# BAS - Breathing Air System

## BAS HL 050 - BAS HL 085


### Breathable Quality Compressed Air

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.

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.

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 gas”.

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.

### Parker BAS Breathing Air System

Parker BAS Breathing Air Systems have been designed to treat 15 hazardous compressed air contaminants and provide breathable quality compressed air that meets or exceeds the levels shown in global breathing air standards.

### Advantages

- Breathable quality compressed air from a single treatment system
- Parker BAS Breathing Air System includes 7 purification stages consisting of:
  - Parker OIL-X General Purpose & High Efficiency Coalescing filters
  - Adsorption Dryer
  - Oil Vapour Reduction Stage / Catalyst Stage
  - General Purpose & High Efficiency Dry Particulate filters
- Delivered air purity that meets or exceeds the requirements of:
  - EN12021 & European Pharmacopoeia
  - OSHA Grade D & CSA Z180.1
- Parker BAS Breathing Air System has a delivered air quality equivalent to ISO8573-1:2010 Class 1.2.0 (<0.003 mg/m³ total oil)
- Parker BAS Breathing Air System performance has been tested in accordance with
  - ISO7183
  - ISO12500-1
  - ISO 8573-2 / ISO 8573-3 / ISO 8573-4 / ISO 8573-5 / ISO 8573-6
  - European Pharmacopoeia
- Parker BAS Breathing Air System performance has been independently verified by Lloyds Register

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## 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 1ph 50/60Hz | 24V DC | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/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 Models | 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** | • | • | • | • | • | • | • | • |

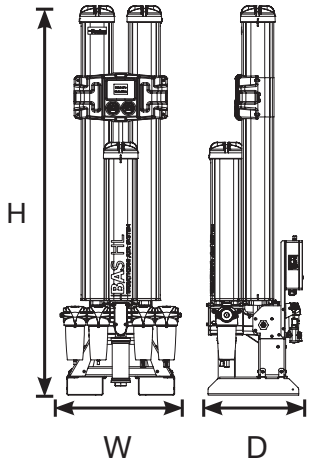
## Included Filtration

| Model | Pipe Size BSPP or NPT | Dryer Inlet | | Dryer Outlet | | |
|---|---|---|---|---|---|---|
| | | General Purpose Pre-filter | High Efficiency Filter | Oil Vapour Reduction Filter & Catalyst Stage | General Purpose Dry Particulate Filter | High Efficiency Dry Particulate Filter |
| **BAS HL 050** | ½" | AOPX015C | AAPX015C | Included | AOPX015C | AAPX015C |
| **BAS HL 055** | ½" | AOPX015C | AAPX015C | Included | AOPX015C | AAPX015C |
| **BAS HL 060** | ½" | AOPX020C | AAPX020C | Included | AOPX020C | AAPX020C |
| **BAS HL 065** | ½" | AOPX020C | AAPX020C | Included | AOPX020C | AAPX020C |
| **BAS HL 070** | ¾" | AOPX025D | AAPX025D | Included | AOPX025D | AAPX025D |
| **BAS HL 075** | 1" | AOPX025E | AAPX025E | Included | AOPX025E | AAPX025E |
| **BAS HL 080** | 1" | AOPX025E | AAPX025E | Included | AOPX025E | AAPX025E |
| **BAS HL 085** | 1 ½" | AOPX030G | AAPX030G | Included | AOPX030G | AAPX030G |

| Filtration Performance | 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 AO | Grade AA | OVR | Grade AO | Grade AA |
| **Filtration Type** | Coalescing | Coalescing | Adsorption | Dry Particulate | Coalescing |
| **Particle Reduction (inc water & oil aerosols)** | 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** | ⩽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 | ⩽0.003 mg/m³ (⩽0.003 ppm(w)) | N/A | N/A |
| **Filtration Efficiency** | 99.925% | 99.9999% | N/A | 99.925% | 99.9999% |

## Weights & Dimensions

| Model | Pipe Size BSPP or 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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