The Brooks VDM300 vapor delivery module is a self contained module for the highly accurate delivery of undiluted, ultra high purity, deionized (DI) water vapor. The power efficient design allows for low temperature, ultra high purity vapor generation without carrier gas. The VDM300 utilizes a proven vapor delivery technique and combines it with advanced digital control and integrated diagnostic features in a small, convenient package.

Designed for advanced strip and post metal etch passivation processes, the VDM300 delivers improved accuracy, wide control range and lower power consumption compared to flash evaporation systems.

Based on proven thermal mass flow measurement techniques, the VDM300 produces vapor in a passivated titanium vessel in a non-super heated vapor stage, reducing the aggressive effects of deionized water, for improved reliability and cleaner operation.

The VDM300 offers both analog (default) and EtherCAT (optional) communication interfaces (selectable at time of order). In addition, it provides user friendly data logging and diagnostic features via an independent Micro USB service port and intuitive graphic user interface.
## Features and Benefits

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct water vapor measurement with superior flow accuracy</td>
<td>Based on proven, reliable thermal mass flow measurement and control technique</td>
</tr>
<tr>
<td>Connects directly to the house Deionized Water supply</td>
<td>Highly tolerant of varying water supply pressure</td>
</tr>
<tr>
<td>Operates at lower temperatures (non-super heated state)</td>
<td>Improved corrosion resistance</td>
</tr>
<tr>
<td>Optimized design for flushing and draining</td>
<td>Ensures cleaner operation</td>
</tr>
</tbody>
</table>

## Product Specifications

### Performance Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Scale Ranges (H₂O)</td>
<td>3000 sccm</td>
</tr>
<tr>
<td>Turndown Ratio</td>
<td>20:1</td>
</tr>
<tr>
<td>Step Response Time</td>
<td>≤ 2 seconds (±2% of setpoint)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±1.0% of setpoint (&gt; 10% full scale); ±0.2% of full scale (5-10% full scale setpoint)</td>
</tr>
<tr>
<td>Linearity</td>
<td>±0.5% of full scale</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.2% of full scale</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>0.05% F.S. per °C (zero and span)</td>
</tr>
<tr>
<td>Valve Shutdown</td>
<td>&lt;0.5% F.S. (water vapor)</td>
</tr>
</tbody>
</table>

### Electrical

- **Communication**: Analog or EtherCAT
- **Connections**: 15-pin D-Sub and dual RJ-45
- **Input Signals**: Flow setpoint (0 to 5 Vdc) Start up/drain
- **Output Signals**: Flow output (0 to 5 Vdc) Ready to use
- **Power**
  - DC: ±15 Vdc ±5% @ 1.2 amp
  - AC: 208 - 230 Vac, 50/60 Hz, 290 watts nominal
- **Diagnostic Port**: Micro USB

### Mechanical

- **Fittings**: See Model Code for list
- **Weight**: Dry: 15lbs Wet: 16lbs
- **Mounting Orientation**: Vertical (inlet down)

### Environmental

- **Maximum Outlet Pressure**: <= 200 Torr
- **DI Water Supply Pressure**: 10 to 40 psig (20 psig recommended)
- **DI Water Quality**: UHP: ≥18 mega ohm-cm
- **N₂ Purge Pressure**: 10 to 40 psig (20 psig recommended)
- **Ambient Temperature Range**: 15°C to 45°C
- **Humidity**: 0 to 95% RH, non-condensing

### Certifications

- **Electromagnetic Compatibility**: Fully compliant to Directive 2014/30/EU (EN: 61326-1:2013)
- **RoHS**: Fully compliant to Directive 2011/65/EU
- **REACH**: Fully compliant to Directive EC 1907/2006
- **SEMI E54.20-1108**: Standard for Sensor/Actuator Network Communication for EtherCAT

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1. All performance specifications apply only in the ready state, ready light on.

**Special conditions for safe use:**

A. To ensure full EMC protection the ferrite core included with the device (Wurth Electronics Inc Part Number 74271131) must be installed to the control cable.

B. To ensure full EMC protection a shielded AC power cable and a shielded control cable (<30 m. length) must be supplied by the user.
Product Dimensions

VDM300 Dimensions
Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit www.BrooksInstrument.com to locate the service location nearest to you.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

SEMINARS AND TRAINING

Brooks Instrument can provide seminars and dedicated training to engineers, end users, and maintenance persons.

Please contact your nearest sales representative for more details.

Due to Brooks Instrument’s commitment to continuous improvement of our products, all specifications are subject to change without notice.

TRADEMARKS

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