



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



Breathable Compressed Air



ENGINEERING YOUR SUCCESS.



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 atomization 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 fibers 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 vapor**
- **Micro-organisms**
- **Atmospheric dirt**
- **Oil vapor**
- **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 vapors, 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 41°F (5°C) below lowest system temperature | 67 ppm (=113°F (-45°C) atmospheric dewpoint) | 14 ppm (=136.4°F (-58°C) atmospheric dewpoint) |
| Oil / Lubricant | 5 mg/m ³ | < 1 mg/m ³ | 0.1 mg/m ³ | 0.003 mg/m ³ |
| Carbon Dioxide (CO ₂) | < 1000 ppm | < 500 ppm | < 500 ppm | < 500 ppm |
| Carbon Monoxide (CO) | < 10 ppm | < 5 ppm | < 5 ppm | < 5 ppm |
| Nitrogen Oxides (NO + NO ₂) | | | < 2 ppm | < 2 ppm |
| Sulphur Dioxide (SO ₂) | | | < 1 ppm | < 1 ppm |

Breathing Air Purifiers without CO / CO₂ reduction are supplied with 12 months guaranteed air quality

To reduce the following contaminants

| | | | |
|--------------------------|---|------------------------|---|
| Solid Particles | ✓ | Water Aerosols | ✓ |
| Oil Aerosols | ✓ | Water Vapor | × |
| Oil Vapor | ✓ | Carbon Monoxide | × |
| Odors & Fumes | ✓ | Carbon Dioxide | × |



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 vapor and odors, 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 (BAS-3015M).

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 odor and vapor 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 vapor and odors. 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 vapor and odors, 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 /CO2 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 Vapor Removal
Activated Carbon Filter**

REDUCES:
Oil vapor and odors down to 0.003 mg/m³

Technical Specifications

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

For flow rates at other pressures, apply the factor shown

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

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

Breathing Air Purifiers with CO / CO₂ reduction

| | | | | |
|--------------------------------------|-----------------|---|-----------------|---|
| To reduce the following contaminants | Solid Particles | ✓ | Water Aerosols | ✓ |
| | Oil Aerosols | ✓ | Water Vapor | ✓ |
| | Oil Vapor | ✓ | Carbon Monoxide | ✓ |
| | Odors & Fumes | ✓ | Carbon Dioxide | ✓ |



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 vapor and odors. The fourth stage adsorption dryer, reduces the water vapor content of the compressed air (to -40°F (-40°C) pdp) and CO₂, NO and NO₂ 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, vapors, odors, carbon dioxide (CO₂) and carbon monoxide (CO). The flow rate is easily adjustable from a pressure regulator and monitored by inlet/outlet pressure gauges on the front fascia.

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

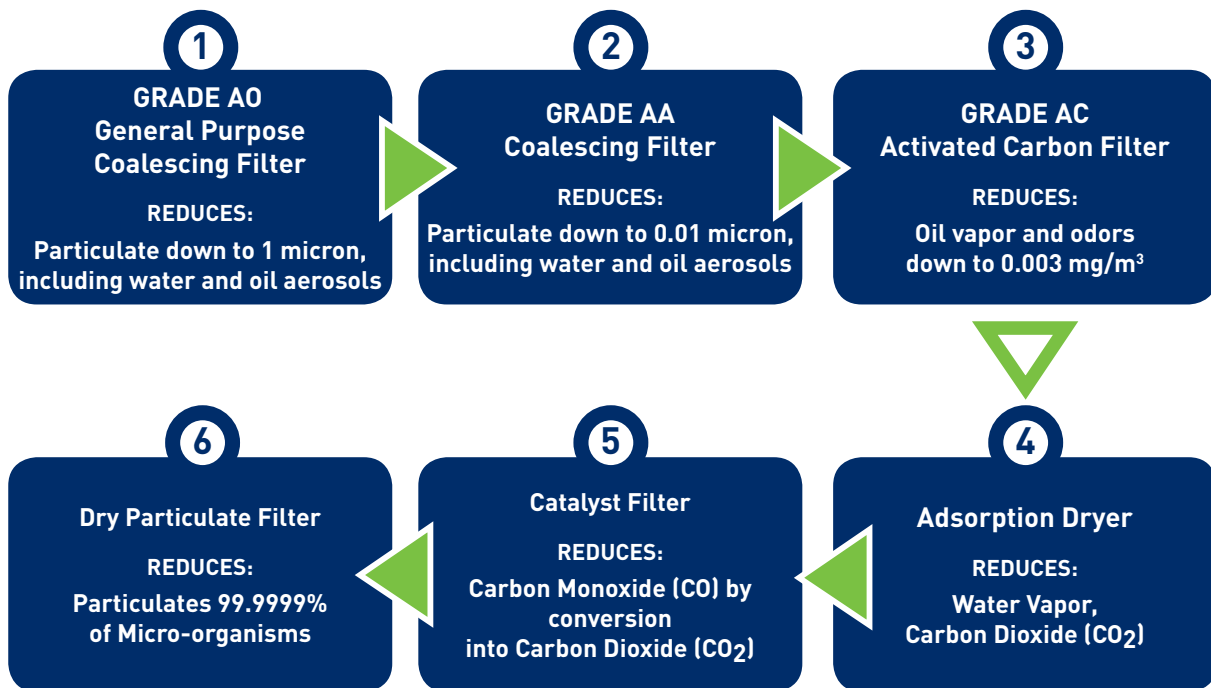
| Operation Pressure | Maximum | MODELS BAC-4015 | | BA-DME012E - 080E | |
|-----------------------------------|---------|----------------------|--|-----------------------------|--|
| | | 145 psi g (10 bar g) | | 188-232 psi g (13-16 bar g) | |
| Recommended Operating Temperature | Minimum | 58 psi g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

For flow rates at other pressures, apply the factor shown

| Line Pressure | psi g | bar g | MODELS 012E - 040E only | | | | | | | | | | | | |
|---------------|-------|-------|-------------------------|------|------|-----|------|------|------|------|------|------|------|-----|------|
| | | | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| | | | 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 @ 100 psi g (7 bar g) | | | | Dimensions | | | | | | Weight (approx.) | |
|------------|-------------|--------------|--------------------------------|-----|--------|-----|------------|------|-------|-----|-------|------|------------------|-----|
| | Inlet (NPT) | Outlet (NPT) | Inlet | | Outlet | | Height | | Width | | Depth | | lbs | kg |
| | | | cfm | l/s | cfm | l/s | ins | mm | ins | mm | ins | mm | | |
| BA-DME012E | 1/2" | 3/8" | 24 | 11 | 19 | 9 | 93.4 | 1000 | 22.8 | 578 | 12 | 302 | 81.5 | 37 |
| BA-DME015E | 1/2" | 3/4" | 32 | 15 | 25 | 12 | 47.1 | 1197 | 18.9 | 480 | 12 | 302 | 93 | 42 |
| BA-DME020E | 1/2" | 3/4" | 42 | 20 | 33 | 15 | 52.2 | 1326 | 18.9 | 480 | 12 | 302 | 104 | 47 |
| BA-DME025E | 1/2" | 3/4" | 53 | 25 | 42 | 20 | 60.1 | 1527 | 18.9 | 480 | 12 | 302 | 115 | 52 |
| BA-DME030E | 1/2" | 3/4" | 65 | 31 | 52 | 24 | 66.7 | 1693 | 20.1 | 511 | 12 | 302 | 126 | 57 |
| BA-DME040E | 3/4" | 3/4" | 88 | 42 | 70 | 33 | 76.4 | 1941 | 21.5 | 545 | 12 | 302 | 163 | 74 |
| BA-DME050E | 1" | 1" | 106 | 50 | 84 | 40 | 66.9 | 1699 | 15.8 | 400 | 47.2 | 1200 | 463 | 210 |
| BA-DME060E | 1" | 1" | 130 | 61 | 104 | 49 | 72.1 | 1831 | 15.8 | 400 | 47.2 | 1200 | 490 | 222 |
| BA-DME080E | 1" | 1" | 176 | 83 | 140 | 66 | 81.7 | 2076 | 29.3 | 745 | 47.2 | 1200 | 615 | 279 |
| BAC-4015 | 1/2" | 1/4" | 24 | 11 | 19 | 9 | 29.6 | 752 | 20.3 | 515 | 10.7 | 272 | 88.2 | 40 |

Breathing Air Purifiers with CO / CO₂ reduction

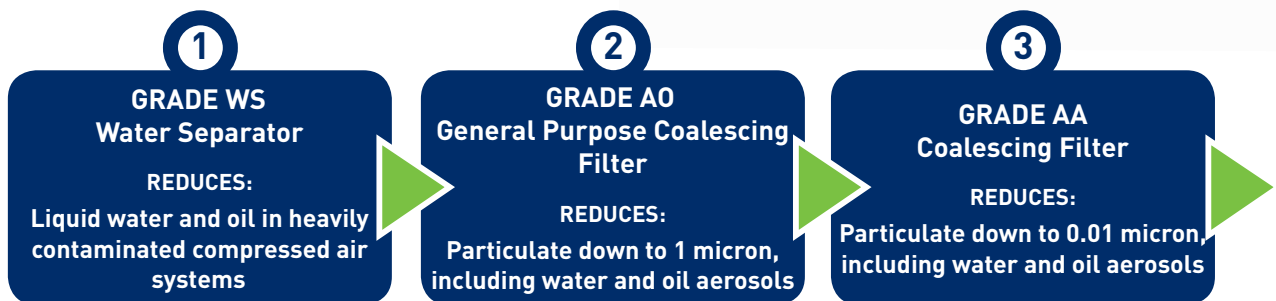


BAM 10 - 70

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 the inlet, a first stage water separator removes bulk water, 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 vapor and odors. The fourth stage adsorption dryer, reduces the water vapor content of the compressed air (to -40°C pdp) and CO_2 , NO and NO_2 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.





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

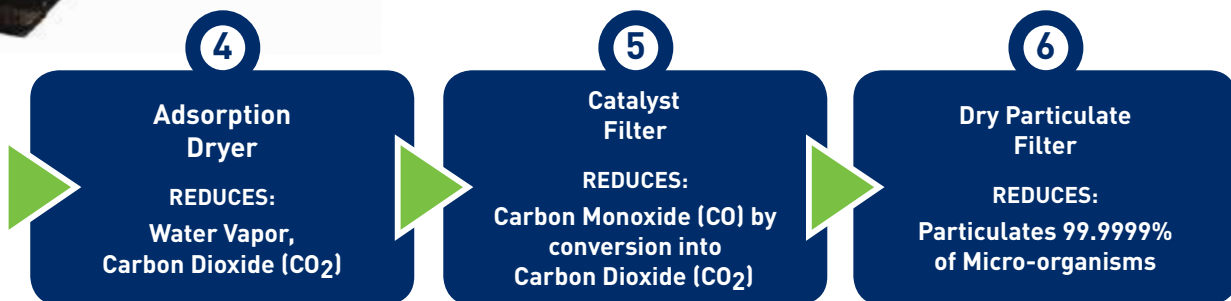
The BAM series has a modular space saving footprint making it one of the most compact product series on the market. The BAM series has an energy management system fitted as standard, offering additional savings for running costs.

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 @ 100 psi g (7 bar g) | | | | Dimensions | | | | | | Weight (approx.) | |
|-------|---------------------------------|---------------------------------|--------------------------------|-----|--------|-------|------------|------|-------|------|-------|------|------------------|------|
| | Inlet (NPT) | Outlet (NPT) | Inlet | | Outlet | | Height | | Width | | Depth | | lbs | kg |
| | | | cfm | l/s | cfm | l/s | ins | mm | ins | mm | ins | mm | | |
| BAM10 | 2" | 2" | 240 | 113 | 192 | 90.4 | 70.7 | 1797 | 49.6 | 1260 | 65.2 | 1655 | 1653.5 | 750 |
| BAM20 | 2" | 2" | 360 | 170 | 288 | 136 | 70.7 | 1797 | 49.6 | 1260 | 65.2 | 1655 | 1873.9 | 850 |
| BAM30 | 2" | 2" | 450 | 213 | 360 | 170.4 | 80.4 | 2042 | 49.6 | 1260 | 65.2 | 1655 | 2094.4 | 950 |
| BAM40 | 2" | 2" | 600 | 283 | 480 | 226.4 | 80.4 | 2042 | 49.6 | 1260 | 65.2 | 1655 | 2314.9 | 1050 |
| BAM50 | 2 ¹ / ₂ " | 2 ¹ / ₂ " | 750 | 354 | 600 | 283.2 | 80.4 | 2042 | 49.6 | 1260 | 76.8 | 1950 | 2755.8 | 1250 |
| BAM70 | 2 ¹ / ₂ " | 2 ¹ / ₂ " | 1050 | 496 | 840 | 396.8 | 80.4 | 2042 | 49.6 | 1260 | 76.8 | 1950 | 3306.9 | 1500 |

Stated flows are for operation at 100 psi g (7 bar g / 0.7 MPa g) with reference to 68°F (20°C), 14.5 psi a (1 bar a), 0% relative water vapor pressure.

Performance

| Dryer Model | Pressure Dewpoint (Standard) | | ISO 8573-1:2010 Water Classification |
|-------------|------------------------------|-----|--------------------------------------|
| | °F | °C | (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 | |
|------------|------------------------|-------|------------------------|-------|---------------------------|----|---------------------------|----|
| | psi g | bar g | psi g | bar g | °F | °C | °F | °C |
| All Models | 58 | 4 | 188.5 | 13 | 41 | 5 | 86 | 35 |

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 | |
|-----------|----------------------|-------|
| | cfm | l/min |
| Low | 3.6 | 100 |
| Medium | 5.3 | 150 |
| High | 7.1 | 200 |
| Very High | 8.9 | 250 |

Source BS4275 : 1997.

CO monitors

All skid mounted BAM units are supplied as standard with a CO monitor. An independent CO monitor is available as an option for all other breathing air systems.

CO₂ monitor

For continuous sampling carbon monoxide monitor utilizes electrochemical cell, for CO detection. This instrument can be wall or panel mounted.

Features

- High intensity 95 dB(A) alarm
- Simple calibration
- Remote alarm contacts
- Adjustable alarm settings
- Clear digital read out in ppm

Breathable Air Purity Test Kit

How clean is your breathing air?

Air quality testing for compressed air systems



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 vapor CO and CO₂ 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 analyzer, 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 O₂ 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
- CO₂
- Water Vapor
- 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 (145 psi g)
- Factory set for use with 'Gastec Ltd' detection tubes

Worldwide Filtration Manufacturing Locations

North America

Compressed Air Treatment

Gas Separation & Filtration Division

Airtek/Finite/donnick hunter/Zander
Lancaster, NY
716 686 6400
www.parker.com/faf

Balston
Haverhill, MA
978 858 0505
www.parker.com/balston

Engine Filtration

Racor

Modesto, CA
209 521 7860
www.parker.com/racor

Holly Springs, MS
662 252 2656
www.parker.com/racor

Hydraulic Filtration

Hydraulic & Fuel Filtration

Metamora, OH
419 644 4311
www.parker.com/hydraulicfilter

Laval, QC Canada
450 629 9594
www.parkerfarr.com

Velcon
Colorado Springs, CO
719 531 5855
www.velcon.com

Process Filtration

domnick hunter Process Filtration SciLog

Oxnard, CA
805 604 3400
www.parker.com/processfiltration

Water Purification

Village Marine, Sea Recovery, Horizon Reverse Osmosis

Carson, CA
310 637 3400
www.parker.com/watermakers

Europe

Compressed Air Treatment

domnick hunter Filtration & Separation

Gateshead, England
+44 (0) 191 402 9000
www.parker.com/dhfn

Parker Gas Separations

Etten-Leur, Netherlands
+31 76 508 5300
www.parker.com/dhfn

Hiross Zander

Essen, Germany
+49 2054 9340
www.parker.com/hzfd

Padova, Italy
+39 049 9712 111
www.parker.com/hzfd

Engine Filtration & Water Purification

Racor

Dewsbury, England
+44 (0) 1924 487 000
www.parker.com/rfde

Racor Research & Development

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+49 (0)711 7071 290-10

Hydraulic Filtration

Hydraulic Filter

Arnhem, Holland
+31 26 3760376
www.parker.com/hfde

Ujala, Finland
+358 20 753 2500

Condition Monitoring Parker Kittiwake

West Sussex, England
+44 (0) 1903 731 470
www.kittiwake.com

Process Filtration

domnick hunter Process Filtration Parker Twin Filter BV

Birtley, England
+44 (0) 191 410 5121
www.parker.com/processfiltration

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+61 2 9634 7777
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+91 80 2783 6794
www.johnfowlerindia.com

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www.parker.com/korea

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www.parker.com/thailand

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www.parker.com/africa

