



VARIBOX®

FAQ Pressure relief vent

Packaging chemicals can be safer



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VARIBOX IBC

A brand of  Berry

FAQ pressure relief vent

This FAQ contains frequently asked questions about the air vent that is mounted in the VARIBOX FC.

What is a pressure relief vent?

The VARIBOX FC has an aerator and a pressure relief vent as standard. The pressure relief vent is a membrane in the lid of the VARIBOX FC. This membrane allows gas, but not liquid to pass through. With this the pressure relief vent equalizes overpressure and overpressure in the VARIBOX FC.

What is overpressure?

Overpressure is a relative term. We speak of overpressure if the air pressure in the space above the liquid in the VARIBOX FC is higher than outside the VARIBOX FC.

What causes overpressure?

Overpressure can occur if the air above the liquid in the VARIBOX FC gets warmer. This can happen, for example, when the VARIBOX FC is standing in the sun. Overpressure can occur due to elevations during transport. Some products such as Hydrogen peroxide can also build up pressure themselves.

How does a pressure relief vent work?

If overpressure occurs in the VARIBOX FC, vapor will gradually escape through the pressure relief vent until there is no more overpressure. If under pressure occurs, for example due to cooling of the vapor in a VARIBOX FC, air can gradually flow in through the pressure relief vent.

Advice for using the Pressure relief vent

When is a pressure relief vent mandatory?

A pressure relief vent is mandatory for some products: some products can build up pressure. The ADR requires a pressure relief vent for specific substances such as sodium hypochlorite and hydrogen peroxide. This is described in ADR 4.1.4.2, IBC02, B5. An IBC must be equipped with a venting device that makes it possible to vent during transport. This applies to :

- UN1791 Sodium hypochlorite solution
- UN2014 Hydrogen peroxide, 20-60% solution
- UN2984 Hydrogen peroxide, 8-20% solution
- UN3109 Organic peroxide type F, peracetic acid 15%
- UN3149 Hydrogen peroxide and Peracetic acid, mixture, no more than 5% Peracetic acid

When is a pressure relief vent recommended?

A pressure relief vent is recommended to prevent pressure build-up in the VARIBOX FC. The pressure relief vent equalizes pressure and prevents the VARIBOX FC from bulging.

When is a pressure relief vent prohibited?

A pressure relief vent may not be used if any vapor that is released leads to a hazard based on, for example, toxicity, flammability or the amount of gas released. This is described in ADR 4.1.1.8.

What should I consider if there is no pressure relief vent?

A VARIBOX FC without a pressure relief vent must not be exposed to high temperatures. Do not place the VARIBOX FC in full sun. Overpressure will then arise and be visible by bulging of the top of the VARIBOX FC. Differences in altitude during transport can also lead to overpressure. If excess pressure is visible, remove the excess pressure by slightly loosening the screw cap (30 °). This will prevent a sudden release of pressure and possible leakage of the contents when connecting. Make sure you wear suitable personal protective equipment.

Characteristics of the pressure relief vent

Is the pressure relief vent always open?

Yes, the pressure relief vent is a membrane that allows vapor in both directions but does not allow liquid to pass through. As soon as there is overpressure or under pressure, vapor will flow through the membrane.

Can liquid flow through the pressure relief vent?

No, under normal circumstances no liquid can flow out through the pressure relief vent. With extreme fluid pressure, the pressure relief vent will allow liquid through, but the pressure relief vent has a WEP (water entry pressure) of at least 0.3 bar.

What is the chemical resistance of the pressure relief vent?

The membrane of the pressure relief vent is made of ePTFE (expanded polytetrafluoroethylene). This material is resistant to almost all chemicals. If you have a specific product for which you want to have the resistance checked, please contact us.

Can chemicals flow out through the pressure relief vent?

Under normal circumstances, no liquid can flow out through the pressure relief vent, but vapor can escape. If that vapor leads to a hazard based on, for example, toxicity, flammability or the amount of gas released, a pressure relief vent may not be used.

What is the capacity of the pressure relief vent?

The pressure relief vent of the VARIBOX FC has a high capacity. With a pressure difference of 12 mbar, around 80 liters of air can flow through the pressure relief vent per hour.

Can the pressure relief vent clog up?

If the membrane of the pressure relief vent is contaminated, this will limit its operation. There will be no venting when the membrane is in liquid. Liquid that has come into contact with the membrane will largely flow off due to the properties of the membrane. A damp membrane will have a smaller capacity.

Why is there a sealing cap on the lid over the pressure relief vent?

The pressure relief vent must not be blocked by contamination or liquid. That is why there is a sealing cap on the screw cap, over the pressure relief vent: it protects against pollution and, for example, rain. The sealing cap has sufficient clearance to allow vapor to pass through. Always leave this sealing cap on a VARIBOX FC that is being used. Replace the sealing cap if necessary.

Replacement of the pressure relief vent

When should I replace the pressure relief vent?

The pressure relief vent has been developed for single use. The pressure relief vent membrane is a sensitive component. This may be contaminated or blocked by liquid, which may impair its operation. Check the pressure relief vent before filling and replace when there is doubt about its operation.

Where can I get the pressure relief vent?

The pressure relief vent can be obtained from VARIBOX. You can use the VARIBOX order form that you can obtain from VARIBOX. Please contact our customer service for this. For this you can email to info@varibox-ibc.com or you can contact us by telephone on the number +31 570 660 711.

How can I replace the pressure relief vent?

The pressure relief vent is a component that is pushed into the yellow housing in the screw cap. This press fit is liquid and vapor tight. Before replacing a pressure relief vent, check whether you are authorized to do so. Wear latex-free gloves when replacing. If the pressure relief vent or yellow housing is damaged, replace it with a new part.

Learning More, Service and Support

More information about using the VARIBOX FC

For the latest information about the VARIBOX FC and for service and support, please visit www.varibox-ibc.com. You will also find instructional videos about using the VARIBOX FC. A quick way to access the website is to scan the QR code below. This code is also present at the VARIBOX FC.



Getting in touch with us

For spare parts you can use the VARIBOX FC Service parts lists with all the correct references. To obtain this list, or for warranty related questions or for more information about this or more VARIBOX products, feel free to contact us:

VARIBOX Customer Service
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Obtaining warranty service

If the product appears to be damaged or does not function properly, please follow the advice in this booklet and the online resources.

If the product still does not function, contact VARIBOX Customer Service for instructions how to obtain warranty