

Heat/cool/stir bay

For Big Kahuna and Junior

To find the right formulation, you need to stress your product. How about finding the right conditions for crystallization or process chemistry? These heat/cool/stir bay modules are essential to a variety of workflows on Big Kahuna and Junior.



Specifications

Heat/cool/stir bay (PN: F160861, F160860, F160809)

Description	Heat/cool/stir bay – 3 cooled positions	Heat/cool/stir bay – 1 cooled position	Heat/stir bay
Element size (U) width	2 U (120 mm)	2 U (120 mm)	2 U (120 mm)
Number of plates	3	3	3
Plate size	127.76 mm W x 84.48 mm D	127.76 mm W x 84.48 mm D	127.76 mm W x 84.48 mm D
Maximum height	122 mm	<ul style="list-style-type: none"> • 122 mm (standard positions) • 114 mm (chilled positions) 	122 mm (standard positions)

Stirring

Description	Heat/cool/stir bay – 3 cooled positions	Heat/cool/stir bay – 1 cooled position	Heat/stir bay
Magnet field strength	220 Gauss, minimum	<ul style="list-style-type: none"> • Chilled zone, 220 Gauss, minimum • Heated zones, 350 Gauss, minimum 	Heated zones, 350 Gauss, minimum
Stirring speed range	0–750 rpm	0–750 rpm	0–750 rpm

Heater control

Description	Heat/cool/stir bay – 3 cooled positions	Heat/cool/stir bay – 1 cooled position	Heat/stir bay
Number of heated zones	3	2 (zones 2 and 3)	3
Vial operating temperature	Ambient – 180 °C	Ambient – 180 °C	Ambient – 180 °C
Vial temperature accuracy	±5 °C	±5 °C	±5 °C
Heater temperature ramp rate	>5 °C/min while heating, cooling is uncontrolled	>5 °C/min while heating, cooling is uncontrolled	>5 °C/min while heating, cooling is uncontrolled
Heater temperature overshoot	<5 °C	<5 °C	<5 °C
Vial temperature overshoot	<1 °C	<1 °C	<1 °C
Vial temperature uniformity within each heated zone	<ul style="list-style-type: none"> <4 °C (standard vial rack) <10 °C (laminated rack) 	<ul style="list-style-type: none"> <4 °C (standard vial rack) <10 °C (laminated rack) 	<ul style="list-style-type: none"> <4 °C (standard vial rack) <10 °C (laminated rack)

Chiller control

Description	Heat/cool/stir bay – 3 cooled positions	Heat/cool/stir bay – 1 cooled position	Heat/stir bay
Number of chilled zones	3	1 (zone 1)	N/A
Vial temperature accuracy	±5 °C	±5 °C	N/A
Vial temperature uniformity within each chilled zone	<ul style="list-style-type: none"> <4 °C (standard vial rack) <10 °C (laminated rack) 	<ul style="list-style-type: none"> <4 °C (standard vial rack) <10 °C (laminated rack) 	N/A

Chiller performance for heat/cool/stir bay

Chiller model	Huber Unistat 705	Huber Ministat	Huber UC006 Advanced	Julabo LH45
Heat transfer fluid	Ethanol	Ethanol	Water/glycol	“Thermal HL45”
Vial temperature range*	-55–13 °C	-18–13 °C	-5 °C – ambient	-18–180 °C
Maximum cooling ramp rate	3.2 °C/min	1.5 °C/min	2.5 °C/min	1.5 °C/min
Maximum heating ramp rate	6.7 °C/min	5.0 °C/min	N/A	5.0 °C/min
Temperature overshoot	<2 °C	<1 °C	<5 °C	<2 °C
Vial temperature overshoot	<1 °C	<1 °C	<2 °C	<1 °C

*Vial operating temperature is vial- and solution-dependent.

Recommended substrates

Vials (all models)

Volume (mL)	Item	Unchained Labs part number	Description	Outside diameter (mm)	Height (mm)
2 High recovery	Vial with split septa	V14759	Vial, 2 mL, glass screw neck, lectrabond cap, PTFE/ silicon E septa	12	32
4	Vial with solid cap	V11101	Vial, 4 mL sample	15	47
8	Vial with solid cap	V10639	Vial, 8 mL, with solid cap	17	63
20	Vial with solid septa	V131451	Vial, 20 mL, Borosilicate glass, with 0.125" septum screw cap, blue	28	60
20 High recovery	Vial only	V14421	Vial, 20 mL/4 Dram, Borosilicate type I glass, 27.5 x 57 mm, 24-400 GPI, extra high recovery	28	57
40	Vial with solid septa	V17051	Vial, 40 mL, Borosilicate glass with 0.125" septum screw cap, blue	28	98
125	Jar with lid with hole	V11960-1	Wide mouth jar, 125 mL, with 0.50 DIA hole punched in lid	60	71

Standard vial racks (all models)

Vial volume (mL)	Number of vials	Number of rows	Number of columns
0.75	96	8	12
1	96	8	12
2	48	6	8
4	24	4	6
8	24	4	6
20	8	2	4
40	8	2	4
125	2	1	2
250	1	1	1



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