

CEE Spin Developer Features and Benefits



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573-466-4300

Serving the Semiconductor Industry Since 1987

The Cee Advantages

Safety

- Spin chuck vacuum monitored by digital MEMS sensor
Stops spin process if vacuum is weak
- Lid interlock
Prevents operation with spinner lid open
- Vibration sensing
Detects off-center wafers
- Built in drain and fume exhaust systems
Safely guides waste chemicals out of the machine
 - Optional waste bottle full sensor system prevents overflowCaptures chemical fumes during spin process
 - Optional programmable exhaust flow management
- DataStream™ user management system
Limits who can operate and program the tool

User Management

Active Users

admin
eng
op
tech

New

Save

Delete

User Profile

Username Kevin-Bao

Password

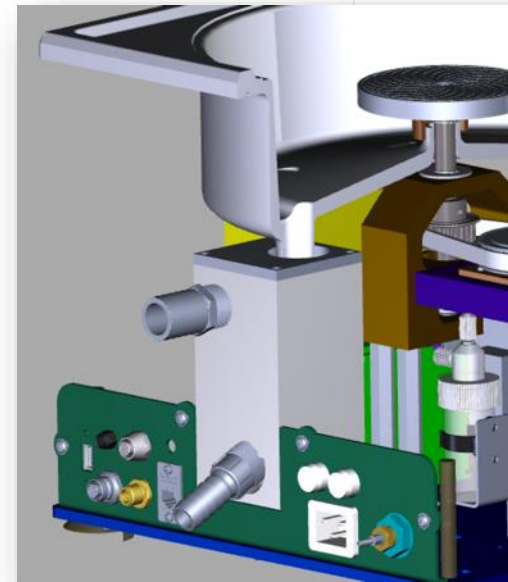
Confirm Password

Email

2nd shift coat tech

Permissions

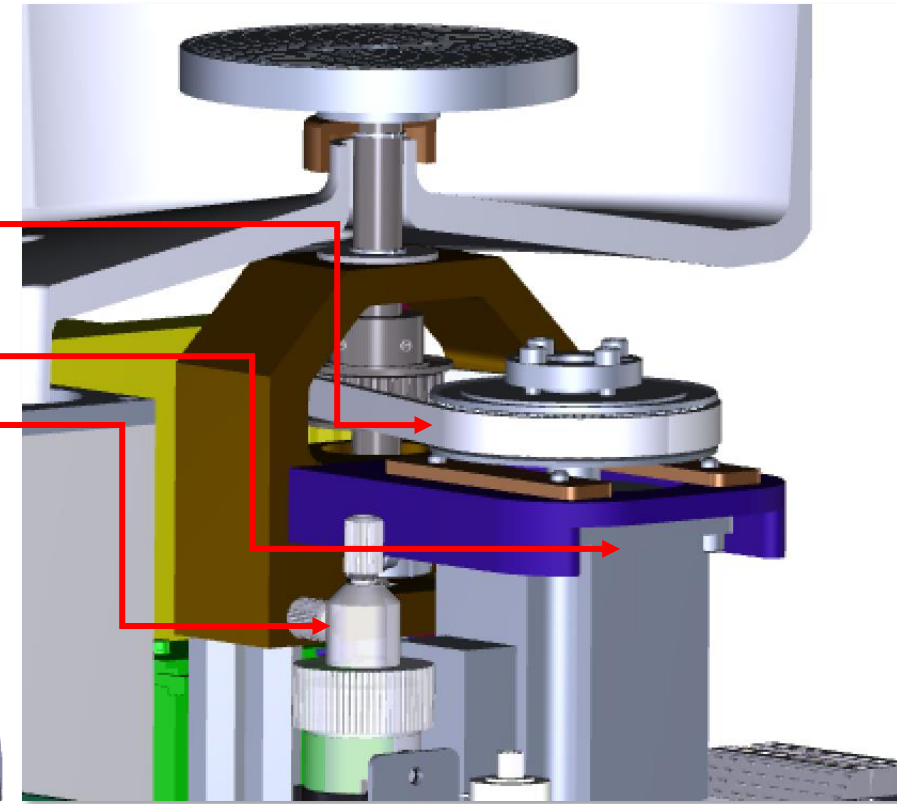
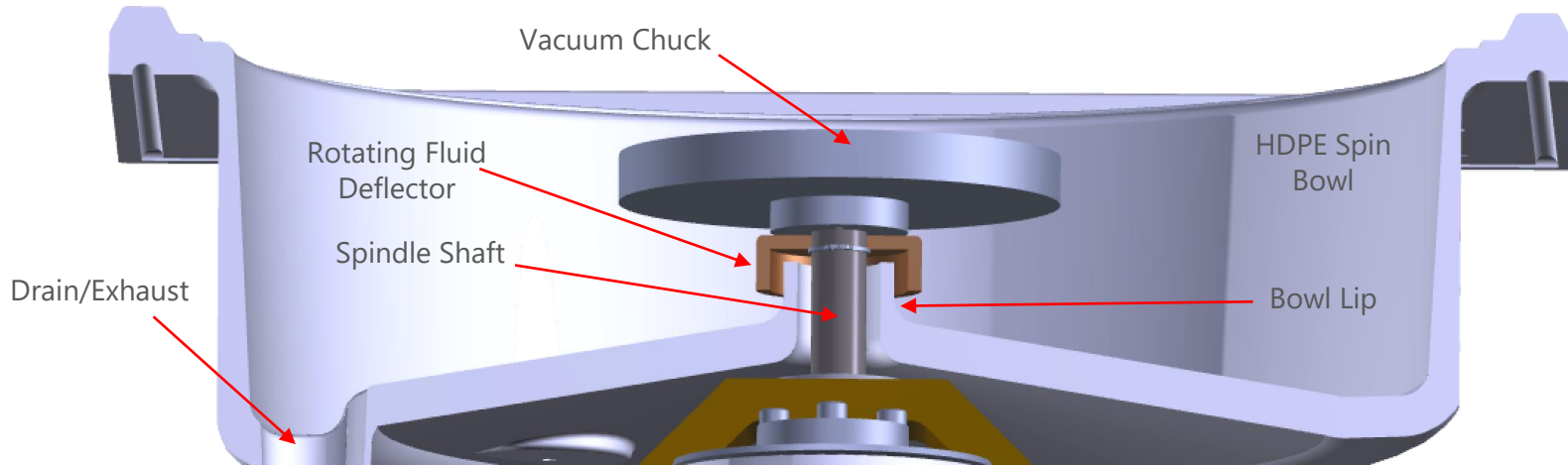
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Basic Recipe Editing ?	<input checked="" type="checkbox"/>
Advanced Recipe Editing ?	<input type="checkbox"/>
Export Log Files ?	<input checked="" type="checkbox"/>
Manual Tool Control ?	<input checked="" type="checkbox"/>
Remote Recipe Preparation ?	<input type="checkbox"/>
Tool Administrator ?	<input checked="" type="checkbox"/>
User Administrator ?	<input type="checkbox"/>



The Cee Advantages

Durability

- Indirect motor drive system (impossible to flood the motor)
- Oversized bearings and belt drive
- Brushless motor
- Teflon™ solvent trap protects vacuum valve and sensor
- Semiconductor-grade white powder coated stainless steel



The Cee Advantages

4th Generation Spin Chamber Design

- 28 years experience of Semiconductor tool development
- Wide selection of spray and puddle nozzles to choose from
- Integrated drain/exhaust separator for repeatable airflow

Superior repeatability wafer to wafer, hour to hour, day to day, machine to machine

- Sophisticated controls
- Manufacturing quality systems
- Designed for the lab and the fab



The Cee Advantages

DataStream™ System <https://www.costeffectiveequipment.com/technology/>

Critical parameters monitored and logged

Real-time charts and graphs

Access by web browser outside the lab/cleanroom (Tablet, PC, Phone)

Create/edit, upload/download process recipes

Monitor processes in real-time

Download detailed process logs in Excel® format

User permissions management

Unlimited recipes

Unlimited steps

Table View

Parameter	Actual	Set Point	Status
Spin Speed	0 rpm	0 rpm	In Range
Spin Acceleration	500 rpm/s	500 rpm/s	In Range
Active Dispenses	None	None	In Range
Dispense Source Empty	None		In Range
Chuck Vac	98.8 kPa	98.8 kPa	In Range
Waste Bottle Full	False		In Range
Ambient Temperature	28.4 °C		In Range
Humidity	18.7 %		In Range
Vibration	3		In Range

100% Elapsed 00:00:00 Remaining 00:00:00

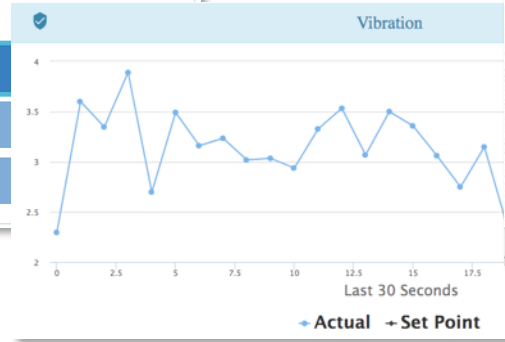
Editing Recipe-

Name: AZ_4620_ResistCoat

Use this for the GaN frontside prep.

Enable Chuck Vac

Step	Velocity (rpm)	Ramp (rpm/s)	Time (seconds)	Dispenses
1	250	1000	5	None
2	3780	12000	12	None
3	7200	1000	30	None



	A	B	C	D	E	F	G	H
1	Ambient Temperature - current (Chuck Vac - current (kPa)	Chuck Vac - setpoint (kPa)	Humidity - current (%)					
2	0.0865	27.3	0.0862	98.7507	0.0862	98.7507	0.0863	14.9
3	1.7484	27.2	0.9655	98.7352	0.3764	98.7352	0.3769	15
4	1.9169	27.3	1.2917	98.7507	0.5481	98.7507	0.6873	14.2
5	2.2092	27.2	4.1711	98.7352	1.2073	98.7352	0.966	15.5
6	2.5449	27.3	4.7808	98.7507	1.292	98.7507	1.1463	14.1
7	3.2502	27.1	5.3796	98.7352	1.6028	98.7739	1.2925	14.8
8	3.5619	27.2	6.6359	98.7507	1.7475	98.7507	1.6033	15.1
9	4.7819	27.3	6.7973	98.7352	4.7811	98.7739	1.7479	14.8
10	6.3321	27.2	8.06	98.7121	5.0818	98.7507	2.2087	15.1
11	6.6371	27.3	8.3577	98.7352	6.032	98.7352	2.5444	15
12	6.7984	27.2	8.6774	98.7121	6.3312	98.7121	2.9204	14.8
13	7.0681	27.3	8.9853	98.7352	6.6361	98.7352	3.5614	15.4
14	7.7561	27.4	9.2912	98.7121	8.0602	98.7121	3.8625	14.9
15	8.061	27.3	9.6619	98.7352	8.358	98.7352	4.1716	15
16	8.359	27.2	9.8902	98.7121	9.2914	98.7121	5.0823	14.9
17	8.9854	27.3	10.8308	98.6889	11.2425	98.6889	5.3802	14.8



Configurations

<https://www.costeffectiveequipment.com/service-support/technical-resources/developer-options/>

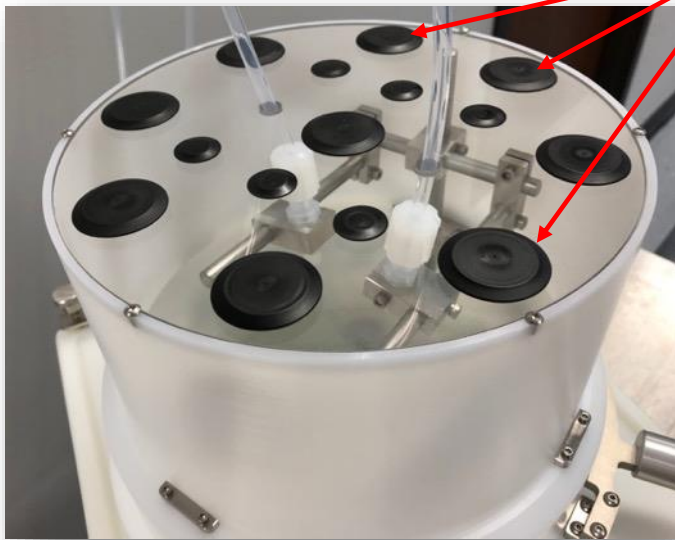


Flexibility

Chimney hood

- Uniform exhaust downflow
- Splash and droplet containment
- Infinitely adjustable nozzle mounts

Optional clear lid with removable plugs



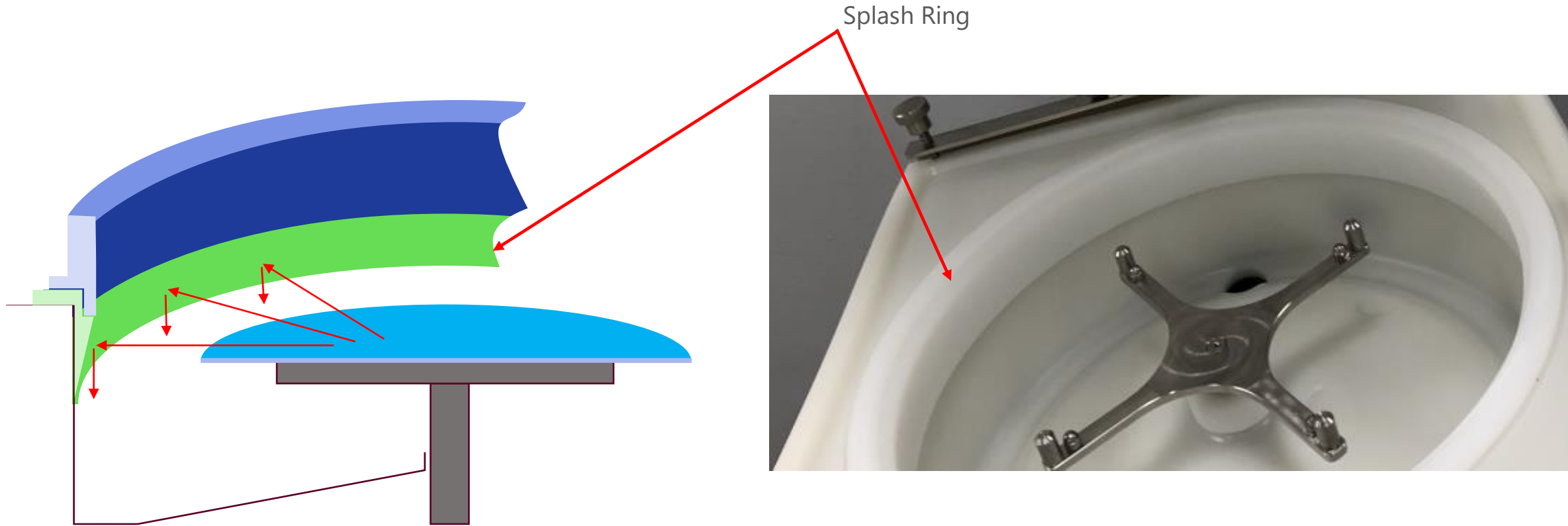
Removable
Airflow Plugs

Rod and Socket
Nozzle Mounts



Reliable Splash Control

Integrated Chimney, Splash Ring and Bowl

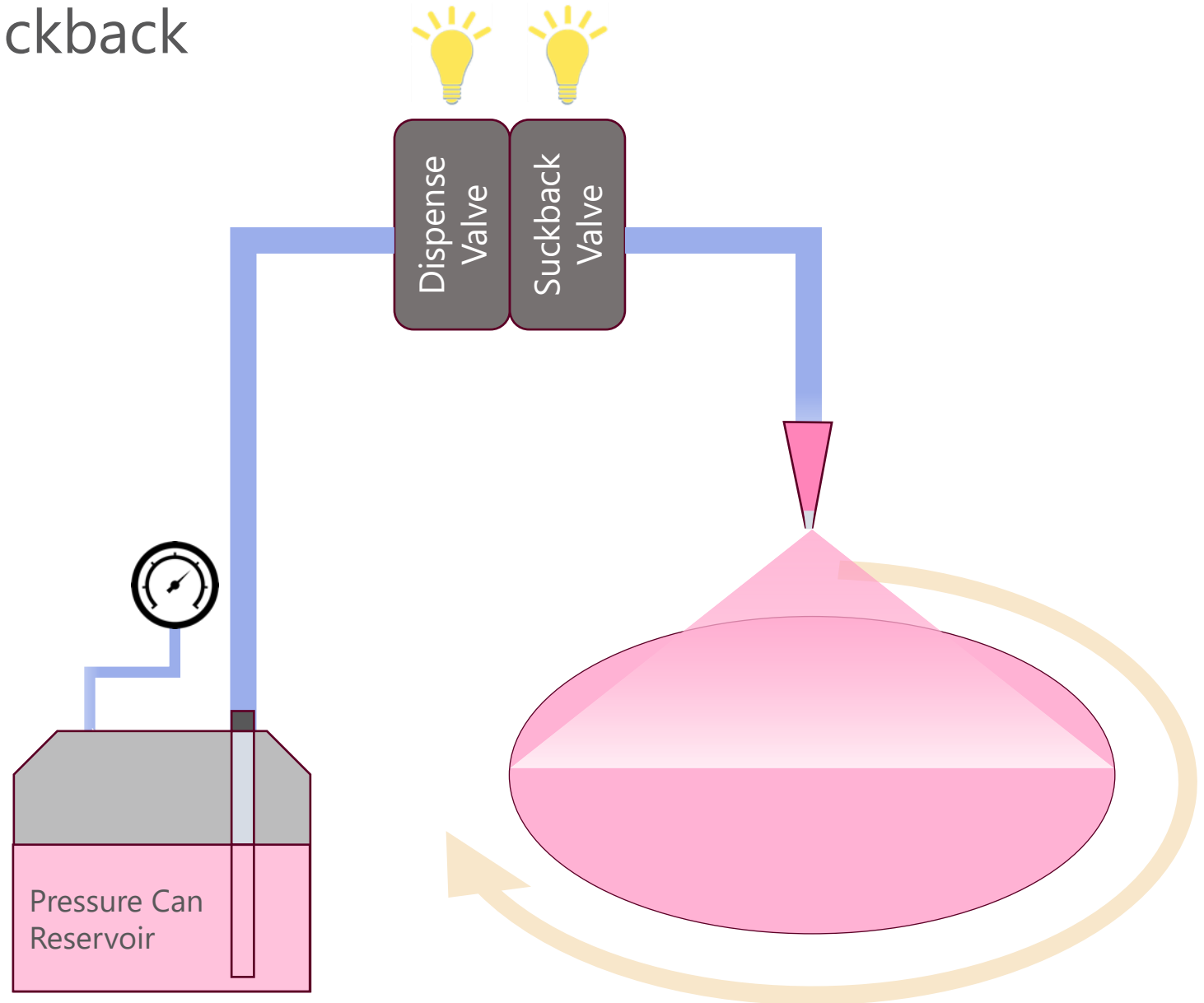


Adjustable Nozzle Flow with Suckback

Pressure can dispense uses a larger 1 gallon (4 liter) reservoir with low pressure N2 or air pressure to provide flow of liquid

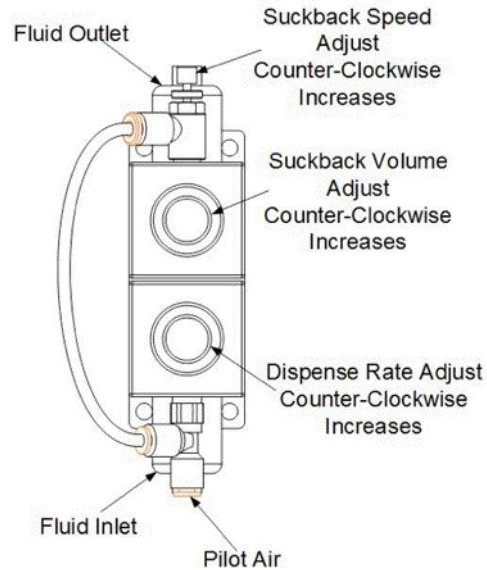
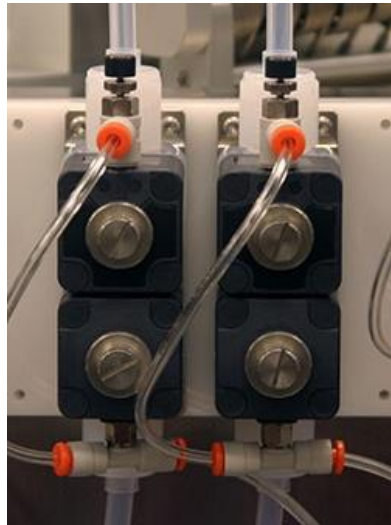
Dispense valve provides adjustable and repeatable flow control

Integrated suckback valve pulls fluid inside nozzle after dispense to prevent dripping

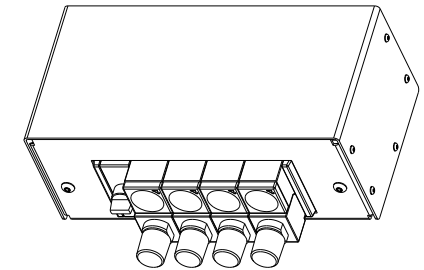
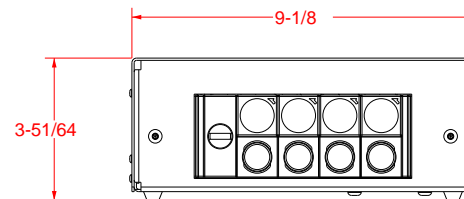
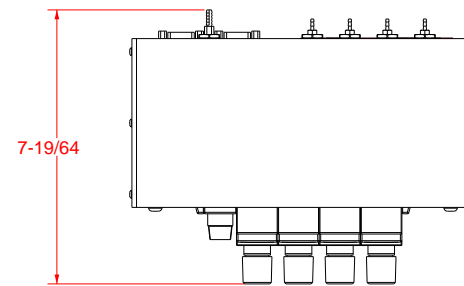


Dispense Controls

- Dispense control box adjusts reservoir pressure for developer pressure cans
- Valve adjustments
 - Flow rate
 - Suckback volume
 - Suckback speed



MULTIPLE DISPENSE CONTROL BOX



Apogee™ Spin Developer Specs

- 175mm Color Touchscreen Display
- DataStream™ Control System
- Indirect Drive
- Full Interlocks
- Integrated Drain/Exhaust

Model	Apogee Spin Developer	Apogee 450 Developer
Max speed	12,000rpm	6,000rpm
Max acceleration	30,000rpm/sec unloaded	30,000rpm/sec unloaded
Precision/resolution	<0.2rpm	<0.2rpm
Max substrate size	200mm round 180mm square	450mm round 355mm square

