



INTELLIGEN® LV DISPENSE SYSTEM

Advanced two-stage system enabling superior dispense and filtration of low-viscosity fluids

Overview

Building on the proven performance of the two-stage dispense technology combined with Entegris' innovative Connectology® filter design, IntelliGen® LV dispense system integrates high-purity filtration with repeatable dispense of low-viscosity fluids (1–100 cP or at higher viscosities when dispense pressure does not exceed 29 psi). The compatible Impact® 8G or Impact 2 V2 (OF style) filter easily slides into IntelliGen LV's compartment. Fluid passes through the Impact filter at the optimum flow rate for the specified retention rating, improving throughput and increasing uptime.

The integrated, dual pressure sensor provides real-time alerts and enhances filter priming by providing several confirmation features including, dispense confirmation, cycle time confirmation and delta P confirmation. This helps to prevent costly wafer defects due to coating problems. The state-of-the-art air detection feature pinpoints when air enters the outlet tubing from a leak or from minute air bubble formations that gradually accumulate over time. The compact design, superior performance and interactive diagnostics make IntelliGen LV



dispense system the right choice to ensure dispense repeatability, longer filter life and a greater return on investment.

Features and Benefits

Features	Benefits
Two-stage dispense technology combined with Connectology filter design	<p>Integrates high-purity filtration with repeatable dispense of low-viscosity fluids (1 – 100 cP or at higher viscosities when dispense pressure does not exceed 29 psi)</p> <ul style="list-style-type: none"> • Compatible Impact 8G or Impact 2 V2 (OF style) filter slides into IntelliGen LV's compartment • Fluid passes through the Impact filter at the optimum flow rate for the specified retention rating
Simplified MMI software	<p>Simplifies recipe programming and filter priming</p> <p>Provides user-friendly dispense confirmation and real-time alerts</p> <ul style="list-style-type: none"> • Several confirmation features notify when a partial or failed dispense occurs to help minimize costly wafer defects due to coating problems

Specifications

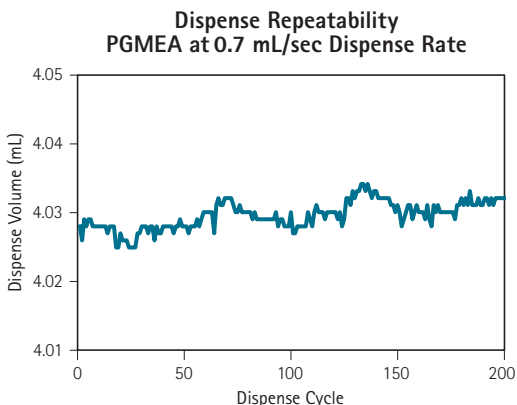
Dispense performance:	Volume	0.1–10.0 mL in 0.001 mL increments		
	Rate	0.1–3.0 mL/sec in 0.001 mL/sec increments		
	Repeatability	≤0.02 mL 3 sigma		
	Viscosity range*	1–100 cP or at higher viscosities when dispense pressure does not exceed 29 psi		
	Maximum dispense pressure**	0.20 MPa (29 psi)		
Recharge performance:	Fill rate, filtration rate, vent rate, purge rate	0.1–3.0 mL/sec in 0.01 mL/sec increments		
	Vent frequency	Auto-venting or 1–10,000 dispense cycles		
Mechanical:	Wetted surfaces	Modified PTFE, PTFE, Kalrez®		
	Connection type	Insert style, Super Type Pillar® or Flowell™ 60 series		
	Filter	Impact 8G or Impact 2 V2 (OF style)		
	Inlet, outlet and vent tubing	OD	6.35 mm (0.25") or 6.0 mm (0.24")	
		ID	3.97 mm (0.15628") or 4.0 mm (0.16")	
	Gas	Inlet gas type	Regulated N ₂ or CDA	
		Inlet gas pressure	0.26 MPa–0.28 MPa (38 psi–40 psi)	
Vacuum	-68 kPa (20 in -Hg min.)			
Dimensions:	Height	200.1 mm (7.878")		
	Width	60.7 mm (2.39")		
	Depth	209.17 mm (8.235")		
Weight:	Approx. 5 kg (11 lb)			
Electrical:	Current rating	1.25A		
	Input voltage (system)	24 VDC ±10%		
	Serial communication	Specifications are dependent on interface module use		
	Parallel communication	Triggers and acknowledgments		
Certifications:	See provided documentation.			
Environment:	Indoor use only			
	Altitude below 2000 m (2187.22 yd)			
	Ambient temperature 5°C–40°C (41°F–104°F)			
	Maximum relative humidity 80% for temperatures up to 31°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F)			
	Mains supply fluctuations from 22–26 VDC			
	Transient overvoltages of overvoltage category II			
	Pollution degree 2			

*Depends on tool configuration. Contact applications support for detailed window of operation.

**Maximum pressure is a limit on the Window of Operation. Actual volumes and rates may be restricted to comply with the pressure limits for a given viscosity, tubing diameter, tubing length and tubing height.

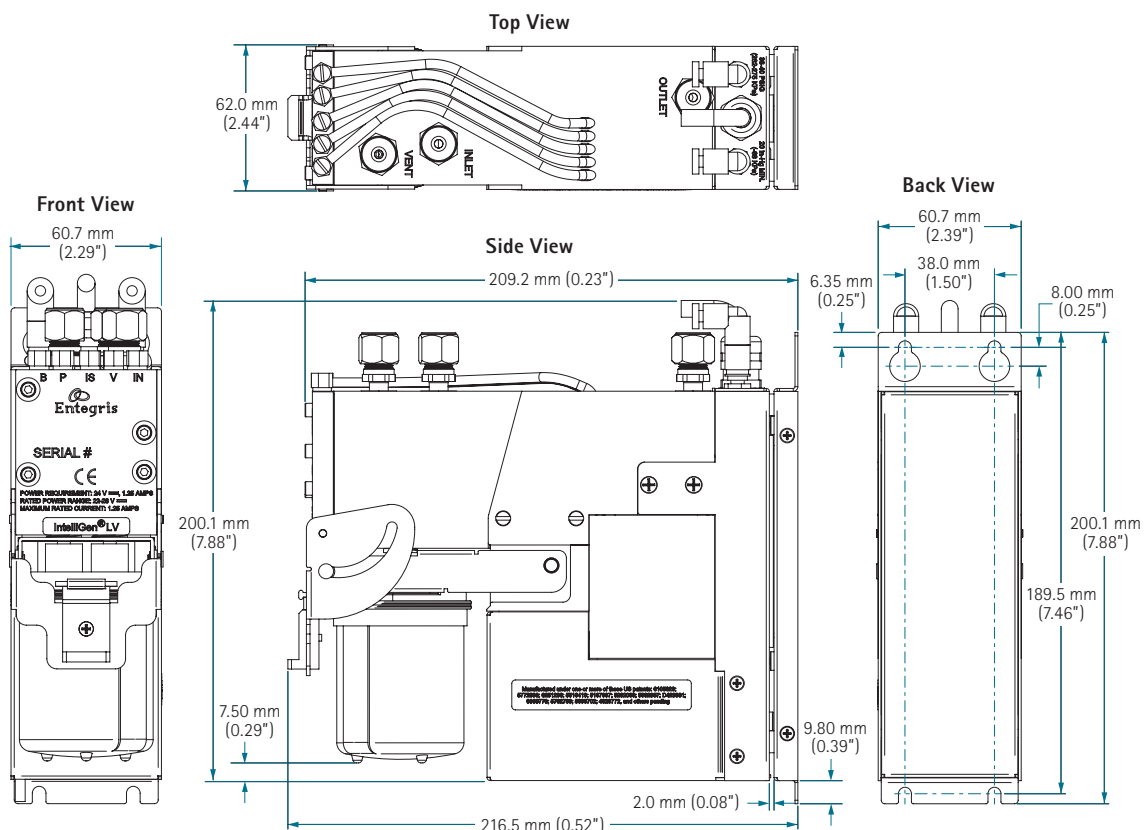
Performance Data

The following graph shows highly repeatable dispense characteristics over a span of 200 dispense cycles. The PGMEA chemistry, used in the test, passed through the Impact filter at a dispense rate of 0.7 mL/sec and a 3 sigma rating of 0.006 mL. The upper and lower limits were 4.050 and 4.010 mL, with an average flow rate of 4.030 mL.



Dimensions

The following drawings show dimensions for all available IntelliGen LV fitting configurations.



Ordering Information

The following table lists the IntelliGen LV dispense system part numbers.

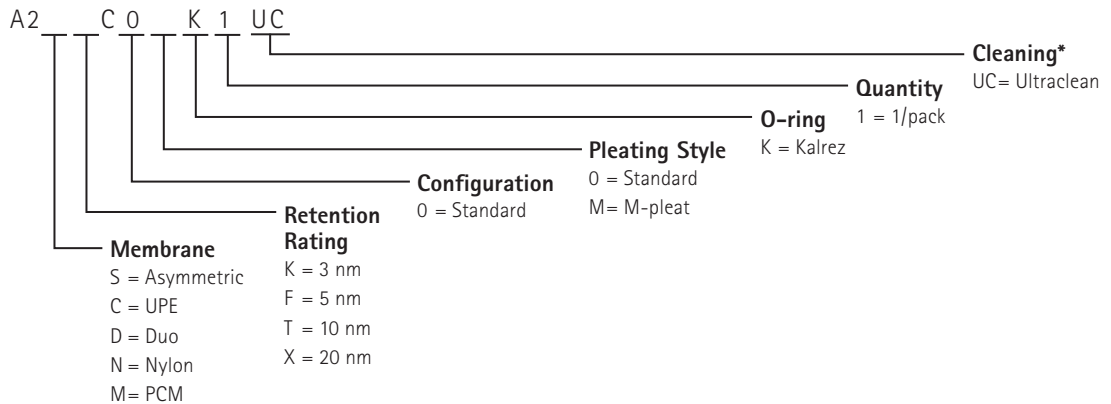
Part Number	Dispense System	Style	Fitting Type	Cable Length	Cable Connector
IGLVPVCP1	IntelliGen LV	Vertical	1/4" Super Type Pillar	0.8 m (2.62 ft)	D-Sub 15-pin
IGLVPVAP1	IntelliGen LV	Vertical	1/4" Super Type Pillar	3.0 m (9.84 ft)	D-Sub 15-pin
IGLVPVBP1	IntelliGen LV	Vertical	1/4" Super Type Pillar	1.25 m (4.10 ft)	RDS01 connector
IGLVPVAW1	IntelliGen LV	Vertical	1/4" Flowell 60 series	3.0 m (9.84 ft)	D-Sub 15-pin

Note: For maximum retention performance, use IntelliGen LV dispense system with Impact 8G series filters.

The following ordering information serves as a guide. Please contact your local representative to confirm part numbers.

Impact 8G and 8G UC Series Filters

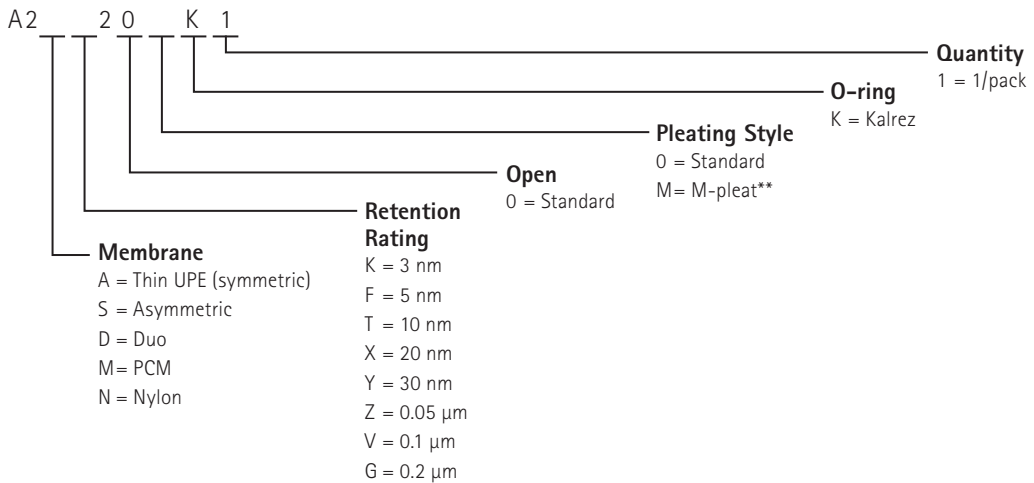
Part Number



*Cleaning only applies to Impact 8G UC series filters.

Impact 2 V2 Filters

Part Number



**The M-pleat style only applies to Impact filters with a UPE membrane of up to 30 nm.

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

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ENTEGRIS, INC.

Corporate Headquarters | 129 Concord Road | Billerica, MA 01821 USA
Customer Service Tel. +1 952 556 4181 | Customer Service Fax +1 952 556 8022
In North America 800 394 4083 | www.entegris.com