

User manual for Carlsberg Flask



KEOFITT CARLSBERG FLASK

Dimensions: The Keofitt Carlsberg Flask is produced in stainless steel and is supplied in:

Volume	Diameter	Height	Net weight
25 l	ø 270 mm	500 mm	19 kg

Capacity: Max. 80% of the volume.

Standard fittings: 1 manometer 0-2.5 bar, 1 pressure relief valve 0-2 bar, 1 sterile filter, 1 m Teflon hose with 2 tube fittings, 1 Quick coupling, 1 Keofitt valve type W9 flanged to the center pipe. 1 Micro port, to allow the addition of culture or bacteria.

Spare parts:	Standard lid with 2 connection pieces	item no.	200920
	O-ring for lid (ø 270 mm)	item no.	200114
	Manometer 0-2.5 bar	item no.	500101
	Pressure relief valve 0-2 bar	item no.	900039
	Sterile filter	item no.	200211
	Filter for sterile filter	item no.	200210
	Tube fitting	item no.	800071
	Quick coupling	item no.	400086
	Teflon hose 8/10 mm	item no.	900047
	Keofitt valve type W9 CH	item no.	850021/600041
	Membrane for valve type W9	item no.	600051
	Rubber cap for valve type W9	item no.	600062
	Rustproof chain for valve type W9	item no.	600064
	Membrane for micro port.	Item no.	900049

Keofitt a/s knows from experience that the users of our Carlsberg Flask have their own methods and ways of using it. Therefore the following should be regarded as our best suggestion as how to ensure the optimum sterile process.

Similarly, Keofitt a/s cannot provide instructions for the actual cultivation process, i.e. quantities, times, temperature, pressure, etc.

We recommend a very thorough cleaning before use, and all parts should be disassembled, washed and treated in an autoclave before use.

Preparation of the Carlsberg Flask for sterilisation:

- fit the O-ring, manometer and pressure relief valve to the lid
- fit the lid onto the Carlsberg Flask (to avoid contamination, it should not be removed during the process)
- fit the membrane and the connection pieces to the sterile filter and fit it onto the pressure relief valve
- apply steam to the sterile filter so that steam flows through it and the pressure relief valve
- push the pipe with the sample-taking valve down through the lid until it reaches the bottom of the Carlsberg Flask
- close the sample valve
- fit a rubber cap onto one of the connection pieces
- couple the Teflon hose onto the other connection piece

Sterilisation of the Carlsberg Flask:

- fill the Carlsberg Flask approx. 75% with water and place it ready for boiling on an ordinary heating plate close to the outlet
- set the pressure relief valve to 2 bar
- boil the water for about 15 minutes
- connect the Teflon hose to the outlet (the outlet must shall be lower than the Carlsberg Flask)
- open the sample valve; the pressure which has built up in the Carlsberg Flask will force the water out
- fit a Quick coupling to your sterile air hose and couple it to the sterile filter to force any remaining water out of the Carlsberg Flask
- close the sample valve after the water has been expelled
- put the Carlsberg Flask in cold water or in a refrigerator for cooling
- disconnect the sterile air supply and the Teflon hose

Method of transfer of the base substance to the Carlsberg Flask using 2 Keofitt valves

- close the sample valves on both the Carlsberg Flask and the container for the base substance
- connect the sample valves to the Teflon hose
- sterilise the connection by applying steam flow through the 2 valves
- fit an autoclave-treated rubber cap onto the free connection piece on each valve
- open both valves to enable transfer of the base substance
- in order to provide sufficient pressure to enable the substance to run into the Carlsberg Flask, sterile air can be supplied to a valve at the top of the container with base substance
- close both valves after transfer and disengage the Teflon hose

Method of addition of culture of bacteria

- this can either be done by adding the culture of bacteria via the sample valve (remember to sterilise first) or by injecting via a Micro Port (see “extra fittings”)

Oxidation

- close the sample valve
- sterilise the valve for 60 sec. by applying steam at one of the connection pieces
- fit an autoclave-treated rubber cap to one of the connection pieces
- supply sterile air to the other connection piece using an autoclave-treated Quick coupling fitted to your sterile air hose
- set the pressure relief valve to the desired pressure (the manometer has a maximum of 2.5 bar)
- close the sample valve to enable sterile air to flow into the Carlsberg Flask
- close the valve after oxidation is complete
- disconnect the sterile air supply

Method of transfer from Carlsberg Flask to container

Follow the procedure described under “Method of transfer of the base substance to Carlsberg Flask...”.

- Sterile air can be supplied to the pressure relief valve in order to provide sufficient pressure to force the substance into the container.