Gas Dilution System

The Gas Dilution System (GDS) offers scientists and technicians the ability to perform “on-site” gas dilution in a small, inexpensive and easy to transport package.

- Gas output flow rates of 250 ml/min in 10% dilution steps or 500 ml/min in 1% dilution steps can be selected as required while the GDS is running
- Dilutes gas stream with ambient or bottled air
- Changes incoming gas standard or sample concentration from 100% to 1%
- Equilibrates the relative humidity of the diluted gas to close to ambient with its built-in Nafion® tubing for both source gas and dilution gas inputs
- Operates on 110 V, or rechargeable battery pack

Accuracy:

5 - 100% = +/-1%,
3 – 5% = +/-5%,
1 – 2 % = +/-10%

*Part number 25-0008*

*Gas cylinder and regulator purchased separately*
**APP-TEK® GAS DILUTION SYSTEM SPECIFICATIONS**

| Output gas concentration as a percentage of input gas concentration | Low Flow: 0% to 100% in 10% steps  
High Flow: 0% to 100% in 1% steps |
|---|---|
| Accuracy | Low Flow: ±1.0%, i.e. if the setting is 20.0% the output will be 20.0 ± 1.0%  
High Flow: ±1.0%, i.e. if the setting is 20.0% the output will be 20.0 ± 1.0% |
| Gas flow rates | Low Flow: 250 ± 15 ml/minute  
High Flow: 500 ± 25 ml/minute |
| Suitable gases | WARNING: the Gas Dilution System should not be used to dilute flammable gases with a concentration above 50% Lower Explosive Limit (LEL)  
The Gas Dilution System is not suitable for highly reactive gases and vapours.  
Suitable gases for dilution include Nitrogen, Oxygen, Carbon Monoxide, Carbon Dioxide, Methane (up to 50% LEL), and up to 100 ppm Hydrogen Sulphide. |
| Materials exposed to gas | Pump head  
Pump diaphragm and valves  
Valve  
Tubing  
Dampener  
Source gas  
T-junction  
Gas Ports  
PPS (Polyphenylene Sulphide) - Ryton® by Chevron Phillips Chemical  
EPDM (Ethylene/Propylene rubber)  
PPS (Polyphenylene Sulphide) - Ryton® by Chevron Phillips Chemical  
PBT (Polybutylene terephthalate) – Valox® by GE  
Silicone rubber seal  
Stainless Steel  
Viton® Fluoroelastomer by DuPont Dow  
Silicone rubber  
Nitrile  
Nylon  
UV stabilized Acetal |
| Battery operating time | 10h, output set to 50%, high flow rate, batteries fully charged.  
15h, output set to 50%, low flow rate, batteries fully charged. |
| External power supply requirements | 12 Vdc regulated, 500 mA or higher. Centre pin positive (the Gas Dilution System is protected against accidental reversal of polarity) |
| Operating temperature range | 5 °C to 40 °C |
| Dimensions | 202 mm long x 159 mm wide x 32 mm high at front, 55 mm high at back (not including external charcoal filter) |
| Weight | 600 g |
| Warranty | 12 months |