Vacuum line

Sealing of a glass ampulla containing a CO2 sample (Photo: Alfred-Wegener-Institut)

Various freezing and melting operations can be carried out on a vacuum line, so that pure CO_2 can be sealed into ampoules as a discrete gas sample for analysis in the MICADAS. The CO_2 is generated by offline combustion of organic compounds from the PFC › in larger quartz glass ampoules at 940 ° C and in the presence of CuO. In a tube cracker located on the vacuum line, these ampoules can be broken and the resulting CO_2 collected on a trap cooled with liquid nitrogen. The water produced during combustion is previously frozen out in a trap cooled with a dry ice / ethanol slurry. Pressure gauges allow quantification of the amount of CO_2 produced.