



aerospace  
climate control  
electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



## Breathable Compressed Air





## Typical Hazardous Substances

- **Biological agents** – bacteria and other micro-organisms
- **Dusts** – with high concentration levels (produced during grinding, sanding or milling)
- **Noble gases** – e.g. argon and helium (not directly hazardous but can cause oxygen deficiency)
- **Processed substances** – such as pesticides, medicines, chemicals and cosmetics
- **Fumes** – often created during welding, smelting and pouring molten metals
- **Mists** – liquid droplets formed by atomisation and condensation processes. Mists can be created by plating, spraying, mixing and cleaning operations
- **Asbestos** – used extensively in buildings from the 1940's to 1960's. Exposure to asbestos fibres can cause asbestosis, lung cancer or mesothelioma
- **Lead poisoning** – lead poisoning is likely to build up slowly over time and can pose serious risks including, brain, nerve and kidney damage

## The problem

In compressed air fed systems, ambient air is drawn into the compressor, therefore any contaminants present in the ambient air plus those introduced by the compressor itself will be present unless removed by a purification system. Contaminants present can include:

- **Carbon monoxide**
- **Carbon dioxide**
- **Water vapour**
- **Micro-organisms**
- **Atmospheric dirt**
- **Oil vapour**
- **Water aerosols**
- **Condensed liquid water**
- **Liquid oil**
- **Oil aerosols**
- **Rust**
- **Pipescale**



## Health & Safety Legislation

Compressed air used for breathing must comply with local legislation. In Europe the maximum levels of contamination permissible are outlined in EN 12021 and recommendations for selection, care and maintenance can be found in EN 529. It is essential that all items of RPE are tested for compliance at suitable intervals not exceeding one month.

Only approved equipment should be used and employers must take advice from equipment suppliers on correct use to prevent respiratory health problems.

## Applications and Industries

Hazardous vapours, gases and fumes can be released at various stages within manufacturing applications. Whether the risk is from noxious fumes, particulate or contamination from a compressed air system, effective respiratory protection for the user is essential.

### Application

- Tank cleaning
- Spray painting
- Asbestos removal
- Shotblasting
- Tunnelling
- Confined spaces
- Welding
- Demolition

### Industries

- Agriculture
- Aviation
- Chemical
- Construction
- Electrical Utilities
- Fire Service
- Food & Beverage Production
- Gas Utilities
- Hazmat
- Iron / Steel Production
- Manufacturing
- Marine / Shipyard
- Mining
- Nuclear
- Oil & Gas Production
- Petrochemical
- Pulp & Paper
- Pharmaceutical & Labs
- Public Works
- Water Treatment
- Welding

## International breathing air standards

Contaminants	OSHA Grade D	CSA Z180.1	European Pharmacopoeia	Parker domnick hunter BA-DME/BAM range*
Water		Pressure dewpoint of 5°C below lowest system temperature	67 ppm (= -45°C atmospheric dewpoint)	14 ppm (= -58°C atmospheric dewpoint)
Oil / Lubricant	5 mg/m <sup>3</sup>	< 1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>	0.003 mg/m <sup>3</sup>
Carbon Dioxide (CO <sub>2</sub> )	< 100 ppm	< 500 ppm	< 500 ppm	< 500 ppm
Carbon Monoxide (CO)	< 10 ppm	< 5 ppm	< 5 ppm	< 5 ppm
Nitrogen Oxides (NO + NO <sub>2</sub> )			< 2 ppm	< 2 ppm
Sulphur Dioxide (SO <sub>2</sub> )			< 1 ppm	< 1 ppm

# Breathing Air Purifiers without CO / CO<sub>2</sub> reduction are supplied with 12 months guaranteed air quality

To reduce the following contaminants

<b>Solid Particles</b>	✓	<b>Water Aerosols</b>	✓
<b>Oil Aerosols</b>	✓	<b>Water Vapour</b>	×
<b>Oil Vapour</b>	✓	<b>Carbon Monoxide</b>	×
<b>Odours &amp; Fumes</b>	✓	<b>Carbon Dioxide</b>	×



## BAS-3015

The Parker domnick hunter BAS-3015 is a portable breathing air purifier housed in a compact, weatherproof, impact resistant case. Consisting of a general purpose pre-filter, a high efficiency coalescing filter and an activated carbon filter to remove oil vapour and odours, this purifier includes a pressure regulator/ gauge and can facilitate up to five users simultaneously. The BAS-3015 is also available with an optional CO monitor.

## Features

- 3 Purification stages
- Integral pressure regulator
- Portable
- Use with any compressed air supply
- Integrated CO Monitor (optional)
- Pressure gauge



## BAF010 – BAF015

The Parker domnick hunter BAF010 and BAF015 two stage point of use breathing air filter sets combine high efficiency coalescing pre-filtration with activated carbon oil odour and vapour removal filtration. These filter sets include a pressure regulator/gauge to allow airline pressure adjustment to users' requirements and mounting brackets for ease of installation.

## Features

- 2 Purification stages
- Portable
- Use with any compressed air supply
- Pressure gauge



## BAP015

To facilitate breathing air applications for three personnel, the Parker domnick hunter BAP015 is a portable breathable air purification package consisting of a high efficiency coalescing filter and an activated carbon filter to remove oil vapour and odours. These sets include a pressure regulator/gauge, all mounted in a lightweight, stable framework.

## Features

- 2 Purification stages
- Integral pressure regulator
- Portable
- Use with any compressed air supply
- Pressure gauge



## BAS-2010

The Parker domnick hunter BAS-2010 is a very robust and weatherproof portable breathing air purifier. Consisting of a high efficiency coalescing filter and an activated carbon filter to remove oil vapour and odours, this purifier includes a pressure regulator / gauge and can facilitate up to four users simultaneously.

## Features

- 2 Purification stages
- Integral pressure regulator
- Portable
- Use with any compressed air supply
- Pressure gauge

**WARNING: THESE PRODUCTS WILL NOT REMOVE CARBON MONOXIDE OR CARBON DIOXIDE**

# Breathing Air Purifiers without CO /CO<sub>2</sub> reduction

Model shown BAS-3015

**GRADE WS (OPTIONAL)  
Water Separator**

**REDUCES:**  
Liquid water and oil in heavily contaminated compressed air systems



**1**

**GRADE AO  
General Purpose Coalescing Filter**

**REDUCES:**  
Particulate down to 1 micron, including water and oil aerosols

**2**

**GRADE AA  
Coalescing Filter**

**REDUCES:**  
Particulate down to 0.01 micron, including water and oil aerosols

**3**

**GRADE ACS  
Oil Vapour Removal  
Activated Carbon Filter**

**REDUCES:**  
Oil vapour and odours down to 0.003 mg/m<sup>3</sup>

## Technical Specifications

		BAF010, BAF015, BAS3015, BAS2010, BAP015	
Operation Pressure	Maximum	10 bar g (145 psi g)	
	Minimum	4 bar g (58 psi g)	
Recommended Operating Temperature	Maximum	30°C (86°F)	
	Minimum	1.5°C (35°F)	

For flow rates at other pressures, apply the factor shown

Line Pressure	bar g	4	5	6	7	8	9	10
	psi g	58	73	87	100	116	131	145
Correction Factor		1.60	1.33	1.14	1	0.89	0.80	0.73

Product code	Connections		Flowrate @ 7 bar g (100 psi g)		Dimensions						Weight (approx.)	
	Inlet	Outlet	Inlet		Height		Width		Depth		kg	lbs
			l/s	cfm	mm	ins	mm	ins	mm	ins		
BAF010	1/4"	3/8"	6	13	343	13.5	207	8.15	136	5.35	1.4	3.1
BAF015	3/8"	3/8"	13	27	436	17.2	224	8.82	144	5.67	1.9	4.2
BAS2010*	1/2" Hose safety coupler	4x G1/4"	10	21	410	16.2	460	18.1	246	9.7	8	18
BAS3015*	1/2" Hose safety coupler	5x G1/4"	20	42	470	18.5	600	11.8	300	23.6	10	22
BAP015*	1/2" Hose safety coupler	3x 3/8"	20	42	380	15	380	15	272	10.7	5.45	12

# Breathing Air Purifiers with CO / CO<sub>2</sub> reduction

To reduce the following contaminants	<b>Solid Particles</b>	✓	<b>Water Aerosols</b>	✓
	<b>Oil Aerosols</b>	✓	<b>Water Vapour</b>	✓
	<b>Oil Vapour</b>	✓	<b>Carbon Monoxide</b>	✓
	<b>Odours &amp; Fumes</b>	✓	<b>Carbon Dioxide</b>	✓



## BA-DME012-080E

The Parker domnick hunter BA-DME range of Breathing Air Purifiers is ideal for point of use multiple personnel protection at medium flow rates. At the inlet, a General Purpose Filter removes particles, dirt and aerosols, followed immediately by a second stage High Efficiency Coalescing Filter to reduce oil and water content and a third stage Activated Carbon Filter to remove oil vapour and odours. The fourth stage adsorption dryer, reduces the water vapour content of the compressed air (to -40°C pdp) and CO<sub>2</sub>, NO and NO<sub>2</sub> levels to below the legal permissible limits. Downstream of the adsorption dryer, a catalyst converts carbon monoxide to carbon dioxide, again, to below the legal limits. A final Dust Filter captures any particulates carried over from the adsorption materials.

## Features

- 6 Purification stages
- Use with any compressed air supply



## BAC-4015

The Parker domnick hunter BAC-4015 is a fully pneumatic, portable Breathing Air Purifier designed to provide complete protection for up to four personnel. Five purification stages will ensure the highest quality air that is free from particulate dusts, vapours, odours, carbon dioxide (CO<sub>2</sub>) and carbon monoxide (CO). The flow rate is easily adjustable from a pressure regulator and monitored by inlet/outlet pressure gauges on the front facia.

The BAC-4015 is housed in an extremely strong and robust lockable case for total security.

## Features

- 5 Purification stages
- Integral pressure regulator
- Portable
- Hours run meter
- Pneumatic control
- Use with any compressed air supply

## Technical Specifications

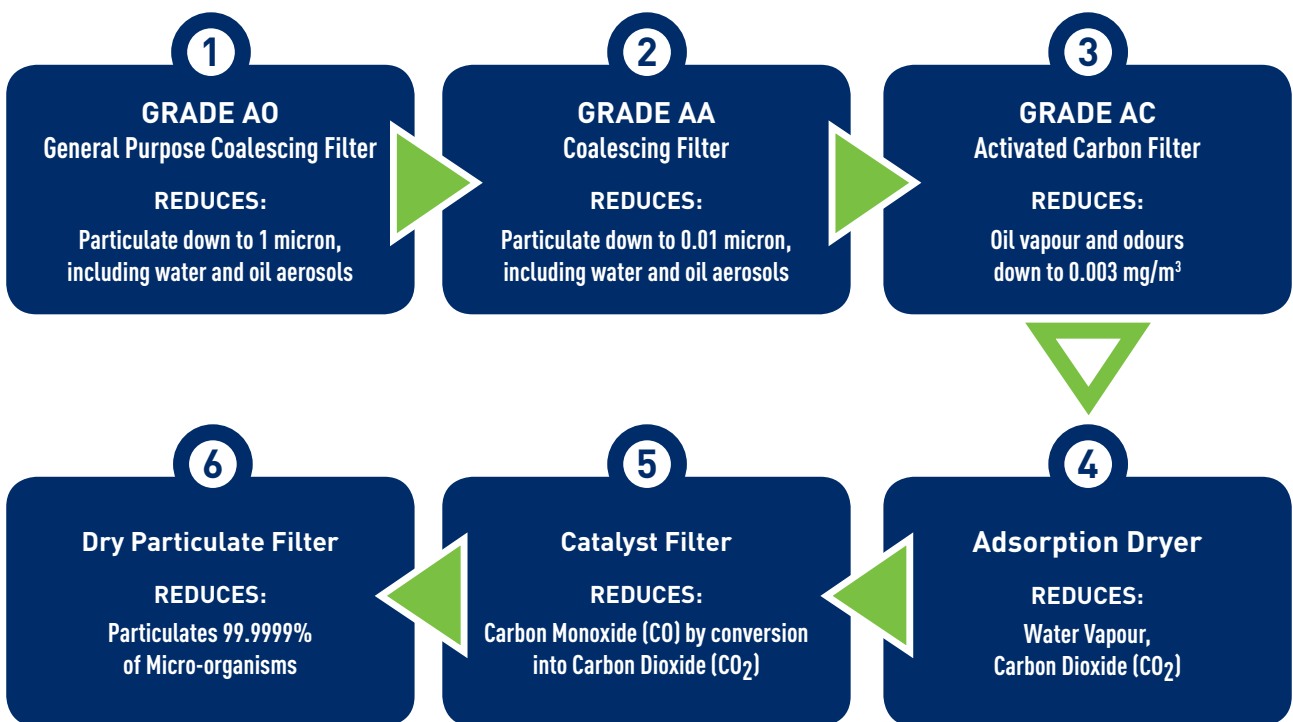
Operation Pressure	Maximum	MODELS BAC-4015	BA-DME012E - 080E
		10 bar g (145 psi g)	13-16 bar g (188-232 psi g)
Recommended Operating Temperature	Minimum	4 bar g (58 psi g)	
		Maximum	30°C (86°F)
	Minimum	1.5°C (35°F)	

For flow rates at other pressures, apply the factor shown

Line Pressure	bar g	MODELS 012E - 040E only												
		4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	100	116	131	145	160	174	189	203	218	232
<b>Correction Factor</b>		1.60	1.33	1.14	1	0.89	0.80	0.73	0.67	0.62	0.57	0.54	0.5	0.47

Model	Connections		Flowrate @ 7 bar g (100 psi g)				Dimensions						Weight (approx.)	
	Inlet	Outlet	Inlet		Outlet		Height		Width		Depth		kg	lbs
			l/s	cfm	l/s	cfm	mm	ins	mm	ins	mm	ins		
BA-DME012E	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	11	24	9	19	1000	93.4	578	22.8	302	12	37	81.5
BA-DME015E	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>	15	32	12	25	1197	47.1	480	18.9	302	12	42	93
BA-DME020E	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>	20	42	15	33	1326	52.2	480	18.9	302	12	47	104
BA-DME025E	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>	25	53	20	42	1527	60.1	480	18.9	302	12	52	115
BA-DME030E	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>4</sub>	31	65	24	52	1693	66.7	511	20.1	302	12	57	126
BA-DME040E	G <sup>3</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>4</sub>	42	88	33	70	1941	76.4	545	21.5	302	12	74	163
BA-DME050E	G1	G1	50	106	40	84	1699	66.9	400	15.8	1200	47.2	210	463
BA-DME060E	G1	G1	61	130	49	104	1831	72.1	400	15.8	1200	47.2	222	490
BA-DME080E	G1	G1	83	176	66	140	2076	81.7	745	29.3	1200	47.2	279	615
BAC-4015	G <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>4</sub>	11	24	9	19	752	29.6	515	20.3	272	10.7	40	88.2

# Breathing Air Purifiers with CO / CO<sub>2</sub> reduction

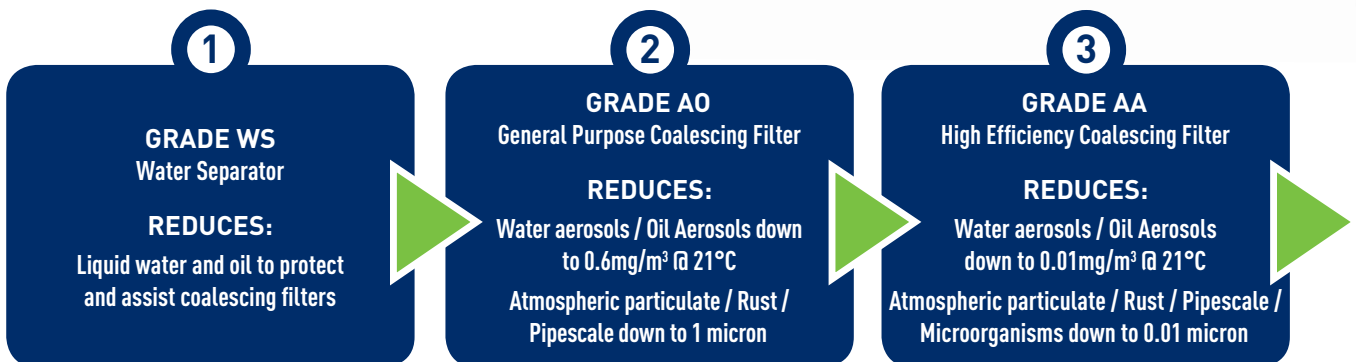


# BAM 10 - 70

## How it works



The Parker domnick hunter BAM Breathing Air Purifiers consist of six purification stages mounted on a portable skid for high-capacity multiple personnel breathing air applications. At stage 1, a water separator is used to remove bulk liquids (water and oil), followed by general purpose and high efficiency coalescing filters at stage 2 & 3 which reduce aerosols (oil and water) and solid contaminants (atmospheric particulate, rust, pipescale & microorganisms). Stage 4 is an adsorption dryer which reduces the water vapour content of the compressed air to  $-40^{\circ}\text{C}$  PDP (to protect the catalyst) and also reduces the  $\text{CO}_2$ ,  $\text{NO}$  and  $\text{NO}_2$  levels below the legal permissible limits. Stage 5 is downstream of the adsorption dryer consists of a combined activated carbon & catalyst filter which reduces the levels of oil vapour and converts carbon monoxide to carbon dioxide (keeping both below the legal limits). Stage 6 is a high efficiency dry particulate filter captures any particulates carried over from the adsorption materials.





# Special Features

## Guaranteed reliability

Built to exacting standards, the BAM series is engineered to exceed breathing air certified standards. As standard the BAM series are fitted with a CO monitor meaning that there are no high - priced additional expenses or delays to arrange external monitor fitting.

## Certified air quality

The air quality produced by BAM series has been certified by a 3rd party independent authority test house. The air quality delivered by the BAM series is better than the European Pharmacopoeia standard, assuring guaranteed performance and reliability at all times.

## Compact operation

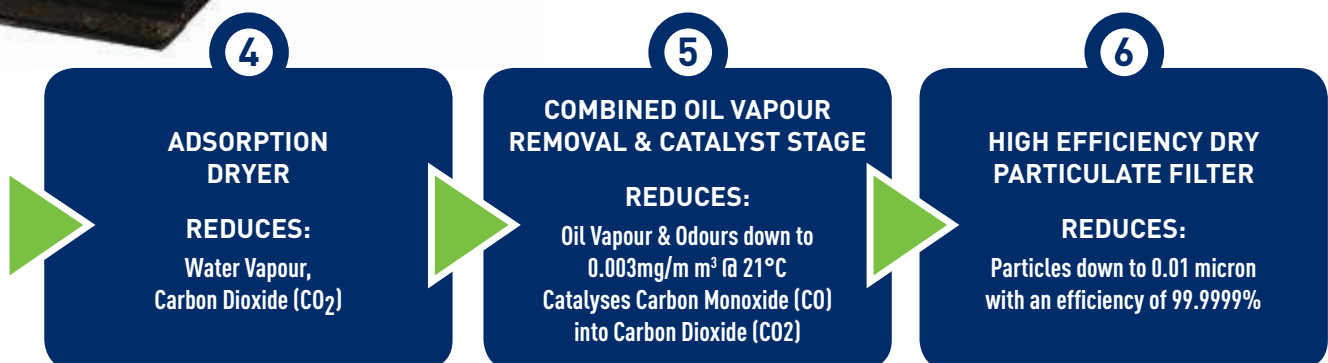
The BAM series has a modular space saving footprint making it one of the most compact product series on the market. The BAM series has an energy management system fitted as standard, offering additional savings for running costs.

## Simple maintenance and servicing

The BAM series has been designed with cartridges for the catalyst separation. This will ensure longer maintenance intervals which ultimately save time and servicing costs.

## Ease of installation

The BAM series can be used with a general compressed air supply, and with most suitably rated compressors.



# Technical Specifications BAM

## Flow Data

Model	Connections		Flowrate @ 7 bar g (100 psi g)				Dimensions						Weight (approx.)	
	Inlet	Outlet	Inlet		Outlet		Height		Width		Depth		kg	lbs
			l/s	cfm	l/s	cfm	mm	ins	mm	ins	mm	ins		
BAM10	G2"	G2"	113	240	90.4	192	1797	70.7	1260	49.6	1655	65.2	600	1322.8
BAM20	G2"	G2"	170	360	136	288	1797	70.7	1260	49.6	1655	65.2	700	1543.2
BAM30	G2"	G2"	213	450	170.4	360	2042	80.4	1260	49.6	1655	65.2	800	1763.7
BAM40	G2"	G2"	283	600	226.4	480	2042	80.4	1260	49.6	1655	65.2	900	1984.2
BAM50	G2 1/2"	G2 1/2"	354	750	283.2	600	2042	80.4	1260	49.6	1950	76.8	1100	2425.1
BAM70	G2 1/2"	G2 1/2"	496	1050	396.8	840	2042	80.4	1260	49.6	1950	76.8	1400	3086.5

Stated flows are for operation at 7 bar g (100 psi g / 0.7 MPa g) with reference to 20°C, 1 bar a, 0% relative water vapour pressure.

## Performance

Dryer Model	Pressure Dewpoint (Standard)		ISO 8573-1:2010 Water Classification
	°C	°F	(Standard)
All Models	-40	-40	Class 2

ISO 8573-1 classifications apply when the dryer is installed with the filtration supplied

## Operating Data

Model	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
	bar g	psi g	bar g	psi g	°C	°F	°C	°F
All Models	4	58	13	188.5	5	41	35	86

## Selecting the correct purifier

Parker domnick hunter Breathing Air Purifiers are designed to reduce the concentration of potential contaminants, identified as hazardous to the human respiratory system, to acceptable levels (detailed in published International Breathing Air Standards).

Where a potential inhalation hazard exists, it is essential that a full assessment of the risk to the user is carried out. This should not only identify the risk of contamination to the breathing air supply, but also the level of contamination. In the event of being unable to either remove or control the contamination risk, it is the

employers' responsibility to introduce measures to ensure that the breathing air supply complies with the required air quality standard. The air quality used in a breathing air system must be controlled under all operating conditions, including the possibility of a plant or process failure.

In addition to conforming with the required compressed air quality, the delivered air flow rate must be sufficient to meet the foreseeable needs of the total number of users at their maximum work rate consumption.

## Peak Inhalation Rate

All peak inhalation rates are given as a guide only, the actual breathing air requirement should be calculated, where possible from the total requirement of the personal protection equipment, ie. mask/hood/suit.

In order to ensure that a suitably selected breathing air purifier is reliably operated and maintained, it is essential that correct training and supervision is provided to the user.

Work Rate	Peak Inhalation Rate	
	l/min	cfm
Low	100	3.6
Medium	150	5.3
High	200	7.1
Very High	250	8.9

Source BS4275 : 1997.

# Breathable Air Purity Test Kit

How clean is your breathing air?

Air quality testing for compressed air systems

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The Parker domnick hunter Breathing Air Purity Test Kit (APTK1) allows for a convenient 'on the spot' indication of compressed air quality. This comprehensive test kit is compact and easy to use, to indicate the level of contamination, both upstream and downstream of purification equipment.

The APTK1 is supplied complete with oil aerosol, water vapour CO and CO<sub>2</sub> test tubes to allow immediate multiple testing.

In addition to the detection of compressed air contaminants listed below, the Parker domnick hunter APTK1 also features an oxygen analyser, allowing for constant real-time display of the oxygen content within the compressed air system.

The Parker domnick hunter APTK1 is not only suitable for industrial compressed air testing but also, the additional O<sub>2</sub> analysing feature enables compressed air lines that supply Breathing Air / Respiratory Protection Equipment (RPE) to be tested to the latest national and international standards.

## Air Content Measurables

- Oxygen
- CO
- CO<sub>2</sub>
- Water Vapour
- Mineral Oil

## Features / Benefits

- Lightweight and portable test kit in a robust carry case
- Digital oxygen content monitoring
- Allows simultaneous testing of upstream and downstream air purity
- Testing quality of breathing air to national and international standards
- Can be used at compressed air pressures up to 10 bar g (145psi g)
- Factory set for use with 'Gastec Ltd' detection tubes



## Europe, Middle East, Africa

**AE – United Arab Emirates,**  
Dubai

Tel: +971 4 8127100  
parker.me@parker.com

**AT – Austria,** Wiener Neustadt

Tel: +43 (0)2622 23501-0  
parker.austria@parker.com

**AT – Eastern Europe,** Wiener  
Neustadt

Tel: +43 (0)2622 23501 900  
parker.easteurope@parker.com

**AZ – Azerbaijan,** Baku

Tel: +994 50 2233 458  
parker.azerbaijan@parker.com

**BE/LU – Belgium,** Nivelles

Tel: +32 (0)67 280 900  
parker.belgium@parker.com

**BG – Bulgaria,** Sofia

Tel: +359 2 980 1344  
parker.bulgaria@parker.com

**BY – Belarus,** Minsk

Tel: +375 17 209 9399  
parker.belarus@parker.com

**CH – Switzerland,** Etoy

Tel: +41 (0)21 821 87 00  
parker.switzerland@parker.com

**CZ – Czech Republic,** Klecany

Tel: +420 284 083 111  
parker.czechrepublic@parker.com

**DE – Germany,** Kaarst

Tel: +49 (0)2131 4016 0  
parker.germany@parker.com

**DK – Denmark,** Ballerup

Tel: +45 43 56 04 00  
parker.denmark@parker.com

**ES – Spain,** Madrid

Tel: +34 902 330 001  
parker.spain@parker.com

**FI – Finland,** Vantaa

Tel: +358 (0)20 753 2500  
parker.finland@parker.com

**FR – France,** Contamine s/Arve

Tel: +33 (0)4 50 25 80 25  
parker.france@parker.com

**GR – Greece,** Athens

Tel: +30 210 933 6450  
parker.greece@parker.com

**HU – Hungary,** Budaörs

Tel: +36 23 885 470  
parker.hungary@parker.com

**IE – Ireland,** Dublin

Tel: +353 (0)1 466 6370  
parker.ireland@parker.com

**IT – Italy,** Corsico (MI)

Tel: +39 02 45 19 21  
parker.italy@parker.com

**KZ – Kazakhstan,** Almaty

Tel: +7 7273 561 000  
parker.easteurope@parker.com

**NL – The Netherlands,** Oldenzaal

Tel: +31 (0)541 585 000  
parker.nl@parker.com

**NO – Norway,** Asker

Tel: +47 66 75 34 00  
parker.norway@parker.com

**PL – Poland,** Warsaw

Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

**PT – Portugal,** Leca da Palmeira

Tel: +351 22 999 7360  
parker.portugal@parker.com

**RO – Romania,** Bucharest

Tel: +40 21 252 1382  
parker.romania@parker.com

**RU – Russia,** Moscow

Tel: +7 495 645-2156  
parker.russia@parker.com

**SE – Sweden,** Spånga

Tel: +46 (0)8 59 79 50 00  
parker.sweden@parker.com

**SK – Slovakia,** Banská Bystrica

Tel: +421 484 162 252  
parker.slovakia@parker.com

**SL – Slovenia,** Novo Mesto

Tel: +386 7 337 6650  
parker.slovenia@parker.com

**TR – Turkey,** Istanbul

Tel: +90 216 4997081  
parker.turkey@parker.com

**UA – Ukraine,** Kiev

Tel: +380 44 494 2731  
parker.ukraine@parker.com

**UK – United Kingdom,** Warwick

Tel: +44 (0)1926 317 878  
parker.uk@parker.com

**ZA – South Africa,** Kempton Park

Tel: +27 (0)11 961 0700  
parker.southafrica@parker.com

## North America

**CA – Canada,** Milton, Ontario

Tel: +1 905 693 3000

**US – USA,** Cleveland

Tel: +1 216 896 3000

## Asia Pacific

**AU – Australia,** Castle Hill

Tel: +61 (0)2-9634 7777

**CN – China,** Shanghai

Tel: +86 21 2899 5000

**HK – Hong Kong**

Tel: +852 2428 8008

**IN – India,** Mumbai

Tel: +91 22 6513 7081-85

**JP – Japan,** Tokyo

Tel: +81 (0)3 6408 3901

**KR – South Korea,** Seoul

Tel: +82 2 559 0400

**MY – Malaysia,** Shah Alam

Tel: +60 3 7849 0800

**NZ – New Zealand,** Mt Wellington

Tel: +64 9 574 1744

**SG – Singapore**

Tel: +65 6887 6300

**TH – Thailand,** Bangkok

Tel: +662 186 7000-99

**TW – Taiwan,** Taipei

Tel: +886 2 2298 8987

## South America

**AR – Argentina,** Buenos Aires

Tel: +54 3327 44 4129

**BR – Brazil,** Sao Jose dos Campos

Tel: +55 800 727 5374

**CL – Chile,** Santiago

Tel: +56 2 623 1216

**MX – Mexico,** Toluca

Tel: +52 72 2275 4200

European Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI,  
FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU,  
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