

Model 110 Canister Conditioning Bench

The Webber EMI Canister Conditioning Bench is used to pre-condition charcoal canisters in accordance with all applicable EPA and CARB protocols.

The Canister Conditioning Bench uses a Windows-based Data Acquisition & Control system, combined with an intuitive graphical user interface and touch screen monitor, to allow the user to quickly set up canister conditioning procedures. The Webber EMI proprietary software package allows for auto-sequencing of purge / fill cycles, comprehensive data reporting, and includes built-in leak-check and calibration utilities.

The Canister Conditioning Bench is available in either a Single-Station or optional Dual-Station configuration:

- *A Single-Station Bench allows the user to condition a single charcoal canister or two charcoal canisters sequentially.*
- *A Dual-Station Bench allows the user to condition two charcoal canisters simultaneously or up to four charcoal canisters sequentially.*



Dual-Station Canister Conditioning Bench

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GENERAL SPECIFICATIONS

- *Construction:* Modular 19" rackmount enclosure with removable service panels.
- *Dimensions:* 72" H x 24" W x 36" D (1.8 m H x 0.6 m W x 0.9 m D)
- *Power Requirements:* (2 x) 120 / 220 VAC 50/60Hz, 20 Amp single phase.
- *Dedicated filter / regulator assemblies for Butane and Nitrogen supply gases.*
- *Dedicated vacuum pump (1 per station) for purge and leak-check operations.*
- *Dedicated Scale (1 per station) for direct weighing of reference canister.*
- *Front panel quick-disconnect fittings for connection to test canisters.*
- *Cabinet purge vent blower with low-flow detector and alarm.*
- *All 'wetted' component stainless steel, Teflon®, or PVC.*
- *Purge Air Absolute Humidity and Temperature sensor.*
- *Standard System Flow Rates:*
 - *Purge Air: 0 - 50 slpm (0 – 1.8 cfm)*
 - *Butane: 0 - 40 grams/hour*
 - *Nitrogen: 0 - 1 slpm*
- *Mass Flow Controller Accuracy: +/- 1.5% of full scale.*



OPTIONAL EQUIPMENT

- *External Scales for direct weighing of up to four (4) test canisters.*
- *Onboard UPS (Uninterrupted Power Supply).*
- *L.E.L. (Lower Explosive Limit) gas detector and alarm system.*
- *Humidity control system for purge air supply.*

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CONTROL SYSTEM FEATURES



- Real time monitoring of Test Progress.
- Interactive Test Setup and configuration.
- Minimal operator setup and system maintenance requirements.
- Humidity, Temperature, Flowrate, and Mass charting.

TEST SETUP			
1 A 1ST IN QUEUE	1 B 2ND IN QUEUE	2 A NOT IN QUEUE	2 B 1ST IN QUEUE
QUEUE	STATION 1	STATION 2	SELECTED
TASK 1	1A	2B	2B
TASK 2	1B		REMOVE
LOAD TEST	LOAD / SAVE TEST DOES NOT INCLUDE CANISTER INFORMATION		
SAVE TEST			
TEST INFORMATION	ESTIMATED TIMES		
TEST INSTRUCTIONS	LEAK CHECK	00:00:30	
SYSTEM SETTINGS	PURGE CYCLE	00:13:15	
CANISTER INFORMATION	FILL CYCLE	00:33:00	
	TOTAL TEST	00:46:45	
TEST REPORT FILENAME			
PATH	C:\TESTS\		
REPORT			
DATALOG			
CLEAR FIELDS TO AUTO-GENERATE FILENAMES AT START OF TEST			
CLEAR			
PURGE CYCLE			
AIR FLOW RATE		22.65	lpm
CANISTER BED VOLUME		1,000	liter
BED VOLUME MULTIPLIER		300.0	X
AIR HUMIDITY		8.6	gm/m ³
AIR TEMPERATURE		25.0	°C
FILL CYCLE			
BUTANE FLOW RATE		40.0	gm/hr
COMPOSURE RATIO		50.0	%
BREAKTHROUGH WEIGHT		2.0	gm
FILL TIME TARGET		0:00	hr
CANISTER WORKING CAP		20.0	gm
WORKING CAP MULTIPLIER		1.0	X
NUMBER OF CYCLES		1	X

TEST PROGRESS			
1 A NOT IN QUEUE	1 B NOT IN QUEUE	2 A NOT IN QUEUE	2 B 1ST IN QUEUE
CURRENT TEST PROGRESS			
START	TEST NAME	Load - 2gm Breakthrough	
TEST TIME	CANISTER	WEMI	42
TIME	12:46:13	ESTIMATED	00:33:35
DATE	03/28/2014	FILL CYCLE	In Progress ...
DELAY	00:00:00	ELAPSED	00:01:41
LEAK CHECK PROGRESS			
VACUUM		PRESSURE	
PULL	0.00 SEC	SV	-50.0 kPa
ESTIMATED	00:00:30		
HOLD	0.00 SEC	PV	-2.9 kPa
ELAPSED	00:00:30		
PURGE CYCLE PROGRESS			
AIR FLOW		TEMPERATURE	
SV	22.6 lpm	SV	25.00 °C
PV	0.3 lpm	PV	21.82 °C
HUMIDITY		CYCLE TIME	
ABS	8.4 gm/m ³	ESTIMATED	00:00:05
REL	43.6 %	ELAPSED	00:00:09
FILL CYCLE PROGRESS			
BUTANE FLOW		NITROGEN FLOW	
SV	40.0 gm/hr	SV	0.28 lpm
PV	39.1 gm/hr	PV	0.28 lpm
SCALE		CYCLE TIME	
B/T	2.0 gm	ESTIMATED	00:33:00
AUX	0.0 gm	ELAPSED	00:00:51
EXT	0.0 gm	CYCLE	1 OF 1

- Independent, sequential, and multiple canister conditioning operations.
- User selectable Butane-to-Nitrogen mixture by volume (composure ratio).
- User selectable flow rates: 0 – 100% of flow range.
- Comprehensive test data and alarm logging.
- Determination of canister working capacity via 'breakthrough' methodology.