



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

# Levelflex FMP 41 C in a Fermenter- Pharma.

## FMP 41C in a Biotechnological Process



Fermenter



FMP41C



Plant

### FMP 41C copes with the difficult terms of a bioreactor.

#### Customer Information

This customer is one of the world's leading dedicated contract manufacturers of biopharmaceuticals. The company offers a wide range of services such as process development, process scale up, validation and cGMP manufacturing.

#### Application

A Fermenter is an apparatus that maintains optimal conditions for the growth of microorganisms, used in large-scale fermentation and in the commercial production of antibiotics and hormones. The vessel's environmental conditions such as gas (i.e., air, oxygen, nitrogen, carbon dioxide) flowrates, temperature, pH and dissolved oxygen levels, plus agitation speed need to be closely monitored and controlled.

#### Process Information

- Medium: WFI (water for injection)  
Salt is being added to the WFI for growth media which changes the non-conductive water into a very conductive soup.
- Vessel: Small with a dish bottom

#### Further requirements

Needs to monitor down to the last 4 gallons (15 litres).

### Challenge

It is very difficult to find an appropriate measuring device for this application.

- A Capacitance probe is inapplicable due to the changing calibration
- An Ultrasound transmitter might have problems with the narrow pressurized tank
- A Microwave transmitter needs to see the near bottom.
- A dB device is unsuitable due to the pressurized vessel, with only one top port available.

### Solution from Endress+Hauser

FMP 41 C

### Instrument description

The Levelflex M is used for continuous level measurement of liquids. The FMP41C has the highest chemical resistance. Measurement with the FMP41C is independent of density and electrical features. The Levelflex has no problems with a very turbulent surface and foam. The free ToF Tool operation program allows a convenient remote operation, diagnosis and documentation of the measuring point. The electronics can be replaced without opening the tank. All wetted components: PTFE, FDA-listed, gap free

### Reason for our choice

Sanitary Levelflex permits the level reading of changing media. Accuracy of 0.12" (3mm) is more than expected. Able to read down to the dished bottom to the last 4 gallons / 15 liters (1" from the bottom).

Endress+Hauser

People for Process Automation



The Levelflex M allows Endress+Hauser to enter the biotechnological market with its very specific requirements

ISO 9001:2000 Certified

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