# MODULAR SAMPLE CASE ASSEMBLIES

Apex Instruments Modular Sample Case Assemblies are versatile, lightweight and available in a variety of configurations. There are three different filter ovens, and two different risers that can attach to the bottom of the ovens, with four different impinger cases. The impinger cases slide on and off for easy changing of the impinger sets between test runs. Several standard assemblies are available or the individual components can be purchased separately. Please inquire for additional details.

# Heated Filter Box Standard Features

- · Lightweight aluminum construction
- · Stainless Steel Probe Clamp
- Type K Thermocouple Jack
- Probe and Auxiliary Power Jacks
- 500 Watt Heater (750 Watt Optional)
- 1/2 inch E-Glass Insulation
- · Mounting Hardware for Riser
- Double Doors
- · Handle/Monorail Attachment
- Aluminum Liner
- · Stainless Steel Latches
- · Internal Reinforcement



# **SB-50 Modular Sample Case Assembly**

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Model	Description	
SB-50	Modular Sample Case Assembly, Includes Miniature Heated Filter Box SB-2M, Riser SBR-10, and Impinger Box SB-3 (holds 4 impingers), 120 V	
SB-50-V	Modular Sample Case Assembly, Includes Miniature Heated Filter Box SB-2MV, Riser SBR-10, and Impinger Box SB-3 (holds 4 impingers), 240 V	
SB-50/4	Modular Sample Case Assembly, Includes Miniature Heated Filter Box SB-2M, Riser SBR-10, and MId-Sized Impinger Box SB-4 (holds 6-8 impingers), 1'0 V	
SB-50/4-V	Modular Sample Case Assembly, Includes Miniature Heated Filter Box SB-2M-V, Riser SBR-10, and Mid-Sized Impinger Box SB-4 (holds 6-8 impingers), 240 V	





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Model	Description
SB-1	Modular Sample Case Includes SB-2 Heated Filter Box & SB-3 Impinger Box, 120V
SB-1V	Modular Sample Case (Includes SB-2V Heated Filter Box & SB-3 Impinger Box), 240V
SB-1/4	Modular Sample Case Includes SB-2 Heated Filter Box, 110 VAC and SB-4 Impinger Box, holds 6-8 impingers
SB-1/4V	Modular Sample Case, includes SB-2 V Heated Filter Box, 240V and SB-4 Impinger Box, holds 6-8 impingers







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# **FILTER OVENS**

Constructed of lightweight powder-coated aluminum-lined panels with stainless steel clamps, hardware and E-Glass insulation thermal insulation. Internal reinforcements reduce flexing of box when testing with long probes. Front and rear doors provide greater accessibility. The handle is designed for attaching to a monorail for easy traversing.



SB-2M

Shown with GA-104 Strain Relief. Order Separately

### **SB-2M Miniature Heated Filter Box**

has two access doors and probe clamp; 120V/60 Hz standard. Dimensions: 13.5" x 9.5" x 9.5", (34.3 x 24 x 24 cm), Weight: 10 lbs (4.5 kg).

### SB-2M

### SB-2MV

Add "V" to end of part number for 240V at no extra cst.

#### STRAIN RELIEFS FOR SB-2M

The GA-107 strain relief is used with sample lines at the SB-2M during Flexible Method 5 sampling. Includes bracket that attaches to the SB-2M and standard mount with clamp. 1/2" tube.



GA-107-12

The 1" probe clamp may easily be removed from the oven and replaced with different alternative probe clamps. A SBR-10 Riser is for mounting the impinger case in the rigid arrangement. The SB-2 is the traditional full-size filter oven that is designed for the rigid arrangements for accommodating a cyclone before the filter. The SB-2M Miniature Filter Box and SB-2 Filter Oven will accept standard 2", 3", and 4" filter assemblies.

#### **Filter Oven Features**

- · Light-Weight
- Durable Powder-Coated Aluminum
- Handle for Easy Traversing

### STRAIN RELIEFS FOR SB-2M

The GA-104 connects a 3/8" sample line to the filter exit of the SB-2M oven. Standard comes with #28 socket, thermocouple, and 1/2" to 3/8" reducing union.



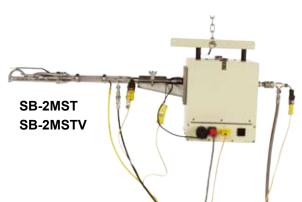
**GA-104** 

**GA-113** 

The GA-113 strain relief is used specifically with heated sample lines at the SB-2M during Flexible Method 5 sampling. Includes bracket that attaches to the SB-2M and an adjustable Velcro® strap to grip heated sample lines.



GA-113



### SB-2M-ST Straight Through Heated Filter Box has

two access doors and probe clamp. The Apex SB-2M-ST is the SB-2M with the probe clamp raised so an in-line filter assembly can be used without the need for the cyclone bypass. In addition #28 Stainless Steel Socket with a 3/8" full flow quick-connect is installed on the outlet. Accepts filter assembly GNFA-3-STR. Dimensions: 13.5" x 9.5" x 9.5", (34.3 x 24 x 24 cm), Weight: 10 lbs (4.5 kg) 120V/60 Hz standard. Add "V" to end of part number for 240V/50 Hz at no extra cost.

#### SB-2MST **SB-2MSTV**

### STRAIN RELIEFS FOR SB-2M-ST

Stainless Steel #28 Socket Adapter with Full Flow 3/8" quick connect and Mounting Bracket, Used on SB-2M Straight Thru To Attach Sample Line.





**GA-108** 

### **Classic Full Size Heated Filter Box**

has 2 access doors, probe clamp and accepts cyclone. 120 V/60 Hz standard. Dimensions: 23.5" x 9.5" x 9.5", (60 x 24 x 24 cm), Weight: 16 lbs (7.3 kg).

Add "V" to end of part number for 240V/50Hz at no extra cost.

**SB-2** 

SB-2V



#### Classic Full Size Heated Filter Box

Model	Description
PC-1	Probe Clamp for 1 inch OD Probe Assemblies
PC-1VU	Vertical Probe Clamp for Up-Traverses, 1 inch Clamp
PC-1VD	Probe Clamp for Down-Traverse, 1 inch Clamp
PC-2/32	Probe Clamps for 2" Bevel Packing Gland



For more information, contact us: sales@pacwill.ca

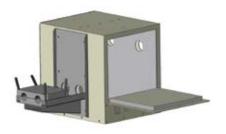
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### **NEW DUAL HOT BOX**

Model	Description
SB-2MD	Miniature Heated Filter Box with 2 Access Doors & Probe Clamp, 120V. Modified With 2 inlets/outlets for use with dual-probe.
SB-4SD	Impinger Box/Insulated Coolant Reservoir SB4SD, Holds 8 impingers, divided with 2 sections
SB-4SDM2	Impinger Box/Insulated Coolant Reservoir Model SB-4SDM2, Holds impingers, submersible pump, divided with 2 sections (offset); used for Method 202



# **IMPINGER CASES (COLD BOXES)**

Apex offers four different removable Sample Box Impinger Cases. These cases are constructed from a thicker aluminum to reduce cracking, durable polyethylene foam insulation, and pre-punched foam insert for holding the impinger bottles in place, and have a fold down handle with a rope centering guide and two high strength brackets for mounting strain relief. The cases slide on and off the heated filter box for easy changing of the impingers between test runs. All cases are equipped with a spring-loaded latch to prevent accidental slippage.



## **Impingers Cases**

Model	Description	Holds Impingers	Dimensions (HxWxD)	Weight
SB-3	Impinger Box/Insulated Coolant Reservoir; Model 100	4	9.5" x 9.5" x 13.5" (24.1 cm x 24.1 cm x 34.3 cm)	5 lbs (2.3 kg)
SB-4	Impinger Box/Insulated Coolant Reservoir; Model 150	6	12.5" x 9.5" x 13.5" (31.8 cm x 24.1 cm x 34.3 cm)	6 lbs (2.7 kg)
SB-4SD	Impinger Box/Insulated Coolant Reservoir; Divided; Model 150	4	12.5" x 9.5" x 13.5" (31.8 cm x 24.1 cm x 34.3 cm)	6 lbs (2.7 kg)
SB-5	Impinger Box/Insulated Coolant Reservoir; Model 200	8	16" x 9.5" x 13.5" (40.6 cm x 24.1 cm x 34.3 cm)	7 lbs (3.2 kg)

# **RISERS**

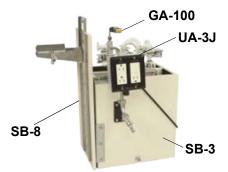
Sample Case Risers attach to the base of the filter oven for test methods requiring extra height between the filter outlet and the first impinger. The SBR-10 Riser is required for attaching the impinger case to the SB-2M for rigid arrangements. SBR-18 Riser is primarily used for Method 23 sampling when using a vertical condenser.



SBR-10

<sup>0</sup> SBR-18

Model	Description	Dimensions (HxWxD)	Weight
SBR-10	Riser for SB-2M, impinger box adapter, 10" riser with insulated reservoir	9.5" x 9.5" x 10" (24.1 cm x 24.1 cm x 25.4 cm)	10 lbs (4.5 kg)
SBR-18	Riser for MM5, impinger box adapter, 18" riser with insulated reservoir	9.5" x 9.5" x 18" (24.1 cm x 24.1 cm x 45.7 cm)	10 lbs (4.5 kg)



### MODULAR SAMPLE CASE FRAME

The Modular Sample Frame (SB-8) with Probe Clamp is an ideal addition for sampling methods that require no heated filter compartment such as Method 8, Method 306 and in-stack filtration methods. The SB-8 secures the probe and impinger case in a rigid manner. The sample frame is made of durable powder coated aluminum with stainless steel probe clamp and impinger case slides.

# **Umbilical (Gooseneck) Adapter**

The GA-100 connects the final impinger outlet to the umbilical cable. Standard with #28 socket, thermocouple and 1/2" stainless steel male quick connect. Mounts on Impinger box.**GA-100** 

### Impinger Inlet Strain Relief

The GA-109 strain relief is used with sample lines at the impinger box when performing Flexible Method 5 sampling. Includes bracket that attaches to the impinger box and standard mount with sample line clamp (specify size). Available from 3/8" tube to 2" or 3".

-S is for Velcro version.

GA-109-12

GA-109-12 GA-109-S

# **Power Box Adapter**

The UA-3J connects to umbilical 4-pin circular connector and converts to three straight blade receptacles. Clamps to 1/2" sample line or GA-100 adapter. The UA-3J is used in conjunction with the Compact Method 5, Method 8, Method 17 and in other sampling situations in which power for the probe is not available due to the absence of a heated filter box. **UA-3J** 

UA-3J-V Adapter, Power, U-Cord, 3 receptacles, 220V Power Box Adapter, Includes 1/2 inch Mounting Clamp and 4 Pin Amphenol to 3 Receptacles. **UA-3J-V** 



**GA-100** 

UA-3J





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