

# IntelliGen<sup>®</sup> MV Dispense Systems

*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<sup>®</sup> filter design, IntelliGen<sup>®</sup> MV dispense system integrates high-purity filtration with repeatable dispense of mid-viscosity fluids (100 to 300 cP). The matching Impact<sup>®</sup> 2 V2 (OF style) filter easily slides into IntelliGen MV system'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 system 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.

## APPLICATIONS

- Medium-viscosity (100-300 cP) point-of-use photochemical dispense



*Provides repeatable dispense of mid-viscosity fluids (100 to 300 cP).*

## FEATURES & BENEFITS

<b>Two-stage dispense technology combined with Connectology filter design</b>	Integrated high-purity filtration with repeatable dispense of mid-viscosity fluids maximizes filter performance even in the most sensitive photochemicals
<b>Real-time, interactive diagnostics in intuitive programming interface</b>	Simplifies recipe programming and filter priming
	Integrates dual-pressure sensor
	Provides user-friendly dispense diagnostics and real-time alerts

## SPECIFICATIONS

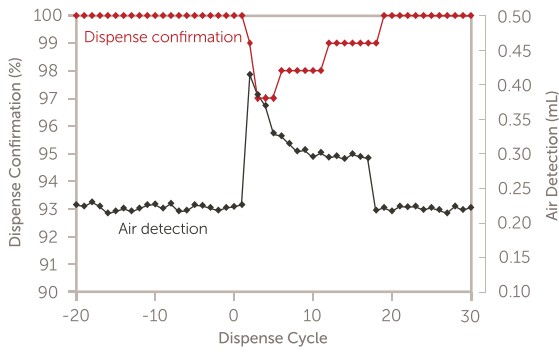
<b>Dispense performance</b>	Volume	0.01 - 10.0 mL in 0.001 mL increments
	Rate	0.1 – 3.0 mL/sec in 0.001 mL/sec increments
	Repeatability	<0.02 mL 3 sigma
	Viscosity range*	100 – 300 cP
	Maximum dispense design pressure**	0.40 MPa (60 psi)
<b>Recharge performance</b>	Fill rate, filtration rate, vent 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 Pillar or Flowell 60 series
	Filter	Impact 8G, Impact 2 V2 (OF style)
	Inlet, outlet and vent tubing	OD 0.25" (6.35 mm) or 0.24" (6.0 mm) ID 0.15628" (3.97 mm) or 0.16" (4.0 mm)
	Inlet gas type	Regulated N <sub>2</sub> or CDA
	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.)
	<b>Dimensions</b>	Height
Width		2.39" (60.7 mm)
Depth		9.25" (235.0 mm)
<b>Weight</b>	Approx. 5 kg (11 lb)	
<b>Electrical</b>	Current rating	1.25A
	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°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.

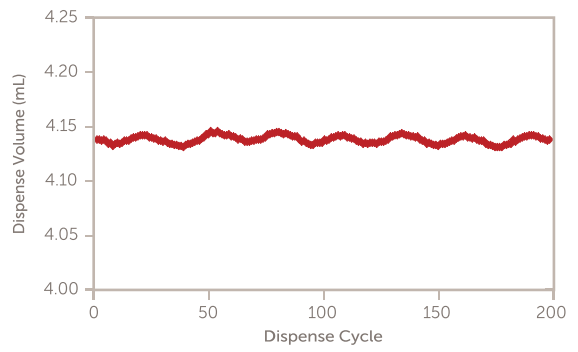
## PERFORMANCE DATA

Comparing Dispense Confirmation and Air Detection Performance



This 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.

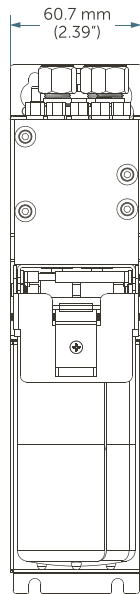
Dispense Repeatability  
200 cP Fluid at 1.0 mL/sec Dispense Rate



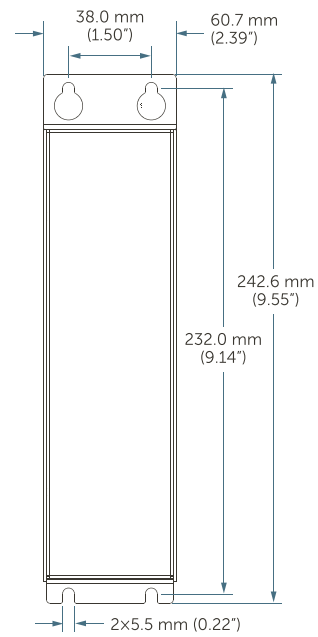
This graph shows dispense repeatability trending over 200 dispense cycles.

## DIMENSIONS

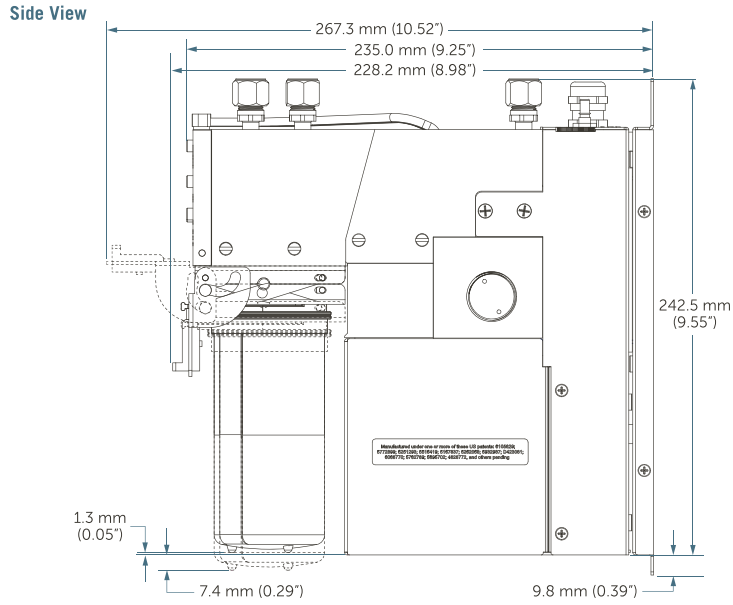
Front View



Rear View



## DIMENSIONS



## ORDERING INFORMATION

PART NUMBER	STYLE	FITTING TYPE	CABLE LENGTH	CONNECTOR
IGMVPHAW2	Horizontal	6 mm Flowell™ 60 series	3.0 m	D-Sub 15 pin
IGMVPVAP1	Vertical	1/4" Super Type Pillar®	3.0 m	D-Sub 15 pin
IGMVPVAP2	Vertical	6 mm Super Type Pillar®	1.2 m	D-Sub 15 pin
IGMVPVAP3	Vertical	3/8" Super Type Pillar®	3.0 m	D-Sub 15 pin
IGMVPVBP1	Vertical	1/4" Super Type Pillar®	1.25 m	D-Sub 15 pin
IGMVPVCP1	Vertical	1/4" Super Type Pillar®	0.80 m	D-Sub 15 pin
IGMVPVDP1	Vertical	1/4" Super Type Pillar®	1.2 m	D-Sub 15 pin

#### FOR MORE INFORMATION

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