HIS Gas Absorption Column Unit (Model: BP 50-80G) has been designed for student laboratory experiments to provide a hands-on experience on gas absorption by means of liquids (solvent absorption). The unit comes complete with a packed column, a sump tank and a feed pump. Instruments are provided for the measurement of liquid and gas flow rates, and column pressure drop. Students shall be able to conduct experiment on the absorption of carbon dioxide into sodium hydroxide solution. Sampling points are provided for liquid and gas analysis purposes. Other suitable gas absorption processes can also be studied.

**EXPERIMENTAL CAPABILITIES**

- Absorption of CO₂ from air and CO₂ mixtures using sodium hydroxide solution.
- Determination of the CO₂ saturation point in NaOH solution and time to reach saturation.
- Effect of CO₂ compositions, air and liquid flow rates on the absorption efficiency.

- Analysis of CO₂ compositions in both gas and liquid.
- Study on the hydrodynamics of a packed column (pressure drop).
- Determination of the loading and flooding points of the column.
TECHNICAL SPECIFICATIONS

Absorption Column (K1)
Packed columns filled with Raschig rings
Diameter : 80 mm
Effective packing height : 1.5 m
Material : Borosilicate glass
Packings : 10 mm glass Raschig rings
Column K1 comes with ports for pressure drop measurements

Water Tank (B1)
Rectangular tank with removable top cover and level sight tube
Capacity : 50 liters
Material : Stainless steel
Low level switch for protection of centrifugal pump from dry run

Circulation pump (P1)
Type : Magnetic drive sealless centrifugal
Material : Polypropylene (PP)
Max. delivery : 14.0 LPM
Volts : 24 Vdc
Amps : 5.0 A
Max. pressure : 45 psi
Max. flow rate in the system : 11 LPM

Instrumentations
a) Flow rates:
   Air rotameter: 20 to 180 LPM
   CO₂ rotameter: 2 to 20 LPM
   Water rotameter: 1 to 10 LPM
b) Differential pressure: 0 to 25 cm of water manometer

OPTIONAL ITEMS

- EI
DIGITAL INSTRUMENTATIONS
i) 3 units of electronic flowmeters
ii) 1 unit of differential pressure transmitter

- DAS
SOLDAS DATA ACQUISITION SYSTEM
i) A PC with latest Pentium Processor
ii) An electronic signal conditioning system
iii) Stand alone data acquisition modules
iv) Windows based software
   " Data logging
   " Signal analysis
   " Process control
   " Real-time display
   " Tabulated results
   " Graph of Experimental Results

- CAL
SOLCAL COMPUTER AIDED LEARNING SOFTWARE
i) Interactive multimedia features
ii) Graphical simulation
iii) Experiment results samples
iv) Full experiment manuals

GENERAL REQUIREMENT

Electrical Supply : 240 VAC / 1-phase / 50Hz
Water Supply : Laboratory main supply
Compressed air : constant laboratory supply @ 200LPM
CO₂ cylinder
Analytical apparatus for CO₂ analysis
OVERALL DIMENSION

Height : 2.25 m  
Width  : 1.22 m  
Depth  : 0.61 m  

MANUAL

The unit is supplied with Operating and Experiment Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
SOFTWARE & E-LEARNING

Our range of teaching equipment can be complemented with our SOLDAS and SOLCAL software.

**SOLDAS®** - Supervisory Control & Data Acquisition
- Data Logging
- Signal Analysis
- Process Control
- Real-Time Display
- Tabulated Results
- Graph of Experiment Results

**SOLCAL®** - Computer Aided Learning
- Multimedia Features
- Interactive
- Graphic Simulation
- Samples of Experiment Result
- Full Experiment Manuals

Contact us for a catalog CD

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