



CSL Desiccant Transformer Breathers

HBP & HB TYPES | MULTIPLE BREATHER UNITS | ACCESSORIES





What is a Desiccant Breather?

The purpose of a Desiccant Breather is to effectively remove water vapour from the air entering Transformers or similar equipment.

The biggest cause of machine break down is from machines breathing in dirty, wet air.

Over time, the intake of this air leads to the abrasion, erosion, adhesion and fatigue of your machinery, causing it to break down much more frequently than it should do.

Breathers prevent machines from taking in this air, expanding their lifespan and improving their reliability. A small investment

in a breather at the start of a machines life will save you a great deal of costly downtime later.

Without such controls reduced efficiency or possible failure could result. Therefore, it is imperative that the level of humidity in the air space in the top of the conservator tank is kept to a minimum, hence avoiding any reduction in the effectiveness of the cooling/insulating medium.

Temperature gradients can result in a change in the volume of the cooling medium and/or air space.

The CSL Desiccant Transformer Breather provides the customer with the most cost effective and reliable method of preventing moisture entering the equipment during such changes.

Why choose CSL?

When specifying products used in harsh environments you need the utmost confidence, CSL has many years of experience in the manufacture and supply of Desiccant Transformer Breathers to industries where control of humidity ingress is required. CSL products comply with the latest international quality standard (EN ISO 9001).

The Desiccant Transformer Breather range previously sold by Cable Systems Ltd were manufactured by Hawke International U.K. CSL now own the manufacturing and distribution rights for this range of Desiccant Transformer Breathers.

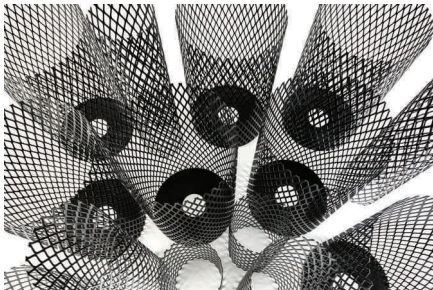
Why choose a **CSL Desiccant Transformer Breather?**



CSL Desiccant Transformer Breathers are made up of four basic parts, making assembly as simple as possible, keeping servicing time down to an absolute minimum.

CSL Transformer Breathers are filled with a Desiccant gel which changes colour from orange to clear as it absorbs water vapour. Attached to every CSL Transformer Breather is a Desiccant colour change indicator, which allows easy assessment of the Breathers status. When the desiccant becomes saturated it can be reactivated or replaced, dependant on the type of breather.

The HB range of Desiccant Transformer Breathers have a strong metal shield giving maximum protection to the polycarbonate charge, spare charges are available on request. Independent extensive testing of the oil seal has proved that it is more effective than mechanical seals. **Making the CSL Desiccant Transformer Breather the best on the market.**



All major components are manufactured & assembled by CSL in the UK. This guarantees our products continually deliver on quality, consistency & effectiveness.

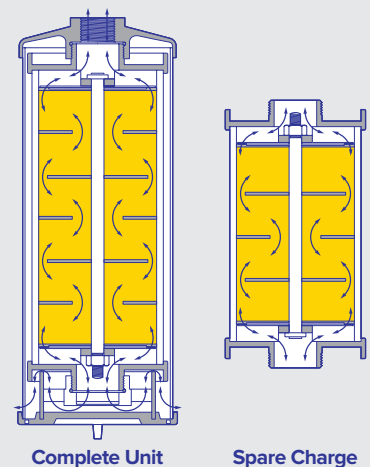
Principle of Operation

When the charge is screwed into the top casting, it automatically produces a seal, this method is also used to create a seal between the cartridge and the oil cup.

All threaded portions are enclosed, this eliminates the danger of corrosion.

The positioning of the annular baffles ensure that any air passing through the charge circulates through the maximum quantity of Desiccant gel. This eliminates the problem of the air "channelling" through the centre, hence giving a clear indication of the Desiccant state at the periphery.

The lower casting acts as an oil cup as well as a protective screen retainer. Whilst the red line on the transparent tube gives a clear indication of the required oil level.



HBP1 & HBP2

Transformer Breather Units

The HBP Desiccant Breather has been specially designed to provide an economical protection device for smaller transformers having a low oil content.

The Breather body and oil seal cup are moulded in high strength polycarbonate, which offers mechanical strength and weather resistance, the transparent material also allows all round visibility of the Desiccant at a distance.

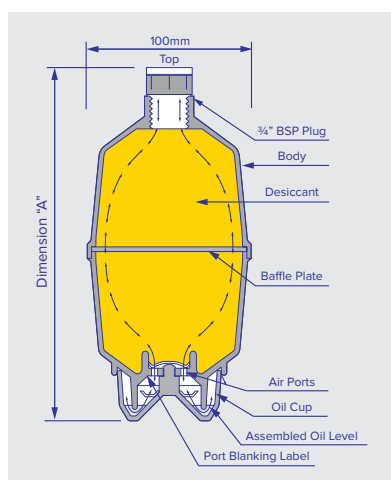
The design of the HBP Desiccant Breather allows the capacity to be increased for use on larger transformers. This is known as the HBP2.

CSL Desiccant Breather types HBP1 and HBP2 are refillable.

Ref No.	Transformer Total Oil Content Litres	Minimum Weight of Desiccant Kg	Length of Assembly Dimension 'A'	Diameter of Charge Container	Length of Charge Container
HBP1	Up to 1250	0.65	215	100	190
HBP2	Up to 2500	1.00	310	100	290

All dimensions in millimetres (approximate).

Full installation and maintenance instructions are supplied with each CSL desiccant breather.



HB

Transformer Breather Units

The HB Desiccant Breather is ideal for a large range of transformer sizes.

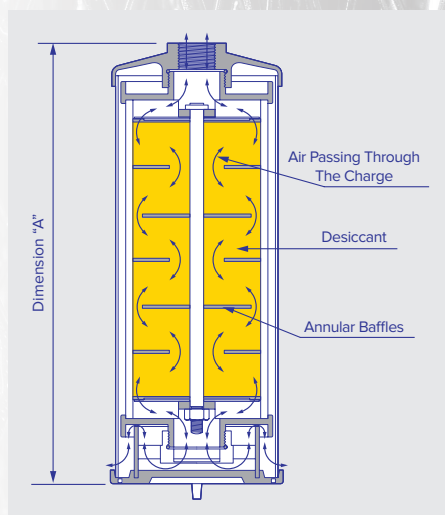
The charge is constructed from high strength polycarbonate with the additional protection of a polythene coated metal screen, it's identical die cast end plates are sealed in position to form a very strong unit.

Sizes 1, 2, 3 and 4 tapped to accept $\frac{3}{4}$ " B.S.P.P.

Sizes 5 and above supplied with standard flanged fixing to BS10 table D (1" pipe).



Ref No.	Transformer Total Oil Content Litres	Minimum Weight of Desiccant Kg	Length of Assembly Dimension 'A'	Diameter of Charge Container	Length of Charge Container
HB1	Up to 1115	0.70	230	105	170
HB2	From 1115 up to 2230	1.20	330	105	300
HB3	From 2230 up to 4455	2.40	530	105	470
HB4	From 4455 up to 11150	5.00	350	215	280
HB5	From 11150 up to 22230	8.50	500	215	430
HB6	From 22230 up to 33420	12.00	650	215	600
HB7	From 33420 up to 44550	15.00	800	215	730



All dimensions in millimetres (approximate).

Full installation and maintenance instructions are supplied with each CSL desiccant breather.

HB Multiple

Transformer Breather Units

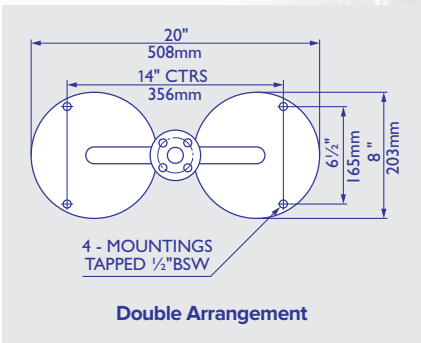
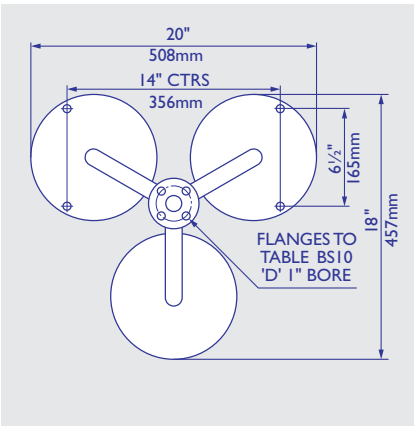
The design of the CSL Desiccant Breather in its single unit form (i.e. HB2) has been limited to weights and dimensions which enable easy handling during initial installation and subsequent charge replacement.

However, parallel arrangements are available for those situations where the oil volume of the transformer requires larger volumes of Desiccant gel.

Where Breather charges are operated in parallel, it is essential that only one oil valve is used, this maintains a balanced air flow through each branch of the multiple arrangement. The pipework for the connection of two and three breathers in parallel are standard fittings.

Ref No.	Transformer Total Oil Content Litres	Minimum Weight of Desiccant Kg	Length of Assembly Dimension 'A'	Diameter of Charge Container	Length of Charge Container
HB55	From 33420 up to 44550	17.00	850	215	430
HB66	From 44550 up to 66840	24.00	1000	215	600
HB77	From 66840 up to 89120	30.00	1150	215	730
HB777	From 89120 up to 133680	45.00	1150	215	730

All interconnecting pipework is polythene coated to provide protection where installations are located outdoors.
All dimensions in millimetres (approximate).
Full installation and maintenance instructions are supplied with each CSL desiccant breather.



Accessories

for Transformer Breathers

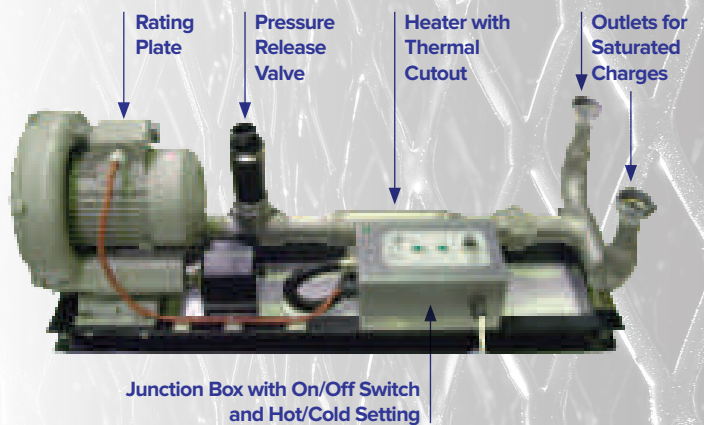
Transformer Breather **Dryer Unit**

CSL are able to provide a highly efficient, specialist drying unit that can be used on all HB products.

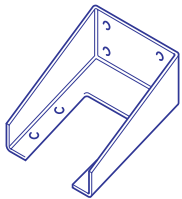
This portable unit will dry out and recharge saturated charges. This exercise can be carried out 3 times prolonging the working life of each charge.

The unit comprises of:

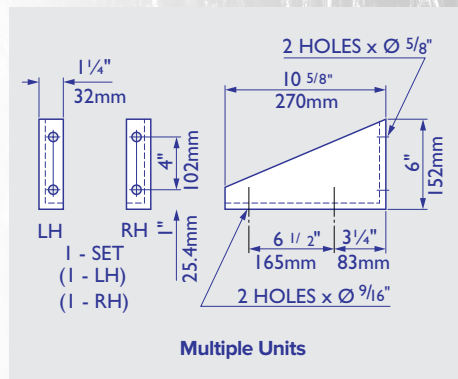
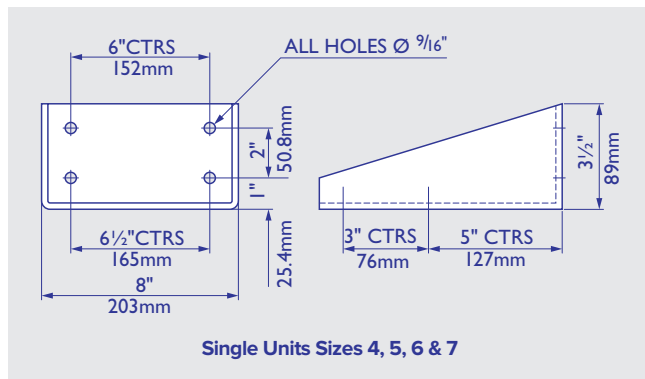
- 240 volt or 110 volt Blower Motor complete with thermal protection ½ Kw Heater element
- Pressure release valve and air filter
- Stainless steel two way connecting pipework and manifold with adaptors accepting up to two breather charges
- Substantial mild steel black enamel coated framework.



Transformer Breather **Mounting Brackets**



Mounting Brackets are recommended for sizes 4 upwards.



Cable Systems Limited was formed in 1982 and specialises in the supply and manufacture of harsh industrial and hazardous area electrical equipment & lighting.

Sectors we supply to include:

- Agriculture / Food and Beverage
- Aviation
- Distilleries
- Drilling
- Industrial and Manufacturing
- Life Safety
- Mining
- Marine
- Oil and Gas
- Pharmaceutical
- Power Generation
- Rail
- Renewable Energy
- Water and Wastewater

For more information on our
Desiccant Transformer Breather range
contact us on **01925 852745**
or visit **www.cablesystems.co.uk**



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