



HUMBOLDT

HM-4140,4150,4160 FlexPanels



HM-4160



HM-4150



HM-4140

Humboldt FlexPanels provide a simple and highly efficient distribution system for providing air, water and deaired water for use in permeability and triaxial testing applications. The FlexPanel's simple, straight-forward configuration, with its integral burettes provides a condensed/compact design that takes up less counter space than competing systems with air/water bladders.

The long, narrow burette design of Humboldt's FlexPanels provide faster test processing times when compared to larger, shorter burette systems, while providing the same volume. This is due to the reduced amount of meniscus formation in the narrower burettes, which allows the water level to drop faster, resulting in faster readings. In addition, the use of

longer/narrower burettes and a scale graduation of 0.02ml, also provides an easier-to-read and more accurate scale.

FlexPanels also feature a bias regulator and bridge. The bias regulator maintains the differential pressure when confining and back pressures are increased. The bridge delivers simultaneous control of base and top pressures through the use of just one regulator. This feature minimizes operator time and reduces the margin of error in opening and adjusting regulators during a test. The Humboldt Flexpanel System is comprised of 5 separate panel configurations, which can be grouped together to accommodate from 1 to 5 cell setups.

Humboldt FlexPanels Features:

- Bias pressure regulator allows simultaneous control of confining and back pressures, while maintaining a constant differential
- Longer Burette and 0.02ml graduation give more accurate results, better productivity, and faster turnaround
- Cost efficient, expandable system
- Uses no-volume-change Swagelock valves
- Bridge feature delivers simultaneous control of base and top pressures by adjusting one pressure regulator
- Quick-connect hookups for fast and reliable set up.
- Master control panel houses digital pressure readout for the controlling pressure, inlet vacuum regulator & gauge, inlet pressure regulators and gauge, de-aired water tank controls, tap and de-aired water supply outlets, and pressure & vacuum outlets
- Humboldt's bridge and bias controls simplify testing
- Long burette design provides a highly accurate scale, as well as faster test response and results
- Lightweight, aluminum frame is extremely durable and resists rust
- Complies with ASTM D5084; BS 1377 Part 6 1990.

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The Control Panel

The HM-4140 control panel or the integral control panels on the HM-4150 and HM-4160 are identical and include: a digital readout pressure meter, a pressure supply gauge, a master pressure regulator, a vacuum supply gauge, a master vacuum regulator, de-aired water tank controls, tap and de-aired water supply outlets and pressure and vacuum outlets.

Fast and Easy Setup and Operation

Humboldt FlexPanels make setup fast and easy with clearly labeled ports and quick-connect hookups. Operation is just as easy with clearly labeled controls, large gauges and easy-to-read burette markings.

All Humboldt FlexPanels use no-volume change Swagelock valves and Fairchild constant-bleed type precision regulators for accurate control. All inlets and outlets utilize quick-connects to ensure fast, accurate setup to permeator cells, as well as air, water and drain hook ups. Fittings, tubing and connectors are supplied with each unit. All FlexPanels are designed to handle air pressures up to 150 psi. For testing contaminated samples, Humboldt offers an optional Toxic Interface Unit, which prevents toxic fluids and vapors from entering the FlexPanel.

FlexPanel Add-ons



Rear of panel showing quick-connect hookups and plumbing.

Humboldt FlexPanels

	HM-4140	HM-4150	HM-4160	HM-4150A	HM-4160A
Pressure/ Resolution	2-150 psi (0.1 psi) Metric Models: 14-1000 kPa (1 kPa)				
Vacuum	0-14.7 psi (0-100kPa) or 30 Hg				
Inner Burette					
Cell	50cc x 0.1 cc (ml)				
Top	NA				10cc x 0.02 cc (ml)
Base				10cc x 0.02 cc (ml)	
Outer Burette					
Cell	400cc (ml)				
Top	NA				460cc (ml)
Base				460cc (ml)	
Voltage	115V 50/60Hz 220V 50/60Hz (use .4F suffix to part number, i.e. H-4150.4F)			NA	
Power	6 watts				
Operating Temp.	14 to 158°F (-10 to 70°C)				
Dimensions	8" x 8" x 37.5" (203 x 203 x 952mm)	8" x 25.5" x 37.5" (203 x 648 x 952mm)	8" x 43.5" x 37.5" (203 x 1105 x 952mm)	8" x 19.5" x 37.5" (203 x 495 x 952mm)	8" x 37.5" x 37.5" (203 x 952 x 952mm)
Shipping Weight	35lb (16kg)	107lb (49kg)	157 (71kg)	95lb (43kg)	145lb (66kg)



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