

28⁺
YEARS
OF
EXCELLENCE



summits
Enabling Innovation. Enhancing Lives.



Grade	Rating
P	5μ
X	1μ
Y	0.01μ
A	0.003mg/m3

NEW | DIMENSIONS
SOLUTIONS

Puro

The compressed air filters

- Superior media uniformity guarantees the best filtration performance
- Flow optimized diffuser avoids premature clogging
- Low pressure-drop
- High dirt holding capacity



Why Compressed air Filters

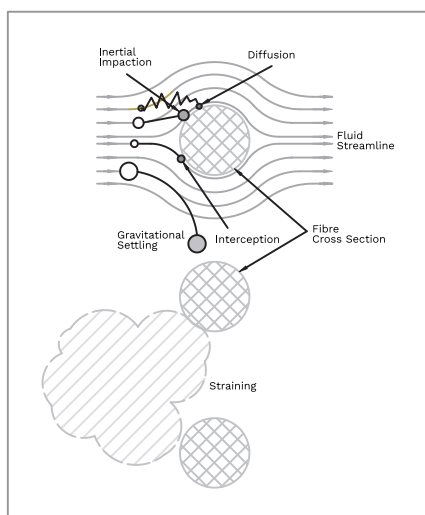
The estimated amount of suspended dust in our atmosphere at any given point of time is approximately 26million tons. 80% of these particles are smaller than two microns in size. These dust particles along with moisture and oil present in atmospheric air in the form of vapour and aerosol, pose significant challenge to effective utilization of compressed air. These contaminants added with further substances originating from the compressor, pipelines and receivers further affect the quality of air. This creates an abrasive mixture which causes damage to machineries, tools and the end product. Thus, filtering compressed air to the required purity is essential for any industrial process to maintain uninterrupted production & achieve improved productivity.

Puro series filters in combination with the necessary dryer treat the compressed air to meet the stringent requirement of today's high productive critical industrial processes and the requirements stipulated in ISO 8573-1:2010.

Design Compressed air System (CAS) with Puro series filters

Contaminants present in compressed air can be grouped into 8 different categories which can be removed by combination of different purification techniques. Below table gives a brief idea about different type of contaminants and their purification techniques.

Purification techniques	Particulates		Water			Oil		
	Atmospheric dust, Rust, Pipe scales	Micro-organisms	Liquid water	Water aerosols	Water vapour	Liquid Oil	Oil aerosols	Oil vapour
Water Separator			✓			✓		
Coalescing filter	✓	✓					✓	
Adsorption filter								✓
Dryer					✓			
Sterile filter		✓						



Filtration Mechanism of Coalescing filter

Particle capturing mechanism of Coalescing filters is characterised by depth filtration mechanism including gravitational settling, inertial impaction, direct interception, and diffusion interactions.

Coalescing is a technique in which two or more liquid/oil droplets come into contact with each other and become larger droplets. Fine fibrils of filter media aids in breaking surface tensions of each fine droplets and causes to become larger single droplets.

When this larger oil droplets reach a critical mass, gravitational force on these droplets surpasses the drag force. Thus, the droplets will gravitate to bottom of the media and eventually drain out.



Grade: P
Rating: 5 micron
Single layer, Pleated



Grade: X
Rating: 1 micron
Double layer, Pleated



Grade: Y
Rating: 0.01 micron
Wound



Grade: A
Rating: 0.003mg/m3
Wound

Element specification

Description	UOM	Element grade			
Element grade	--	P	X	Y	A
Material		Borosilicate glass			Carbon
Particle removal	Micron	5	1	0.01	0.01
Efficiency	%	99.99			
Max. Oil carryover @ 20°C	mg/m3	5	0.5	0.01	0.003
ISO 8573, Table 2	Class	3	2	1	1
ISO 8573, Table 5	Class	4	3	1	1
Max. Operating temperature	°C	80	80	80	50
Initial pressure-drop	mbar	40	80	115	80
Pressure-drop for element change	mbar	350	350	350	NA

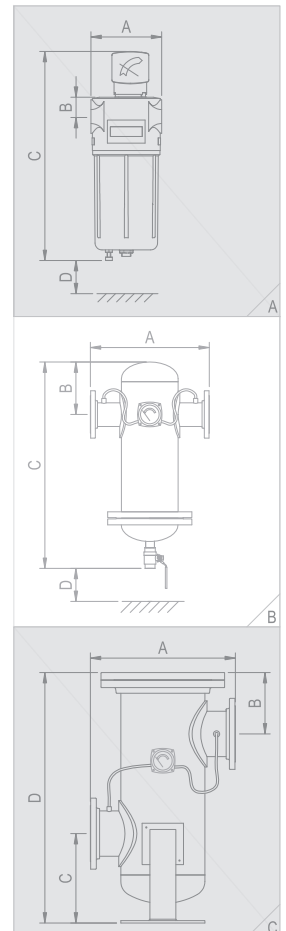
PuroFilters

Summits Puro filter element is made of finely crafted borosilicate glass fiber media. It operates at lowest operating cost by virtue of their highest void volume – 96%. This provides enormous space for dust holding and thus extends effective operating life.

Puro filter has four different filtration grades to meet almost all kind of application requirement. Pleated or Wound, Particulates or Coalescing Puro has them all.

Flow rate and Dimensional data for 16bar(g)

Model	In & Out BSPP (F)	Flow rate(cfm)	Housing Dimension (mm)				DP gauge	Manual drain	Housing material	Ref. drg
Puro 002	1/2"	20	69	20	188	100	□	X	Aluminium Alloy (Optional: Carbon steel Stainless steel Etc...)	A
Puro 004	3/4"	40	95	22	313	100	□	X		
Puro 006	3/4"	60	95	22	313	130	□	X		
Puro 008	1"	80	122	33	361	170	□	X		
Puro 012	1"	120	122	33	475	250	□	✓		
Puro 020	1 1/2"	200	122	33	532	320	✓	✓		
Puro 035	1 1/2"	310	122	33	621	400	✓	✓		
Puro 050	2"	500	156	43	767	450	✓	✓		
Puro 070	2"	700	156	43	767	520	✓	✓		
Puro 100	3"	1000	230	73	846	510	✓	✓		
Puro 125	3"	1250	230	73	846	560	✓	✓		
Puro 175	4"	1750	500	240	1400	250	✓	✓	Carbon Steel (Optional: Stainless steel)	B
Puro 250	4"	2500	500	240	1400	250	✓	✓		
Puro 350	6"	3500	580	275	1450	250	✓	✓		
Puro 500	6"	5000	650	325	1450	250	✓	✓		
Puro 650	8"	6500	800	300	760	1800	✓	✓		C
Puro 800	8"	8000	875	300	760	1800	✓	✓		
Puro 999	10"	10000	900	350	760	1950	✓	✓		
Puro 12K	10"	12000	900	350	760	1950	✓	✓		
Puro 15K	12"	15000	1100	350	1000	2200	✓	✓		



Note: Rated operating pressure: 7 bar(g). □-Optional; ✓-Available; X-Not available
For other pressure use correction factor. Refer sizing example for clarity.

Nomenclature

Ordering code: Puro 050 DY

Puro	050	D	Y
Series Name	Capacity identifier	Maximum operating pressure in bar(g)	Element grade
Puro	050 = 50x10=500cfm	D: 16 bar(g) E: 40 bar(g) F: 70 bar(g)	P: 5μ X: 1μ Y: 0.01μ A: 0.003mg/m3

Sizing example

Compressor FAD : 550 cfm

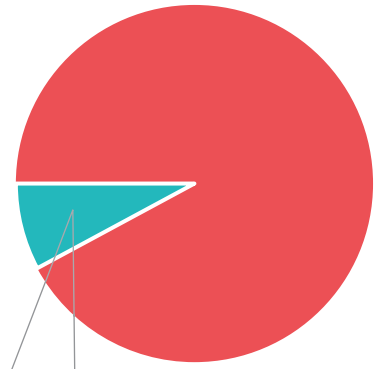
Filtration rating : 1μ

Operating pressure : 5 bar(g)

Correction factor corresponding to 5 bar(g) : 0.84

Corrected FAD : 550 / 0.84 = 655 cfm

So, select Puro070 DX whose capacity is 700cfm which is more than 655cfm.



Savings per year due to 0.1 bar gain in pressure is Rs. 6,72,768 /- (160kw, 1026cfm at 7bar(g) air compressor)

Correction factor for sizing

Pressure, bar(g)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor	0.38	0.53	0.65	0.76	0.84	0.92	1	1.07	1.13	1.19	1.25	1.31	1.36	1.41	1.46	1.51

High pressure PuroHp series



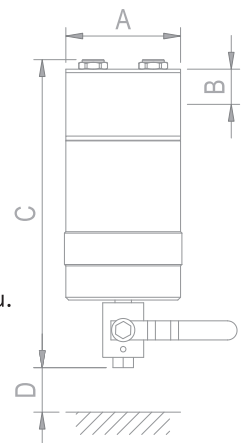
Flow rate and Dimensional data for 40bar(g)

Model	In & Out BSPP (F)	Flow Rate (cfm)	Housing Dimension (mm)			
			A	B	C	D
Puro 002	3/8"	20	70	26.5	202	160
Puro 004	1/2"	40	70	26.5	202	160
Puro 006	1/2"	60	84	34	220	175
Puro 008	3/4"	80	84	34	240	190
Puro 012	3/4"	120	84	34	272	220
Puro 020	1"	200	116	49	290	230
Puro 035	1"	350	118	39	425	340
Puro 050	1 1/4"	500	118	39	510	410
Puro 070	1 1/4"	700	112	43	636	510

Notes

- Specify 'Puro 012 EY' to order filter for 120cfm, 40 bar(g), 0.01μ. Refer 'Nomenclature table' for clarity.
- Summits has manufactured ultra-high pressure filter up to 550 bar(g) working pressure. Please contact factory for any high-pressure requirements.

Manufactured up to
550bar(g)



Features of PuroHp filter

- Designed to ASME SEC VIII DIV. 1
- Maximum operating pressure: 40 bar(g)
- Maximum operating temperature: 80°C
- Anodized aluminium alloy housing
- In-house high pressure test facilities assure safety
- Provision for Differential pressure gauge
- Manual ball valve for Drain



Advanced alert

Differential pressure gauge of range **0 to 500mbar** alerts in advance to change the filter element.

Unlike piston operated DP gauge, diaphragm DP gauge isolates high and low sides of the filter completely ensuring zerobypass flow.

Coated and clean

Puro series filter is made of die cast aluminium alloy. To enhance its corrosion resistance, it further undergoes **Electrophoretic coating** which provides high resistance against corrosion and also increases its wear resistance property.



Pleated filter media

Every 1 bar pressure drop increases 6% of compressor power. Filter element having pleated media has **4 times more surface area** compared to conventional filters and offers less pressure drop.



Key features of Puro Filter



3D Sectorized diffuser in larger filter elements divides & distributes inlet air longitudinally throughout its entire surface uniformly. This ensures effective utilization of element surface and offers extended life.

1D Conventional diffuser



Flow slides over end cap - promotes gravity settling of heavy dust particles.



Brass bottom drainvalve (Optional)



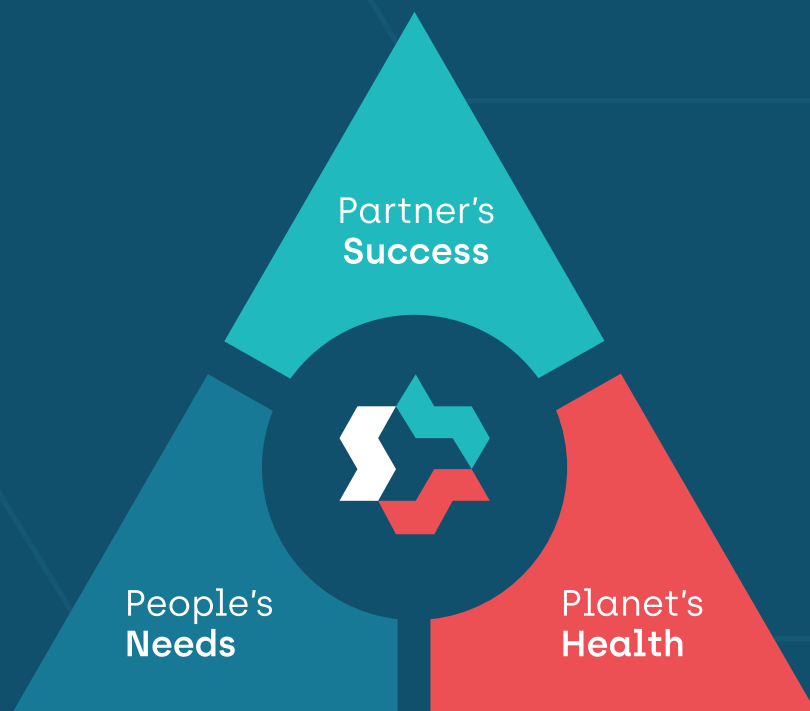
Drain valve


Zero air loss internal auto drain valve having **FKM seals** offers trouble-free operation with both **mineral and synthetic oil**.




In addition to Zero air loss internal auto drain valve a manual override valve is provided to **facilitate routine check-up** and maintenance.



Harvesting the elements of air through innovation for



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