

vemm tec Flow Lab



A calibration installation in your company

- A flow calibration installation for gas turbine meters, rotary meters, diaphragm meters and other gas volume meters
- Suitable for legal calibration, periodic recalibration, research and development
- For new gas meters and gas meters already in operation
- User configurable calibration certificates with data and curve, digital signing by authorities optional possible
- Simple, compact lay out and extended software
- Highly configurable / Maximum flexibility / Highly accurate
- Fully automatic calibration progress as well as step by step sequence possible
- Approval by Dutch (NMI) or German (PTB, Eichamt) Weights and Measures possible
- Suitable for accreditation by Weights and Measures in order to perform legal calibrations (country dependable)

The VFL (vemm tec Flow Lab) is a calibration installation for high accurate gas meters. Standard configurations are available and every standard solution can be extended with several options to suit your needs. Also installations with smaller minimum quantities or larger maximum quantities can be supplied by us. The installations are fully configurable and so suited for meter production areas as well as calibration companies that calibrate all kinds of meters. The installation has a compact design due to the use of rotary meters as masters. Every installation is separately tested in the factory.

Specification of the standard solutions

Identification:	VFL10	VFL25	VFL40	VFL65
Maximum flow:	1000 m ³ /h	2500 m ³ /h	4000 m ³ /h	6500 m ³ /h
Minimum flow:	0.5 m ³ /h	0.5 m ³ /h	0.5 m ³ /h	0.5 m ³ /h
Master meters (rotary gas meters):	1x G650 1x G16	2x G650 1x G16	4x G650 1x G16	6x G650 1x G16
Meters under test:	Turbine meters, rotary meters, ultrasonic meters, vortex meters Optional: Diaphragm meters, dP meters and other meters			
Pulse inputs from meter under test:	Standard: 1 low frequency or 1 optical sensor plus 2 high frequency (NAMUR signals) at the same time. Extensions possible			
Pulse input from master meters:	Dual high frequency pulse stream from each master meter.			
Sensors:	Pressure sensors for pressure at the master meters and the meter under test; differential pressure (pressure loss) over the meter under test; temperature sensors at each of the master meters and at the meter under test. Extensions optionally possible.			
Operating pressure:	Just below ambient pressure			
Access to the program:	Several access levels exist for operators, supervisors and calibration authorities. Each of the levels is adjustable per employee and each entrance is password protected. Remote access to the software is possible for trouble shooting and training. Additionally it is possible to allow authorities to digitally sign calibration documents.			
Configuration:	Depending on your requirements you can pre-configure meters models and procedures (consisting of leak tests, calibration points and adjustment gear changes) in great detail or just in general terms. Just before performing a calibration you can add the missing details. Depending on the practice in your laboratory you can choose the right grade of pre-configuration			
Flow control:	The flow control signal comes from the master meters. Initially the flow is set by the flow control valves; fine adjustment is made by regulating the speed of the fan. This procedure ensures perfect fine tuning.			
Interface:	Before you can start a test you have to choose the meter model you want to test, complete the missing details and choose the procedure you want to use. Than you can start the procedure in automatic mode or step by step mode. During the performance of a test you can choose to see the results of the test, the schematic of the installation with the measured values or the measured values at a large format. Additionally you can see a time graph for pressure, temperature and flow.			
Leak test:	The leak test is performed by pressurizing the system between the inlet valves of the master meters and the control valves. After a stabilization period, leak is detected if the pressure drop exceeds a certain value. This value can be calculated according to PTB rules or according to customer specifications.			
Calibration:	The software allows all possible calibration procedures. You can choose the number of calibration points, the repeats of a point, the stabilization time/volume and the calibration time or volume. You can also choose which of the pulse sensors must be leading and if you want to perform the calibration automatically or manually.			
Adjustment:	After the meter is calibrated you can choose to adjust a meter. The software provides the calibration curve and suggests which adjustment gears fit the best. You can choose these wheels or another pair of wheels if you wish. After replacing the adjustment gears a one point check is performed to ensure the right gears are placed and to check the counter of the meter.			