



Stand-alone system



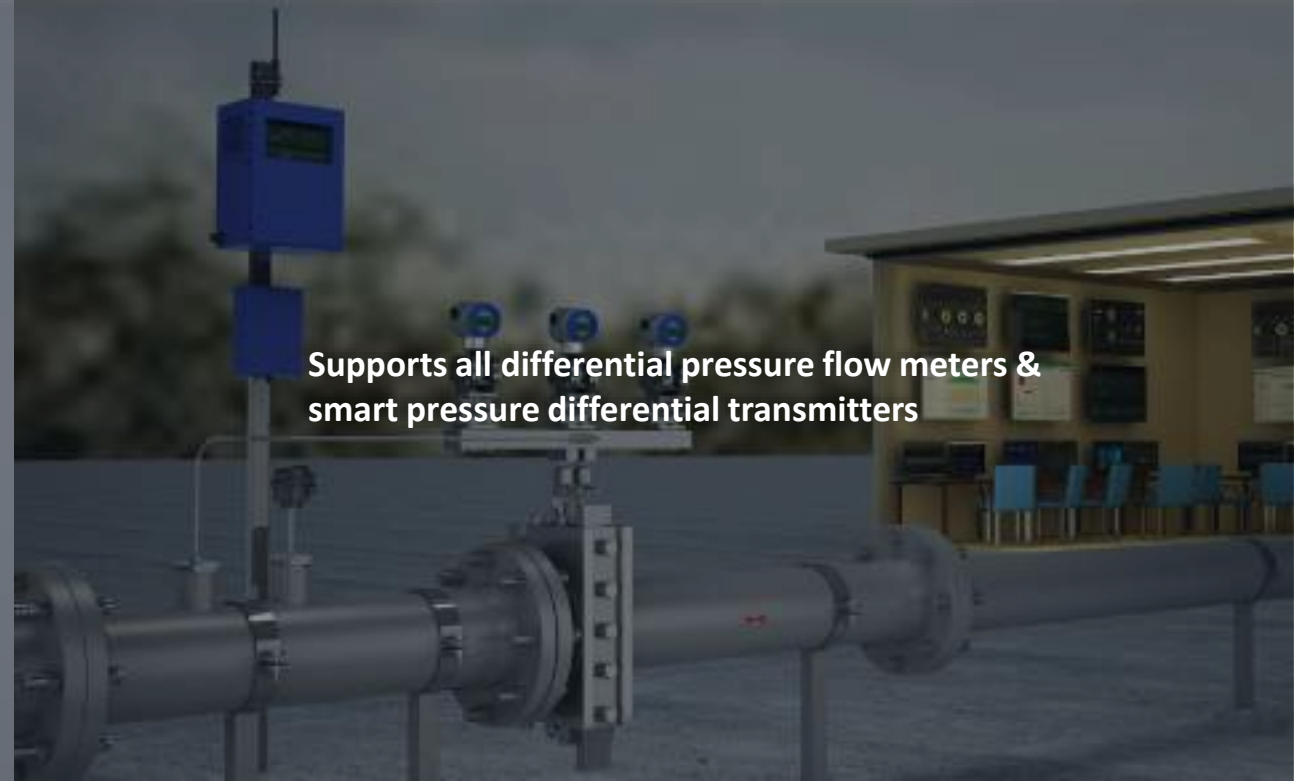
Cloud based solution



Requires Emerson ROC800



Real time measurement and Enhanced Data Logging capabilities.



Supports all differential pressure flow meters & smart pressure differential transmitters

Why do we need to

Measure Accurately

Precise Measurement:

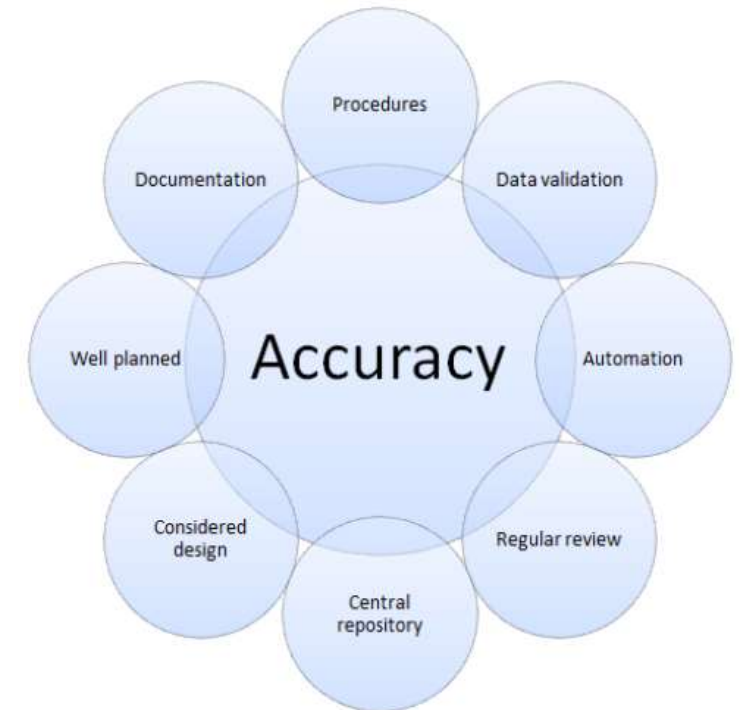
- Verification vs. Diagnostics: Is verification sufficient?
- Maintenance Based on Condition and Risk
- Can you justify not utilizing DP Meter diagnostics?

If a flow meter is required, then the flow needs to be measured accurately (within +/- 1% or +/-5% as stated/required).

Incorrect measurements result in:

- Financial penalties
- Legal disputes
- Operational inefficiencies

But how can you ensure your measurements are accurate?



Optimize Process

Trust PC, Cloud

- Integrates with all major flow computer types.
- Communicates with wide range of measurement devices.
- Access from any location.

ROC Platform

- Significantly improve response time to fault conditions.
- Maximize uptime.
- Mitigate unnecessary field trips.



FCA

- Local data logging capabilities.
- Custody Compliant.
- Flexible design with power and communication options to meet site needs.



PRODUCTS

What is TekValSys DPro?

Assurance of accuracy/compliance Detection of meter system

- Blocked impulse lines
- Saturated differential pressure (DP) transmitter
- Drifting differential pressure (DP) transmitter
- A deformed or damaged orifice plate
- Incorrect inlet or throat diameter being used
- Two-phase flow condition
- Excessive disturbance upstream
- Accumulation of contamination
- Orifice plate installed incorrectly (backward)
- Worn or damaged leading edge of the orifice
- Damaged cone element
- Incorrect span setting on the differential pressure (DP) transmitter
- Incorrect discharge coefficient used (for venturi or cone meter)
- Debris lodged at the meter throat
- Improper installation of the meter

Where is TekValSys Dpro used?

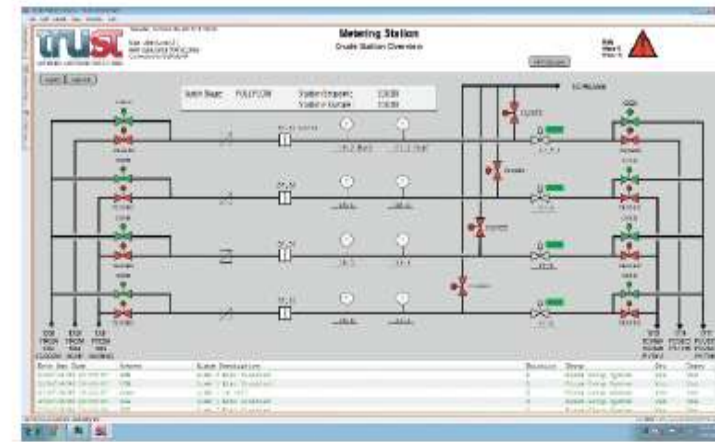
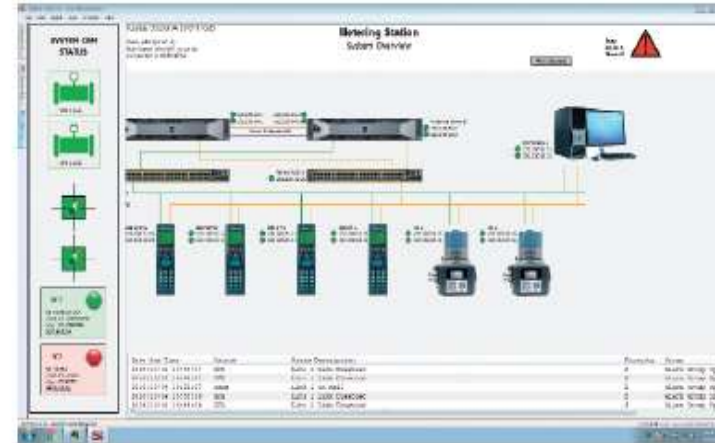
Used in condition-based monitoring and Maintenance Strategy for applications like:

- Single-phase gas
- Single-phase liquid
- Heavy Oil
- Steam / Steam Injection
- Wet Gas
- Water in Oil

Typical System Faults

TekValSys DPro-DP Meter Diagnostics software

- Incorrect inlet or throat diameter in use
- Two-phase flow/changes in liquid loading
- Excessive flow disturbance upstream of the meter
- Contamination build-up around the meter
- Blocked impulse lines
- Saturated DP transmitter
- Drifting DP transmitter
- A buckled orifice plate
- An orifice plate installed backwards
- A worn or damaged orifice leading edge
- Drifting DP transmitter
- Incorrectly spanned DP transmitter
- Incorrect discharge coefficient in use
- Debris trapped at meter throat.



Tek-ValSys PC- Core Features

- Compatible with all major types of flow computers.
- Supports communication with diverse measurement devices.
- Comprehensive library of mimics tailored for various metering applications.
- Provides secure access with individual user login accounts.
- Features alarm and report management in compliance with industry standards.
- Offers Hot Standby and Dual Redundant system architectures.
- Enables supervisory-controlled valve operations via flow computers or PLCs.
- Facilitates third-party data integration using Modbus, CPC, or other protocols.
- Seamlessly integrated Prognosis DP meter diagnostics.
- Built-in GCAS® Gas Chromatograph Analysis Software.
- Advanced diagnostics for Ultrasonic Meters (USM).
- Supports an accurate virtual flow computing solution.
- Independent totalization for both stream and station levels.
- Customizable metering displays, alarms, and reports.
- Supervisory-generated flow and time-weighted averages.
- Automated stream switching and flow balancing features.
- Efficient management and download of flow computer constants.
- Real-time integrated uncertainty calculations.
- Comprehensive mis-measurement reporting capabilities.

Tek-ValSys Micro-Core Features

- Easily Configured
- Compact form factor.
- Wet Gas Liquid loading indication
- Wet Gas Corrections.
- Full Prognosis DP Meter Diagnostics suite, capable of detecting many mismeasurements and non-conformance including but limited to:
 - Transmitter faults
 - Contamination, blockage and / or damage within the meter
 - Two Phase Flow



Specifications

Ambient Temperature:

- Operating range: -40 to 140°F (-40 to 60°C)
- Storage range: -40 to 185°F (-40 to 85°C)

Power Requirements:

- DCH option: 12-36 VDC, 300mA, 9W max
- DCHPOE: 12-28 VDC or Power over Ethernet, 5W maximum

Display Specifications:

- Alphanumeric LCD, 2 lines x 16 characters
- Six pushbuttons for full field configuration
- Display can be rotated in 90° increments for better viewing

Input Signals:

- 4-20mA (Flow, Pressure, Temperature)
- Pulse
- Frequency

Output Signals:

- Analog: 4-20mA (Volumetric flow, mass flow, density, pressure, temperature)
- Alarm: Solid state relay, 40 VDC
- Totalizer Pulse: 50ms pulse, 40 VDC
- Volumetric or Loop Powered Mass: One analog signal, one totalizer pulse, HART
- Multivariable option: Up to three analog signals, three alarms, one totalizer pulse, HART

Benefits:



Proven:

Prognosis is installed on 100+ meters across 35+ global assets and has saved these customers much-valued time and money as part of condition-based maintenance strategies.



Scalable

With its modular approach to both hardware and software, an asset can easily expand its conditioned-based maintenance strategy. The software is easily configured meaning the end user can develop his capability without assistance from a third party.



Intuitive:

Prognosis Micro uses a conventional, familiar style of displays and navigation. Combined with simple graphics and "traffic light" alerts that indicate "off-specification" metering, the package is intuitive to configure and use.



Flexible:

The compact, modular design of the Prognosis Micro means that it is fully flexible to be installed in a safe area, in a mobile solution, or mounted within a Class 1 div. 2 hazardous area.



Remote Connectivity:

An optional GSM modem enables Prognosis Micro to provide automatic SMS text and email alerts from remote locations as soon as an alarm is raised.



Intelligent:

Prognosis Micro is a self-contained intelligent unit, that runs valuable diagnostic and enhanced gas monitoring calculations. The data is analyzed using patented algorithms to suggest the most probable cause of an issue.

Tek-ValSys FCA Advantages

- Compliant with custody transfer standards
- On-site data logging capabilities
- Advanced diagnostic software that continuously monitors and verifies the health of the meter's primary flow element and confirms output accuracy
- Advanced diagnostic software minimizes the need for recalibration, reducing time spent on-site
- Easy-to-use push-button interface
- Capable of monitoring volumetric or mass flow for most liquids, gases, and steam
- Supports mass flow equations including real gas, ideal gas, AGA 8, and API 2540
- In combination with the VorCone, TekValsys FCA provides accurate steam quality (dryness) and mass flow measurements.
- Capable of energy monitoring, TekValsys FCA can calculate and output energy consumption for specific fluids like steam, water, and heat transfer fluids.
- Low power consumption.
- Communication options include Modbus, BACnet, and Power over Ethernet (PoE).
- HART protocol communications are supported, with approvals pending.



Verification v/s Diagnostics

Verification has always been a key responsibility for metering engineers:

- Mass balance checks – a basic approach with no issue-specific insights
- Pay/check meters
- Pay/check DP transmitters
- Plate inspections
- DP transmitter calibrations
- Flow computer validations
- Thorough due diligence
- Adherence to best metering practices



Verification v/s Diagnostics

These are considered "external diagnostics," while **TekValSys DPro** provides "internal diagnostics."

Maintenance checks are merely spot checks, which may overlook issues. What about errors caused during maintenance? How can you monitor what happens between inspections?

Diagnostics alone cannot replace this need—combining maintenance checks with diagnostics represents "good metering practice."

- Mass balance verification
- Pay/check meters assessment
- Pay/check DP transmitters evaluation

- Plate examinations
- Calibration of DP transmitters
- Flow computer validation

- Comprehensive due diligence
- Adherence to effective metering practices



THANK YOU

Eximp Measurement Private Limited Our Contact

Contact us today to find your perfect solution.



Registered Office

426, Mandakini Enclave
Alaknanda, New Delhi
South Delhi-110019



Phone & Email

+91 020 27654694
empl@eximpinc.com



Operations

Sector-10 Plot No 145 & 146,
PCNTDA, Bhosari,
Pune-411026, Maharashtra
India



Projects Office

3rd Floor, Plot No. 17, Sangath
Bungalows, Off Sama Savali
Road, Vadodara – 390008