

## More control with the NEW miVac SpeedTrap™



The newly updated miVac SpeedTrap is a uniquely designed high power cold trap used to condense solvent vapours. Cold traps can significantly improve the performance of any vacuum concentration system. When a cold trap condenses vapours back to liquid, there is a corresponding massive volume reduction, helping to pull a vacuum and speeding up the concentration process considerably.

The miVac SpeedTrap is radically different. It is very small in size and requires little bench space, being only 212 mm (8.3 in.) wide. The SpeedTrap operates with the cold condenser coils suspended directly in the vapour path, so that solvent vapours condense directly on to the coils and run off into the collection vessel below. There are many benefits to this method:

- It is highly efficient, with more than twice the condensing power of a similar system
- The user can quickly see the solvents in the trap
- Emptying the trap is easy, requiring no defrosting. The automatic defrost mode ensures that the user does not need to spend time defrosting the system, even when using water. The collection vessel is removed with a simple quarter turn, allowing safe disposal of the solvents

*miVac SpeedTrap is supplied with a one litre glass condensing vessel.*



The updated miVac SpeedTrap now offers the user more control and can be used for a wider range of applications. There are three modes of operation:

### Automatic defrost – for collection of solvents liable to freeze

In automatic mode the system periodically defrosts for a few minutes without interrupting the concentration process, ensuring that the coils are free from a build up of ice. At the end of the process, the system requires no further defrosting.

### Continuous chilling – for collection of solvents that do not freeze above -50°C

Select this mode for most organic solvents, ensuring the highest recovery of solvents. There is no need to defrost at the end of the process. Just switch off the system, or start another batch.

### Freeze Drying

Continuous chilling may also be used with water to enable up to 250ml of water to be freeze dried from the miVac concentrator; or from vials or flasks. During freeze drying, ice will accumulate on the coils, which must be defrosted afterwards. Switch the system into defrost mode to clear this build up. See over for details of the range of freeze drying accessories available.

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### Selecting a cold trap

When selecting a cold trap, it is important to note that condensing power is more important than low trap temperatures. Most traditional traps are large and cumbersome, based on a stainless steel vessel with cooling coils attached to the outside. The vessel walls are chilled to sub zero temperatures by a gas compressor system, similar to that used in a refrigerator. These older traps are inefficient, difficult to use and, as water freezes if it is condensed, must be defrosted before the trap can be emptied. Some systems require the use of an interchangeable glass flask and thermal transfer fluid; however a flask at -40°C, covered in slippery, cold silicone fluid, may become a dangerous liability when it needs to be emptied. Recent studies performed on these older designs of cold trap have shown that the actual temperature of the glass flask during concentration can be near to 0°C.

**miVac Lyo turns your miVac SpeedTrap into a freeze drier**

The new miVac SpeedTrap has a continuous chill mode, which can be used to freeze dry up to 250ml of water, or other suitable solvent, such as, 1,4-dioxane. Samples to be dried may be placed in a suitable rotor in the miVac concentrator and dried at full vacuum using the miVac SuperVacuum pump. The low vacuum level boils the samples at below their freezing point, therefore the samples freeze and the ice sublimates away, leaving the sample as a dry powder.

Alternatively, the miVac SpeedTrap may be used as a stand alone freeze drier when connected to a SuperVacuum pump. miVac Lyo is a range of accessories that have been designed to allow the SpeedTrap to directly accept pre-frozen samples in

either flasks or vials. Simply attach the freeze drying accessory jar in place of the regular SpeedTrap collection vessel and attach the freeze drying valves. Flasks can be attached to the valves, or vials may be placed directly in the accessory jar, using the holders provided.

The freeze drying accessory kit comprises: freeze drying jar, three freeze drying valves, three vial holders and handle, and a vacuum isolation valve. The vacuum valve can be used to seal off the SpeedTrap from the concentrator, should you wish to configure your system as a freeze drier and a concentrator. In such situations, we recommend using the miVac pressure controller to allow selection of optimal vacuum levels for each process.



<b>FDA-IMP00-000</b>	Freeze drying accessory kit	Imperial fittings
<b>FDA-FL150-000</b>	150ml freeze drying flask kit	Imperial fittings
<b>FDA-FL300-000</b>	300ml freeze drying flask kit	Imperial fittings
<b>FDA-FL600-000</b>	600ml freeze drying flask kit	Imperial fittings
<b>FDA-A2932-003</b>	Flask adaptors for DIN 29/32 ground necks	

**Please note:**

Freeze drying flasks supplied by Genevac have USA Imperial fitting sizes.

The miVac Duo pump and Quattro pump are not suitable for freeze drying.



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