



# AIR VIP

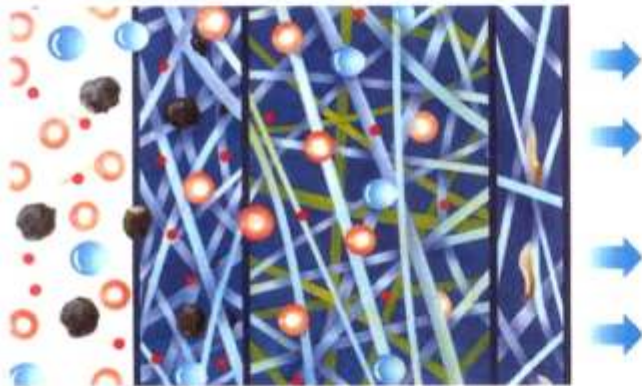
high efficiency compressed  
air filters

## THE REASONS FOR PURCHASING AIR VIP FILTERS

Modern manufacturing industry requires the cleanest, most reliable compressed air supply available. Compromising your compressed air supply can result in a reduction in product quality, affect site safety and can even result in a production line coming to a halt. A modest investment in the AIR VIP range of compressed air filters will pay for itself many times over.

**The AIR VIP series meets the requirements of the "PED" 97/23 CE guidelines.**

## FILTRATION PRINCIPLES



- 1) Direct interception (removal of coarse particles on the outside of the filtration surface).
- 2) Inertial impaction (removal of particles thanks to the tortuous path formed by the microfibres).
- 3) Diffusion (fine particles adhere to the microfibres thanks to "Brownian motion").

## THOUSANDS OF HOURS WITH CONSISTENT EFFICIENCY

The ARS range of filter elements in our AIR VIP series are constructed using multiple filter layers, each of which is used for a specific function. The contaminated air (travelling through the cartridge from inside to out) first passes a pre-filtration layer of resin impregnated cellulose fibres, where particles greater than  $5 \mu$  are retained.

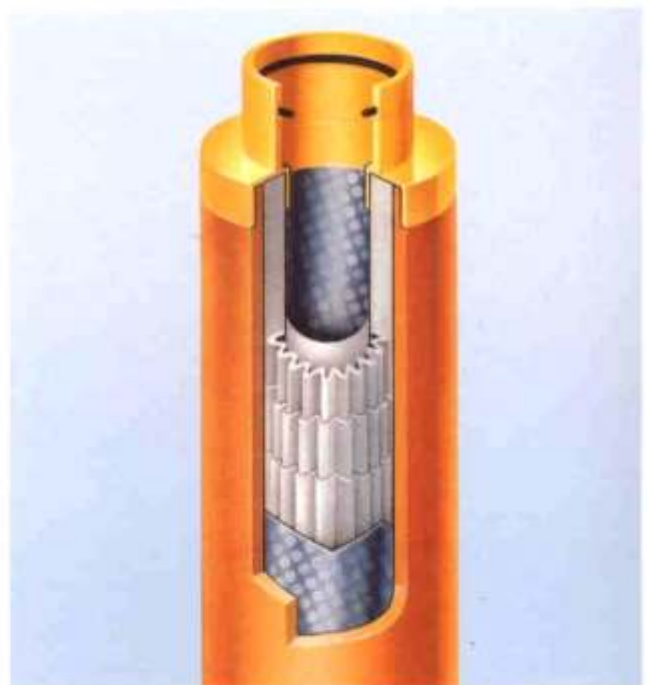
The use of resin for impregnation guarantees the consistent high strength of the filter material, even in the presence of water.

The air then passes through the second filtration layer, which consists of borosilicate microfibres. This allows the capture of particles with sizes down to 0.01 micron and the formation of condensate droplets, which are conveyed to the outer coalescing layers of the cartridge.

This outer barrier collects the separated droplets of water and oil, allowing them to run down to the bottom of the cartridge and into the bowl of the housing assembly. Although the compressed air elements allow liquids to pass through, the retained solids eventually result in them becoming blocked.



The pleated construction of our ARS range of filter elements provides a very high surface area for the retention of the solid particles (approx. 4-5 times when compared to the conventional rolled filter of most manufacturers), the result is an exceptionally long life & very low pressure drop for the element.





**SAFETY SYSTEM**

Prevents housing being opened whilst in operation.

**EASE OF INSTALLATION**

The filter cartridge is retained using a positive seal O-ring. This design feature allows the quick and easy replacement of the filter element, eliminating the need for a tie rod.

**COLOUR CODE**

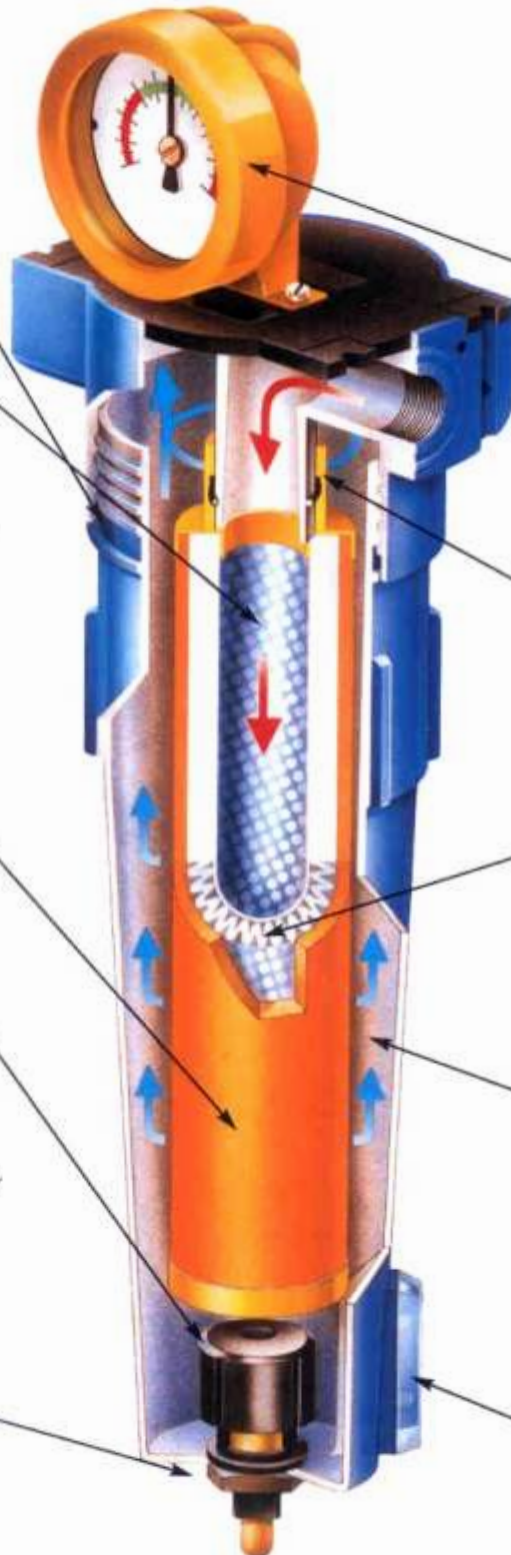
The element grade is clearly identified by the use of different coloured outer foam sleeves.

**AUTOMATIC CONDENSATE DRAIN**

The drain has three functions:  
**Automatic:** compressed air operation - normal  
**Semi-automatic:** operates under a no pressure condition  
**Manual**

**SPACE REDUCTION**

Only 6 cm of clearance under the filter bowl is required during element replacement.



**DIFFERENTIAL GAUGE**

The differential gauge XAM-100 can be mounted facing either direction and accurately indicates when the filter element needs replacing.

**O-RING SEAL**

An O-ring seal ensures positive element location and eliminates the possibility of bypass.

**PLEATED FILTER ELEMENT**

Offers a high filtration surface area, low differential pressure loss and long life.

**DUAL LAYER PROTECTION OF BODY**

The surface treatment of the interior and exterior of the housing assures excellent corrosion resistance.

**LEVEL INDICATOR**

Displays the presence of collected liquid.

**"RM" grade**

10 micron  
15 ppm

**"RF" grade**

1 micron  
8 ppm  
replacement at: 0.6 bar  
Air Quality to ISO 8573.1

**Compressed air pre-filtration:**

Removal of condensate and solid particles, protecting air receivers and refrigerant dryers.

Pre filter for the RB & RA grades.  
After filter collecting dust and debris generated by Desiccant dryers.



**"RB" grade**

1 micron  
0.1 ppm

Air Quality to ISO 8573.1  
Max. particle size Class 2  
Max. oil content Class 2  
Clean pressure drop:  
60 mbar

replacement at: 0.6 bar

**Oil separation and compressed air filtration:**

Pre filter for refrigeration driers.  
Pre filter for the RA & CA grades.  
Vacuum pump inlet protection filter.  
Industrial filtration for general purpose air  
Removal of particles down to 1µ, coalesced water and oil (liquid).  
Max. remaining oil content of 0.1 ppm at 21°C.



**"RA" grade**

0.01 micron  
0.01 ppm

Air Quality to ISO 8573.1  
Max. particle size Class 1  
Max. oil content Class 1  
Clean pressure drop:  
80 mbar

replacement at: 0.6 bar

**Oil separation and precision filtration of compressed air and gases for the protection of:**

Adsorption driers  
Sophisticated instrumentation  
Spray paint plants  
Electronics, food & textiles industries  
Removal of particles down to 0.01µ including oil & water aerosols, which provides a max. remaining oil content of 0.01 mg/m<sup>3</sup> at 21°C.



**"CA" grade**

0.003 ppm

Air Quality to ISO 8573.1  
Max. particle size Class 1  
Max. oil content Class 1  
Clean pressure drop:  
140 mbar

replacement at: 1000 hours

**Elimination of odours and vapours from the compressed air.**

Always to be preceded by the "RA" grade.  
Compressed air for:  
- food & beverage  
- pharmaceutical  
- process air  
- textiles, electronics  
Removal of oil vapour and hydrocarbons, which provides a max. remaining oil content of 0.003 mg/m<sup>3</sup> at 21°C.





Type	Filter element	RM	RB	RA	CA	RF
	Filtration grade <input type="checkbox"/>					
<b>P<sub>max</sub>: 16 bar</b>	Residual oil (ppm)	15	0.1	0.01	0.003	-
	Particulate removal (micron)	10	1	0.01	-	1
<b>T<sub>max</sub>: 60°C</b>	Air purity ISO 8573/1	4,-5	2,-2	1,-1	1,-1	2,-4

### CDF 15

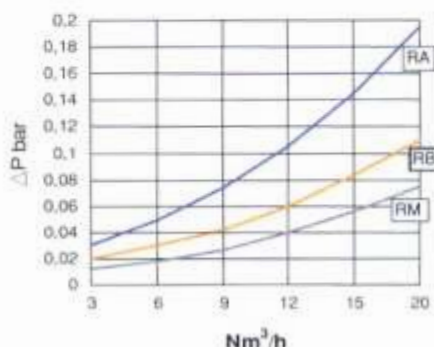


**Connection** G 1/4"  
**Material** Aluminium  
**Volume** 0.15 L.  
**Weight** 0.4 Kg.

**Available versions**  
 00 = manual valve

**Filter element**  
 1 off ARS-15

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	15	9
<b>Max flow rate</b>	20	12



### CDF 30



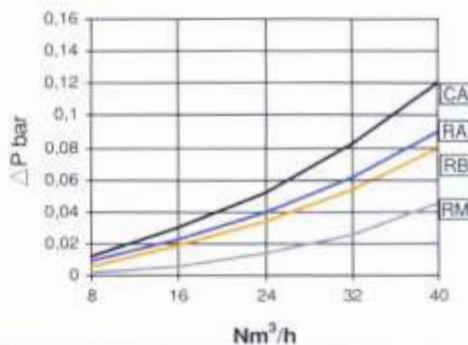
**Connection** G 1/4"  
**Material** Aluminium  
**Volume** 0.3 L.  
**Weight** 0.7 Kg.

**Available versions**  
 00 = manual valve XAD-300  
 0D = Automatic inner condensate drain XAD-251  
 MD = 0D + differential gauge XAM-100

**Accessories available upon request**  
 Mounting bracket: XAS-1  
 Housing connection kit: XAK-1  
 O-ring seal kit (No.8 O-rings): XAG-1

**Filter element**  
 1 off ARS-30

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	30	18
<b>Max flow rate</b>	40	24



### CDF 60



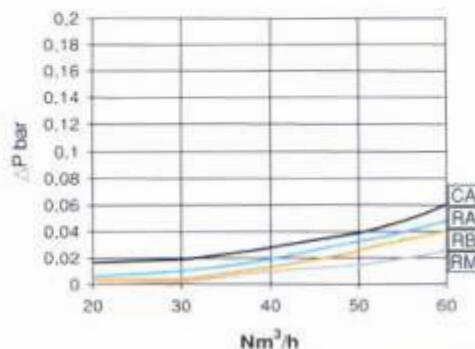
**Connection** G 3/8"  
**Material** Aluminium  
**Volume** 0.5 L.  
**Weight** 0.8 Kg.


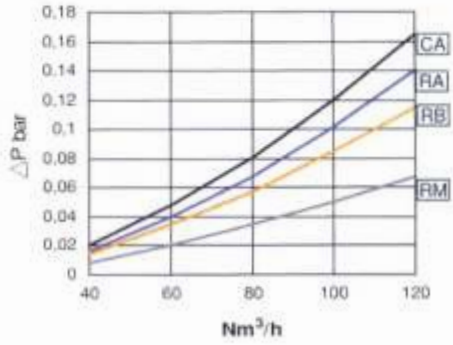

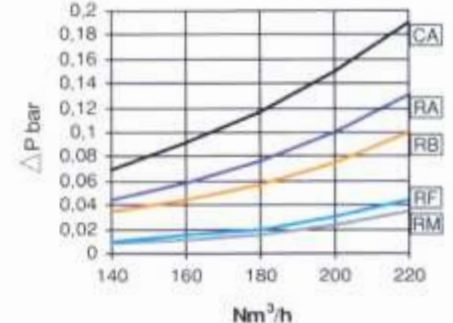

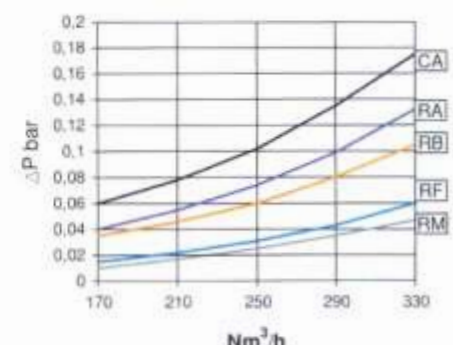
**Available versions**  
 00 = manual valve XAD-300  
 0D = Automatic inner condensate drain XAD-251  
 MD = 0D + differential gauge XAM-100

**Accessories available upon request**  
 Mounting bracket: XAS-1  
 Housing connection kit: XAK-1  
 O-ring seal kit (No.8 O-rings): XAG-1

**Filter element**  
 1 off ARS-100

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	60	36
<b>Max flow rate</b>	70	42



Type	Filter element Filtration grade □	RM	RB	RA	CA	RF
		Residual oil (ppm)	15	0.1	0.01	0.003
Pmax: 16 bar T.max: 60°C	Particulate removal (micron)	10	1	0.01	-	1
	Air purity ISO 8573/1	4.-.5	2.-.2	1.-.1	1.-.1	2.-.4
<b>CDF 100 □</b>  	<b>Connection</b> G 1/2" Material Aluminium Volume 0.5 L. Weight 0.8 Kg.	Values for 7 bar <b>Nm³/h*</b> <b>Scfm</b>				
	<b>Available versions</b> <input type="checkbox"/> 00 = manual valve XAD-300 <input type="checkbox"/> 0D = Automatic inner condensate drain XAD-251 <input type="checkbox"/> MD = 0D + differential gauge XAM-100  <b>Accessories available upon request</b> Mounting bracket: XAS-1 Housing connection kit: XAK-1 O-ring seal kit (No.8 O-rings): XAG-1  <b>Filter element</b> 1 off ARS-100 □	<b>Nominal flow rate</b> 100      60 <b>Max flow rate</b> 120      72				
<b>CDF 180 □</b>  	<b>Connection</b> G 3/4" Material Aluminium Volume 1.2 L. Weight 1.7 Kg.	Values for 7 bar <b>Nm³/h*</b> <b>Scfm</b>				
	<b>Available versions</b> <input type="checkbox"/> 00 = manual valve XAD-300 <input type="checkbox"/> 0D = Automatic inner condensate drain XAD-251 <input type="checkbox"/> MD = 0D + differential gauge XAM-100  <b>Accessories available upon request</b> Mounting bracket: XAS-2 Housing connection kit: XAK-2 O-ring seal kit (No.8 O-rings): XAG-2  <b>Filter element</b> 1 off ARS-180 □	<b>Nominal flow rate</b> 180      110 <b>Max flow rate</b> 220      132				
<b>CDF 290 □</b>  	<b>Connection</b> G 1" Material Aluminium Volume 1.6 L. Weight 1.9 Kg.	Values for 7 bar <b>Nm³/h*</b> <b>Scfm</b>				
	<b>Available versions</b> <input type="checkbox"/> 00 = manual valve XAD-300 <input type="checkbox"/> 0D = Automatic inner condensate drain XAD-251 <input type="checkbox"/> MD = 0D + differential gauge XAM-100  <b>Accessories available upon request</b> Mounting bracket: XAS-2 Housing connection kit: XAK-2 O-ring seal kit (No.8 O-rings): XAG-2  <b>Filter element</b> 1 off ARS-290 □	<b>Nominal flow rate</b> 290      170 <b>Max flow rate</b> 330      198				



Type	Filter element	RM	RB	RA	CA	RF
	Filtration grade <input type="checkbox"/>					
R.max: 16 bar T.max: 60°C	Residual oil (ppm)	15	0.1	0.01	0.003	-
	Particulate removal (micron)	10	1	0.01	-	1
	Air purity ISO 8573/1	4,-.5	2,-.2	1,-.1	1,-.1	2,-.4

### CDF 460



**Connection** G 1 - 1/4"  
**Material** Aluminium  
**Volume** 2.6 L.  
**Weight** 3.6 Kg.

**Available versions**

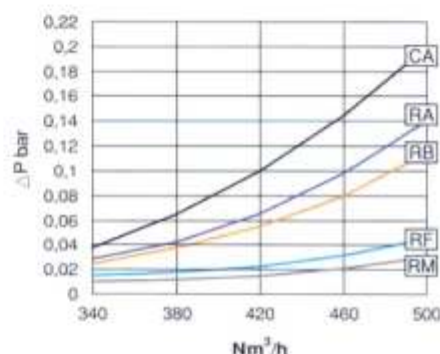
- 00 = manual valve XAD-300
- 0D = Automatic inner condensate drain XAD-251
- MD = 0D + differential gauge XAM-100

**Accessories available upon request**

Mounting bracket: XAS-3  
 Housing connection kit: XAK-3  
 O-ring seal kit (No.8 O-rings): XAG-3

**Filter element**  
 1 off ARS-460

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	<b>460</b>	<b>270</b>
<b>Max flow rate</b>	<b>500</b>	<b>300</b>



### CDF 610



**Connection** G 1-1/2"  
**Material** Aluminium  
**Volume** 3.5 L.  
**Weight** 3.9 Kg.

**Available versions**

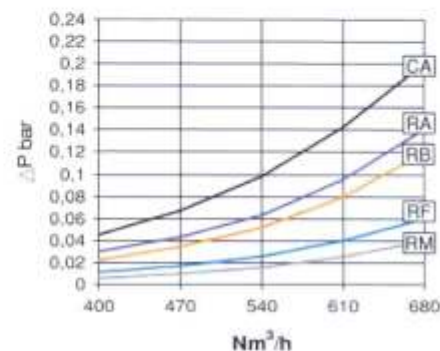
- 00 = manual valve XAD-300
- 0D = Automatic inner condensate drain XAD-251
- MD = 0D + differential gauge XAM-100

**Accessories available upon request**

Mounting bracket: XAS-3  
 Housing connection kit: XAK-3  
 O-ring seal kit (No.8 O-rings): XAG-3

**Filter element**  
 1 off ARS-610

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	<b>610</b>	<b>360</b>
<b>Max flow rate</b>	<b>680</b>	<b>408</b>



### CDF 930



**Connection** G 2"  
**Material** Aluminium  
**Volume** 3.6 L.  
**Weight** 5.4 Kg.

**Available versions**

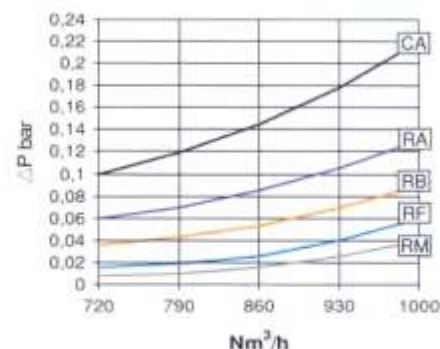
- 00 = manual valve XAD-300
- 0D = Automatic inner condensate drain XAD-251
- MD = 0D + differential gauge XAM-100


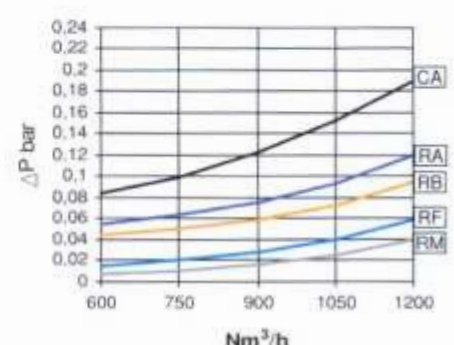

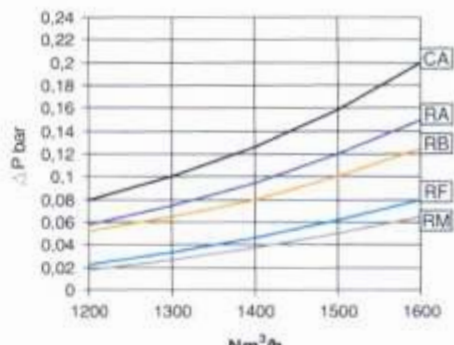

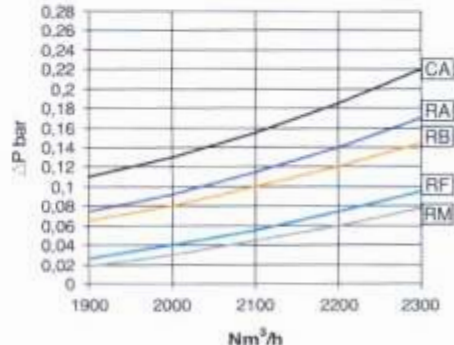
**Accessories available upon request**

Mounting bracket XAS-4  
 O-ring seal kit (No.8 O-rings) XAG-4

**Filter element**  
 1 off ARS-930

Values for 7 bar	Nm <sup>3</sup> /h*	Scfm
<b>Nominal flow rate</b>	<b>930</b>	<b>550</b>
<b>Max flow rate</b>	<b>1,000</b>	<b>600</b>



Type	Filter element Filtration grade <input type="checkbox"/>	RM	RB	RA	CA	RF
		Residual oil (ppm)	15	0.1	0.01	0.003
<b>P.max: 16 bar</b>	Particulate removal (micron)	10	1	0.01	-	1
<b>T.max: 60°C</b>	Air purity ISO 8573/1	4.-5	2.-2	1.-1	1.-1	2.-4
<b>CDF 1050</b> <input type="checkbox"/> 	<b>Connection</b> <b>G 2-1/2"</b> Material              Aluminium Volume                4.5 L. Weight                6.1 Kg.	Values for 7 bar		<b>Nm<sup>3</sup>/h*</b>	<b>Scfm</b>	
	<b>Available versions</b> <input type="checkbox"/> <b>00</b> = manual valve <b>XAD-300</b> <input type="checkbox"/> <b>0D</b> = Automatic inner condensate drain <b>XAD-251</b> <input type="checkbox"/> <b>MD</b> = 0D + differential gauge <b>XAM-100</b>	<b>Nominal flow rate</b>	<b>1,050</b>	<b>620</b>		
	<b>Accessories available upon request</b> Mounting bracket <b>XAS-4</b> O-ring seal kit (No.8 O-rings) <b>XAG-4</b>	<b>Max flow rate</b>	<b>1,200</b>	<b>720</b>		
	<b>Filter element</b> 1 off <b>ARS-1050</b> <input type="checkbox"/>					
<b>CDF 1500</b> <input type="checkbox"/> 	<b>Connection</b> <b>DN 80</b> Material              Aluminium Volume                8 L. Weight                22 Kg.	Values for 7 bar		<b>Nm<sup>3</sup>/h*</b>	<b>Scfm</b>	
	<b>Available versions</b> <input type="checkbox"/> <b>00</b> = Manual valve <b>XAD-300</b> <input type="checkbox"/> <b>0D</b> = Automatic outer condensate drain <b>XAD-651</b> <input type="checkbox"/> <b>MD</b> = 0D + diff. gauge <b>XAM-100</b>	<b>Nominal flow rate</b>	<b>1,500</b>	<b>900</b>		
	<b>Filter element</b> 1 off <b>ARS-1400</b> <input type="checkbox"/>	<b>Max flow rate</b>	<b>1,600</b>	<b>960</b>		
						
<b>CDF 2200</b> <input type="checkbox"/> 	<b>Connection</b> <b>DN 80</b> Material              Aluminium Volume                16 L. Weight                28 Kg.	Values for 7 bar		<b>Nm<sup>3</sup>/h*</b>	<b>Scfm</b>	
	<b>Available versions</b> <input type="checkbox"/> <b>00</b> = Manual valve <b>XAD-300</b> <input type="checkbox"/> <b>0D</b> = Automatic outer condensate drain <b>XAD-651</b> <input type="checkbox"/> <b>MD</b> = 0D + diff. gauge <b>XAM-100</b>	<b>Nominal flow rate</b>	<b>2,200</b>	<b>1,320</b>		
	<b>Filter element</b> 2 off <b>ARS-1400</b> <input type="checkbox"/>	<b>Max flow rate</b>	<b>2,300</b>	<b>1,380</b>		
						



## Sizing table

Series of carbon steel housings	Filter element Filtration grade □		RM	RB	RA	CA	RF
	Residual oil (ppm)		15	0.1	0.01	0.003	-
	Particulate removal (micron)		10	1	0.01	-	1
	Air purity ISO 8573/1		4.-5	2.-2	1.-1	1.-1	2.-4

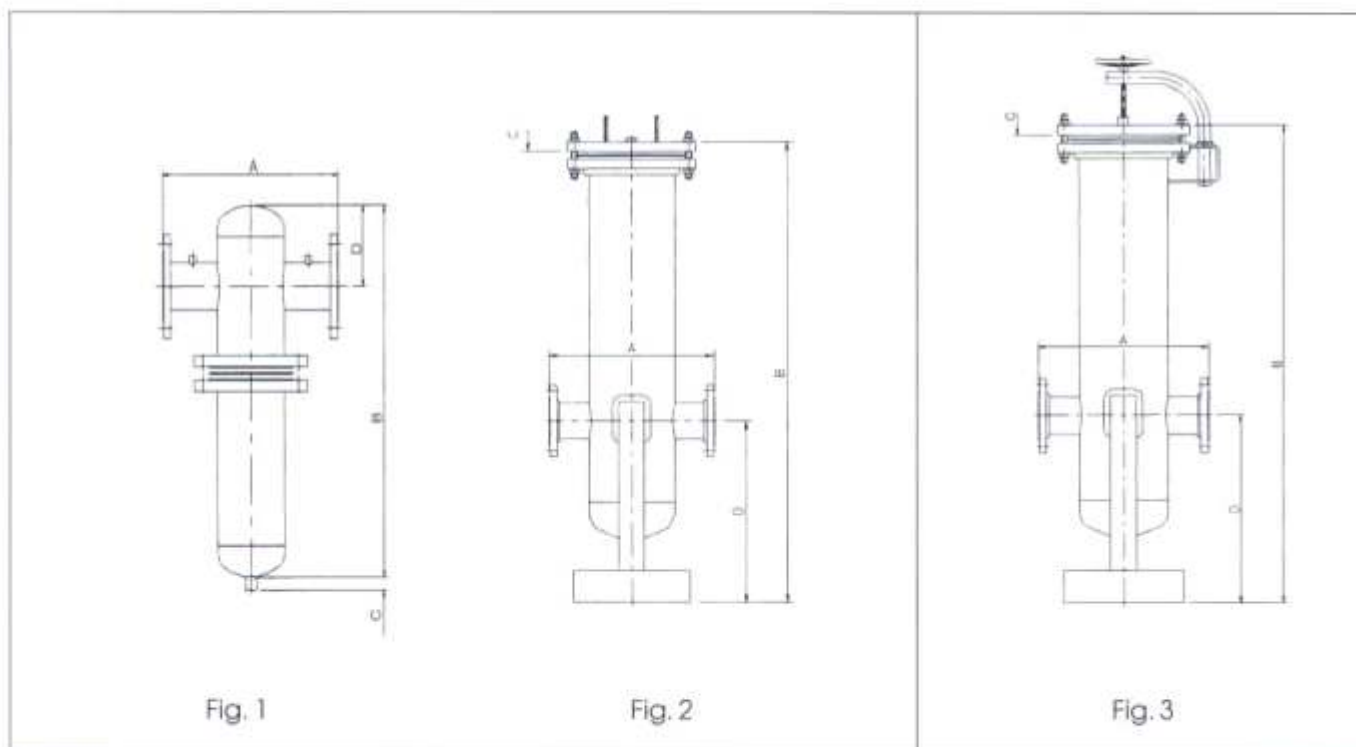
  

Type	Referred to 7 bar		Conn. size	Dimensions				Fig.	Weight Kg.	Filter element	
	Nm <sup>3</sup> /h	Scfm		A	B	C	D			Type	N°
ACF-1500-00	1,400	820	DN 80	440	693	350	155	1	45	ARS-1400 □	1
ACF-2200-00	2,200	1,299	DN 80	440	1020	700	155	1	60	ARS-1400 □	2
ACF-3600-00	3,600	2,100	DN 100	550	1600	500	470	2	150	ARS-1400 □	4
ACF-5800-00	5,800	3,400	DN 150	600	1650	500	520	2	190	ARS-1400 □	6
ACF-8600-00	8,600	5,100	DN 150	700	1800	500	540	3	230	ARS-1400 □	8
ACF-14000-00	14,000	8,250	DN 200	750	1900	500	580	3	300	ARS-1400 □	12
ACF-19200-00	19,200	11,300	DN 250	800	1950	500	630	3	380	ARS-1400 □	16
ACF-22000-00	22,000	12,950	DN 250	850	2000	500	650	3	430	ARS-1400 □	20
ACF-33000-00	33,000	19,400	DN 300	950	2150	500	700	3	560	ARS-1400 □	30

Flow rate values stated are for 7 bar, for different line pressures, use the correction factors below.

Pressure on line	bar g	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16
Correction factor		0.38	0.53	0.65	0.75	0.80	0.90	1	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.50

GENERAL NOTE - The performance indicated in the flow rate diagrams is referred to a 20 °C temperature with a saturated filter element.

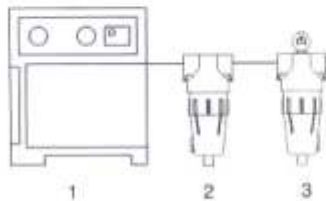


# TYPICAL APPLICATIONS FOR COMPRESSED AIR SYSTEMS

# MODULAR SYSTEM

## FOR GENERAL USE

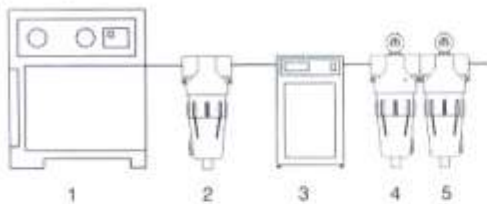
Air purity ISO 8573-1 : class 2.-.2



2- Prefilter grade **RM**

## WITH DEW POINT AT +3°C

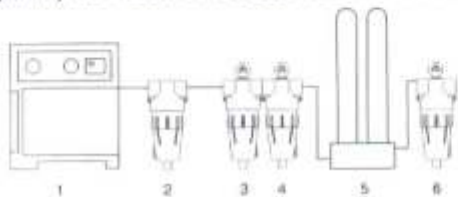
Air purity ISO 8573-1 : class 1.4.1



3- **DRY- VIP** drier  
4- Filter grade **RB**  
5- Filter grade **RA**

## WITH DEW POINT FROM -20°C to -40°C

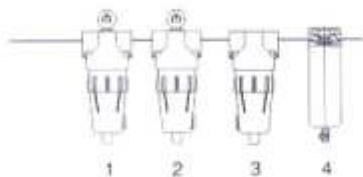
Air purity ISO 8573-1 : class 1.2.1 or 1.1.1



2- Prefilter grade **RM**  
5- **DRY PLUS** adsorption drier  
6- After filter grade **RF**

## PURE AND STERILE AIR – POINT OF USE

Air purity ISO 8573-1 : class 1.-.1



4 - Sterile filter grade **SL**

## INSTALLATION IN SERIES



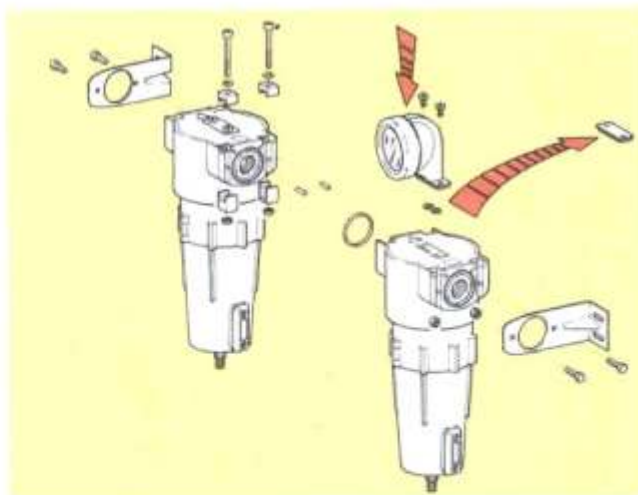
Mounting kits are available which enables the installation of several filters in series. The design of our compact assembly allows the use of a multi stage system to be used where minimal space is available.

## DESIGN OF EACH DETAIL



## EASY INSTALLATION

All the components, mounting brackets, clamps and differential gauges are easily assembled.





## XAC -21-230

Standard voltage: 230V-50/60  
 Operating pressure: 0.8-16 bar  
 Operating temperature: +1/60°C  
 Weight: 700 gr.

The automatic condensate drain XAC-21-230 is used for the removal of condensate & oil emulsion from the compressed air system, without needlessly wasting expensive energy. The XAC-21 uses a capacitive level sensor which prevents the venting of compressed air during operation.



## XAM-100

Bourdon valve operation  
 Max operating pressure: 16 bar  
 Max operat. temperature: 60°C  
 Scale: 0-1.4 bar  
 Weight: 620 gr.

The differential gauge XAM-100 measures the pressure difference between the inlet and outlet of the filter assembly. With the scale being centrally set at "0", the gauge can be mounted through a rotation of 180°. Element replacement is advised when the pointer enters into the red coloured field.



## XAD-251

Operating pressure: 0.6-16 bar  
 Operating temperature: +5 / 80°C  
 Weight: 65 gr.

The automatic float condensate drain is specified from models CDF -30 to the CDF-1050. The drain can run in 3 different ways:

**Automatic:** the elevation of the float opens the pilot valve, then the compressed air opens the shutter to allow the liquid to discharge.

**Semi-automatic:** to avoid liquid discharging when the pressure drops under 0.6 bar the condensate drain opens, venting the collected liquid.

**Manual:** the liquid is discharged by rotating the brass ratchet anti-clockwise.



## XAD-651

Operating pressure: 0-16 bar  
 Operating temperature: +5 / 80°C  
 Weight: 0.6 Kg.

Automatic float condensate drain with aluminium body for installation where large amounts of condensate need to be discharged from the air line. The float mechanism is manufactured from stainless steel.



## TECHNICAL FEATURES

Type	Max. flow rate		Nominal flow rate		Conn.	Pressure Max	Q.ty	Replacement elements
	Nm <sup>3</sup> /h	Scfm	Nm <sup>3</sup> /h	Scfm				
CDF-15-00	20	12	15	9	1/4" GAS	16	1	ARS-15
CDF-30-MD	40	24	30	18	1/4" GAS	16	1	ARS-30
CDF-60-MD	70	42	60	36	3/8" GAS	16	1	ARS-100
CDF-100-MD	120	72	100	60	1/2" GAS	16	1	ARS-100
CDF-180-MD	220	132	180	110	3/4" GAS	16	1	ARS-180
CDF-290-MD	330	198	290	170	1" GAS	16	1	ARS-290
CDF-460-MD	500	300	460	270	1 1/4" GAS	16	1	ARS-460
CDF-610-MD	680	408	610	360	1 1/2" GAS	16	1	ARS-610
CDF-930-MD	1,000	600	930	550	2" GAS	16	1	ARS-930
CDF-1050-MD	1,300	780	1,050	620	2 1/2" GAS	16	1	ARS-1050
CDF-1500-MD	1,600	960	1500	900	DN80 PN16	16	1	ARS-1400
CDF-2200-MD	2,300	1,380	2200	1,320	DN80 PN16	16	2	ARS-1400
ACF-1500-00	1,600	960	1,500	900	DN 80	16	1	ARS-1400
ACF-2200-00	2,300	1,380	2,200	1,320	DN 80	16	2	ARS-1400
ACF-3600-00	3,800	2,280	3,600	2,160	DN 100	10	4	ARS-1400
ACF-5800-00	6,000	3,600	5,800	3,480	DN 150	10	6	ARS-1400
ACF-8600-00	8,800	5,280	8,600	5,160	DN 150	10	8	ARS-1400
ACF-14000-00	14,500	8,700	14,000	8,400	DN 200	10	12	ARS-1400
ACF-19200-00	19,500	11,700	19,200	11,520	DN 250	10	16	ARS-1400
ACF-22000-00	22,500	13,500	22,000	13,200	DN 250	10	20	ARS-1400
ACF-33000-00	33,600	20,160	33,000	19,800	DN 300	10	30	ARS-1400

Correction factor - for specific line pressures, multiply the above flow rates by the corresponding correction factor below

Pressure on line 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	0.75	0.80	0.90	1	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50

Data contained in this bulletin are informative and subject to change without notice.  
User is responsible for determining whether the product is fit for particular purpose and suitable for User's method of application.



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