



# Breathable Compressed Air

BAS HL 050 - BAS HL 085



ENGINEERING YOUR SUCCESS.

# Protecting Employees from Hazards

In most countries, legislation demands employers provide protection for their employees. This includes: When working in the presence of substances that can be damaging to health and those employees working in hazardous environments

Contaminants such as particulates and gases present in the workplace can cause significant damage to health or, in extreme cases, can lead to death. Contamination can occur by inhaling harmful levels of these dangerous contaminants. Entering and working in an oxygen deficient environment can also lead to loss of consciousness and death. Exposure to hazardous substances at work should be

eliminated. Where dangerous contaminants cannot be eliminated, protective measures should be put in place to reduce exposure.

Anyone working in such environments must be provided with adequate Personal Protective Equipment (PPE). Equipment to protect the lungs is known as Respiratory Protective Equipment, abbreviated to RPE.



## Examples:

### Typical Hazardous Environments

- Spray painting
- Tank cleaning
- Shot blasting & sand blasting
- Welding
- Confined spaces
- Tunnelling
- Demolition
- Biohazard areas
- Chemical plants & spill containment areas
- Pharmaceutical labs, drug manufacturing facilities and clean rooms
- Asbestos cleanup sites
- Nuclear plants

### Typical Hazardous Substances

- **Biological agents**  
bacteria, moulds 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
- **Gaseous Atmospheric Contaminants**  
from natural sources, industrial processes and vehicle exhausts
- **Solid Atmospheric Contaminants**  
from natural sources, industrial processes and vehicle exhausts

## Health & Safety Legislation - EN 529:2005

EN 529:2005 is a European Union standard document providing recommendations for selection, use, care and maintenance of Respiratory Protective Equipment.

# Respiratory Protective Equipment

EN529:2005 states “Respiratory protective devices are designed to be worn in hazardous environments and should provide wearers with an adequate supply of breathable air or gas”.



## Section 4.1 of EN 529:2005 defines two distinct types of respiratory protective devices:

### Filtering devices:

These purify the ambient air to be breathed using filters able to remove contaminants in the air

Examples of filtering devices are respirators and face masks. These purify ambient air by inhaling it through a medium which removes the contaminants.

Filter based RPE are not suitable for all applications, especially for prolonged use in the presence of dangerous gases or in an oxygen deficient environment.

### Breathing apparatus:

Breathing apparatus supplying breathable gas from an uncontaminated source (e.g. oxygen)

### Or alternatively

Breathing apparatus supplying breathable air from a from an uncontaminated source (e.g. compressed air)

Self-contained breathing apparatus using high pressure bottles

- Is expensive
- Can be dangerous
- And requires highly trained personnel

Therefore, for most industrial applications, compressed air fed breathing apparatus is the cost effective solution. These provide a continuous source of breathable quality air from a treated compressed air supply.

## Health & Safety Legislation - EN 12021:2014

Compressed air used to supply breathing apparatus must comply with local legislation. For compliance in the European Union & the United Kingdom, EN 529 is used and states:

“The quality of the compressed air for breathing apparatus should be in accordance with EN 12021”

EN 12021 stipulates the minimum quality standards for breathable compressed air and includes the levels for oxygen, carbon monoxide, carbon dioxide, lubricants, water, other types of contaminants and odour.

# Compressed Air Contamination

Unfortunately, it is not just a case of connecting breathing apparatus into a standard compressed air line. Compressed air contains contamination and must be treated before it can be used to supply breathing apparatus. In order to protect users of compressed air fed breathing apparatus, there are a minimum of FIFTEEN contaminants originating from FOUR different sources that must be treated.



| Water          | Oil          | Particulates              | Organic         | Gaseous                                 |
|----------------|--------------|---------------------------|-----------------|-----------------------------------------|
| Water Vapour   | Oil Vapour   | Atmospheric Particulates  | Micro-organisms | Sulphur Dioxide (SO <sub>2</sub> )      |
| Liquid Water   | Liquid Oil   | Compressor Wear Particles |                 | Nitrogen Oxides (NO + NO <sub>2</sub> ) |
| Water Aerosols | Oil Aerosols | Rust / Pipescale          |                 | Carbon Monoxide (CO)                    |
|                |              |                           |                 | Carbon Dioxide (CO <sub>2</sub> )       |

# Compressed Air Contaminants of Concern

All of the contaminants highlighted previously must be treated and reduced to acceptable levels, however, some contaminants pose a greater risk to life than others. Of particular concern are:

- **Carbon Monoxide**
- **Water Vapour**
- **Micro-organisms**

## Carbon Monoxide (CO)

Carbon Monoxide (CO) is a colourless, odourless, tasteless gas that can kill. The inhalation effects of Carbon Monoxide are as follows:

- <500ppm for 1hr does not produce symptoms
- >500ppm for 1hr causes oxygen deficiency
- >4000ppm for 1hr is life threatening

As the concentration increases toxic effects become increasingly severe:

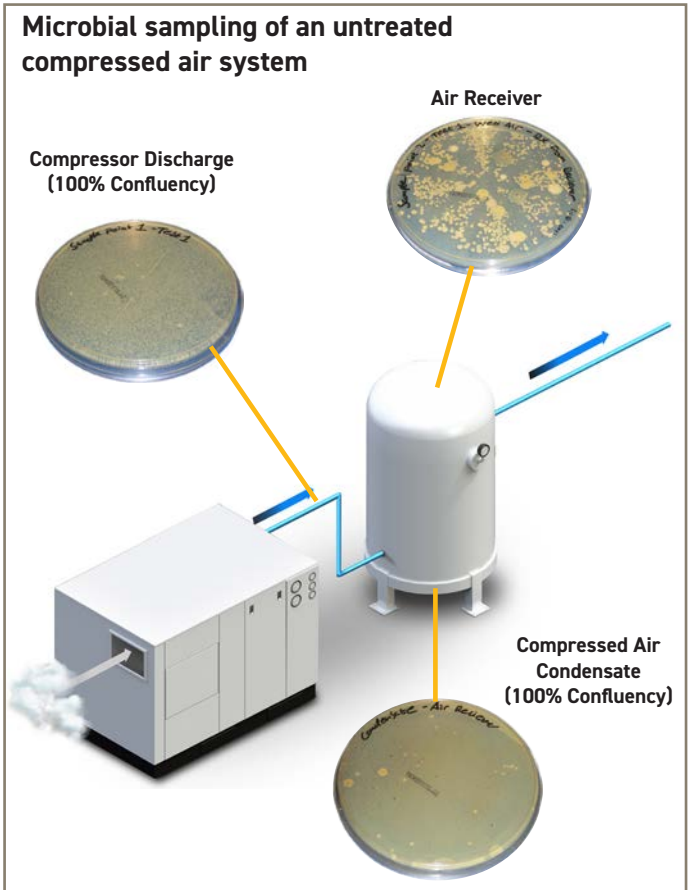
- Accelerated breathing rate
- Severe headache
- Nausea
- Confusion
- Double vision
- Loss of consciousness
- Death

## Water (H<sub>2</sub>O) Liquid Water / Water Aerosols / Water Vapour

Many of the global breathing air standards are written around Self Contained Breathing Apparatus (SCBA) typically used by emergency services and Self Contained Underwater Breathing Apparatus (SCUBA) used by divers. They are particularly concerned around water condensing in the bottle and the freezing of regulators, however in an industrial compressed air fed breathing application, the major concern is around the combination of wet compressed air how this promotes the growth of micro-organisms.

## Micro-organisms

Ambient air contains viable and non-viable particles. A non-viable particle is a particle that does not contain a living micro-organism but acts as transportation for viable particles, a viable particle is a particle that contains one or more living micro-organisms. There can be up to 100 million micro-organisms per cubic metre of ambient air.



## Examples of Micro-organisms found in ambient air & typical size in microns

Due to their small size, they will pass directly through the compressor panel and intake filters. The warm moist air in the compressed air system provides an ideal environment for the growth of these micro-organisms. The air receiver and distribution piping store and distribute their ever expanding growth.

| Viruses        | Pathogenic Bacteria | Fungi (Moulds / Yeasts) |
|----------------|---------------------|-------------------------|
| 0.02µm - 0.2µm | 0.3 µm - 5µm        | 3µm - 10µm              |
|                |                     |                         |

# Parker BAS HL Breathing Air Purifiers consist of eight purification stages

1

## Liquid Separator

### REDUCES:

Liquid Water & Liquid Oil  
Separation Efficiency 92- 100%

2

## General Purpose Coalescing Filter

### REDUCES:

Particulate down to 1 micron  
Water & Oil Aerosols down to 0.5 mg/m<sup>3</sup>

3

## High Efficiency Coalescing Filter

### REDUCES:

Particulate down to 0.01 micron  
Water & Oil Aerosols down to 0.01 mg/m<sup>3</sup>

4

## Adsorption Dryer

### REDUCES:

Water Vapour - PDP  $\leq$  -40°C  
Carbon Dioxide (CO<sub>2</sub>)  $\leq$  500 ppm  
Low PDP also Inhibits Growth of Micro-organisms



Models BAS HL 050 to BAS HL 070, utilise a single column for stages 5 & 6, containing 1 x activated carbon cartridge & 1 x catalyst cartridge, flowed in series.

Models BAS HL 075 to BAS HL 085, utilise duplex columns for stages 5 & 6, containing 2 x activated carbon cartridges & 2 x catalyst cartridges, flowed in parallel.

# Parker BAS HL Breathing Air Purifiers Treat 15 Contaminants Found in a Compressed Air System



## Activated Carbon Filter

5

### REDUCES:

Oil vapours down to  $\leq 0.003 \text{ mg/m}^3$   
Nitrogen Oxides ( $\text{NO} + \text{NO}_2$ )  $\leq 2 \text{ ppm}$   
Sulphur Dioxide ( $\text{SO}_2$ )  $\leq 1 \text{ ppm}$

## Catalyst Stage

6

### REDUCES:

Carbon Monoxide ( $\text{CO}$ )  
by conversion into Carbon  
Dioxide ( $\text{CO}_2$ )

## General Purpose Dry Particulate Filter

7

### REDUCES:

Particulate down to 1 micron

## High Efficiency Dry Particulate Filter

8

### REDUCES:

Particulate & Micro-  
organisms down to  
0.01 micron with an efficiency  
of 99.9999%

# Parker BAS HL Tested & Verified

Parker BAS HL has been tested in accordance with the following international standards relating to compressed air purity.

| Parker BAS Treatment Stage | Parker Treatment Technology                  | Contaminant                             | Performance                                      | Tested in Accordance with            |
|----------------------------|----------------------------------------------|-----------------------------------------|--------------------------------------------------|--------------------------------------|
| Stage 1                    | Parker OIL-X Grade WS Liquid Separator       | Liquid Water                            | >92% Liquid Removal                              | ISO 12500-4<br>ISO 8573-9            |
|                            |                                              | Liquid Oil                              |                                                  |                                      |
| Stage 2                    | Parker OIL-X Grade AO Coalescing Filter      | Atmospheric Particles                   | Down to 1 micron<br>@ 99.925% Efficiency         | ISO 8573-4                           |
|                            |                                              | Rust                                    |                                                  |                                      |
|                            |                                              | Pipescale                               |                                                  |                                      |
|                            |                                              | Water Aerosols                          | < 0.5mg/m <sup>3</sup><br>@ 99.925% Efficiency   | ISO 12500-1<br>ISO 8573-2            |
|                            |                                              | Oil Aerosols                            |                                                  |                                      |
| Stage 3                    | Parker OIL-X Grade AA Coalescing Filter      | Atmospheric Particles                   | Down to 0.01 micron<br>@ 99.9999% Efficiency     | ISO 8573-4                           |
|                            |                                              | Rust                                    |                                                  |                                      |
|                            |                                              | Pipescale                               |                                                  |                                      |
|                            |                                              | Micro-organisms                         | < 0.01mg/m <sup>3</sup><br>@ 99.9999% Efficiency | ISO 12500-1<br>ISO 8573-2            |
|                            |                                              | Water Aerosols                          |                                                  |                                      |
|                            |                                              | Oil Aerosols                            |                                                  |                                      |
| Stage 4                    | Parker BAS Dryer                             | Water Vapour                            | ≤ -40°C PDP                                      | ISO 7183<br>ISO 8573-3               |
|                            |                                              | Carbon Dioxide (CO <sub>2</sub> )       | ≤ 500 ppm                                        | ISO 8573-6<br>European Pharmacopoeia |
| Stage 5                    | Parker OVR                                   | Oil Vapour                              | ≤ 0.003 mg/m <sup>3</sup>                        | ISO 8573-5                           |
|                            |                                              | Nitrogen Oxides (NO / NO <sub>2</sub> ) | ≤ 2 ppm v/v                                      | ISO 8573-6<br>European Pharmacopoeia |
|                            |                                              | Sulphur Dioxide (SO <sub>2</sub> )      | ≤ 1 ppm v/v                                      | ISO 8573-6<br>European Pharmacopoeia |
| Stage 6                    | Parker Catalyst                              | Carbon Monoxide (CO)                    | ≤ 5 ppm                                          | ISO 8573-6<br>European Pharmacopoeia |
| Stage 7                    | Parker OIL-X Grade AO Dry Particulate Filter | Dry Particulate                         | Down to 1 micron<br>@ 99.925% Efficiency         | ISO 8573-4                           |
| Stage 8                    | Parker OIL-X Grade AA Dry Particulate Filter | Dry Particulate                         | < 0.01mg/m <sup>3</sup><br>@ 99.9999% Efficiency | ISO 8573-4                           |
|                            |                                              | Micro-organisms                         |                                                  |                                      |

## BAS HL performance is independently verified by Lloyds Register



# Parker BAS HL Delivered Air Quality

Parker BAS HL Breathing Air System has been designed to provide breathable quality compressed air that meets or exceeds the levels shown in the following global breathing air standards.

| Contaminant<br>Oxygen %<br>Odours          | EN12021:2014                                                      | European<br>Pharmacopoeia            | Osha<br>Grade D                | CSA<br>Z180.1          | Parker BAS                                                                                   | Parker BAS<br>Treatment<br>Stage |
|--------------------------------------------|-------------------------------------------------------------------|--------------------------------------|--------------------------------|------------------------|----------------------------------------------------------------------------------------------|----------------------------------|
| Atmospheric<br>Particles                   | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          | Particle &<br>Micro-organism<br>reduction down<br>to 0.01 micron<br>@ 99.9999%<br>efficiency | Stage 2 & 3                      |
| Rust                                       | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          |                                                                                              |                                  |
| Pipescale                                  | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          |                                                                                              |                                  |
| Micro-organisms                            | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          |                                                                                              | Stage 7 & 8                      |
| Liquid Water                               | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          | No Free Water                                                                                | Stage 1                          |
| Water Aerosols                             | Not Specified                                                     | Not Specified                        | Not Specified                  | Not Specified          | ≤ 0.01 mg/m <sup>3</sup>                                                                     | Stage 2 & 3                      |
| Water Vapour                               | ≤ -11°C PDP                                                       | ≤ 67ppm<br>(≤ -45°C ADP)             | Not Specified                  | Not Specified          | ≤ -40°C PDP<br>(≤ -57°C ADP)                                                                 | Stage 4                          |
| Liquid Oil                                 | Total Oil<br>≤ 0.5 mg/m <sup>3</sup>                              | Total Oil<br>≤ 0.1 mg/m <sup>3</sup> | < 5 mg/m <sup>3</sup>          | < 1 mg/m <sup>3</sup>  | Total Oil<br>≤ 0.003 mg/m <sup>3</sup>                                                       | Stage 1                          |
| Oil Aerosols                               |                                                                   |                                      |                                |                        |                                                                                              | Stage 2 & 3                      |
| Oil Vapour                                 |                                                                   |                                      |                                |                        |                                                                                              | Stage 5                          |
| Carbon Monoxide<br>(CO)                    | ≤ 5 ppm                                                           | ≤ 5 ppm v/v                          | < 10 ppm                       | < 5 ppm                | ≤ 5 ppm                                                                                      | Stage 6                          |
| Carbon Dioxide<br>(CO <sub>2</sub> )       | ≤ 500 ppm                                                         | ≤ 500 ppm v/v                        | < 1000 ppm                     | < 500 ppm              | ≤ 500 ppm                                                                                    | Stage 4                          |
| Nitrogen Oxides<br>(NO / NO <sub>2</sub> ) | Not Specified                                                     | ≤ 2 ppm v/v                          | Not Specified                  | Not Specified          | ≤ 2 ppm                                                                                      | Stage 5                          |
| Sulphur Dioxide<br>(SO <sub>2</sub> )      | Not Specified                                                     | ≤ 1 ppm v/v                          | Not Specified                  | Not Specified          | ≤ 1 ppm                                                                                      | Stage 5                          |
| Oxygen                                     | (21 ± 1) %                                                        | 20.4% ~ 21.4% v/v                    | 19.5% - 23.5%                  | 20% – 22%              | As Inlet<br>Concentration                                                                    | As Inlet<br>Concentration        |
| Odours                                     | The gas shall<br>be free from<br>unsatisfactory odour<br>or taste | Not Specified                        | Lack of<br>noticeable<br>odour | No pronounced<br>odour | No Odours                                                                                    | Stages 4 & 5                     |

## BAS HL Keeping Users Safe

Treating known hazardous compressed air contaminants not even recognised in international breathing air standards



## Breathing Air Purifier Performance

| Dryer Models | Dewpoint (Standard) |     | ISO8573-1:2010 Classification (Standard) |
|--------------|---------------------|-----|------------------------------------------|
|              | °C                  | °F  |                                          |
| BAS HL       | -40                 | -40 | Class 1.2.0                              |

## Technical Data

| Dryer Models     | Minimum Operating Pressure |       | Maximum Operating Pressure |       | Minimum Operating Temperature |    | Maximum Operating Temperature |    | Maximum Ambient Temperature |     | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Type | Noise Level |
|------------------|----------------------------|-------|----------------------------|-------|-------------------------------|----|-------------------------------|----|-----------------------------|-----|------------------------------|------------------------------|-------------|-------------|
|                  | bar g                      | psi g | bar g                      | psi g | °C                            | °F | °C                            | °F | °C                          | °F  |                              |                              |             | dB(A)       |
| BAS HL 050 - 085 | 4                          | 58    | 16                         | 232   | 5                             | 41 | 35                            | 95 | 55                          | 131 | 85 - 265V<br>1ph 50/60Hz     | 24V DC                       | BSPP or NPT | <75         |

## Flow Rates

| Model      | Pipe Size<br>BSPP or NPT | Inlet Flow Rate |        |       |     |
|------------|--------------------------|-----------------|--------|-------|-----|
|            |                          | L/s             | m³/min | m³/hr | cfm |
| BAS HL 050 | ½"                       | 15              | 0.92   | 55    | 32  |
| BAS HL 055 | ½"                       | 19              | 1.17   | 70    | 41  |
| BAS HL 060 | ½"                       | 25              | 1.50   | 90    | 53  |
| BAS HL 065 | ½"                       | 31              | 1.84   | 110   | 65  |
| BAS HL 070 | ¾"                       | 42              | 2.51   | 150   | 88  |
| BAS HL 075 | 1"                       | 51              | 3.09   | 185   | 109 |
| BAS HL 080 | 1"                       | 61              | 3.67   | 220   | 129 |
| BAS HL 085 | 1 ½"                     | 83              | 5.01   | 300   | 177 |

Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the maximum (summer) inlet temperature, maximum (summer) ambient temperature, minimum inlet pressure, required outlet dewpoint and maximum flow rate of the installation.

To select a dryer, first calculate the MTC (Minimum Treatment Capacity) using the formula below then select a dryer from the flow rate table above with a flow rate equal to or above the MTC.

Minimum Treatment Capacity = System Flow x CFIT x CFAT x CFMIP x CFOD

### CFIT - Correction Factor Maximum Inlet Temperature

| Maximum Inlet Temperature | °C | 25   | 30   | 35   |
|---------------------------|----|------|------|------|
|                           | °F | 77   | 86   | 95   |
| Correction Factor         |    | 1.00 | 1.00 | 1.00 |

### CFAT - Correction Factor Maximum Ambient Temperature

| Maximum Ambient Temperature | °C | 25   | 30   | 35   | 40   | 45   | 50   |
|-----------------------------|----|------|------|------|------|------|------|
|                             | °F | 77   | 86   | 95   | 104  | 113  | 122  |
| Correction Factor           |    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### CFMIP - Correction Factor Minimum Inlet Pressure

| Minimum Inlet Pressure | bar g | 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  |
| Correction Factor      |       | 1.60 | 1.33 | 1.14 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

### CFOD - Correction Factor Dewpoint

| Maximum Inlet Temperature | °C | -40  |
|---------------------------|----|------|
|                           | °F | -40  |
| Correction Factor         |    | 1.00 |

## Controller Functions

| Dryer  | Controller Function |                         |                  |                          |                                     |                         |                                                       |                                 |
|--------|---------------------|-------------------------|------------------|--------------------------|-------------------------------------|-------------------------|-------------------------------------------------------|---------------------------------|
|        | Power On Indication | Visual Fault Indication | Dewpoint Display | Filter Service Indicator | Carbon & Catalyst Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| BAS HL | .                   | .                       | .                | .                        | .                                   | .                       | .                                                     | .                               |

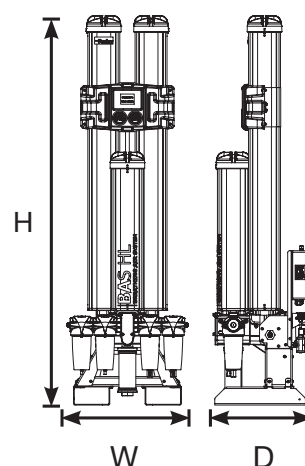
## Required / Included Filtration

| Model      | Pipe Size<br>BSPP or<br>NPT | Dryer Inlet      |                                   |                                   | Dryer Outlet                                 |                                        |                                        |
|------------|-----------------------------|------------------|-----------------------------------|-----------------------------------|----------------------------------------------|----------------------------------------|----------------------------------------|
|            |                             | Required         | Included                          |                                   | Included                                     |                                        |                                        |
|            |                             | Liquid Separator | General Purpose Coalescing Filter | High Efficiency Coalescing Filter | Oil Vapour Reduction Filter & Catalyst Stage | General Purpose Dry Particulate Filter | High Efficiency Dry Particulate Filter |
| BAS HL 050 | ½"                          | WSPX15C T1X      | AOPX015C                          | AAPX015C                          | Included                                     | AOPX015C                               | AAPX015C                               |
| BAS HL 055 | ½"                          | WSPX15C T1X      | AOPX015C                          | AAPX015C                          | Included                                     | AOPX015C                               | AAPX015C                               |
| BAS HL 060 | ½"                          | WSPX15C T1X      | AOPX020C                          | AAPX020C                          | Included                                     | AOPX020C                               | AAPX020C                               |
| BAS HL 065 | ½"                          | WSPX15C T1X      | AOPX020C                          | AAPX020C                          | Included                                     | AOPX020C                               | AAPX020C                               |
| BAS HL 070 | ¾"                          | WSPX25D T1X      | AOPX025D                          | AAPX025D                          | Included                                     | AOPX025D                               | AAPX025D                               |
| BAS HL 075 | 1"                          | WSPX25E T1X      | AOPX025E                          | AAPX025E                          | Included                                     | AOPX025E                               | AAPX025E                               |
| BAS HL 080 | 1"                          | WSPX25E T1X      | AOPX025E                          | AAPX025E                          | Included                                     | AOPX025E                               | AAPX025E                               |
| BAS HL 085 | 1 ½"                        | WSPX30G T1X      | AOPX030G                          | AAPX030G                          | Included                                     | AOPX030G                               | AAPX030G                               |

| Filtration Performance                                     | Liquid Separator | General Purpose Coalescing Filter | High Efficiency Coalescing Filter | Oil Vapour Reduction Filter  | General Purpose Dry Particulate Filter | High Efficiency Dry Particulate Filter |
|------------------------------------------------------------|------------------|-----------------------------------|-----------------------------------|------------------------------|----------------------------------------|----------------------------------------|
| Filtration Grade                                           | Grade WS         | Grade AO                          | Grade AA                          | OVR                          | Grade AO                               | Grade AA                               |
| Filtration Type                                            | Liquid Separator | Coalescing                        | Coalescing                        | Adsorption                   | Dry Particulate                        | Coalescing                             |
| Particle Reduction (inc water & oil aerosols)              | N/A              | Down to 1 micron                  | Down to 0.01 micron               | N/A                          | Down to 1 micron                       | Down to 0.01 micron                    |
| Maximum Remaining Oil Aerosol Content at 21°C              | N/A              | ≤0.5 mg/m³ (≤0.5 ppm(w))          | ≤0.01 mg/m³ (≤0.01 ppm(w))        | N/A                          | N/A                                    | N/A                                    |
| Maximum Remaining Oil Vapour Content at System Temperature | N/A              | N/A                               | N/A                               | ≤0.003 mg/m³ (≤0.003 ppm(w)) | N/A                                    | N/A                                    |
| Filtration Efficiency                                      | >92%             | 99.925%                           | 99.9999%                          | N/A                          | 99.925%                                | 99.9999%                               |

## Weights & Dimensions

| Model      | Pipe Size<br>BSPP or<br>NPT | Dimensions |     |           |      |           |      | Weight |     |
|------------|-----------------------------|------------|-----|-----------|------|-----------|------|--------|-----|
|            |                             | Height (H) |     | Width (W) |      | Depth (D) |      |        |     |
|            |                             | mm         | ins | mm        | ins  | mm        | ins  | kg     | lbs |
| BAS HL 050 | ½"                          | 1133       | 45  | 559       | 22   | 512       | 20.2 | 92     | 203 |
| BAS HL 055 | ½"                          | 1313       | 52  | 559       | 22   | 512       | 20.2 | 99     | 218 |
| BAS HL 060 | ½"                          | 1510       | 59  | 559       | 22   | 496       | 19.5 | 109    | 240 |
| BAS HL 065 | ½"                          | 1660       | 65  | 559       | 22   | 496       | 19.5 | 115    | 254 |
| BAS HL 070 | ¾"                          | 2020       | 80  | 630       | 24.8 | 496       | 19.5 | 138    | 304 |
| BAS HL 075 | 1"                          | 1595       | 63  | 630       | 24.8 | 682       | 27   | 196    | 432 |
| BAS HL 080 | 1"                          | 1745       | 69  | 630       | 24.8 | 682       | 27   | 220    | 485 |
| BAS HL 085 | 1 ½"                        | 2105       | 83  | 630       | 24.8 | 682       | 27   | 255    | 562 |



## Quality Assurance / IP Rating / Pressure Vessel Approvals

|                                  |                                                                                                           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------|
| Development / Manufacture        | ISO 9001 / ISO 14001                                                                                      |
| Ingress Protection Rating        | IP55 Indoor Use Only                                                                                      |
| EU                               | Pressure vessel approved for fluid group 2 in accordance with the Pressure Equipment Directive 2014/68/EU |
| USA                              | Approval to ASME VIII Div. 1 not required                                                                 |
| AUS                              | Approval to AS1210 not required                                                                           |
| For use with Compressed Air Only |                                                                                                           |

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