

SAFETY NOT RETURN VALVES



The Not-Return, explosion safety valve is a very important component in the intake system. The protection of the working environment from the damage that can cause the explosion in the Filter, Silos or container of waste material from processing depends mainly on the intervention of the non-return valve that totally blocks the pressure and

flame caused by the explosion. The closing speed of the diaphragm is very important and the system patented by Aircom to balance the weight of the diaphragm with counterweights that release instantly with the arrival of the burst (not present in diameters from 100 to 180mm) allows a closing time of 80-140 ms and greatly reduces the load loss of the suction. The danger of the explosion is always in relation to the dangerousness and burst power of the material that is processed in the company and this makes it easy to understand that the higher the sealing pressure of the non-return valve (**data from the KST Certification Test**) the less likely the explosion effect will reach the working environment.

They are made of carbon steel painted standard RAL 3020, or stainless steel AISI 304 or AISI 316 ON REQUEST, welded in all unions, and reinforced structure to support high pressure. Equipped with flanges and counter-flanges compatible with DIN 24154-RI, except for Ø 350-550-650-700 mm, and anti-opening safety block. A seal ensures the seal in the closed position. Equipped with support slots on the upper side for the Ø350÷700

CERTIFICATE

ATEX EN-16447 ST3 CERTIFICATED

CE 1370 EPT 20 ATEX 3954 X  II D



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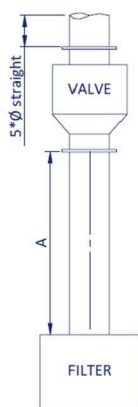
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AUSTRALIA

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TECHNICAL DATA

- Maximum air speed: 30 m/s
- Working temperatures: -20°C / +60°C
- ATEX Class: 3
- Flux type: suction flow
- Dust type: non metallic
- KST_{max} : 325 bar m/s (non-metallic dust)
- $P_{red,max}$: 9.5 bar
- MIE: 10 ÷ 30 mJ
- MIT: 400°C
- Minimum installation distance: 3 m
- Maximum installation distance: 5 m
- Installation in the presence of bends: see picture below

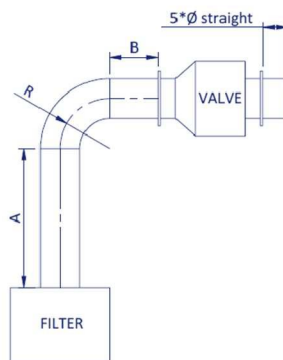
EQUIVALENT LENGTH CALCULATION
(STRAIGHT DUCT)



$$L = A$$

$$L_{min} < L < L_{max}$$

EQUIVALENT LENGTH CALCULATION
(WITH ONE ELBOW)

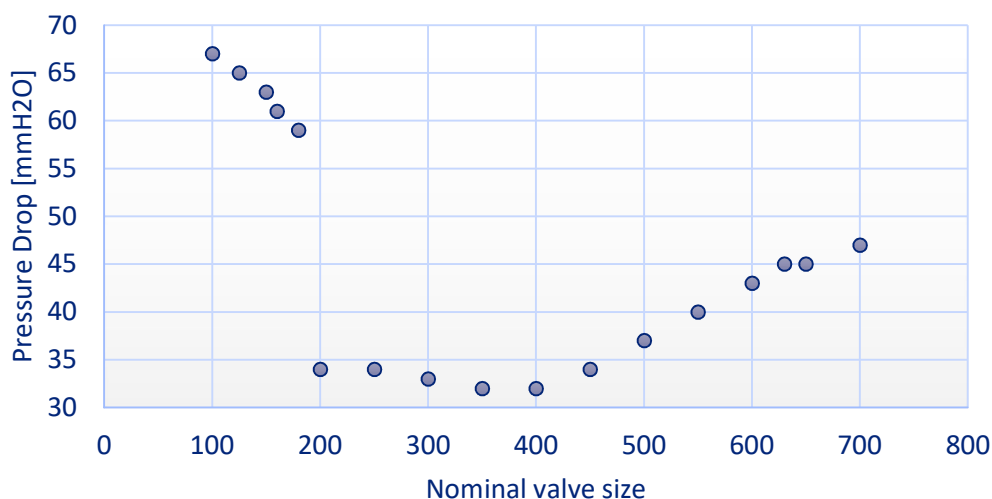


$$L = A + R * \frac{\pi}{2} + B$$

$$L_{min} < L < L_{max}$$

Note:
The dimensions A or B or both can be also = 0

Pressure drop at 20 m/s



NOT RETURN VALVES

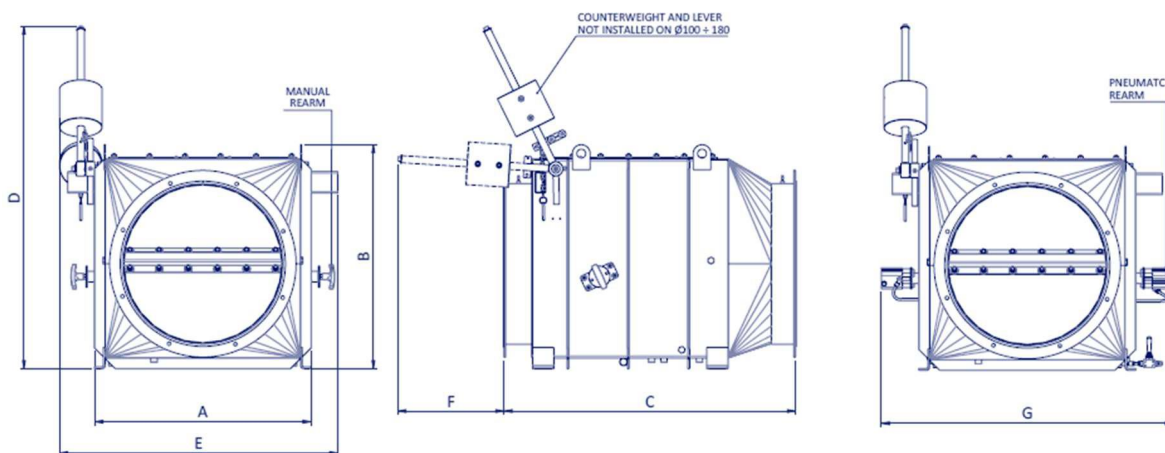
COMBO Ø100 ÷ Ø700

Ø [mm]	V _{min} [m³]	P _{red, max} [bar/psi]	Pressure drop [mmH ₂ O] for 20 m/s speed
100	1,2	1.0/14.5	67
125	1,2	1.0/14.5	65
150	1,2	1.0/14.5	63
160	1,2	1.0/14.5	61
180	1,2	1.0/14.5	59
200	1,2	0.6/8.7	34
250	1,2	0.6/8.7	34
300	1,2	0.6/8.7	33
350	1,2	0.6/8.7	32
400	1,2	0.6/8.7	32
450	5,0	0.6/8.7	34
500	5,0	0.6/8.7	37
550	5,0	0.6/8.7	40
600	5,0	0.6/8.7	43
630	5,0	0.6/8.7	45
650	5,0	0.6/8.7	45
700	5,0	0.6/8.7	47

DIMENSIONS

Ø [mm]	Weight [kg]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Rearm
100	10	150	185	415	-	340	-	425	Manual
125	11	175	210	440	-	360	-	445	Manual
150	12	200	235	465	-	390	-	475	Manual
160	13	210	245	475	-	400	-	485	Manual
180	14	230	265	495	-	420	-	505	Manual
200	31	360	360	575	590	510	125	575	Manual
250	38	410	410	625	640	560	125	625	Manual
300	48	460	460	675	690	610	125	675	Manual
350	58	510	530	725	740	660	125	725	Manual
400	68	560	580	775	790	710	125	775	Manual
450	88	610	630	825	970	780	255	825	Pneumatic
500	100	660	680	875	1015	830	255	875	Pneumatic
550	112	710	730	925	1065	880	255	925	Pneumatic
600	130	760	780	975	1115	930	255	975	Pneumatic
630	155	810	830	1025	1165	980	255	1025	Pneumatic
650	155	810	830	1025	1165	980	255	1025	Pneumatic
700	176	860	880	1075	1215	1030	255	1075	Pneumatic





ACCESSORIES ON REQUEST

- ⊙ Stainless Steel AISI 304 or AISI 316
- ⊙ Pneumatic rearm (Ø450÷700 already supplied)
- ⊙ Silicone gasket
- ⊙ Cleaning System
- ⊙ Capacitive sensor for dust detection at the bottom of the valve:

Characteristic	SENSCAP-NRVQ	SENSCAP1-NRVQ	SENSCAP2-NRVQ
Output	Namur	Namur	Namur
Working distance [mm]	0 ÷ 3	1 ÷ 6	1 ÷ 15
Working voltage [V]	7 ÷ 12	5 ÷ 15	7.5 ÷ 15
Degree of protection	IP68	IP67	IP 65

- ⊙ Micro switch for feedback on shutter status:

Characteristic	Pre-wired micro switch with swivel lever with wheel		
Number of contacts	1 NO + 1 NC	1 NO + 1 NC	1 NO + 1 NC
Working voltage [V]	400	400 Vac \ Vdc	250 Vac \ Vdc
Current [A]	3	10	6
Number on wires	4+1	4.1	4+1
Degree of protection	IP67	IP67	IP66

⦿ Cleaning system:



The purpose of the cleaning system is to clean the bottom of the valve in such a way as to prevent the passage material from settling and may compromise the closure of the device in an emergency.

The system connected to the compressed air network consists of 2 to 4 nozzles that release compressed air for about 5 seconds (min 6 bar). The release is automatic with a cadence of 10 minutes.

Both duration and frequency can be adjusted according to specific needs. The supply voltage is 24V-DC.



SAFETY NOT RETURN VALVE NRV



The Non-Return, explosion safety valve is a very important component in the intake system. The protection of the working environment from the damage that can cause the explosion in the Filter, Silos or container of waste material from processing, depends mainly on the intervention of the non-return valve that totally blocks the pressure and flame caused by the explosion.

The danger of the explosion is always in relation to the dangerousness and burst power of the material that is processed in the company and this makes it easy to

understand that the higher the sealing pressure of the non-return valve (**data from the KST Certification Test**) the less likely the explosion effect will reach the working environment. The dimensions of the series Diameters 800-1200 mm are very important and require a very robust structure and a particular construction to block the effect of the explosion without allowing the passage of flame and pressure.

They are made of carbon steel painted standard RAL 3020, or stainless steel AISI 304 or AISI 316 A REQUEST, welded in all unions, and reinforced structure to support high pressure. Equipped with flanges and counter-flanges compatible with DIN 24154-RI, except for Ø350-550-650-700 mm, and anti-opening safety block. Una guarnizione assicura la tenuta in posizione chiusa. Equipped with support and fixing brackets at the bottom and buttonholes for lifting at the top.

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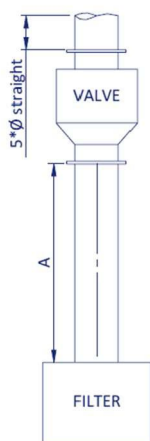
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AUSTRALIA

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TECHNICAL DATA

- Pipe: Horizontal
- Flux type: suction flow
- Dust type: non metallic
- Minimum applicable volume: 10 m³
- Maximum air speed: 30 m/s
- Working temperatures: -20°C / +60°C
- ATEX Class: 3
- KST_{max}: 325 bar m/s (non metallic dust)
- Minimum installation distance: 3 m
- Maximum installation distance: 6 m
- P_{max}: 9,5 bar
- MIE: 10÷30 mJ
- MIT: 400°C
- L_{min}: 3m
- L_{max}: 6m
- Installation in the presence of bends: see picture below

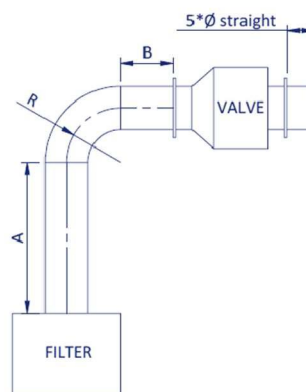
EQUIVALENT LENGTH CALCULATION
(STRAIGHT DUCT)



$$L = A$$

$$L_{min} < L < L_{max}$$

EQUIVALENT LENGTH CALCULATION
(WITH ONE ELBOW)



$$L = A + R * \frac{\pi}{2} + B$$

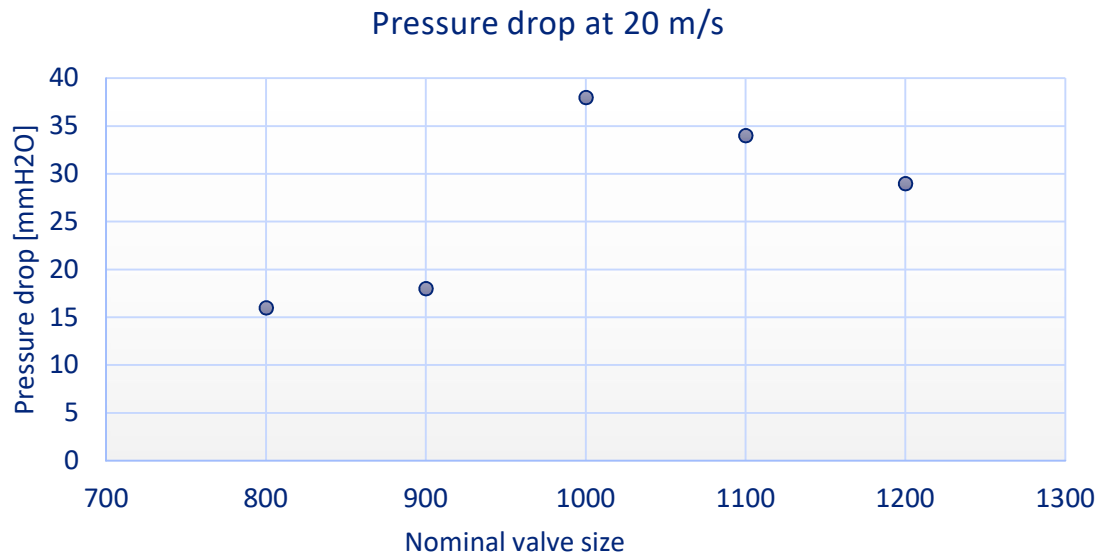
$$L_{min} < L < L_{max}$$

Note:
The dimensions A or B or both can be also = 0

Ø [mm]	V _{min} [m ³]	P _{red, max} [bar/psi]	Pressure drop [mmH ₂ O]
800	5	0.6/8.7	16
900	5	0.6/8.7	18
1000	10	0.7/7.25	38
1100	10	0.7/7.25	34
1200	10	0.7/7.25	29

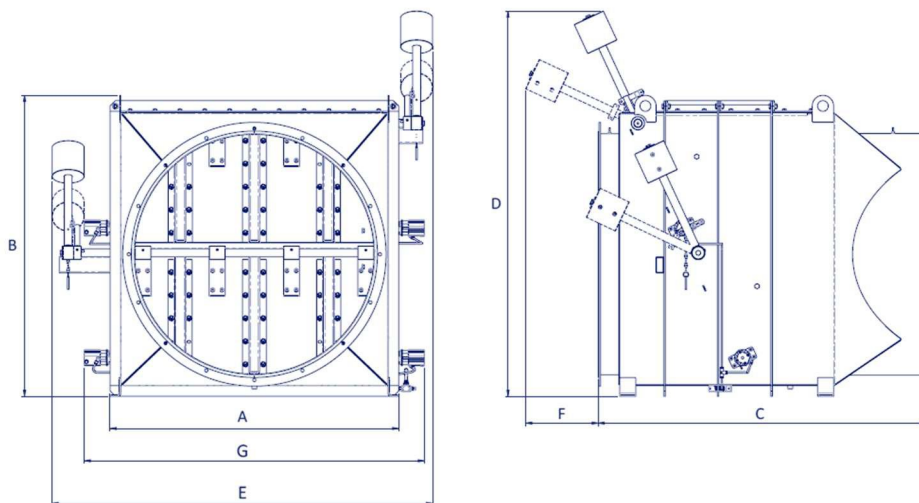
NOT RETURN VALVES

COMBO Ø800 ÷ Ø 1200



DIMENSIONS

Ø [mm]	Weight [kg]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Rearm
800	290	980	1025	1130	1330	1325	270	1172	Pneumatic
900	335	1080	1130	1230	1430	1425	270	1272	Pneumatic
1000	405	1180	1225	1215	1525	1615	270	1372	Pneumatic
1100	480	1280	1325	1295	1625	1715	270	1472	Pneumatic
1200	535	1380	1425	1375	1725	1815	270	1572	Pneumatic



ACCESSORIES ON REQUEST

- ⦿ Stainless Steel AISI 304 or AISI 316
- ⦿ Pneumatic rearm (Ø450÷700 already supplied)



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- ⊙ Silicone gasket
- ⊙ Capacitive sensor for dust detection at the bottom of the valve

Characteristic	SENSCAP-NRVQ	SENSCAP1-NRVQ	SENSCAP2-NRVQ
Output	Namur	Namur	Namur
Working distance [mm]	0 ÷ 3	1 ÷ 6	1 ÷ 15
Working voltage [V]	7 ÷ 12	5 ÷ 15	7.5 ÷ 15
Degree of protection	IP68	IP67	IP 65

- ⊙ Micro switch for feedback on shutter status:

Caratteristica	Microinterruttore pre-cablato a leva girevole con rotella		
Numero di Contatti	1 NO + 1 NC	1 NO + 1 NC	1 NO + 1 NC
Tensione di impiego [V]	400	400 Vac \ Vdc	250 Vac \ Vdc
Corrente di Impiego [A]	3	10	6
Numero fili	4+1	4.1	4+1
Grado di protezione	IP67	IP67	IP66

- ⊙ Cleaning system:



The purpose of the cleaning system is to clean the bottom of the valve in such a way as to prevent the passage material from settling and may compromise the closure of the device in an emergency.

The system connected to the compressed air network consists of 2 to 4 nozzles that release compressed air for about 5 seconds (min 6 bar). The release is automatic with a cadence of 10 minutes.

Both duration and frequency can be adjusted according to specific needs. The supply voltage is 24V-DC.