AIRALT-AIRALT/M

DUST & FUME COLLECTOR WITH
AUTOMATIC REVERSE
PULSE CLEANING

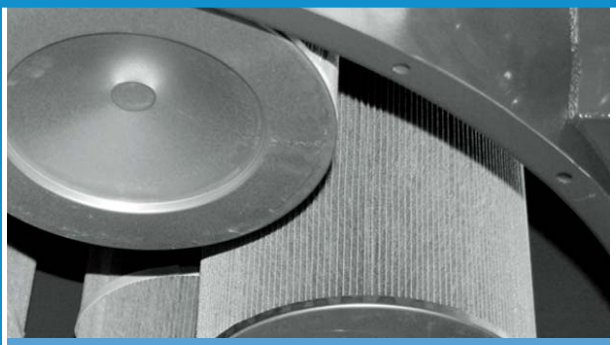
CORAL
ANTIPOLLUTION SYSTEMS

THE FILTER CAN BE USED FOR TREATMENT OF FUMES AND DUSTS IN MECHANICAL, CHEMICAL OR PHARMACEUTICAL APPLICATIONS.

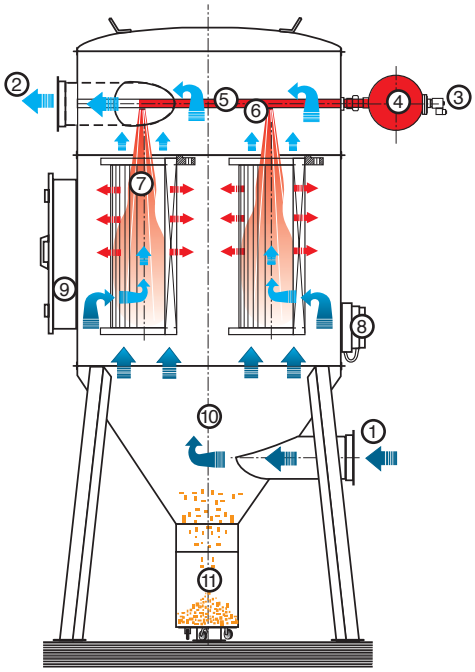
OPERATING PRINCIPLE

The contaminated air enters from the hopper inlet and due to the abrupt decrease of velocity and the 1ST stage impact filter, the larger particles decant and fall into the dust collection bin.
The finer or lighter particles flow through the unit, where the filtering cartridges are placed; the contaminated air flows through the cartridges (AIRALT) or the sleeves (AIRALT/M) from the outside to the inside, therefore the dust deposits outside and the air flows through the filters and is emitted in a purified condition.
The gradual accumulation of dust requires a periodical cleaning of the filters: the backwashing cleaning is carried out by a compressed air blast which causes a high frequency oscillating motion to the filters.
This air blast technique, also known as “shock wave cleaning” helps the backwashing process.
The cleaning sequence is carried out on each filter section, by means of diaphragm magnetic valves managed by a cycle timer, which determines both pause and operating period or by a PLC mounted on the control board, taking into account the pressure differential between clean and dirty zones of the filters. In this way the conditions of efficiency of the filter are always maintained at a maximum.
Thanks to this highly reliable cleaning method, after an initial operating period, the filter reaches a nearly constant pressure drop throughout its operating life.
The unit is fitted with a differential pressure switch for monitoring the cartridges clogging and the subsequent pneumatic cleaning cycle.
The standard mounted cartridges or sleeves made from polyester fibres with IFA/BGIA L-PES classification, ensure a high separation efficiency rate (<0,1%) only with filtration speed lower than 0.056 m/s, with inlet dust concentration of 200 mg/m^3 and particle size between 0.2 and 2 µm. The AIRALT-AIRALT/M filter equipment allows a maximum vacuum of 5000 mmH_2O/0,5 bar on the outlet. In case of special requests for bigger loss charges or version requesting Atex versions (filter positioned in zone 22-21 dust / 2-1 gas) please contact our Technical Department.
We suggest to protect the unit against hard weather conditions to ensure a longer life.

AIRALT

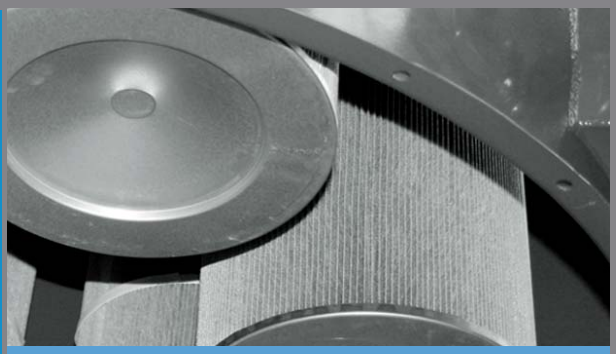


AIRALT CARTRIDGES VERSION OPERATING SCHEMA.

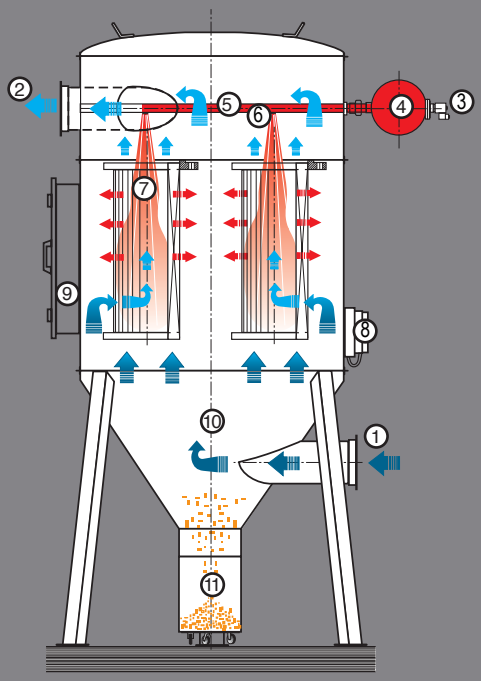


CORAL
ANTIPOLLUTION SYSTEMS

AIRALT



AIRALT CARTRIDGES VERSION OPERATING SCHEMA.



① POLLUTED AIR INLET

② FILTERED AIR OUTLET

③ ELECTROVALVE

④ COMPRESSED AIR TANK

⑤ DISTRIBUTION PIPE

⑥ NOZZLES

⑦ FILTERING CARTRIDGE

⑧ CYCLIC PROGRAMMER

⑨ MAINTENANCE DOOR

⑩ HOPPER

⑪ COLLECTION BIN (up to Ø2000mm)

Inlet for air to be treated

Pollutant

Clean air outlet

Reverse pulse compressed air

AIRALT/M

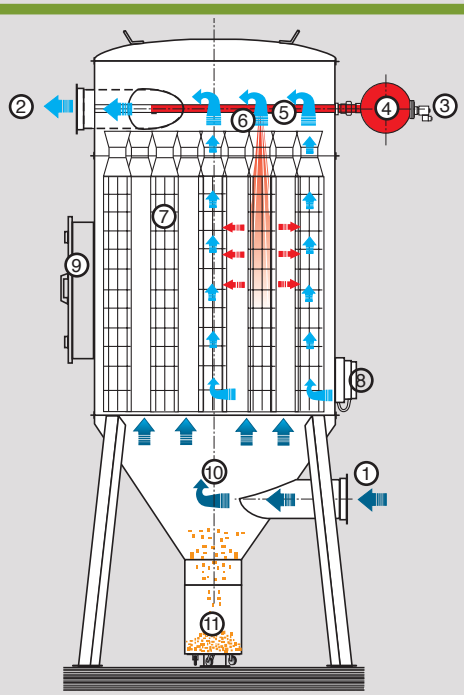
SCHEMA DI FUNZIONAMENTO AIRALT/M A MANICHE

SCHÉMA DE FONCTIONNEMENT AIRALT/M VERSION A MANCHES.

AIRALT/M SLEEVES VERSION OPERATING SCHEMA.

FUNKTIONSPRINZIP VON AIRALT/M, SCHLAUCHAUSFÜHRUNG.

DIAGRAMA DE FUNCIONAMIENTO AIRALT/M CON MANGAS.



① DUSTY AIR INLET

② FILTERED AIR OUTLET

③ ELECTROVALVE

④ COMPRESSED AIR TANK

⑤ DISTRIBUTION PIPE

⑥ NOZZLES

⑦ FILTERING SLEEVES

⑧ CYCLIC PROGRAMMER

⑨ MAINTENANCE DOOR

⑩ HOPPER

⑪ COLLECTION BIN (up to Ø2000mm)

Inlet for air to be treated

Pollutant

Clean air outlet

Reverse pulse compressed air

AIRALT 360 ATEX

AIRALT/M 181 ATEX

CORAL ANTIPOLLUTION SYSTEMS

CYCLIC PROGRAMMER
A sealed container is used with a transparent lid, duration of injection and pause phases are preset but easily changeable.

IN/OUT VOLTAGE	230 V / 24VAC
MAXIMUM CHARGING POWER	20VA pulse
TEMPERATURE RANGE	-15 .....+50 °C
PROTECTION CLASS	IP65
PRESSION MAXI ADMISSIBLE	50 kPa-0,5 bar
AMPLITUDE DE PRESSION MESURABLE	0÷10KPa-0,1 bar
FUSIBLE	1x2 A

ANTIPOLLUTION SYSTEMS

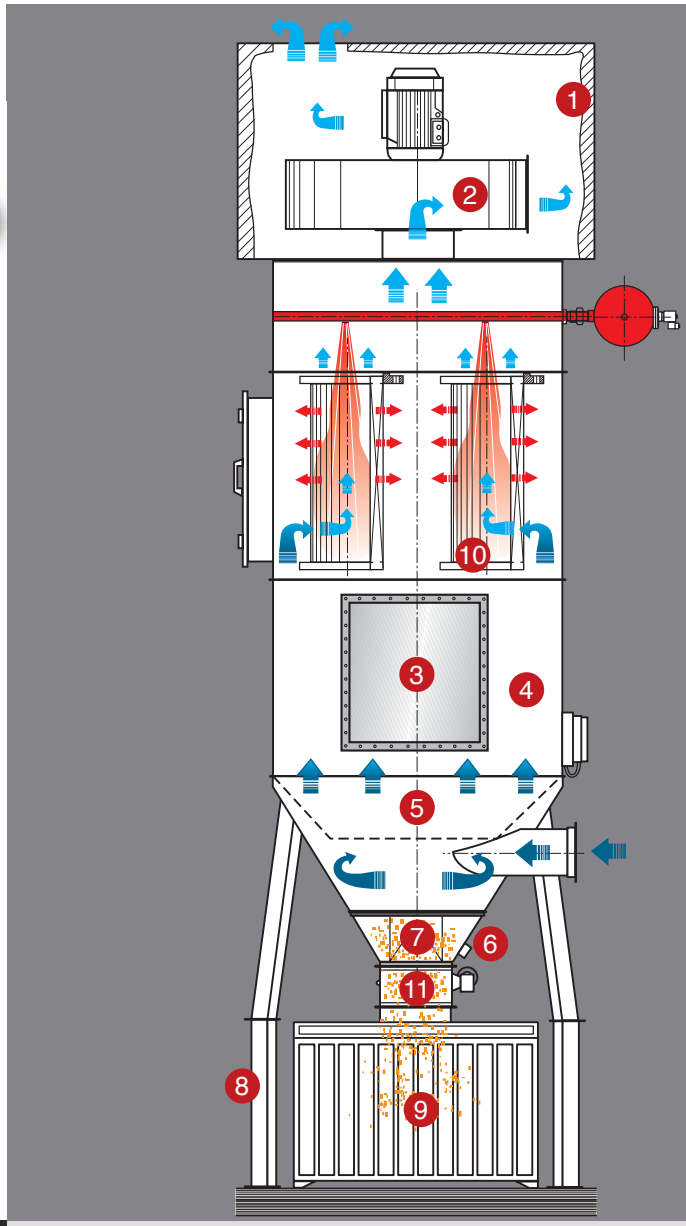
ELECTROVALVE
Two way valve normally closed; it is activated by an electric solenoid.
It holds air pressure of max.7 bar. The compressed air tank operates at 4 to 7 bar.

Model		AIRALT 19-24 VPN 508 – 24/50	AIRALT 33-149 VPN 514 – 24/50	AIRALT 206-675 VPN 516 – 24/50	AIRALT/M VPN 508 – 24/50
Gas fittings	(inches)	1	1 1/2	2	1
Pressure	(bar)	Min. 0,5 Max. 7 Recommended			
MAX fluid temperature	(°C)	80	80	80	80
VEP weight	(Kg)	1,2	2,3	2,8	1,2
Voltage-(V)		24 AC	24 AC	24 AC	24 AC
Frequency	(Hz)	50	50	50	50
power uptake	(VA) (W)	19 AC 15 DC	19 AC 15 DC	19 AC 15 DC	19 AC 15 DC
Protection class		IP 65	IP 65	IP 65	IP 65

OPTIONALS

BALLATOIO Ladder and platform for filters maintenance

AIRALT 51 ATEX

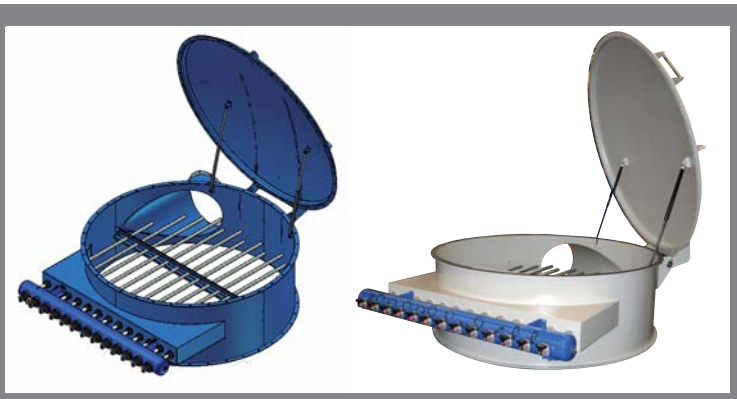


AIRALT-AIRALT/M

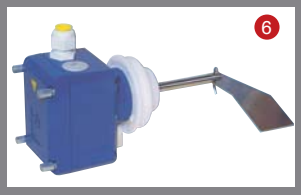
OPERATING SCHEMA WITH OPTIONALS

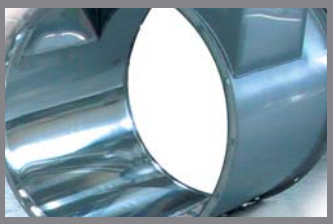
1. Soundproofed box
2. Fan
3. Explosion-relief panel
4. Additional module for Venting Area
5. Inner cone
6. Level control with rotating blade
7. Fitting
8. Legs with extension
9. Dusts container

•Sound proofed box for compressed air tank



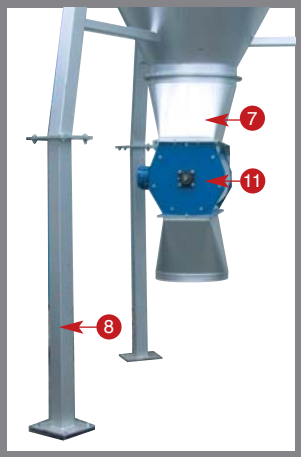
•OPEN TOP system for filters maintenance





•Food grade inner stainless steel surface

•Additional module with walk on grid removable in sections for inner filters maintenance



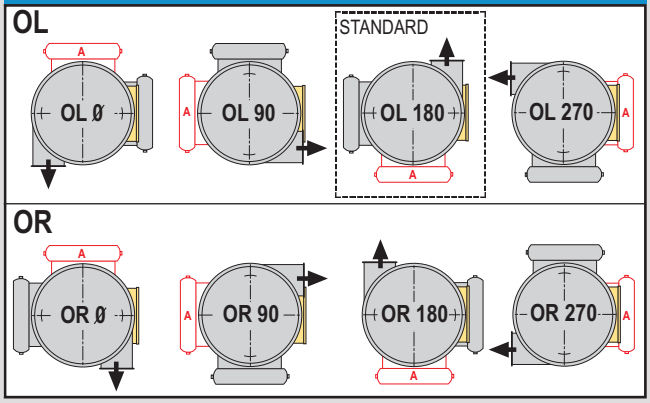
10 Supplied as optional fittings:
-IFA/BGIA M-PES polyester media cartridges and sleeves
-IFA/BGIA M-PES/TF teflon coated polyester media cartridges and sleeves
-IFA/BGIA M-PES/AX EXAN accredited antistatic polyester media cartridges and sleeves

11 ROTARY VALVE (up to Ø2000mm supplied as optional, standard from Ø3000mm) for continuous download from hoppers, various capacities and different technical specifications depending on application.

AIRALT

•OUTLET (OUTLET) AND INLET (INLET) SIDE
refering to maintenance door position

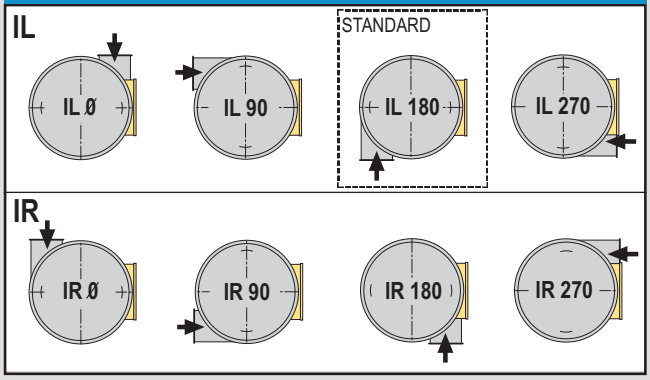
OUTLET



A =Optional tank position (on request)

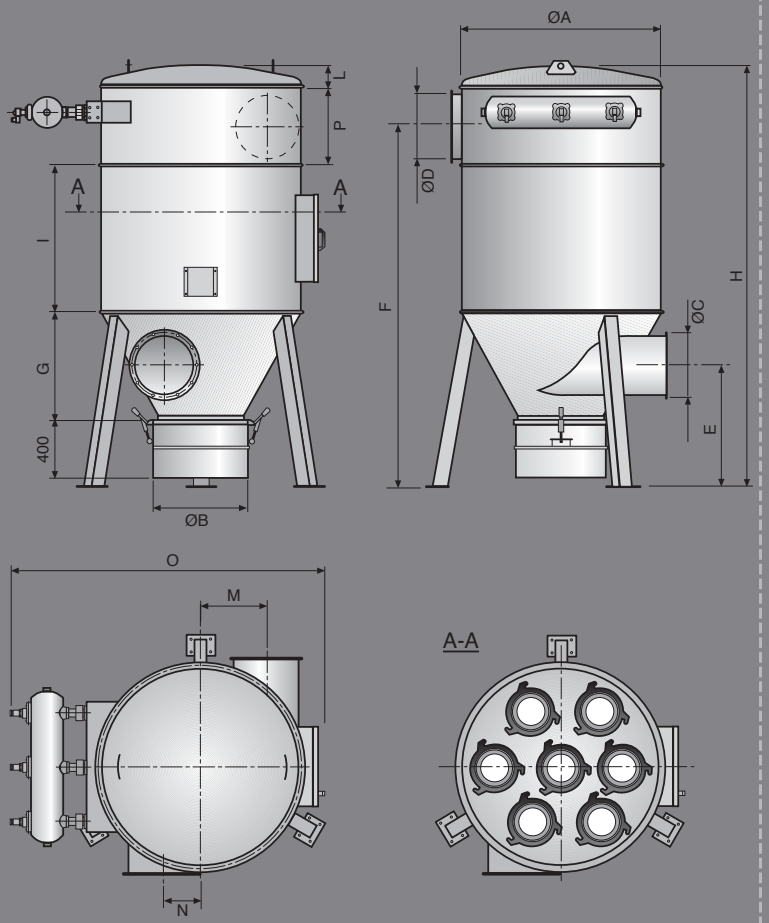
Inspection port

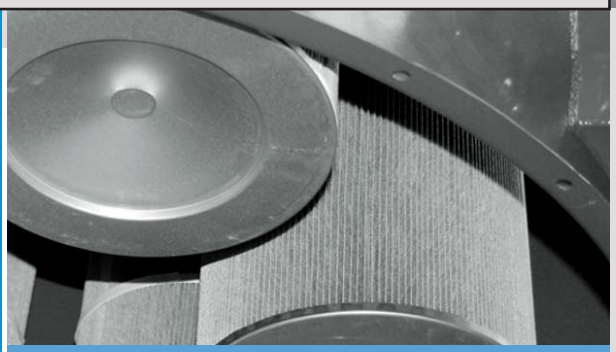
INLET



AIRALT 19
AIRALT 24
AIRALT 33
AIRALT 40
AIRALT 51
AIRALT 64

AIRALT 81
AIRALT 101
AIRALT 122
AIRALT 149
AIRALT 206
AIRALT 248

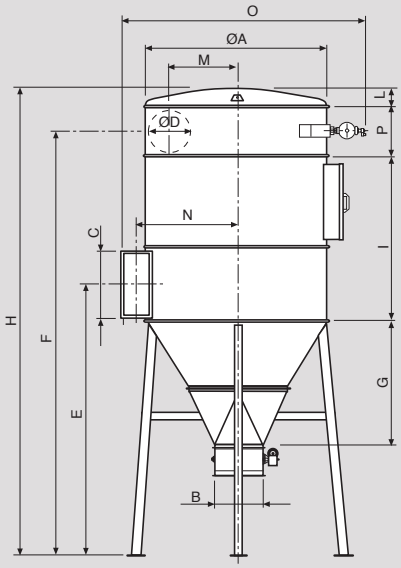




•IFA/BGIA L-PES standard polyester cartridge

AIRALT 360
AIRALT 555
AIRALT 675

Models over 2000 mm diameter



AIRALT

CORAL
ANTIPOLLUTION SYSTEMS

	ØA	ØB	ØC	ØD	E	F	G	H	I	L	M	N	O	P
AIRALT 19	600	230	150	150	610	1730	415	2065	720	145	225	100	1230	400
AIRALT 24	600	230	150	150	610	2030	415	2365	1020	145	225	100	1230	400
AIRALT 33	1000	430	300	300	750	2310	605	2700	1020	120	350	175	1740	520
AIRALT 40	1000	430	300	300	750	2310	605	2700	1020	120	350	175	1740	520
AIRALT 51	1000	430	300	300	750	2310	605	2700	1020	120	350	175	1740	520
AIRALT 64	1000	430	300	300	750	2310	605	2700	1020	120	350	175	1740	520
AIRALT 81	1250	630	350	350	930	2525	820	2900	1020	150	450	295	2025	520
AIRALT 101	1250	630	350	350	930	2525	820	2900	1020	150	450	295	2025	520
AIRALT 122	1400	630	450	450	840	2480	775	2900	1020	160	470	240	2215	520
AIRALT 149	1600	630	450	450	955	2520	815	2935	1020	160	570	340	2460	520
AIRALT 206	2000	630	550	550	1280	3165	1360	3714	1020	200	720	410	2920	700
AIRALT 248	2000	630	550	550	1280	3165	1360	3714	1020	200	720	410	2920	700
AIRALT 360	3000	300X810	1050X470	680	4450	6950	2090	8030	2700	680	1100	1630	3820	800
AIRALT 555	3500	300X810	1050X470	750	4790	7340	2430	8570	2700	780	1315	1865	4310	900
AIRALT 675	4000	300X810	1300X680	900	5190	8045	2885	9455	3000	815	1550	2205	5135	1200

Dimensions (mm)

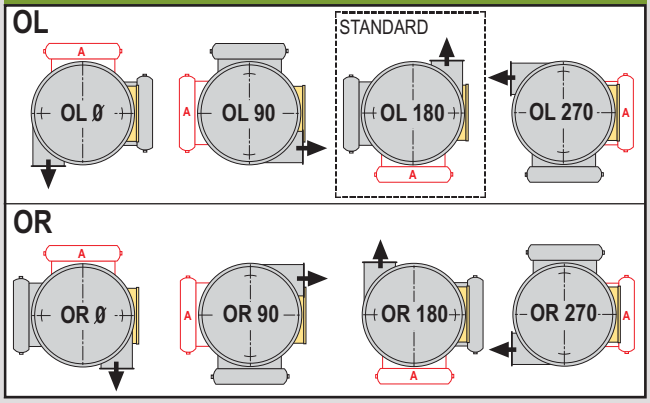
	DUSTS HOLDING CAPACITY dm³ - ft³	FILTERING SURFACE m² - sq.ft	MAXFLOWRATEINDICATIVE m³/h - cfm	MAX OPERATING PRESSURE Bar - psi	VALVE N°	AIR TANK VOLUME lt - in³	AIR VOLUME PER VALVE lt - in³	CARTRIDGE (N° - Ø - H - PLEATS) mm
AIRALT 19	17-0.6	19-204	1500-880	7-100	3x1"	13-790	87-5300	7-Ø145-700-75
AIRALT 24	17-0.6	24-258	2000-1175	7-100	3x1"	13-790	87-5300	7-Ø145-1000-75
AIRALT 33	55-1.94	33-355	2500-1470	7-100	2x1"1/2	22-1342	217-13240	4-Ø325-700-135
AIRALT 40	55-1.94	40-430	3200-1880	7-100	2x1"1/2	22-1342	217-13240	4-Ø325-700-175
AIRALT 51	55-1.94	51-549	4000-2350	7-100	2x1"1/2	22-1342	217-13240	4-Ø325-1000-135
AIRALT 64	55-1.94	64-688	5000-2940	7-100	2x1"1/2	22-1342	217-13240	4-Ø325-1000-175
AIRALT 81	125-4.41	81-870	6500-3820	7-100	3x1"1/2	34-2074	217-13240	6-Ø325-1000-135
AIRALT 101	125-4.41	101-1086	8000-4700	7-100	3x1"1/2	34-2074	217-13240	6-Ø325-1000-175
AIRALT 122	125-4.41	122-1313	9500-5588	7-100	3x1"1/2	34-2074	217-13240	7-Ø325-1000-175
AIRALT 149	125-4.41	149-1604	11500-6765	7-100	3x1"1/2	34-2074	217-13240	9-Ø325-1000-175
AIRALT 206	125-4.41	206-2218	16500-9705	7-100	5x2"	92-5614	347-21175	16-Ø325-1000-135
AIRALT 248	125-4.41	248-2670	20000-11765	7-100	5x2"	92-5614	347-21175	16-Ø325-1000-175
AIRALT 360	-	360-3865	28000-16470	7-100	6x2"	116-7078	347-21175	24-Ø325-1000-175
AIRALT 555	-	555-5970	43300-16470	7-100	6x2"	116-7078	347-21175	37-Ø325-1000-175
AIRALT 675	-	675-7265	52650-16470	7-100	6x2"	116-7078	347-21175	45-Ø325-1000-175

* With valve open 0,2 seconds, tank pressure 5 bar

AIRALT/M

•OUTLET (OUTLET) AND INLET (INLET) SIDE
refering to maintenance door position

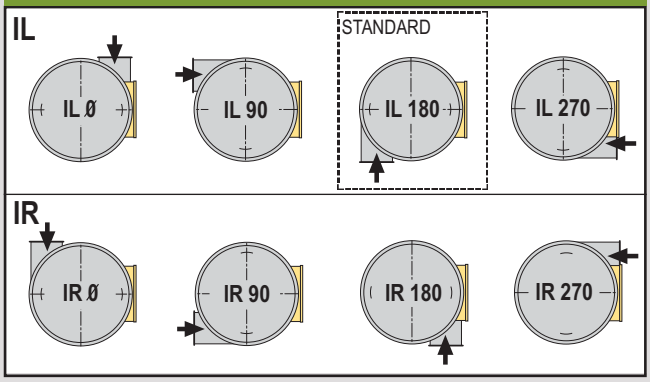
OUTLET



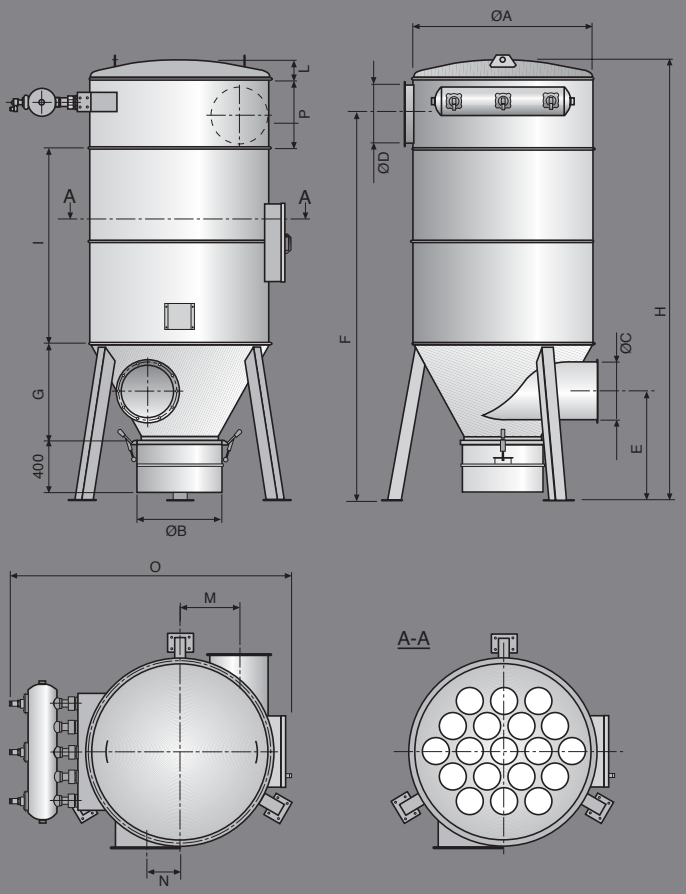
A =Optional tank position (on request)

Inspection port

INLET



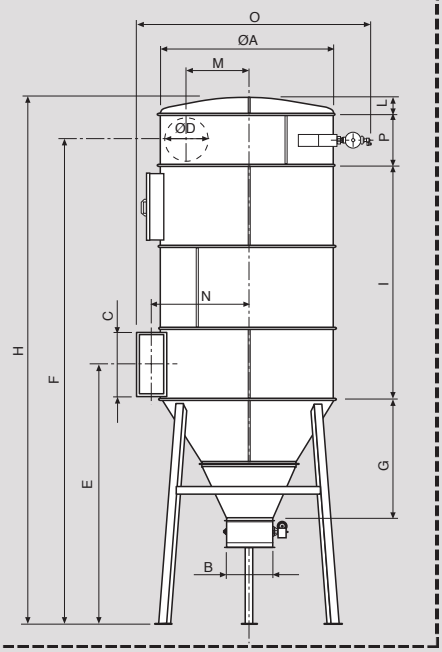
AIRALT/M 11
AIRALT/M 14
AIRALT/M 18
AIRALT/M 26
AIRALT/M 33
AIRALT/M 40
AIRALT/M 41
AIRALT/M 51
AIRALT/M 61
AIRALT/M 69
AIRALT/M 87
AIRALT/M 104



•IFA/BGIA L-PES standard polyester sleeves

AIRALT/M 121
AIRALT/M 151
AIRALT/M 181
AIRALT/M 206
AIRALT/M 247
AIRALT/M 292
AIRALT/M 350

Models over 2000 mm diameter



AIRALT/M

CORAL
ANTIPOLLUTION SYSTEMS

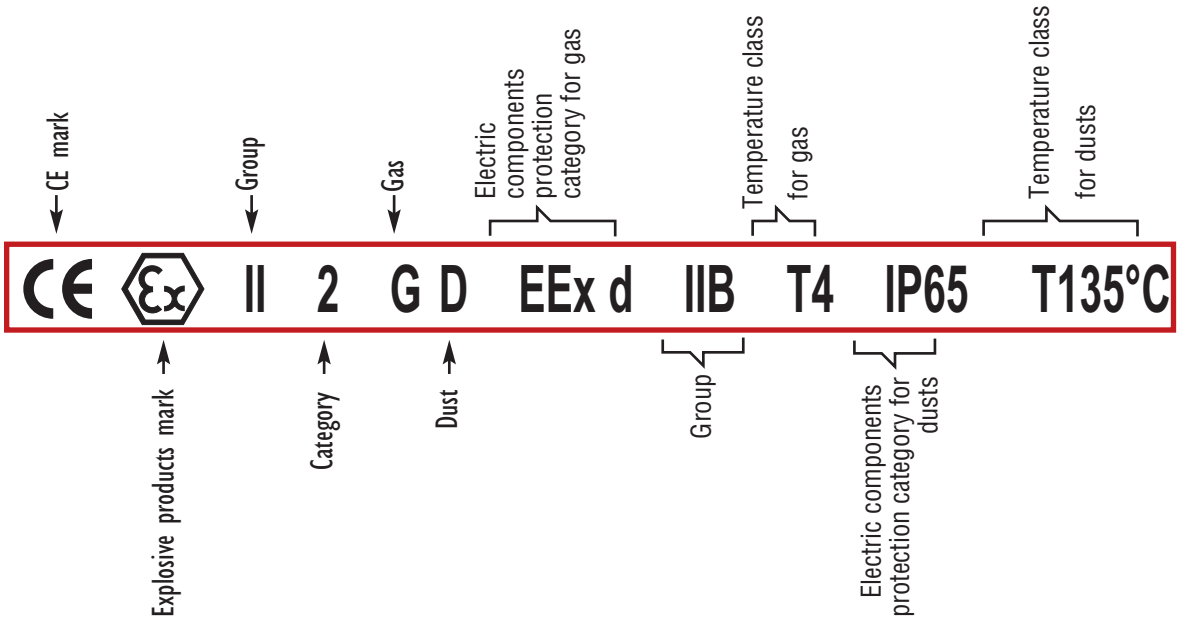
	ØA	ØB	ØC	ØD	E	F	G	H	I	L	M	N	O	P
AIRALT/M 11/1.5	1000	430	300	300	750	2790	605	3180	1500	120	350	175	1600	520
AIRALT/M 14/2.0	1000	430	300	300	750	3290	605	3680	2000	120	350	175	1600	520
AIRALT/M 18/2.5	1000	430	300	300	750	3790	605	4180	2500	120	350	175	1600	520
AIRALT/M 26/2.0	1250	630	350	350	930	3545	820	3930	2000	150	450	295	1890	520
AIRALT/M 33/2.5	1250	630	350	350	930	4045	820	4430	2500	150	450	295	1890	520
AIRALT/M 32/2.0	1400	630	450	450	840	3455	775	3875	2000	160	470	240	2040	520
AIRALT/M 40/2.5	1400	630	450	450	840	3955	775	4375	2500	160	470	240	2040	520
AIRALT/M 41/2.0	1600	630	450	450	955	3500	815	3910	2000	160	570	340	2260	520
AIRALT/M 51/2.5	1600	630	450	450	955	4000	815	4410	2500	160	570	340	2260	520
AIRALT/M 61/3.0	1600	630	450	450	955	4500	815	4910	3000	160	570	340	2260	520
AIRALT/M 69/2.0	2000	630	550	550	1280	4150	1360	4695	2000	200	720	410	2700	700
AIRALT/M 87/2.5	2000	630	550	550	1280	4650	1360	5195	2500	200	720	410	2700	700
AIRALT/M 104/3.0	2000	630	550	550	1280	5150	1360	5695	3000	200	720	410	2700	700
AIRALT/M 121/2.0	3000	300X810	1050X470	680	4450	8455	2090	9530	4200	680	1100	1630	3820	800
AIRALT/M 151/2.5	3000	300X810	1050X470	680	4450	8455	2090	9530	4200	680	1100	1630	3820	800
AIRALT/M 181/3.0	3000	300X810	1050X470	680	4450	8455	2090	9530	4200	680	1100	1630	3820	800
AIRALT/M 206/2.5	3500	300X810	1050X470	750	4790	8845	2430	10070	4200	780	1315	1865	4310	900
AIRALT/M 247/3.0	3500	300X810	1050X470	750	4790	8845	2430	10070	4200	780	1315	1865	4310	900
AIRALT/M 292/2.5	4000	300X810	1300X680	900	5190	9545	2885	10955	4500	815	1550	2205	5135	1200
AIRALT/M 350/3.0	4000	300X810	1300X680	900	5190	9545	2885	10955	4500	815	1550	2205	5135	1200

Dimensions (mm)

	Dusts holding capacity dm³ - ft³	Filtering surface m²-sq.ft	Max flow rate (indicative) m³/h-cfm	Max operating pressure Bar - psi	Valve N°	Air tank volume lt - in³	Air volume per valve lt - in³	Sleeves (n°- Ø - H) mm
AIRALT/M 11/1.5	55-1.94	11-118	1500-880	7-100	5x1"	16,6-1013	87-5300	19-Ø123-1500
AIRALT/M 14/2.0	55-1.94	14-150	1800-1100	7-100	5x1"	16,6-1013	87-5300	19-Ø123-2000
AIRALT/M 18/2.5	55-1.94	18-194	2500-1500	7-100	5x1"	16,6-1013	87-5300	19-Ø123-2500
AIRALT/M 26/2.0	125-4.41	26-280	3400-2000	7-100	7x1"	22,1-1350	87-5300	35-Ø123-2000
AIRALT/M 33/2.5	125-4.41	33-355	4400-2600	7-100	7x1"	22,1-1350	87-5300	35-Ø123-2500
AIRALT/M 32/2.0	125-4.41	32-344	4300-2500	7-100	7x1"	22,1-1350	87-5300	42-Ø123-2000
AIRALT/M 40/2.5	125-4.41	40-430	5400-3200	7-100	7x1"	22,1-1350	87-5300	42-Ø123-2500
AIRALT/M 41/2.0	125-4.41	41-441	5400-3200	7-100	9x1"	27,6-1685	87-5300	54-Ø123-2000
AIRALT/M 51/2.5	125-4.41	51-549	6600-3900	7-100	9x1"	27,6-1685	87-5300	54-Ø123-2500
AIRALT/M 61/3.0	125-4.41	61-657	8000-4700	7-100	9x1"	27,6-1685	87-5300	54-Ø123-3000
AIRALT/M 69/2.0	125-4.41	69-743	9000-5300	7-100	13x1"	38,6-2355	87-5300	92-Ø123-2000
AIRALT/M 87/2.5	125-4.41	87-936	11300-6650	7-100	13x1"	38,6-2355	87-5300	92-Ø123-2500
AIRALT/M 104/3.0	125-4.41	104-1120	13500-8000	7-100	13x1"	38,6-2355	87-5300	92-Ø123-3000
AIRALT/M 121/2.0	-	121-1300	15700-9200	7-100	19x1"	55,6-3393	87-5300	156-Ø123-2000
AIRALT/M 151/2.5	-	151-1625	19600-11500	7-100	19x1"	55,6-3393	87-5300	156-Ø123-2500
AIRALT/M 181/3.0	-	181-1948	23500-13800	7-100	19x1"	55,6-3393	87-5300	156-Ø123-3000
AIRALT/M 206/2.5	-	206-2217	26700-15700	7-100	21x1"	60-3660	87-5300	213-Ø123-2500
AIRALT/M 247/3.0	-	246-2648	32000-18800	7-100	21x1"	60-3660	87-5300	213-Ø123-3000
AIRALT/M 292/2.5	-	291-3132	37800-22200	7-100	27x1"	77-4700	87-5300	301-Ø123-2500
AIRALT/M 350/3.0	-	350-3767	45500-26800	7-100	27x1"	77-4700	87-5300	301-Ø123-3000

* With valve open 0,2 seconds, tank pressure 5 bar

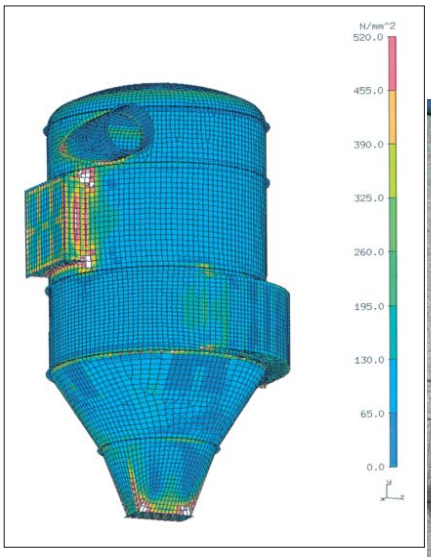
AIRALT & AIRALT/M ATEX



STUDIES HAVE DEMONSTRATED THAT THE FILTER MAY BE SUITABLY PROTECTED USING DEVICES COMPLIANT WITH ATEX 94/9/EC AND EN 1127-1. THE USER WILL BE RESPONSIBLE IN ACCORDANCE WITH 99/92/EC (ATEX 137) IF SUCH PROTECTIVE DEVICES ARE NOT ORDERED AND/OR INSTALLED.

The AIRALT Ex is a very high efficiency dry powder filtering machine. It is specifically designed to work in environments where high explosion protection is required in accordance with ATEX 94/9/EC.
Its necessary high structural resistance is the result of FEM (Finite Element Method) analysis design and complies with UNI EN 288-4 specifications for welding processes and consistency of the project complying with 97/23 (PED) rule. The elevated design and production standards implemented by Coral have been maximised to develop a standard model (with Pred=1barg) and a special version (with Pred=2 barg). AIRALT Ex filters can be used in the presence of class ST3 powder thanks to their excellent mechanical resistance to excessive pressure. Used in combination with explosion detection and suppression systems, AIRALT Ex is the best that the filtering market can offer today in terms of technology and safety.

AIRALT 360 FEM ANALYSIS



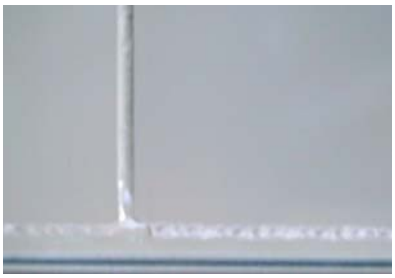
CORAL ANTIPOLLUTION SYSTEMS

ATEX COMPONENTS TECHNICAL FEATURES

EXPLOSION PROOF SOLENOID VALVE CASING

II 3G T4 IP65

CYCLIC PROGRAMMER



WELDED POINTS AS PER UNI EN 288/4

LEVEL CONTROL WITH VIBRATION DETECTOR

REINFORCED MAINTENANCE DOOR

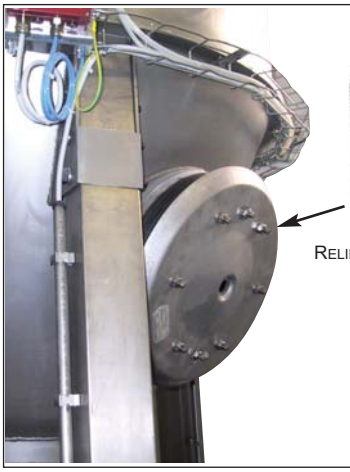
II 2GD IIB T4 IP65 Zona 2/1-22/21

RUPTURE DISC WITH DETECTION PROBE FOR ST1-ST2 DUSTS

ANTIPOLLUTION SYSTEMS

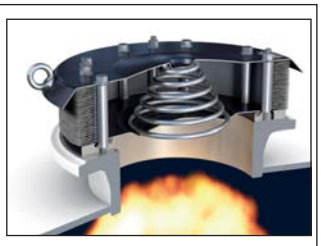
II 2GD IIB T4 IP65 Zona 2/1-22/21

EXPLOSION RELIEF SYSTEM Q-BOX FOR ST1 DUSTS

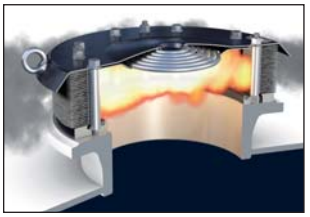


RELIEF VALVE FOR DUSTS ST1-ST2

CLOSED VALVE



OPEN VALVE



SYSTEM CONTROL PANEL
ZONE 22 WITH PRESSURE STABILIZER AND
SYSTEM MANAGEMENT BY INVERTER

II 3D T4 IP65

SYSTEM CONTROL PANEL ZONE 2

II 3G T4 IP65

EXPLOSION DETECTION AND SUPPRESSION SYSTEM

The suppressor (2) is a new-generation device.
It activates by means of an electromechanical movement without the need of any pyrotechnic charge or gas generation device.
The Firelock consists of a mechanical part, two redundant magnetic rings, an electric motor, and an electronic control device.
When the valve is activated by the alarm signal coming from the control board unit (3), activated by the dynamic pressure sensor (1), two redundant capacitive discharge circuits activate the magnetic rings of the electric motor. The short movement made by the motor immediately activates the valve, which discharges the extinguishing power in a few milliseconds. All of the electronic parts (delicate and absolutely essential for discharge) are redundant. The electronic part is equipped with additional checks and always monitors the status of the Firelock. Any signal differing from normal operation is transmitted to the Firedetector device, which sends a return fault signal to the control unit.
With its electronic circuit and a button on the frame, the Firelock lets you run a valve efficiency test at any time while remaining in conditions of total safety (non-opening assured by mechanical valve lock).
A lock nut installed on the head lets you prevent discharge.

1.

2.

3.

CORAL
ANTIPOLLUTION SYSTEMS

SPARKS DETECTION,SUPPRESSION OR DEFLECTION SYSTEM

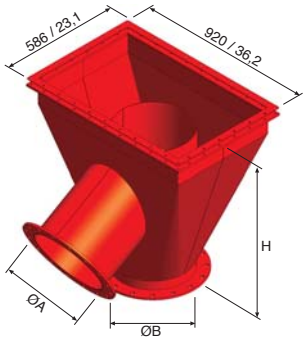
CONTROL SYSTEM FOR SUCTION DUCTING

DIVERTER

II 2D T4 IP65 Zona 22/21

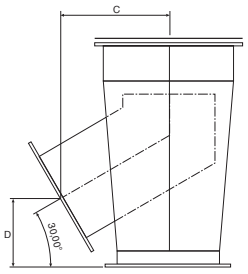
FOR ST1-ST2 DUSTS

mm/inch

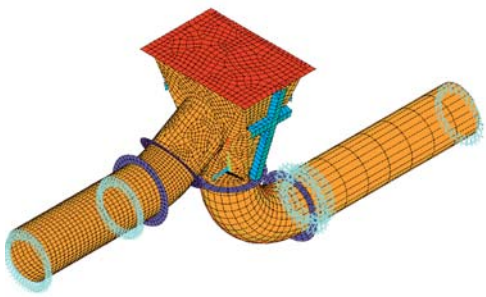


DN 400

	mm - inch
ØA	400-15,7
ØB	400-15,7
H	958-37,7
C	555-21,8
D	306-12



FEM ANALYSIS



CHEMICAL BARRIER

II 2GD IIB T4 IP65 Zona 2/1-22/21

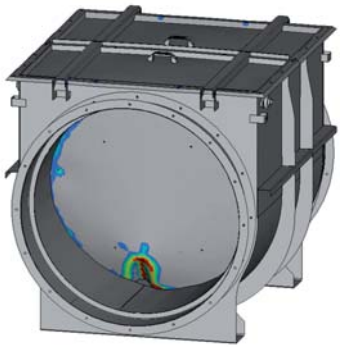
FOR ST1-ST2 DUSTS

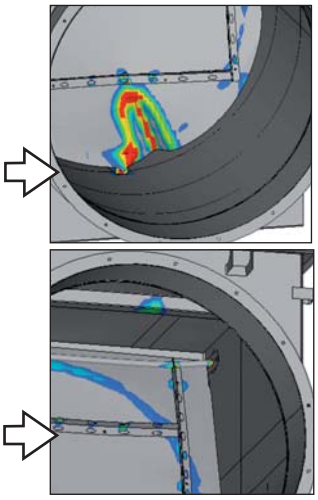
FLAP VALVE

FOR ST1 DUSTS

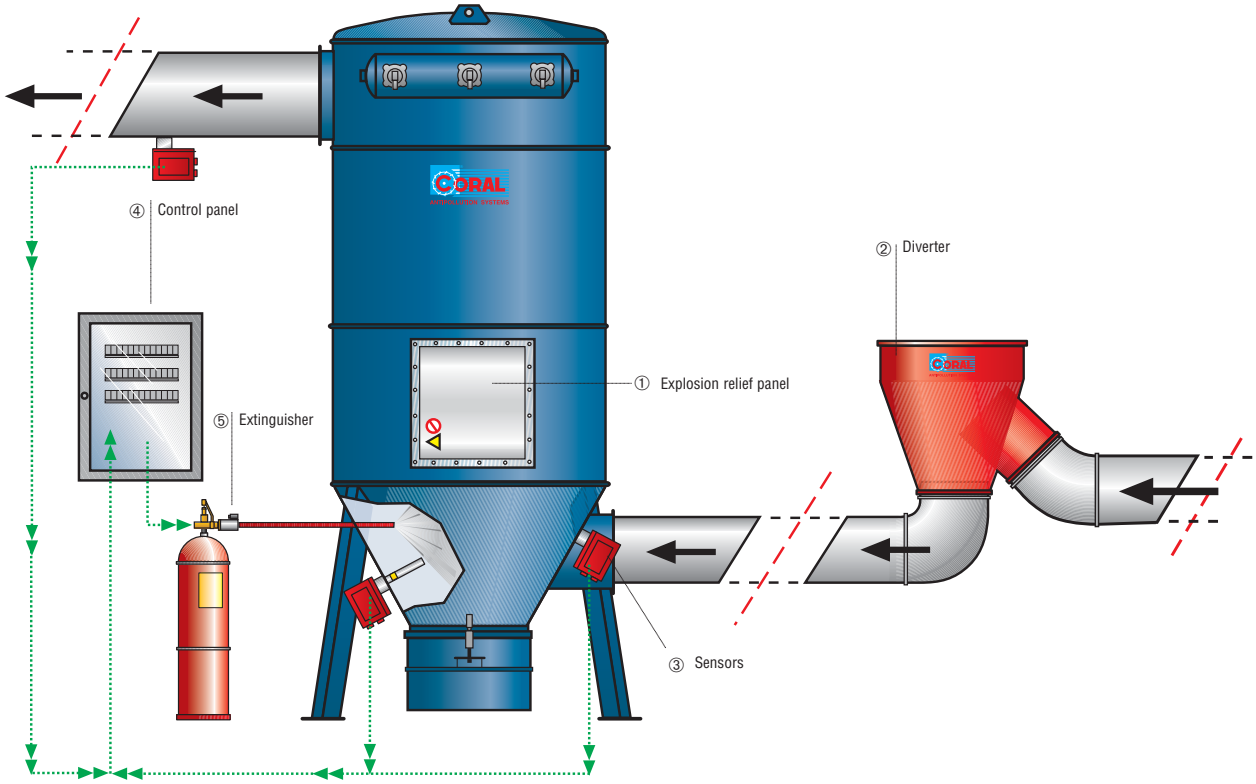
p_{red} max = 0.5 bar *t=140ms*

FEM FLAP ANALYSIS





FIRE EXTINGUISHER SYSTEM



INSTALLATION EXAMPLES

CORAL®

ANTIPOLLUTION SYSTEMS

ANTIPOLLUTION SYSTEMS

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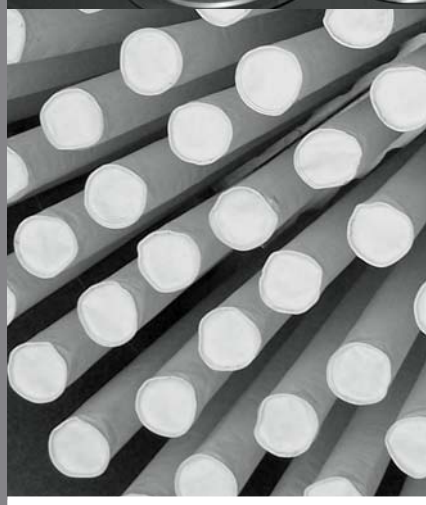

All images and values on this catalogue are indicative and can be subject to modification and improvements. CORAL reserves the right to changethem without previous advice.

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