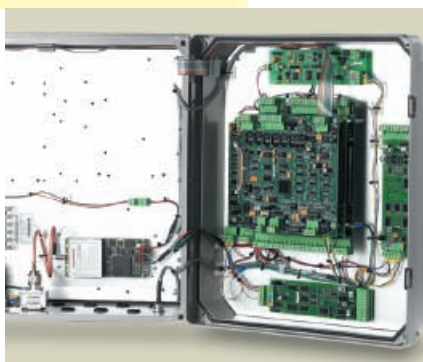


The Thermo Scientific AutoMATE is a versatile, modular gas flow computer with the capacity to accurately measure from one to four meter runs. This easy-to-install, low-maintenance, rugged remote telemetry unit increases productivity while ensuring valuable transmission data is consistently on the mark.

## AutoMATE®

### Four-Run Gas Flow Computer and Remote Telemetry Unit



#### Applications

- Production
- Transmission
- Processing
- Custody transfer

#### Modular & Customizable

Designed to manage the fluctuating requirements of the natural gas industry, the Thermo Scientific AutoMATE expands from a simple flow measurement application to a full measurement and control system. This easy-to-use device accurately measures one to four meter runs and can be customized per your initial specifications, then later adapted to meet additional application needs. Run switching, injection systems, gas samplers, a PID/proportional control and a plunger lift control can be incorporated to ensure optimum effectiveness, particularly at complex well sites.

#### Accurate & Easy-to-Configure

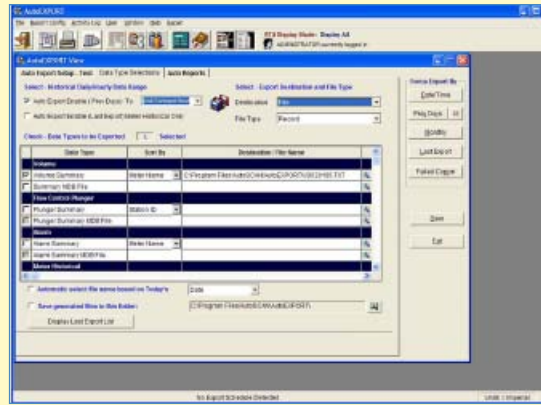
Equipped with a 16-bit microprocessor and expandable onboard memory, the AutoMATE offers outstanding accuracy and repeatability to ensure the demands of AGA 8 Detail and other equations are met. Its user-friendly design facilitates setup and installation, enabling configuration on-the-spot or remotely via a personal computer or laptop. Once in operation, the AutoMATE continuously provides reliable, ongoing communication of valuable flow data from remote, unmanned locations.



**AutoCONFIG™ Software Facilitates Setup**

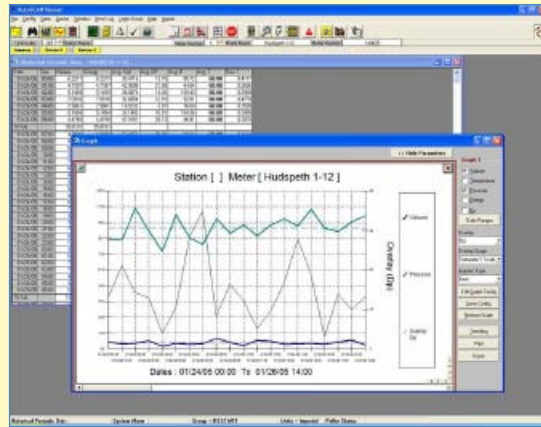
AutoCONFIG software for Microsoft® Windows™ provides ease-of-use for the integrator or operator. A graphical user interface and built-in wizards enable inexperienced technicians to setup Thermo Scientific flow computers in minutes. Additional benefits include:

- Complete integrated support for all Thermo Scientific flow computers
- Multiple, simultaneous views
- User-configurable Microsoft® Outlook™-like tree view
- Remote communications via serial, TCP, radio, satellite, etc.
- High-contrast monochrome mode for use in direct sunlight.



**Expedite Data Downloads with AutoSCAN®**

Move data rapidly from the most remote field location to your local network with the Thermo Scientific AutoSCAN host system. It enables the AutoMATE to communicate directly with any SCADA system that uses MODBUS or native protocol to facilitate data downloads. Consisting of Poller, Viewer, Vox and AutoExport, the system consolidates data to simplify management of measurement applications and can easily be configured to automatically save, print and/or email reports in a variety of formats. With the ability to optimize displays, reports, exports and scan parameters, the system enables users to efficiently manage electronic flow measurement.



**AutoMITTER® — Smart Multi-Variable Transmitter**

Achieve effective, cost-efficient data transmission to your AutoMATE by integrating an AutoMITTER Smart Multi-Variable Transmitter on each meter run. This compact, lightweight transmitter mounts remotely and uses an RS-485 signal to rapidly communicate static pressure, differential pressure and temperature inputs at up to 2,250 feet in a Class I, Division 1 area and up to 4,000 feet in a Class I, Division 2 area. Using the RS-485 interface, the AutoMITTER can be connected directly to the AutoMATE without using any valuable analog inputs. This user-friendly device enables capital expenditure reduction, provides highly accurate, repeatable measurements to increase process efficiency, and has very low power requirements to keep operating costs down.

**Plunger Lift — Well Optimization Software**

Maximizing well production is the key to maximizing profits. AutoMATE users can now automatically increase well production by as much as 20 percent by integrating Thermo Scientific plunger lift software into this powerful flow computer. Once the software’s plunger lift algorithm learns the flow characteristics of the well, advanced self-optimizing methods take effect to ensure maximum results are achieved over time. The system provides real-time product data via remote monitoring and features full reporting and troubleshooting capabilities, minimizing system downtime and maximizing staff efficiency and productivity. It also reduces capital expenditures by eliminating a costly secondary control system as well as lowers well maintenance costs and ensures fewer remedial treatments, providing long term cost benefits in addition to increasing your well’s profit potential.

**AutoGAGE® — Tank Level for Reliable Custody Transfer**

Accurate tracking of custody transfer at remote well sites ensures accountability. The Thermo Scientific AutoGAGE is a highly reliable digital level sensor that relays data to our flow computers, enabling staff to efficiently monitor tank levels on a daily basis. The electronics measure in precise increments with minimal calibration required. A dual float option enables liquids with varying densities to be measured separately to ensure salt water or other liquids are not factored into your final oil numbers to accurately account for product and revenues.



**AutoMATE**

**General Specifications**

Processor	16-bit Intel® 80C188EB
Program Memory	EPROM 512 KB
Data Storage Memory	RAM 512 KB
CPU Board Communication Port	2 x RS232
COM Board Communication Port	2 x RS232 or RS485
Input Power	5.5 VDC to 16 VDC
Output Power	12 VDC Transducer Power
Historical Data Storage	65 days of daily, 35 days of hourly
Audit Trails	200 audit events, 60 different types of audits
Alarm Log Storage	200 alarm events, 15 different types of alarms

**Environmental Specifications**

Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Operating Humidity	0-95% RH, non-condensing
Approvals	UL and c-UL Class I Division 2 (Groups C&D); UL and c-UL Class I Division 1 (Group D)
Enclosure Rating	NEMA 4X industrial control enclosure

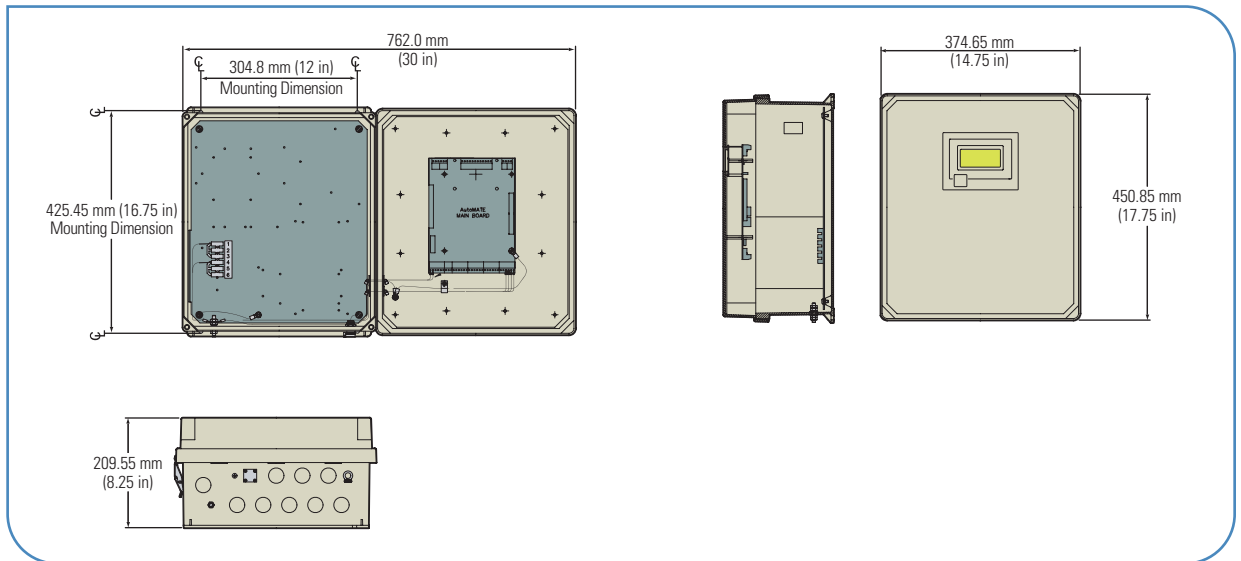
**Physical Specifications**

Cover Rack/Panel Mount Dimensions	374.65 mm (14.75 in) W x 450.85 mm (17.75 in) H x 209.55 mm (8.25 in) D
Overall Rack/Panel Mount Dimensions	374.65 mm (14.75 in) W x 546.10 mm (21.5 in) H x 209.55 mm (8.25 in) D
Keypad	4 x 5 (20-key) input
Display	4 x 16 character LCD

**Natural Gas Calculations**

Supercompressibility (Fpv)	AGA 8 Gross-1992; AGA 8 Detail-1992; AGA 8 Short-1988; NX-19; NX-19 Analysis
Differential Meters (DP, Orifice)	AGA 3/ANSI/API 2530-1992 Method 2 or ANSI/API 2530-1985
Linear Meters (Turbine)	AGA 7
Energy	AGA 5
Diagnostic	AGA 10 SoS
Additional Factors/Equations	Fww (manual, partial or full); Fws
Turbine Meter Linearization	10 Point Frequency/K-factor Table

**AutoMATE Technical Diagram**



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