

# Small molecule liquid dispense

## For Big Kahuna and Junior

Big Kahuna and Junior have an array of dispensing technologies that can handle a wide range of small molecule applications from preformulation workflows to demanding process chemistry screenings, including liquid and slurry dispense.

### Specifications

#### 1-tip liquid dispenser (PN: SG156535-001)

Description	1-tip liquid dispenser
Tip configuration	Single probe on arm center-line
Tip dimensions	2.03 mm OD x 0.76 mm ID x 323 mm L
Dispensing range	10 $\mu$ L - 250 mL
Dispensing precision	3 - 5% RSD

#### 4-tip liquid dispenser – fixed pitch – extendable tip (PN: F00234)

Description	Specification
Number of tips	<ul style="list-style-type: none"> <li>• 4 fixed pitch (3 + 1 with independent Z actuation)</li> <li>• 5 fixed pitch (4 + 1 with independent Z actuation)</li> <li>• 4 fixed pitch (4 with independent Z actuation)</li> </ul>
Pitch of tips	9 mm, 13 mm or 30 mm between each tip
Pitch accuracy	$\pm 0.05$ mm
Standard tip	Probe, single, standard TFE coated
Tip length	88.9 mm
Dispensing range	10 $\mu$ L - 250 mL
Dispensing precision	3 - 5% RSD



1-tip liquid dispenser



Heated 1-tip liquid dispenser

## Accessories compatible with 1-tip liquid dispenser (PN: SG156535-001) and 4-tip liquid dispenser - fixed pitch - extendable tip (PN: F00234)

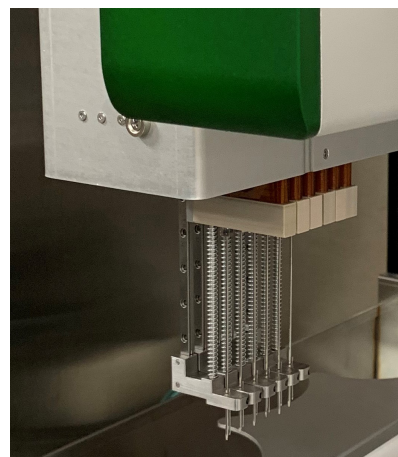
Unchained Labs part number	Tool
V11345	Probe, single, standard TFE coated
V10008	Cavro probe, liquid dispense, 323 mm
V10599	Tubing, Tefzel
SG154796	Syringe pump (see syringe table for compatible sizes)

## Heated 1-tip liquid dispenser (PN: F00433, F00571, F00699, F00431) Heated 4-tip liquid dispenser with extendable tip (PN: F00348) and Heated 6-tip liquid dispenser with extendable tip (AS00609)

Description	Specification
Number of tips	1, 4 or 6
Tip pitches	4-tip: Fixed (9 mm or 13 mm) 6-tip: Variable (9 - 20 mm)
Standard tip	22 gauge x 89 mm L, pt style 2, SST
Maximum tip insertion depth	80 mm
Number of heated volumes	1, 4 or 6
Heated volume per tip	1 mL
Heating temperature	Up to 120 °C
Heating accuracy	±2 °C
Heating uniformity	±2 °C across tips
Temperature drop from heater to tip exit	<5 °C at 5 mL/s
Thermocouples	1 for control
Extendable tips	1 (of the 4 or 6)
Extension length	86 mm



Heated 4-tip liquid dispenser – fixed pitch – extended tip



Heated 6-tip liquid dispenser – variable pitch – extended tip

## Accessories compatible with heated liquid dispensers

Unchained Labs part number	Tool
V12716	Removable needle, 22 Ga, pt style 2, 8.89 cm L
V139623	Removable needle, 16 Ga, pt style 2, 8.89 cm L
V13819	Tubing, Tefzel (PTFE), 1 mm ID x 1.6 mm OD
SG154796	Syringe pump, XLP6000

## Syringes compatible with liquid dispensers

Unchained Labs part number	Syringe volume
V16990	50 $\mu$ L
V131420	100 $\mu$ L
V131421	250 $\mu$ L
V131422	500 $\mu$ L
V131416	1.0 mL
V131417	2.5 mL
V131418	5 mL
V131419	10 mL

## Heated tip liquid dispenser accuracy and precision with a 22 gauge stainless steel needle

Syringe size	Viscosity range (cP)	Dispense volume ( $\mu$ L)	Accuracy ( $\mu$ L/%)	Precision ( $\mu$ L/%)
5 mL	~1–3 cP	50–5000 $\mu$ L	$\pm$ 3 $\mu$ L or 5%, whichever is greater	3 $\mu$ L or 4%, whichever is greater
1 mL		20–1000 $\mu$ L		
500 $\mu$ L		20–500 $\mu$ L		
250 $\mu$ L		10–250 $\mu$ L		
100 $\mu$ L		10–100 $\mu$ L		
1 mL	3–16 cP	20–1000 $\mu$ L	$\pm$ 4 $\mu$ L or 4%, whichever is greater	3 $\mu$ L or 4%, whichever is greater
500 $\mu$ L		20–500 $\mu$ L		
250 $\mu$ L		10–250 $\mu$ L		
100 $\mu$ L		10–100 $\mu$ L		
1 mL	16–40 cP	20–1000 $\mu$ L	$\pm$ 5 $\mu$ L or 5%, whichever is greater	$\pm$ 5 $\mu$ L or 5%, whichever is greater
500 $\mu$ L		20–500 $\mu$ L		
250 $\mu$ L		20–250 $\mu$ L		
100 $\mu$ L		20–100 $\mu$ L		



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