



INTELLIGEN® 2 DISPENSE SYSTEM

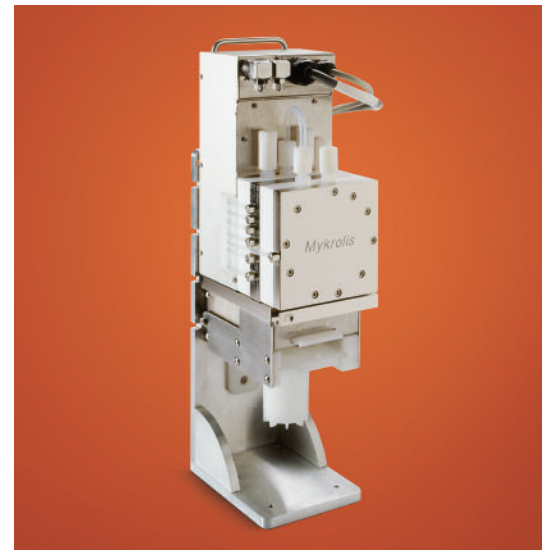
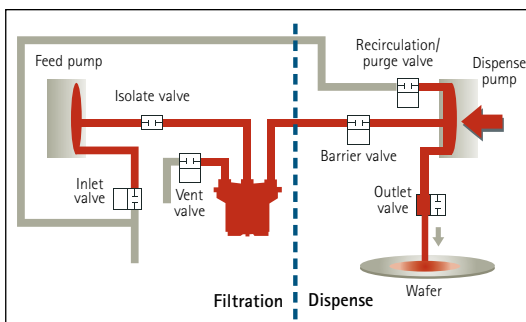
Delivers repeatable, reliable, accurate photochemical dispense at the point-of-use

Materials Integrity Management

For nearly 40 years, Entegris – the industry experts for materials integrity management solutions – has been committed to purifying, protecting and transporting the critical materials that enable the world’s leading technologies. Materials integrity management starts with the process chemicals that come into direct contact with every wafer and IC produced. To help you manage high-purity photochemicals most efficiently, Entegris offers the IntelliGen® 2 dispense system designed to reliably and accurately dispense photochemical during photolithography processes.

Reliable Photochemical Dispense

The IntelliGen® 2 photochemical dispense system uses the latest advances in photochemical filtration and dispense technology. The patented two-stage dispense technology allows the IntelliGen® 2 system to operate filtration and dispense functions independently. This delivers reliable and accurate dispense that ensures process stability. In addition, two-stage dispense technology minimizes the potential to force gels and other particles through the filter as pressure increases across the filter over time. The filtration rate can be changed as the filter ages without affecting repeatability of dispense volume.



Minimize Photoresist Consumption

Auto-recirculation and purge cycles remove bubbles in the system within a closed loop, reducing photoresist waste in costly pre-dispense. Repeatable and reliable dispense with ± 0.02 mL variability eliminates the need to set photoresist dispense volumes unnecessarily high. Reference Chart 1.

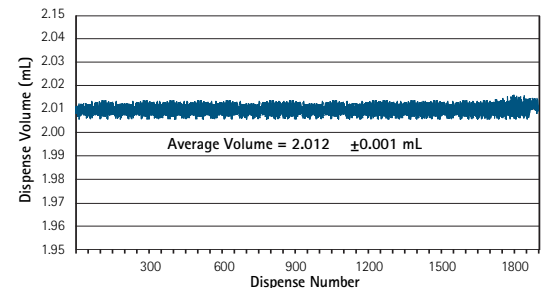


Chart 1: Repeatable, reliable performance with every dispense

The IntelliGen® 2 system dispenses an extremely accurate volume of photochemical that is not affected by changes in the pressure differential across the filter. After setting the dispense volume, no further adjustments, recalibrations or checks are required – decreasing downtime.

Computer Interface Software

To achieve advanced system setup, operation and performance analysis, improved, user-friendly Windows®-based software is provided. This software controls system communications such as feed rate, filtration rate and dispense rate.

Outstanding Defect Removal

Entegris offers a series of Impact® Plus and Impact® Plus PCM filters for use with the IntelliGen® 2 system. These filters combine advanced UPE membrane technology with innovative device design that minimizes photochemical exposure and waste while maintaining outstanding point-of-use defect removal performance.



Quick and Easy Filter Replacement

Save valuable time with fast, uncomplicated filter replacement. No tools are required!



1. Pull and lower filter



2. Replace filter



3. Raise arm and close

Features and Benefits

Feature	Benefits
Two-stage dispense technology	<ul style="list-style-type: none">• Low hold-up volume• Isolates filtration from dispense
3-step filter replacement	<ul style="list-style-type: none">• Easy to use• No tools required• Fast, time-saving filter replacement
Disposable, self-contained filter	<ul style="list-style-type: none">• Increases safety by reducing exposure to hazardous, volatile organic compounds• No drip, no draining required
Auto-recirculation and purge cycles	<ul style="list-style-type: none">• Lowers cost of ownership by minimizing photoresist waste• Reduces photoresist consumption by minimizing dispense volume• Removes bubbles, increasing chemical purity
Small, compact size	<ul style="list-style-type: none">• Saves valuable space in track equipment
PTFE wetted surfaces	<ul style="list-style-type: none">• Maintains photochemical purity• Provides chemical resistance

Specifications

Internal wetted surfaces:	Teflon® PTFE fluoropolymer resin
Fluid tubing:	Teflon® PFA fluoropolymer resin 1/4" O.D., 5/32" I.D.
Nonwetted surfaces:	Delrin®, stainless steel, electroless nickel-plated (ENP) aluminum with a Teflon® fluoropolymer coating
O-ring:	Kalrez® perfluoroelastomer
Dispense volume:	0.5–6.5 mL within limits, depending on dispense rate and fluid viscosity
Maximum system volume (with suckback, purge minimum is 0.1 mL):	6.4 mL*
Dispense rates:	0.08–5 mL/sec in 0.001 mL/sec increments*
Viscosity range:	1–100 cP*
Dispense accuracy:	Maintains a mean deviation of ± 0.020 mL for 1.00–5.5 mL
Dispense repeatability:	± 3 standard deviation < 0.02 mL for 1.0–5.5 mL
Maximum dispense pressure:	1.7 bar (25 PSI) @ 2.5 mL/sec
Dispense modes:	Fixed time dispense with optional fixed pre-dispense Fixed time dispense with coater controlled pre-dispense 10-step multiple fixed time/variable rate dispense with coater controlled pre-dispense
Suckback volume:	0.0–3.0 mL in 0.001 mL increments*
Suckback rate:	0.02–5 mL/sec in 0.001 mL increments*
Purge volume:	0.1–5.0 mL in 0.001 mL increments*
Filtration rate:	0.02–5.0 mL/sec in 0.001 mL/sec increments*
Certifications:	CE, SEMI S2
Current rating:	1.25 AMPS maximum
Input voltage:	System: 24 VDC $\pm 10\%$ Input/Output: 12–24 VDC $\pm 10\%$
Communications baud rate:	9600
Serial command and control port:	Multi-drop RS-232
Inlet gas:	N ₂ @ 4.40 ± 0.33 bar (65 ± 5 PSIG)
Vacuum:	≥ 20 " Hg (0.7 bar, 500 Torr)
Controller purge:	N ₂
Controller venting:	Approximately 2.75 L/min ($> 2X$ controller volume/min)
Dispense system noise level measurements:	≤ 63 dB(A)

*Varies with fluid type and viscosity.

Ordering Information

SYSTEM

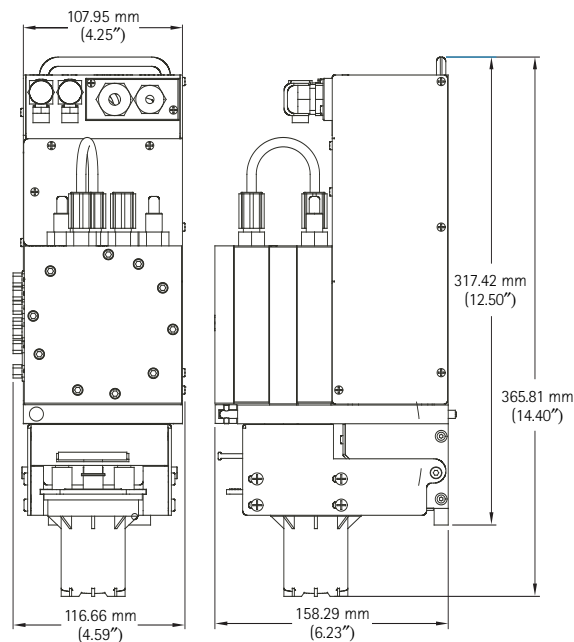
Part Number	Description
INGEN2PU0	IntelliGen® 2 dispense system
INGEN1ST0	Stand
WGEN02PS2	Power supply

Contact Technical Services for track cabling and external valve information.

FILTER

Part Number	Description	Retention Rating
AWMXP0001	Impact® Plus PCM filter	0.02 µm
AWMZP0001	Impact® Plus PCM filter	0.05 µm
AWATP0M01	Impact® Plus filter	0.01 µm
AWAXP0001	Impact® Plus filter	0.02 µm
AWAYP0001	Impact® Plus filter	0.03 µm
AWAZP0001	Impact® Plus filter	0.05 µm
AWAVP0001	Impact® Plus filter	0.1 µm
AWAGP0001	Impact® Plus filter	0.2 µm
DZU004401	Impact® flushing shell	-

Dimensional Information



For Additional Information

For learn more about how the IntelliGen® 2 dispense system can deliver repeatable, reliable, accurate photochemical dispense at the point-of-use, contact Entegris, Inc.

To review our complete line of fluid handling product solutions, see Entegris' *Fluid Handling Products catalog*, visit Entegris' Web site at www.entegrisfluidhandling.com or contact Entegris Customer Service for your free *Fluid Handling Products catalog* on CD-ROM.

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 In August 2005, Mykrolis Corporation merged with Entegris, Inc

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The materials integrity management company