bea TECHNOLOGIES

HIGH EFFICIENCY FILTERS FOR COMPRESSED AIR PURIFICATION

Filtration & System solutions

AIR VIP EvO

AIR VIP EvO
Evolution and quality

AIR VIP EvO has been developed to become the new benchmark in the international market of gas and compressed air filtration and purification.

Air contamination
The increased use in the industrial processes of pneumatic control systems equipped with sophisticated instrumentation require to have cleaner and cleaner compressed air to prevent manufacturing damages.

The compressed air has to be treated downstream the compressor to reduce or remove contaminants made of solid particulates, oil and water liquid, aerosols and micro-organisms.

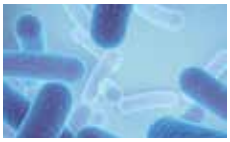
The International Organization for Standardization ISO issued the standard 8573-1 which sets the maximum content of water, oil and particulates for each class of purity.

BEA TECHNOLOGIES
high technology filtration systems

ISO 8573-1:2010 COMPRESSED AIR PURITY CLASSES

AIR PURIFY CLASS	SOLID PARTICLES				WATER		OIL
	Maximum number of particles per m^3			Mass Concentration	Vapor	Liquid	Liquid Aerosol Vapor
	0,1 - ≤ 0,5 µ	0,5 - ≤ 1 µ	1 - ≤ 5 µ	mg/m^3	Pressure dewpoint @ 7 bar	g/m^3	mg/m^3
0	As specified by the equipment user or supplier and more stringent than class 1						
1	≤ 20 000	≤ 400	≤ 10	-	≤ - 70°C	-	≤ 0,01
2	≤ 400 000	≤ 6 000	≤ 100	-	≤ - 40°C	-	≤ 0,1
3	-	≤ 90 000	≤ 1 000	-	≤ - 20°C	-	≤ 1
4	-	-	≤ 10 000	-	≤ + 3°C	-	≤ 5
5	-	-	≤ 100 000	-	≤ + 7°C	-	-
6	-	-	-	≤ 5	≤ + 10°C	-	-
7	-	-	-	5 - ≤ 10	-	≤ 0,5	-
8	-	-	-	-	-	0,5 - ≤ 5	-
9	-	-	-	-	-	5 - ≤ 10	-
x	-	-	-	> 10	-	> 10	> 5

Bea Technologies proposals for contaminant removal:

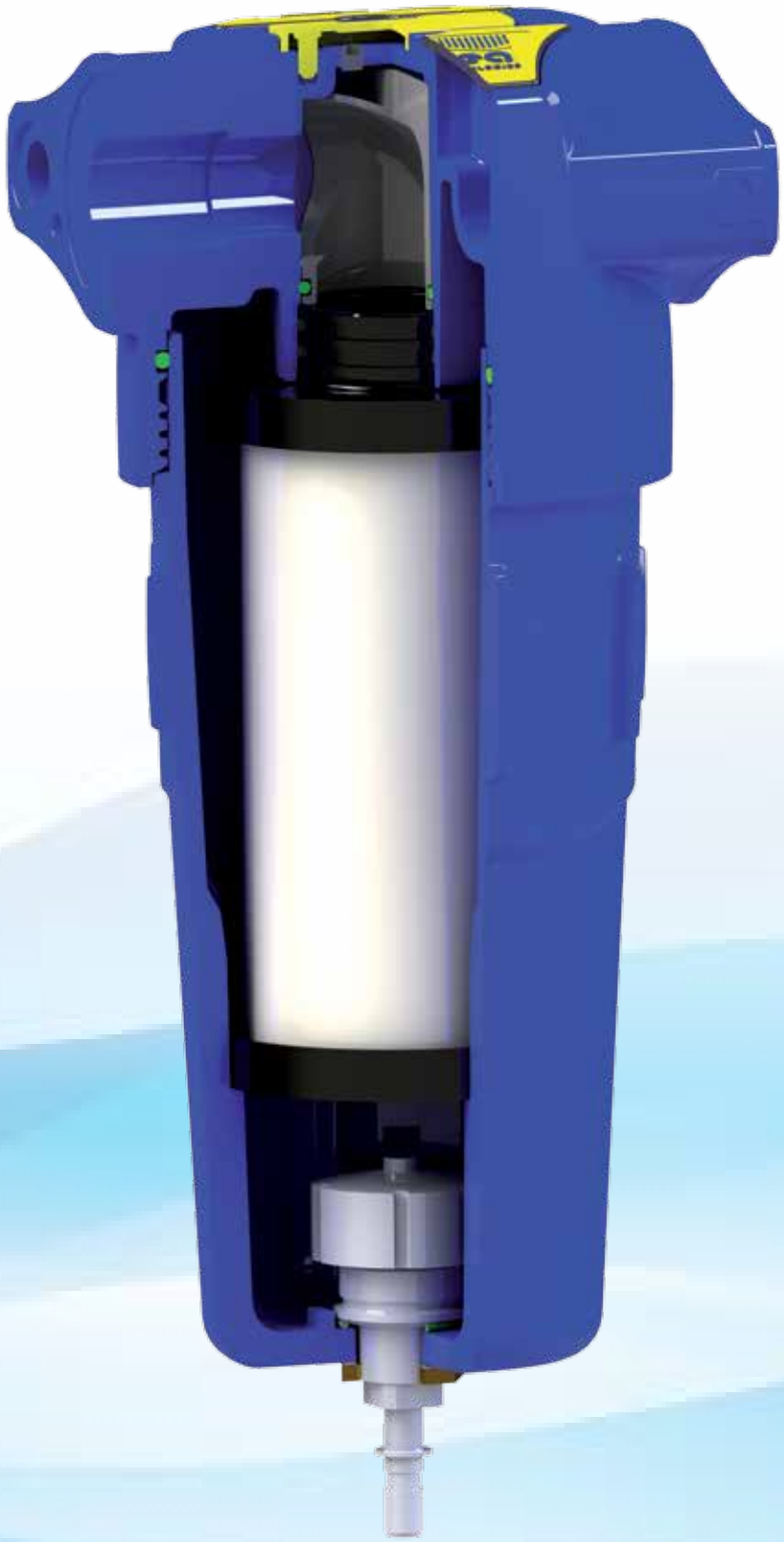


	PRODUCTS	
CONDESATE	AIR VIP EvO WS	AIR VIP EvO RM
AQUEOUS VAPOR	DRY VIP DP +3°C	DRY PLUS DP -70°C
AEROSOL OIL AND WATER	AIR VIP EvO RB	AIR VIP EvO RA
DUST	AIR VIP EvO RF	AIR VIP EvO RA
PIPE SCALE	AIR VIP EvO RM	
OIL VAPORS	AIR VIP EvO CA	
MICRO-ORGANISMS	STERYFLON	

The housing

In series compact mounting
AIR VIP EvO can be mounted in series (max 3 filters) without the use of fittings.
Lower pressure drop
The innovative design of the inlet chamber reduces turbulence and decreases pressure drops.
Safe installation and confined space
The blocking of the filter element is automatically guaranteed by the closure of the housing. Only 8 cm below the housing are needed to remove the cartridge.
Safe seal
Double radial O-Ring gaskets allow the perfect seal over the time.
Safety system
The safety system depressurizes the filter in case of accidental opening of the housing with residual internal pressure.
Closure control
The two alignment indicators ensures the proper closure of the housing.
Total protection of materials
The internal and external treatment of die-cast, made before painting, protects against corrosion.
Automatic drain
The collected condensate is discharged in automatic or manual mode.
Filter element with high filtration surface
The high pleated effective filtering area of cartridge element provides high dirt holding capacity and reduced maintenance cost.

Features and innovations



AIR VIP EvO

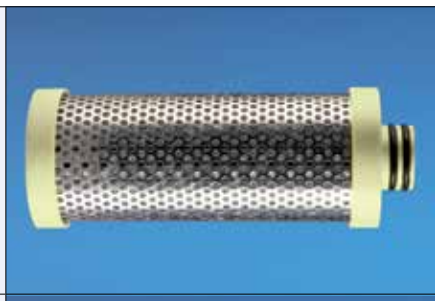
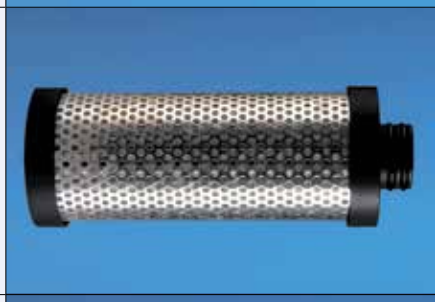
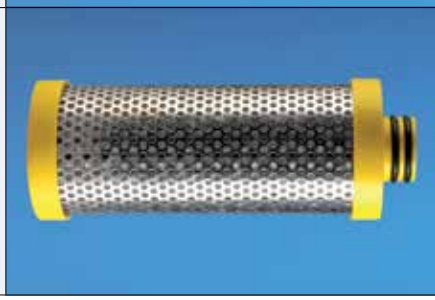
The new filter elements BST suitable for **AIR VIP EvO** series, are made with innovative high efficiency borosilicate filter media to improve accumulation of solid contaminants. A new absorbing material placed outside the filter media provides increased efficiency for the coalescing process.

CONTINUOUS FILTRATION EFFICIENCY AND LONG LASTING

Bea Technologies has been a pioneer adopting filtering elements with pleated filter media in the treatment of compressed air. This technology guarantees an effective filtration area 4 times higher than the surface obtained with wrapped filter media.
The user gains extended service life with high filtration performances and energy saving thanks to low pressure drops.

FILTER ELEMENTS BST SERIES
The clean-air classes defined by the standard ISO 8573-1:2010 are met by the availability of filter elements with five different filtration grades, each one of them is characterized by a color code to allow an immediate identification.

The performance of filter elements series BST is tested in accordance with ISO 12500.

BST grade WR Min / max temp.: +1 / 100 ° C Initial ΔP : 30 mbar	**Reduction of the liquid phase** Reduce the liquid phase in the compressed air before prefiltration with the other grades.	
BST grade RM Filtration: 10 µ Residual oil: 15 ppm Filtration efficiency: 90% Min / max temp.: +1 / 80 ° C Initial ΔP <50 mbar Initial saturated ΔP <120 mbar	**Prefiltration** Removes solid particles and condensation. Preserve the tanks installed immediately after the compressors. Prefilters of RB and RA grades.	
BST grade RB Filtration: 1 µ Residual oil: 0.1 ppm / 0.1 mg/m3 Filtration efficiency: 99.95% Min / max temp.: +1 / 80 ° C Initial ΔP <60 mbar Initial saturated ΔP <140 mbar	**General filtration** Removes solid particles and aerosols water and oil. Appropriate for general applications, can be used upstream RA and AC grade.	
BST grade RA Filtration: 0.01 µ Residual oil: 0.01 ppm / 0.01 mg/m3 Filtration efficiency : 99.9999% Min / max temp.: +1 / 80 ° C Initial ΔP <80 mbar Initial saturated ΔP <200 mbar	**High filtration efficiency** Removing the high-efficiency solid particles and aerosols oil. Protection of instrumentation, adsorption dryers and filtration at the point of use. Prefilter CA grade.	
BST grade CA Residual oil: 0.003 ppm / 0.003 mg/m3 Min / max temp.: +1 / 50 ° C Initial ΔP <250 mbar Substitution: coal saturated	**Reduction of smells and oil vapor** Activated carbon smells and vapor. Specified in food, pharmaceutical, electronic, applications; must be protected upstream by the RA grade.	
BST grade RF Filtration: 1 µ Filtration efficency: 99,95% Min / max temp.: +1 / 100°C Initial ΔP <60 mbar	**Removal of fine dust** Ideal for applications downstream of adsorption dryers or process filtration when fluid is dry.	

AIR VIP EvO
Technical data

SELECTION FILTRATION SYSTEM

*Flow rates refer to air at 20°C, 1 bar (a), 0% relative humidity and compressed at 7 bar.
For flows at other pressure values, multiply the flow rates indicated in the table by the corresponding correction factor "K" (see table).

Model	Connection ISO 228	Flow *				Filter element
		l/min	m3/min	m3/h	cfm	
CLP-0032-□□-□	1/4"	530	0,5	32	19	BST-0032-□
CLP-0064-□□-□	3/8"	1.066	1,1	64	38	BST-0105-□
CLP-0105-□□-□	1/2"	1.750	1,8	105	62	BST-0105-□
CLP-0190-□□-□	3/4"	3.116	3,2	190	112	BST-0190-□
CLP-0300-□□-□	1"	5.000	5,0	300	177	BST-0300-□
CLP-0480-□□-□	1 ¼"	8.000	8,0	480	283	BST-0480-□
CLP-0700-□□-□	1 ½"	11.660	11,7	700	412	BST-0700-□
CLP-1000-□□-□	2"	16.660	16,7	1000	589	BST-1200-□
CLP-1200-□□-□	2 ½"	20.000	20,0	1200	706	BST-1200-□
CLP-1500-□□-□	3"	25.000	25,0	1500	883	BST-1500-□
CDF-2300-□□-□	3"	36.600	36,7	2200	1295	BST-2300-□
CDF-1500-□□-□	DN 80	25.000	25,0	1500	883	BST-1400-□
CDF-2200-□□-□	DN 80	36.600	36,7	2200	1295	BST-2200-□

FEATURES

Construction material		Surfaces finishes		Certifications
Housing	Aluminium alloy	Inside	Anodic natural oxidation	Compliance with Directive PED 97/23/EC Fluids Group 2
Gaskets	Buna N	Outside	Anodic natural oxidation + Polyester cooting	

OPERATING LIMITS

Pressure min/max	Temperature min/max
0/16 barg	1/80 °C
0/232 psig	34/178 °F

CORRECTION FACTOR "K" FOR PRESSURE DIFFERENT THAN 7 bar

Pressure line	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coefficient "K"	0,38	0,53	0,65	0,75	0,80	0,93	1	1,07	1,13	1,20	1,25	1,30	1,35	1,40	1,45	1,50

ORDERING INFORMATION

Example of AIR VIP EvO product code compilation

Basic model	Differential pressure gauge option		Condense drain option	
Code from the selection table	X	without pressure gauge	D	automatic drain float
	G	code XAM-200		
	M	code XAM-100	V	manual valve

CLP-0190 - G D - RA

Filtration grade	
--	single housing
WR	separator
RM	10 µ / 15 ppm
RB	1 µ / 0,1 ppm
RA	0,01 µ / 0,01 ppm
CA	0,003 ppm
RF	1 µ

Dimensions and weights

Model	Fig.	A	B	C	D	Weight
		mm	mm	mm	mm	Kg
CLP-0032-	a	94	211	50	21	0,7
CLP-0064-		94	286	50	21	1
CLP-0105-		94	286	50	21	1
CLP-0190-		128	323	60	32	1,7
CLP-0300-		128	378	60	32	2,1
CLP-0480-		128	459	60	32	2,2
CLP-0700-		190	560	80	50	4,5
CLP-1000-		190	659	80	50	5
CLP-1200-		190	659	80	50	5
CLP-1500-		240	635	80	61	8,7
CDF-2300-		240	985	80	61	15
CDF-1500-	b	350	709	270	100	22
CDF-2200-		350	1060	730	100	28

Fig. a

Fig. b

Kits for the assembly in series

Code	N° filters	filter model
XBT-D066-2	2	CLP-0032 CLP-0064 / CLP 0105
XBT-D066-3	3	
XBT-D096-2	2	CLP-0190 CLP-0300 / CLP- 0480
XBT-D096-3	3	
XBT-D130-2	2	CLP-0700 CLP-1000 / CLP-1200
XBT-D130-3	3	

Bracket kit for wall mounting

Code	filter model
XBS-D066-1	**For 1 single filter** CLP-0032 / CLP-0064 / CLP-0105
XBS-D096-1	**For 1 single filter** CLP-0190 / CLP-0300 / CLP-0480
XBS-D130-1	**For 1 single filter** CLP-0700 / CLP-1000 / CLP 1200
XBS-D066	* **For multiple filters** CLP-0032 / CLP-0064 / CLP-0105
XBS-D096	* **For multiple filters** CLP-0190 / CLP-0300 / CLP-0480
XBS-D130	* **For multiple filters** CLP-0700 / CLP-1000 / CLP 1200

* To fix to the wall 2 or 3 filters in series add the suitable kit assembly "XBT".

A good reason to buy AIR VIP EvO

The failure of one pneumatic device can stop the whole manufacturing process or leads to defective products. The installation of a filtration system **AIR VIP EvO** represent an investment to improve safety and quality in the manufacturing processes.

HIGHLIGHTS

- Lower pressure drops lead to energy saving thanks to the effective air conveying and the increased performance of the new filter elements series BST.
- Serial installation without fittings easy to use and safe.
- Improvement protections of manufacturing process and reduction of shut down.
- Air quality matches the international standards

SAFETY

- The proper closure is ensured by the alignment of two indicators marked on head and the bowl.
- Two pins on both sides of the head ensure safe in series assembly.

EASY INSTALLATION

All components, such as ; wall mounting brackets, rods for in series assembly, differential manometer are designed for an easy mounting.

Quality and design

Equipment AIR VIP EvO

XAD-251 float drain device

The automatic float condensate drain is engineered for Air-Vip & Air-Vip^{Evo} series housing. The blowdown of the condensate can be done in 2 different ways:
- **automatic**: the float opens the pilot valve, then the compressed air opens the shutter to allow the liquid to be discharged.
- **manual**: the liquid is discharged by rotating anti-clockwise the brass pawl.

Operating conditions min/max:
Pressure 0,8 / 16 barg; Temp. 5/80°C

XAC-101 automatic drain valve with electronic level control

XAC-101 automatic drain is designed to remove condensates from compressed air systems, without the unnecessary loss of valuable compressed air. The automatic drain is supplied with a single detection capacitive level sensor and has no moving parts. The device is able to discharge even " aggressive " condensate reducing maintenance to a simple functional operative check list.

Operating conditions min/max:
Pressure 0,2/16 bar; Voltage 230V-50/60; Temp. 1/60°C

XAE-950T electronic drain device

The device is made by an electronic control circuit which activates the opening of an electrovalve at prefixed time intervals until the condensate is fully discharged. In order to reduce the waste of energy, the time interval is automatically adjusted by a sensor in function of the actual quantity of condensate. XAE-950T is available with different power supply to match Customer requirements.

Operating conditions min/max: Pressure 0,2/16 barg;
Main Supply 230V / 115V / 24 ac/dc; Temp. 1/60°C

XAD-651 float drain device

The device is suitable for installation where large amount of condensate is present in the system. The operation is performed both automatically or manually. The body is in casted aluminum alloy while float is in stainless steel.

Operating conditions min/max:
Pressure 0 / 16 barg ; Temp. 5/80°C

XAM-100 & XAM-200 differential pressure gauge

- **XAM-100** measures, the differential pressure up to 1,4 bar between the inlet and outlet of the filter assembly. The mounting is independent by the flow direction thanks to the double scale.
- **XAM-200**, gauge identifies the convenient time for the change out of the filter element. The pressure gauge has a scale in two colors in a range from 0 to 0,7 bar on both side. No pressure behind lens and special membrane gaskets provide XAM 200 a great safety and accuracy. XAM-200EC series includes the remote control interface.

Operating conditions min/max:
Pressure FV/16 barg ; Temp. 5/70°C

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