

# Technical Datasheet



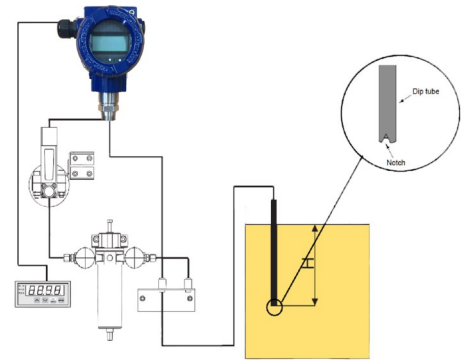
## Bubble System

### Bubble Type Level Measurement System

Models: D21/D31 Transmitters

#### Key Features

- A simple, accurate and low cost installation
- For use in open or closed tanks
- Suitable for highly corrosive process fluid
- Allows for remote installation of the electronic system with only the tube in contact with the process
- Can be used with air or any inert gas compatible with the process



#### Series Overview

Our D Series pressure and differential pressure transmitters can be used for the measurement of liquid level in a Bubble Type System. We can customise an installation to your specific requirements, down to the type of liquid. The system can also be designed to measure the weight level in both open and closed tanks & channels. The working medium is normally air or inert gas compatible with the liquid measured.

The gas supply system can either be air with its own compressor, adapted to be fed with an existing mains pneumatic system (compressed air distribution system). Or alternatively fed with inert gas coming from a cylinders system, depending on the type of liquid measured. In addition to the transmitters we can also provide other Bubble Type System components or even the whole system.

Others products include:

- D21 SMART HART Pressure Transmitter with display
- DMSP900/400 Ultrasonic Level Transmitter
- D31 SMART HART Differential Pressure Transmitter



#### Product applications

The Bubble Type Level Measurement System is suitable for a wide range of applications including:

- Chemical
- Petrochemical
- Food industry
- Pharmaceutical
- Water treatment

#### Using this system ensures:

- An accurate level measurement for aggressive, corrosive media
- Suitable for use in corrosive atmospheres
- Resistant to chemical attack

#### How can we help you?

Delta Mobrey offers fast, efficient and knowledgeable support when and where you need it. Please visit our website at [www.delta-mobrey.com](http://www.delta-mobrey.com) to find your local support centre or call us on: +44 (0) 1252 729 140

D-Series Bubble System  
Models: D21/D31 Transmitters

## How it works

The Bubble system is based on the principle of measuring pressure to allow a constant air flow inside a probe tube, by opening the bottom of the tube immersed in liquid at a higher pressure than the maximum liquid level.

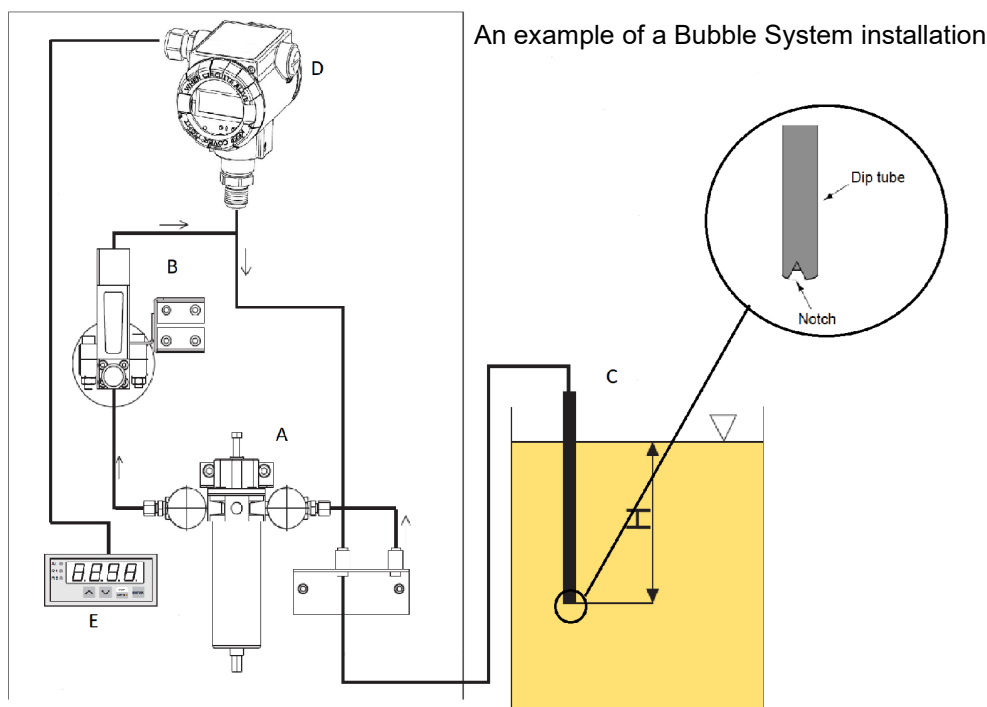
As the liquid level in the tank varies, the back pressure exerted on the air leaving the tube also varies; these variations are detected precisely by the pressure transmitter giving a signal output 4...20mA proportional to the liquid level. A flow regulator keeps the bubbling air flow constant for any level value, ensuring highly reliable and accurate measurement.

## System Components

### The basic system for an open tank:

- A. An air supply system to generate a flow of dry and filtered air flow
- B. A rotameter with a flow regulator system to supply a constant flow rate of gas
- C. The straight tubing system inserted inside the tank up to the desired measuring height
- D. The pressure instrument to measure the increase of pressure in the system necessary to maintain a constant flow rate of air. This signal is directly proportional to the level of fluid in the tank
  - ⇒ For level measurement in an open atmosphere tank, use a D21 Pressure Transmitter
  - ⇒ For level measurement in a pressurised tank, use a D31 Differential Pressure Transmitter
- E. A digital electronic display with a 24Vdc power supply for the field mount indicating the liquid level

Other configurations can be customised according to your requirements for the installation.



## How to order

Please contact our Sales and Engineering department to discuss your requirements further.

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