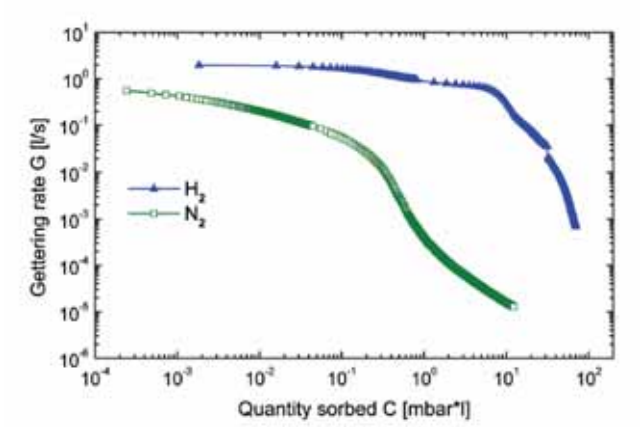
alvatec

ALVATUBEGETTER® Operating Instructions



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1. Description

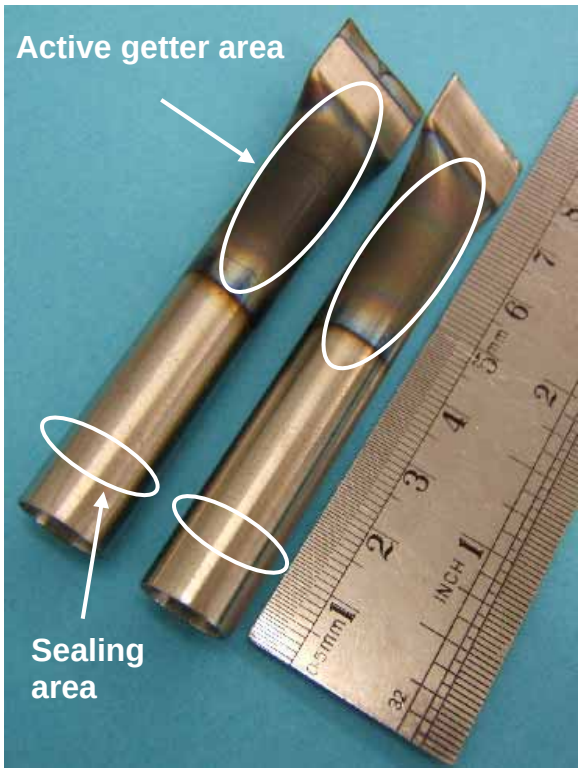
The **ATG**® (ALVATUBERGETTER) is a getter for all kind of residual gases, except noble gases. The adsorption takes place at room temperature by chemical reaction. The **ATG**® consists of a stainless steel metal tube welded on one end and sealed by a thermal sensitive metal sealing on the other end. The sealed area of the tube contains nano-structured Barium layers for the gettering process. The **ATG**® is thermally activated by melting the metal sealing with any kind of temperature transfer. The **ATG**® can be used in different Vacuum areas. The activation should be performed below a vacuum level of 10^{-4} mbar. The vacuum in the tube is in the range of 10^{-6} mbar.

2. Handling and Mounting

The **ATG**® can be safely handled and mounted in ambient air conditions. All of our **ATGs**® are vacuum baked-out, so we recommend touching them only with latex gloves. Cotton gloves should be avoided. The indium sealing must not be damaged either mechanically or thermally before the usage of the **ATG**®.

The **ATG**® can be mounted either inside the vacuum chamber or at the outside connected by e.g. swage lock connection. In either way a proper heat transfer for the activation process must be provided.

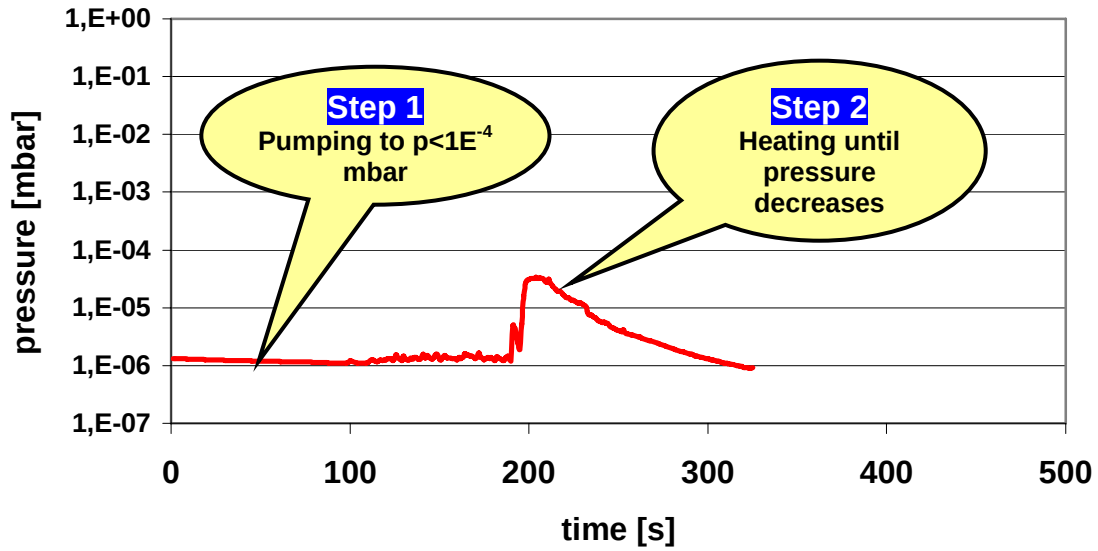
ATG
Mounting Possibilities



3. Activation and Gettering Process

The activation process is easy and comprises two steps which can be easily monitored by measuring the total pressure:

1. Pumping down to a pressure lower than 1E-4 mbar.
2. Heating the sealing area to ca. 200°C (392°F) until the pressure decreases.



4. Degassing

There is no special degassing necessary. However, the **ATG®** sealing withstands a bake-out procedure of max 120°C. On request the melting temperature of the sealing can be increased.

5. Working Temperature of ATG®

The working temperature of the **ATG®** starts from the cryo-range up to 450°C at 10^{-4} mbar. In the region below -200°C the reaction speed and the gas movement is very low, therefore the pumping speed is also weak, but there is no limitation of the total capacity.

6. Packaging, Labelling and Storage

ATGs® are shipped in labelled cans under argon atmosphere. After the first opening of the can we strongly recommend to store the **ATG®** in dry and cool atmosphere, preferably under nitrogen or argon. Provided that storage conditions are as described above, the shelf life of our sources can be several years.

7. Environmental Issue

After usage, the **ATG®** can be easily neutralised with sulfuric acid. The resulting barium sulfate is non-toxic and can be disposed of easily. Please consult also local and national regulations for proper disposal of alkali and alkali earth metals as well as for proper disposal of other alloying agents (e.g. In). Further information is provided in our material safety data sheets (MSDS).

8. Contact

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