Entegris

ENCOMPASS® HV FLUID DISPENSE SYSTEM

Enables precise dispense and filtration of high-purity, high-viscosity fluids

precise dispense and filtration

Materials Integrity Management

For nearly 40 years, Entegris – the industry experts for materials integrity management solutions – has been committed to purifying, protecting and transporting the critical materials that enable the world's leading technologies. Materials integrity management starts with the process chemicals that come into direct contact with every wafer and IC produced. To help you manage high-viscosity fluids more efficiently in polyimide processing applications, Entegris offers the Encompass® HV fluid dispense system.

Precise Dispense at a Rapid Rate

The Encompass® HV dispense system uses the latest advances in filtration and dispense technology. A patented, two-stage dispense technology achieves optimal flow rates by allowing the Encompass® HV dispense system to operate filtration and dispense functions independently. This allows reliable, precise dispense of high-purity, high-viscosity chemicals at the point-of-use. In addition, two-stage dispense technology minimizes the potential to force gels and other particles through the filter as pressure increases across the filter over time. The filtration rate can be changed as the filter ages without affecting repeatability of dispense volume.

Reliable Point-of-Use Filtration

Entegris specially designed the Optimizer® HV 40 cartridge filter into the Encompass® HV dispense system for use with polyimide process fluids. The filter membrane is constructed from ultra-high molecular-weight polyethylene, which delivers outstanding particle retention in the most demanding high-viscosity chemicals. The Encompass® HV dispense system accomplishes filtration with relatively low pressure and flow rates, thereby preventing fluid shear from altering the high-molecular-weight polymer. Low-pressure filtration effectively removes particles, reduces gels and bubbles and improves yield.

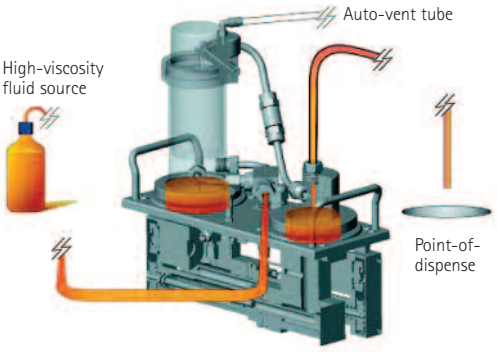
No Chemical Waste

The Encompass® HV dispense system uses a 3-way recirculation valve that reduces viscosity changes, keeps fluid in continuous motion and returns unused chemical to the source. Returning fluid to the feed bottle or reservoir during filtration and dispense applications reduces chemical waste. During filter or chemical change, the recirculation allows for fast start-up with no chemical waste, reducing cost of ownership.

Features	Benefits
Automated venting	Reduces bubbles and improves air removal
Modular check valve	Eliminates potential contamination dead spots
3-way recirculation valve	Reduces pressure drop
Controller motor surge protection	Reduces maintenance issues, decreasing cost of ownership
Controller current regulation	Reduces unwanted heating and temperature rises
Controller-programmable automatic recirculation	Prevents chemical stagnation

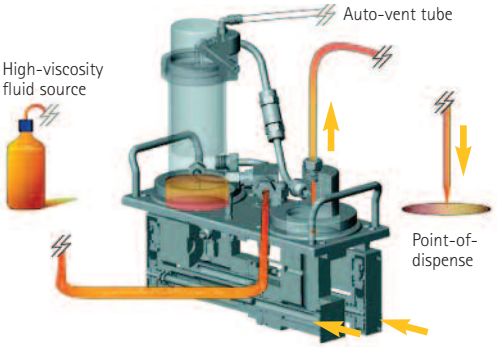
Two-Stage Dispense Technology

1. Ready Cycle



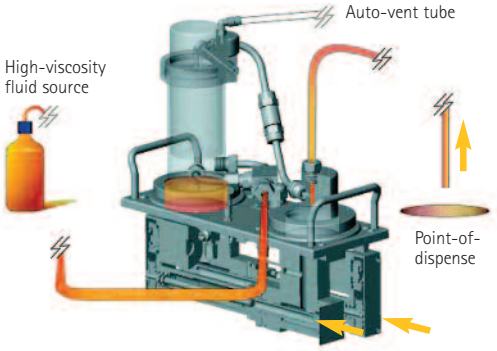
Pump is primed and ready to dispense.

2. Dispense Cycle



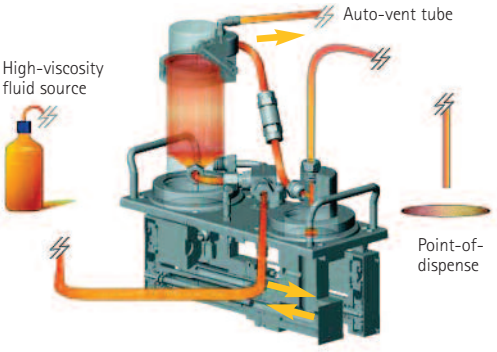
Precise volume of chemical is dispensed onto the wafer at a user-programmable, controlled rate.

3. Suckback Cycle



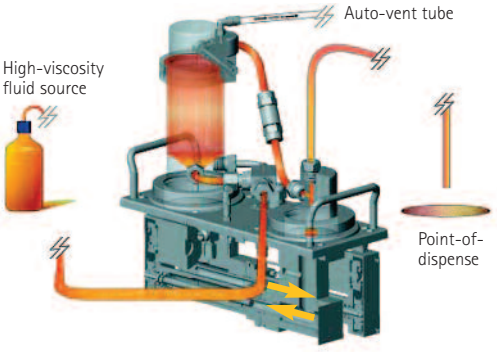
Chemical is drawn back from the nozzle tip.

4. Vent Cycle (optional)



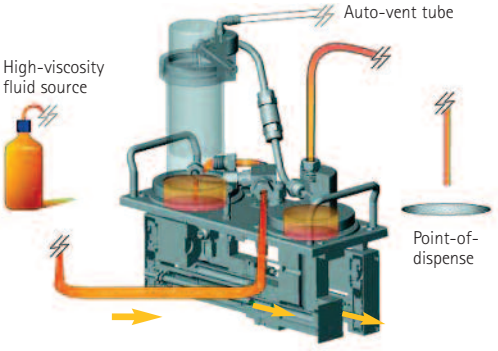
Air is vented from the topmost point of the filter housing, through the vent valve.

5. Filtration Cycle



Chemical is filtered at a slower rate than the dispense rate.

6. Recharge Cycle



Chemical is drawn from source into the pump.

Specifications

Description		
Materials	Dispense system:	Stainless steel or Teflon® fluoropolymer. O-rings are Teflon® or Kalrez® fluoropolymer.
	Filter:	Ultra high molecular weight polyethylene. Core, cage and end caps are polyethylene. O-ring is Kalrez® 6357UP perfluoroelastomer, size 2-015.
Dispense volume range:	1.0–15 ml	
Dispense repeatability:	3σ < 0.075 ml at 1,000 cP	
Dispense rate:	0.1–4.0 ml/sec.*	
Filtration rate:	0.1–1.0 ml/sec.*	
Fluid viscosity range:	250–30,000 cP**	

**Dependent on dispense rate and tubing configuration.*
***Dependent on fluid viscosity and tubing configuration.*

Ordering Information

Part Number	Description
ENC0MPH01	Stainless steel Encompass® HV dispense system
ENC0MPH02	Teflon® PTFE Encompass® HV dispense system

ACCESSORIES

Part Number	Description
ENC0M2CN1	Encompass® HV dispense system controller
ENC0MPV01	3-way recirculation valve with 3/8″ flare PFA connections
ENC0MPV02	3-way recirculation valve with 3/8″ Swagelok® stainless steel connections
ENC0MTC00	Trigger cable
WGEN02KP1	Hand-held terminal
CWAH40KM1	Optimizer® HV 40 cartridge filter

SPARE PARTS

Part Number	Description
ENC0MSP01	Controller power cord
ENC0MSP02	Auto vent for stainless steel dispense system
ENC0MSP04	Auto vent for Teflon® PFA dispense system
ENC0MSP05	Modular check valve for Teflon® PFA dispense system
ENC0MSP06	Kalrez® o-ring replacement for filter housing

For Additional Information

To learn more about how the Encompass® HV fluid dispense system can enable precise dispense and filtration of your high viscosity fluids, contact Entegris, Inc.

Terms and Conditions of Sale

All purchases are subject to Entegris' "Terms and Conditions of Sale." To view and print this information, visit Entegris' Web site at *www.entegris.com* and select the Legal Notices link from the footer found on the home page.

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