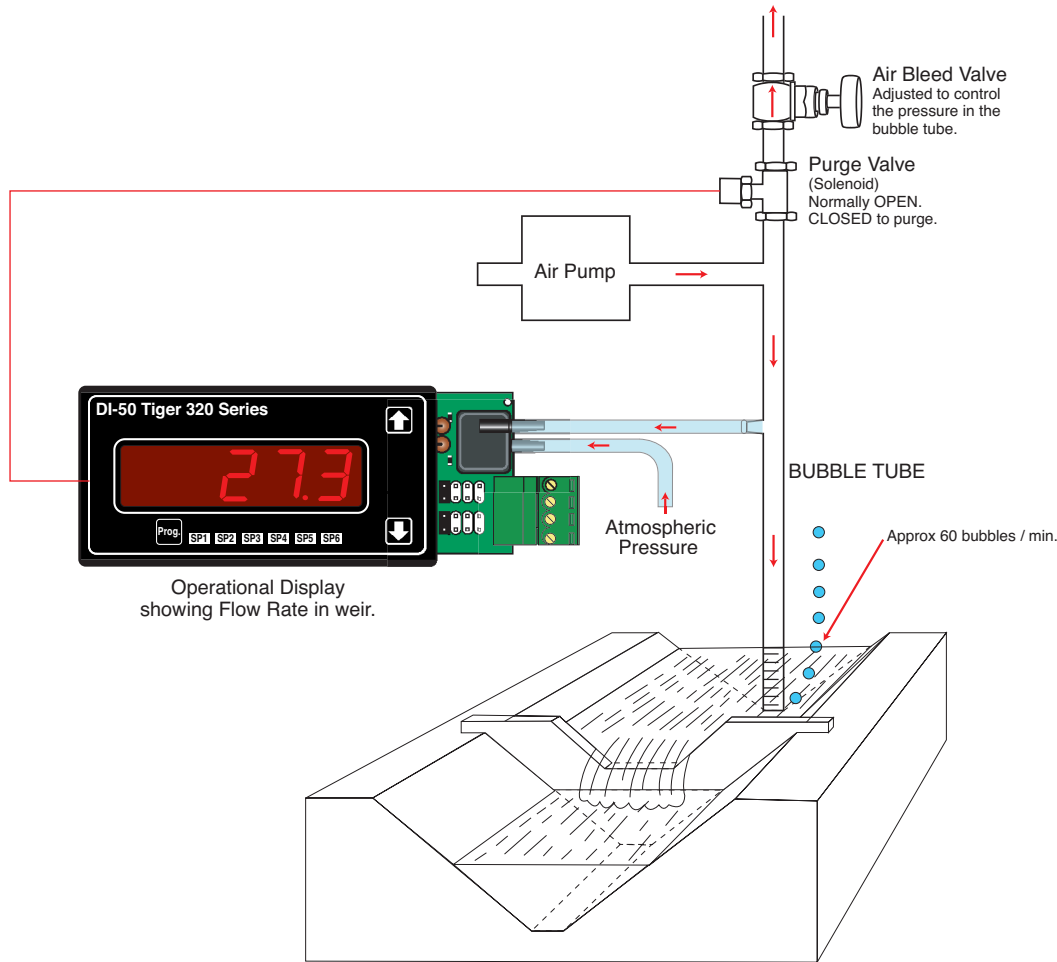


Bubbler systems are ideal for flow measurement of open channel run off systems or duct situations where debris, foam, steam, or surface turbulence makes standard methods of flow measurement impractical. Most bubbler systems require an independent pressure transmitter, a display, and a control system. Texmate have combined their new

differential pressure sensor input module with the Tiger 320 Series controller to perform direct pressure measurement as a complete unit. The functionality and versatility of the Tiger controller provides flow, and total measurement with complete system control, monitoring and data logging.



APPLICATION FUNCTIONS

★	REGISTER RESETS
⚡	RELAY OUTPUTS
⌚	TIMERS
↕	TOTALIZERS
⊕ ⊖	CALCULATIONS
⏮ ⏭ ⏪ ⏩	SEQUENCE CONTROLS
∞	LINEARIZATION

How it Works.

The bubbler system supplies a constant volumetric rate of air flow through a small diameter tube anchored in the flow stream. The amount of pressure required to force the air bubble out of the bottom of the tube is equal to the hydrostatic pressure at that point (i.e. the deepest point in the weir). This is calculated using the formula

$$P = L \times (Sg), \text{ where:}$$

P = pressure in inches or centimeters of water.

L = liquid level in inches or centimeters.

Sg = specific gravity of the liquid.

The air pressure output from the bubble tube must be approximately 3.5 psi (24 kPa) above the maximum hydrostatic pressure in the liquid flow (i.e. the pressure at the bottom of the weir). The air bleed valve is adjusted to achieve a bubble rate of approximately 60 bubbles / minute by bleeding off excess air pressure to atmosphere. A solenoid valve is installed between the air bleed valve and the bubble outlet and is closed to purge the bubble tube of debris.

Advantages.

The combination of the Tiger 320 Series controller and the direct differential

pressure sensor input module, provides the following standard functions to improve accuracy and control of bubbler systems:

- Resident 32-point linearization tables are available in the controller for linearity correction, required for flow measurement in weirs, etc.
- Setpoints and relays are available for control functions such as closing the purge valve due to either a high pressure signal due to blocked pipe, or from a resident timer.
- Monitoring and logging all system data directly to a PC or serial printer.

INPUTS

★	DIRECT PRESSURE
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TEXMATE CONTROLLERS FOR THIS APPLICATION	
Order Codes	Comments
DI-50	
DI-503	Display flow rate and total flow rate.
DI-503	Use dual input module display, 2 channels and reset.

Texmate supply input modules to suit most standard and many special sensors. Sensors can be purchased from a supplier in your area. Submit your "Request for information" together with your contact details.

Texmate cannot assume responsibility for any application process described. No process patent licenses are implied. Texmate reserves the right to change processes, equipment, specifications, and prices without notice at any time.