (2.17)	44.5 (1.75)	2.0 (0.08)

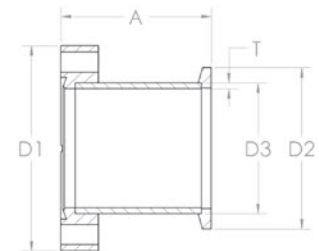
Special lengths, diameters and imperial tube available on request.



NW to CF Reducer Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-KA1616	CF16/NW16	36 (1.42)	34 (1.34)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-KA3516	CF35/NW16	36 (1.42)	70 (2.76)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-KA3525	CF35/NW25	36 (1.42)	70 (2.76)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KA3540	CF35/NW40	50 (1.97)	70 (2.76)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KA6325	CF63/NW25	50 (1.97)	114 (4.49)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KA6340	CF63/NW40	50 (1.97)	114 (4.49)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KA6350	CF63/NW50	50 (1.97)	114 (4.49)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-KA1025	CF100/NW25	50 (1.97)	152 (5.98)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KA1040	CF100/NW40	50 (1.97)	152 (5.98)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KA1050	CF100/NW50	50 (1.97)	152 (5.98)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-KA1525	CF150/NW25	70 (2.76)	203 (7.99)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KA1540	CF150/NW40	70 (2.76)	203 (7.99)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KA1550	CF150/NW50	70 (2.76)	203 (7.99)	75 (2.95)	57.0 (2.24)	3 (0.12)

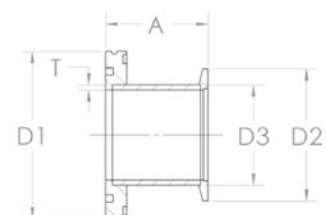
Special lengths and imperial tube available on request.



ISO to NW Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-SK6325	ISO63/NW25	50 (1.97)	95 (3.74)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-SK6340	ISO63/NW40	50 (1.97)	95 (3.74)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-SK6350	ISO63/NW50	50 (1.97)	95 (3.74)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-SK1025	ISO100/NW25	50 (1.97)	130 (5.12)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-SK1040	ISO100/NW40	50 (1.97)	130 (5.12)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-SK1050	ISO100/NW50	50 (1.97)	130 (5.12)	75 (2.95)	57.0 (2.24)	3 (0.12)

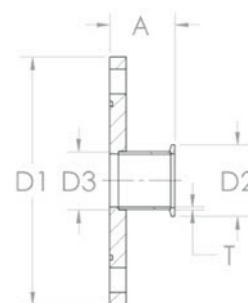
Special lengths and imperial tube available on request.



ASA to NW Adaptor - 304l stainless steel

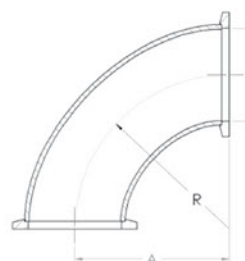
Part number	Pneurop	a	d1	d2	d3	t
HT9-KASA4038G	ASA 1.5" /NW40	46 (1.81)	127 (5.00)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KASA4050G	ASA 2.0" /NW40	46 (1.81)	152 (5.98)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KASA4075G	ASA 3.0" /NW40	46 (1.81)	191 (7.52)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KASA5038G	ASA 1.5" /NW50	46 (1.81)	127 (5.00)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-KASA5050G	ASA 2.0" /NW50	46 (1.81)	152 (5.98)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-KASA5075G	ASA 3.0" /NW50	46 (1.81)	191 (7.52)	75 (2.95)	57.0 (2.24)	3 (0.12)

With o-ring groove



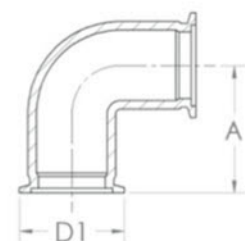
NW 90 Degree Radius Elbow - 304l stainless steel

Part number	Pneurop	a	d1	r
HT9-KF16EL	NW16	40 (1.57)	20.0 (0.79)	27 (1.06)
HT9-KF25EL	NW25	50 (1.97)	28.0 (1.10)	37 (1.46)
HT9-KF40EL	NW40	65 (2.56)	44.5 (1.75)	60 (2.36)
HT9-KF50EL	NW50	70 (2.76)	57.0 (2.24)	65 (2.56)



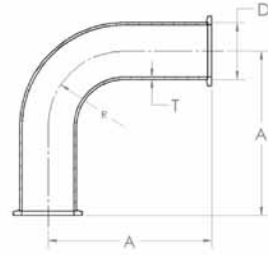
NW 90 Degree Radius Elbow - aluminium

Part number	Pneurop	a	d1
HT9-KF16ELA	NW16	40 (1.57)	30 (1.18)
HT9-KF25ELA	NW25	50 (1.97)	40 (1.57)
HT9-KF40ELA	NW40	65 (2.56)	55 (2.17)



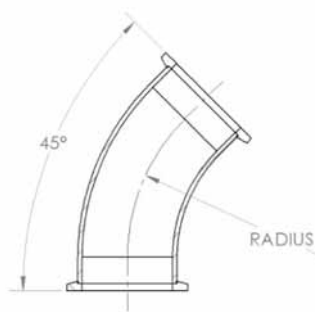
NW Long Radius Elbow - 304l stainless steel

Part number	Pneurop	a	d1	r	t
HT9-KF40LEL	NW40	130 (5.12)	44.5 (1.75)	60 (2.36)	2 (0.08)
HT9-KF50LEL	NW50	140 (5.51)	57.0 (2.24)	126 (4.96)	3 (0.12)



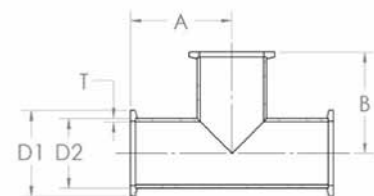
NW 45 Degree Radius Elbow - 304l stainless steel

Part number	Pneurop	r
HT9-KF16EL4	NW16	40 (1.57)
HT9-KF25EL4	NW25	45 (1.77)
HT9-KF40EL4	NW40	51 (2.01)
HT9-KF50EL4	NW50	75 (2.95)



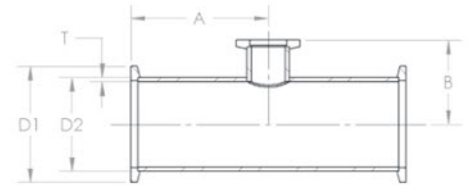
NW Tee - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-KF16TE	NW16	40 (1.57)	40 (1.57)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-KF25TE	NW25	50 (1.97)	50 (1.97)	40 (1.57)	28.0 (1.1)	2 (0.08)
HT9-KF40TE	NW40	65 (2.56)	65 (2.56)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KF50TE	NW50	70 (2.76)	70 (2.76)	75 (2.95)	57.0 (2.24)	3 (0.12)



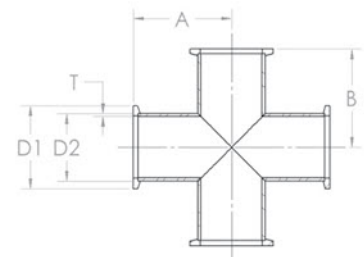
NW Unequal Tee - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-UTE2516K	NW25/16	50 (1.97)	40 (1.57)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-UTE4016K	NW40/16	65 (2.56)	40 (1.57)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-UTE4025K	NW40/25	65 (2.56)	50 (1.97)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-UTE5016K	NW50/16	70 (2.76)	50 (1.97)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-UTE5025K	NW50/25	70 (2.76)	65 (2.56)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-UTE5040K	NW50/40	70 (2.76)	65 (2.56)	75 (2.95)	57.0 (2.24)	3 (0.12)



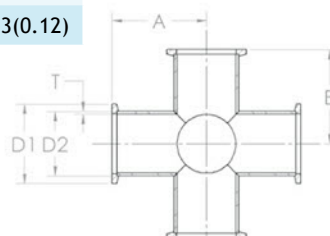
NW 4-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-KF16X	NW16	40 (1.57)	40 (1.57)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-KF25X	NW25	50 (1.97)	50 (1.97)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KF40X	NW40	65 (2.56)	65 (2.56)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KF50X	NW50	70 (2.76)	70 (2.76)	75 (2.95)	57.0 (2.24)	3 (0.12)



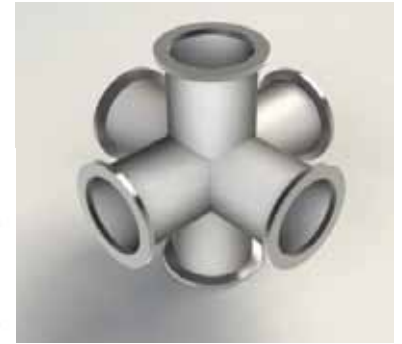
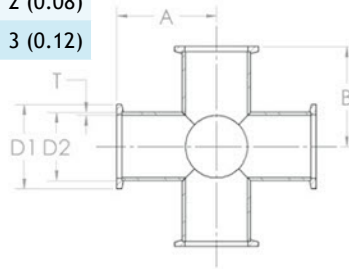
NW 5-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-KF16FWX	NW16	40(1.57)	40(1.57)	30(1.18)	20.0(0.79)	2(0.08)
HT9-KF25FWX	NW25	50(1.97)	50(1.97)	40(1.57)	28.0(1.10)	2(0.08)
HT9-KF40FWX	NW40	65(2.56)	65(2.56)	55(2.17)	44.5(1.75)	2(0.08)
HT9-KF50FWX	NW50	70(2.76)	70(2.76)	75(2.95)	57.0(2.24)	3(0.12)



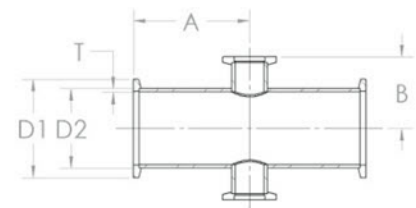
NW 6-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-KF16XX	NW16	40 (1.57)	40 (1.57)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-KF25XX	NW25	50 (1.97)	50 (1.97)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-KF40XX	NW40	65 (2.56)	65 (2.56)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-KF50XX	NW50	70 (2.76)	70 (2.76)	75 (2.95)	57.0 (2.24)	3 (0.12)



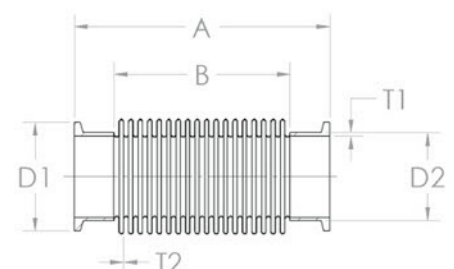
NW 4-Way Reducing Cross Fixed - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-UX25K16	NW25/16	50 (1.97)	40 (1.57)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-UX40K16	NW40/16	65 (2.56)	40 (1.57)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-UX40K25	NW40/25	65 (2.56)	50 (1.97)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-UX50K16	NW50/16	70 (2.76)	50 (1.97)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-UX50K25	NW50/25	70 (2.76)	50 (1.97)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-UX50K40	NW50/40	70 (2.76)	65 (2.56)	75 (2.95)	57.0 (2.24)	3 (0.12)



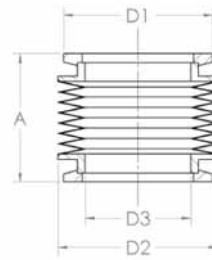
NW Flexible Bellows - stainless steel

Part number	Pneurop	a	b	d1	d2	t1	t2
HT9-KF16BEL	NW16	121(4.76)	88.0(3.46)	30(1.18)	20.0(0.79)	2.0(0.08)	0.10(0.01)
HT9-KF25BEL	NW25	121(4.76)	85.7(3.37)	40(1.57)	27.0(1.06)	1.5(0.06)	0.15(0.01)
HT9-KF40BEL	NW40	121(4.76)	83.0(3.27)	55(2.17)	44.5(1.75)	1.6(0.06)	0.20(0.01)
HT9-KF50BEL	NW50	110(4.33)	76.0(2.99)	75(2.95)	57.0(2.24)	3.0(0.12)	0.25(0.01)



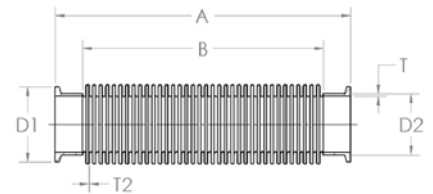
NW Edge Welded Bellows - stainless steel

Part number	Pneurop	a	d1	d2	d3
HT9-KF16EWB	NW16	55(2.17)	30(1.18)	31.5(1.24)	16.0(0.63)
HT9-KF25EWB	NW25	55(2.17)	40(1.57)	46.0(1.81)	24.0(0.94)
HT9-KF40EWB	NW40	55(2.17)	55(2.17)	59.0(2.32)	40.4(1.59)
HT9-KF50EWB	NW50	55(2.17)	75(2.95)	76.0(2.99)	51.0(2.01)



NW Flexible Annealed Hose - stainless steel

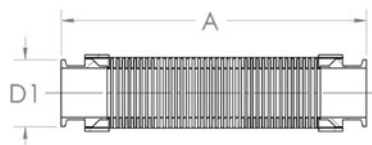
Part number	Pneurop	a	b	d1	d2	t	t2
HT9-KF16FX25	NW16	250 (9.84)	220 (8.66)	30 (1.18)	20.0 (0.79)	2.0 (0.08)	0.23 (0.01)
HT9-KF16FX50	NW16	500 (19.69)	470 (18.5)	30 (1.18)	20.0 (0.79)	2.0 (0.08)	0.23 (0.01)
HT9-KF16FX75	NW16	750 (29.53)	720 (28.35)	30 (1.18)	20.0 (0.79)	2.0 (0.08)	0.23 (0.01)
HT9-KF16FX100	NW16	1000 (39.37)	970 (38.19)	30 (1.18)	20.0 (0.79)	2.0 (0.08)	0.23 (0.01)
HT9-KF25FX25	NW25	250 (9.84)	220 (8.66)	40 (1.57)	27.0 (1.06)	1.5 (0.06)	0.23 (0.01)
HT9-KF25FX50	NW25	500 (19.69)	470 (18.5)	40 (1.57)	27.0 (1.06)	1.5 (0.06)	0.23 (0.01)
HT9-KF25FX75	NW25	750 (29.53)	720 (28.35)	40 (1.57)	27.0 (1.06)	1.5 (0.06)	0.23 (0.01)
HT9-KF25FX100	NW25	1000 (39.37)	970 (38.19)	40 (1.57)	27.0 (1.06)	1.5 (0.06)	0.23 (0.01)
HT9-KF40FX25	NW40	250 (9.84)	220 (8.66)	55 (2.17)	44.5 (1.75)	1.6 (0.06)	0.23 (0.01)
HT9-KF40FX50	NW40	500 (19.69)	470 (18.5)	55 (2.17)	44.5 (1.75)	1.6 (0.06)	0.23 (0.01)
HT9-KF40FX75	NW40	750 (29.53)	720 (28.35)	55 (2.17)	44.5 (1.75)	1.6 (0.06)	0.23 (0.01)
HT9-KF40FX100	NW40	1000 (39.37)	970 (38.19)	55 (2.17)	44.5 (1.75)	1.6 (0.06)	0.23 (0.01)
HT9-KF50FX25	NW50	250 (9.84)	220 (8.66)	75 (2.95)	57.0 (2.24)	3.0 (0.12)	0.23 (0.01)
HT9-KF50FX50	NW50	500 (19.69)	470 (18.5)	75 (2.95)	57.0 (2.24)	3.0 (0.12)	0.23 (0.01)
HT9-KF50FX75	NW50	750 (29.53)	720 (28.35)	75 (2.95)	57.0 (2.24)	3.0 (0.12)	0.23 (0.01)
HT9-KF50FX100	NW50	1000 (39.37)	970 (38.19)	75 (2.95)	57.0 (2.24)	3.0 (0.12)	0.23 (0.01)



Custom lengths available on request, standard hoses are annealed, un-annealed can be supplied if required

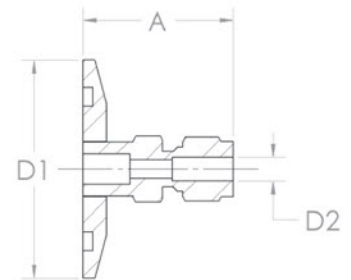
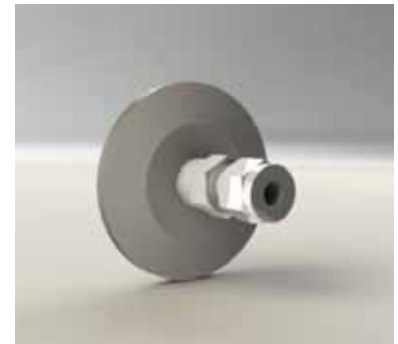
NW Braided Flexible Hose - stainless steel

Part number	Pneurop	a	d1
HT9-KF25BFX13	NW25	135 (5.31)	40 (1.57)
HT9-KF25BFX25	NW25	250 (9.84)	40 (1.57)
HT9-KF25BFX50	NW25	500 (19.69)	40 (1.57)
HT9-KF25BFX100	NW25	1000 (39.37)	40 (1.57)
HT9-KF40BFX13	NW40	135 (5.31)	55 (2.17)
HT9-KF40BFX25	NW40	250 (9.84)	55 (2.17)
HT9-KF40BFX50	NW40	500 (19.69)	55 (2.17)
HT9-KF40BFX100	NW40	1000 (39.37)	55 (2.17)
HT9-KF40BFX13	NW50	135 (5.31)	75 (2.95)
HT9-KF40BFX25	NW50	250 (9.84)	75 (2.95)
HT9-KF40BFX50	NW50	500 (19.69)	75 (2.95)
HT9-KF40BFX100	NW50	1000 (39.37)	75 (2.95)



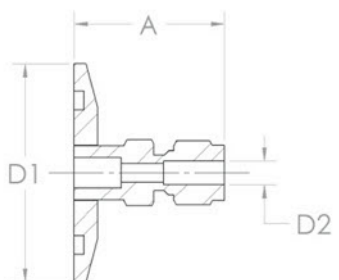
NW to Metric Pipe Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2
HT9-KSWA164	NW16	35(1.38)	30(1.18)	4(0.16)
HT9-KSWA166	NW16	37(1.46)	30(1.18)	6(0.24)
HT9-KSWA168	NW16	38(1.50)	30(1.18)	8(0.31)
HT9-KSWA1610	NW16	45(1.77)	30(1.18)	10(0.39)
HT9-KSWA1612	NW16	47(1.85)	30(1.18)	12(0.47)
HT9-KSWA1616	NW16	53(2.09)	30(1.18)	16(0.63)
HT9-KSWA254	NW25	35(1.38)	40(1.57)	4(0.16)
HT9-KSWA256	NW25	37(1.46)	40(1.57)	6(0.24)
HT9-KSWA258	NW25	38(1.50)	40(1.57)	8(0.31)
HT9-KSWA2510	NW25	45(1.77)	40(1.57)	10(0.39)
HT9-KSWA2512	NW25	47(1.85)	40(1.57)	12(0.47)
HT9-KSWA2516	NW25	53(2.09)	40(1.57)	16(0.63)
HT9-KSWA404	NW40	35(1.38)	55(2.17)	4(0.16)
HT9-KSWA406	NW40	37(1.46)	55(2.17)	6(0.24)
HT9-KSWA408	NW40	38(1.50)	55(2.17)	8(0.31)
HT9-KSWA4010	NW40	45(1.77)	55(2.17)	10(0.39)
HT9-KSWA4012	NW40	47(1.85)	55(2.17)	12(0.47)
HT9-KSWA4016	NW40	53(2.09)	55(2.17)	16(0.63)



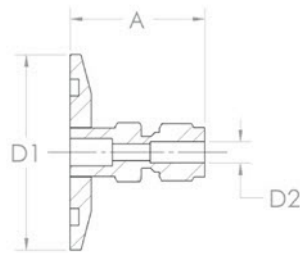
NW to Imperial Pipe Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2
HT9-KSWI1618	NW16	31 (1.22)	30 (1.18)	1/8"
HT9-KSWI1614	NW16	38 (1.50)	30 (1.18)	1/4"
HT9-KSWI1638	NW16	40 (1.57)	30 (1.18)	3/8"
HT9-KSWI1612	NW16	53 (2.09)	30 (1.18)	1/2"
HT9-KSWI2518	NW25	34 (1.34)	40 (1.57)	1/8"
HT9-KSWI2514	NW25	38 (1.50)	40 (1.57)	1/4"
HT9-KSWI2538	NW25	40 (1.57)	40 (1.57)	3/8"
HT9-KSWI2512	NW25	53 (2.09)	40 (1.57)	1/2"
HT9-KSWI2534	NW25	54 (2.13)	40 (1.57)	3/4"
HT9-KSWI251	NW25	66 (2.60)	40 (1.57)	1"
HT9-KSWI4018	NW40	34 (1.34)	55 (2.17)	1/8"
HT9-KSWI4014	NW40	36 (1.42)	55 (2.17)	1/4"
HT9-KSWI4038	NW40	40 (1.57)	55 (2.17)	3/8"
HT9-KSWI4012	NW40	53 (2.09)	55 (2.17)	1/2"
HT9-KSWI4034	NW40	54 (2.13)	55 (2.17)	3/4"
HT9-KSWI401	NW40	66 (2.60)	55 (2.17)	1"



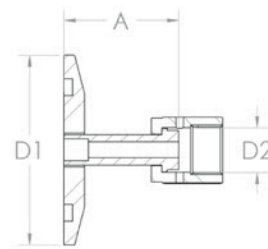
NW Male VCR Adaptor - 304l stainless steel

Part Number	Pneurop	a	d1	d2	VCR
HT9-KVCR1614M	NW16	35.6 (1.40)	30 (1.18)	4.8 (0.19)	1/4"
HT9-KVCR1612M	NW16	41.4 (1.63)	30 (1.18)	10.4 (0.41)	1/2"
HT9-KVCR2514M	NW25	35.6 (1.40)	40 (1.57)	4.8 (0.19)	1/4"
HT9-KVCR2512M	NW25	40.6 (1.60)	40 (1.57)	10.4 (0.41)	1/2"
HT9-KVCR2534M	NW25	54.4 (2.14)	40 (1.57)	15.7 (0.62)	3/4"
HT9-KVCR4014M	NW40	35.6 (1.40)	55 (2.17)	4.8 (0.19)	1/4"
HT9-KVCR4012M	NW40	40.6 (1.60)	55 (2.17)	10.4 (0.41)	1/2"
HT9-KVCR4034M	NW40	53.3 (2.10)	55 (2.17)	15.7 (0.62)	3/4"
HT9-KVCR5014M	NW50	35.6 (1.40)	75 (2.95)	4.8 (0.19)	1/4"
HT9-KVCR5012M	NW50	40.6 (1.60)	75 (2.95)	10.4 (0.41)	1/2"
HT9-KVCR5034M	NW50	53.3 (2.10)	75 (2.95)	15.7 (0.62)	3/4"



NW Female VCR Adaptor - 304l stainless steel

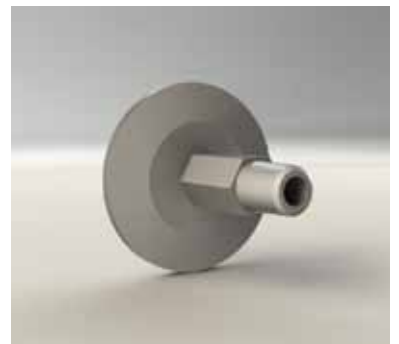
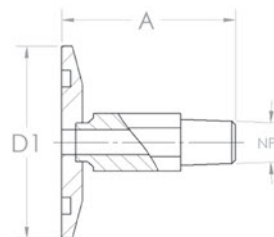
Part Number	Pneurop	a	d1	d2
HT9-KVCR1614F	NW16	35.6 (1.40)	30 (1.18)	1/4"
HT9-KVCR1612F	NW16	40.5 (1.59)	30 (1.18)	1/2"
HT9-KVCR2514F	NW25	35.6 (1.40)	40 (1.57)	1/4"
HT9-KVCR2512F	NW25	40.6 (1.60)	40 (1.57)	1/2"
HT9-KVCR2534F	NW25	54.4 (2.14)	40 (1.57)	3/4"
HT9-KVCR4014F	NW40	35.6 (1.40)	55 (2.17)	1/4"
HT9-KVCR4012F	NW40	40.6 (1.60)	55 (2.17)	1/2"
HT9-KVCR4034F	NW40	53.3 (2.10)	55 (2.17)	3/4"
HT9-KVCR5014F	NW50	35.6 (1.40)	75 (2.95)	1/4"
HT9-KVCR5012F	NW50	40.6 (1.60)	75 (2.95)	1/2"
HT9-KVCR5034F	NW50	53.3 (2.10)	75 (2.95)	3/4"



KF to BSP adaptors available on request.

NW Male NPT Pipe Adaptor - 304l stainless steel

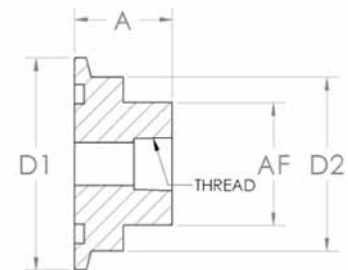
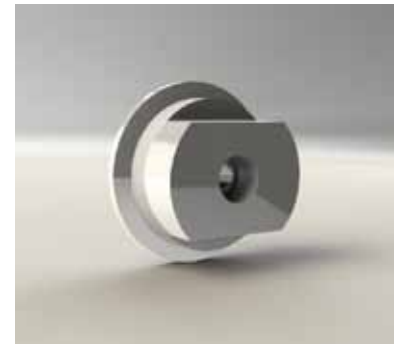
Part Number	Pneurop	a	d1	nPt
HT9-KNPT1618	NW16	40 (1.57)	30 (1.18)	1/8"
HT9-KNPT1614	NW16	50 (1.97)	30 (1.18)	1/4"
HT9-KNPT2518	NW25	40 (1.57)	40 (1.57)	1/8"
HT9-KNPT2514	NW25	50 (1.97)	40 (1.57)	1/4"
HT9-KNPT2512	NW25	75 (2.95)	40 (1.57)	1/2"
HT9-KNPT2534	NW25	75 (2.95)	40 (1.57)	3/4"
HT9-KNPT4014	NW40	50 (1.97)	55 (2.17)	1/4"
HT9-KNPT4012	NW40	75 (2.95)	55 (2.17)	1/2"
HT9-KNPT4034	NW40	75 (2.95)	55 (2.17)	3/4"
HT9-KNPT401	NW40	75 (2.95)	55 (2.17)	1"
HT9-KNPT5014	NW50	50 (1.97)	75 (2.95)	1/4"
HT9-KNPT5012	NW50	75 (2.95)	75 (2.95)	1/2"
HT9-KNPT5034	NW50	75 (2.95)	75 (2.95)	3/4"
HT9-KNPT501	NW50	75 (2.95)	75 (2.95)	1"



NW Female NPT Pipe Adapt or - 304l stainless steel

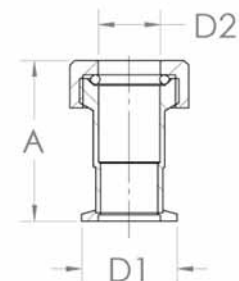
Part Number	Pneurop	a	AF	d1	d2	t hread
HT9-KNPT1618F	NW16	19.1(0.75)	15.8(0.62)	30(1.18)	20(0.79)	1/8"
HT9-KNPT1614F	NW16	19.1(0.75)	15.8(0.62)	30(1.18)	20(0.79)	1/4"
HT9-KNPT2518F	NW25	19.1(0.75)	22.4(0.88)	40(1.57)	28(1.10)	1/8"
HT9-KNPT2514F	NW25	19.1(0.75)	22.4(0.88)	40(1.57)	28(1.10)	1/4"
HT9-KNPT4018F	NW40	25.4(1.00)	31.8(1.25)	55(2.17)	45(1.77)	1/8"
HT9-KNPT4014F	NW40	25.4(1.00)	31.8(1.25)	55(2.17)	45(1.77)	1/4"
HT9-KNPT5018F	NW50	25.4(1.00)	44.5(1.75)	75(2.95)	57(2.24)	1/8"
HT9-KNPT5014F	NW50	25.4(1.00)	44.5(1.75)	75(2.95)	57(2.24)	1/4"

AF = Across Flats



NW Compression Fitting - 304l stainless steel

Part Number	Pneurop	a	d1	d2	tube o d
HT9-KF16TA6	NW16	32 (1.26)	30 (1.18)	6.7 (0.26)	6.4 (0.25)
HT9-KF16TA12	NW16	50 (1.97)	30 (1.18)	13.1 (0.52)	12.7 (0.50)
HT9-KF16TA19	NW16	56 (2.20)	30 (1.18)	19.4 (0.76)	19.1 (0.75)
HT9-KF25TA12	NW25	50 (1.97)	40 (1.57)	13.4 (0.53)	12.7 (0.50)
HT9-KF25TA19	NW25	58 (2.28)	40 (1.57)	19.4 (0.76)	19.1 (0.75)
HT9-KF25TA25	NW25	62 (2.44)	40 (1.57)	25.8 (1.02)	25.4 (1.00)
HT9-KF40TA12	NW40	58 (2.28)	55 (2.17)	13.4 (0.53)	12.7 (0.50)
HT9-KF40TA19	NW40	63.5 (2.50)	55 (2.17)	19.4 (0.76)	19.1 (0.75)
HT9-KF40TA25	NW40	71 (2.80)	55 (2.17)	25.8 (1.02)	25.4 (1.00)
HT9-KF40TA28	NW40	74 (2.91)	55 (2.17)	29 (1.14)	28.6 (1.13)
HT9-KF40TA38	NW40	84 (3.31)	55 (2.17)	38.4 (1.51)	38.1 (1.50)
HT9-KF50TA19	NW50	63.5 (2.50)	75 (2.95)	19.4 (0.76)	19.1 (0.75)
HT9-KF50TA25	NW50	71 (2.80)	75 (2.95)	25.8 (1.02)	25.4 (1.00)
HT9-KF50TA28	NW50	74 (2.91)	75 (2.95)	29 (1.14)	28.6 (1.13)
HT9-KF50TA38	NW50	87 (3.43)	75 (2.95)	38.4 (1.51)	38.1 (1.50)
HT9-KF50TA50	NW50	87 (3.43)	75 (2.95)	51.1 (2.01)	50.8 (2.00)



KF Liquid Feedthroughs - stainless steel

Part Number	Pneurop	tube termination	Fig.	d1	l1	l2	l3	l4
HT9-LFKF16PP	NW16	Plain	1	30 (1.18)	45 (1.77)	75 (2.95)	-	-
HT9-LFKF40PP	NW40	Plain	1	55 (2.17)	45 (1.77)	75 (2.95)	-	-
HT9-LFKF40SS	NW40	6mm fitting	1	55 (2.17)	73 (2.87)	103 (4.06)	-	-
HT9-LFKF402PP	NW40	Plain	2	55 (2.17)	75 (2.95)	45 (1.77)	45 (1.77)	75 (2.95)
HT9-LFKF402SS	NW40	6mm fitting	2	55 (2.17)	103 (4.06)	73 (2.87)	73 (2.87)	103 (4.06)



Figure 1

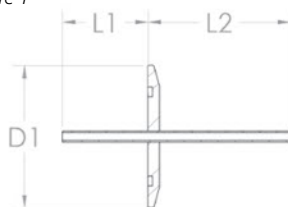
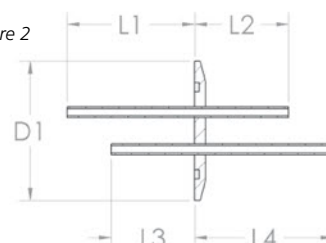


Figure 2



KF Liquid Nitrogen Feedthroughs - stainless steel

Part Number	Pneurop	tube termination	Fig.	d1	l1	l2	l3	l4
HT9-LNFKF402PP	NW40	Plain	1	55(2.17)	45(1.77)	75(2.95)	75(2.95)	45(1.77)
HT9-LNFKF402SS	NW40	6mm fitting	1	55(2.17)	73(2.87)	103(4.06)	103(4.06)	73(2.87)
HT9-LNFKF16PP	NW16	Plain (6mm - d2)	2	30(1.18)	45(1.77)	75(2.95)	-	-
HT9-LNFKF40PPL	NW40	Plain (6mm - d2)	2	55(2.17)	45(1.77)	75(2.95)	-	-

Other flange and fitting configuration available on request.



Figure 1

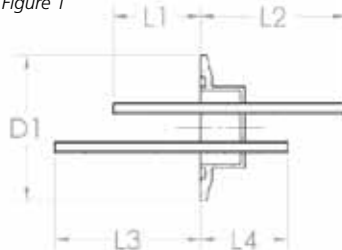
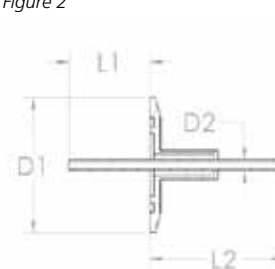


Figure 2



ISO COMPONENTS AND FABRICATIONS

The ISO range of flanges and fittings are manufactured from high quality 304L (1.4306)* stainless steel. There are four different configurations as shown. Figure 1 illustrates the double claw-clamp assembly which is the most commonly used configuration; Figure 2. Shows the wall clamp assembly. Where a claw-clamp flange is mounted to a rotatable bolt ring this assembly combines the claw-clamp flange and bolt flanges with nuts and bolts. The rotatable bolt ring and fixed bolted assembly is shown in figure 3. The rotatable bolt ring consists of a rotatable outer ring and a split retainer ring to hold the claw-clamp in place. Finally configuration 4 shows a bolted fixed flange and a tapped flange, or chamber wall for example all four configurations use an “o” ring seal held in place by a centering ring. This is effective down to 10^{-7} mbar with viton “o” ring assemblies bakeable to 200 °C (sustained 150 °C).

* 316L (1.4404) available on request.



Figure 1



Figure 2



Figure 3

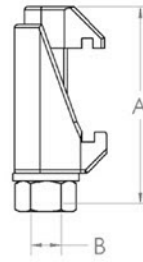


Figure 4



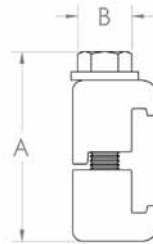
ISO Double Claw Clamps - steel plated

Part Number	Pneurop	a	b	Clamps req'd
HT9-ISO63/250DC	ISO 63-250	60 (2.36)	M10	4
HT9-ISO320/500DC	ISO 320-500	75 (2.95)	M12	8
HT9-ISO630DC	ISO 630	85 (3.35)	M12	12



ISO Double Claw Clamps - aluminium

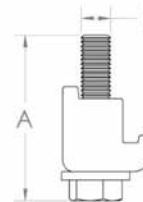
Part Number	Pneurop	a	b	Clamps req'd
HT9-ISO63/100DCA	ISO 63-100	50 (1.97)	M10	4
HT9-ISO160/250DCA	ISO 160-250	52 (2.05)	M12	8
HT9-ISO320/500DCA	ISO 320-500	68 (2.68)	M12	12



ISO Wall Clamps - steel

Part Number	Pneurop	a	b thread size	Clamps req'd
HT9-ISO63/100WC	ISO 63-100	35 (1.38)	M10	4
HT9-ISO160/250WC	ISO 160-250	40 (1.57)	M10	8
HT9-ISO320/500WC	ISO 320-500	50 (1.97)	M12	12

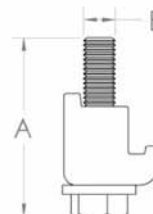
Used with blind tapped holes and centering ring.



ISO Wall Clamps - aluminium

Part Number	Pneurop	a	B Thread size	Clamps req'd
HT9-ISO63/100WCA	ISO 63-100	22.5 (0.89)	M10	4
HT9-ISO160/250WCA	ISO 160-250	23.0 (0.91)	M10	8
HT9-ISO320/500WCA	ISO 320-500	36.5 (1.44)	M12	12

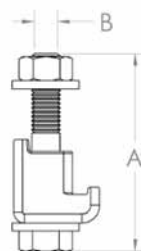
Used with blind tapped holes and centering ring.



ISO Wall Clamps, Nut & Washer - steel

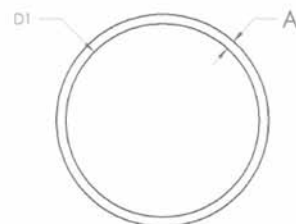
Part Number	Pneurop	a	Thread Size	Clamps req'd
HT9-ISO63/100WCN	ISO63-100	45 (1.77)	M8	4
HT9-ISO160/250WCN	ISO160-250	50 (1.97)	M10	8
HT9-ISO320/500WCN	ISO320-500	60 (2.36)	M12	12

Used with through bolt holes and centering ring
also available with aluminium clamps on request.



ISO O-Ring - viton /nitrile

Part Number viton	Pneurop	a	d1	Part number Nitrile
HT9-ISO63VR	ISO 63	5.3 (0.21)	76 (2.99)	HT9-ISO63NR
HT9-ISO80VR	ISO 80	5.3 (0.21)	88 (3.46)	HT9-ISO80NR
HT9-ISO100VR	ISO 100	5.3 (0.21)	107 (4.21)	HT9-ISO100NR
HT9-ISO160VR	ISO 160	5.3 (0.21)	158 (6.22)	HT9-ISO160NR
HT9-ISO200VR	ISO 200	5.3 (0.21)	221 (8.70)	HT9-ISO200NR
HT9-ISO250VR	ISO 250	5.3 (0.21)	253 (9.96)	HT9-ISO250NR
HT9-ISO320VR	ISO 320	7.0 (0.28)	330 (12.99)	HT9-ISO320NR
HT9-ISO400VR	ISO 400	7.0 (0.28)	405 (15.94)	HT9-ISO400NR
HT9-ISO500VR	ISO 500	7.0 (0.28)	507 (19.96)	HT9-ISO500NR
HT9-ISO630VR	ISO 630	7.0 (0.28)	659 (25.94)	HT9-ISO630NR

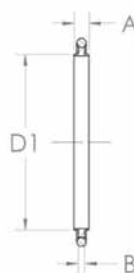


Viton o-ring

nitrile o-ring

ISO Centering Ring - 304l st steel Inner / viton

Part number	Pneurop	a	b	d1	o ring size
HT9-ISO63SVCR	Iso 63	8 (0.31)	3.9 (0.15)	70 (2.76)	5.3 (0.21)
HT9-ISO80SVCR	Iso 80	8 (0.31)	3.9 (0.15)	83 (3.27)	5.3 (0.21)
HT9-ISO100SVCR	Iso 100	8 (0.31)	3.9 (0.15)	102 (4.02)	5.3 (0.21)
HT9-ISO160SVCR	Iso 160	8 (0.31)	3.9 (0.15)	153 (6.02)	5.3 (0.21)
HT9-ISO200SVCR	Iso 200	8 (0.31)	3.9 (0.15)	213 (8.39)	5.3 (0.21)
HT9-ISO250SVCR	Iso 250	8 (0.31)	3.9 (0.15)	261 (10.28)	5.3 (0.21)
HT9-ISO320SVCR	Iso 320	14 (0.55)	5.6 (0.22)	318 (12.52)	7.0 (0.28)
HT9-ISO400SVCR	Iso 400	14 (0.55)	5.6 (0.22)	400 (15.75)	7.0 (0.28)
HT9-ISO500SVCR	Iso 500	14 (0.55)	5.6 (0.22)	501 (19.72)	7.0 (0.28)
HT9-ISO630SVCR	Iso 630	14 (0.55)	5.6 (0.22)	651 (25.63)	7.0 (0.28)



ISO Centering Ring - 304l st steel Inner / nitrile

Part number	Pneurop	a	b	d1	o ring size
HT9-ISO63SNC R	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	5.3 (0.21)
HT9-ISO80SNC R	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	5.3 (0.21)
HT9-ISO100SNC R	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	5.3 (0.21)
HT9-ISO160SNC R	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	5.3 (0.21)
HT9-ISO200SNC R	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	5.3 (0.21)
HT9-ISO250SNC R	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	5.3 (0.21)
HT9-ISO320SNC R	ISO 320	14 (0.55)	5.6 (0.22)	318 (12.52)	7.0 (0.28)
HT9-ISO400SNC R	ISO 400	14 (0.55)	5.6 (0.22)	400 (15.75)	7.0 (0.28)
HT9-ISO500SNC R	ISO 500	14 (0.55)	5.6 (0.22)	501 (19.72)	7.0 (0.28)
HT9-ISO630SNC R	ISO 630	14 (0.55)	5.6 (0.22)	651 (25.63)	7.0 (0.28)



ISO Trapped Centering Ring - 304l st steel Inner / viton

Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63SVC R T	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	94 (3.7)	5.3 (0.21)
HT9-ISO80SVC R T	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	109 (4.29)	5.3 (0.21)
HT9-ISO100SVC R T	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	128 (5.04)	5.3 (0.21)
HT9-ISO160SVC R T	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	179 (7.05)	5.3 (0.21)
HT9-ISO200SVC R T	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	239 (9.41)	5.3 (0.21)
HT9-ISO250SVC R T	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	287 (11.3)	5.3 (0.21)
HT9-ISO320SVC R T	ISO 320	14 (0.55)	5.6 (0.22)	318 (12.52)	358 (14.09)	7.0 (0.28)
HT9-ISO400SVC R T	ISO 400	14 (0.55)	5.6 (0.22)	400 (15.75)	440 (17.32)	7.0 (0.28)
HT9-ISO500SVC R T	ISO 500	14 (0.55)	5.6 (0.22)	501 (19.72)	541 (21.3)	7.0 (0.28)
HT9-ISO630SVC R T	ISO 630	14 (0.55)	5.6 (0.22)	651 (25.63)	691 (27.2)	7.0 (0.28)



Inner centering ring stainless steel, outer aluminium

ISO Trapped Centering Ring - 304l stainless steel / nitrile

Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63SNCRT	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	94 (3.7)	5.3 (0.21)
HT9-ISO80SNCRT	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	109 (4.29)	5.3 (0.21)
HT9-ISO100SNCRT	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	128 (5.04)	5.3 (0.21)
HT9-ISO160SNCRT	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	179 (7.05)	5.3 (0.21)
HT9-ISO200SNCRT	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	239 (9.41)	5.3 (0.21)
HT9-ISO250SNCRT	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	287 (11.3)	5.3 (0.21)
HT9-ISO320SNCRT	ISO 320	14 (0.55)	5.6 (0.22)	318 (12.52)	358 (14.09)	7.0 (0.28)
HT9-ISO400SNCRT	ISO 400	14 (0.55)	5.6 (0.22)	400 (15.75)	440 (17.32)	7.0 (0.28)
HT9-ISO500SNCRT	ISO 500	14 (0.55)	5.6 (0.22)	501 (19.72)	541 (21.3)	7.0 (0.28)
HT9-ISO630SNCRT	ISO 630	14 (0.55)	5.6 (0.22)	651 (25.63)	691 (27.2)	7.0 (0.28)



Inner centering ring stainless steel, outer aluminium

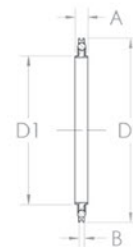
ISO Trapped Centering Ring - aluminium / viton

Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63AVCRT	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	94 (3.7)	5.3 (0.21)
HT9-ISO80AVCRT	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	109 (4.29)	5.3 (0.21)
HT9-ISO100AVCRT	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	128 (5.04)	5.3 (0.21)
HT9-ISO160AVCRT	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	179 (7.05)	5.3 (0.21)
HT9-ISO200AVCRT	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	239 (9.41)	5.3 (0.21)
HT9-ISO250AVCRT	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	287 (11.3)	5.3 (0.21)
HT9-ISO320AVCRT	ISO 320	14 (0.55)	5.6 (0.22)	318 (12.52)	358 (14.09)	7.0 (0.28)
HT9-ISO400AVCRT	ISO 400	14 (0.55)	5.6 (0.22)	400 (15.75)	440 (17.32)	7.0 (0.28)
HT9-ISO500AVCRT	ISO 500	14 (0.55)	5.6 (0.22)	501 (19.72)	541 (21.3)	7.0 (0.28)
HT9-ISO630AVCRT	ISO 630	14 (0.55)	5.6 (0.22)	651 (25.63)	691 (27.2)	7.0 (0.28)



ISO Trapped Centering Ring - aluminium / nitrile

Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63ANCRT	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	94 (3.7)	5.3 (0.21)
HT9-ISO80ANCRT	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	109 (4.29)	5.3 (0.21)
HT9-ISO100ANCRT	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	128 (5.04)	5.3 (0.21)
HT9-ISO160ANCRT	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	179 (7.05)	5.3 (0.21)
HT9-ISO200ANCRT	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	239 (9.41)	5.3 (0.21)
HT9-ISO250ANCRT	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	287 (11.3)	5.3 (0.21)
HT9-ISO320ANCRT	ISO 320	14 (0.55)	5.6 (0.22)	318 (12.52)	358 (14.09)	7.0 (0.28)
HT9-ISO400ANCRT	ISO 400	14 (0.55)	5.6 (0.22)	400 (15.75)	440 (17.32)	7.0 (0.28)
HT9-ISO500ANCRT	ISO 500	14 (0.55)	5.6 (0.22)	501 (19.72)	541 (21.3)	7.0 (0.28)
HT9-ISO630ANCRT	ISO 630	14 (0.55)	5.6 (0.22)	651 (25.63)	691 (27.2)	7.0 (0.28)



ISO Mesh Centering Ring - stainless steel / viton

Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63MCRV	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	86.6 (3.41)	5.3 (0.21)
HT9-ISO80MCRV	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	98.6 (3.88)	5.3 (0.21)
HT9-ISO100MCRV	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	117.6 (4.63)	5.3 (0.21)
HT9-ISO160MCRV	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	168.6 (6.64)	5.3 (0.21)
HT9-ISO200MCRV	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	231.6 (9.12)	5.3 (0.21)
HT9-ISO250MCRV	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	263.6 (10.38)	5.3 (0.21)

Stainless steel centering ring with mesh screen and replacement viton o-ring



ISO Mesh Centering Ring - Stainless / nitrile

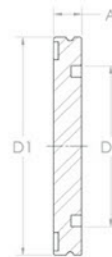
Part number	Pneurop	a	b	d1	d2	o-ring size
HT9-ISO63MCRN	ISO 63	8 (0.31)	3.9 (0.15)	70 (2.76)	86.6 (3.41)	5.3 (0.21)
HT9-ISO80MCRN	ISO 80	8 (0.31)	3.9 (0.15)	83 (3.27)	98.6 (3.88)	5.3 (0.21)
HT9-ISO100MCRN	ISO 100	8 (0.31)	3.9 (0.15)	102 (4.02)	117.6 (4.63)	5.3 (0.21)
HT9-ISO160MCRN	ISO 160	8 (0.31)	3.9 (0.15)	153 (6.02)	168.6 (6.64)	5.3 (0.21)
HT9-ISO200MCRN	ISO 200	8 (0.31)	3.9 (0.15)	213 (8.39)	231.6 (9.12)	5.3 (0.21)
HT9-ISO250MCRN	ISO 250	8 (0.31)	3.9 (0.15)	261 (10.28)	263.6 (10.38)	5.3 (0.21)

Stainless steel centering ring with mesh screen and replacement viton o-ring



ISO Blank Claw Clamp Flange - 304l stainless steel

Part number	Pneurop	a	d1	d2
HT9-ISO63BK	ISO 63	12 (0.47)	95 (3.74)	70 (2.76)
HT9-ISO80BK	ISO 80	12 (0.47)	110 (4.33)	83 (3.27)
HT9-ISO100BK	ISO 100	12 (0.47)	130 (5.12)	102 (4.02)
HT9-ISO160BK	ISO 160	12 (0.47)	180 (7.09)	153 (6.02)
HT9-ISO200BK	ISO 200	12 (0.47)	240 (9.45)	213 (8.39)
HT9-ISO250BK	ISO 250	12 (0.47)	290 (11.42)	261 (10.28)
HT9-ISO320BK	ISO 320	17 (0.67)	370 (14.57)	318 (12.52)
HT9-ISO400BK	ISO 400	17 (0.67)	450 (17.72)	400 (15.75)
HT9-ISO500BK	ISO 500	17 (0.67)	550 (21.65)	501 (19.72)
HT9-ISO630BK	ISO 630	17 (0.67)	690 (27.17)	651 (25.63)

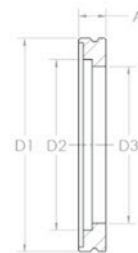


ISO Bored Claw Clamp Flange - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3
HT9-ISO63B76	ISO 63	12 (0.47)	95 (3.74)	76 (2.99)	70 (2.76)
HT9-ISO80B89	ISO 80	12 (0.47)	110 (4.33)	89 (3.50)	83 (3.27)
HT9-ISO100B108	ISO 100	12 (0.47)	130 (5.12)	108 (4.25)	102 (4.02)
HT9-ISO160B159	ISO 160	12 (0.47)	180 (7.09)	159 (6.26)	153 (6.02)
HT9-ISO200B219	ISO 200	12 (0.47)	240 (9.45)	219 (8.62)	213 (8.39)
HT9-ISO250B267	ISO 250	12 (0.47)	290 (11.42)	267 (10.51)	261 (10.28)
HT9-ISO320B324	ISO 320	17 (0.67)	370 (14.57)	324 (12.76)	318 (12.52)
HT9-ISO400B406	ISO 400	17 (0.67)	450 (17.72)	406 (15.98)	400 (15.75)
HT9-ISO500B508	ISO 500	17 (0.67)	550 (21.65)	508 (20.00)	501 (19.72)
HT9-ISO630B660	ISO 630	17 (0.67)	690 (27.17)	660 (25.98)	651 (25.63)

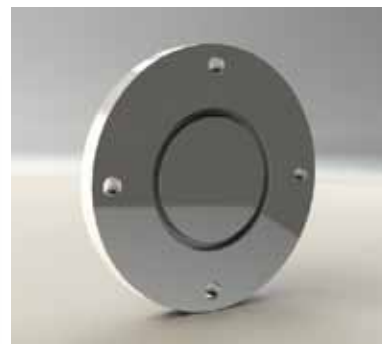
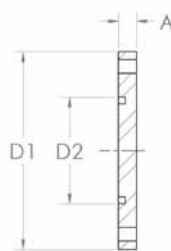
Imperial tube and special bores available on request.

HT9-ISO320B324 has a counter bore from vacuum side, d3 = C-ring dimension



ISO Blank Fixed Bolted Flange - 304l stainless steel

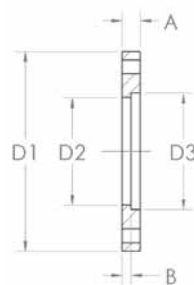
Part number	Pneurop	a	d1	d2
HT9-ISO63FBK	ISO 63	12 (0.47)	130 (5.12)	70 (2.76)
HT9-ISO80FBK	ISO 80	12 (0.47)	145 (5.71)	83 (3.27)
HT9-ISO100FBK	ISO 100	12 (0.47)	165 (6.50)	102 (4.02)
HT9-ISO160FBK	ISO 160	12 (0.47)	225 (8.86)	153 (6.02)
HT9-ISO200FBK	ISO 200	12 (0.47)	285 (11.22)	213 (8.39)
HT9-ISO250FBK	ISO 250	12 (0.47)	335 (13.19)	261 (10.28)
HT9-ISO320FBK	ISO 320	17 (0.67)	425 (16.73)	318 (12.52)
HT9-ISO400FBK	ISO 400	17 (0.67)	510 (20.08)	400 (15.75)



ISO Bored Fixed Bolted Flange - 304l stainless steel

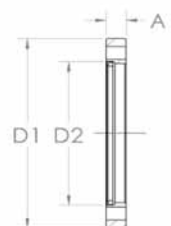
Part number	Pneurop	a	b	d1	d2	d3
HT9-ISO63F76	ISO 63	12 (0.47)	70 (2.76)	130 (5.12)	70 (2.76)	76 (2.99)
HT9-ISO80F89	ISO 80	12 (0.47)	83 (3.27)	145 (5.71)	83 (3.27)	89 (3.50)
HT9-ISO100F108	ISO 100	12 (0.47)	102 (4.02)	165 (6.50)	102 (4.02)	108 (4.25)
HT9-ISO160F159	ISO 160	12 (0.47)	153 (6.02)	225 (8.86)	153 (6.02)	159 (6.26)
HT9-ISO200F219	ISO 200	12 (0.47)	213 (8.39)	285 (11.22)	213 (8.39)	219 (8.62)
HT9-ISO250F267	ISO 250	12 (0.47)	261 (10.28)	335 (13.19)	261 (10.28)	267 (10.51)
HT9-ISO320F324	ISO 320	17 (0.67)	318 (12.52)	425 (16.73)	318 (12.52)	324 (12.76)
HT9-ISO400F406	ISO 400	17 (0.67)	400 (15.75)	510 (20.08)	400 (15.75)	406 (15.98)

Imperial tube and special bores available on request d3 = tube diameter



ISO Rotatable Bolt Ring - steel

Part number	Pneurop	a	d1	d2
HT9-ISO63R	ISO 63	12 (0.47)	130 (5.12)	98.5 (3.88)
HT9-ISO100R	ISO 80	12 (0.47)	165 (6.50)	133.5 (5.26)
HT9-ISO160R	ISO 100	16 (0.63)	225 (8.86)	185.7 (7.31)
HT9-ISO200R	ISO 160	16 (0.63)	285 (11.22)	245.7 (9.67)
HT9-ISO250R	ISO 200	16 (0.63)	335 (13.19)	295.7 (11.64)



ISO Retaining Ring - steel

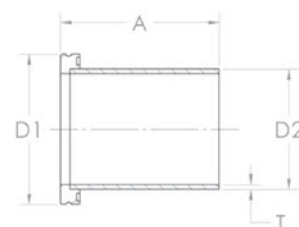
Part number	Pneuop	a
HT9-ISO63RR	ISO 63	3 (0.12)
HT9-ISO100RR	ISO 80	3 (0.12)
HT9-ISO160RR	ISO 100	5 (0.20)
HT9-ISO200RR	ISO 160	5 (0.20)
HT9-ISO250RR	ISO 200	5 (0.20)
HT9-ISO320RR	ISO 320	5 (0.20)
HT9-ISO400RR	ISO 400	8 (0.31)



ISO Tubulation - 304l stainless steel

Part number	Pneuop	a	d1	d2	t
HT9-ISO63TU	ISO 63	100 (3.94)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO80TU	ISO 80	100 (3.94)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO100TU	ISO 100	100 (3.94)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO160TU	ISO 160	100 (3.94)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO200TU	ISO 200	100 (3.94)	240 (9.45)	219 (8.62)	3.0 (0.12)
HT9-ISO250TU	ISO 250	100 (3.94)	290 (11.42)	267 (10.51)	3.0 (0.12)
HT9-ISO320TU	ISO 320	100 (3.94)	370 (14.57)	324 (12.76)	3.0 (0.12)
HT9-ISO400TU	ISO 400	100 (3.94)	450 (17.72)	406 (15.98)	3.0 (0.12)
HT9-ISO500TU	ISO 500	100 (3.94)	550 (21.65)	508 (20.00)	4.0 (0.16)
HT9-ISO630TU	ISO 630	100 (3.94)	690 (27.17)	660 (25.98)	5.0 (0.20)

Special lengths available on request.



ISO Fixed Bolted Tubulation - 304l stainless steel

Part number	Pneuop	a	d1	d2	t
HT9-ISO63FTU	ISO 63	100 (3.94)	130 (5.12)	76 (2.99)	3.0 (0.12)
HT9-ISO80FTU	ISO 80	100 (3.94)	145 (5.71)	89 (3.50)	5.5 (0.22)
HT9-ISO100FTU	ISO 100	100 (3.94)	165 (6.50)	108 (4.25)	3.0 (0.12)
HT9-ISO160FTU	ISO 160	100 (3.94)	225 (8.86)	159 (6.26)	3.0 (0.12)
HT9-ISO200FTU	ISO 200	100 (3.94)	285 (11.22)	219 (8.62)	3.0 (0.12)
HT9-ISO250FTU	ISO 250	100 (3.94)	335 (13.19)	267 (10.51)	3.0 (0.12)
HT9-ISO320FTU	ISO 320	100 (3.94)	425 (16.73)	324 (12.76)	3.0 (0.12)
HT9-ISO400FTU	ISO 400	100 (3.94)	510 (20.08)	406 (15.98)	3.0 (0.12)
HT9-ISO500FTU	ISO 500	100 (3.94)	610 (24.02)	508 (20.00)	4.0 (0.16)
HT9-ISO630FTU	ISO 630	100 (3.94)	750 (29.53)	660 (25.98)	5.0 (0.20)

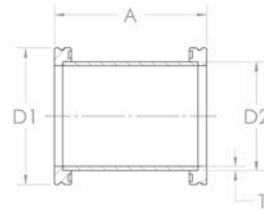
Special lengths available on request



ISO Straight Connector - 304l stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-ISO63SC	ISO 63	100 (3.94)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO80SC	ISO 80	100 (3.94)	110 (4.33)	89 (3.50)	3 (0.12)
HT9-ISO100SC	ISO 100	100 (3.94)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO160SC	ISO 160	100 (3.94)	180 (7.09)	159 (6.26)	3 (0.12)
HT9-ISO200SC	ISO 200	100 (3.94)	240 (9.45)	219 (8.62)	3 (0.12)
HT9-ISO250SC	ISO 250	100 (3.94)	290 (11.42)	267 (10.51)	3 (0.12)

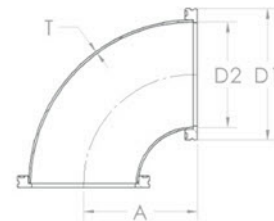
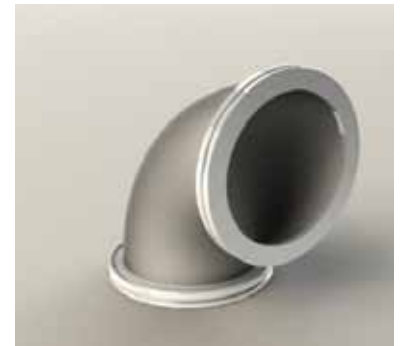
Special lengths available on request



ISO 90 Degree Elbow - 304l stainless steel

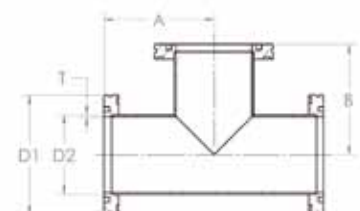
Part number	Pneurop	a	d1	d2	t	elbow
HT9-ISO63E	ISO 63	88 (3.46)	95 (3.74)	70 (2.76)	2 (0.08)	r
HT9-ISO80E	ISO 80	98 (3.86)	110 (4.33)	70 (2.76)	2 (0.08)	r
HT9-ISO100E	ISO 100	108 (4.25)	130 (5.12)	108 (4.25)	2 (0.08)	r
HT9-ISO160E	ISO 160	138 (5.43)	180 (7.09)	159 (6.26)	3 (0.12)	m
HT9-ISO200E	ISO 200	178 (7.01)	240 (9.45)	219 (8.62)	3 (0.12)	m
HT9-ISO250E	ISO 250	208 (8.19)	290 (11.42)	267 (10.51)	3 (0.12)	m

r - radius elbow
m - mitred elbow



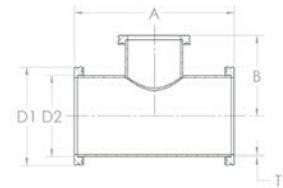
ISO Tee - 304l Stainless Steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63TE	ISO 63	88 (3.46)	88 (3.46)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO80TE	ISO 80	98 (3.86)	98 (3.86)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO100TE	ISO 100	108 (4.25)	108 (4.25)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO160TE	ISO 160	138 (5.43)	138 (5.43)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO200TE	ISO 200	178 (7.01)	178 (7.01)	240 (9.45)	219 (8.62)	3.0 (0.12)
HT9-ISO250TE	ISO 250	208 (8.19)	208 (8.19)	290 (11.42)	267 (10.51)	3.0 (0.12)



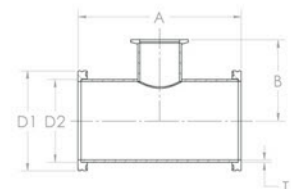
ISO Unequal Tee - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO100TE63	ISO 100/63	216 (8.50)	107 (4.21)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO160TE63	ISO 160/63	276 (10.87)	130 (5.12)	180 (7.09)	159 (6.26)	3 (0.12)
HT9-ISO160TE100	ISO 160/100	276 (10.87)	131 (5.16)	180 (7.09)	159 (6.26)	3 (0.12)
HT9-ISO200TE63	ISO 200/63	276 (10.87)	160 (6.30)	240 (9.45)	219 (8.62)	3 (0.12)
HT9-ISO200TE100	ISO 200/100	276 (10.87)	161 (6.34)	240 (9.45)	219 (8.62)	3 (0.12)
HT9-ISO200TE160	ISO 200/160	276 (10.87)	168 (6.61)	240 (9.45)	219 (8.62)	3 (0.12)



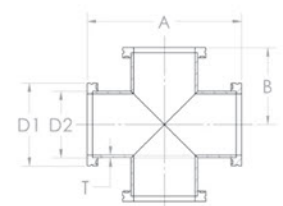
ISO - KF Unequal Tee - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63TE16	ISO 63/NW16	204 (8.03)	58 (2.28)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO63TE25	ISO 63/NW25	204 (8.03)	79 (3.11)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO63TE40	ISO 63/NW40	204 (8.03)	76 (2.99)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO100TE25	ISO 100/NW25	260 (10.24)	98 (3.86)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO100TE40	ISO 100/NW40	260 (10.24)	95 (3.74)	130 (5.12)	108 (4.25)	3 (0.12)



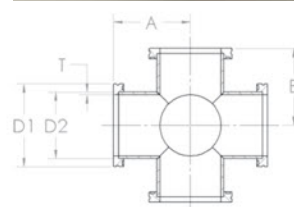
ISO 4-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63X	ISO 63	176 (6.93)	88 (3.46)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO80X	ISO 80	196 (7.72)	98 (3.86)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO100X	ISO 100	216 (8.50)	108 (4.25)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO160X	ISO 160	276 (10.87)	138 (5.43)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO200X	ISO 200	356 (14.02)	178 (7.01)	240 (9.45)	219 (8.62)	3.0 (0.12)
HT9-ISO250X	ISO 250	416 (16.38)	208 (8.19)	290 (11.42)	267 (10.51)	3.0 (0.12)



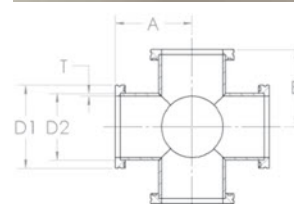
ISO 5-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63FWX	ISO 63	88 (3.46)	88 (3.46)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO80FWX	ISO 80	98 (3.86)	98 (3.86)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO100FWX	ISO 100	108 (4.25)	108 (4.25)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO160FWX	ISO 160	138 (5.43)	138 (5.43)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO200FWX	ISO 200	178 (7.01)	178 (7.01)	240 (9.45)	219 (8.62)	3.0 (0.12)
HT9-ISO250FWX	ISO 250	208 (8.19)	208 (8.19)	290 (11.42)	267 (10.51)	3.0 (0.12)



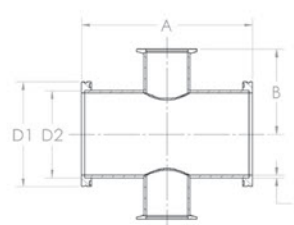
ISO 6-Way Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63XX	ISO 63	88 (3.46)	88 (3.46)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO80XX	ISO 80	98 (3.86)	98 (3.86)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO100XX	ISO 100	108 (4.25)	108 (4.25)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO160XX	ISO 160	138 (5.43)	138 (5.43)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO200XX	ISO 200	178 (7.01)	178 (7.01)	240 (9.45)	219 (8.62)	3.0 (0.12)
HT9-ISO250XX	ISO 250	208 (8.19)	208 (8.19)	290 (11.42)	267 (10.51)	3.0 (0.12)



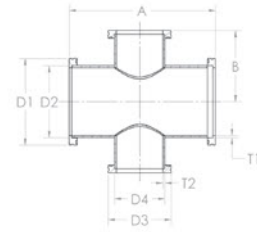
ISO - KF Reducing Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	t
HT9-ISO63X16	ISO 63/NW16	204 (8.03)	58 (2.28)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO63X25	ISO 63/NW25	204 (8.03)	79 (3.11)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO63X40	ISO 63/NW40	204 (8.03)	76 (2.99)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO63X50	ISO 63/NW50	204 (8.03)	92 (3.62)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-ISO100X25	ISO 100/NW25	260 (10.24)	98 (3.86)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO100X40	ISO 100/NW40	260 (10.24)	95 (3.74)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO100X50	ISO 100/NW50	260 (10.24)	111 (4.37)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-ISO160X40	ISO 160/NW40	320 (12.60)	121 (4.76)	130 (5.12)	159 (6.26)	3 (0.12)
HT9-ISO160X50	ISO 160/NW50	320 (12.60)	136 (5.35)	130 (5.12)	159 (6.26)	3 (0.12)



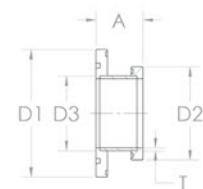
ISO Reducing Cross - 304l stainless steel

Part number	Pneurop	a	b	d1	d2	d3	d4	t1	t2
HT9-ISO100X63	ISO 100/63	216 (8.5)	107 (4.21)	130 (5.12)	108 (4.25)	95 (3.74)	76 (2.99)	3 (0.12)	3 (0.12)
HT9-ISO160X63	ISO 160/63	276 (10.87)	130 (5.12)	180 (7.09)	159 (6.26)	95 (3.74)	76 (2.99)	3 (0.12)	3 (0.12)
HT9-ISO160X100	ISO 160/100	276 (10.87)	131 (5.16)	180 (7.09)	159 (6.26)	130 (5.12)	108 (4.25)	3 (0.12)	3 (0.12)
HT9-ISO200X160	ISO 200/160	256 (10.08)	168 (6.61)	240 (9.45)	219 (8.62)	180 (7.09)	159 (6.26)	3 (0.12)	3 (0.12)



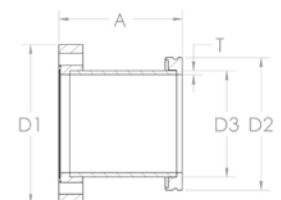
ISO Reducing Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-ISO80R 63	ISO 63/80	50 (1.97)	110 (4.33)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO100R 63	ISO 63/100	50 (1.97)	130 (5.12)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO160R63	ISO 63/160	50 (1.97)	180 (7.09)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO200R63	ISO 63/200	90 (3.54)	240 (9.45)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISO100R80	ISO 80/100	50 (1.97)	130 (5.12)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO160R80	ISO 80/160	50 (1.97)	180 (7.09)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISO160R100	ISO 100/160	50 (1.97)	180 (7.09)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO200R100	ISO 100/200	90 (3.54)	240 (9.45)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISO200R160	ISO 160/200	90 (3.54)	240 (9.45)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO250R160	ISO 160/250	90 (3.54)	290 (11.42)	180 (7.09)	159 (6.26)	3.0 (0.12)
HT9-ISO250R200	ISO 200/250	90 (3.54)	290 (11.42)	240 (9.45)	219 (8.62)	3.0 (0.12)



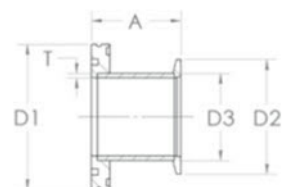
ISO to CF Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-SA6363	ISO 63/CF63	90 (3.54)	114 (4.49)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-SA1063	ISO 63/CF100	90 (3.54)	152 (5.98)	95 (3.74)	76 (2.99)	3 (0.12)
HT9-SA1010	ISO 100/CF100	90 (3.54)	152 (5.98)	130 (5.12)	108 (4.25)	3 (0.12)
HT9-SA1016	ISO 160/CF100	90 (3.54)	152 (5.98)	180 (7.09)	159 (6.26)	3 (0.12)
HT9-SA1510	ISO 100/CF150	90 (3.54)	203 (7.99)	130 (5.12)	105 (4.13)	3 (0.12)
HT9-SA1516	ISO 160/CF150	90 (3.54)	203 (7.99)	180 (7.09)	159 (6.26)	3 (0.12)



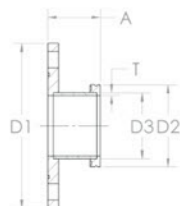
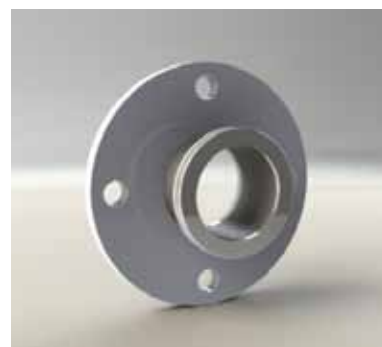
ISO to NW Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-SK6325	ISO 63/NW25	50 (1.97)	95 (3.74)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-SK6340	ISO 63/NW40	50 (1.97)	95 (3.74)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-SK6350	ISO 63/NW50	50 (1.97)	95 (3.74)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-SK1025	ISO 100/NW25	50 (1.97)	130 (5.12)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-SK1040	ISO 100/NW40	50 (1.97)	130 (5.12)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-SK1050	ISO 100/NW50	50 (1.97)	130 (5.12)	75 (2.95)	57.0 (2.24)	3 (0.12)



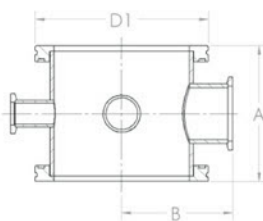
ISO to ASA Adaptor - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-ISA632G	ISO 63/ASA 2	106 (4.17)	152 (5.98)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISA802G	ISO 80/ASA 2	106 (4.17)	152 (5.98)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISA1002G	ISO 100/ASA 2	106 (4.17)	152 (5.98)	130 (5.12)	108 (4.25)	3.0 (0.12)
HT9-ISA633G	ISO 63/ASA 3	106 (4.17)	190 (7.48)	95 (3.74)	76 (2.99)	3.0 (0.12)
HT9-ISA803G	ISO 80/ASA 3	106 (4.17)	190 (7.48)	110 (4.33)	89 (3.50)	5.5 (0.22)
HT9-ISA1003G	ISO 100/ASA 3	106 (4.17)	190 (7.48)	130 (5.12)	108 (4.25)	3.0 (0.12)



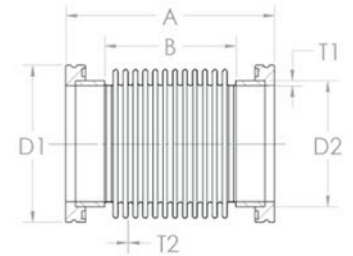
ISO Straight Connector With KF Lateral Ports - 304l stainless steel

Part number	Pneurop	a	b (NW16)	b (NW40)	d1
HT9-ISO63SC4016K	ISO 63/NW40/16	88 (3.46)	60 (2.36)	80 (3.15)	95 (3.74)
HT9-ISO100SC4016K	ISO 100/NW40/16	108 (4.25)	75 (2.95)	75 (2.95)	130 (5.12)
HT9-ISO160SC4016K	ISO 100/NW40/16	138 (5.43)	100 (3.94)	100 (3.94)	180 (7.09)



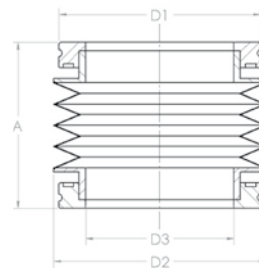
ISO Flexible Bellows - stainless steel

Part number	Pneuop	a	b	d1	d2	t1	t2
HT9-ISO63BEL	ISO 63	127 (5.00)	70 (2.76)	95 (3.74)	76 (2.99)	3 (0.12)	0.2 (0.01)
HT9-ISO80BEL	ISO 80	127 (5.00)	70 (2.76)	110 (4.33)	89 (3.50)	3 (0.12)	0.2 (0.01)
HT9-ISO100BEL	ISO 100	127 (5.00)	60 (2.36)	130 (5.12)	108 (4.25)	3 (0.12)	0.4 (0.02)
HT9-ISO160BEL	ISO 160	220 (8.66)	112 (4.41)	180 (7.09)	159 (6.26)	3 (0.12)	0.4 (0.02)
HT9-ISO200BEL	ISO 200	220 (8.66)	170 (6.69)	240 (9.45)	219 (8.62)	3 (0.12)	0.6 (0.02)



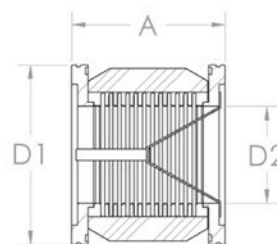
ISO Edge Welded Bellows - stainless steel

Part number	Pneuop	Convolutions	stroke	a	d1	d2	d3	bellows id
HT9-ISO63EWB	ISO 63	11	30.8 (1.21)	100 (3.94)	95 (3.74)	100 (3.94)	70 (2.76)	75 (2.95)
HT9-ISO100EWB	ISO 100	11	33.0 (1.30)	115 (4.53)	130 (5.12)	132 (5.2)	104 (4.09)	102 (4.02)
HT9-ISO160EWB	ISO 160	13	44.2 (1.74)	140 (5.51)	180 (7.09)	185 (7.28)	153 (6.02)	150 (5.91)



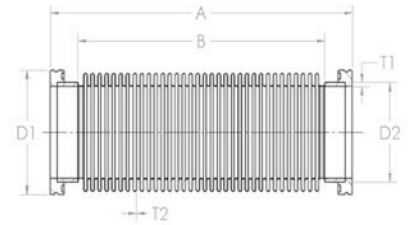
ISO Vibration Isolator - stainless steel

Part number	Pneuop	a	d1	d2
HT9-ISO63VBD	ISO 63	85 (3.35)	95 (3.74)	52 (2.05)
HT9-ISO100VBD	ISO 100	85 (3.35)	130 (5.12)	76 (2.99)
HT9-ISO160VBD	ISO 160	85 (3.35)	180 (7.09)	95 (3.74)



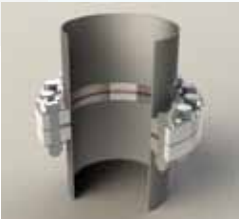
ISO Flexible Hose - stainless steel

Part number	Pneurop	a	b	d1	d2	t 1	t 2
HT9-ISO63FX25	ISO 63	250 (9.84)	172 (6.77)	95 (3.74)	76 (2.99)	3 (0.12)	0.28 (0.011)
HT9-ISO63FX50	ISO 63	500 (19.69)	422 (16.61)	95 (3.74)	76 (2.99)	3 (0.12)	0.28 (0.011)
HT9-ISO63FX75	ISO 63	750 (29.53)	672 (26.46)	95 (3.74)	76 (2.99)	3 (0.12)	0.28 (0.011)
HT9-ISO63FX100	ISO 63	1000 (39.37)	922 (36.30)	95 (3.74)	76 (2.99)	3 (0.12)	0.28 (0.011)
HT9-ISO80FX25	ISO 80	250 (9.84)	166 (6.54)	110 (4.33)	89 (3.50)	3 (0.12)	0.28 (0.011)
HT9-ISO80FX50	ISO 80	500 (19.69)	416 (16.38)	110 (4.33)	89 (3.50)	3 (0.12)	0.28 (0.011)
HT9-ISO80FX75	ISO 80	750 (29.53)	666 (26.22)	110 (4.33)	89 (3.50)	3 (0.12)	0.28 (0.011)
HT9-ISO80FX100	ISO 80	1000 (39.37)	916 (36.06)	110 (4.33)	89 (3.50)	3 (0.12)	0.28 (0.011)
HT9-ISO100FX25	ISO 100	250 (9.84)	181 (7.13)	130 (5.12)	108 (4.25)	3 (0.12)	0.28 (0.011)
HT9-ISO100FX50	ISO 100	500 (19.69)	431 (16.97)	130 (5.12)	108 (4.25)	3 (0.12)	0.28 (0.011)
HT9-ISO100FX75	ISO 100	750 (29.53)	681 (26.81)	130 (5.12)	108 (4.25)	3 (0.12)	0.28 (0.011)
HT9-ISO100FX100	ISO 100	1000 (39.37)	931 (36.65)	130 (5.12)	108 (4.25)	3 (0.12)	0.28 (0.011)
HT9-ISO160FX25	ISO 160	250 (9.84)	170 (6.69)	180 (7.09)	159 (6.26)	3 (0.12)	0.38 (0.015)
HT9-ISO160FX50	ISO 160	500 (19.69)	420 (16.54)	180 (7.09)	159 (6.26)	3 (0.12)	0.38 (0.015)
HT9-ISO160FX75	ISO 160	750 (29.53)	670 (26.38)	180 (7.09)	159 (6.26)	3 (0.12)	0.38 (0.015)
HT9-ISO160FX100	ISO 160	1000 (39.37)	920 (36.22)	180 (7.09)	159 (6.26)	3 (0.12)	0.38 (0.015)



CON-FLAT COMPONENTS AND FABRICATIONS

All CF flanges are manufactured from specially selected, high quality stainless steel - 304L (1.4306) or the higher specification 316L (1.4429) these materials being the accepted standards throughout the UHV vacuum industry both stainless steels are low carbon varieties designed to avoid inter-granular corrosion after welding 316L has the additional advantages of a lower magnetic permeability, harder knife edge, and high temperature H₂ degassing at up to 950°C full traceability is available on all materials used. Protective mouldings and suitable packing ensures that the flanges reach the customer in perfect condition for use on UHV equipment the product range includes blank, bored and rotatable flanges in all of the Internationally approved sizes, other sizes and special flanges are available to order.



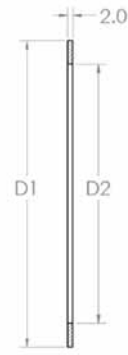
The CF series flange utilise the well proven captured copper gasket sealing principle which is now almost universally used in the UHV industry the seal - an OFHC copper gasket - is held between the knife edges of a pair of CF flanges on tightening the retaining bolts, the knife edges cut into the gasket and force the copper both axially as well as radially outwards to the flange the material is thus enclosed and cannot flow, even at high bakeout temperatures this sealing method has a maximum bakeout temperature of 450°C and is suitable for vacuum applications to 10^{-12} mbar.



CF Copper Gaskets - OFHC Copper

Part number	Pneurop	For flange od	d1	d2	Pack size
HT9-CF16CU	NW16	34 (1.33)	21 (0.83)	16 (0.63)	10
HT9-CF35CU	NW35	70 (2.75)	48 (1.89)	37 (1.46)	10
HT9-CF63CU	NW63	114 (4.50)	82 (3.23)	63 (2.48)	10
HT9-CF100CU	NW100	152 (6.00)	120 (4.72)	101 (3.98)	10
HT9-CF150CU	NW150	203 (8.00)	171 (6.73)	152 (5.98)	5
HT9-CF200CU	NW200	254 (10.00)	222 (8.74)	203 (7.99)	5
HT9-CF250CU	NW250	304 (12.00)	270 (10.63)	254 (10.00)	5
HT9-CF272CU	NW250	304 (12.00)	272 (10.71)	254 (10.00)	5

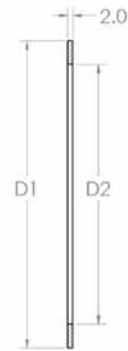
Oxygen free high conductivity (OFHC) copper is a suitable sealing material for Bakeable UHV systems because of its good conformity with the thermal expansion Coefficient of stainless steel as well as its essentially lower hardness (Hardness approx 85 brinell).



CF Annealed Copper Gaskets - OFHC Copper

Part number	Pneurop	For flange od	d1	d2	Pack. size
HT9-CF16CUA	NW16	34 (1.33)	21 (0.83)	16 (0.63)	5
HT9-CF35CUA	NW35	70 (2.75)	48 (1.89)	37 (1.46)	5
HT9-CF63CUA	NW63	114 (4.50)	82 (3.23)	63 (2.48)	5
HT9-CF100CUA	NW100	152 (6.00)	120 (4.72)	101 (3.98)	5
HT9-CF150CUA	NW150	203 (8.00)	171 (6.73)	152 (5.98)	5
HT9-CF200CUA	NW200	254 (10.00)	222 (8.74)	203 (7.99)	5
HT9-CF250CUA	NW250	304 (12.00)	270 (10.63)	254 (10.00)	5
HT9-CF272CUA	NW250	304 (12.00)	272 (10.71)	254 (10.00)	5

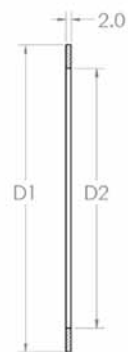
The annealed gaskets are recommended for use on viewports, feedthroughs and Ionisation gauge heads with glass to metal seals (Hardness approx 45 brinell).



CF Silver Plated Copper Gaskets - OFHC Copper

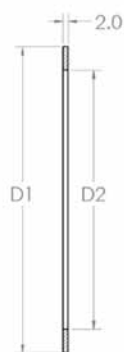
Part number	Pneurop	For flange od	d1	d2	Pack size
HT9-CF16CUSP	NW16	34 (1.33)	21 (0.83)	16 (0.63)	5
HT9-CF35CUSP	NW35	70 (2.75)	48 (1.89)	37 (1.46)	5
HT9-CF63CUSP	NW63	114 (4.50)	82 (3.23)	63 (2.48)	5
HT9-CF100CUSP	NW100	152 (6.00)	120 (4.72)	101 (3.98)	5
HT9-CF150CUSP	NW150	203 (8.00)	171 (6.73)	152 (5.98)	5
HT9-CF200CUSP	NW200	254 (10.00)	222 (8.74)	203 (7.99)	5
HT9-CF250CUSP	NW250	304 (12.00)	270 (10.63)	254 (10.00)	5
HT9-CF272CUSP	NW250	304 (12.00)	272 (10.71)	254 (10.00)	5

5 - 7 micron silver plating prevents oxidation of the parts exposed to atmosphere during baking.



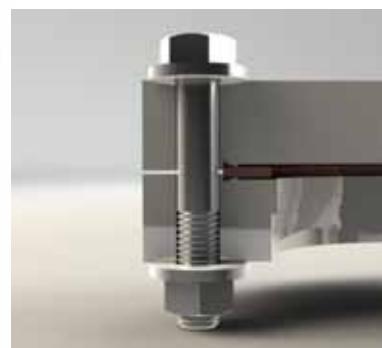
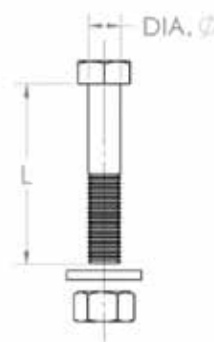
CF Silver Plated Annealed Copper Gaskets - OFHC Copper

Part number	Pneurop	For flange. od	d1	d2	Pack size
HT9-CF16CUASP	NW16	34 (1.33)	21 (0.83)	16 (0.63)	5
HT9-CF35CUASP	NW35	70 (2.75)	48 (1.89)	37 (1.46)	5
HT9-CF63CUASP	NW63	114 (4.50)	82 (3.23)	63 (2.48)	5
HT9-CF100CUASP	NW100	152 (6.00)	120 (4.72)	101 (3.98)	5
HT9-CF150CUASP	NW150	203 (8.00)	171 (6.73)	152 (5.98)	5
HT9-CF200CUASP	NW200	254 (10.00)	222 (8.74)	203 (7.99)	5
HT9-CF250CUASP	NW250	304 (12.00)	270 (10.63)	254 (10.00)	5
HT9-CF272CUASP	NW250	304 (12.00)	272 (10.71)	254 (10.00)	5



CF Nut Bolt + Washer Set For CF Flange - stainless steel

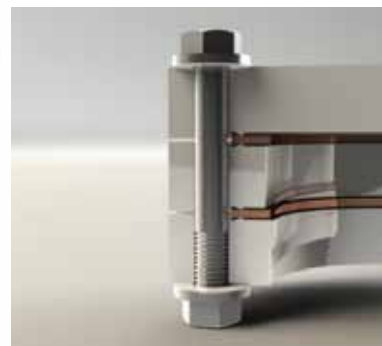
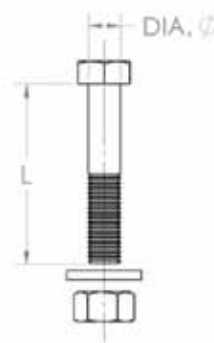
Part number	Pneurop	DIA	L	Pack size
HT9-NBW420	NW16	m4	20 (0.79)	25
HT9-NBW635	NW35	m6	35 (1.38)	25
HT9-NBW845	NW63	m8	45 (1.77)	25
HT9-NBW850	NW100	m8	50 (1.97)	25
HT9-NBW860	NW150	m8	60 (2.36)	25
HT9-NBW860	NW200	m8	60 (2.36)	25
HT9-NBW1065	NW250	m10	65 (2.56)	35



Silver plated bolts available on request.

CF Nut Bolt + Washer Set For Double Sided CF Flange - stainless steel

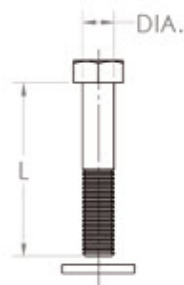
Part number	Pneurop	DIA	L	Pack size
HT9-NBW435	NW16	m4	35 (1.38)	25
HT9-NBW650	NW35	m6	50 (1.97)	25
HT9-NBW860	NW63	m8	60 (2.36)	25
HT9-NBW870	NW100	m8	70 (2.76)	25
HT9-NBW880	NW150	m8	80 (3.15)	25
HT9-NBW890	NW200	m8	90 (3.54)	25
HT9-NBW1090	NW250	m10	90 (3.54)	35



Silver plated bolts available on request.

CF Nut Bolt + Washer Set For Tapped CF Flange - stainless steel

Part number	Pneurop	DIA	L	Pack size
HT9-BW416	NW16	M4	16 (0.63)	25
HT9-BW625	NW35	M6	25 (0.98)	25
HT9-BW830	NW63	M8	30 (1.18)	25
HT9-BW835	NW100	M8	35 (1.38)	25
HT9-BW835	NW150	M8	35 (1.38)	25
HT9-BW845	NW200	M8	45 (1.77)	25
HT9-BW1050	NW250	M10	50 (1.97)	35



Silver plated bolts available on request.

CF Blank Off Kit of Parts - stainless steel

Part number	Pneurop
HT9-CF16-BLANKOFF	NW16
HT9-CF35-BLANKOFF	NW35
HT9-CF63-BLANKOFF	NW63
HT9-CF100-BLANKOFF	NW100
HT9-CF150-BLANKOFF	NW150
HT9-CF200-BLANKOFF	NW200
HT9-CF250-BLANKOFF	NW250
HT9-CF272-BLANKOFF	NW250

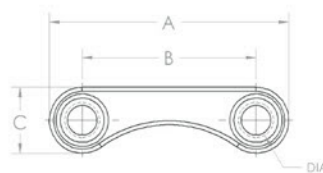
Consist of:
1 x blank, 1 x gasket and
appropriate quantity of
nuts, bolts and washers
for blanking off ports.



CF Plate Nut - stainless steel

Part number	Pneurop	a	b	c	DIA	Qty
HT9-CF16PN	NW16	20 (0.79)	13 (0.51)	7 (0.28)	M4	25
HT9-CF35PN	NW35	41 (1.61)	29 (1.14)	11 (0.43)	M6	25
HT9-CF63PN	NW63	51 (2.01)	35 (1.38)	12 (0.47)	M8	25
HT9-CF100PN	NW100	44 (1.73)	25 (0.98)	12 (0.47)	M8	25
HT9-CF150PN	NW150	44 (1.73)	28 (1.10)	12 (0.47)	M8	25

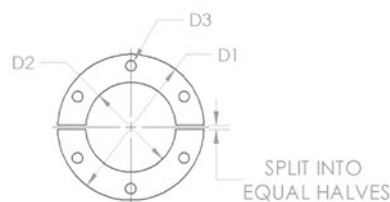
Used where spanner access to back of flange may be impaired.



CF Horse Shoe Plate Nuts - stainless steel

Part number	Pneurop	d1	d2	d3
HT9-CF16PNHS	NW16	34 (1.33)	20 (0.79)	M4
HT9-CF35PNHS	NW35	70 (2.75)	43 (1.69)	M6
HT9-CF63PNHS	NW63	114 (4.50)	65 (2.56)	M8
HT9-CF100PNHS	NW100	152 (6.00)	103 (4.06)	M8
HT9-CF150PNHS	NW150	203 (8.00)	154 (6.06)	M8

Used to convert a plain flange into a tapped equivalent.

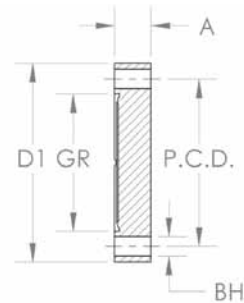


CF Fixed Blank Flange - 304l stainless steel

Clear bolt holes								Tapped bolt holes	
Part number	Pneurop	a	d1	GR	PCD	BH	Bolt Holes	Part number	Thread DIA
HT9-CF16B	NW16	7.6 (0.30)	34 (1.33)	21. (0.83)	27. (1.06)	4.3. (0.17)	6	HT9-CF16BT	m4
HT9-CF35B	NW35	12.7 (0.50)	70 (2.75)	48 (1.89)	58 (2.28)	6.7 (0.26)	6	HT9-CF35BT	m6
HT9-CF63B	NW63	17.4 (0.69)	114 (4.50)	82 (3.23)	92 (3.62)	8.3 (0.33)	8	HT9-CF63BT	m8
HT9-CF100B	NW100	19.9 (0.78)	152 (6.00)	120 (4.72)	130 (5.12)	8.3 (0.33)	16	HT9-CF100BT	m8
HT9-CF150B	NW150	22.3 (0.88)	203 (8.00)	171 (6.73)	181 (7.13)	8.3 (0.33)	20	HT9-CF150BT	m8
HT9-CF200B	NW200	24.6 (0.97)	254 (10.00)	222 (8.74)	231 (9.09)	8.3 (0.33)	24	HT9-CF200BT	m8
HT9-CF250B	NW250	27.3 (1.07)	304 (12.00)	270 (10.63)	283 (11.14)	10.3 (0.41)	32	HT9-CF250BT	m10
HT9-CF272B	NW250	24.6 (0.97)	304 (12.00)	273 (10.75)	284 (11.18)	8.4 (0.33)	32	HT9-CF272BT	m8

Available in 316L and 316ln on request.

Imperial bolt holes
Available on request.

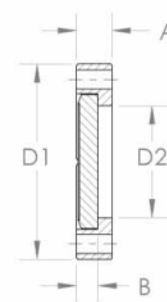


CF Rotable Blank Flange - 304l stainless steel

Clear bolt holes							Tapped bolt holes	
Part number	Pneurop	a	b	d1	d2	Bolt Holes	Part number	Thread DIA
HT9-CF16BR	NW16	7.6 (0.30)	5.85 (0.23)	34 (1.33)	19.3 (0.76)	6	HT9-CF16BRT	m4
HT9-CF35BR	NW35	12.7 (0.50)	7.05 (0.28)	70 (2.75)	41.4 (1.63)	6	HT9-CF35BRT	m6
HT9-CF63BR	NW63	17.4 (0.69)	12.15 (0.48)	114 (4.50)	68.0. (2.68)	8	HT9-CF63BRT	m8
HT9-CF100BR	NW100	19.9 (0.78)	13.75 (0.54)	152 (6.00)	104.9 (4.13)	16	HT9-CF100BRT	m8
HT9-CF150BR	NW150	22.3 (0.88)	15.25 (0.6)	203 (8.00)	155.7 (6.13)	20	HT9-CF150BRT	m8
HT9-CF200BR	NW200	24.6 (0.97)	16.55 (0.65)	254 (10.00)	206.4 (8.13)	24	HT9-CF200BRT	m8
HT9-CF250BR	NW250	27.3 (1.07)	19.05 (0.75)	304 (12.00)	259.5 (10.22)	32	HT9-CF250BRT	m10
HT9-CF272BR	NW250	24.6 (0.97)	18.00 (0.71)	304 (12.00)	250.7 (9.87)	32	HT9-CF272BRT	m8

Available in 316L and 316LN on request.

Imperial bolt holes
available on request.



CF Fixed Bored Flange - 304l stainless steel

Clear bolt holes

Part number	Pneurop	a	b	d1	d2	Bolt Holes
HT9-CF16B7	NW16	7.7(0.3)	-	34(1.33)	6.4(0.25)	6
HT9-CF16B12	NW16	7.7(0.3)	-	34(1.33)	12.7(0.5)	6
HT9-CF16B14	NW16	7.7(0.3)	4.8(0.19)	34(1.33)	14.4(0.57)	6
HT9-CF16B19	NW16	7.7(0.3)	4.8(0.19)	34(1.33)	19.1(0.75)	6
HT9-CF35B14	NW35	12.7(0.5)	4.8(0.19)	70(2.75)	14.4(0.57)	6
HT9-CF35B25	NW35	12.7(0.5)	4.8(0.19)	70(2.75)	25.5(1.00)	6
HT9-CF35B38	NW35	12.7(0.5)	4.8(0.19)	70(2.75)	38.2(1.5)	6
HT9-CF35B41	NW35	12.7(0.5)	4.8(0.19)	70(2.75)	41.3(1.63)	6
HT9-CF63B51	NW63	17.4(0.69)	7.9(0.31)	114(4.50)	51.2(2.02)	6
HT9-CF63B63	NW63	17.4(0.69)	7.9(0.31)	114(4.50)	63.6(2.50)	8
HT9-CF100B	NW100	19.9(0.78)	9.5(0.37)	152(6.00)	101.9(4.01)	16
HT9-CF150B	NW150	22.2(0.87)	9.5(0.37)	203(8.00)	152.6(6.01)	20
HT9-CF200B	NW200	24.6(0.97)	9.5(0.37)	254(10.00)	203.5(8.01)	24
HT9-CF250B	NW250	27.3(1.07)	9.5(0.37)	304(12.00)	254.4(10.02)	32
HT9-CF272B	NW250	27.3(1.07)	9.5(0.37)	304(12.00)	254.4(10.02)	32

Other bore sizes, 316L and 316LN available on request.

Tapped bolt holes

Part number	Thread DIA
HT9-CF16B7T	m4
HT9-CF16B12T	m4
HT9-CF16B14T	m4
HT9-CF16B19T	m4
HT9-CF35B14T	m6
HT9-CF35B25T	m6
HT9-CF35B38T	m6
HT9-CF35B41T	m6
HT9-CF63B51T	m8
HT9-CF63B63T	m8
HT9-CF100BT	m8
HT9-CF150BT	m8
HT9-CF200BT	m8
HT9-CF250BT	m10
HT9-CF272BT	m8

Imperial bolt holes available on request.



CF Rotatable Bored Flange - 304l stainless steel

Clear bolt holes

Part number	Pneurop	a	b	d1	d2	Bolt Holes
HT9-CF16R 7	NW16	7.6 (0.30)	-	34 (1.33)	6.4 (0.25)	6
HT9-CF16R12	NW16	7.6 (0.30)	-	34 (1.33)	12.7 (0.50)	6
HT9-CF16R14	NW16	7.6 (0.30)	4.8 (0.19)	34 (1.33)	14.4 (0.57)	6
HT9-CF16R19	NW16	7.6 (0.30)	4.25 (0.17)	34 (1.33)	19.1 (0.75)	6
HT9-CF35R14	NW35	12.7 (0.50)	4.8 (0.19)	70 (2.75)	14.4 (0.57)	6
HT9-CF35R25	NW35	12.7 (0.50)	4.8 (0.19)	70 (2.75)	25.5 (1.00)	6
HT9-CF35R38	NW35	12.7 (0.50)	4.8 (0.19)	70 (2.75)	38.2 (1.50)	6
HT9-CF35R41	NW35	12.7 (0.50)	4.8 (0.19)	70 (2.75)	41.3 (1.63)	6
HT9-CF63R51	NW63	17.4 (0.69)	7.9 (0.31)	114 (4.50)	51.2 (2.02)	8
HT9-CF63R63	NW63	17.4 (0.69)	7.9 (0.31)	114 (4.50)	63.6 (2.50)	8
HT9-CF100RB	NW100	19.9 (0.78)	8.95 (0.35)	152 (6.00)	101.9 (4.01)	16
HT9-CF150RB	NW150	22.2 (0.87)	8.95 (0.35)	203 (8.00)	152.6 (6.01)	20
HT9-CF200RB	NW200	24.6 (0.97)	8.95 (0.35)	254 (10.00)	203.5 (8.01)	24
HT9-CF250RB	NW250	27.3 (1.07)	10.1 (0.40)	304 (12.00)	254.4 (10.02)	32
HT9-CF272RB	NW250	27.3 (1.07)	11.35 (0.45)	304 (12.00)	254.4 (10.02)	32

Other bore sizes, 316L and 316LN available on request.

Tapped bolt holes

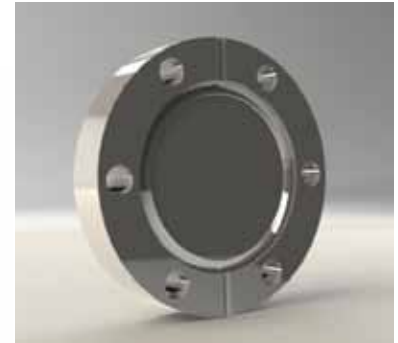
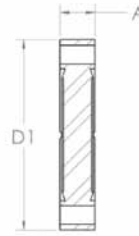
Part number	Thread DIA
HT9-CF16R7T	m4
HT9-CF16R12T	m4
HT9-CF16R14T	m4
HT9-CF16R19T	m4
HT9-CF35R14T	m6
HT9-CF35R25T	m6
HT9-CF35R38T	m6
HT9-CF35R41T	m6
HT9-CF63R51T	m8
HT9-CF63R63T	m8
HT9-CF100RBT	m8
HT9-CF150RBT	m8
HT9-CF200RBT	m8
HT9-CF250RBT	m10
HT9-CF272RBT	m8

Imperial bolt holes available on request.



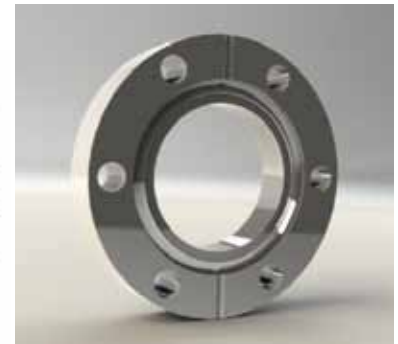
CF Double Sided Blank Flange - 304l stainless steel

Part number	Pneurop	a	d1
HT9-CF16DB	NW16	7.6 (0.30)	34 (1.33)
HT9-CF35DB	NW35	12.7 (0.50)	70 (2.75)
HT9-CF63DB	NW63	17.4 (0.69)	114 (4.50)
HT9-CF100DB	NW100	19.8 (0.78)	152 (6.00)
HT9-CF150DB	NW150	22.2 (0.87)	203 (8.00)
HT9-CF200DB	NW200	24.6 (0.97)	254 (10.00)



CF Double Sided Bored Flange - 304l stainless steel

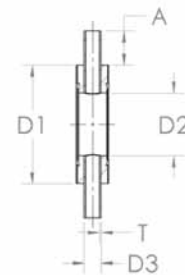
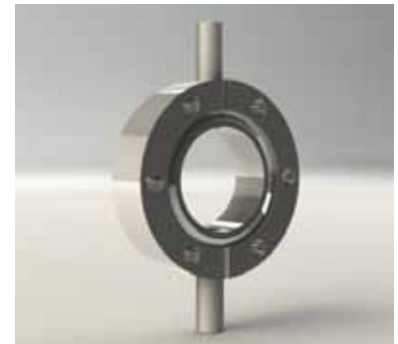
Part number	Pneurop	a	d1	d2
HT9-CF16D14	NW16	7.6 (0.30)	34 (1.33)	14 (0.55)
HT9-CF35D38	NW35	12.7 (0.50)	70 (2.75)	38 (1.50)
HT9-CF63D63	NW63	17.4 (0.69)	114 (4.50)	63 (2.48)
HT9-CF100D100	NW100	19.8 (0.78)	152 (6.00)	100 (3.94)
HT9-CF150D150	NW150	22.2 (0.87)	203 (8.00)	150 (5.91)
HT9-CF200D200	NW200	24.6 (0.97)	254 (10.00)	200 (7.87)



CF Double Sided Blank Flange With Radial Ports - 304l stainless steel

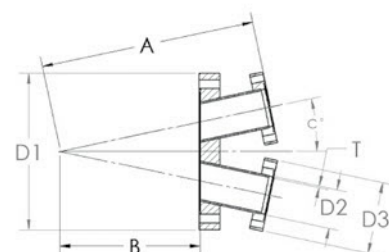
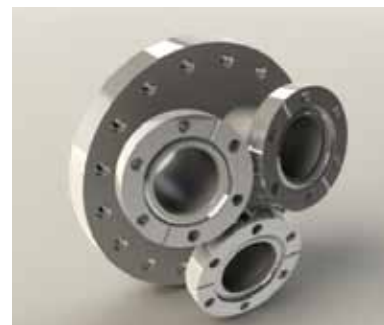
Part number	Pneurop	a	d1	d2	d3	t	No of ports	Port Termination
HT9-CF35DR1	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	1	Plain tube
HT9-CF35DR2	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	2 (@180°)	Plain tube
HT9-CF35DR1KF	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	1	KF10
HT9-CF35DR2KF	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	2 (@180°)	KF10
HT9-CF35DR1CF	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	1	CF16
HT9-CF35DR2CF	NW35	20 (0.79)	70 (2.75)	37 (1.46)	10 (0.39)	1 (0.04)	2 (@180°)	CF16

Baffle plates, accessories and other sizes available on request.



CF Cluster Flange - 304l stainless steel

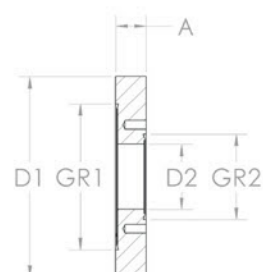
Part number	Pneurop	No of ports	a	b	C	d1	d2	d3	t
HT9-CF3P	NW35	3	208 (8.19)	135 (5.31)	11.9°	152 (6.00)	38 (1.50)	70 (2.75)	1.6 (0.06)
HT9-CF4P	NW35	4	250 (9.84)	167 (6.57)	13.0°	203 (8.00)	38 (1.50)	70 (2.75)	1.6 (0.06)



CF Zero Length Reducer Flange - 304l stainless steel

Part number	Pneurop	a	d1	d2	gr 1	gr 2
HT9-CF3516ZL	NW16/35	13.2 (0.52)	70 (2.75)	13.2 (0.52)	48 (1.89)	21 (0.83)
HT9-CF6316ZL	NW16/63	13.2 (0.52)	114 (4.50)	13.2 (0.52)	82 (3.23)	21 (0.83)
HT9-CF6335ZL	NW35/63	36.9 (1.45)	114 (4.50)	36.9 (1.45)	82 (3.23)	48 (1.89)
HT9-CF1035ZL	NW35/100	36.9 (1.45)	152 (6.00)	36.9 (1.45)	120 (4.72)	48 (1.89)
HT9-CF1063ZL	NW63/100	61.2 (2.41)	152 (6.00)	61.2 (2.41)	120 (4.72)	82 (3.23)
HT9-CF1535ZL	NW35/150	36.9 (1.45)	203 (8.00)	36.9 (1.45)	171 (6.73)	48 (1.89)
HT9-CF1563ZL	NW63/150	61.2 (2.41)	203 (8.00)	61.2 (2.41)	171 (6.73)	82 (3.23)
HT9-CF1510ZL	NW100/150	99.4 (3.91)	203 (8.00)	99.4 (3.91)	171 (6.73)	120 (4.72)
HT9-CF2035ZL	NW35/200	36.9 (1.45)	254 (10.00)	36.9 (1.45)	222 (8.74)	48 (1.89)
HT9-CF2063ZL	NW63/200	61.2 (2.41)	254 (10.00)	61.2 (2.41)	222 (8.74)	82 (3.23)
HT9-CF2010ZL	NW100/200	99.4 (3.91)	254 (10.00)	99.4 (3.91)	222 (8.74)	120 (4.72)
HT9-CF2015ZL	NW150/200	149.7 (5.89)	254 (10.00)	149.7 (5.89)	222 (8.74)	171 (6.73)
HT9-CF2535ZL	NW35/250	36.9 (1.45)	304 (12.00)	36.9 (1.45)	270 (10.63)	48 (1.89)
HT9-CF2563ZL	NW63/250	61.2 (2.41)	304 (12.00)	61.2 (2.41)	270 (10.63)	82 (3.23)
HT9-CF2510ZL	NW100/250	99.4 (3.91)	304 (12.00)	99.4 (3.91)	270 (10.63)	120 (4.72)
HT9-CF2515ZL	NW150/250	149.7 (5.89)	304 (12.00)	149.7 (5.89)	270 (10.63)	171 (6.73)
HT9-CF2520ZL	NW200/250	200.4 (7.89)	304 (12.00)	200.4 (7.89)	270 (10.63)	222 (8.74)

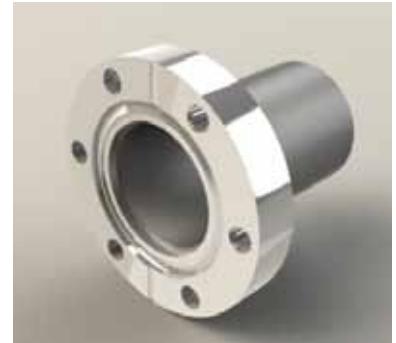
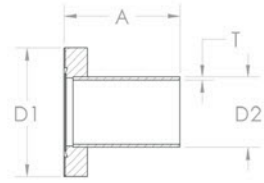
Available in 316L and 316LN on request.
Metric tap on smaller flange, Imperial available on request.



CF Tubulation Fixed - 304L stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-CF16TU	NW16	34 (1.33)	38 (1.50)	19 (0.75)	1.6 (0.06)
HT9-CF35TU	NW35	70 (2.75)	63 (2.48)	38 (1.50)	1.6 (0.06)
HT9-CF63TU	NW63	114 (4.50)	105 (4.13)	64 (2.50)	1.6 (0.06)
HT9-CF100TU	NW100	152 (6.00)	135 (5.31)	102 (4.00)	1.6 (0.06)
HT9-CF150TU	NW150	203 (8.00)	167 (6.57)	152 (6.00)	2.0 (0.08)
HT9-CF200TU	NW200	254 (10.00)	167 (6.57)	203 (8.00)	2.0 (0.08)

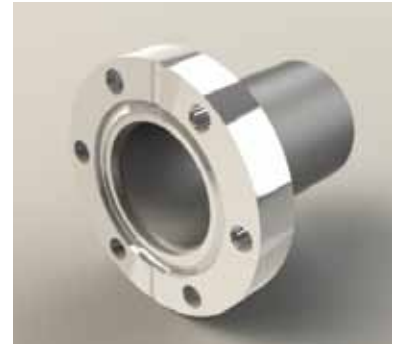
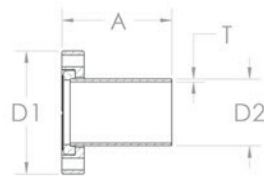
Tapped flanges, 316L and 316LN available on request.



CF Tubulation Rotatable - 304L stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-CF16TUR	NW16	34(1.33)	38(1.50)	19(0.75)	1.6(0.06)
HT9-CF35TUR	NW35	70(2.75)	63(2.48)	38(1.50)	1.6(0.06)
HT9-CF63TUR	NW63	114(4.50)	105(4.13)	64(2.50)	1.6(0.06)
HT9-CF100TUR	NW100	152(6.00)	135(5.31)	102(4.00)	1.6(0.06)
HT9-CF150TUR	NW150	203(8.00)	167(6.57)	152(6.00)	2.0(0.08)
HT9-CF200TUR	NW200	254(10.00)	167(6.57)	203(8.00)	2.0(0.08)

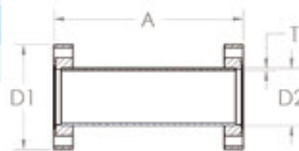
Tapped flanges, 316L and 316LN available on request.



CF Straight Connector - Fixed - 304L stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-CF16SC	NW16	76 (2.99)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35SC	NW35	126 (4.96)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63SC	NW63	210 (8.27)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100SC	NW100	270 (10.63)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150SC	NW150	334 (13.15)	203 (8.00)	152 (6.00)	2.0 (0.08)

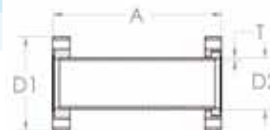
Bolt holes in-line, straddled available on request.



CF Straight Connector Rotatable - 304L stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-CF16SCR	NW16	76 (2.99)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35SCR	NW35	126 (4.96)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63SCR	NW63	210 (8.27)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100SCR	NW100	270 (10.63)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150SCR	NW150	334 (13.15)	203 (8.00)	152 (6.00)	2.0 (0.08)

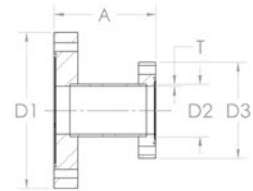
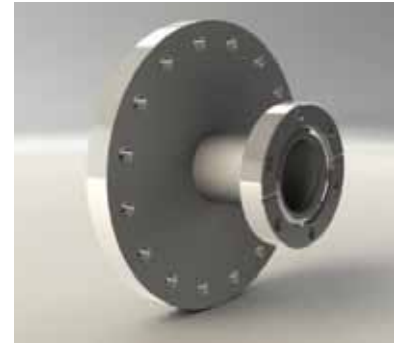
Special lengths and diameters available on request.



CF Tubulated Reducer Fixed - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-CF3516TA	NW16/35	70(2.76)	70(2.75)	19(0.75)	34(1.33)	1.6(0.06)
HT9-CF6316TA	NW16/63	70(2.76)	114(4.50)	19(0.75)	34(1.33)	1.6(0.06)
HT9-CF6335TA	NW35/63	70(2.76)	114(4.50)	38(1.50)	70(2.75)	1.6(0.06)
HT9-CF1035TA	NW35/100	70(2.76)	152(6.00)	38(1.50)	70(2.75)	1.6(0.06)
HT9-CF1063TA	NW63/100	70(2.76)	152(6.00)	63.5(2.50)	114(4.50)	1.6(0.06)
HT9-CF1535TA	NW35/150	70(2.76)	203(8.00)	38(1.50)	70(2.75)	1.6(0.06)
HT9-CF1563TA	NW63/150	127(5.00)	203(8.00)	63.5(2.50)	114(4.50)	1.6(0.06)
HT9-CF1510TA	NW100/150	127(5.00)	203(8.00)	101.6(4.00)	152(6.00)	1.6(0.06)
HT9-CF2063TA	NW63/200	127(5.00)	254(10.00)	63.5(2.50)	114(4.50)	1.6(0.06)
HT9-CF2010TA	NW100/200	127(5.00)	254(10.00)	101.6(4.00)	152(6.00)	1.6(0.06)
HT9-CF2015TA	NW150/200	127(5.00)	254(10.00)	152.4(6.00)	203(8.00)	2.0(0.08)

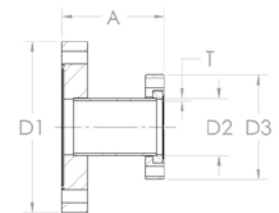
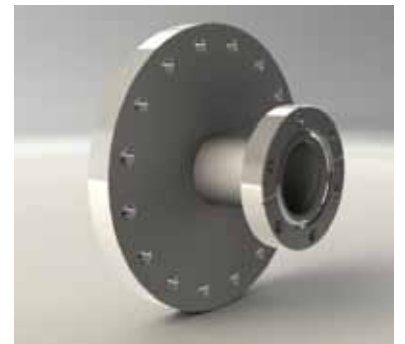
Please note that certain flange combinations give you both in-line & straddled bolt holes on a single adaptor



CF Tubulated Reducer Rotatable - 304l stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-CF3516TAR	NW16/35	70 (2.76)	70 (2.75)	19 (0.75)	34 (1.33)	1.6 (0.06)
HT9-CF6316TAR	NW16/63	70 (2.76)	114 (4.50)	19 (0.75)	34 (1.33)	1.6 (0.06)
HT9-CF6335TAR	NW35/63	70 (2.76)	114 (4.50)	38 (1.50)	70 (2.75)	1.6 (0.06)
HT9-CF1035TAR	NW35/100	70 (2.76)	152 (6.00)	38 (1.50)	70 (2.75)	1.6 (0.06)
HT9-CF1063TAR	NW63/100	70 (2.76)	152 (6.00)	63.5 (2.50)	114 (4.50)	1.6 (0.06)
HT9-CF1535TAR	NW35/150	70 (2.76)	203 (8.00)	38 (1.50)	70 (2.75)	1.6 (0.06)
HT9-CF1563TAR	NW63/150	127 (5.00)	203 (8.00)	63.5 (2.50)	114 (4.50)	1.6 (0.06)
HT9-CF1510TAR	NW100/150	127 (5.00)	203 (8.00)	101.6 (4.00)	152 (6.00)	1.6 (0.06)
HT9-CF2063TAR	NW63/200	127 (5.00)	254 (10.00)	63.5 (2.50)	114 (4.50)	1.6 (0.06)
HT9-CF2010TAR	NW100/200	127 (5.00)	254 (10.00)	101.6 (4.00)	152 (6.00)	1.6 (0.06)
HT9-CF2015TAR	NW150/200	127 (5.00)	254 (10.00)	152.4 (6.00)	203 (8.00)	2.0 (0.08)

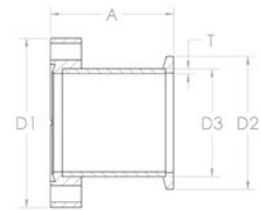
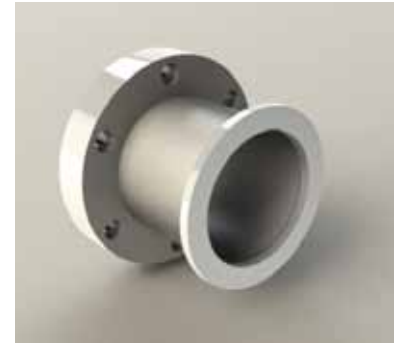
Special lengths and diameter available on request.



CF to NW Adaptor - stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-CF1616KA	CF16/NW16	36 (1.42)	34 (1.33)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-CF3516KA	CF35/NW16	36 (1.42)	70 (2.75)	30 (1.18)	20.0 (0.79)	2 (0.08)
HT9-CF3525KA	CF35/NW25	36 (1.42)	70 (2.75)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-CF3540KA	CF35/NW40	50 (1.97)	70 (2.75)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-CF6325KA	CF63/NW25	50 (1.97)	114 (4.50)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-CF6340KA	CF63/NW40	50 (1.97)	114 (4.50)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-CF6350KA	CF63/NW50	50 (1.97)	114 (4.50)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-CF1025KA	CF100/NW25	50 (1.97)	152 (6.00)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-CF1040KA	CF100/NW40	50 (1.97)	152 (6.00)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-CF1050KA	CF100/NW50	50 (1.97)	152 (6.00)	75 (2.95)	57.0 (2.24)	3 (0.12)
HT9-CF1525KA	CF150/NW25	70 (2.76)	203 (8.00)	40 (1.57)	28.0 (1.10)	2 (0.08)
HT9-CF1540KA	CF150/NW40	70 (2.76)	203 (8.00)	55 (2.17)	44.5 (1.75)	2 (0.08)
HT9-CF1550KA	CF150/NW50	70 (2.76)	203 (8.00)	75 (2.95)	57.0 (2.24)	3 (0.12)

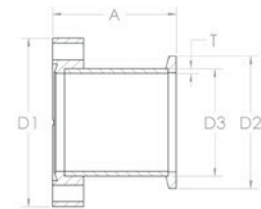
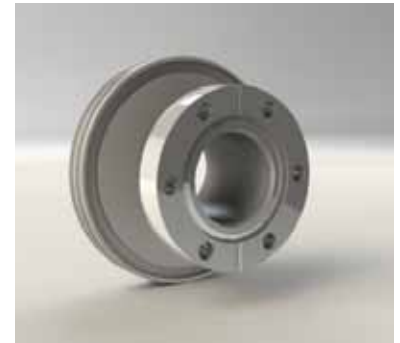
Special lengths and diameter available on request.



CF to ISO Adaptor - stainless steel

Part number	Pneurop	a	d1	d2	d3	t
HT9-CF6363SA	ISO63/CF63	90 (3.54)	114(4.50)	95(3.74)	63.5(2.50)	1.6(0.06)
HT9-CF1063SA	ISO63/CF100	90 (3.54)	152(6.00)	95(3.74)	76.0(2.99)	3.0(0.12)
HT9-CF1010SA	ISO100/CF100	90(3.54)	152(6.00)	130(5.12)	108.0(4.25)	3.0(0.12)
HT9-CF1016SA	ISO160/CF100	90(3.54)	152(6.00)	180(7.09)	101.6(4.00)	1.6(0.06)
HT9-CF1510SA	ISO100/CF150	90(3.54)	203(8.00)	130(5.12)	108.0(4.25)	3.0(0.12)
HT9-CF1516SA	ISO160/CF150	90(3.54)	203(8.00)	180(7.09)	159.0(6.26)	3.0(0.12)

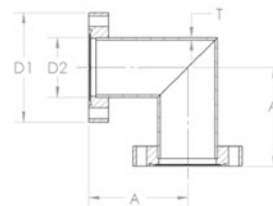
Special lengths and diameter available on request.



CF 90 Degree Mitred Elbow Fixed - 304L stainless steel

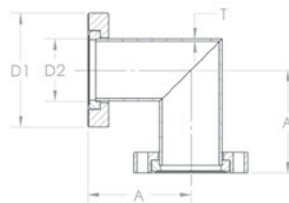
Part number	Pneurop	a	d1	d2	t
HT9-CF16EL	NW16	38 (1.50)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35EL	NW35	63 (2.48)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63EL	NW63	105 (4.13)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100EL	NW100	135 (5.31)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150EL	NW150	167 (6.57)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF200EL	NW200	203 (7.99)	254 (10.00)	203 (8.00)	2.0 (0.08)

Bolt holes in-line, straddled available on request.



CF 90 Degree Mitred Elbow Rotatable - 304l stainless steel

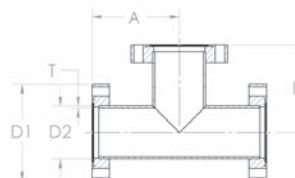
Part number	Pneurop	a	d1	d2	t
HT9-CF16ELR	NW16	38 (1.50)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35ELR	NW35	63 (2.48)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63ELR	NW63	105 (4.13)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100ELR	NW100	135 (5.31)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150ELR	NW150	167 (6.57)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF200ELR	NW200	203 (7.99)	254 (10.00)	203 (8.00)	2.0 (0.08)



CF Tee Fixed - 304l stainless steel

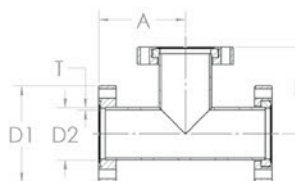
Part number	Pneurop	a	b	d1	d2	t
HT9-CF16TE	NW16	38(1.50)	38(1.50)	34(1.33)	19(0.75)	1.6(0.06)
HT9-CF35TE	NW35	63(2.48)	63(2.48)	70(2.75)	38(1.50)	1.6(0.06)
HT9-CF63TE	NW63	105(4.13)	105(4.13)	114(4.50)	64(2.50)	1.6(0.06)
HT9-CF100TE	NW100	135(5.31)	135(5.31)	152(6.00)	102(4.00)	1.6(0.06)
HT9-CF150TE	NW150	167(6.57)	167(6.57)	203(8.00)	152(6.00)	2.0(0.08)
HT9-CF200TE	NW200	203(7.99)	203(7.99)	254(10.00)	203(8.00)	2.0(0.08)

Bolt holes in-line, straddled available on request.



CF Tee Rotatable - 304l stainless steel

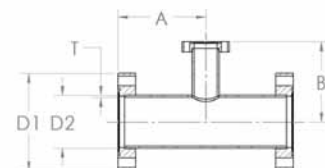
Part number	Pneurop	a	b	d1	d2	t
HT9-CF16TER	NW16	38(1.50)	38(1.50)	34(1.33)	19(0.75)	1.6(0.06)
HT9-CF35TER	NW35	63(2.48)	63(2.48)	70(2.75)	38(1.50)	1.6(0.06)
HT9-CF63TER	NW63	105(4.13)	105(4.13)	114(4.50)	64(2.50)	1.6(0.06)
HT9-CF100TER	NW100	135(5.31)	135(5.31)	152(6.00)	102(4.00)	1.6(0.06)
HT9-CF150TER	NW150	167(6.57)	167(6.57)	203(8.00)	152(6.00)	2.0(0.08)
HT9-CF200TER	NW200	203(7.99)	203(7.99)	254(10.00)	203(8.00)	2.0(0.08)



CF Unequal Tee Fixed - 304L stainless steel

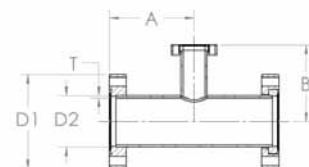
Part number	Pneuop	a	b	d1	d2	t
HT9-CF3516UTE	NW35/16	63 (2.48)	60 (2.36)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF6316UTE	NW63/16	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF6335UTE	NW63/35	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1016UTE	NW100/16	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1035UTE	NW100/35	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1063UTE	NW100/63	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1516UTE	NW150/16	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1535UTE	NW150/35	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1563UTE	NW150/63	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1510UTE	NW150/100	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)

Bolt holes in-line, straddled available on request.



CF Unequal Tee Rotatable - 304L stainless steel

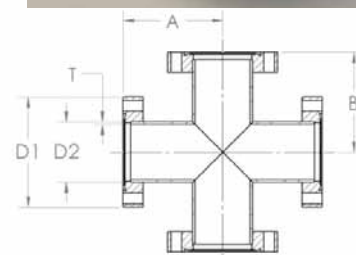
Part Number	Pneuop	a	b	d1	d2	t
HT9-CF3516UTER	NW35/16	63 (2.48)	60 (2.36)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF6316UTER	NW63/16	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF6335UTER	NW63/35	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1016UTER	NW100/16	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1035UTER	NW100/35	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1063UTER	NW100/63	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF1516UTER	NW150/16	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1535UTER	NW150/35	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1563UTER	NW150/63	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF1510UTER	NW150/100	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)



CF 4-Way Cross Fixed - 304L stainless steel

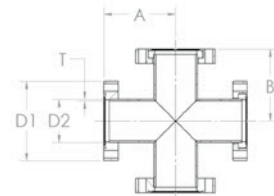
Part number	Pneuop	a	b	d1	d2	t
HT9-CF16X	NW16	38 (1.50)	38 (1.50)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35X	NW35	63 (2.48)	63 (2.48)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63X	NW63	105 (4.13)	105 (4.13)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100X	NW100	135 (5.31)	135 (5.31)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150X	NW150	167 (6.57)	167 (6.57)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF200X	NW200	203 (7.99)	203 (7.99)	254 (10.00)	203 (8.00)	2.0 (0.08)

Bolt holes in-line, straddled available on request.



CF 4-Way Cross Rotatable - 304L stainless steel

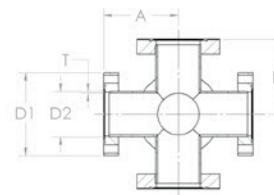
Part number	Pneurop	a	b	d1	d2	t
HT9-CF16XR	NW16	38(1.50)	38(1.50)	34(1.33)	19(0.75)	1.6(0.06)
HT9-CF35XR	NW35	63(2.48)	63(2.48)	70(2.75)	38(1.50)	1.6(0.06)
HT9-CF63XR	NW63	105(4.13)	105(4.13)	114(4.50)	64(2.50)	1.6(0.06)
HT9-CF100XR	NW100	135(5.31)	135(5.31)	152(6.00)	102(4.00)	1.6(0.06)
HT9-CF150XR	NW150	167(6.57)	167(6.57)	203(8.00)	152(6.00)	2.0(0.08)
HT9-CF200XR	NW200	203(7.99)	203(7.99)	254(10.00)	203(8.00)	2.0(0.08)



CF 5-Way Cross Fixed - 304L stainless steel

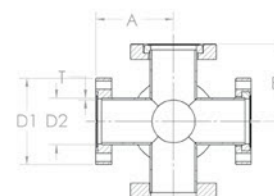
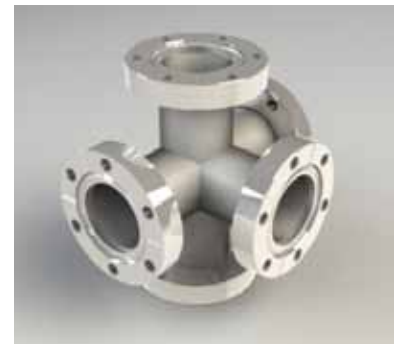
Part number	Pneurop	a	b	d1	d2	t
HT9-CF16FWX	NW16	38(1.50)	38(1.50)	34(1.33)	19(0.75)	1.6(0.06)
HT9-CF35FWX	NW35	63(2.48)	63(2.48)	70(2.75)	38(1.50)	1.6(0.06)
HT9-CF63FWX	NW63	105(4.13)	105(4.13)	114(4.50)	64(2.50)	1.6(0.06)
HT9-CF100FWX	NW100	135(5.31)	135(5.31)	152(6.00)	102(4.00)	1.6(0.06)
HT9-CF150FWX	NW150	167(6.57)	167(6.57)	203(8.00)	152(6.00)	2.0(0.08)
HT9-CF200FWX	NW200	203(7.99)	203(7.99)	254(10.00)	203(8.00)	2.0(0.08)

Bolt holes in-line, straddled available on request.



CF 5-Way Cross Rotatable - 304L stainless steel

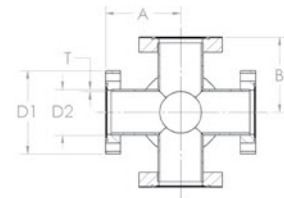
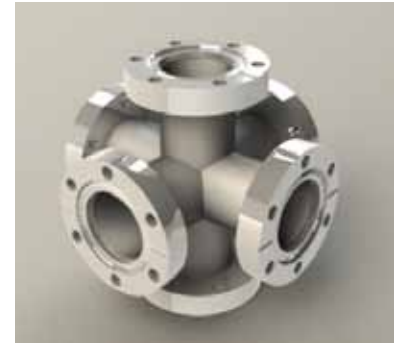
Part number	Pneurop	a	b	d1	d2	t
HT9-CF16FWXR	NW16	38(1.50)	38(1.50)	34(1.33)	19(0.75)	1.6(0.06)
HT9-CF35FWXR	NW35	63(2.48)	63(2.48)	70(2.75)	38(1.50)	1.6(0.06)
HT9-CF63FWXR	NW63	105(4.13)	105(4.13)	114(4.50)	64(2.50)	1.6(0.06)
HT9-CF100FWXR	NW100	135(5.31)	135(5.31)	152(6.00)	102(4.00)	1.6(0.06)
HT9-CF150FWXR	NW150	167(6.57)	167(6.57)	203(8.00)	152(6.00)	2.0(0.08)
HT9-CF200FWXR	NW200	203(7.99)	203(7.99)	254(10.00)	203(8.00)	2.0(0.08)



CF 6-Way Cross Fixed - 304L stainless steel

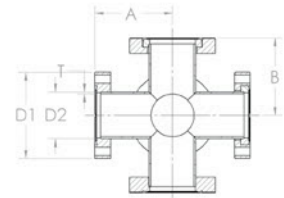
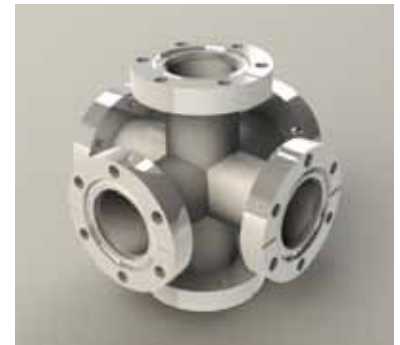
Part number	Pneuop	a	b	d1	d2	t
HT9-CF16XX	NW16	38 (1.50)	38 (1.50)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35XX	NW35	63 (2.48)	63 (2.48)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63XX	NW63	105 (4.13)	105 (4.13)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100XX	NW100	135 (5.31)	135 (5.31)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150XX	NW150	167 (6.57)	167 (6.57)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF200XX	NW200	203 (7.99)	203 (7.99)	254 (10.00)	203 (8.00)	2.0 (0.08)

Bolt holes in-line, straddled available on request



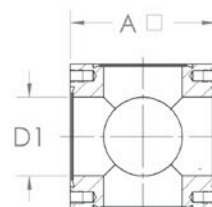
CF 6-Way Cross Rotatable - 304L stainless steel

Part number	Pneuop	a	b	d1	d2	t
HT9-CF16XXR	NW16	38 (1.50)	38 (1.50)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF35XXR	NW35	63 (2.48)	63 (2.48)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF63XXR	NW63	105 (4.13)	105 (4.13)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF100XXR	NW100	135 (5.31)	135 (5.31)	152 (6.00)	102 (4.00)	1.6 (0.06)
HT9-CF150XXR	NW150	167 (6.57)	167 (6.57)	203 (8.00)	152 (6.00)	2.0 (0.08)
HT9-CF200XXR	NW200	203 (7.99)	203 (7.99)	254 (10.00)	203 (8.00)	2.0 (0.08)



CF Cube - 304L stainless steel

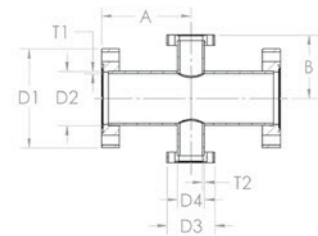
Part number	Pneuop	a	d1
HT9-CF16CUBE	NW16	34.6 (1.36)	15.8 (0.62)
HT9-CF35CUBE	NW35	74.0 (2.91)	38.1 (1.50)
HT9-CF63CUBE	NW63	127.0 (5.00)	64.0 (2.52)
HT9-CF100CUBE	NW100	160.0 (6.30)	101.6 (4.00)
HT9-CF150CUBE	NW150	235.0 (9.25)	149.7 (5.89)



CF 4-Way Reducing Cross Fixed - 304L stainless steel

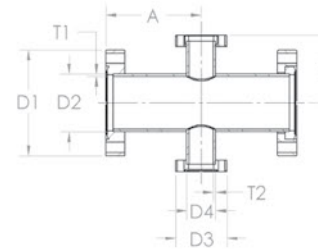
Part number	Pneurop	a	b	d1	d2	t1	d3	d4	t2
HT9-CF3516UX	NW35/16	63 (2.48)	60 (2.36)	70 (2.75)	38 (1.5)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF6316UX	NW63/16	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF6335UX	NW63/35	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1016UX	NW100/16	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF1035UX	NW100/35	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1063UX	NW100/63	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1535UX	NW150/35	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1563UX	NW150/63	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1510UX	NW150/100	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	152 (6.00)	102 (4.00)	1.6 (0.06)

Bolt holes in-line, straddled available on request.



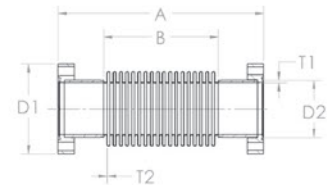
CF 4-Way Reducing Cross Rotatable - 304L stainless steel

Part number	Pneurop	a	b	d1	d2	t1	d3	d4	t2
HT9-CF3516UXR	NW35/16	63 (2.48)	60 (2.36)	70 (2.75)	38 (1.5)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF6316UXR	NW63/16	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF6335UXR	NW63/35	105 (4.13)	77 (3.03)	114 (4.50)	64 (2.50)	1.6 (0.06)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1016UXR	NW100/16	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	34 (1.33)	19 (0.75)	1.6 (0.06)
HT9-CF1035UXR	NW100/35	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1063UXR	NW100/63	135 (5.31)	95 (3.74)	152 (6.00)	102 (4.00)	1.6 (0.06)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1535UXR	NW150/35	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	70 (2.75)	38 (1.50)	1.6 (0.06)
HT9-CF1563UXR	NW150/63	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF1510UXR	NW150/100	167 (6.57)	120 (4.72)	203 (8.00)	152 (6.00)	2.0 (0.08)	152 (6.00)	102 (4.00)	1.6 (0.06)



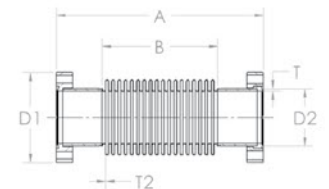
CF Flexible Bellows Fixed - stainless steel

Part Number	Pneuop	a	b	d1	d2	t1	t2
HT9-CF16BEL	NW16	110(4.33)	58(2.28)	34(1.33)	18.5(0.73)	1.75(0.07)	0.1(0.01)
HT9-CF35BEL	NW35	160(6.30)	91(3.58)	70(2.75)	44.5(1.75)	2.00(0.08)	0.2(0.01)
HT9-CF63BEL	NW63	250(9.84)	80(3.15)	114(4.50)	76.0(2.99)	3.00(0.12)	0.2(0.01)
HT9-CF100BEL	NW100	250(9.84)	143(5.63)	152(6.00)	108(4.25)	3.00(0.12)	0.4(0.02)



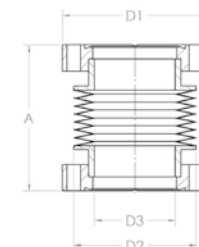
CF Flexible Bellows Rotatable - stainless steel

Part number	Pneuop	a	b	d1	d2	t1	t2
HT9-CF16BELR	NW16	110 (4.33)	58 (2.28)	34 (1.33)	18.5 (0.73)	1.75 (0.07)	0.1 (0.01)
HT9-CF35BELR	NW35	160 (6.30)	91 (3.58)	70 (2.75)	44.5 (1.75)	2.00 (0.08)	0.2 (0.01)
HT9-CF63BELR	NW63	250 (9.84)	80 (3.15)	114 (4.50)	76.0 (2.99)	3.00 (0.12)	0.2 (0.01)
HT9-CF100BELR	NW100	250 (9.84)	143 (5.63)	152 (6.00)	108 (4.25)	3.00 (0.12)	0.4 (0.02)



CF Edge Welded Bellows Fixed - stainless steel

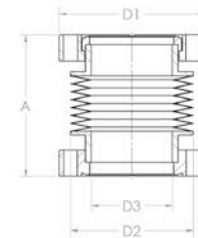
Part number	Pneuop	Convolutions	stroke	a	d1	d2	d3
HT9-CF16EWB	NW16	19	23 (0.91)	108 (4.25)	34 (1.33)	31.5 (1.24)	16.0 (0.63)
HT9-CF35EWB	NW35	13	26 (1.02)	155 (6.10)	70 (2.75)	59.0 (2.32)	38.0 (1.50)
HT9-CF63EWB	NW63	13	33 (1.30)	200 (7.87)	114 (4.50)	90.0 (3.54)	60.3 (2.37)
HT9-CF100EWB	NW100	11	33 (1.30)	219 (8.62)	152 (6.00)	132.0 (5.20)	104.0 (4.09)



All measurements are in millimetres (inches in brackets).

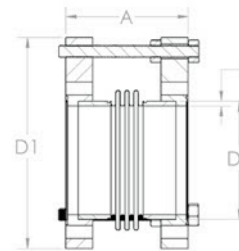
CF Edge Welded Bellows Rotatable - stainless steel

Part number	Pneurop	Convolutions	stroke	a	d1	d2	d3
HT9-CF16EWBR	NW16	19	23(0.91)	108(4.25)	34(1.33)	31.5(1.24)	16.0(0.63)
HT9-CF35EWBR	NW35	13	26(1.02)	155(6.10)	70(2.75)	59.0(2.32)	38.0(1.50)
HT9-CF63EWBR	NW63	13	33(1.30)	200(7.87)	114(4.50)	90.0(3.54)	60.3(2.37)
HT9-CF100EWBR	NW100	11	33(1.30)	219(8.62)	152(6.00)	132.0(5.20)	104.0(4.09)



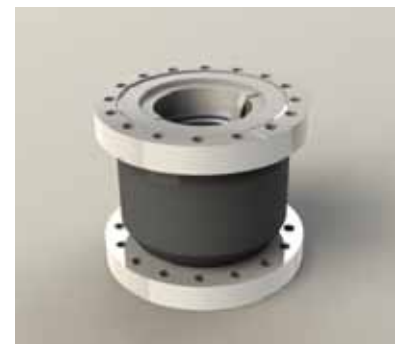
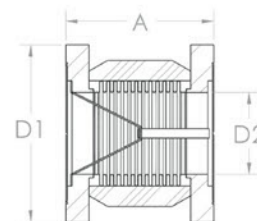
CF Port Aligner - stainless steel

Part number	Pneurop	a	d1	d2	t
HT9-CF3535PA	NW35	80 (3.15)	70 (2.75)	38 (1.5)	1.6 (0.06)
HT9-CF6363PA	NW63	80 (3.15)	114 (4.50)	64 (2.50)	1.6 (0.06)
HT9-CF10010PA	NW100	80 (3.15)	152 (6.00)	102 (4.00)	1.6 (0.06)



CF Vibration Isolators - stainless steel

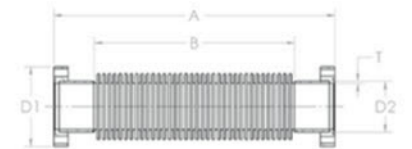
Part number	Pneurop	a	d1	d2
HT9-CF35VBD	NW35	90 (3.54)	70 (2.75)	24 (0.94)
HT9-CF63VBD	NW63	96 (3.78)	114 (4.50)	52 (2.05)
HT9-CF100VBD	NW100	99 (3.90)	152 (6.00)	76 (2.99)



CF Flexible Hose - stainless steel

Part number	Pneurop	a	b	d1	d2	t 1	Part number	Pneurop
HT9-CF16FX25	NW16	250 (9.84)	210 (8.27)	34 (1.33)	16.0 (0.63)	2 (0.08)	HT9-CF16FX25R	NW16
HT9-CF16FX50	NW16	500 (19.69)	460 (18.11)	34 (1.33)	16.0 (0.63)	2 (0.08)	HT9-CF16FX50R	NW16
HT9-CF16FX75	NW16	750 (29.53)	710 (27.95)	34 (1.33)	16.0 (0.63)	2 (0.08)	HT9-CF16FX75R	NW16
HT9-CF16FX100	NW16	1000 (39.37)	960 (37.8)	34 (1.33)	16.0 (0.63)	2 (0.08)	HT9-CF16FX100R	NW16
HT9-CF35FX25	NW35	250 (9.84)	150 (5.91)	70 (2.75)	44.5 (1.75)	2 (0.08)	HT9-CF35FX25R	NW35
HT9-CF35FX50	NW35	500 (19.69)	400 (15.75)	70 (2.75)	44.5 (1.75)	2 (0.08)	HT9-CF35FX50R	NW35
HT9-CF35FX75	NW35	750 (29.53)	650 (25.59)	70 (2.75)	44.5 (1.75)	2 (0.08)	HT9-CF35FX75R	NW35
HT9-CF35FX100	NW35	1000 (39.37)	900 (35.43)	70 (2.75)	44.5 (1.75)	2 (0.08)	HT9-CF35FX100R	NW35
HT9-CF63FX25	NW63	250 (9.84)	126 (4.96)	114 (4.50)	76.0 (2.99)	3 (0.12)	HT9-CF63FX25R	NW63
HT9-CF63FX50	NW63	500 (19.69)	376 (14.8)	114 (4.50)	76.0 (2.99)	3 (0.12)	HT9-CF63FX50R	NW63
HT9-CF63FX75	NW63	750 (29.53)	626 (24.65)	114 (4.50)	76.0 (2.99)	3 (0.12)	HT9-CF63FX75R	NW63
HT9-CF63FX100	NW63	1000 (39.37)	876 (34.49)	114 (4.50)	76.0 (2.99)	3 (0.12)	HT9-CF63FX100R	NW63
HT9-CF100FX25	NW100	250 (9.84)	146 (5.75)	152 (6.00)	108.0 (4.25)	3 (0.12)	HT9-CF100FX25R	NW100
HT9-CF100FX50	NW100	500 (19.69)	396 (15.59)	152 (6.00)	108.0 (4.25)	3 (0.12)	HT9-CF100FX50R	NW100
HT9-CF100FX75	NW100	750 (29.53)	646 (25.43)	152 (6.00)	108.0 (4.25)	3 (0.12)	HT9-CF100FX75R	NW100
HT9-CF100FX100	NW100	1000 (39.37)	896 (35.28)	152 (6.00)	108.0 (4.25)	3 (0.12)	HT9-CF100FX100R	NW100

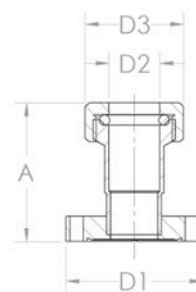
Note: both flanges fixed.



Note: one flange fixed, other rotatable.

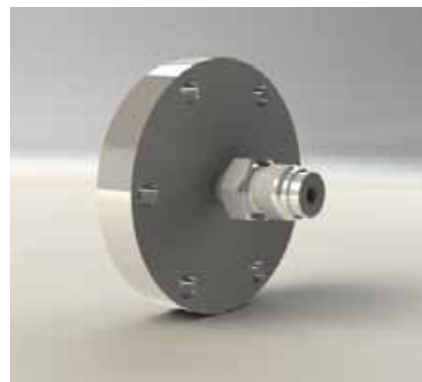
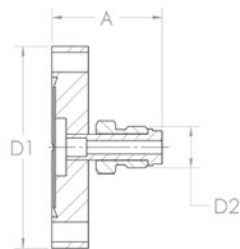
CF Compression Fit Tubing Adaptor - stainless steel

Part number	Pneurop	a	d1	d2	d3
HT9-CF16TA12	NW16	50 (1.97)	34 (1.33)	13.1 (0.52)	30 (1.18)
HT9-CF35TA12	NW40	50 (1.97)	70 (2.75)	13.1 (0.52)	30 (1.18)
HT9-CF35TA25	NW40	62 (2.44)	70 (2.75)	25.8 (1.02)	50 (1.97)
HT9-CF35TA38	NW40	84 (3.31)	70 (2.75)	38.4 (1.51)	62 (2.44)
HT9-CF63TA50	NW63	87 (3.43)	114 (4.50)	51.5 (2.03)	75 (2.95)



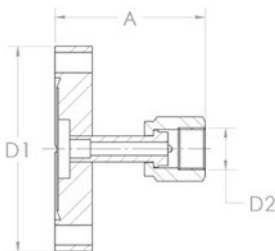
CF Male VCR Adaptor - stainless steel

Part number	Pneurop	a	d1	d2
HT9-CF16VCR14M	NW16	36 (1.42)	34 (1.33)	1/4"
HT9-CF16VCR12M	NW16	41 (1.61)	34 (1.33)	1/2"
HT9-CF35VCR14M	NW35	41 (1.61)	70 (2.75)	1/4"
HT9-CF35VCR12M	NW35	46 (1.81)	70 (2.75)	1/2"
HT9-CF35VCR34M	NW35	53 (2.09)	70 (2.75)	3/4"



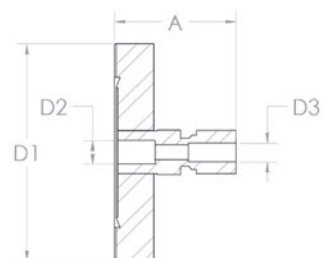
CF Female VCR Adaptor - stainless steel

Part number	Pneurop	a	d1	d2
HT9-CF16VCR14F	NW16	36 (1.42)	34 (1.33)	1/4"
HT9-CF16VCR12F	NW16	41 (1.61)	34 (1.33)	1/2"
HT9-CF35VCR14F	NW35	41 (1.61)	70 (2.75)	1/4"
HT9-CF35VCR12F	NW35	46 (1.81)	70 (2.75)	1/2"
HT9-CF35VCR34F	NW35	53 (2.09)	70 (2.75)	3/4"



CF to Imperial Pipe Adaptor - stainless steel

Part number	Pneurop	a	d1	d2	d3
HT9-CF16SWA14	NW16	36 (1.42)	34 (1.33)	4.8 (0.19)	1/4"
HT9-CF16SWA12	NW16	41 (1.61)	34 (1.33)	10.4 (0.41)	1/2"
HT9-CF35SWA14	NW35	36 (1.42)	70 (2.75)	4.8 (0.19)	1/4"
HT9-CF35SWA12	NW35	48 (1.89)	70 (2.75)	10.4 (0.41)	1/2"



CF Liquid Feedthroughs - stainless steel

Part number	Pneuop	d1	L1	L2	L3	L4	Tube DIA	Pipe fitting
Single feedthrough								
HT9-CF16LPP	NW16	34 (1.33)	45 (1.77)	75 (2.95)	-	-	6 (0.24)	PP
HT9-CF16LSP	NW16	34 (1.33)	45 (1.77)	103 (4.06)	-	-	6 (0.24)	SP
HT9-CF16LSS	NW16	34 (1.33)	103 (4.06)	103 (4.06)	-	-	6 (0.24)	SS
HT9-CF35LPP	NW35	70 (2.75)	45 (1.77)	75 (2.95)	-	-	6 (0.24)	PP
HT9-CF35LSP	NW35	70 (2.75)	45 (1.77)	103 (4.06)	-	-	6 (0.24)	SP
HT9-CF35LSS	NW35	70 (2.75)	103 (4.06)	103 (4.06)	-	-	6 (0.24)	SS

Double feedthrough - Figure 1.

HT9-CF35L2PP	NW35	70 (2.75)	45 (1.77)	75 (2.95)	75 (2.95)	45 (1.77)	6 (0.24)	PP
HT9-CF35L2SP	NW35	70 (2.75)	45 (1.77)	103 (4.06)	75 (2.95)	73 (2.87)	6 (0.24)	SP
HT9-CF35L2SS	NW35	70 (2.75)	73 (2.87)	103 (4.06)	103 (4.06)	73 (2.87)	6 (0.24)	SS

Pipe fitting, first letter indicates termination on vacuum side, second atmosphere.
P = Plain S = 6mm or 12mm metric fitting.

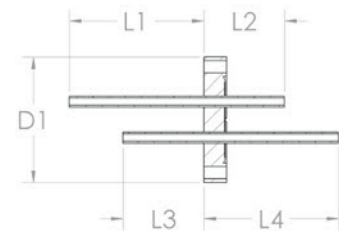


Figure 1

CF Liquid Nitrogen Feedthroughs - stainless steel

Part number	Pneuop	d1	L1	L2	L3	L4	tube DIA.	Pipe fitting
Single feedthrough								
HT9-CF16LNPP	NW16	34 (1.35)	45 (1.77)	75 (2.95)	-	-	6 (0.24)	PP
HT9-CF16LNSP	NW16	34 (1.35)	45 (1.77)	103 (4.06)	-	-	6 (0.24)	SP
HT9-CF16LNSS	NW35	34 (1.35)	103 (4.06)	103 (4.06)	-	-	6 (0.24)	SS
HT9-CF35LNPP	NW35	70 (2.75)	45 (1.77)	75 (2.95)	-	-	6 (0.24)	PP
HT9-CF35LNSP	NW35	70 (2.75)	45 (1.77)	103 (4.06)	-	-	6 (0.24)	SP
HT9-CF35LNSS	NW35	70 (2.75)	103 (4.06)	103 (4.06)	-	-	6 (0.24)	SS

2-way feedthrough - Figure 1.

HT9-CF352LNPP	NW35	70 (2.75)	75 (2.95)	45 (1.77)	45 (1.77)	75 (2.95)	6 (0.24)	PP
HT9-CF352LNSP	NW35	70 (2.75)	75 (2.95)	73 (2.87)	45 (1.77)	103 (4.06)	6 (0.24)	SP
HT9-CF352LNSS	NW35	70 (2.75)	103 (4.06)	73 (2.87)	73 (2.87)	103 (4.06)	6 (0.24)	SS

Pipe fitting, first letter indicates termination on vacuum side, second atmosphere.
P = Plain S = 6mm or 12mm metric fitting.

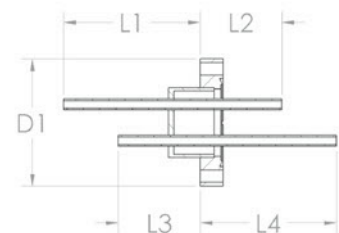


Figure 1

GLASS PRODUCTS

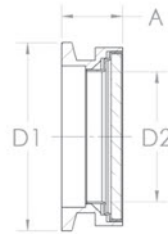
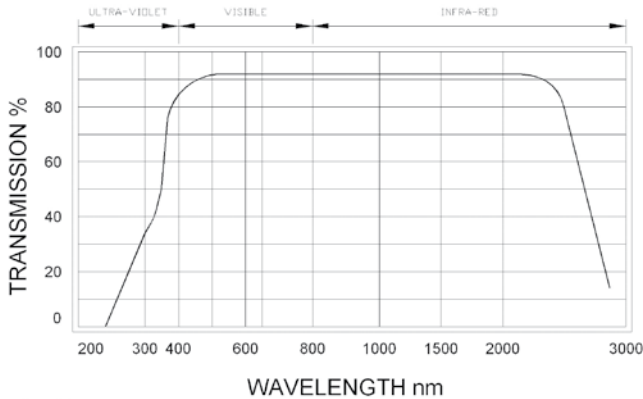
HTP has a wealth of expertise and experience in the manufacture of glass to metal seals. Today, HTP manufactures glass encapsulated ionisation gauge heads, viewports, glass and ceramic feedthroughs. The rare glass working expertise is available as a resource to our OEM customers. Standard zero length viewports are manufactured using Kodial glass, these viewports are UHV compatible and bakeable to 350 degrees centigrade graded seals, adaptors and flanged tubulations are also manufactured. Quartz, magnesium Fluoride and Special exotic material windows optimised for particular wavelength transmissions, plus anti-reflective coatings, can be quoted on request.



NW Zero Length Viewport - 304L stainless steel

Part number	Pneurop	a	d1	d2
HT9-KF40VPZ	NW40		55 (2.17)	
HT9-KF40VPZLA	NW40	15 (0.59)	55 (2.17)	36 (1.42)
HT9-KF50VPZLA	NW50	15 (0.59)	75 (2.95)	36 (1.42)

Bakeable to 200 °C at not greater than 2-3 °C per minute.

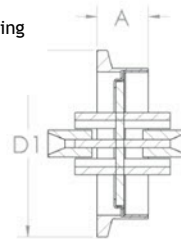


NW Octal Base Feedthrough - 304L stainless steel

Part number	Pneurop	a	d1	No. & type of conductors	Current (Amps)	Voltage Kv
HT9-OBFGK	nW40	55 (2.17)	36 (1.42)	9 x Kovar	10	5
HT9-OBFMK	nW40	55 (2.17)	36 (1.42)	9 x Kovar	10	1

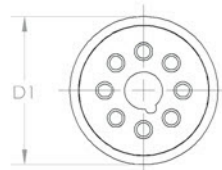
Please note that the OBFGK has Kovar pins sealed into an all glass base. OBFMK has Kovar pins sealed into a metal base with glass beads. Internal and external connectors are available for both (see socket connectors below).

The OBFMK has a KF 'o' ring carrier machined as part of the flange, so it can be sealed with an 'o' ring. The OBFGK requires an 'o' ring and carrier to seal. Both are bakeable to 150 °C maximum.



Socket Connector

Part number	d1	Crimp Socket No. x ID mm (Inch)	Current (Amps)	Voltage	Internal / External
HT9-VC8E	32 (1.26)	8 x 2.3 (0.09)	3	1	EXTERNAL
HT9-VC8I	32 (1.26)	8 x 2.3 (0.09)	3	1	INTERNAL



KF Ionisation Gauge - stainless steel

Part number	Pneurop	Filament type	Filament Voltage
HT9-IGH8K/IR	NW40	Single thoriated iridium	8V

Other characteristics are: Collector voltage - 50v; Grid voltage - 150v;
Sensitivity - 8mbar⁻¹

Ionisation Gauge connectors and lead

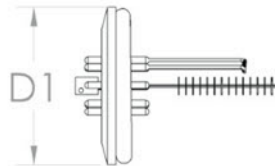
Part number	description	To Fit Gauge Head
HT9-IGL8B	2m Bakeable lead set	IGH8 series
HT9-IGL8	2m Non-Bakeable lead set	IGH8 series
HT9-IGPB	Non-Bakeable connector	IGH8 series



Ionisation Gauge filament kits

Part number	Filament Type	To Fit Gauge Head
HT9-FK8I1	Single thoriated iridium	IGH8 series
HT9-FK8I2	Twin helical thoriated iridium	IGH8 series

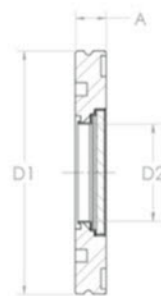
The IGH8 series of ionisation gauge heads are built on a glass to metal sealed base and are suitable for use in the range 10⁻³ to 10⁻⁹ mbar.



ISO Zero Length Viewport - 304l stainless steel

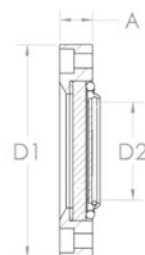
Part number	Pneurop	a	d1	d2
HT9-ISO100VPZ	ISO 100	12 (0.47)	130 (5.12)	63 (2.48)
HT9-ISO160VPZ	ISO 160	12 (0.47)	180 (7.09)	89 (3.50)
HT9-ISO200VPZ	ISO 200	12 (0.47)	240 (9.45)	136 (5.35)
HT9-ISO250VPZ	ISO 250	12 (0.47)	290 (11.42)	136 (5.35)

Bakeable to 200 °C at not greater than 2-3 °C per minute.
Quartz and sapphire assembly available on request.



ISO Sight Glass

Part number	Pneurop	a	d1	d2
HT9-ISO63SGV	ISO 63	20 (0.79)	130 (5.12)	60 (2.36)
HT9-ISO100SGV	ISO 100	22 (0.87)	165 (6.50)	92 (3.62)
HT9-ISO160SGV	ISO 160	30 (1.18)	225 (8.86)	142 (5.59)

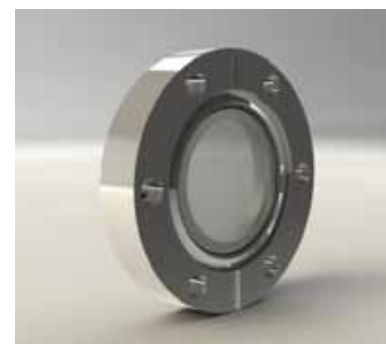
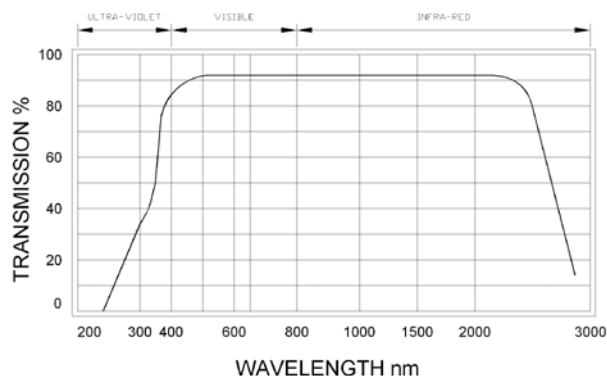


CFZero Length Viewport - stainless steel

Part number	Pneurop	a	d1	d2	d3	Part number
HT9-CF16VPZ	NW16	12.7 (0.50)	34 (1.30)	18 (0.71)	16 (0.63)	HT9-CF16VPZLN
HT9-CF35VPZ	NW35	12.7 (0.50)	70 (2.75)	42 (1.65)	33 (1.30)	HT9-CF35VPZLN
HT9-CF35VPZLA	NW35	12.7 (0.50)	70 (2.75)	48 (1.89)	39 (1.54)	HT9-CF35VPZLALN
HT9-CF63VPZ	NW63	17.4 (0.69)	114 (4.50)	72 (2.83)	63 (2.48)	HT9-CF63VPZ
HT9-CF100VPZ	NW100	19.9 (0.78)	152 (6.00)	106 (4.17)	89 (3.50)	HT9-CF100VPZ
HT9-CF150VPZ	NW150	22.3 (0.88)	203 (8.00)	156 (6.14)	136 (5.35)	HT9-CF150VPZ

Bakeable to 350°C at not greater than 2-3°C per minute.
To be used with annealed copper gaskets.

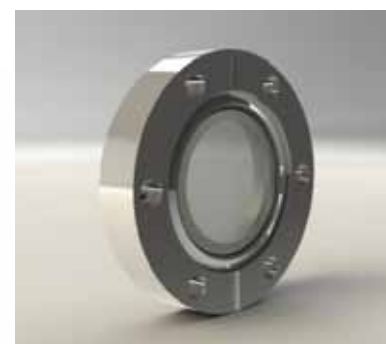
316LN flange,
Kovar weld ring.



CFZero Length Non-Magnetic Viewport - stainless steel

Part number	Pneurop	a	d1	d2	d3
HT9-CF16VPZLNMM	NW16	12.7 (0.50)	34 (1.30)	18 (0.71)	16 (0.63)
HT9-CF35VPZLNMM	NW35	12.7 (0.50)	70 (2.75)	42 (1.65)	33 (1.30)
HT9-CF63VPZLNMM	NW63	17.4 (0.69)	114 (4.50)	72 (2.83)	63 (2.48)
HT9-CF100VPZLNMM	NW100	19.9 (0.78)	152 (6.00)	106 (4.17)	89 (3.50)
HT9-CF150VPZLNMM	NW150	22.3 (0.88)	203 (8.00)	156 (6.14)	136 (5.35)

Supplied with 316LN flange, tantalum welding ring, bakeable to 120°C at not greater than 2-3°C per minute to be used with annealed copper gaskets.

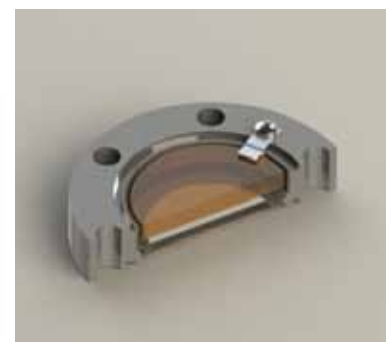


CFZero Length Viewport With Fitted Lead Glass Disc - stainless steel

Part number	Pneurop	a	d1	d2	d3	Part number
HT9-CF16VPZLGL	NW16	12.7 (0.50)	34 (1.30)	18 (0.71)	16 (0.63)	HT9-CF16VPZLGLN
HT9-CF35VPZLGL	NW35	12.7 (0.50)	70 (2.75)	42 (1.65)	33 (1.30)	HT9-CF35VPZLGLN
HT9-CF63VPZLGL	NW63	17.4 (0.69)	114 (4.50)	72 (2.83)	63 (2.48)	HT9-CF63VPZLGLN
HT9-CF100VPZLGL	NW100	19.9 (0.78)	152 (6.00)	106 (4.17)	89 (3.50)	HT9-CF100VPZLGLN
HT9-CF150VPZLGL	NW150	22.3 (0.88)	203 (8.00)	156 (6.14)	136 (5.35)	HT9-CF150VPZLGLN

Bakeable to 350°C at not greater than 2-3°C per minute.
To be used with annealed copper gaskets.

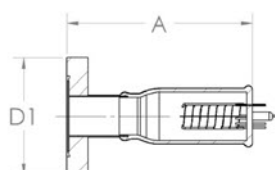
316LN flange,
Kovar weld ring.



CF Ionisation Gauge Head - glass encapsulated

Part number	Pressure Gauge (mbar)	Pressure Gauge (mbar)	X-Ray Light (mbar)	Filament Type and No.	Base Type	Filament Voltage	Collector Voltage	Grid Voltage	Connector / Lead
HT9-VIG30	10^{-3} to 10^{-10}	13	3×10^{-10}	Twin Tungsten	Glass	0 to 5v	-20 to -80v	112 to 180v	Barrel or Crimp
HT9-VIG39	10^{-2} to 10^{-7}	7	7×10^{-8}	Single Tungsten*	Glass	2 to 5v	-20 to -60v	120 to 250v	Barrel or Crimp
HT9-IGH9	10^{-3} to 10^{-10}	9	3×10^{-10}	Twin Thoriated Iridium	Glass	3 to 6v	-20 to -65v	150 to 250v	IGP9 / IGL9B

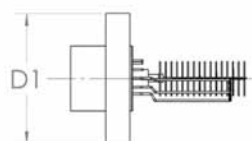
* Iridium version available on request.



CF Ionisation Gauge Head - nude

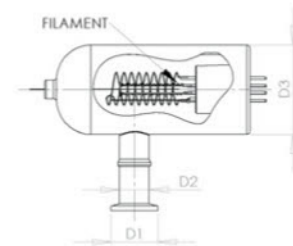
Part number	Pressure Gauge (mbar)	Pressure Gauge (mbar)	X-Ray Light (mbar)	Filament Type and No.	Base Type	Filament Voltage	Collector Voltage	Grid Voltage	Connector / Lead
HT9-VIG32NTIR	10^{-3} to 10^{-10}	13	3×10^{-10}	Twin thoriated iridium	Glass	0 to 5v	-20 to 80v	112 to 180v	barrel or crimp
HT9-IGH8/IR	10^{-3} to 10^{-9}	8	5×10^{-10}	Replaceable single thoriated iridium	Metal / glass bead	8v	-50v	150v	IGP8/B, IGL8/B
HT9-IGH8T/W	10^{-3} to 10^{-9}	8	5×10^{-10}	Replaceable twin tungsten	Metal / glass bead	16v	-50v	150v	IGP8B, IGL8B
HT9-IGH11/W	10^{-3} to 10^{-11}	17	4×10^{-11}	Replaceable twin tungsten	Ceramic	6 to 20v	-50v	180v	IGPBK, IGLBK

Replacement filament kits available on request.



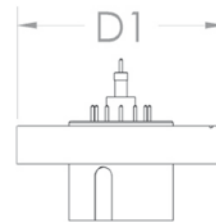
Ionisation Gauge Head - glass encapsulated

Part Number	Operating Pressure (mbar)	Filament Type and No.	Side Port (d1)	d2	d3
HT9-BA-0.75-CF35	10^{-3} to 10^{-10}	thoriated iridium	DN40 CF Flg	19.05 (0.75)	57 (2.24)
HT9-BA-0.75-KOV	10^{-3} to 10^{-10}	thoriated iridium	Kovar	19.05 (0.75)	57 (2.24)
HT9-BA-0.75-GLASS	10^{-3} to 10^{-10}	thoriated iridium	Glass	19.05 (0.75)	57 (2.24)
HT9-BA-0.75-T-KOV	10^{-3} to 10^{-10}	twin tungsten	Kovar	19.05 (0.75)	57 (2.24)
HT9-BA-0.75-T-GLASS	10^{-3} to 10^{-10}	twin tungsten	Glass	19.05 (0.75)	57 (2.24)
HT9-BA-1.00-F35	10^{-3} to 10^{-10}	thoriated iridium	DN40CF Flg	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-KF25	10^{-3} to 10^{-10}	thoriated iridium	DN25KF Flg	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-KF40	10^{-3} to 10^{-10}	thoriated iridium	DN40KF Flg	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-KOV	10^{-3} to 10^{-10}	thoriated iridium	Kovar	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-GLASS	10^{-3} to 10^{-10}	thoriated iridium	Glass	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-T-KOV	10^{-3} to 10^{-10}	twin tungsten	Kovar	25.40 (1.00)	57 (2.24)
HT9-BA-1.00-T-GLASS	10^{-3} to 10^{-10}	twin tungsten	Glass	25.40 (1.00)	57 (2.24)



CF Multipin Ceramic Feedthrough - stainless steel

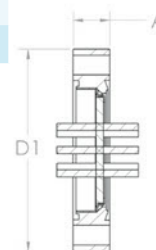
Part number	Pneurop	d1
HT9-SFT12C	CF35	70 (2.75)



CF Multipin Ceramic Feedthrough - stainless steel

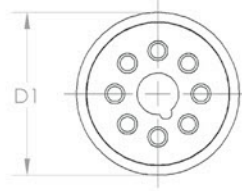
Part number	Pneurop	a	d1	No & Type of Conductors	Current (Amps)	Voltage Kv
HT9-OBFG	CF35	70 (2.75)	22 (0.87)	9 x Kovar	10	5
HT9-OBFM	CF35	70 (2.75)	16 (0.63)	9 x Kovar	10	1

Please note that the OBFG has Kovar pins sealed into an all glass base OBFM has Kovar pins sealed into a metal base with glass beads. Internal and external connectors are available for both. (see socket connectors).



Socket Connector

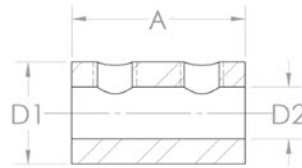
Part Number	d1	Crimp Socket	Current	Voltage	Internal / external	To fit
HT9-VC12E	32 (1.26)	10 x 1.0	5	3	external	HT9-SFT12C
HT9-VC12I	32 (1.26)	11 x 1.0	5	3	Internal	HT9-SFT12C
HT9-VC8E	32 (1.26)	8 x 2.3	3	1	External	HT9-OBFG, HT9-OBGM
HT9-VC8I	32 (1.26)	8 x 2.3	3	1	Internal	HT9-OBFG, HT9-OBGM



All connectors have a unique fitting orientation to prevent incorrect wiring connections. All external connectors are bakeable to 250°C and all internal connectors are bakeable to 150°C maximum.

Barrel Connector - stainless steel

Part number	a	d1	d2	Screws
HT9-BC10	1.1 (0.04)	4.7 (0.19)	10 (0.39)	2 x grub
HT9-BC23	2.4 (0.09)	4.7 (0.19)	10 (0.39)	2 x grub
HT9-BC15	1.5 (0.06)	4.7 (0.19)	13 (0.51)	2 x Pan
HT9-BC18	1.8 (0.07)	4.7 (0.19)	13 (0.51)	2 x Pan
HT9-BC30	3.0 (0.12)	6.4 (0.25)	14 (0.55)	2 x Pan



Feedthrough Crimp Set

Part Number	Bore	Type	Vacuum Compatible	Pack Qty.
HT9-CC10F	1.0 (0.04)	Female	Yes	20
HT9-CC10M	1.0 (0.04)	Male	No	20
HT9-CC23F2	2.3 (0.09)	Female	Yes	20
HT9-CC23M2	2.3 (0.09)	Male	No	20

Please note, the non-vacuum compatible crimps should only be used on the atmosphere side of the flange.

