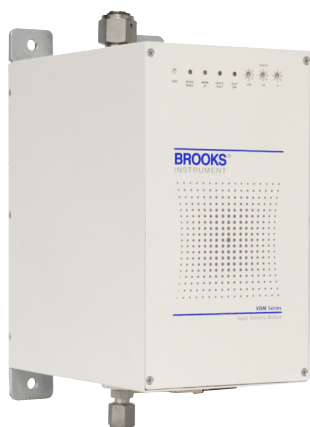




VDM300
Vapor Delivery Module

DATA SHEET

Vapor Delivery

VDM300

High-Accuracy, Deionized Water Vapor Delivery Module

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. In addition, it provides user-friendly data logging and diagnostic features via an independent Micro USB service port and intuitive graphic user interface.

Features

- Direct water vapor measurement with superior flow accuracy
- Connects directly to the house Deionized Water supply
- Operates at lower temperatures (non-super heated state)
- Optimized design for flushing and draining

Benefits

- Based on proven, reliable thermal mass flow measurement and control technique
- Highly tolerant of varying water supply pressure
- Improved corrosion resistance
- Ensures cleaner operation

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

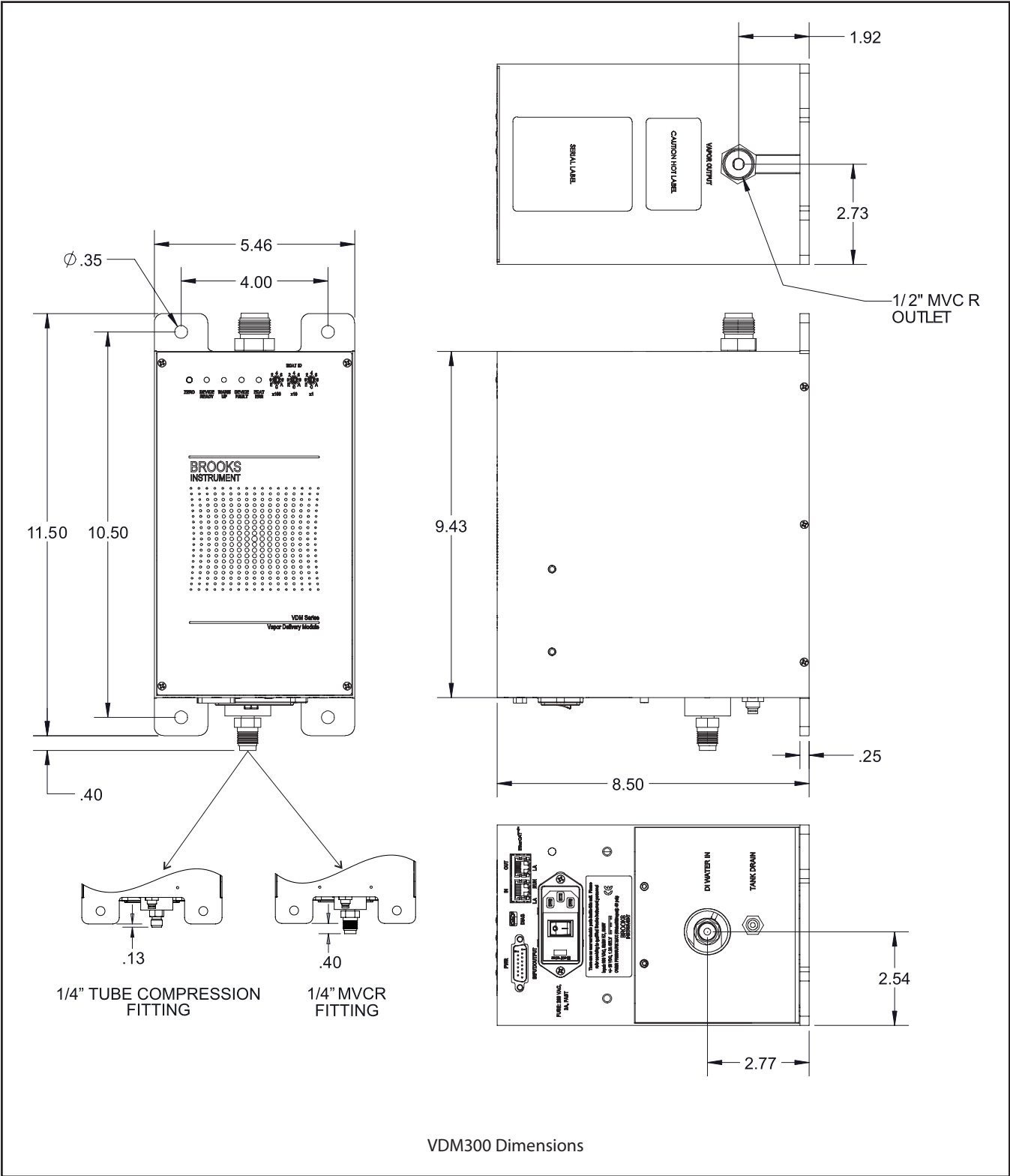
Electromagnetic Compatibility	Fully compliant to Directive 2014/30/EU (EN: 61326-1:2013)
Low Voltage	Fully compliant to Directive 2014/35/EC (EN: 61010-1:2010)
RoHS	Fully compliant to Directive 2011/65/EU
REACH	Fully compliant to Directive EC 1907/2006
SEMI E54.20-1108	Standard for Sensor/Actuator Network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

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.

CUSTOMER 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

Brooks.....Brooks Instrument, LLC

All other trademarks are the property of their respective owners.

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