

# Baldwin™-Series Classic Coolers

## High Capacity Coolers For High-Performance, High-Flow Applications

- Dependable water removal
- Dual sample streams
- LCD temperature display
- Analog controlled
- Low maintenance
- EZ-Clean twist-apart impingers
- Excellent corrosion resistance
- Alarm relay protects analyzers

Perma Pure Baldwin™-Series Classic thermo electric coolers have a solid history of reliable performance. The original Classic Series of coolers are specifically designed for high flow rate, high ambient temperature, and high water volume applications.

### Principle of Operation

All Baldwin-Series coolers use thermo-electric elements or Peltiers, to cool the sample gas to the desired dew point temperature. A Classic thermo-electric cooler is best illustrated as a small heat pump with no moving parts. The Peltiers operate by applying direct current to two dissimilar metals, causing a temperature differential, inducing condensate formation. The condensate formed should be removed with a small peristaltic pump.

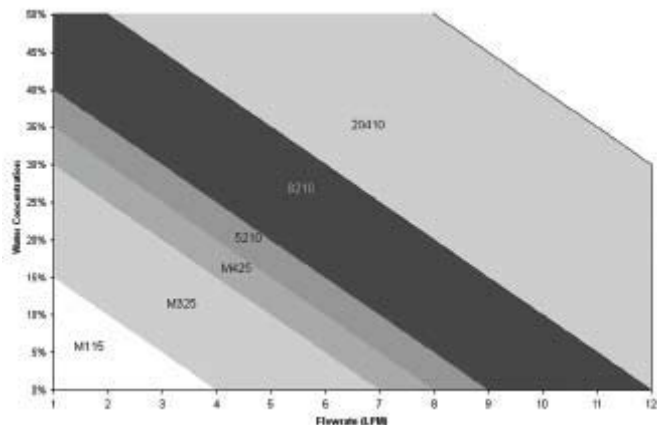
For more information about thermo-electric coolers please visit our website at [www.permapure.com](http://www.permapure.com).



# Classic

Thermo-Electric Cooler

## Model Selection



Model	Heat Exchangers		Dimensions HWD	Weight
	Passive	Active		
610P	1 x 10 in.		11 x 10 x 10 in 28 x 25 x 25 cm	15 lbs 7 kg
M115		1 x 5 in.	13 x 7 x 11 in 33 x 18 x 29 cm	15 lbs 7 kg
M325	1 x 5 in.	1 x 5 in.	13 x 7 x 11 in 33 x 18 x 29 cm	17 lbs 8 kg
M425		2 x 5 in.	13 x 7 x 11 in 33 x 18 x 29 cm	17 lbs 8 kg
5210	1 x 10 in.	1 x 10 in.	15 x 11 x 11 in. 38 x 28 x 28 cm.	27 lbs 12 kg
8210		2 x 10 in.	15 x 13 x 12 in 38 x 33 x 30 cm	39 lbs 18 kg
20410	2 x 10 in.	2 x 10 in.	15 x 13 x 12 in 38 x 33 x 30 cm	39 lbs 18 kg



Model 610P Pre-cooler



Model 5210

## General Specifications

Boards	Main control board Water slip alarm relay board HE thermocouple temperature transmitter
Display	LCD temperature display* LED heat exchanger status indicators
Alarm Relays	Cooler over temperature Cooler thermocouple failure
HE Types	One piece or EZ-Clean™ twist apart
HE Materials	Stainless steel, Durinert® treated stainless steel, Kynar®, Glass
HE Connections	1/4" FNPT Inlet (first heat exchanger) 1/8" FNTP Outlet 3/8" FNPT Drain
Heat Sink	High heat transfer aluminum
Voltage	110 VAC, 220 VAC; 50/60 Hz

\* LCD is an optional upgrade on Model M115 and not available on Model 610P.

## Operating Specifications

Max inlet sample temperature	400°F (205°C) SS, Durinert, Glass impingers 280°F (138°C) Kynar impingers
Max inlet pressure	45 psig; (3 bar; 2250 mmHg)
Max HE pressure drop	< +1 in H2O
Ambient temperature	33-104°F (0.6 – 40°C)
Outlet dew point	41°F (5°C)



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