

Product Name :
Gas Absorption Column**Product Code :**
ALABS-A104-284**Description :****Gas Absorption Column**

- Floor mounted packed column gas absorption unit using a 75mm diameter, 1.4m long clear acrylic column. The column contains 7 litres of 10 x 10mm glass Raschig rings and is mounted in a steel frame.
- Pressure sensing and gas sampling points are sited at the top, centre and base of the column.
- Two manometers are included to measure pressure.
- A Hempl type gas analysis apparatus is included.
- Three variable area flow meters are included to measure the flow of gas, air and liquid.
- A rotary compressor is used to pump air into the column.
- Water (solvent) is circulated using a centrifugal pump, using a 50 litre capacity feed tank.
- A comprehensive instruction manual is supplied which details the necessary installation, commissioning and maintenance procedures.

Description:

The packed absorption column is made up of two 75mm diameter clear acrylic sections joined end to end and installed vertically on a mild steel floor standing framework. The column is filled with 10mm x 10mm glass Raschig rings, which are representative of the type of packing used in gas absorption. Liquid for the process is stored in a 50.0 litre rectangular feed tank and a centrifugal pump is used to deliver the liquid to the top of the column where it falls through the packing and returns to the tank. A variable area flow meter in the recirculation line gives a direct reading of flow rate.

The gas to be absorbed is normally carbon dioxide and would be taken from a pressure cylinder (not supplied), standing adjacent to the column. This gas passes through a calibrated variable area flow meter and is mixed with an air stream also of known flow rate from a rotary compressor positioned in the framework. The ratio of gas to air in the mixture entering the column is therefore known and is easily varied. Entering at the base of the column, the gas mixture rises up through the packed bed and is counter-currently contacted with the liquid flowing down the column.

Technical Details:

Feed tank capacity: 50.0 litres

Internal diameter of column: 80mm

Volume of packing: 7.0 litres

Height of absorption column: 1.4m

Type of packing: Raschig rings 10x10mm

Air compressor capacity: 0.15m³/min@0.3bar

Column feed pump capacity:

Air flow meter range: 20-180 l/min

Gas flow meter range: 1.0-22.0 l/min

Water flow meter range: 1.0-10.0 l/min

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