

IntelliGen[®] 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[®] 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 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

Two-stage dispense technology combined with Connectology filter design

Integrated high-purity filtration with repeatable dispense of mid-viscosity fluids maximizes 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

SPECIFICATIONS

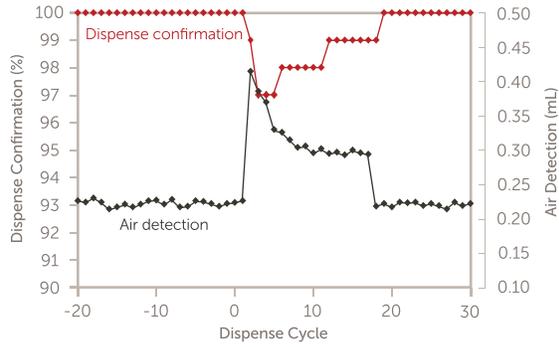
| | | |
|-----------------------------|---|---|
| Dispense performance | Volume | 0.01 - 10.0 mL in 0.001 mL increments |
| | Rate | 0.1 – 3.0 mL/sec in 0.001 mL/sec increments |
| | Repeatability | <0.02 mL 3 sigma |
| | Viscosity range* | 100 – 300 cP |
| | Maximum dispense design pressure** | 0.40 MPa (60 psi) |
| Recharge performance | 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 |
| Mechanical | 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 ₂ 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.) |
| Dimensions | Height | 9.55" (242.6 mm) |
| | Width | 2.39" (60.7 mm) |
| | Depth | 9.25" (235.0 mm) |
| 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.

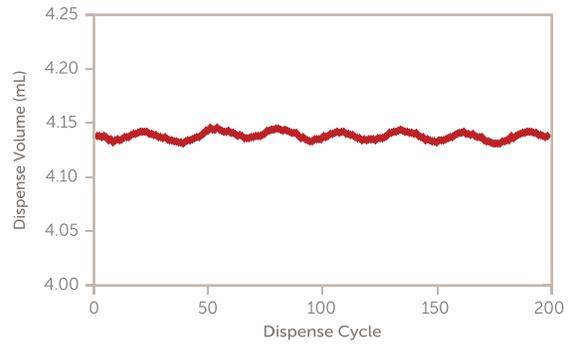
PERFORMANCE DATA

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.

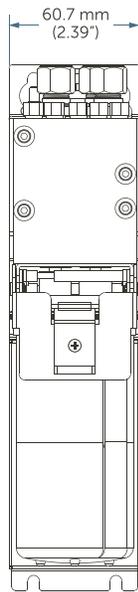
Dispense Repeatability
200 cP Fluid at 1.0 mL/sec Dispense Rate



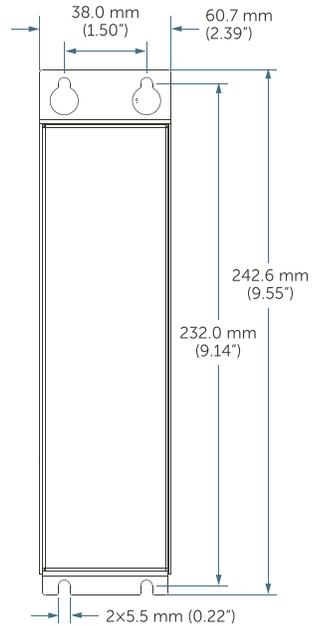
This graph shows dispense repeatability trending over 200 dispense cycles.

DIMENSIONS

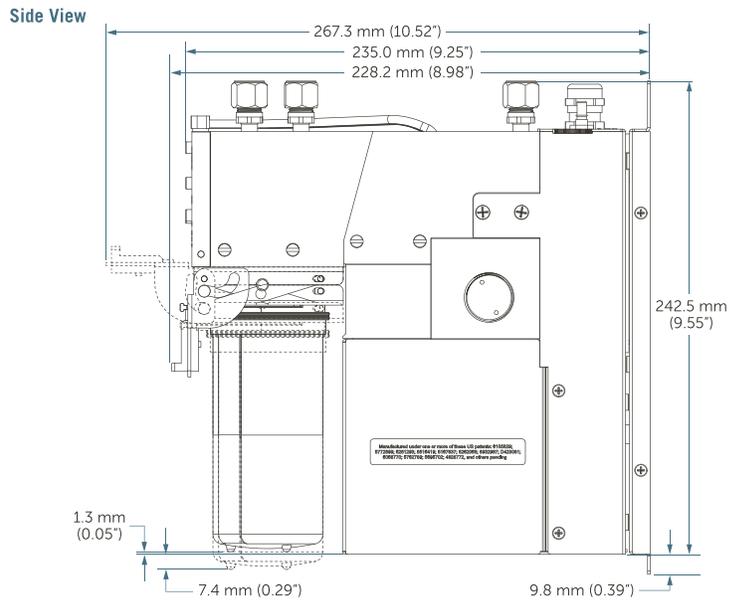
Front View



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

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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Corporate Headquarters
129 Concord
Billerica, MA 01821
USA

Customer Service
Tel +1 952 556 4181
Fax +1 952 556 8022
Toll Free 800 394 4083

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