# **Breathable Compressed Air Purifier BAM10 - BAM 70**

**Engineering Data Sheet** 



## **Description**

## **Technical Specification**

#### Flow Data

	<b>-</b>		In	let		Outlet					
Model	Pipe Size	L/s	m³/min	m <sup>3</sup> /hr	cfm	L/s	m <sup>3</sup> /min	m <sup>3</sup> /hr	cfm		
BAM10	G 2″	113	6.8	408	240	90.4	5.4	326.4	192		
BAM20	G 2"	170	10.2	612	360	136	8.2	489.6	288		
BAM30	G 2″	213	12.8	765	450	170.4	10.2	612	360		
BAM40	G 2″	283	17.0	1020	600	226.4	13.6	816	480		
BAM50	G 21/2"	354	21	1275	750	283.2	16.8	1020	600		
BAM70	G 21/2"	496	30	1785	1050	396.8	24	1428	840		

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	Pre	ssure 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

Contaminants	Units	Inlet Challenge (All Models)	Outlet Levels (All Models)	European Pharmacopoeia
Oil / Lubricant	mg/m <sup>3</sup> Ref.	11.3	0.011	0.1
Water	ppm	7,913	24	67
Carbon Monoxide (CO)	ppm	39	<0.01	5
Carbon Dioxide (CO <sub>2</sub> )	ppm	744	109	500
Oxygen (O <sub>2</sub> )	Vol%	20.9	20.9	20.4 - 21.4
Nitrogen Oxides (NO + NO <sub>2</sub> )	ppm	13	1.8	2
Sulphur Dioxide (SO <sub>2</sub> )	ppm	7	<0.01	1

Reference conditions:  $20^{\circ}$ C, 1 bar(a), dry. Compressed air conditions: 7 bar overpressure,  $35^{\circ}$ C

### **Operating Data**

Model	Min Operatir	g Pressure	Ма	x Operating Pressure		n Operating emperature	Max Operating Temperature		
	bar g	psi g	bar g	psi g	οС	°F	°C	°F	
All Models	4	58	13	188.5	5	41	30	86	

## **Electrical Data**

	BAM10	BAM20	BAM30	BAM40	BAM50	BAM70					
Supply Voltage	90 - 264V 1PH 50/60Hz										
Connection Type		Hard wired									
Power		21 W (Max)									



	BAM10	BAM20	BAM30	BAM40	BAM50	BAM70
Fuse (1)			Т3.	15A		

(1) Fuses are Anti surge (T) 250VAC, 5x20mm, HBC, Breaking capacity 1500A @250VAC, IEC 60127-2, UL/CSA Ceramic body.

#### **Correction Factors**

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

Pressure Correction Factor CFP											
Maximum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13
	psi g	58	73	87	100	116	131	145	160	174	189
	CFP	1.60	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.62	0.57

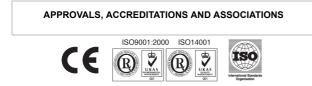
Dewpoint Correction Fa	actor CFD	Standard
	PDP °C	-40
Maximum Inlet Pressure	PDP °F	-40
	CFD	1.00

#### **Environmental Data**

Relative Humidity	55%
IP Rating	IP55, indoor use only
Pollution Degree <sup>(1)</sup>	2
Maximum Altitude	2000 m (6562) (ft)
Noise	< 80 dB(A)

<sup>(1)</sup> Pollution Degree 2 indicates that in order for this equipment to operate safely, only non-conductive pollution (i.e. solids, liquids or ionised gases) or temporary condensation may be present within the environment.

## **Approvals Compliance and Exemptions**





#### Compliance

The BAM range of compressed air breathing air purifiers have been independently performance tested for the reduction of harmful contaminants, found in compressed air, to the levels stated in European Pharmacopoeia.

#### **3rd Party Performance Verification**

The OIL-X EVOLUTION Coalescing Filters, used on the BAM breathing air purifiers, have been tested in accordance with ISO12500-1 & ISO8573-4

The OIL-X EVOLUTION Dry Particulate Filters have been tested in accordance with ISO8573-4.

The air quality produced by the BAM series has been certified by a 3rd Party independent authority test house. The air quality delivered by the BAM series exceeds the requirements of European Pharmacopoeia (Medical book 2011, 7th Edition).

All performance validation independently has been verified by Lloyds Register and / or IUTA (Institut fur Energie und Umwelttechnik e.v).

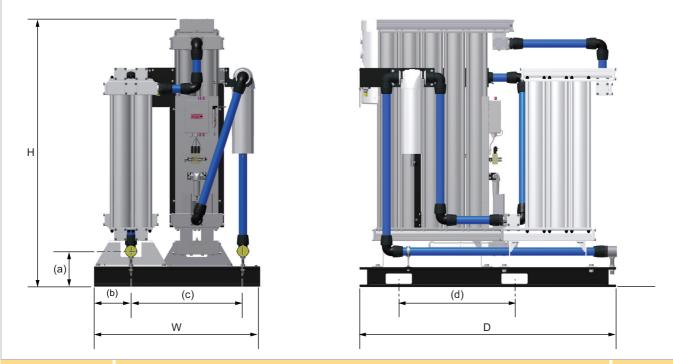


## **Materials of Construction**

Skid base	150 x 75 x 18mm BS4 Parallel Flange channel
Filter Support Frame	5mm Mild Steel Plate 50x50x6mm Equal Angle (BS4 and BSEN10056)
Inlet and Outlet Connections	316 Steel
Silencer Baffle and End Cap	Aluminium
Columns, Manifolds and Valve Blocks	Aluminium Extrusion EN AW-6063 T6
Manifold and Purge End Plates	Cast Machined EN AW-6082 T6
Inlet, Outlet and Exhaust Valve Block End Plates	Cast Machined EN AC-44100-F
Inlet and Exhaust Cylinders	Aluminium Alloy
Dryer Feet	8MM Steel Plate
Rear Mounting Plate	14SWG Mild Steel
Coalescing Filter	Aluminium Housing
Hygrometer Housing	GR316 – BS970
Fittings	Nickel Plated Brass and Nickle Plated Mild Steel
Pressure Gauge	ABS Plastic casing and dial, brass connector and movement
Adsorbant	Activated Alumina and 13X MS
Seal Materials	Nitrile, Viton, EPDM, PTFE (tape)
Paint	Epoxy coated

## Weights and Dimensions

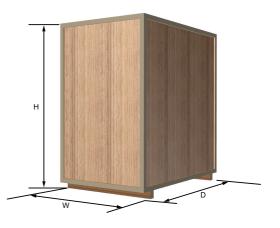
## 1.0.1 Module



	Module Dimensions													Mainht		
Model	н		W	1	D	)	(a	)	(b	)	(c	:)	(d	)	Weight	
	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	Kg	lbs
BAM10	1797	70.7	1260	49.6	1655	65.2	270	10.6	280	11.0	850	33.5	880	34.6	600	1322.8
BAM20	1797	70.7	1260	49.6	1655	65.2	270	10.6	280	11.0	850	33.5	880	34.6	700	1543.2
BAM30	2042	80.4	1260	49.6	1655	65.2	270	10.6	280	11.0	850	33.5	880	34.6	800	1763.7
BAM40	2042	80.4	1260	49.6	1655	65.2	270	10.6	280	11.0	850	33.5	880	34.6	900	1984.2
BAM50	2042	80.4	1260	49.6	1950	76.8	270	10.6	280	11.0	850	33.5	880	34.6	1100	2425.1
BAM70	2042	80.4	1260	49.6	1950	76.8	270	10.6	280	11.0	850	33.5	880	34.6	1400	3086.5

Packaged Module

	Dimensions						Weight	
Model	Н		w		D		vveignt	
	mm	ins	mm	ins	mm	ins	Kg	lbs
BAM10	1930	76.0	1330	52.4	1765	69.5	834	1839
BAM20	1930	76.0	1330	52.4	1765	69.5	934	2059
BAM30	2180	85.8	1330	52.4	1765	69.5	1053	2321
BAM40	2180	85.8	1330	52.4	1765	69.5	1153	2542
BAM50	2180	85.8	1330	52.4	2060	81.1	1377	3036
BAM70	2180	85.8	1330	52.4	2060	81.1	1677	3697



## Service intervals

	Description of Service Required			F	Recomm	nended	Interva	ıl:		
Component	Operation	Every Day	Every Week	Every	Every 3 months	Every 6 months	Every 12 months	Every 18 months	Every 24 months	Every 36 months
MX Dryer	Check POWER ON indicator is illuminated.									
MX Dryer	Check STATUS / FAULT indicators located on the controller.									
System	Check for air leaks.									
MX Dryer	Check the pressure gauges during purging for excessive back pressure.									
MX Dryer	Check the condition of electrical supply cables and conduits.									
MX Dryer	Check for cyclic operation.									
MX Dryer	- Replace the active exhaust silencers Recommended Service						1			
Filtration	Replace the inlet, outlet and control air filters, and service drains.  Recommended Service						1			
CO Safe	Replace the activated carbon cartridges <sup>(1)</sup> Recommended Service						1			
MX Dryer	Replace / Calibrate dewpoint transmitter (DDS Units only). Recommended Service						1			
CO Monitor	Calibrate the CO Monitor						$\Diamond$			
CO Monitor	Replace the electrochemical sensor Recommended Service							1		
CO Safe	Replace the Catalyst cartridges <sup>(2)</sup>								1	
MX Dryer	Replace the valve seats and seals. Recommended Service									1
MX Dryer	Replace the Desiccant. Recommended Service									1

<sup>(1)</sup> Unlike oil aerosol removal filters which are changed annually to guarantee compressed air quality, the lifetime of the activated carbon cartridges can be attributed to various factors

and require more frequent changes. Factors affecting the lifetime of the cartridges are:

Oil vapour concentration - The higher the inlet concentration of oil vapour, the faster the activated carbon capacity will expire.

Bulk oil - Adsorption filters are designed to remove oil vapour and odours, not liquid oil or aerosols. Poorly maintained or non-existent pre-filtration will cause the OVR filter capacity to quickly expire.

Temperature - Oil vapour content increases proportionally to inlet temperature, reducing element life. Additionally, as temperature increases, the adsorption capacity decreases, again reducing element life.

Relative Humidity or Dewpoint - Wet air reduces the adsorptive capacity of the carbon.

Compressor oil changes - When compressor oil is changed, the new lubricant burns off "light ends" which increases the oil vapour content for hours or even weeks afterwards. This increase in oil vapour content is adsorbed by the OVR filter, significantly reducing its adsorptive life.

The cartridge performance is based upon a maximum oil vapour inlet concentration of 0.018mg/m³, with compressed air at 21°C and a pressure dewpoint of -40°C PDP.

These cartridges should be replaced upon detection of vapour, odour or taste.

(2) Under normal operating conditions the catalyst cartridges should be replaced every 24 months. If an oil vapour incident occurs then we recommend that the carbon and catalyst cartridges are replaced at the same time.

#### Key:



## **Preventative Maintenance Kits**

## **Recommended every 12 months**



Description	Catalogue Number	Contents	Order Qty
Kit: Silencer Element	608620090	Silencer element	

 ${\it Note. The number of kits required is dependent upon the model of dryer as illustrated below.}$ 

Description	BAM10	BAM20	BAM30	BAM40	BAM50	BAM70
Kit: Silencer Element	1	1	1	2	2	3



Description	Catalogue No.	Contents	Order Qty
045AO (BAM10 - 40)	045AO	AO Element	1
045AA (BAM10 - 40)	045AA	AA Element	1
045AR (BAM10 - 40)	045AR	AR Element	1
050AO (BAM50)	050AO	AO Element	1
050AA (BAM50)	050AA	AA Element	1
050AR (BAM50)	050AR	AR Element	1
055AO (BAM70)	055AO	AO Element	1
055AA (BAM70)	055AA	AA Element	1
055AR (BAM70)	055AR	AR Element	1



Description	Catalogue Number	Contents	Order Qty
Kit: Service Exchange Hygrometer		Hygrometer transmitter	
	608204125	Fixed orifice	1
		o-ring	

Note. One kit required for each dryer bank with dewpoint transmitter.



Description	Catalogue Number	Contents	Order Qty
Kit: AC Cartridge (BAM10 / BAM20)	CAT010ACK	AC Cartridge (x2)	1
Title 710 Och mage (BAM 107 BAM 20)	CATOTOACK	O-rings	•
Kit: AC Cartridge (BAM30 / BAM40)	CAT020ACK	AC Cartridge (x4)	1
	CATUZUACK	O-rings	•
Vit. AC Contridge (DAMES)	CAT030ACK	AC Cartridge (x6)	4
Kit: AC Cartridge (BAM50)	CATUSUACK	O-rings	'
Kit: AC Cartridge (BAM70) CAT	CAT040ACK	AC Cartridge (x8)	4
	CATU4UACK	O-rings	1

## **Recommended every 18 months**



Description	Catalogue Number	Contents	Order Qty
Kit: BAC Monitor Sensor	608204210	Sensor	1

## Recommended every 24 month



Description	Catalogue Number	Contents	Order Qty
Kit: Catalyst Cartridge (BAM10 / BAM20)	CAT010CK	Catalyst Cartridge (x2)	1
Nit. Catalyst Cartilinge (BAIN 107 BAIN 20)	CATOTOCK	O-rings	'
Kit: Catalyst Cartridge (BAM30 / BAM40)	CAT020CK	Catalyst Cartridge (x4)	1
	CATOZOCK	O-rings	'
Vit: Catalyat Cartridge (BANSA)	CAT030CK	Catalyst Cartridge (x6)	1
Kit: Catalyst Cartridge (BAM50)	CATUSUCK	O-rings	'
Kit: Catalyst Cartridge (BAM70)	CAT040CK	Catalyst Cartridge (x8)	1
	CATU4UCK	O-rings	'

## Recommended every 36 months

Description	Catalogue Number	Contents	Order Qty
Kit: Valve Overhaul Kit 6		Inlet Valve Kit (Catalogue No.608620093)	
	608620091	Outlet Valve Kit (Catalogue No.608620094)	
	000020091	Exhaust Valve Kit (Catalogue No.608620095)	
		Control Valve Kit MXA/MXS (Catalogue No.608620096)	

Note. One overhaul kit is required for each dryer bank.

### Inlet Valve Kit



Description	Catalogue Number	Contents	Order Qty
Kit: Inlet Valve		Cylinder valves	
	608620093	Associated o-rings	1
		Fixing screws	

### Outlet Valve Kit



Description	Catalogue Number	Contents	Order Qty
Kit: Outlet Valve		Valve spring assemblies	
	608620094	Associated o-rings	1
		Fixing nuts and bolts	

## Exhaust Valve Kit

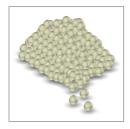


Description	Catalogue Number	Contents	Order Qty
Kit: Exhaust Valve	608620095	Cylinder valve	1
		Elbow fittings	
		Associated o-rings	
		Fixing screws	

#### Control Valve Kit



Description	Catalogue Number	Contents	Order Qty
Kit: Control Valve		3-Bank solenoid valve	
		010AA filter element	1
	008020090	E009AA filter element	
		Fixing screws	



Description	Catalogue Number	Contents	Order Qty
Kit: Desiccant AA	608203661	11 Litre Container of AA	
Kit: Desiccant MS	608203662	11 Litre Container of MS	

Note. The quantity of desiccant material required is dependent upon the size of the module.

Description	BAM10	BAM20	BAM30	BAM40	BAM50	BAM70
Kit: Desiccant AA (11.2 Ltr)	8	12	14	19	24	33
Kit: Desiccant MS (11.2 Ltr)	1	2	2	3	3	4

 ${\it Ensure that the dryer is filled using a Snowstorm filler and replace the column seals.}$ 

## Column Seal Kits



Description	Catalogue Number	Contents	Order Qty
Kit: Column Seals	608620098	Column o-rings	1
	000020090	Outlet plate o-ring	'

Note. One kit is required for each dryer.

## **Snowstorm Filler**



Description	Catalogue Number	Contents	Order Qty
Snowstorm Filler	608201051	Jumbo Snowstorm Filler	1

# ELEMENTS

Parker filters are designed to produce clean compressed air, gas and liquid to the highest industry standards. To maintain impeccable results, Elements within the filter must be replaced annually.

Choosing the Parker brand means you can be assured that Elements are readily available, affordable and the most energy efficient product of its kind on the market. The elements are also supplied in 100% recyclable packaging. An additional advantage of purchasing Parker Elements is that you will reduce your company's carbon footprint by 190kg. This is the equivalent of a 700 mile flight from Edinburgh to Berlin!

Parker Filter Elements also prove to be highly efficient when used in any leading competitor's filters.

# PARTS

Parker Kits make everyday maintenance easy. They are available for all of our products and are simply value-for money. The Parts within the kits support our customers' varied maintenance, repair and overhaul activities.

Additionally, Preventative Maintenance Kits can be purchased for dryers and gas generators. These kits mean our customers dryer's and generator's can be serviced easily to ensure optimum performance.

An extensive range of durable Parker Parts can be obtained within 24 hours to any European, Middle East or African destination.



Parker Specialist Service Engineers test on-site efficiency measuring many variables including airflow, pressure, temperature, dewpoint and power consumption.

Our team of highly trained experts are the best in the industry. They take into account a range of environmental factors that could affect your system's performance. The results from this Specialist Service are extremely accurate and produce invaluable information.

Importantly, Parker informed recommendations lead to significant savings for our customers, which mean they return time and time again for our advice and products.



Maintenance Repair & Overhaul - Parker Technicians are the industry's finest. Their skills and qualifications are annually approved to keep their product and legislation knowledge fresh and expertise relevant.

With this in mind, Parker offers onsite and on demand servicing to meet customers' unique requirements in a timely and efficient manner

Parker MRO service ranges from a basic maintenance check covered under product warranty right through to a comprehensive programme, which even puts the onsite application under the microscope.

With customers at the heart of everything Parker does, the MRO service is no exception to this.

Parker Filter Elements also prove to be highly efficient when used in any leading competitor's filters



Parker Support Services are the first port of call for customers in need of help or guidance.

The fact that this team is responsible for the production of User Guides and Manuals gives you an insight into the level and detail of their parts and product knowledge.

Over-the-phone support is just one way in which Parker's extremely knowledgeable team, quickly reduces downtime or resolves product queries.

On some occasions engineers need to be on site to carry out a repair. In these cases, the local engineer will be quickly dispatched to ensure our customers can return to production as soon as possible.

One-to-one training can also be provided by our Support Services team. This has enabled hundreds of Parker distributors to gain an in-depth understanding. Training will also ensure distributors can make timely repairs and easily maintain their customers' products.



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