

# TK Gas Leak Detector & Flowmeter



## Helium Gas Leak Check

- Super Compact and Light (only 95 g)
- LCD and LED Displays
- Highly Sensitive – 0.0005 ml/min (He)
- USB Port Rechargeable

### Specifications

Detection Method: Thermal Conductivity Detector  
 Target gas: Helium, Hydrogen, CO<sub>2</sub>, Argon, Neon and other non-corrosive gases  
 Range: High/Low  
 Sensibility: Standard range - minimum 0.005 ml/min (He)  
 High range - minimum 0.0005 ml/min (He)  
 Display: LCD  
 Power Supply: Rechargeable Battery  
 Operation Temp: 10-35°C  
 Dimensions: 65 (W) x 37 (D) x 143 (H) mm  
 Weight: 330g approx.  
 Accessories: Recharger AC 100 - 220v

Cat.No	Description
GL-2702-19340	Helium Gas Leak Detector LD 229

## Flowmeter

- Designed for Gas Chromatography
- 25 point calibration traceable to UKAS standards
- Linear Velocity
- Split Flow Calculation

### Specifications

Target gas: Air, Argon, Argon/5% Methane, Carbon Dioxide, Helium, Hydrogen, Nitrogen, Oxygen  
 Range: 0.1 to 500 ml/min (0.1 to 275 ml/min for Carbon Dioxide)  
 Accuracy: ±0.4 ml/min or 2.5% of reading  
 Resolution: 0.1 ml/min  
 Dimensions: 68 (W) x 30 (D) x 130 (H) mm  
 Weight: 150 g approx.  
 Calibration: Annually  
 Traceability: Calibration traceable to UKAS standards

Cat.No	Description
TK-525GC	Teknokroma 525 GC Flowmeter



## Manual Head Space Sampler The fruit of Experience

### Technical Specifications

Heating temperature Range:	up to 140°C.
Variable injection:	up to 2,5 ml.
Temperature accuracy:	+/- 0,75°C
Holds up to 6 vials of:	2, 4, 6, 9, 10, 12, 20, 22 and 27 ml.
Sampling time control with accoustic alarm:	1 to 99 seconds
Equilibrium time control with accoustic alarm:	1 to 99 minutes
Stabilization time from 25°C to 70°C with 1 ml syringe and 6 empty 20 ml vials:	20 minutes
Safety temperature:	175°C
Power:	110 / 220 +/- 10% VAC.

### It is according the Pharmacopeia test:

European Pharmacopeia 7th. (2011).

USP 35-NFO (2012).

The Teknokroma 2t Head Space Sampler for Head Space technique within your reach with a low cost and high precision level

The 2t sampler is the first manual system for Static Head Space that allows the application of this technique in a quantitative, manner.

Until now it was only possible to use the technique of Static Head Space with automatic equipment. This "equipment" has a high cost, low versatility and complex operations. For this reason the Static Head Space technique has not been fully used in most laboratories.

The new 2t sampler solves these problems making the technique available to all Gas Chromatography users in a economical and simple way.

It complies with all requeriments of the European CE.

### Applications

- Volatiles in pharmaceuticals
- Flavours analysis in food and cosmetic products
- Alcohol and other toxic compounds in blood
- Screening of volatiles in all type of environmental samples (soils, waters, plastics, polymers, etc.)

# Tk Teknokroma 2t Head Space Sampler



Put the syringe into the black holder.



After the equilibrium time is achieved, move the syringe holder into vial number 1, and aspirate the sample by moving the plunger up until the prefixed volume is reached.



Insert the closed vials with the sample into the heating block.



Inject the sample into the GC.  
Repeat this sequence for the additional samples.



- a. Insert the syringe holder into the heating block.
- b. Set the temperature and the equilibrium time with the keyboard.
- c. Press the start.

## Performance qualification

To check the Head Space SHS system 0112 proper performance, the following reproducibility test is recommended. In this test, we check not only the equipment performance but we also evaluate:

- The vials are correctly sealed.
- The sampling procedure followed by the analyst is correct
- The Gas Chromatograph works properly
- The data-acquisition system works properly

## Sample preparation

Add 2.5 µl of benzene and 2.5 µl of toluene to 100 ml of water (25ppm), stir up until it is completely dissolved.

Adjust head space sample conditions and inject. Integrate the benzene and toluene peaks of the 6 chromatograms obtained.

The Relative Standard Deviation of the area quotients must be lower than 5%.

Benzene area	Toulene area	Area Ratio
3418.461	5441.008	0.628
3466.125	5449.905	0.625
3359.176	5381.354	0.624
3316.646	5374.388	0.624
3782.404	6035.683	0.627
3794.026	6063.646	0.626
Mean Value		0.626
Standard deviation (SD)		0.00163
Relative standard deviation (RSD)		0.26%

Cat.No	Description
TR-132300	2t Sampler for Static Head Space mod. SHS 0112 (syringe not included)
TR-132113	APE Syringe nod. 1001 HS 1 ml.
TR-132112	APE Syringe nod. 1002 HS 2.5 ml.

### Chromatographic Parameters

Column: TRB-1, P/N TR-113015  
 Dimensions: 15m x 0,53mm x 3µm  
 Injection: 0,7 ml, head space, (split 1:2), 150°C  
 Carrier gas: He, 4psi (27.6 kPa)  
 Oven temperature: 60°C (10 min.)  
 Detector: FID, 250°C  
 Sample: 5ml in 10ml vials (25ppm benzene/toulene in water)

### Headspace conditions

10ml vials, P/N CC-10-CV  
 Cap with blue silicone/PTFE seal P/N CC-20-ST3  
 Heating block temperature: 75°C  
 Equilibrium time: 30 minutes  
 Sampling time: 30 seconds  
 Syringe used: 1ml (1001 LTN, pst 5, P/N HA-81343)  
 Sampled volume: 0,7ml

