

IntelliGen® MV Dispense System

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



Building on the proven performance of the two-stage dispense technology combined with Entegris' innovative Connectology® filter design, IntelliGen® MV dispense system integrates high-purity filtration with repeatable dispense of mid-viscosity fluids (100 to 300 cP). The matching Impact® 2 V2 (OF style) filter easily slides into IntelliGen MV'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 simplifies recipe programming and filter priming with user-friendly dispense diagnostics and real-time alerts in an intuitive programming interface. IntelliGen MV includes several diagnostic features (such as dispense confirmation, cycle time confirmation and ΔP confirmation) that notify when a partial or failed dispense occurs to help minimize 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 MV 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 mid-viscosity fluids (100 – 300 cP)
- Impact 2 V2 (OF style) filter slides into IntelliGen MV's compartment
- Fluid passes through the Impact filter at the optimum flow rate for the specified retention rating
- Maximize filter performance even in the most sensitive photochemicals

Real-time, interactive diagnostics in intuitive programming interface

- Simplifies recipe programming and filter priming
- Integrates dual-pressure sensor
- Provides user-friendly dispense diagnostics and real-time alerts
- Several diagnostic features notify when a partial or failed dispense occurs to help minimize costly wafer defects due to coating problems
- 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

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*	100 – 300 cP
	Maximum dispense design pressure**	0.40 MPa (60 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 Pillar®, or Flowell™ 60 series
	Filter	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")
	Inlet gas type	Regulated N ₂ or CAD
	Operating conditions	Minimum operating pneumatic pressure: 448 kPa (65 psi) Maximum operating pneumatic pressure: 469 kPa (68 psi) Pneumatic leak pressure: 600 kPa (87 psi)
	Vacuum	-68 kPa (20 in -Hg min)
Dimensions	Height	242.6 mm (9.55")
	Width	60.7 mm (2.39")
	Depth	235.0 mm (9.25")
Weight	Approximately 5 kg (11 lbs)	
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 – 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)	
	Mains supply fluctuations from 22 – 26 VDC	
	Transient overvoltages of overvoltage category II	
Pollution degree 2		

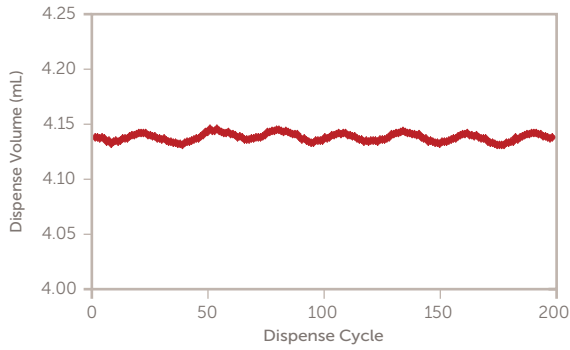
*Depends on tool configuration. Contact applications support for detailed window of operation.

**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

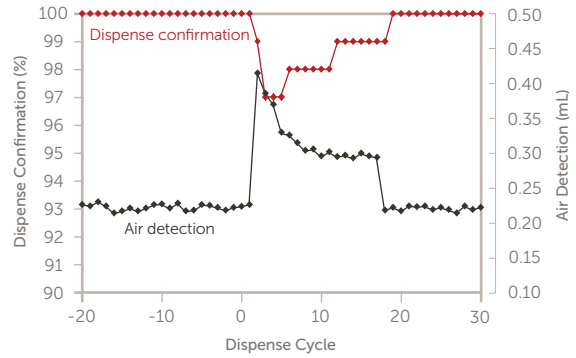
The following graph shows dispense repeatability trending over a span of 200 dispense cycles.

Dispense Repeatability
200 cP Fluid at 1.0 mL/sec Dispense Rate



The following graph compares dispense confirmation and air detection performance at a 300 cP chemical level when a 0.3 mL air bubble is introduced into the process.

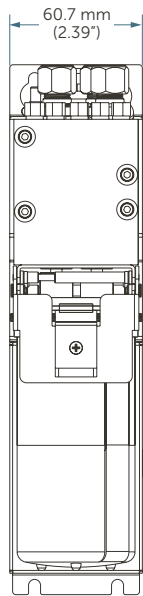
Comparing Dispense Confirmation and Air Detection Performance



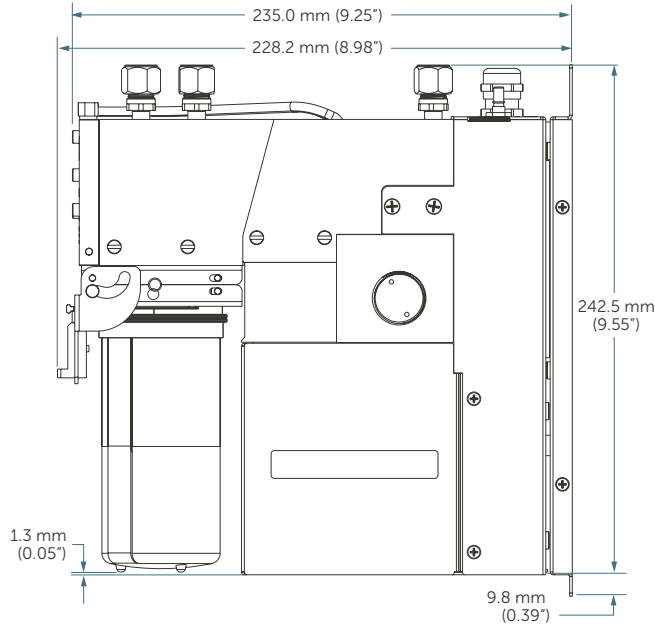
DIMENSIONS

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

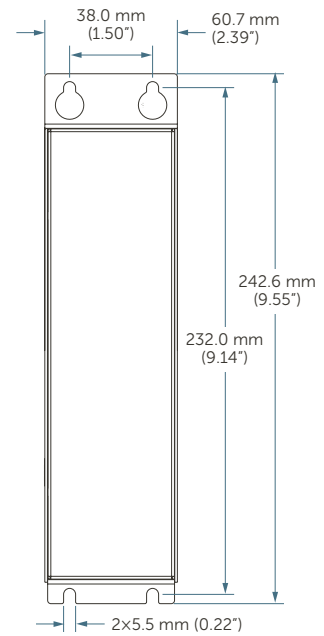
Front View



Side View



Rear View



ORDERING INFORMATION

Part numbers for IntelliGen MV dispense system

Part number	Dispense system	Style	Fitting size	Fitting	Cable length	Cable connector
IGMVPVAP2	IntelliGen MV	Vertical	6 mm	Super Type Pillar	1.2 m	D-Sub 15-pin
IGMVPVAW4	IntelliGen MV	Vertical	¼" (6.35 mm) 4 mm	Flowell 60 Series (in, out) Flowell 60 Series (vent)	3.0 m	D-Sub 15-pin
IGMVPVCP1	IntelliGen MV	Vertical	¼" (6.35 mm)	Super Type Pillar	0.8 m	D-Sub 15-pin
IGMVPVDP1	IntelliGen MV	Vertical	¼" (6.35 mm)	Super Type Pillar	1.2 m	D-Sub 15-pin
IGMVPVBP1	IntelliGen MV	Vertical	¼" (6.35 mm)	Super Type Pillar	1.2 m	PA-Con 15-pin
IGMVPVFP1	IntelliGen MV	Vertical	¼" (6.35 mm)	Super Type Pillar	1.5 m	D-Sub 15-pin
IGMVPVAP1	IntelliGen MV	Vertical	¼" (6.35 mm)	Super Type Pillar	3.0 m	D-Sub 15-pin
IGMVPVAP3	IntelliGen MV	Vertical	⅜" (9.52 mm)	Super Type Pillar	3.0 m	D-Sub 15-pin
IGMVPHAW2	IntelliGen MV	Horizontal	6 mm	Flowell 60 series	2.0 m	D-Sub 15-pin
IGMVPHEW4	IntelliGen MV	Horizontal	8 mm 6 mm	Flowell 60 Series (in, out) Flowell 60 Series (vent)	0.25 m	D-Sub 15-pin
IGMVPVDP13	IntelliGen MV	Vertical	¼" (6.35 mm) ⅜" (9.52)	Super Type Pillar (in, vent) Super Type Pillar (out)	1.2 m	D-Sub 15-pin
IGMVPVFP13	IntelliGen MV	Vertical	¼" (6.35 mm) ⅜" (9.52)	Super Type Pillar (in, vent) Super Type Pillar (out)	1.5 m	D-Sub 15-pin

Part numbers for the corresponding Impact 2 V2 (OF style) filter

Part Number	Filter	Style	Retention	Fitting
A2AZ200K1	Impact 2 V2	OF	50 nm	Kalrez
A2AV200K1	Impact 2 V2	OF	0.1 µm	Kalrez
A2AG200K1	Impact 2 V2	OF	0.2 µm	Kalrez
A2UH200K1	Impact 2 V2	OF	0.5 µm	Kalrez
A2UA200K1	Impact 2 V2	OF	1.0 µm	Kalrez

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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