

## EM-Tec Save-Storr inert gas sample storage container

Products #13-001060, 13-001061, 13-001070, 13-001075 and 13-001080



### Description

The EM-Tec Save-Storr inert gas sample storage containers have been designed to safely store and transport moisture or oxygen sensitive samples under a dry and inert gas atmosphere. Features are:

- Clear and robust polycarbonate or black ABS box (2)
- Solid hinge, locking clasps and vacuum/gas seal (1 & 3)
- Gas inlet with ball valve and 6mm hose barb connection (6 & 7)
- Gas outlet with ball valve, safety valve and 6mm hose barb connection (6, 5 & 8)
- Internal gas distribution hose (4)

A separate source of inert gas is needed to use this box; this must be provided by the user and is not included with the EM-Tec Save-Storr box. Use the gas inlet to connect an external inert gas source. Use the gas outlet either with natural flow or connect a vacuum pump for more effective purging. The gas distribution hose transports inert gas to the opposite side to facilitate effective purging. Alternatively, the Save-Storr box can be brought into a glove box and loaded with samples under inert atmosphere. There are 4 different sizes:

1. The EM-Tec Save-Storr 2 (clear PE) or 2B (black ABS) container volume is 1.75ltr. The optional perforated shelves greatly increase the storage area. Inside dimensions are 200 x 99 x 89mm. The perforation holes are compatible with the  $\varnothing 3.2$ mm pins of the standard SEM pin stubs and the Zeiss pin stubs.
2. The EM-Tec Save-Storr 4 (black ABS) has a volume of 4.4 ltr with inside dimensions of 238 x 181 x 103 mm.
3. The EM-Tec Save-Storr 7 (black ABS) has a volume of 7.1 ltr with inside dimensions of 303 x 229 x 103 mm.
4. The EM-Tec Save-Storr 10 (black ABS) has a volume of 10.5 ltr with inside dimensions of 303 x 229 x 151 mm

## Operation

### Inert gas with natural flow purging method

- Place the closed EM-Tec Save-Storr sample container on a stable and flat surface
- Connect the gas inlet to an inert gas source
- Check the pressure; maximum of 0.4 bar over-pressure
- Open the gas outlet valve
- Purge the EM-Tec Save-Storr box with inert gas by opening the gas inlet valve
- Close both valves
- Place the samples in the EM-Tec Save-Storr box.
- Check if O-ring surface is clean; if not, wipe clean with a lint-free cloth
- Close the lid and lock it with the two clasps
- Open gas outlet valve
- Open gas inlet valve and purge again with inert gas
- Close gas inlet valve
- Close gas outlet valve
- The samples are now stored under inert gas

### Inert gas vacuum pump purging method

- Place the closed EM-Tec Save-Storr sample container on a stable and flat surface
- Connect the gas inlet to an inert gas source
- Check the pressure; maximum of 0.4 bar over-pressure
- Open gas outlet valve
- Purge the EM-Tec Save-Storr box with inert gas by opening the gas inlet valve
- Close both valves
- Place the samples in the EM-Tec Save-Storr box.
- Check if O-ring surface is clean; if not, wipe clean with a lint-free cloth
- Close the lid and lock it with the two clasps
- Connect an oil-free vacuum pump to the gas outlet
- Open gas outlet valve and pump down the Save-Storr container
- Close gas outlet valve and disconnect vacuum pump, alternatively keep the gas outlet valve open and keep the vacuum pump running during inert gas venting.
- Slowly open the gas inlet valve and vent with inert gas
- In case of over-pressure, open the gas outlet valve
- Close gas inlet valve
- Close gas outlet valve
- The samples are now stored under inert gas

## Maintenance

The EM-Tec Save Storr inert gas sample storage container requires little maintenance:

- Keep the sealing gasket clean and dust free.
- Do not allow dust or debris to enter the ball valves
- Keep the sealing of the over-pressure valve free clean
- If needed, apply a small amount of silicon grease to the sealing surface of the over-pressure valve

## Warning

- 1 - Do not use high pressure gas to fill or purge the EM-Tec Save-Storr container. The maximum over-pressure allowed is 0.4 bar which translates in a maximum of 1.4 bar gas pressure at sea level. When higher pressures are used, the safety valve will open or can even pop out.
- 2 – Always open the gas outlet valve when filling the Save-Storr container; this will avoid over-pressure
- 3 – Only use this device in a well-ventilated area with sufficient supply of fresh air
- 4 – Do not use the EM-Tec Save-Storr container as a vacuum storage container; it is not designed for this purpose

## Over-pressure valve

The over-pressure valve consists of a clear silicon umbrella type mini valve seated on an aluminium flat surface. A pin in the center keeps the silicone mini valve in place. This valve opens at over-pressures in the range of 0.3 – 0.5 mbar by lifting the top. It closes by sealing the silicon rim of the “umbrella” to the aluminium flat. If the over-pressure is too high, the silicon mini valve can pop out; it needs to be re-inserted. Light greasing with silicon grease at the underside of the “umbrella” improves sealing; silicon grease at the holding pin can cause the mini valve to pop out too easily.

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