

VDM300

High-Accuracy, Deionized Water Vapor Delivery Module

The Brooks VDM300 vapor delivery module is a self-contained sub-system for highly accurate delivery of ultra-high purity deionized (DI) water vapor. The VDM300 self regulates DI water into a passivated, heated titanium vessel to create high purity non-super-heated water vapor. Pure water vapor is delivered repeatably and accurately from the VDM300 using proven thermal mass flow measurement and control techniques. The VDM300 supports multiple communication methods including analog (standard) and EtherCAT (optional) and has an independent micro USB service port to support diagnostics and datalogging.



Features

Pure, accurate UHP/DI water vapor delivery
Highly tolerant of varying water supply pressure
Low temperature (non-superheated state)
Optimized for Flushing and draining

Benefits

No need for inert carrier gas or gas mixtures.
Connect directly to house UHP/DI water
Power efficient design addresses particle generation issues with traditional flash evaporators
Improved lifetime reliability and Improved purity of water vapor over time

Product Description

Performance

Full Scale Ranges (H ₂ O)	3000 sccm
Turndown Ratio	20:1
Step Response Time	≤ 2 seconds (±2% of setpoint)
Accuracy	±1.0% of setpoint (> 10% full scale); ±0.2% of full scale (5-10% full scale setpoint)
Linearity	±0.5% of full scale
Repeatability	±0.2% of full scale
Temperature Coefficient	0.05% F.S. per °C (zero and span)
Valve Shutdown	<0.5% F.S. (water vapor)

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
N ₂ 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

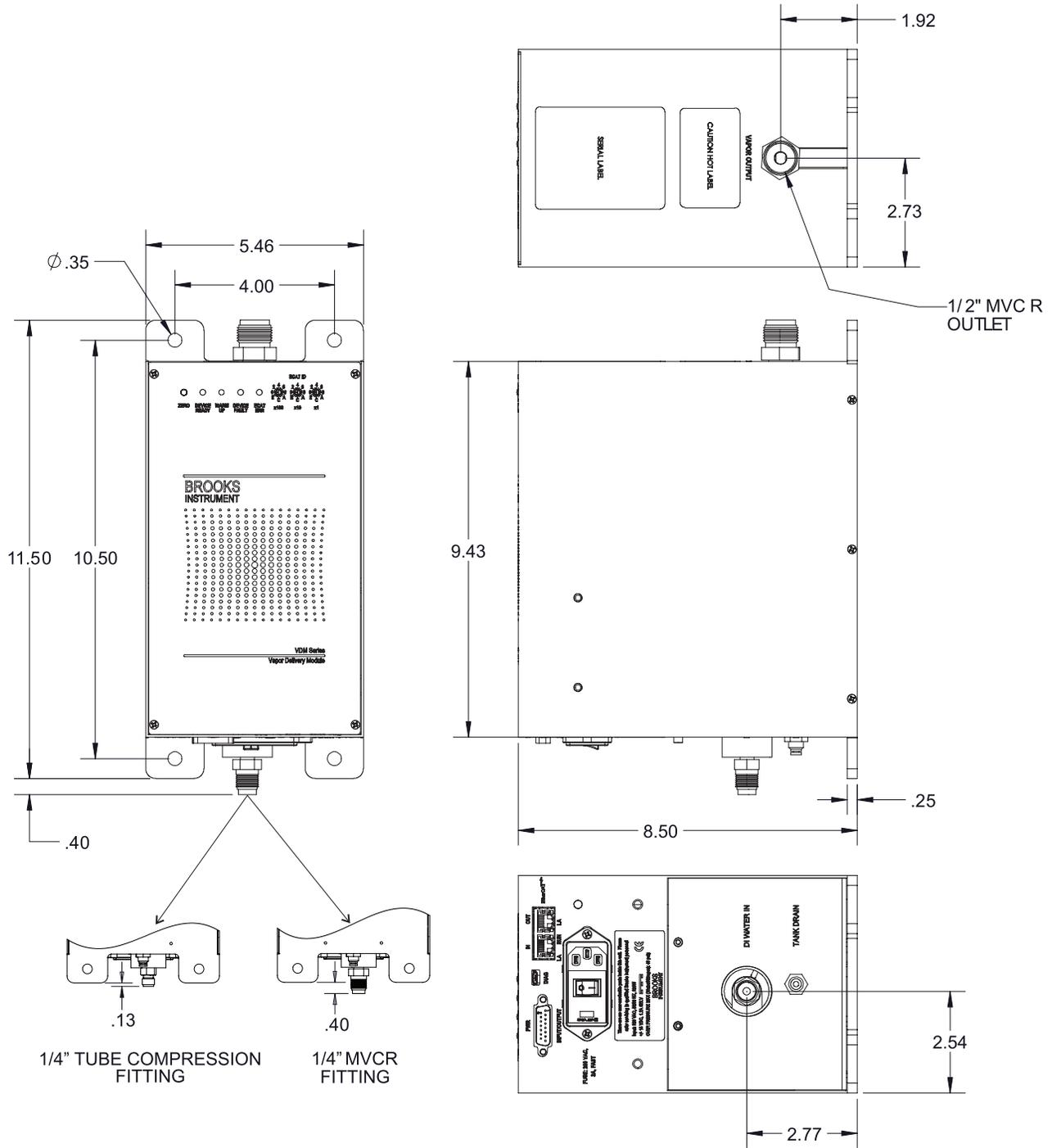
Electromagnetic Compatibility	Fully compliant to Directive 2014/30/EU (EN: 61326-1:2013)
Low Voltage	Fully compliant to Directive 2014/35/EC (EN: 61010-1:2010)
RoHS	Fully compliant to Directive 2011/65/EU
REACH	Fully compliant to Directive EC 1907/2006
SEMI E54.20-1108	Standard for Sensor/Actuator Network Communication for EtherCAT

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.

VDM300 Dimensions



Code Description	Code Option	Option Description
I. Base Model Code	VDM3	Vapor Delivery Module
II. Fluid	W	DI Water
III. Flow Range	3000	3000 sccm
IV. Supply Voltage	A	208 - 230 Vac, 50/60 Hz
V. Fluid Inlet Fitting	1	1/4" VCR Male
	2	1/4" Tube Compression
VI. Vapor Outlet Fitting	A	3/8-1/2" VCR Male
VII. Mounting	1	Standard Backplate
VIII. Pinout Options	L	With Low Level Alarm
	N	Without Low Level Alarm
IX. Customer Special Request	XXXX	CSR Number

Sample Model Code

I	II	III	IV	V	VI	VII	VIII	IX
VDM3	W	3000	A	1	A	1	L	XXXX

Brooks is committed to assuring all of our customers receive the ideal pressure controllers 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 customer 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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