



MobiPanel

Compact and Mobile Liquid Panel
Solution for Air Sensitive Precursors

Description

MobiPanel is designed to feed each liquid input line of a **CVD** or **ALD** vaporizer with one precursor or precursor mixture.

Features

- 400 ml tank for the precursor
- 400 ml tank for the cleaning solvent
- Three diaphragm manifold valves with manual actuators

In order to maximize the vaporizer efficiency and minimize the introduction of contamination into or from the vaporizer system, it is important to prevent the premature decomposition of the precursor. This can be accomplished by minimizing the contact of the precursor with moisture and oxygen which can lead to the creation of hydrolysis and/or oxidation byproducts. The design of the liquid panel and the use of a glove box to fill/empty the tank minimize contact between the precursor and atmosphere.

When the liquid panel is first connected to the vaporization system, the three-port manifold valves enable the purging of the precursor and solvent tank valves. Prior to the start of process a thorough cycle purge procedure will remove moisture and oxygen to insignificant levels. On the outlet side, the solvent and the chamber vacuum (through the vaporizer or bypassing the vaporizer) can be used to flush out any moisture and oxygen between the final valve and the vaporization system.

In normal use, the precursor is pressurized with an inert gas which pushes the liquid into the vaporizer. If necessary, solvent can be used to remove any contamination in the liquid lines and/or the vaporizer.

When the precursor or solvent reaches its minimum level, the panel can be transferred to a glove box for the refill operation. Prior to removal, solvent should be used to flush the liquid lines and prevent a reaction of the precursor with atmosphere. The internal design of the three-port manifold valves has been optimized for an efficient solvent flushing of the precursor wetted path prior to air exposure.

Options include air operated actuators, automatic refill ports on one or both tanks, stainless steel tanks and liquid level sensors for the tanks.

Detailed procedures for installation, operation and removal are provided with the panel. The panel is helium leak tested.



Technical Specifications

Fittings

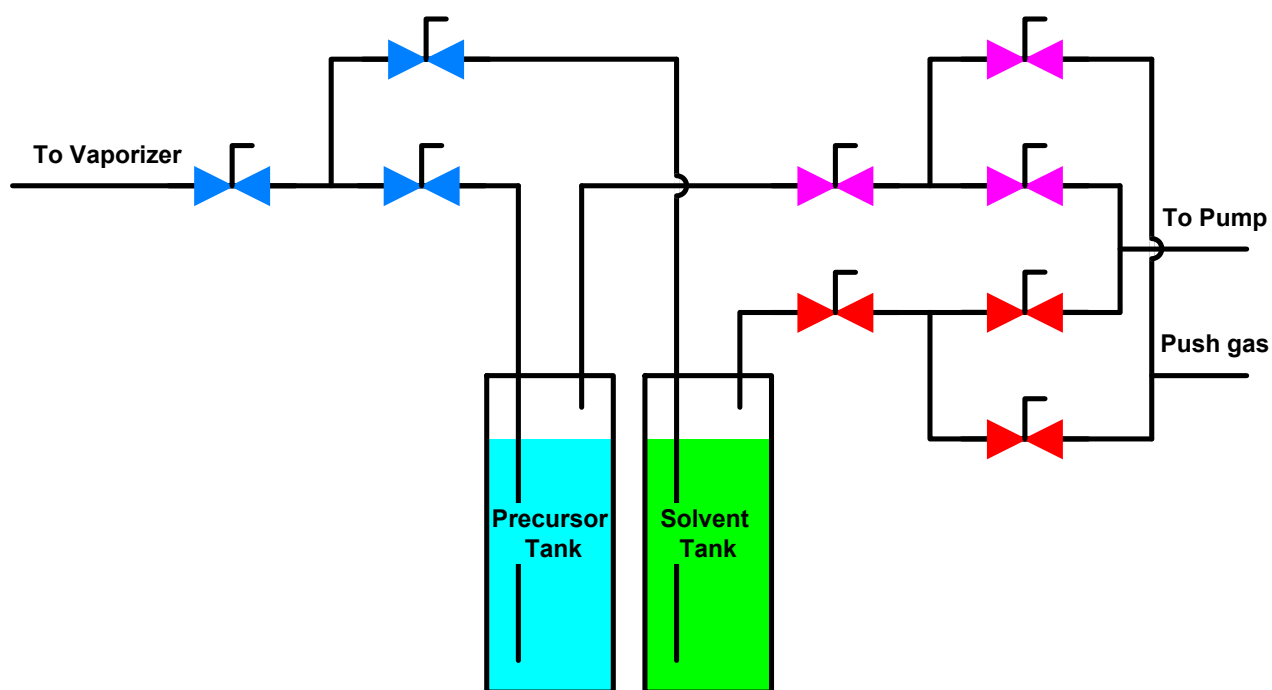
Vaporizer connection..... $\frac{1}{4}$ " female VCR
Pump connection..... $\frac{1}{4}$ " female VCR
Push gas connection..... $\frac{1}{4}$ " female VCR

Facilities

Push gas.....max. pressure 400 KPa (4 bara, 58 psia)
Vacuum line.....min. pressure 7 KPa (0.07 bara, 1 psia)

Dimensions

External dimensions (L x W x H).....311×225×347 mm



Schematic of the liquid panel