# DG2

## Dew-Point Generator

Air Source | Dryer | **Generator** | Reference

## Technical Specifications

| | |
|---|---|
| **Mixing stages** | 2 stage |
| **Humidity range** | -75...+20 °Cdp (-103...+68 °Fdp) |
| **Gas supply** | 8 Nl/min (17 scfh) -1 air @ 1 barg (11 psig) and -75 °Cdp (-103 °Fdp) |
| **Gas output** | 1...5 Nl/min (2.1...10.6 scfh) air @ 0.5...1 barg (7...14 psig) |
| **Filter** | Particulate filter |
| **Saturator** | Polycarbonate and porous polyethylene sinter |
| **Heating** | Finned heating elements, 500 watts, fan circulation |
| **Power supply** | 220...240 V, 50Hz or 100...120 V; 60Hz |
| **Storage temperature** | +5...+40 °C (+41...+104 °F) (with saturators empty) |
| **Operating temperature** | +18...+24 °C (+64...+75 °F) |
| **Enclosure size** | 19" sub-rack x 12U high x 400 mm (15.8") deep |
| **Weight** | 20 kg (44 lbs) |

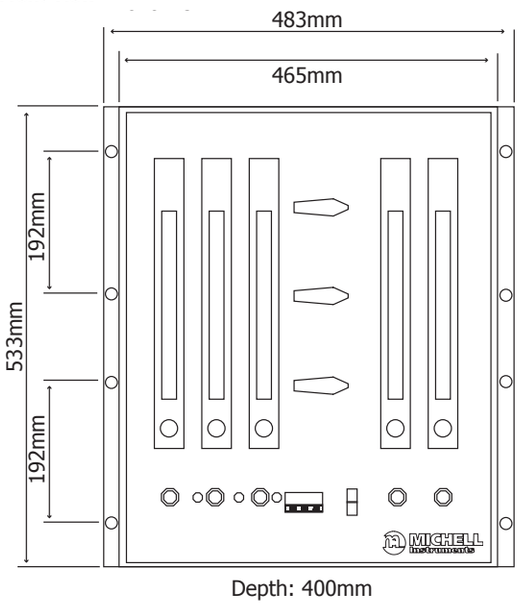
The DG2 has two stages of gas-flow mixing which allow it to generate dew points down to -75 °Cdp (-103 °Fdp). The great strengths of the DG2 are its ease of use and its flexibility in manually generating an accurate target dew point by fine tuning the gas mix via its flow metering valves. Infinite mixing is achievable within its working range.

## Highlights

- Operation range of -75...+20 °Cdp (-103...+68 °Fdp) suiting the vast majority of calibration requirements
- Simple operation through manual flow mixing
- Flexibility in generating precise target dew-point temperature
- Generated output responds quickly to a change of set point
- Stable humidity generation

## Dimensions

**Front View**




Depth: 400mm


**Issue No: DG2_97333_V1_EN_0123**

# ADG400

## Advanced Dew-Point Generator



The ADG400 is designed for use as part of a hygrometry calibration system. It is capable of repeatable generation of dew points across a range of -80 °C...+20 °C, when used in conjunction with the Michell Instruments PSD2 pressure-swing dryer.

The generation technique is based on the volumetric mixing of dry and wet gases. It gives the fastest response when changing between set points in comparison to other dew-point generator technologies (such as two-temperature, two-pressure or a combination of both).

## Highlights

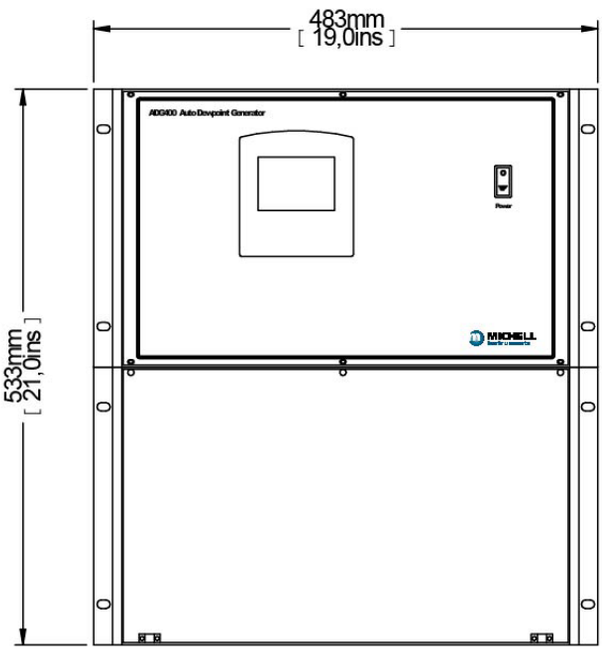
- Full-color touch-screen HMI
- 11-point factory programmed dew-point setpoint table from -80 °C to +20 °C at 10 °C intervals
- 13-point user programmable dew-point setpoint table
- 3 programmable 13-point automatic calibration profiles with customizable timings
- Change set points using serial commands via built-in USB port
- Remote Access mode allows HMI to be operated using a connected PC
- Temperature-controlled enclosure to ensure output stability and repeatability

## Technical Specifications

| | |
|---|---|
| **Output Range** | -80 °C...+20 °C dew point |
| **Output Stability** | < 0.05 °C |
| **Repeatability** | 0.5 °C |
| **HMI** | Full-color touch screen |
| **Set Points** | 11-point factory setup set-point table @ 10 °C intervals. 13-point user configurable set-point table |
| **Operating Modes** | Manual, Timed Profile, Remote Command |
| **Digital Communications** | USB (Virtual Serial Port) for remote operation of HMI via a PC, or changing set points via remote commands |
| **Power supply** | IEC Socket<br>80...264 V AC (47...63 Hz) or 113...370 V DC |
| **Power Consumption** | 400 VA Max. |
| **Operating Temperature** | 23 °C ±3 °C (73.4 °F ±5.4 °F) |
| **Storage Temperature** | 5 °C...50 °C (41 °F...122 °F) |
| **Gas Input Requirements** | Compressed air from PSD2 Pressure Swing Dryer, set up with ADG400 as matched pair |
| **Gas Input Pressure** | 2.0 barg (29.0 psig) |
| **Gas Input Moisture Content** | < 0.4 $ppm_v$ |
| **Gas Output Flow Rate** | 5 Nl/min from -80 °C...-10 °C frost point, 4 Nl/min at 1 °C decreasing to 1 Nl/min at +20 °C dew point |
| **Enclosure** | Painted aluminum |
| **Dimensions** | 19" Subrack, 12U Height, ~360 mm Depth |
| **Filtration** | Inlet particulate filter |
| **Gas Connections** | 6 mm Swagelok® Tube |
| **Weight** | 23 kg |

## Dimensions

**Front View**




**Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice.**
**Issue No: ADG400_97622_V1_EN_0123**

# VDS3

## Dew-Point Generator

Air Source | Dryer | **Generator** | Reference

The VDS3 is a sophisticated computer controlled dew-point generator that operates in the range of -100...+20 °Cdp (-148...+68 °Fdp). Individual three stage mass flow controllers select precise proportions of wet and pre-mixed air. Humidity injection is achieved by a liquid mass flow controller and controlled evaporation system. The Vapor Delivery System (VDS) gives repeatable and flexible control of the generated dew point and can be programmed with up to 13 presets that can be activated manually or as part of an automatic calibration program.

## Highlights

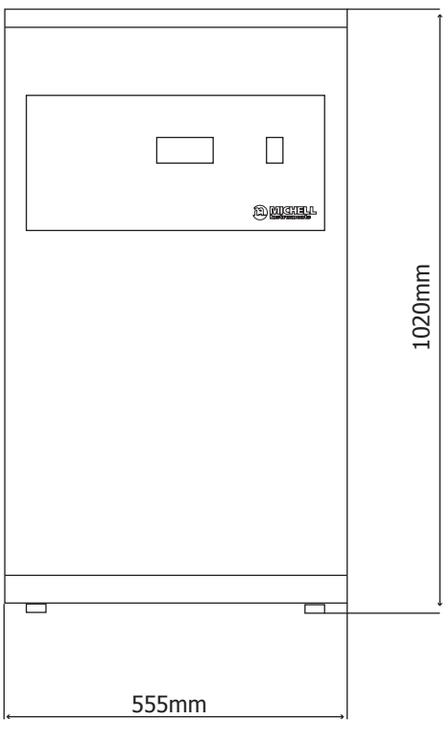
- Operation range of -100...+20 °Cdp (-148...+68 °Fdp) suiting the calibrated range of almost all dew-point sensors
- Fully automated remote control
- Mass flow controlled mixing of wet and dry flows ensures complete repeatability of set points
- Generated output responds quickly to a change of set point
- System optimized for excellent output stability (±0.5 °C / ±0.9 °F)

## Technical Specifications

| | |
|---|---|
| **Dew-point range** | -100...+20 °Cdp (-148...+68 °Fdp) (factory default preset values= –100, -90, -80, -70 -60, -50, -40, -30, -20, -10, 0, +10 and +20 °C (+68 °F)) |
| **Output stability** | ±0.5ºC (±0.9ºF) |
| **Required gas supply** | 30 Nl/min (63.6 scfh) @ 4.8 barg (70 psig) pressure and <13.8 $ppb_v$ (–100 °C / -148 °F atmospheric dew point) moisture content |
| **Gas output** | 10 Nl/min (21.2 scfh) @ 0.5 barg (7.3 psig) |
| **Cable connection** | USB (type B) for PC Control<br>RS485 (9 way D plug) for Setup |
| **Water reservoir** | Material= ABS<br>Capacity= 1 litre |
| **Power supply** | 220...240 V AC or 100...120 V AC 50/60 Hz |
| **Power consumption** | 500 Watt maximum |
| **Power connector** | 3 pin IEC |
| **Power supply fuse** | 3A (F) quick blow |
| **Operating temperature** | +10...+40 °C (+50...104 °F) |
| **Construction** | Painted diecast aluminum enclosure with smoked glass door. Overall dimensions = 1020 x 555 x 600 mm (40 x 22 x 24") h x w x d |
| **Weight** | 65 kg (143 lbs) maximum |

## Dimensions

**Front View**




Depth: 600mm

**Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice.**
**Issue No: VDS3_97336_V1_EN_0123**