

IMR 400 Dryer System



**IMR 400 (Flue Gas Conditioning Unit)**

The IMR 400 is a wall-mounted flue-gas dryer, and is designed to prepare flue-gases for a wide variety of gas monitoring applications. The IMR 400 is a 'stand-alone' system that works automatically. The rugged wall mounted enclosure meets NEMA type 4 (IP65) classification. The first step of the flue-gas conditioning process is filtering the gas sample. The filtered flue-gas enters the IMR 400 through a heated hose. The heated hose keeps the sample hot until it reaches the IMR 400. The system then removes the water vapor with a Peltier-cooler from the hot sample. The IMR 400 is designed to prepare flue-gases for the IMR 5000 CEMS flue-gas analyzing system.

**Includes:**

- 1) Sample Probe Length: 250mm\*
- 2) Flange Ø 100 mm
- 3) Particulate Filter:
  - a) SS stainless Filter
  - b) 99.99% removal of 3 micron particles
- 4) Heated Sample Line: 1.5m\*
- 5) Cooler Type: Peltier
  - a) Flow rate (gas path): max. 250 l/h
  - b) Gas temperature inlet: max. 140°C
  - c) Ready for Operation: < 15 min.
  - d) Cools sample to: 5°C
  - e) Housing, color: stainless steel, natural
  - f) Gas wetted parts: aluminum coated
  - g) Condensate removal: approx. 0.30 l/h
- 6) 24 VDC Pump
- 7) Circuit protection
- 8) IP65 NEMA 4x Enclosure
- 9) Capable of working between temperatures of -10 and 40°C
- 10) Operating Environment 90% RH non-condensing
- 11) Supply voltage (single):  
115 VAC OR 230 VAC @50/60 Hz

\* Different Lengths available on request



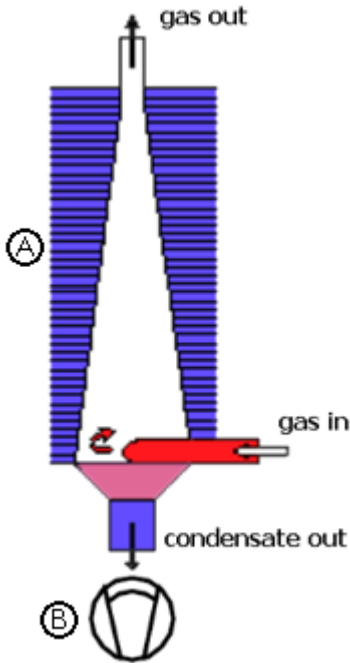
Dimensions: 19" x 17" x 12"  
Weight approx.: 30 lbs.

[www.imrusa.com](http://www.imrusa.com)  
[IMR 5000 Brochure](#)

IMR 400: Item# 0400-Basic

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The Peltier cooler is designed to reduce the dew-point of the flue-gas to about 5°C, this eliminates condensation. The hot flue-gas enters the heat exchanger and the flue-gas comes in contact with the cold wall of the heat exchanger. The immediate separation of the water vapor is the result. Again virtually all elements of the flue-gas sample are retained, except the water vapor. The condensed water exits through a tubing pump. The filtered and dried flue-gas can now be analyzed by the IMR 5000 CEMS or any other flue-gas analyzer.



- Flow rate (gas path): max. 250 l/h
- Gas temperature inlet: max. 140C
- Ambient Temperature: 5-40C
- Ready for Operation: < 15 min.
- Outlet dew point: 5C
- Housing, color: stainless steel, natural
- Gas wetted parts: aluminum coated
- Condensate removal: approx. 0.30 l/h
- Supply voltage (single): 115 VAC OR 230 VAC
- Cooling element: Peltier
- Dimensions over all (W x H x D): 11.38" x 12.13" x 5.1"
- Weight (approx.): 20.5lb

- (A) Actively cooled heat exchanger
- (B) Condensate pump

Working principle IMR 400 Peltier gas dryer in connection with IMR 5000 CEMS

