

# Atlas Copco

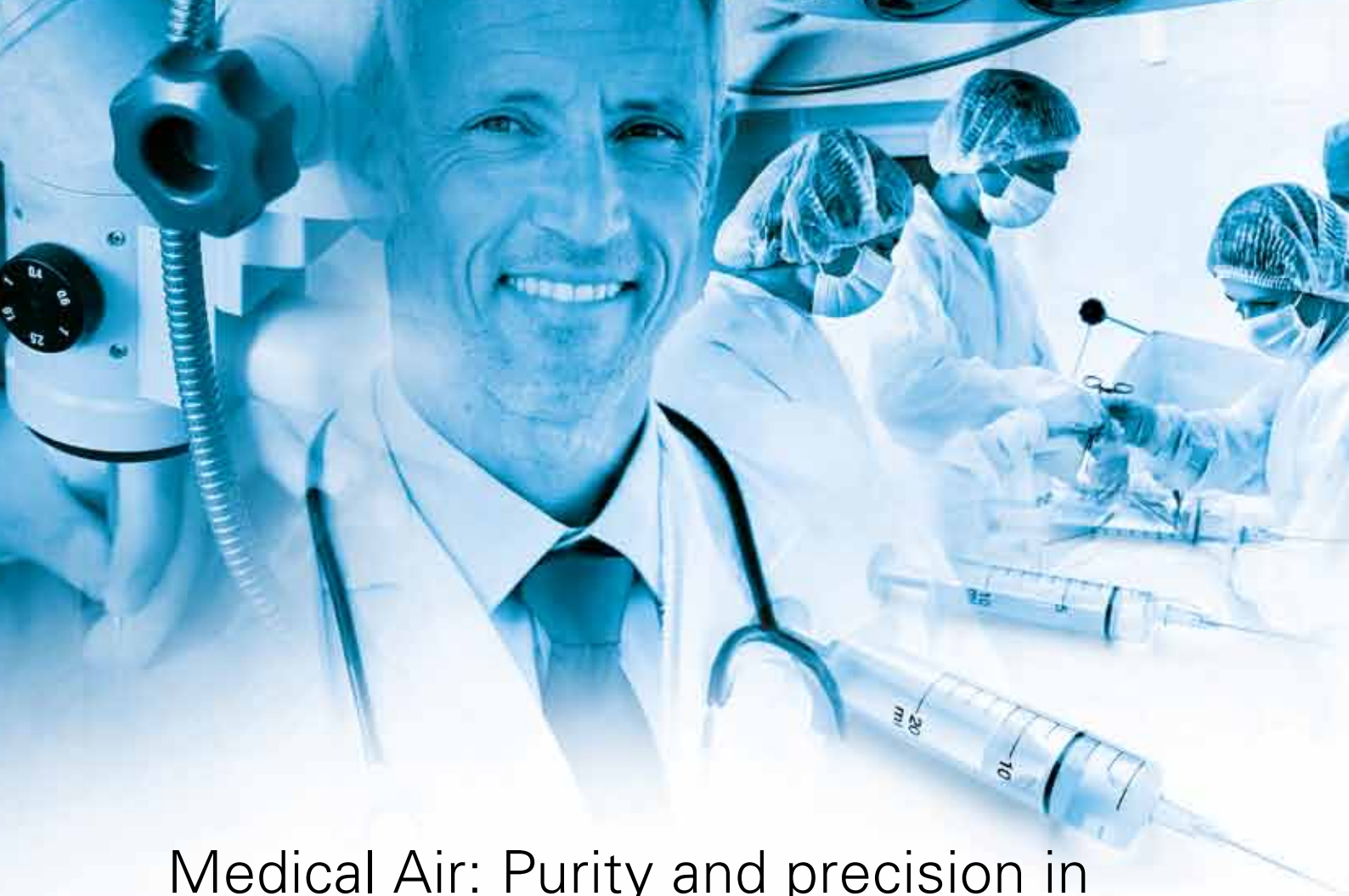
Medical Air Purifiers

MED/MED+ Series (7-145 l/s / 15-307 cfm)



*Sustainable Productivity*

**Atlas Copco**



# Medical Air: Purity and precision in critical healthcare environments

The critical field of patient care requires ultra-clean, purified, medical air delivered to operating theaters and hospital beds with absolute reliability. The Atlas Copco MED/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
- Anaesthesia
- Drug delivery via a nebulizer
- Testing medical devices
- 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



Gotek Vietnam Ltd.  
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(090) 696-6535 or (093) 820-5599





## MEDICALLY CERTIFIED

Atlas Copco's MED/MED<sup>+</sup> air purifiers are pre-certified to international regulations including Pharmacopoeia and quality norms such as ISO 13485. Pre-certification simplifies organization and inspection by regulatory bodies, saving the hospital time and money and reducing the risk of a rework of the system to satisfy requirements. MED/MED<sup>+</sup> 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.
- ISO 14971.
- Health Technical Memorandums HTM 02-01 and HTM 2022.

Furthermore, they are designed and manufactured according to ISO 9001, ISO 14001 and the ISO 13485:2003 quality management system.

## ASSURED RELIABILITY

Built to the most exacting standards, the MED/MED<sup>+</sup> series is engineered to provide certified medical air even in areas with high ambient pollution. These air purifiers ensure high air quality in 'worst case' but real-life pollution scenarios. With the assurance of Atlas Copco's excellent worldwide after-sales service, the MED/MED<sup>+</sup> series offers the complete solution for critical air environments.

## ENERGY-EFFICIENT

The MED/MED<sup>+</sup> series incorporates state-of-the-art energy management control with built-in purge control as standard (optionally available on the MED series). This purge control makes the purifiers more efficient, leading to energy savings of up to 90%, depending on installation and usage.

## COMPACT OPERATION

The MED/MED<sup>+</sup>, with its small footprint and integrated design, fits into any space or setting. It comes pre-assembled and ready for use, ensuring minimal installation time and costs.

## COST-EFFECTIVE

At Atlas Copco we strive to provide the most cost-efficient solutions. Energy consumption is mainly linked to internal pressure drops and the regeneration process. As such our medical air purifiers are designed to keep the pressure drop as low as possible and provide the most efficient regeneration process.

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# Assured purity, proven reliability

MED/MED+ air purifiers provide the ultra clean air you require. Their innovative filtration system is the definitive medical air solution, while a small footprint allows you to make the most of the space available. The MED/MED+ both offer unparalleled air purity through 7 stages of active purification.

1

## Overfilled and spring-loaded high-performance desiccant bags

- Pressure dewpoint of  $-40^{\circ}\text{C}/-40^{\circ}\text{F}$  as standard.
- Filter mat increases silencer lifetime by preventing dust exiting during regeneration.
- Overfilled cartridges protect against desiccant ageing and overflow peaks.

2

## Filters

- Pre-filter(s) at the inlet prevents oil contamination, increasing desiccant lifetime.
- After-filters protects the network against dust, avoiding network contamination.
- Can be mounted directly on the inlet and outlet of the dryer, for low pressure drop.
- Easy to assemble and maintain as no extra piping or filter connections are required.



3

## High-quality valve block with few moving parts

Designed to minimize pressure drop and increase reliability.



4

### Advanced control and monitoring system

- Timer control variant cycles defined to reach dewpoint target even at 100% load.
- Auto restart after power failure function with cycle status memory.
- Full status annunciation on LEDs, display and pressure gauges.
- Remote alarm and remote control.
- Purge Saver contact: the dryer can freeze purge cycle in case of unload/stop signal.
- All controls are protected from water and dust thanks to the IP54 cubicle.



5

### Dewpoint Dependent Switching (standard on MED+)

- Real dewpoint monitoring (hygrometer).
- Dewpoint display on controller (and alarm).
- The dryer will only switch to the next tower when the desiccant is saturated (based on dewpoint input). During that period, the dryer consumes no purge.



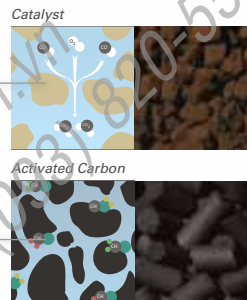
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### Dual cleaning stage

- Activated carbon eliminates hydrocarbons (oil vapor, smells).
- A catalyst converts CO into CO<sub>2</sub>.

7

### Electronic water drain (optional)



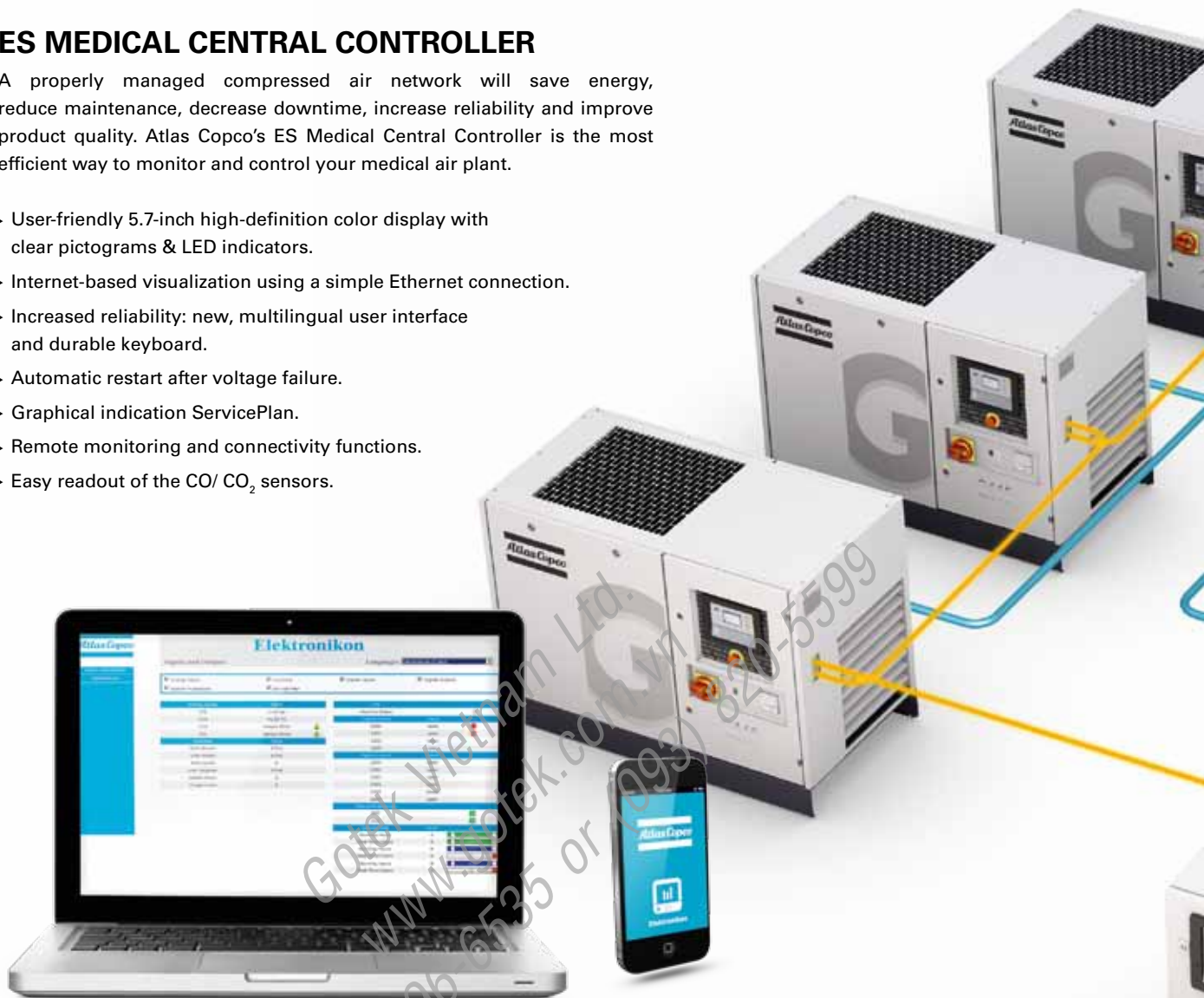
# A step ahead in control and monitoring

Get the most out of your medical air system with our new Medical Air Plant. Our Medical Plant is based on dedicated medical compressors GA MED, advanced medical dryers MED<sup>+</sup> and the ES-Medical Central Controller. The latter offers one central point of control for your whole compressed air network while AIRConnect™ gives you access to valuable information. Controlling and monitoring your system has never been easier.

## ES MEDICAL CENTRAL CONTROLLER

A properly managed compressed air network will save energy, reduce maintenance, decrease downtime, increase reliability and improve product quality. Atlas Copco's ES Medical Central Controller is the most efficient way to monitor and control your medical air plant.

- User-friendly 5.7-inch high-definition color display with clear pictograms & LED indicators.
- Internet-based visualization using a simple Ethernet connection.
- Increased reliability: new, multilingual user interface and durable keyboard.
- Automatic restart after voltage failure.
- Graphical indication ServicePlan.
- Remote monitoring and connectivity functions.
- Easy readout of the CO/ CO<sub>2</sub> sensors.



## REAL-TIME MONITORING ON YOUR DESKTOP

Simple and easy to install, the AIRConnect™ monitoring device collects data from your medical air system. Through a website integrated within the Elektronikon® module, all data is visualized in real-time, offering you immediate clarification. As these real-time visualization pages are accessed through the hospital's LAN, total data security is assured.

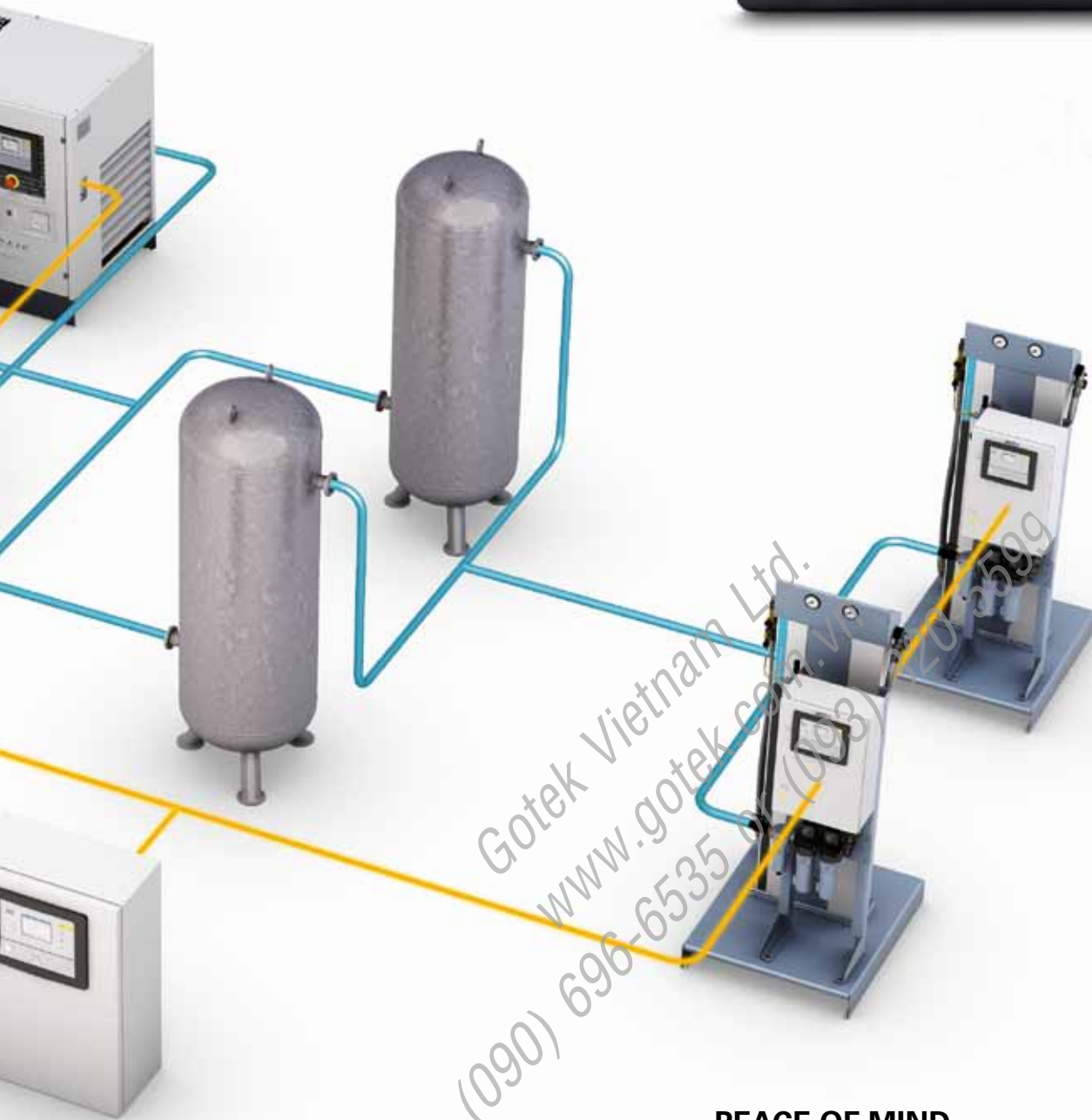
- Logging and trending for an accurate performance status of your system.
- Desktop event notification to avoid constant status checking.
- E-mail and SMS event notification for additional convenience.



## ADVANCED ELEKTRONIKON® CONTROLLER

The MED+ with advanced Elektronikon® controller featuring color display offers the following benefits:

- Standard purge control for up to 90% energy savings.
- Connection to ES Medical Central controller possible.
- 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.

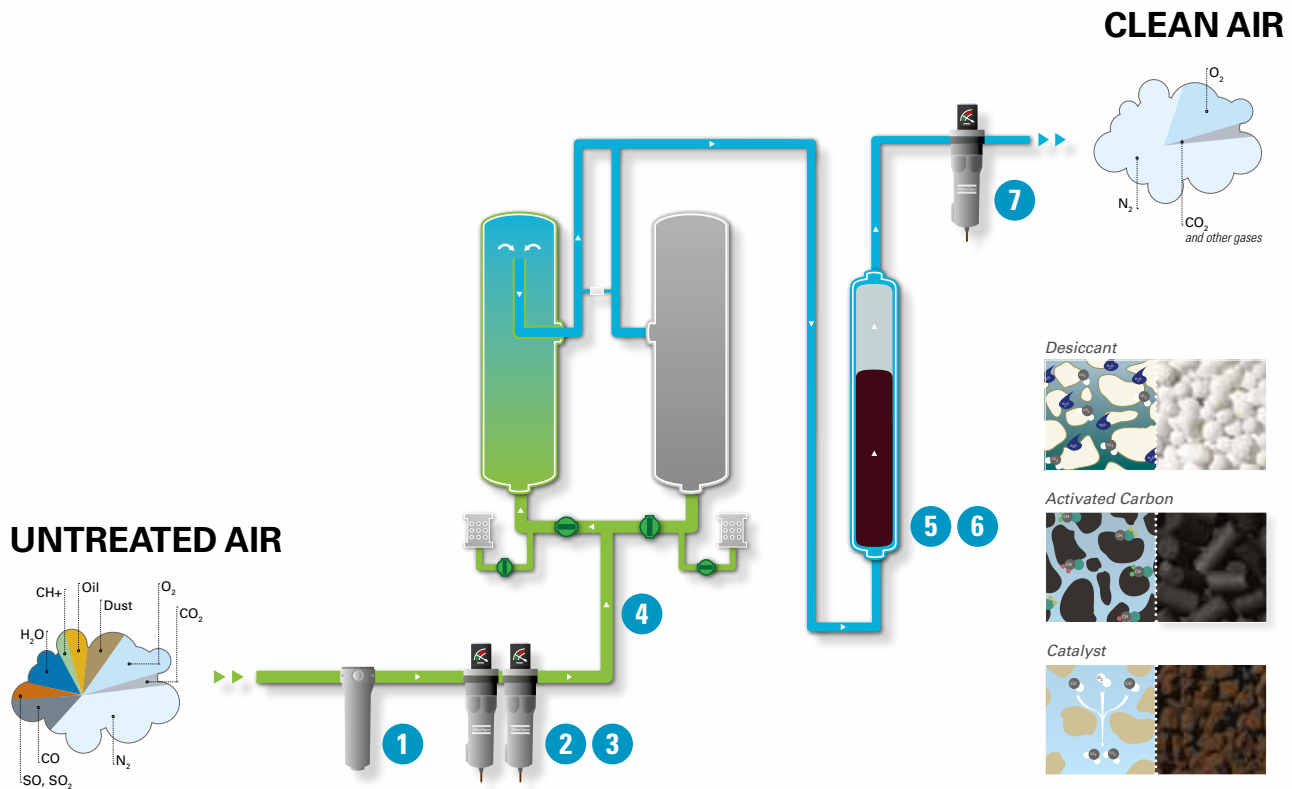


## PEACE OF MIND

By complying with the ISO7396-1 standard, redundancy for both compressors and air purifiers is always guaranteed. The result is a completely dependable and energy efficient network, giving you peace of mind and keeping your costs to a minimum.

# Seven steps to quality medical air

The MED/MED+'s multi-stage filtration offers unparalleled air purity.



**1 2 3**

A water separator for free water removal together with fine and coarse coalescing filters, remove oil aerosol to less than  $0.01 \text{ mg/m}^3$ .

**4**

A heatless desiccant dryer reduces moisture content to a pressure dew point of  $-40^\circ\text{C}/-40^\circ\text{F}$ , removing any risk of condensation, bacteria and mold growth.

**5 6**

A dual cleaning stage includes activated carbon to eliminate hydrocarbons (oil vapor, smells). A catalyst then converts  $\text{CO}$  into  $\text{CO}_2$ .

**7**

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%.





## EASY TO INSTALL

Every MED/MED<sup>+</sup> air purifier comes pre-assembled to provide simple installation. The integrated design makes installation less complex and more cost-efficient.

## ATLAS COPCO CHALLENGE TEST

Atlas Copco devised the Challenge Test to ensure the MED/MED<sup>+</sup> meets international regulations. The test was designed to take into account the impurities in ambient air by subjecting the MED/MED<sup>+</sup> to the maximum concentrations reported by governments worldwide. Excelling in these 'worst case scenarios' in ambient air quality, the MED/MED<sup>+</sup> gives you peace of mind in real life conditions.

	European Pharmacopoeia	Medical Air System air quality
O <sub>2</sub>	20.4% < x < 21.4%	
<sup>1</sup> CO <sub>2</sub>	<500 ppm	<220 ppm
<sup>2</sup> CO	<5 ppm	<1 ppm
<sup>3</sup> SO <sub>2</sub>	<1 ppm	<0.2 ppm
<sup>4</sup> NO <sub>x</sub>	<2 ppm	<1 ppm
Water vapor	ADP -45°C (-49°F) / PDP -31°C (-23°F)	PDP -40°C / -40°F
Oil vapor	<0.1 mg/m <sup>3</sup>	<0.003 ppm
Dirt particles	not specified	<0.01 ppm
Taste and odor	taste and odor free	taste and odor free

# Compact and cost-effective

At Atlas Copco we strive to provide the most cost-efficient solutions. This stand-alone medical air dryer with small footprint and integrated design fits into any space or setting. The MED/MED+ comes preassembled and ready for use—ensuring minimal installation time and cost.



## OPTIMIZE YOUR SYSTEM

Some applications may need or may benefit from additional options and more refined control and air treatment systems. To meet these needs, Atlas Copco has developed options and easily integrated compatible equipment.

OPTION	MED	MED+
EWD on filters and water drain	○	○
Inlet solenoid for remote control	-	○
NPT connection	○	○
QDT quality indicator	○	○
Catalyst (CO to CO <sub>2</sub> )	○	○
CO <sub>2</sub> sensor	○	○
CO <sub>2</sub> sensor	○	○
O <sub>2</sub> sensor	○	-
Overflow protection (nozzle)	○	○
AirContact and Combox-e with visualization	-	○
Gateway (Profibus, Modbus)	-	○

- : Not available      ○ : Optional



# Technical specifications MED/MED<sup>+</sup> series

PurifierType MED / MED <sup>+</sup>	Inlet pressure		Max. inlet flow			Purge	Pressure drop	
	bar(e)	psig	l/s	m³/h	cfm	%	dP, mbar	psi
MED 7 MED 7 <sup>+</sup>	7	102	7.0	25.2	14.8	19.0	510	7.4
	10	145	8.4	30.2	17.8	15.8	510	7.4
	13	188	9.4	33.8	19.9	14.1	510	7.4
MED 13 MED 13 <sup>+</sup>	7	102	13.0	46.8	27.5	19.0	530	7.7
	10	145	15.6	56.2	33.1	15.8	530	7.7
	13	188	17.5	63.0	37.1	14.1	530	7.7
MED 25 MED 25 <sup>+</sup>	7	102	25.0	90.0	53.0	18.0	560	8.1
	10	145	30.0	108.0	63.6	15.0	560	8.1
	13	188	33.8	121.7	71.6	13.3	560	8.1
MED 35 MED 35 <sup>+</sup>	7	102	35.0	126.0	74.2	18.0	600	8.7
	10	145	42.0	151.2	89.0	15.0	600	8.7
	13	188	47.3	170.3	100.2	13.3	600	8.7
MED 50 MED 50 <sup>+</sup>	7	102	50.0	180.0	106.0	19.0	820	11.9
	10	145	60.0	216.0	127.1	15.8	820	11.9
	13	188	67.5	243.0	143.0	14.1	820	11.9
MED 70 MED 70 <sup>+</sup>	7	102	70.0	252.0	148.3	18.0	660	9.6
	10	145	84.0	302.4	178.0	15.0	660	9.6
	13	188	94.5	340.2	200.2	13.3	660	9.6
MED 80 MED 80 <sup>+</sup>	7	102	80.0	288.0	169.5	18.0	700	10.2
	10	145	96.0	345.6	203.4	15.0	700	10.2
	13	188	108.0	388.8	228.9	13.3	700	10.2
MED 100 MED 100 <sup>+</sup>	7	102	100.0	360.0	211.9	19.0	820	11.9
	10	145	120.0	432.0	254.3	15.8	820	11.9
	13	188	135.0	486.0	286.1	14.1	820	11.9
MED 145 MED 145 <sup>+</sup>	7	102	145.0	522.0	307.3	19.0	800	11.6
	10	145	174.0	626.4	368.7	15.8	800	11.6
	13	188	195.8	704.9	414.9	14.1	800	11.6

Flow mentioned is the maximum inlet flow to the MED/MED<sup>+</sup>.  
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.

Reference conditions:  
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.

Limitations of operation:  
Maximum/minimum ambient temperature: 40°C/104°F, 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.

PurifierType MED / MED <sup>+</sup>	MED					MED <sup>+</sup>				
	Weight kg	Length mm	Width mm	Height mm	Connection	Weight kg	Length mm	Width mm	Height mm	Connection
MED 7 MED 7 <sup>+</sup>	184	950	650	885	1/2"	214	950	650	1851	1/2"
MED 13 MED 13 <sup>+</sup>	201	950	650	1075	1/2"	231	950	650	1851	1/2"
MED 25 MED 25 <sup>+</sup>	245	950	650	1300	1/2"	275	950	650	1851	1/2"
MED 35 MED 35 <sup>+</sup>	271	950	650	1545	1/2"	301	950	650	1851	1/2"
MED 50 MED 50 <sup>+</sup>	315	950	650	1915	1"	345	950	650	1858	1"
MED 70 MED 70 <sup>+</sup>	446	1250	850	1545	1"	476	1250	850	1840	1"
MED 80 MED 80 <sup>+</sup>	494	1250	850	1915	1 1/2"	524	1250	850	1840	1"
MED 100 MED 100 <sup>+</sup>	502	1250	850	1915	1 1/2"	532	1250	850	1840	1"
MED 145 MED 145 <sup>+</sup>	620	1250	850	1915	1 1/2"	650	1250	850	1856	1"





### **Driven by innovation**

With more than 135 years of innovation and experience, Atlas Copco will deliver the products and services to help maximize your company's efficiency and productivity. As an industry leader, we are dedicated to offering high air quality at the lowest possible cost of ownership. Through continuous innovation, we strive to safeguard your bottom line and bring you peace of mind.



### **Building on interaction**

As part of our long-term relationship with our customers, we have accumulated extensive knowledge of a wide diversity of processes, needs and objectives. This gives us the flexibility to adapt and efficiently produce customized compressed air solutions that meet and exceed your expectations.



### **A committed business partner**

With a presence in over 170 countries, we will deliver high-quality customer service anywhere, anytime. Our highly skilled technicians are available 24/7 and are supported by an efficient logistics organization, ensuring fast delivery of genuine spare parts when you need them. We are committed to providing the best possible know-how and technology to help your company produce, grow, and succeed. With Atlas Copco you can rest assured that your superior productivity is our first concern!

