

*Atlas Copco*

# Medical Air Purifier

MED12-142+ Series



# Purity and precision in critical healthcare environments

The critical field of patient care requires ultra-clean and purified medical air delivered to operating theaters and hospital beds with absolute reliability. The Atlas Copco MED+ series of Medical Air Purifiers offers unique multi-stage filtration that converts regular compressed air from any type of compressor into internationally certified medical air. These innovative devices provide clean air for all your medical and surgical applications.

## **Medical air applications:**

- Mechanical ventilation and anesthesia
- Drug delivery via a nebulizer
- Testing and drying of medical devices

## **Surgical air applications:**

- Pneumatic surgical tools  
(drilling, reaming, sawing, dissecting, tapping and screwing)
- Pneumatic ceiling pendant operation
- Testing of medical devices
- High-speed high torque motors



# 35%

## LESS FOOTPRINT



### Innovation

The medical air purifier is fitted with a patented purge nozzle design with multiple orifice sizes, enabling the purge rate to be adjusted to suit customer requirement, instead of delivering a set of fixed nozzles.



### Energy efficiency

The MED+ series incorporates state-of-the-art energy management control with built-in purge control as standard. The purge saver stops the purge flow when the dew point level remains low, leading to a more efficient use of energy.



### Unsurpassed Purity

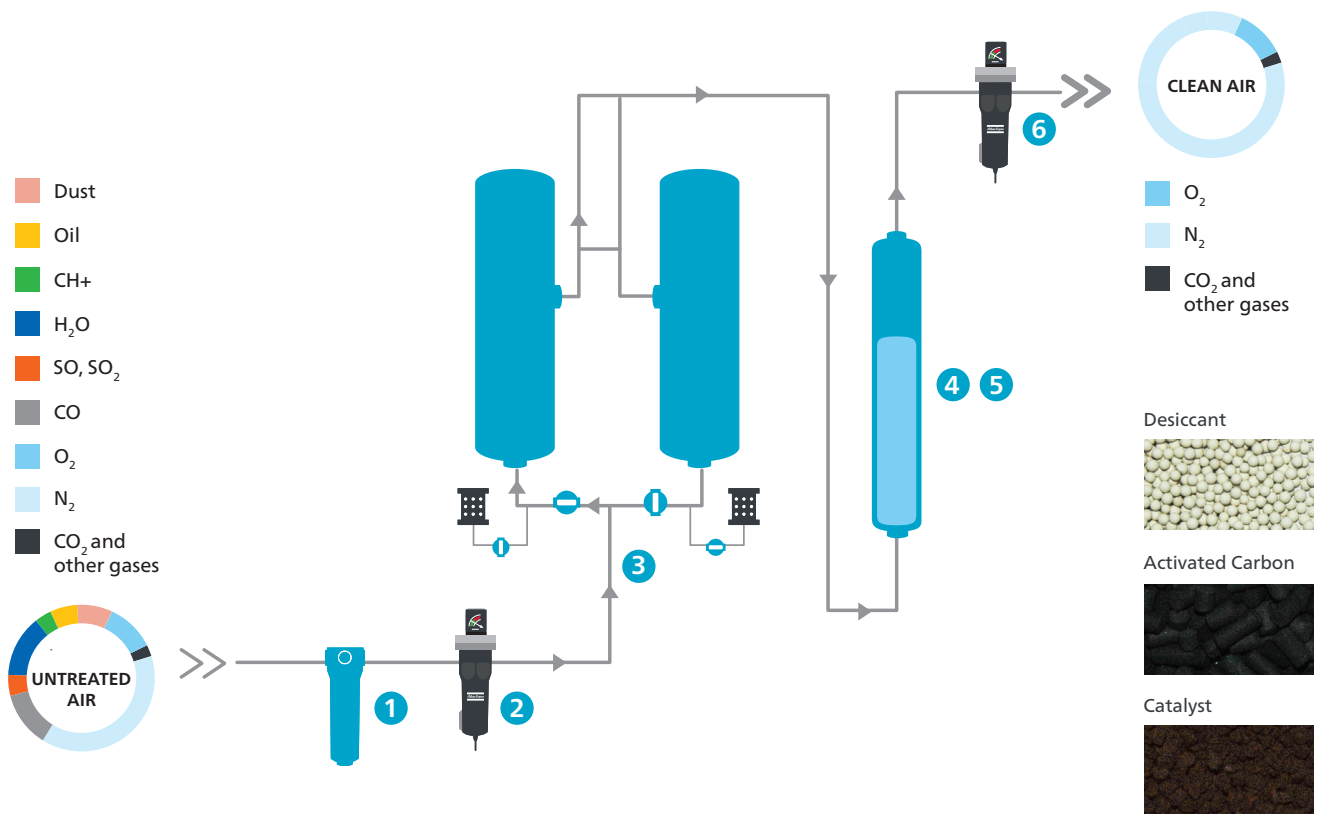
Built to the most exacting standards, the MED+ series is engineered to provide certified medical air even in areas with high ambient pollution. These air dryers ensure high air quality in 'worst case' but real-life pollution scenarios.



### Compact operation

Through clever component positioning, the MED+ fits into any space or setting. It comes pre-assembled and ready for use, ensuring minimal installation time and cost.

# 6 Steps of filtration



**1 2** A water separator for free water removal together with a fine and coarse coalescing filter, removes oil aerosol to less than 0.01 mg/m<sup>3</sup>.

**3** A heatless desiccant dryer reduces moisture content to a pressure dew point of -40°C/-40°F, removing any risk of condensation, bacteria and mold growth.

**4 5** A dual cleaning stage includes activated carbon to eliminate hydrocarbons (oil vapor, smells, etc.). A catalyst then converts CO into CO<sub>2</sub>.

**6** A bacterial filter at the exit removes bacteria and particles that may have been introduced in the desiccant stages with a count efficiency of 99.99%.





## Medically certified

Pre-certification simplifies organization and inspection by regulatory bodies, saving the hospital time and money. MED+ Medical Air purifiers surpass the requirements of the most demanding standards and regulations such as:

- Medical Device Directive MDD 93/42/EEC.
- EN ISO 7396-1 and ISO 14971.

Furthermore, they are designed and manufactured according to ISO 9001, ISO 14001 and the ISO 13485 quality management system.

## Pharmacopeia compliant

Built to exceed standards, MED+ air purifiers provide certified medical air, even in situations with polluted intake air to ensure patient safety at all times. The six cleaning stages of the MED+ have been carefully designed to make sure the air quality at the outlet is in compliance with the European Pharmacopeia monograph.\*

	European Pharmacopeia
O <sub>2</sub>	20.4% < x < 21.4%
CO <sub>2</sub>	<500 ppm
CO	<5 ppm
SO <sub>2</sub>	<1 ppm
NO <sub>x</sub>	<2 ppm
Water vapor	ADP -45°C (-49°F) / PDP -31°C (-23°F)
Oil vapor	<0.1 mg/m <sup>3</sup>
Dirt particles	not specified
Taste and odor	taste and odor free

\*The gas monitoring sensors are optional to the equipment and therefore the compliance to pharmacopeia can only be guaranteed when the proper maintenance instructions are followed. One of these instructions is a monthly air quality check with logging of these records done by the user.

# Choose the **best fit** for your requirement



## MED+ with advanced Elektronikon® controller

- 3,5" high definition display
- Standard purge control for up to 90% energy savings
- Alarms and warnings on PDP, net pressure and service
- Service warning indications for desiccant, catalyst, filters and water drains
- Pressure sensor on outlet for full control over the dryer's performance

Option	MED+
EWD on filters and water drain	O
Inlet solenoid for remote control	O
Canadian CSA Option Kit (incl. NPT connection)	O
QDT quality indicator	O
Catalyst (CO to CO <sub>2</sub> )	O
CO sensor	O
CO <sub>2</sub> sensor	O
O <sub>2</sub> sensor	O
Overflow protection (nozzle)	O
Gateway (Profibus, Modbus)	O

O: optional



# Total Solutions for **reliable** medical air

We supply the widest range of dedicated medical oil-injected and oil-free compressors. The Atlas Copco MED compressors combined with the MED+ Medical Air Purifiers and ES-MED central controller can form a Medical Air Plant that complies to international regulations including Pharmacopeia and quality norms such as ISO 13485. We facilitate an ISO 7396-1 compliant installation with our MED+ medical air dryer being MDD certified and with the rest of the medical air plant's components designed with the needed features to ease the installation work needed to comply. Contact your local sales representative for more details on our complete Medical Air Plant offerings.

Technical Specifications								
Type	Inlet pressure		Max. inlet flow			Purge	Pressure drop	
	bar(e)	psig	l/s	m <sup>3</sup> /h	cfm	%	dP, mbar	bar
MED12+	7	102	12	43.2	25.4	18	900	0.9
	10	145	16	57.6	33.9	18	1000	1
	13	188	21	75.6	44.5	18	1200	1.2
MED17+	7	102	17	61.2	36	18	1400	1.4
	10	145	23	82.8	48.7	18	1600	1.6
	13	188	29	104.4	61.4	18	2000	2
MED21+	7	102	21	75.6	44.5	18	1100	1.1
	10	145	29	104.4	61.4	18	1200	1.2
	13	188	37	133.2	78.4	18	1300	1.3
MED35+	7	102	35	126	74.1	18	1000	1
	10	145	49	176.4	103.8	18	1100	1.1
	13	188	62	223.2	131.4	18	1200	1.2
MED42+	7	102	42	151.2	89	18	900	0.9
	10	145	58	208.8	122.9	18	1000	1
	13	188	75	270	158.9	18	1100	1.1
MED52+	7	102	52	187.2	110.2	18	900	0.9
	10	145	71	255.6	150.4	18	1000	1
	13	188	91	327.6	192.8	18	1100	1.1
MED71+	7	102	71	255.6	150.4	18	1300	1.3
	10	145	97	349.2	205.5	18	1600	1.6
	13	188	124	446.4	262.7	18	1900	1.9
MED104+	7	102	104	374.4	220.4	18	1000	1
	10	145	142	511.2	300.9	18	1200	1.2
	13	188	182	655.2	385.6	18	1300	1.3
MED142+	7	102	142	511.2	300.9	18	1400	1.4
	10	145	194	698.4	411	18	1700	1.7
	13	188	248	892.8	525.5	18	2000	2

Flow mentioned is the maximum inlet flow to the MED+.  
Dryer unit performance measured according to ISO 7183, latest edition.

Quality of air measured according to ISO 8573-2, Ed. 1, 1996, ISO 8573-4, Ed.1, 2001 and ISO 8573-5, Ed.1, 2001 for filter used.

Compressed air inlet temperature: 35°C/100°F.

Ambient temperature: 25°C/77°F.

Inlet relative humidity: 100%.

Nominal working pressure: 7.5 bar(e)/109 psig, 10 bar(e)/145 psig and 12.5 bar(e)/181 psig respectively.

Maximum/minimum ambient temperature: 40°C/1°C, 104°F/34°F.

Maximum inlet compressed air temperature: 45°C/113°F.

Maximum inlet pressure: 16 bar(e)/232 psig for 13 bar units.

Maximum pressure: 11 bar(e)/160 psig for 7.5 bar and 10 bar units.

Reference conditions:

Limitations of operation:

Type	Weight	Length	Width	Height	Connection
	kg	mm	mm	mm	
MED12+	106	700	800	1580	½"
MED17+	116	700	800	1640	½"
MED21+	131	700	800	1680	½"
MED35+	137	700	800	1680	1"
MED42+	159	700	800	1680	1"
MED52+	213	700	800	1680	1 ½"
MED71+	213	700	800	1735	1 ½"
MED104+	290	900	800	1778	1 ½"
MED142+	338	900	800	1778	1 ½"

