Turbo Corrector for Auto-Adjust® Turbo-Meter

The Mini-AT is now available with a Turbine Interface Board (TIB) option to compute the Auto-Adjust® Turbo-Meter algorithms

Mercury Instruments
Turbo Corrector

The Mini-AT electronic volume corrector from Mercury Instruments is now available with the option to connect directly to an Invensys Auto-Adjust® Turbo-Meter. With the additional enhancements, this instrument is capable of performing all of the AAT algorithms and compute the Self-Checking and Self-Adjusting equations. The corrector volume data may be based on Uncorrected Volume, Unadjusted Volume or Adjusted Volume.

Since MasterLink software is used to calibrate, configure, and download data, technicians may already be familar with these instrument functions. Additionally, the Mini-AT TOC makes use of standard Mini-AT components, such as battery packs, pressure tranducers, temperature probes, etc.

Additional Turbo Corrector features:

- **Normal & Abnormal Alarms** with separate output channels and user-defined alarm limits
- **Pulsating Gas Alarm**
- **Form-A volume pulse output** for Adjusted Volume pulses
- **4-to-20 mA output signal** for either Delta-A or Adjusted Volume Flow Rate
- **Simultaneous Live Graphing** of Main Rotor frequency, Sense Rotor frequency, Delta-A, and Adjusted Volume Flow Rate using MasterLink32 software
- **4-Year Warranty**
- **CSA approved for Class 1, Div-1 & Div-2**

® Auto-Adjust Turbo-Meter is a registered trademark of Invensys Metering Systems

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Precision instruments for the natural gas industry

Turbo Corrector

Mercury Turbo Corrector
(TIB mounted on aluminum carrier plate)

General Description:

The Turbine Interface Board (TIB) is an accessory board to Mercor Mini-AT. Its purpose is to provide an excitation voltage to the sensors for an Invensys Auto-Adjust® Turbo-Meter, input the pulses from the AAT sensors, compute the Invensys AAT algorithms, output Adjusted Volume pulses and output a 4-to-20 mA signal. The TIB also includes several RS-232 ports to allow serial communications to a Mini-AT or to host software. The TIB can also output Adjusted Volume Pulses to an RTU or pulse accumulator and output a 4-to-20 mA signal, representing either Adjusted Volume Flow Rate or Delta-A

When the TIB is used in conjunction with a Mercury Instruments' Mini-AT, the instrument is referred to as a Mini-AT-TOC. TOC is an acronym for Turbine Output Corrector or shortened to Turbo Corrector. The Turbo Corrector may be mounted directly on an Auto-Adjust® Turbo-Meter or remotely via wall-mount or pipe-mount brackets. In addition to the functions described above, the Turbo Corrector provides standard Mini-AT functions to produce fully corrected volume data by applying the pressure, temperature, and super factors to Uncorrected Volume, Unadjusted Volume, or Adjusted Volume (user selectable). Together, the Turbo Corrector and Auto-Adjust® Turbo-Meter provide information to correct for various gas flow anomalies and to provide corrected volume information for long-term performance.

Turbo Corrector Information

Power Supplies

- 120 VAC PS w/ Alk battery (Div-2)
- 120 VAC PS & I.S. Barriers w/ Alk battery (Div-1)
- Solar Panel and Rechargable Battery (for Div-1 or Div-2)

New Parameters

(configured into separate item codes)

- AAT Serial Number
- Mech. Output Factor (Kmo)
- Main Rotor Factor (Km)
- Sense Rotor Factor (Ks)
- Avg. Relative Adjustment (ABar)

Computed Parameters

(available at separate item codes)

- Adjusted Volume
- High Resolution Adjusted Volume
- Unadjusted Volume
- Adjusted Volume Flow Rate
- Unadjusted Volume Flow Rate
- Instantaneous Delta-A
- Average Delta-A
- Main Rotor Frequency
- Sense Rotor Frequency

Alarms

(in addition to standard Mini-AT Alarms)

- Normal Alarm
- Abnormal Alarm
- Pulsing Gas Alarm
- Internal Fault

Outputs

- Adjusted Volume (low-level pulses to Mini-AT Bd)
- Unadjusted Volume (low-level pulses to Mini-AT Bd)
- Adjusted Volume Pulses (Form-A volume pulses)
- 4-to-20 mA analog output signal (user selectable Delta-A or AdjVol Flow Rate)

Mini-AT Volume Inputs

(user selectable via item code selection)

- Uncorrected Volume (from reed switches if meter mounted)
- Unadjusted Volume (from TIB)
- Adjusted Volume (from TIB)

Mercury Instruments, Inc.