



# IM 400 FLUE GAS CONDITIONING SYSTEM

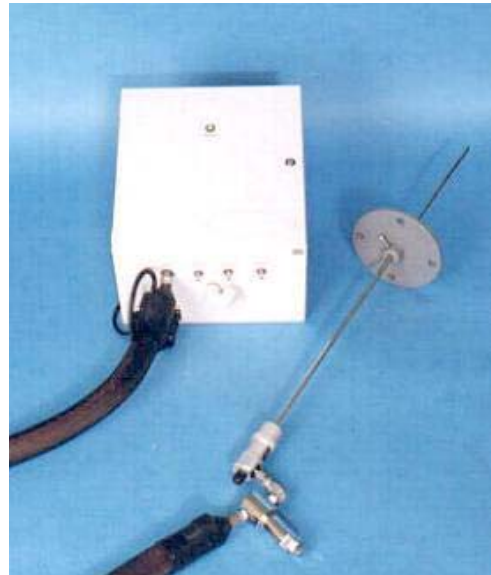
The IM 400 is a wall-mounted flue-gas dryer, and is designed to prepare flue-gases for a wide variety of gas monitoring applications.

The IM 400 is a 'stand-alone' system that works automatically. The rugged wall mounted enclosure meets NEMA type 4 (IP65) classifications.

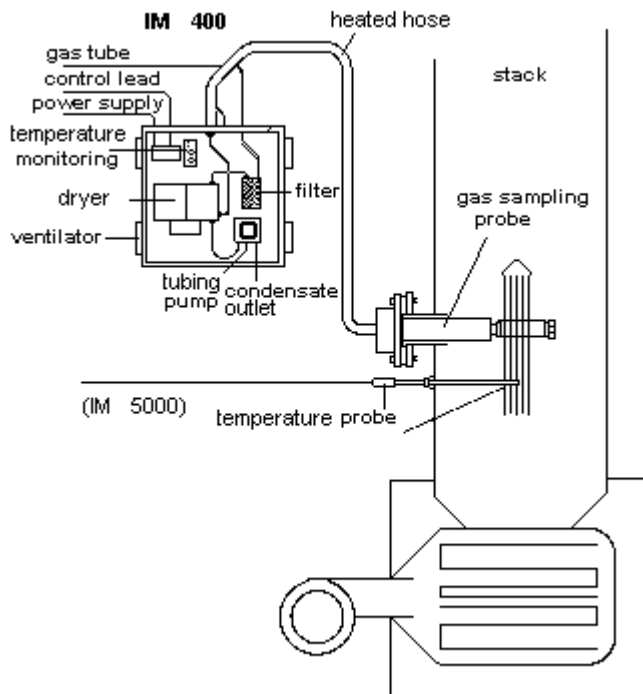
The first step of the flue-gas conditioning process is filtering the gas sample. The filtered flue-gas enters the system through a heated hose. The heated hose keeps the sample hot until it reaches the IM 400. The system then removes the water vapour with a permeation dryer or a peltier-cooler from the hot sample.

The IM 400 is designed to prepare flue-gases for the IM 5000 flue-gas analyzing system.

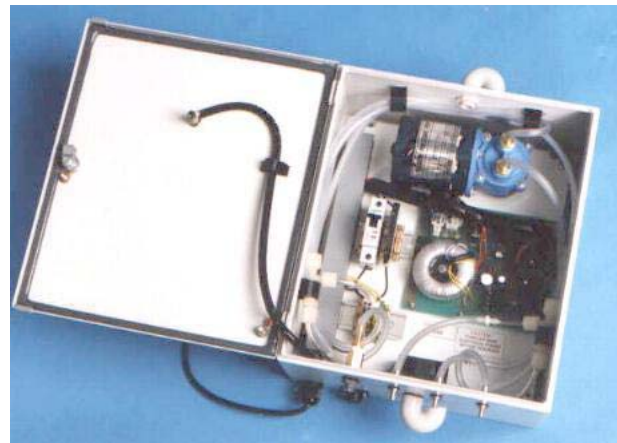
IM 400



### IM 400 – FUNCTION DIAGRAM



### IM 400 – PERMEATION DRYER





PERMEATION DRYER	
<p>The filtered gas is led directly to the IM 400 P via a heated tube without being cooled. The selective and continuous removal of water vapour is performed by leading the gas through a tube, the outside of which has dry gas flowing over it. The water vapour permeates and is drawn off by the dry gas while the other constituents remain. At the end of the operation dry and filtered gas is left.</p>	

PELTIER COOLER	
<p>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 vapour is the result. Again virtually all elements of the flue-gas sample are retained, except the water vapour. The condensed water exits through a tubing pump. The filtered and dried flue-gas can now be analyzed by the IM 5000 or any other flue-gas analyzer.</p>	

IM 400 – HEATED HOSE	
<p>The IM 400 is equipped with a 1.5m heated hose. This hose ensures that the extracted sample does not cool down before it reaches the drying system. A temperature controller keeps the temperature of the 'heated hose' at approx. 140°C. The temperature element is either a PT100 or a thermocouple Type K.</p>	<p>Heated hose with filter, probe and flange</p>

**IM 400 - TECHNICAL DATA**

<b>Display</b>	LED, green; temperature controller
<b>Filter</b>	Disposable element: 99.99% removal of 0.1 micron particles Optional: "Stainless Steel"- elements
<b>Heated hose</b>	Length: 1.5m; other lengths are available upon request; Temperature controlled at 140°C;
<b>Drying system</b>	Permeation dryer; Part no. 05001 Optional: Peltier cooler; part no. 05002
<b>Power supply</b>	240VAC/50Hz or 120VAC/60Hz
<b>Enclosure</b>	Wall mounted, NEMA4/IP65 Dimensions in mm: 350 x 300 x 200
<b>Operating temperature</b>	10°C to 40°C
<b>Storage temperature</b>	-20°C to 50°C
<b>Operating environment</b>	90%RH non-condensing

IM Environmental Equipment Germany GmbH reserves the right to adopt technical modifications without prior notice.