

## Kontes® ULTRA-WARE® Economy HPLC Mobile Phase Handling Systems

Kontes® Article Nos.  
953971-series 953976-series 953980-series

### Description

Kontes® ULTRA-WARE® Economy HPLC Mobile Phase Handling Systems offer a safe and economical alternative for preparation and delivery of HPLC Mobile phases. A complete system includes (1) an HPLC mobile phase filtration/degassing system and (2) an HPLC mobile phase delivery system.

The HPLC Mobile Phase Filtration / Degassing System offers (1) a solvent pickup adapter for safe, labor-saving, in-line filtration to replace the pour-and-wait funnel filtration method; (2) a 47mm filtration/degassing cap with a convenient screw clamp for the solvent pickup adapter, replaceable fritted glass filter support, and durable glass filled PTFE construction; (3) an HPLC reservoir for direct filtration, eliminating the transfer from filter flask to reservoir, thus reducing particle contamination and dissolved gasses; (4) a stopcock to provide vacuum degassing after filtration; and (5) borosilicate glass/PTFE construction which is compatible with all HPLC mobile phases.

The HPLC Mobile Phase Delivery System offers (1) a three hole cap which provides convenient, clean, reliable delivery of filtered/degassed HPLC mobile phases with or without helium sparging (ports are threaded for ¼ " - 28 fittings); (2) a unique conical bottom reservoir which delivers virtually all of the mobile phase without dangerous reservoir tilting; and (3) borosilicate glass / PTFE construction which is compatible with all HPLC mobile phases.

### HPLC Mobile phase Filtration/Degassing Assembly and Operation

1. Assemble the HPLC mobile phase filtration/degassing system as shown in figure 1. Cut the ¼ " O.D. PTFE tubing that goes to the solvent pick up adapter so that it just reaches the bottom of the bottle from which you will be filtering. If the tubing is not cut properly, it can put a twisting force on the PTFE quick disconnect fitting that could lead to an air leak between the glass adapter and the quick disconnect fitting.
2. Install a dry filter on a fritted glass filter support. This is necessary because, in most situations, vacuum will not "pull" air through a wet 0.22 or 0.45 micron filter; air has to pass through the filter in



the initial stage of vacuum filtration with a solvent pickup adapter.

3. With the PTFE stopcock on the solvent pickup adapter in the OFF position, turn ON the vacuum to the system and allow the vacuum to build up to its maximum.
4. Turn the PTFE stopcock on the solvent pickup adapter to the ON position. The mobile phase should rush from the source vessel through the ¼ " PTFE tubing and cover the filter to a depth of at least several millimeters and remain at that depth until filtration is complete.
5. In most cases, vacuum degassing occurs during filtration. However, if filtration is complete and air is coming through the filter, the PTFE stopcock on the solvent pickup adapter can be turned OFF to provide additional vacuum degassing of the filtered mobile phase.

Figure 1

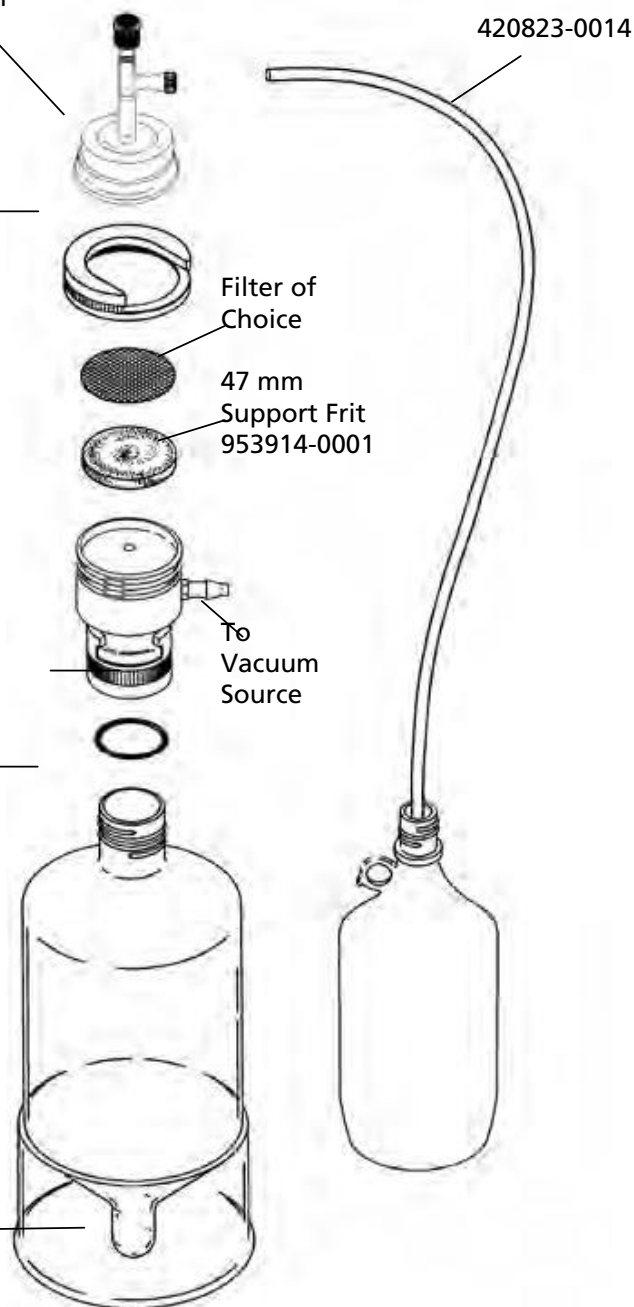
### Mobile Phase Filtration / Degassing

953906-0047 Std. System  
953906-6347 THF System  
Solvent Pickup Adapter

953915  
Filtration/  
Degassing Cap

953901  
HPLC  
Reservoir

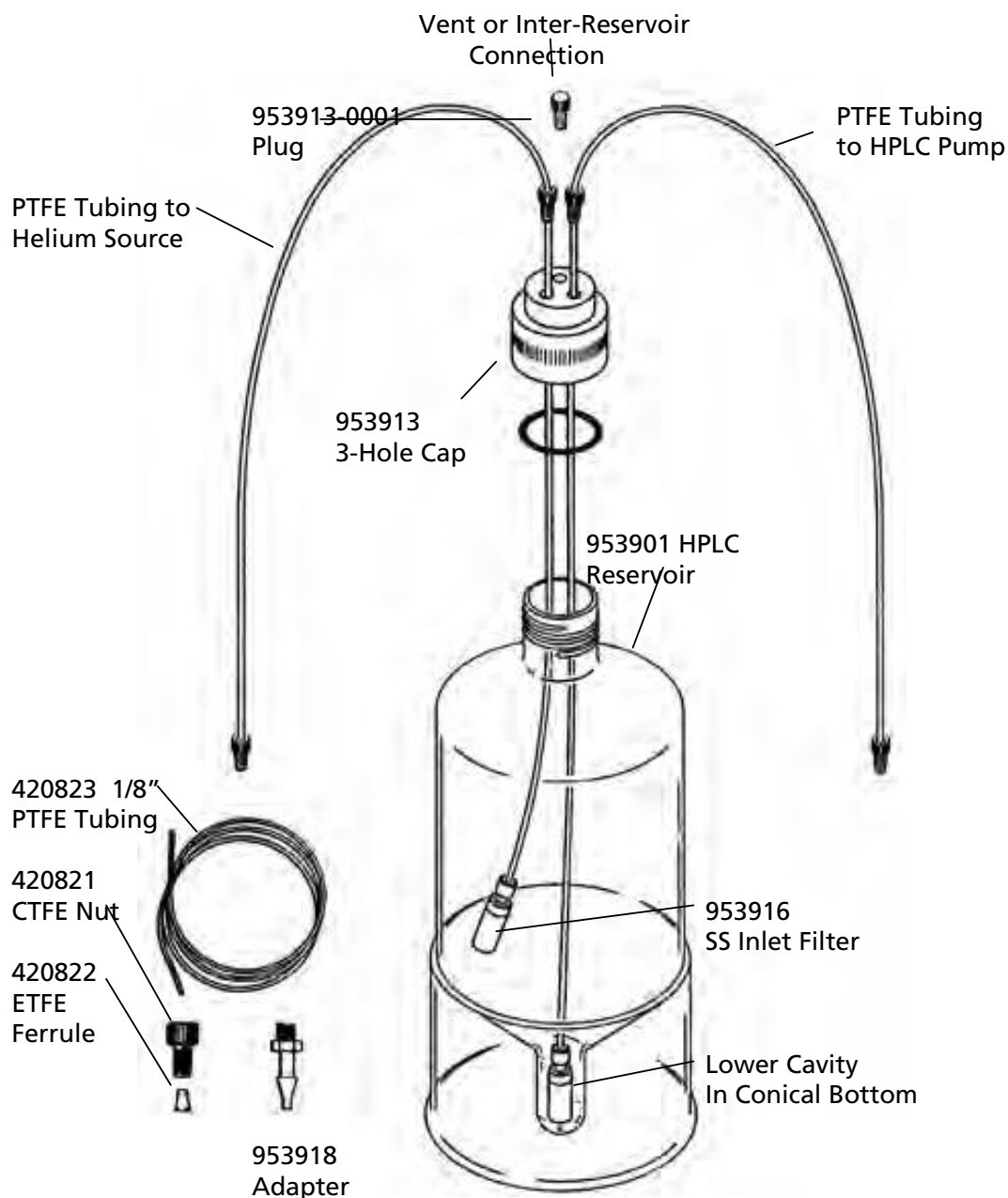
Lower Cavity in  
Conical Bottom



## HPLC Mobile Phase Delivery Assembly and Operation

1. Assemble the HPLC mobile phase delivery system as shown in figure 2.
2. If helium sparging or blanketing of the mobile phase is desired, connect one of the PTFE tubing lines to a helium source. (Note: When helium is supplied to the reservoir, be sure the third vent hole on the three-hole cap is open and the vented gas is directed to a hood).
3. Supply helium to the reservoir at ~3 psi for sparging of the mobile phase. (Note: Be sure the reservoir is vented.)
4. Connect the mobile phase PTFE tubing delivery line to your HPLC pump and begin operation.

Figure 2  
**Three Hole Cap System**



## Parts and Catalog Numbers

Economy HPLC Mobile Phase Handling Systems (See Figures 1 and 2)

**Complete systems (Article Number 953971) include the following:**

<b>Qty.</b>	<b>Article #</b>	<b>Description</b>
1	953901-	HPLC Reservoir, 250ml to 20 liters
1	953915-0047	47mm Filtration/Degassing Cap
1	953906-0047	47mm Solvent Pickup Adapter
1	953913-0000	Three Hole Delivery Cap
3	953913-0001	CTFE ¼ "-28 Threaded plug
4	420821-0018	CTFE ¼ "-28 Nut for 1/8" O.D. Tubing
4	420822-0018	ETFE Ferrule for 1/8" O.D. Tubing
1	420823-0018	1/8" O.D. PTFE Tubing, 10'
2	953918-0018	CTFE Adapter, ¼ "-28 to 1/8" I.D. Tubing (Fits any standard tubing)
2	953916-0000	2 microns S.S. Inlet Filter

<b>Article #</b>	<b>Capacity</b>	<b>Height x Dia. (mm)</b>
953971-1002	1 liter	400 x 130
953971-1003 1	0 liters	570 x 234

**Complete systems (Article Number 953976) include the following: (See Figure 1)**

<b>Qty.</b>	<b>Article #</b>	<b>Description</b>
1	953901-	HPLC Reservoir, 250ml to 20 liters
1	953915-0047	47mm Filtration/Degassing Cap
1	953906-0047	47mm Solvent Pickup Adapter

<b>Article #</b>	<b>Capacity</b>	<b>Height x Dia. (mm)</b>
953976-1003	10 liters	570 x 234

**Complete systems (Article Number 953980) include the following: (See Figure 2)**

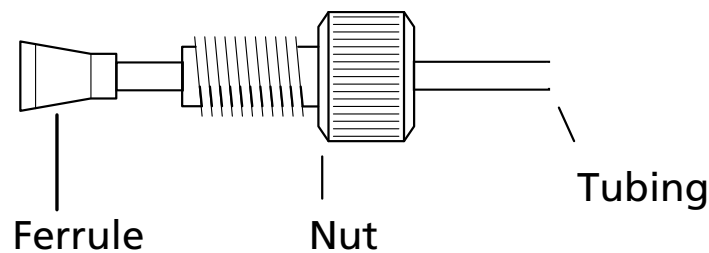
<b>Qty.</b>	<b>Article #</b>	<b>Description</b>
1	953901-	HPLC Reservoir, 250ml to 20 liters
1	953913-0000	Three Hole Delivery Cap

<b>Article #</b>	<b>Capacity</b>	<b>Height x Dia. (mm)</b>
953980-0502	0.5 liters	255 x 105
953980-2002	2 liters	370 x 150

## Optional Accessories

Article #	Description
953984-0090	90mm Conversion Base
953906-6390	THF-Resistant Pickup Adapter
953882-1000	Fittings Kit, Standard Version
953882-2000	Fitting Kit, THF Version
953916-3002	Inlet / Sparge Filter

## Flangeless Fittings Instructions



1. Cut the tubing, leaving a square-cut face
2. Slide the nut onto the tubing.
3. Slip the ferrule onto the tubing with the conical section toward the nut. The flat end of the ferrule should be even with the end of the tubing.
4. Insert the tubing with ferrule into the mating fitting, making sure the tubing is firmly pressed against the flat surface of the fitting.
5. Tighten the nut.