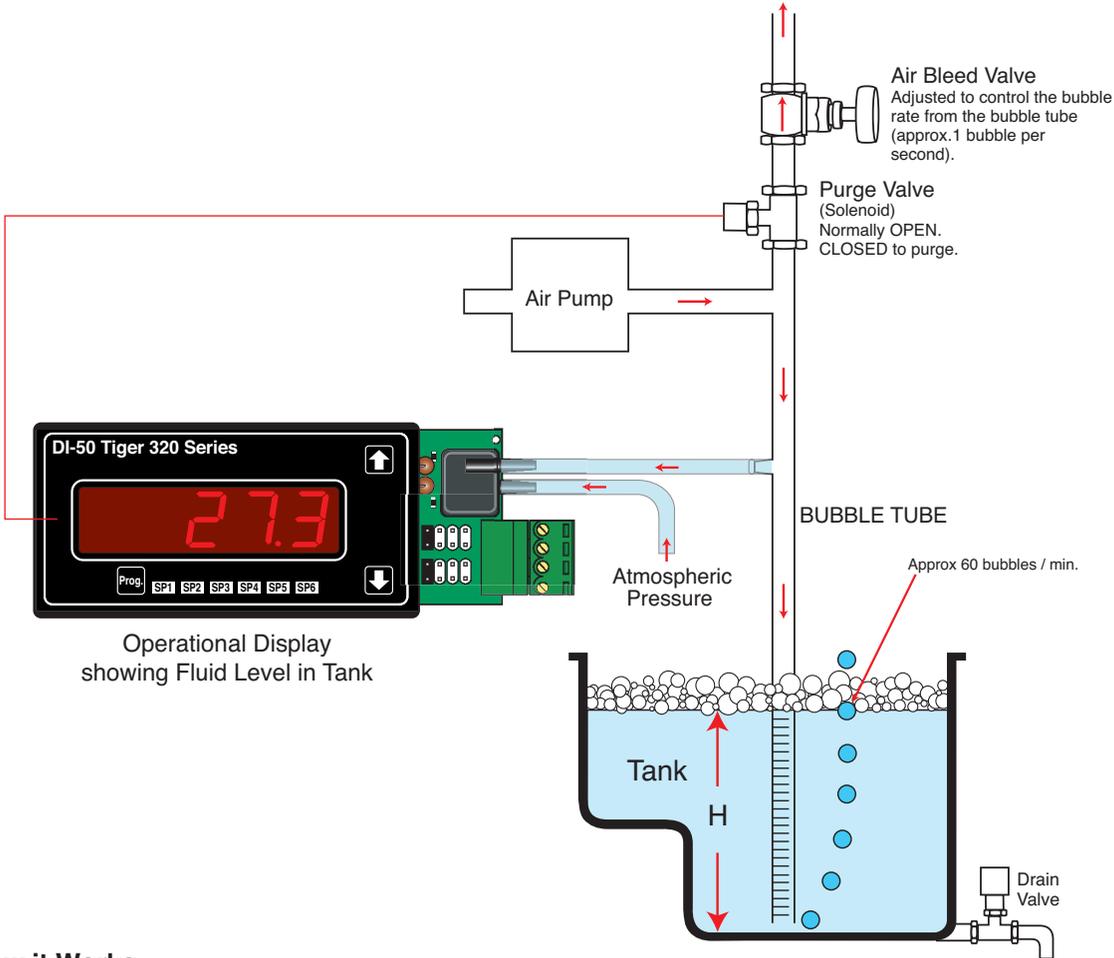


Bubbler systems are ideal for level measurement in tank situations where debris, foam, steam, or surface turbulence makes standard methods of level measurement impractical. Most bubbler systems require an independent pressure transmitter, a display, and a control system. Texmate have

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 level measurement with complete system control, monitoring and data logging.



APPLICATION FUNCTIONS	
★	
RELAY OUTPUTS	⚡
TIMERS	⚡
REGISTER RESETS	↕
TOTALIZERS	+
CALCULATIONS	+/−
SEQUENCE CONTROLS	⏸
LINEARIZATION	⤴

**How it Works.**

The bubbler system supplies a constant rate of air flow through a small diameter tube anchored near the bottom of the tank. 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 tank). This is calculated using the formula  $H = \frac{P}{Sg}$ , where:  
 P = pressure in inches or centimeters of water.  
 H = fluid 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 (i.e. the pressure at the bottom of the tank). 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-pt linearization tables are available in the controller for linearity correction in irregular shaped tanks for volume measurement.
- 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

TEXMATE CONTROLLERS FOR THIS APPLICATION	
Order Codes	Comments
DI-50E—DR—PSI—IGYX .....	

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.

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