BERGHOF PRODUCTS + INSTRUMENTS GMBH

# GAS SAMPLING CYLINDERS
## High- and Low-Pressure Reactors

### Gas Sampling Cylinder Overview

| Gas Sampling Cylinders | Construction Material [1] | Article Number | Application Type [2] |
|---|---|---|---|
| 1- Gas sampling cylinder, 50 ml, 201 bar at 315 °C | ✓ Stainless steel 316Ti | 10005050 | ✓ Enables gas sampling and transport from the reactor to gas chromatograph<br>✓ Compatible with reactors with 300 ml or greater high pressure and low-pressure reactors |
| 2- Gas sampling cylinder, 150 ml, 201 bar at 315 °C | ✓ Stainless steel 316Ti | 10005048 | ✓ Enables gas sampling and transport from the reactor to gas chromatograph<br>✓ Compatible with reactors with 300 ml or greater high pressure and low-pressure reactors |
| 3- Gas sampling cylinder, 300 ml 201 bar at 315 °C | ✓ Stainless steel 316Ti | 10005051 | ✓ Enables gas sampling and transport from the reactor to gas chromatograph<br>✓ Compatible with reactors with 1000 ml or greater high pressure and low-pressure reactors |
| 4- Gas sampling cylinder with septum, 50 ml, 40 bar max. | ✓ Stainless steel 316Ti | 5735465 | ✓ Enables gas sampling from the reactor by using a syringe for gas chromatograph<br>✓ Compatible with low pressure reactors with 1500 ml or greater |

**Notes:**
[1] There is no special treatment in the internal surface of the cylinders.
[2] Long distance transport of the gas sampling cylinders is not allowed if the cylinders are under pressure (please check Transportable Pressure Equipment Directive (2010/35/EU) (TPED) for further information). At this point, gas sampling cylinders 1-3 allow our customers safe gas sampling and transport at pressures below 0.35 bar.

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## How to use gas sampling cylinders 1-4

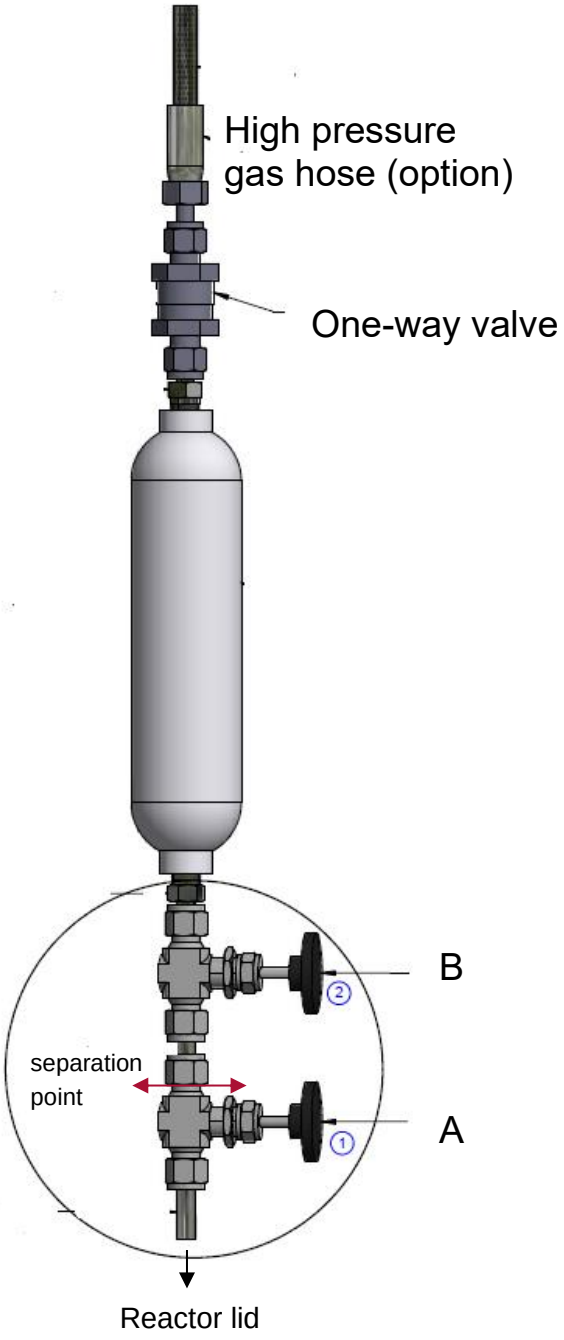


**Figure 1**. Gas sampling cylinders 1-3 are given with a representative technical drawing of cylinder with 150 ml volume.

### Gas sampling cylinders 1-3

1- Open gas valve A, then valve B (open valve B very slowly!) to let the gas transport from the reactor towards the gas sampling cylinder smoothly.

2- Control the pressure drop on the manometer to check if the required gas sampling is achieved.

**3-** One-way valve will relief the pressure and keep it below 0.35 bar in the cylinder by auto-venting. After reaching 0.35 bar, it will close again automatically.

4- To vent the gases safely, we suggest using high pressure hose (option in the order).

5- Close gas valves A and B.

**6-** Loose the connection between the valves A and B (separation point - 8 mm tube fitting - shown in figure 1) to transport the gas cylinder containing gas aimed to be analyzed.

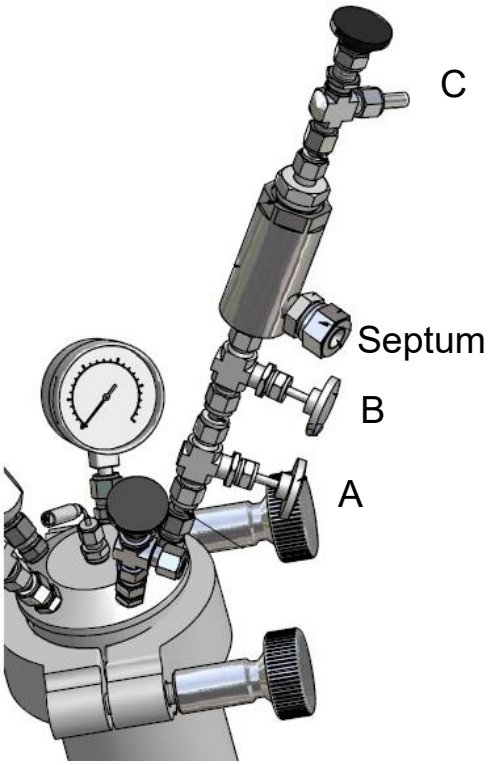


**Figure 2**. Gas sampling cylinder 4 with septum, 50 ml

## Gas sampling cylinder 4

1- Open gas valves A and B to transport the gas from the reactor towards the gas sampling cylinder.

2- Control the pressure drop on the manometer to check if the required gas sampling is achieved.

3- Close gas valves A and B.

4- Introduce a gas syringe through the septum carefully to extract the gas sample for GC measurement. It is also possible to release some gas from the system by opening gas valve C before using the gas syringe.

5- Alternative to the step 4, connect the gas valve C to the gas chromatograph and let the gas flow by opening the gas valve C. This step is applicable if the reactor is close to the GC instrument.

Please contact us to get the right configuration for your reactor applications.