

Energy Management Solutions for Compressed Air & Industrial Gases

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www.vpinstruments.com

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VPFlowScope M



www.pneumsysenergy.com







WHO WE ARE?

PROFILE

Pneumsys advance Energy Solutions is a company which deals in advance piping products and compressed air energy measurement and management services. Part of our portfolio consists of Air Audits which can identify inefficiencies in a compressed air system and assist with entire system performance. Post assessment, optimization, leak reduction and practical air management processes are implemented in the plant to give a 35 - 40% increase in energy savings of the compressed air system.

We also are supplying products and solutions for machine automation and allied applications where

different types of fluid media are required to run a process. High quality pneumatic products have ensured reliability of performance and a strong after sales service is what we stand for.

Using efficient aluminium piping we have executed more than 5000 projects and hence effectively reduce energy costs by 25 - 30% as compared to conventional piping systems year on year. With our operations covering mostly all countries in Asia, We have a formidable reach and range which encompasses a complete solutions platform for all Pneumatic and all types of fluid handling applications.

ADVANCE ENERGY SOLUTIONS





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VPFlowScope M

The VPFlowScope M is a three-in-one insertion flow meter for compressed air and technical gases. It can be installed under pressure and measures flow , pressure and temperature simultaneously. With the introduction of the

VPFlowScope M, recalibration becomes history. Unlike traditional flow meters, the VPFlowScope M does not require traditional recalibration, where you have to ship the unit back. Instead, the VPFlowScope M consists of a transmitter and the patented VPSensorCartridge[®] which reduces recalibration to a simple exchange.



Features :-

- Ethernet (Modbus/ TCP)
- 🔶 🛛 Rs485 (Modbus RTU)
- 🔶 4 ... 20 mA linearized, alarm or pulse output
- USB interface for configuration and downloading of data log files
- Optional TFT color display
- Optional data logger with more than 6 months @ 1 second interval + cyclic recording
- Optional Wi-Fi interface (Web server for configuration, Modbus / TCP)

Applications :-

- Compressed air audits
- Nitrogen and technical gas flow measurement
- Cost allocation
- Leak detection
- Pipe network optimization
- Permanent monitoring







VPFlowScope M

Specification :-

VPFlowScope M

Flow Sensor	
Measuring principle	Thermabridge™ Thermal Mass Flow sensor
Flow Range	0 (0.5) 150 mn/sec 0 500 sfps
Bi-directional Flow	Model VPM.R150.351.PN10 only
Accuracy	2% of reading under calibration conditions; Please refer to the user manual for details. Recommended pipe diameter: 25 mm (1") and up.
Reference conditions	0 °C, 1013.25 mbar 32 °F, 14.65 psi
Gases	Compressed air, Nitrogen and inert, non condensing gases
Gas temperature range	0 +60 °C 0 +140 °F
Pressure sensor	
Pressure sensor range	0 10 bar 0 145 psi gage
Accuracy	+/- 1% FSS (total error band)
	Temperature compensated
Tomporature concor	
	0 +60 °C 32 +140 °F
Accuracy	> 10 m/sec: +/- 1 °C 1.8 °F
	< 10 m/sec: + 5 °C 9 °F
Mechanical & environmental	
Probe lengths	340 mm 13.4"
Probe lengths Weight	340 mm 13.4" 200 grams 7.05 ounces
Probe lengths Weight Process connection	340 mm 13.4" 200 grams 7.05 ounces Compression fitting, 1/2" NPT, Tapered
Probe lengths Weight Process connection Pressure rating	340 mm 13.4" 200 grams 7.05 ounces Compression fitting, 1/2" NPT, Tapered PN 10
Probe lengths Weight Process connection Pressure rating Protection grade	340 mm 13.4" 200 grams 7.05 ounces Compression fitting, 1/2" NPT, Tapered PN 10 Ip65 NEMA 4 when mated to transmitter
Probe lengths Weight Process connection Pressure rating Protection grade Ambient temperature range	340 mm 13.4" 200 grams 7.05 ounces Compression fitting, 1/2" NPT, Tapered PN 10 Ip65 NEMA 4 when mated to transmitter 0 +60 °C 32 140 °F. Avoid direct sunlight or radiant heat
Probe lengths Weight Process connection Pressure rating Protection grade Ambient temperature range Wetted materials	340 mm 13.4" 200 grams 7.05 ounces Compression fitting, 1/2" NPT, Tapered PN 10 Ip65 NEMA 4 when mated to transmitter 0 +60 °C 32 140 °F. Avoid direct sunlight or radiant heat Anodized Aluminum, Stainless steel 316, Glass, Epoxy
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VPFlowScope dP

The patented VPFlowScope[®] DP is the ultimate measurement tool for wet compressed air flow measurements. The unique design enables you to take measurements in the discharge pipe of a compressor under 100% saturated conditions. You can combine the probe with two display module types or with a connector cap without display. And now it is even better!



Applications :-

- 🔶 🛛 Air audits
- Compressor efficiency monitoring
- Air treatment equipment (drier/filter) monitoring







VPFlowScope dP

Specification :-

VPFlowScope dP

Flow Sensor	
Measuring principle	Differential pressure
Flow Range	20 200 m₁ /sec 65 650 sfps
	Bi-directional measurement
Accuracy	2% of reading over 1:10 range, under calibration conditions; Please refer to the user manual for details.Recommended pipe diameter: 50 mm (2") and up.
Reference conditions	0 °C, 1013.25 mbar 32 °F, 14.65 psi
Gases	Wet compressed air, Dry compressed air, Nitrogen and Inert gases.
Pressure sensor	
Pressure sensor range	0 16 bar 0 232 psi gage
Accuracy	+/- 1.5% FSS
	Temperature compensated
Temperature sensor	
Temperature sensor range	-40 +150°C -40 +302 °F. Icing should be avoided
Accuracy	+/- 1 °C 1.8 °F
Data outputs	
Digital	RS485,MODBUS RTU protocol
Analog	4 20 mA output, selectable via software to indicate flow, pressure or temperature
Display/ data logger	
Technology	Liquid Crystel (LCD)
Back light	Blue, with auto power save
Data logger	500,000 points
Mechanical & environmental	
Probe lengths	400 mm 15 " (other lengths on request)
Process connection	Compression fitting, 0.5"
Pressure rating	Pn20, higher pressure on request
Protection grade	Ip52 NEMA 12 when mated to display module
rocecton grade	Ip63 NEMA 4 when mated to connector cap- do not mount upside down
Ambient temperature range	-10 +50 °C 14 122 °F. Avoid direct sunlight or radiant heat
	Higher ambient temperatures : consult factory
Wetted materials	Anodized Aluminum, Stainless steel 316, Epoxy
Corrosion resistance	Highly corrosive or acid environments should be avoided
Electrical	
Connection Type	M12, 5 pin connector,female
Power supply	12 24 VDC +/- 10% Class 2 (UL)
Power consumption	1 Watt +/- 10%
	50mA +/- 10% @24VDC, constant over the entire flow range
UL/ CUL	14 AZ, Industrial Control Equipment
CE	EN 61326-1, EN 50082-1





VPFlowScope® in-line

The VPFlowScope[®] in-line is your best choice to move forward with creating better efficiency levels in your compressed air and technical gas systems. Now you have an instrument that provides you with flow, pressure and temperature measurement in one single device, for point of use applications.

The VPFlowScope[®] in-line shows you when, where and how much you can save. The advanced features of the VPFlowScope [®] in-line complete the product family and it is just as easily integratable as the VPFlowScope[®] probe.



With the three in one VPFlowScope[®] in-line, VPInstruments sets the new standard for compressed air measurement. Flow, Pressure and Temperature measured at the same time, at the same point with a single instrument makes measuring child's play. All key performance indicators of your compressed air system are finally measured together, the way they should be. It's time to reveal and unleash the real savings potential of your factory.

Applications :-

- Point of use measurement
- Cost allocation
- Sub metering of compressed air
- Ring networks (bi-directional)
- Leakage monitoring
- Consumption metering of Nitrogen, Carbon Dioxide, Argon, Helium or any other dry, non-corrosive and inert gases.







VPFlowScope® in-line

Specification :-

VPFlowScope [®] in-line			
Flow Sensor			
Measuring principle	Thermabridge mass flow ser	nsor	
Range and diameter	Flow (SI)	Flow (IM)	Size
VPS.R080.M050	0.2 80 (m³₅/hr)	0.1 45 SCFM	0.5 inch
VPS.R250.M100	0.9 250 (m³ ₁/hr)	0.5 145 SCFM	1 inch
VPS.R01K.M200	3.6 1000 (m³ ₀/hr)	2.2 580 SCFM	2 inch
Reference conditions	0° C, 1013.25 mbar 32° F, 1	4.65 psi	
Gases	Compressed air, Nitrogen, or any other inert, non condensing gases		
Sensors	Range (SI)	Range (IM)	
Flow	Thermabridge mass flow se	nsor	
Accuracy	0,5% FSS with calibration report under calibration conditions with air		
	5% FSS without calibration re	eport	
Pressure PN16	0 16 bar gauge	0 250 psi gauge	
Pressure PN35	0 35 bar gauge	0 500 psi gauge	
Accuracy	± 1.5% FSS (0 60°C)	± 1.5% FSS (32 140	°F)
Temperature	0 60° C	32 140° F	
Accuracy	± 1° (from 10 mn/sec and up) (At zero flow conditions, te	mperature
	reading increases due to sel	f-heating by the flow sensor)
	_		
Display	Features		
Technology	LCD, 3 line display		
Memory (optional)	2 million points data logger		
Data outputs			
Analog	4 20 mA or pulse, selectable via installation software		
Serial IO	al IO Modbus RTU		,
O2B	Mini USB interface for config	uration (display version only	/)
Mechanical	Size		Weight
VPS.R080.M050	135 mm x 49 mm x 85 mm l	5.31" x 1.93" x 3.35"	0.7 Kg 1.54 lbs
VPS.R250.M100	135 mm x 54 mm x 91 mm	5.31" x 2.12" x 3.58"	0.7 Kg 1.54 lbs
VPS.R01K.M200	150 mm x 88 mm x 124 mm	5.9" x 3.46" x 4.88"	1.6 Kg 3.53 lbs
IP grade	IP65 NEMA 4 when mated	to connector, at room tempe	erature; direct rain
ů.	and sunlight should be avoided. Extreme temperature fluctuations may		
	affect the IP grade over time	·	,
Ambient temperature	0 60° C 32 140° F		
·			
Total length with pipes	Length		Pipe weight
0.5"	304 mm 12"		0.3 Kg 0.66 lbs
1"	501 mm 19.7"		1.0 Kg 2.20 lbs
2"	750 mm 29.5"		3.2 Kg 7.04 lbs
Electrical			
Connection type	M12, 5 pin connector, female	, and optional USB mini conr	nector
Power supply	12 24 VDC ± 10% CLASS 2		
Power consumption	2,4 Watt (no flow) 4,8 Watt (f	full flow) +/- 10%	
	100 mA (no flow). 200 mA (fu	III flow) +/- 10% @24VDC	
CE	EN 61326-1(2006) Class A, El	N61000-6-1 (2007)	

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VPFlowTerminal

The VPFlowTerminal is a plug & play wall mount display with built-in powersupply and 2 million point data logger. The VPFlowTerminal has five sensor inputs: one input for a VPFlowMate or VPFlowScope mass flow meter, and four generic analog inputs and can record up to 8 channels. This makes the collection and analysis of your compressed air data easier and quicker!

Product highlights :-

- 2 Million data points
- VPFlowMate / VPFlowScope input
- 🔸 4 analog input channels

Applications :-

- Efficiency: Monitoring the efficiency of your compressor system. Measure with the VPFlowScope in the main pipe line of your system and measure with 4 power meters the power consumption of each compressor.
- Air audits: The VPFlowTerminal can be used for air audits since you collect all data within one data logger. This makes the data collection, read out and analysis very convenient. Total package: Measure flow together with dew point, pressure and power consumption.

Specification :-

VPFlowTerminal

Input voltage	100 240 Vac mains (pre-wired)
Housing type	Painted Aluminium Ip65 NEMA 4
Display	Liquid Crystal (LCD), 3 lines
Back light	Blue with auto power save
Data logger	2.000.000 points
Signal inputs	VPFlowScope + 4 optional 4 20mA sensors (non-isolated, loop powered)
Sensor power supply	24 VDC
Maximum sensor current	4 x 25 mA for analog sensors, 1 x 150 mA for VPFlowScope
Data outputs	USB for configuration and data retrieval
Ethernet interface	Modbus / TCP port
Basic configuration	Via key pad
Flow meter connection	M12, 8 pin
Additional connections	Cable glands for analog inputs, Ethernet connection.
Dimensions	l x b x h = 230 x 130 x 75 mm. 9.1 x 5.1 x 2.95"
Weight	1.6 kG .53 Lbs



ADVANCE ENERGY SOLUTIONS



VPVision

VPVision offers you the complete monitoring solution for compressed air and technical gases. It makes energy savings easy, quick, and rewarding. Using the latest web technology, VPVision enables you to view data anywhere, anytime. VPVision analyzes flow data and makes your savings potential transparent.

VPVision can be expanded to receive and consolidate data such as electric demand (compressor kW) and dew point. VPVision can also be fully integrated into a plant's existing SCADA system and linked to the Internet to allow access by designated company staff from anywhere.



Project Approach :-

Although VPVision is a very user friendly software solution, preparation is key to a successful implementation. No compressed air system is the same. Therefore each VPVision system is customized to your needs and goals. Your return on investment can be a matter of months. With our VPVision project form, we can calculate the required investment and ROI. Ask your local distributor or go to our website for details.

VPVision

With VPVision you can :-

- Maintain your efficiency.
- Allocate costs.
- Track and monitor leak level.
- Generate automated reports in PDF.
- Expand and adapt the system.
- Follow your system via IPad[®], Smart PH, tablet and web browser.
- Centralize benchmark different plants on different locations.
- Track Maintenance need points.

Product Highlights :-

- Web based interface
- Built in report tools
- 🔶 Early alert on leakage
- Direct insight in costs
- Based on standardized hardware

	231.	5 m ² nh 5 m ² nh 723 m ² n
*	Totel KW consumption	7.6 m ³ n/he) 8.5 bar
	-	







Saving Tips

Shut off sections and machines that you do not use

A simple manual or motorized valve can save you thousands of euros/dollars. Make sure that air is not lost through leaks or machines standing in idle mode. Flow meters help to determine to which sections air is flowing.

Breathe cool, fresh and clean air

A compressor converts 90% of its power into heat. The compressor room heats up, while a compressor uses less energy to compress cold air. 3°C cooler air, already results in 1% energy savings.

Invest in an efficient control system

Have insight in your compressed air usage profile, so you can optimize your compressor control system. Ask an air audit specialist to perform an air audit, and make an improvement plan based upon the results.

Think about the required air quality

Clean compressed air is important for the life span of your compressed air installation. Choose the right quality carefully for specific processes whenever possible, as higher air quality results in higher energy costs.

Reduce offload hours

Electricity consumption of a compressor in offload stage costs 10-35% of the consumption during load hours. At >80% use of the capacity, the offload-load control is considered efficient. Choose the right control system.

🔷 Manage your leakage

In general there is 20-40% of leakage in a compressed air installation. VPVision can be used as a global leakage management system and helps you to rank the leaks on savings potential. Invest in an ultrasound leak detector to find the leaks.

Balance your system

Is your compressor oversized? In some applications the compressor is bigger than necessary, for instance after changes in the production process. The payback time of the investment in a smaller compressor is often short.

Reduce the pressure

Every bar pressure reduction gives an instant win of 7% on your energy consumption. Invest in pressure regulators per production area, use buffer vessels and reduce pressure swings in your network.

Think of alternative uses

Compressed air is 8 times more expensive than electric power. However compressed air is often used, simply because it is present. The VPFlowScope offers insight in the usage and helps you to select the right solution.

Choose the right pipe size and material

A proper pipe system is crucial to limit your pressure drop. Iron pipes tend to rust. Too small piping creates pressure loss. Use angular feed-ins on the main header to reduce pressure loss.





Our Products











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