

# Atlas Copco Compressed air filters

DD/DDp/PD/PDp/QD series & high pressure types



THE RIGHT FILTER  
FOR YOUR APPLICATION

*Atlas Copco*

# Why Quality Air?



## The high cost of low quality air

When the air around us is compressed, its oil and water content condenses into droplets, and mixes with the high concentration of particles. The result is an abrasive and often acidic oily sludge that could harm the air net, the connected machinery and the quality of the end product. The results: more breakdowns and downtime, production problems and a potential threat to your product's reputation and to the environment.

## The high return of smart filtration

Atlas Copco has developed the perfect filter series to reduce all types of contamination in any process. Designed for maximum contaminant removal and minimal pressure drop, Atlas Copco filters offer significant energy savings in the compressed air system. In addition, smart filtration eliminates unnecessary downtime.

## Total quality air solutions

The Atlas Copco filters are part of a total range of air compressors and air treatment products. For any given application or requirement, a total quality air solution can be offered with the guarantee of the industry leader. One source, one responsibility, one consistently high quality standard.

## Quality classes

Quality has a different meaning to different people. Therefore, the International Standards Organisation (ISO) has clearly defined six classes that quantify the quality of compressed air. The ISO 8573-1 standard provides an unambiguous method of defining the air quality requirements for a pneumatic system.

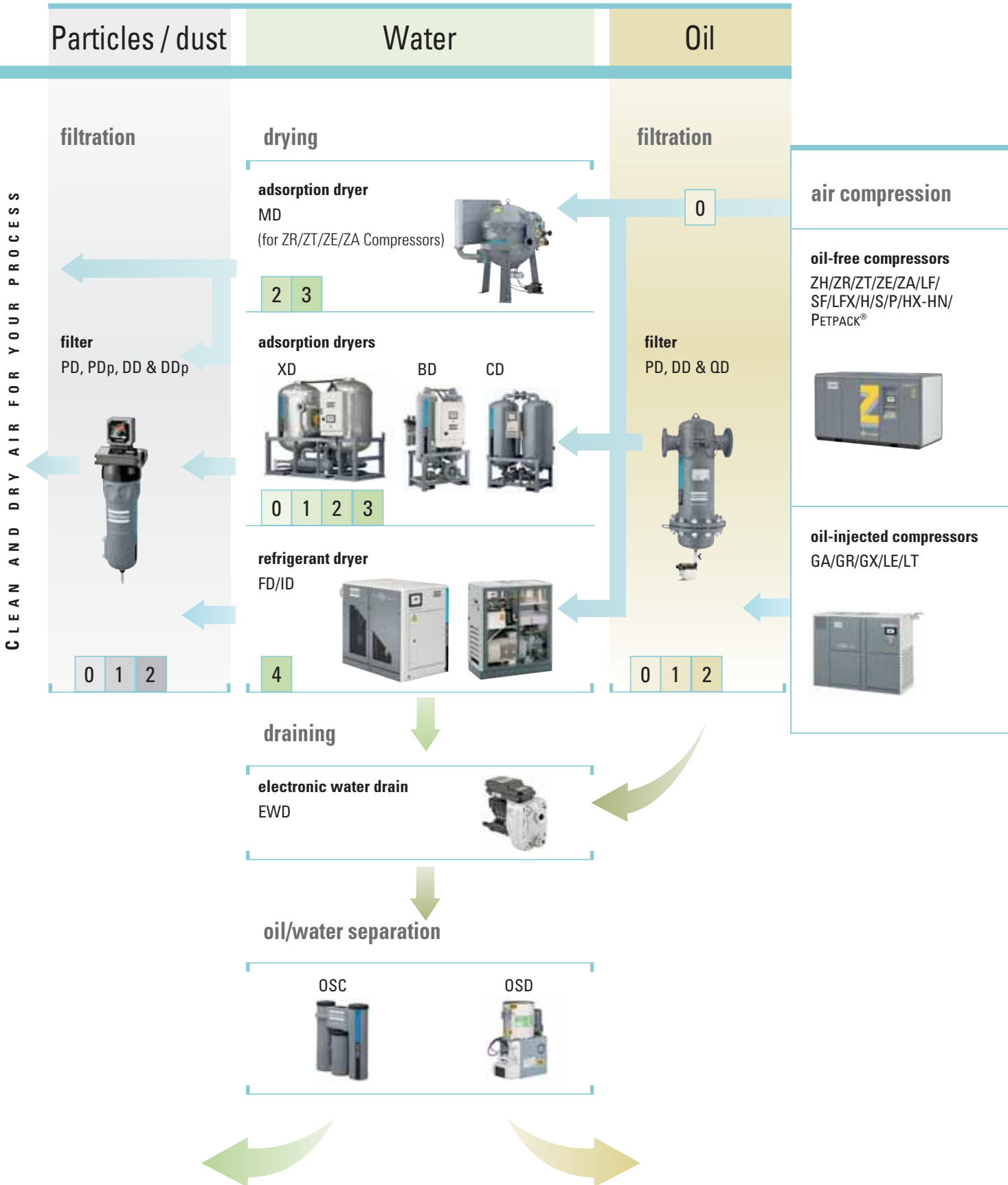
Air quality classes	Dirt (solid particles)				Water		Oil
	Maximum number of particles per m <sup>3</sup> particle diameter (d) size, µm				Max. pressure dewpoint		Max. concentration
	ISO 8573-1	≤ 0.10	0.1 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5.0	°C	°F
0	As specified by the equipment user or supplier and more stringent than class 1						
1	*	100	1	0	-70	-94	0.01
2	*	100 000	1000	10	-40	-40	0.1
3	*	*	10000	500	-20	-4	1
4	*	*	*	1000	3	+ 37.4	5
5	*	*	*	20000	7	+ 44.6	> 5

\* Not specified

A well designed compressed air system ensures that the air quality demands of the process are closely met. With the desired ISO class as a guide, the appropriate components can be selected.

**Atlas Copco offers a complete product range that never requires a customer to compromise.**

# The complete Quality Air solution



# A complete filter range to protect your equipment and process from particles and oil



## Atlas Copco filters: the economic system match

### Reliable operation

- ▶ anodised surface treatment of inner and outer filter housing
- ▶ stainless steel support screens in cartridge
- ▶ bypass of filter media prevented by double O-ring and sealed caps in cartridge
- ▶ highest contaminant removal through triple filtration principle

### Ease of installation

- ▶ compact size, minimum installation space
- ▶ minimal free space requirement for cartridge change

### Easy monitoring, safe operation

- ▶ sight glass for visual check
- ▶ differential pressure gauge or indicator for replacement time of cartridge
- ▶ audible alarm when dismantling under pressure
- ▶ drain valve for manual depressurizing

### Easy maintenance

- ▶ easy access for quick cartridge change
- ▶ reliable "push on" filter cartridge

### All purpose filter range

Type	purpose / principle	oil removal	particle removal
DD	coalescing filter for general purpose protection	0.1 ppm	1 µm
DDp	particle filter for dust protection	-	1 µm
PD	high efficiency coalescing filter	0.01 ppm	0.01 µm
PDp	high efficiency particle filter for dust protection	-	0.01 µm
QD	active carbon filter for removal of oil vapours and (hydrocarbon) odours	0.003 ppm	-

The correct filter selection will avoid contamination problems in your compressed air system, products and processes.

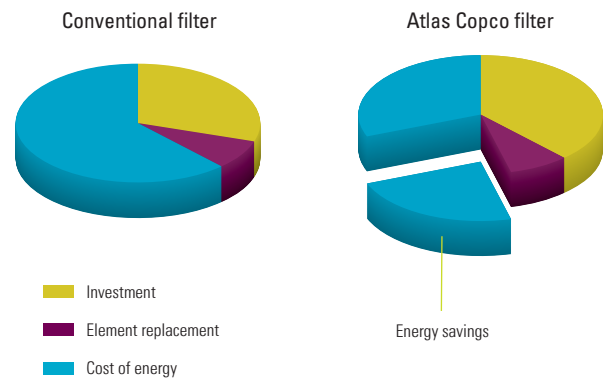
Atlas Copco air filters will efficiently remove the unwanted particles and oil with minimal pressure drop.

### Economic operation

#### Low pressure drop for big energy savings

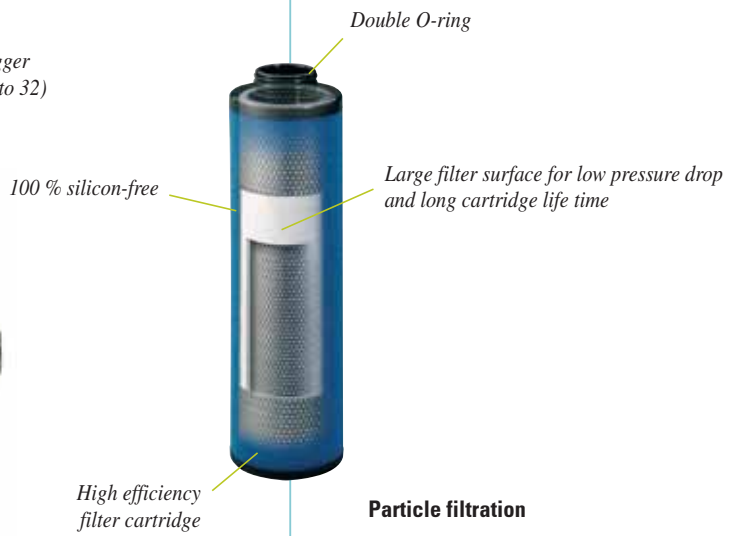
- ▶ Low pressure drop might have a different meaning to different people and applications. Therefore the level of pressure drop needs to be defined and quantified in energy cost.

#### SAVINGS OVER ONE YEAR OF OPERATION

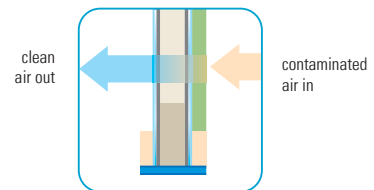




# Effective filtration

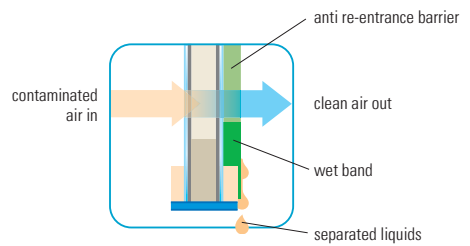


## Particle filtration



Dust particles enter the element from outside. Particles can easily be drained via the bottom valve.

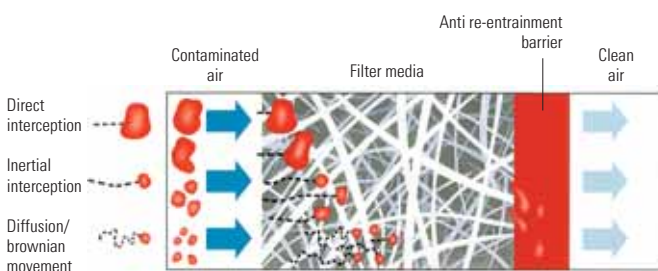
## Oil filtration



Air enters the element from inside. Oil aerosols coalesce forming droplets in the filter paper. These droplets are then separated in the outer filter foam.

## FILTRATION PRINCIPLE

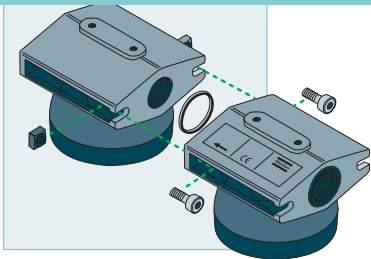
For optimal filtration, Atlas Copco filters apply a triple filtration function: direct interception, inertial interception and diffusion.





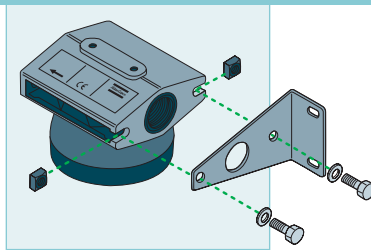


## Accessories and options



### Filter connection kit

allows easy mounting of filters in series  
(sizes 9-520)



### Wall mounting kit

simplifies installation  
(sizes 9-520)



### Quick coupling

for easy connection to drain collector or oil/water separator  
(sizes 9-520)



### 4-20mA read-out

provides an external system with the exact  $\Delta P$  across the filter



### Voltage-free contact

mounted in the differential pressure gauge, to give remote indication of cartridge replacement



### EWD electronic drain

- ▶ no loss of compressed air
- ▶ alarm function

(EWD optional on sizes 9-520)  
(EWD standard on sizes  $\geq 520F$ )



## Typical installations

Air quality	High quality clean & dry air	High quality & clean odour-free air	Extremely clean & dry quality air	Extremely dry & high quality odour-free air
Equipment required	DD    FD    PD refrigerant dryer	DD    FD    PD+QD refrigerant dryer	DD+PD    CD/BD    DDp+PDp adsorption dryer	PD    CD/BD    DDp+QD adsorption dryer

# Technical data

## DD, DDp, PD, PDp, QD air filters & high pressure models

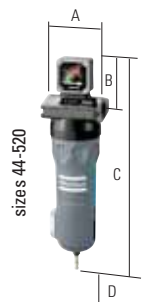
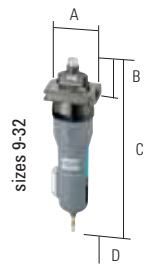
Filter size	Nominal capacity <sup>(1)</sup>		Maximum capacity <sup>(2)</sup>		Connections G or NPT	Dimensions						Free space for cartridge replacement		Weight		
	DD, DDp, PD, PDp, QD	l/s	cfm	l/s		cfm	A		B		C		D		kg	lbs
							mm	in	mm	in	mm	in	mm	in		
9	9	19	11	23	3/8	90	3.54	61	2.40	268	10.55	75	2.95	1	2.2	
17	17	36	21	45	1/2	90	3.54	61	2.40	268	10.55	75	2.95	1.1	2.4	
32	32	68	40	85	1/2	90	3.54	61	2.40	323	12.72	75	2.95	1.3	2.9	
44	44	93	55	117	3/4 & 1	110	4.33	98.5	3.88	374	14.72	75	2.95	1.9	4.2	
60	60	127	75	159	1	110	4.33	98.5	3.88	414	16.30	75	2.95	2.1	4.6	
120	120	254	150	318	1-1/2	140	5.51	105	4.13	520	20.47	100	3.94	4.2	9.3	
150	150	318	188	399	1-1/2	140	5.51	105	4.13	603	23.74	100	3.94	4.5	9.9	
175	175	371	219	464	1-1/2	140	5.51	105	4.13	603	23.74	100	3.94	4.6	10.1	
280	280	594	350	742	2 & 2-1/2	179	7.05	121	4.76	689	27.13	150	5.91	6.9	15.2	
390	390	827	488	1035	3	210	8.27	128	5.04	791	31.14	200	7.87	11	24.2	
520	520	1102	650	1378	3	210	8.27	128	5.04	961	37.83	200	7.87	12.6	27.8	
520F	520	1102	650	1378	DN80	330	12.99	189	7.44	1292	50.87	728	28.66	71	156.5	
780F	780	1654	975	2067	DN100	460	18.11	228	8.98	1320	51.97	686	27.01	127	280.0	
1050F	1050	2226	1313	2784	DN100	460	18.11	228	8.98	1320	51.97	686	27.01	128	282.0	
1400F	1400	2968	1750	3710	DN150	550	21.65	287	11.30	1464	57.64	672	26.46	189	416.7	
1800F	1800	3816	2250	4770	DN150	570	22.44	282	11.10	1467	57.76	681	26.81	210	463.0	
2100F	2100	4452	2625	5565	DN150	620	24.41	291	11.46	1499	59.02	676	26.61	251	553.4	
2700F	2700	5724	3375	7155	DN200	740	29.13	352	13.86	1634	64.33	692	27.24	328	723.1	
3150F	3150	6678	3938	8349	DN200	740	29.13	352	13.86	1634	64.33	692	27.24	329	725.3	
4800F <sup>(3)</sup>	4800	10176	6000	12720	DN250	740	29.13	410	16.14	1662	65.43	800	31.50	507	1118.0	
7200F <sup>(3)</sup>	7200	15256	9000	19080	DN300	1000	39.37	485	19.09	1755	69.09	850	33.46	675	1488.0	

- (1) Nominal pressure : 7 bar(e) / 102 psig; temperature 20 °C  
 (2) Maximum pressure : 16 bar(e) / 232 psig  
 (3) Only DD/PD

- Maximum air inlet temperature  
 DD/DDp/PD/PDp : 66 °C (150 °F)  
 QD : 35 °C (95 °F)

### 20 bar - high pressure filters

Filter size	Inlet capacity		Max. inlet pressure		Connections G or NPT	Dimensions				Free space for cartridge replacement		Weight		
	DDH, DDpH, PDH, PDpH, QDH	l/s	cfm	bar(e)		psig	A		C		D		kg	lbs
							mm	in	mm	in	mm	in		
14	14	30	20	290	3/8	90	3.54	268	10.55	75	2.95	1	2.2	
27	27	57	20	290	3/8	90	3.54	268	10.55	75	2.95	1.1	2.4	
50	50	106	20	290	1/2	90	3.54	323	12.72	75	2.95	1.3	2.9	
70	70	148	20	290	3/4	110	4.33	374	14.72	75	2.95	1.9	4.2	
95	95	201	20	290	3/4	110	4.33	414	16.30	75	2.95	2.1	4.6	
185	185	392	20	290	1-1/2	140	5.51	520	20.47	100	3.94	4.2	9.3	
240	240	509	20	290	1-1/2	140	5.51	603	23.74	100	3.94	4.5	9.9	
275	275	583	20	290	1-1/2	140	5.51	603	23.74	100	3.94	4.6	10.1	
445	445	943	20	290	2	179	7.05	689	27.13	150	5.91	6.9	15.2	



### Pressure drop

	DD	DDp	PD	PDp	QD
Initial pressure drop at nominal capacity (dry)	0.05	0.05	0.08	0.08	0.07
Initial pressure drop at nominal capacity (wet)	0.12	NA	0.2	NA	NA

For other compressed air inlet pressures, multiply the filter capacity by the following correction factors:

Inlet pressure	bar	2	4	6	7	8	10	12	14	16
Inlet pressure	psi	29	58	87	102	116	145	174	203	232
Correction factor		0.53	0.75	0.92	1	1.06	1.2	1.31	1.41	1.5

NA: not applicable



The face of innovation

What sets Atlas Copco apart as a company is our conviction that we can only excel in what we do, if we provide the best possible know-how and technology to really help our customers produce, grow and succeed.

There is a unique way of achieving that - we simply call it the Atlas Copco way. It builds on **interaction**, on long-term relationships and involvement in the customers' process, needs and objectives. It means having the flexibility to adapt to the diverse demands of the people we cater for.

It's the **commitment** to our customers' business that drives our effort towards increasing their productivity through better solutions. It starts with fully supporting existing products and continuously doing things better, but it goes much further, creating advances in technology through **innovation**. Not for the sake of technology, but for the sake of our customer's bottom line and peace-of-mind.

That is how Atlas Copco will strive to remain the first choice, to succeed in attracting new business and to maintain our position as the industry leader.



#### ISO 9001

A consistent quality earned us the industry's leadership and the customer's trust.



#### ISO 14001

Atlas Copco's Environmental Management System forms an integral part of each business process.

Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.

**Atlas Copco**

[www.atlascopco.com](http://www.atlascopco.com)