

# IntelliGen<sup>®</sup> LV Dispense System

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

Building on the proven performance of the two-stage dispense technology combined with Entegris' innovative Connectology<sup>®</sup> filter design, IntelliGen<sup>®</sup> 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<sup>®</sup> 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 & BENEFITS

### Two-stage dispense technology combined with Connectology filter design

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) Independently optimized dispense and filtration sequences

- 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

Simplifies recipe programming and filter priming

Provides user-friendly dispense confirmation and real-time alerts

- Several confirmation features notify when a partial or failed dispense occurs to help minimize costly wafer defects due to coating problems

## SPECIFICATIONS

<b>Dispense performance</b>	Volume	0.01–10.0 mL in 0.001 mL increments
	Rate	0.01– 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 design pressure**	0.20 MPa (29 psi)
<b>Recharge performance</b>	Fill rate, filtration rate, vent rate, purge rate	0.1– 3.0 mL/sec in 0.001 mL/sec increments
	Vent frequency	Auto-venting or 1– 10,000 dispense cycles
<b>Mechanical</b>	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 (0.156") or 4.0 mm (0.16")
	Inlet gas type	Regulated N <sub>2</sub>
	Operating conditions	Minimum operating pneumatic pressure: 0.26 MPa (38 psi) Maximum operating pneumatic pressure: 0.28 MPa (40 psi) Pneumatic leak pressure: 0.30 MPa (43 psi)
	Vacuum	-68 kPa (20 in-Hg min)
<b>Dimensions</b>	Height	200.1 mm (7.878")
	Width	60.7 mm (2.39")
	Depth	209.17 mm (8.235")
<b>Weight</b>	Approximately 5 kg (11 lbs)	
<b>Electrical</b>	Current rating	1.25A maximum
	Input voltage (system)	24 VDC ±10%
	Serial communication	Specifications are dependent on interface module use
	Parallel communication	Triggers and acknowledgments
<b>Certifications</b>	See provided documentation	
<b>Environment</b>	Indoor use only	
	Altitude below 2000 m (2187.22 yd)	
	Ambient temperature 5° – 40°C (41° – 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)	
	Main supply fluctuations from 22 – 26 VDC	
	Transient overvoltages of overvoltage category II	
Pollution degree 2		

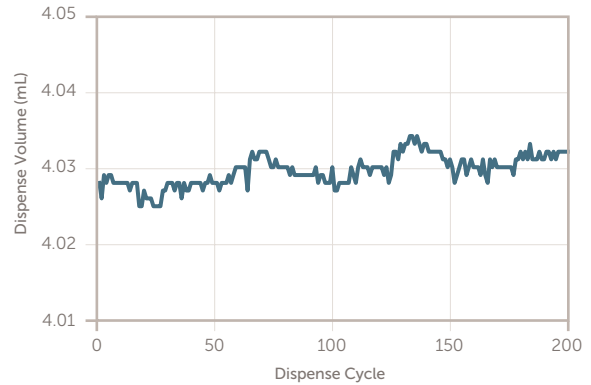
\*Depends on tool configuration. Contact applications support for detailed window of operation.

\*\*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.

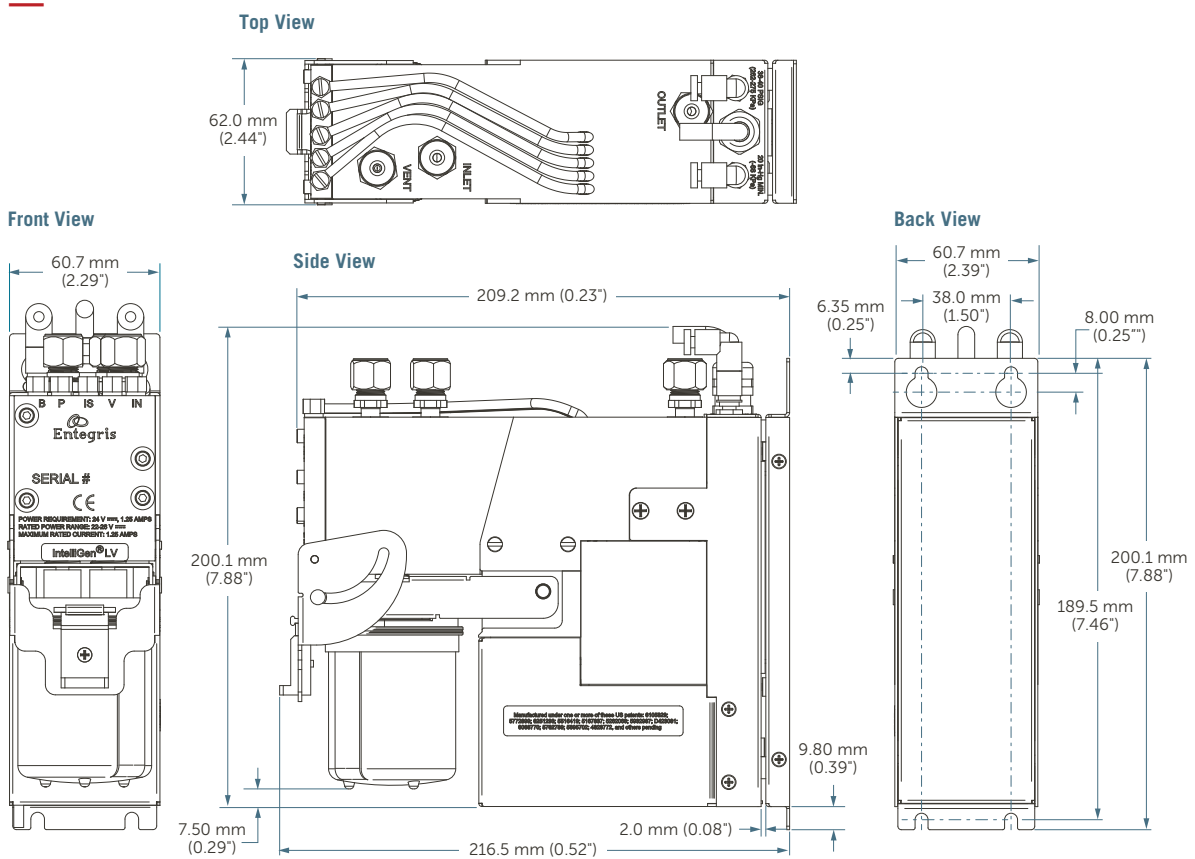
## PERFORMANCE DATA

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.

Dispense Repeatability  
PGMEA at 0.7 mL/sec Dispense Rate



## DIMENSIONS



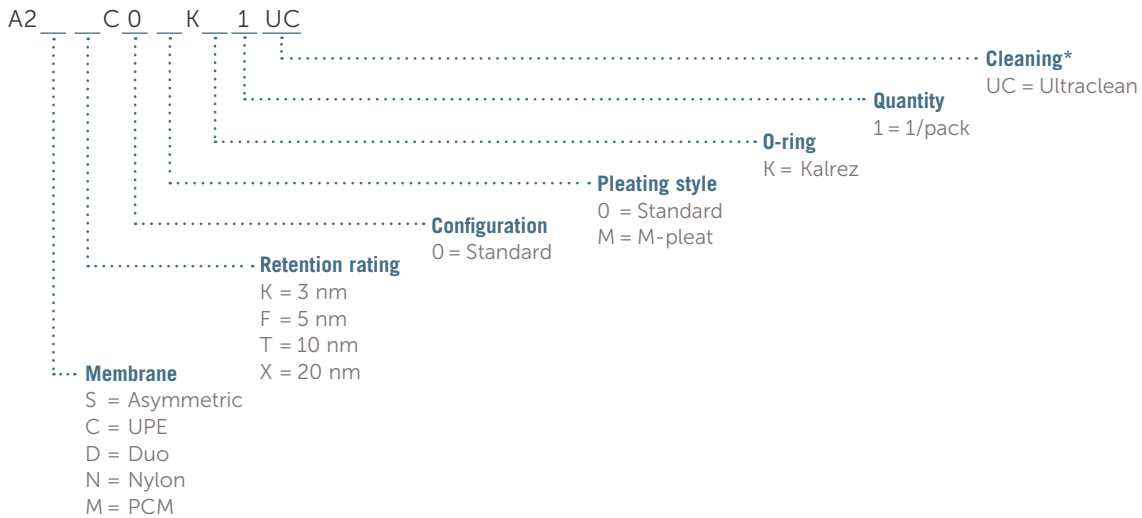
## ORDERING INFORMATION

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

Part number	Dispense system	Style	Fitting type	Cable length	Cable connector
IGLVPVHP2	IntelliGen LV	Vertical	6 mm Super Type Pillar	1.25 m (4.10 ft)	D-Sub 15-pin
IGLVPVJP2	IntelliGen LV	Vertical	6 mm Super Type Pillar	10.0 m (32.80 ft)	D-Sub 15-pin
IGLVPVGP1	IntelliGen LV	Vertical	¼" Super Type Pillar	0.1 m (0.33 ft)	D-Sub 15-pin, 3 Lines
IGLVPVCP1	IntelliGen LV	Vertical	¼" Super Type Pillar	0.8 m (2.62 ft)	D-Sub 15-pin
IGLVPVAP1	IntelliGen LV	Vertical	¼" Super Type Pillar	3.0 m (9.84 ft)	D-Sub 15-pin
IGLVPVBP1	IntelliGen LV	Vertical	¼" Super Type Pillar	1.25 m (4.10 ft)	RDS01 connector
IGLVPVAW1	IntelliGen LV	Vertical	¼" Flowell 60 series	3.0 m (9.84 ft)	D-Sub 15-pin

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

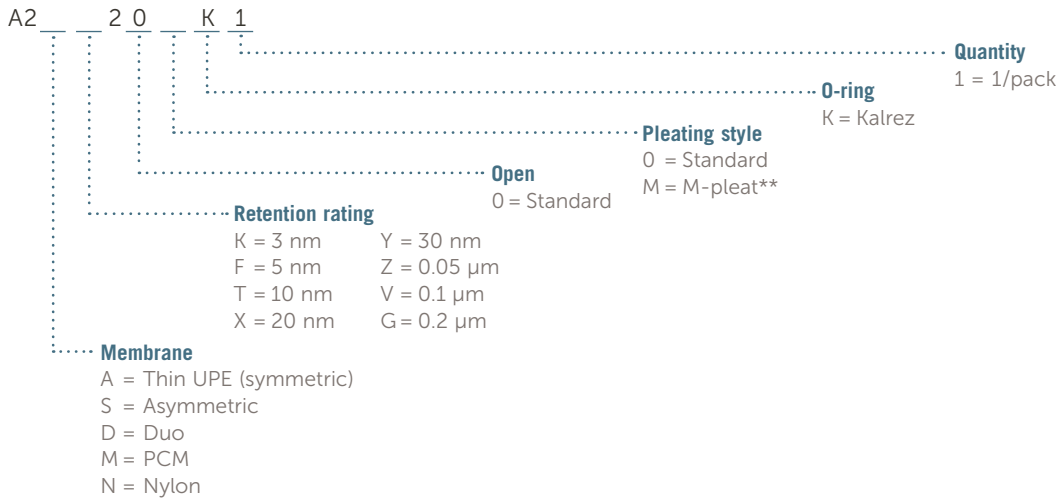
### Impact 8G and 8G UC Series Filters: part number



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

## ORDERING INFORMATION (CONTINUED)

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 [entegris.com](http://entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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