

# The Teknokroma New range of Diskobolus™ Septa **Tk**



## diskobolus septa by Teknokroma™



Septum is the most general source of contaminants in the injection port. The baseline noise or the appearance of ghost peaks in the chromatogram can be a consequence of the septum bleed or of the samples of former injections that have been adsorbed on the septum surface.

Teknokroma presents the new range of **diskobolus™** septa that have been specially designed and prepared to work at high temperatures, with low bleed, and a better baseline.

### General observations to consider in the Septum election:

- Injector temperature
- Column temperature (isothermal or programmed)
- Detector sensitivity

Septa quickly deteriorate when the injector temperature increases, and consequently the level of bleed may also increase.

These peaks coming from the degradation of the silicone of the septum, can be reduced with the gas flow of the septum purge, with the Split injection or using the lowest possible temperature in the injector.

The existence of rare peaks - called "ghost peaks", generally takes place during the temperature programme where volatile

materials of the septum accumulate at the column head during the period of cooling.

When the column warms up again, in the following temperature programme, the accumulated volatile materials elute, ghost peaks and a baseline deviation appears, or a combination of both factors.

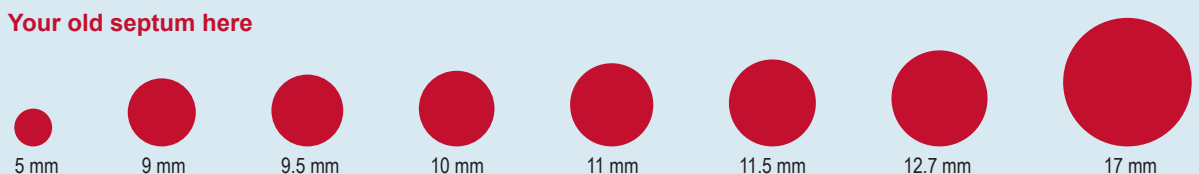
### Influence factors in the septum bleeding

- Type of septum - some septa bleed more than others
- Working temperature of the septum - bleed increases with temperature
- Time after septum installation - bleed decreases gradually with the use of the septum
- Column cooling time - with longer cooling time the accumulation of contaminants in the column head increases
- Septum localization - bleed increases when the septum compression through the nut is high
- Column length and stationary phase amount - short columns and small phases thickness keep less bleeding

In the analysis of compounds, septum bleed interferes with the results according to the detector sensitivity. In situations where less sensitivity may be required, septum bleed has less importance.

### Measure Guide

Your old septum here

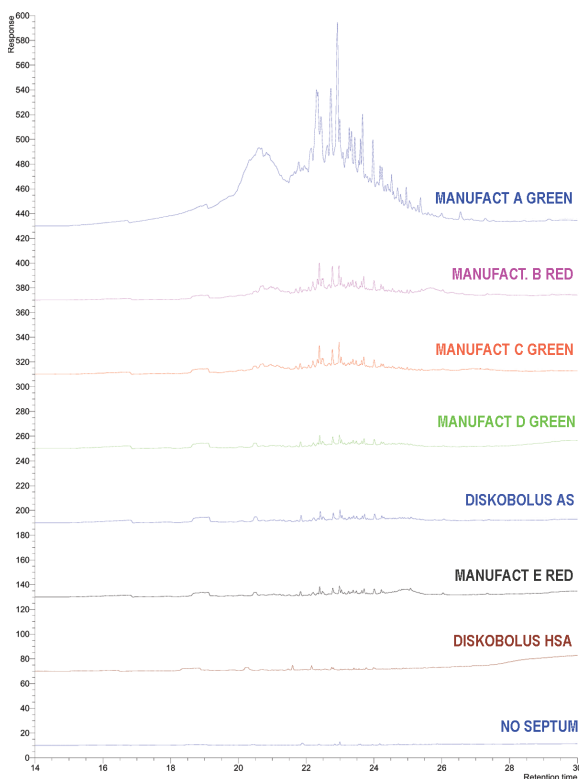


# TK The Teknokroma New range of Diskobolus™ Septa

## Septum Comparison



Comparing **diskobolus™ hsa** and **diskobolus™ as** septa from Teknokroma to other manufacturers.



Column: Teknokroma Capillary Column **TRB-5**, P/N TR-121515  
 Dimensions: 15 m x 0.53 mm x 1.5 µm  
 Sample: A small piece of each type of septum with similar form and measures is inserted in the splitless liner.  
 Injection: splitless (10 min), 250°C  
 Carrier gas: He, constant flow 4 mL/min  
 Temperature programme: 50°C (15 min) @ 20°C/min at 250°C (15 min)  
 Detector: FID, 280°C

## Performance Recommendations

Avoid touching the septum with the fingers, in order to avoid a contamination from the filth of the user fingers.

Put the lid on the septa container once it has been opened, to avoid cross contamination.

Change the septum periodically - at least once a week -, this will avoid the leaks through the septum with the consequent losses of time and possibility to damage the column in an irreversible way.

It is preferable to change the septum at the end of the day, maintaining a high oven temperature to avoid the accumulation of bleed during the night. Alternatively, make a temperature programming for the following day to eliminate contaminant traces of septum volatiles.

Once the septum has been changed, verify the flow at the end of the column or the pressure at the entry, to make it sure that the septum has been correctly sealed.

Do not screw up the septum with the nut more than it is necessary.

Use a guide for the needle to prolong the syringe and septum life. The guide helps to inject always in the same place, and avoids random perforations that may cause leaks.

Use needles with narrow outer diameters to avoid the loss of small pieces of septum; this will increase the septum useful life and will avoid the appearance of tails with active compounds.

In case of working with a high sensitivity detector, it is necessary to put the septum in the injection port all the night to obtain the least possible bleed.

## Septum Size Chart

Instrument	Septum size (mm)	Instrument	Septum size (mm)
<b>Agilent (HP)</b>		<b>Pye/Unicam</b>	
5880A, 5890, 6890, 6850	11	All Models	7
5700, 5880	9.5/10	<b>Shimadzu</b>	
On-Column Injection	5	All Models	Plug
<b>CE Instruments (TMQ)</b>		<b>Varian</b>	
TRACE GC	17	<i>Injector type:</i>	
<b>Finnigan (TQM)</b>		Varian Packed Column	9.5/10
GC 9001	9.5	<i>Split/Splitless:</i>	
GCQ	9.5	Varian 1078/1079	11.5
GCQ w/TRACE	17	Varian 1177	9
CCQ	9.5	Varian 1075/1077	11.5
TRACE 2000	9.5	Varian 1040/41/60/61	9.5
<b>Fisons/Carlo Erba (TQM)</b>		Varian 1093/94 SPI	11.5
8000 Series	17	<b>Thermo</b>	
<b>PerkinElmer</b>		PTV injector	12.7
Sigma Series	11		
900, 990	11		
8000 Series	11		
Auto SYS	11		
Auto SYS XL	11		