

Thermodesorber

Thermodesorber is used as part of chromatographs as "Crystallux" series for sample injection into chromatographic column. First of all thermodesorber is designed for analysis of volatile organic compounds present in atmosphere air, working area air, industrial exhaust.

Work of this device is based on thermodesorption of volatile components, accumulated in the capsule with thermodesorber sorbent, through which tested gas was pumped beforehand (for example air) with further split in chromatographic column. Type of sorbent or their combination is chosen depending on nature of the analyzed substances. In most cases such sorbents like Tenax TA, Tenax GR, Chromosorb or Polysorb are used.

Besides, solid samples placed in specific capsule can undergo thermodesorption (for example paint, plastic, paper with oil on it, etc.). While heating this capsule volatile substances are released from the materials placed inside, and they are further analyzed by chromatograph. Thermodesorption is also used in geochemical soil exploration.

Thermodesorption is performed through heating of the capsule to fixed temperature at a speed over 300°C/sec. Peculiarity of this construction of thermodesorber and its high operating characteristics is in the absence of parasitic volume between thermodesorber capsule and chromatographic column. This allows to work with high resolution of chromatographic peaks either with capillary or packed columns. Thermodesorber construction is under patent protection.

Thermodesorber is installed onto chromatograph evaporator, it is equipped with valve for shutoff of gas-carrier line during demounting of the rod with capsule from thermodesorber. Capsule is inserted into the heated evaporator with the help of rod if the valve is open (lower position). Capsule purge with gas-carrier for expelling the air is possible if the rod is in upper position.

Thermodesorber is supplied with set of capsules for sorbents, capsules for solid samples, container for storage of capsules with samples and input device for input of capsules into the evaporator of chromatograph.



Specifications

Capsule heating time to desorption temperature	no more than 1 second
Capsule cooling time with removing into cold zone	no more than 10 seconds
Outer capsule diameter	5-0,1 mm
Sorbent chamber dimensions in the capsule	Diameter 3,4+0,3 mm, length 52 mm (470 mcl)
Capsule volume for solid samples	90 mcl
Power requirements	110 - 240 VAC +/- 10% 50 - 60 Hz Built-in battery 98 Wh