

Differential and head pressure control in one unit – easy, precise, efficient

Differential pressure and level sensor D3

Benefits in pressurized processes

Parallel, digital display of level and head pressure with integrated tank linearization and density compensation.

In many pressurized tanks a precise detection of the fill level for an optimized usage of the content has the same importance as the supervision of the head pressure. Commonly capillary systems or two pressure transmitters with integration in a SPS, or even flowmeters are used for this purpose. With the new **digital technology of the D3 sensor** Anderson-Negele sets a **new benchmark for precision, speed and usability**.

- Electronic detection and digital transmission without capillaries: **high-precision output** of fill level, also under quickly varying conditions. Result: optimum efficiency due to **maximum use of the tank content**
- Detection and evaluation of temperature and pressure directly in the sensor stem: **Extremely short response time**, data output in real time, superior **resistance to temperature shocks**
- Integrated tank linearization: four **tank geometries are already pre-defined**, others can easily be added
- Integrated **pressure compensation**: Pressure values for 10 food types are already integrated, others can easily be added
- **Easy installation, also for retrofitting**, due to variable mounting of the electric cables (length up to 50')
- **Easy operation**: "Plug and play" with intuitive operation and simple selection of pre-defined parameters
- **Superior efficiency** by reduced maintenance, avoidance of downtimes and higher degree of product utilization



Technical specification at a glance

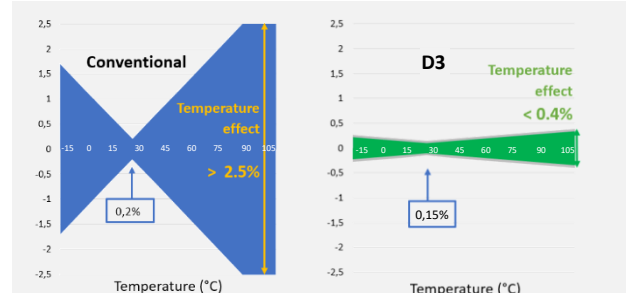
- Highly accurate hydrostatic fill level measurement in pressurized tanks
- Temperature up to 230°F (110°C); CIP/SIP up to 275°F (135°C), max. 60 min.
- Measuring range -14.7...500 PSI (-1...35 bar)
- Dual loop output for parallel transmission of fill level (differential pressure) and head pressure
- Measurement accuracy +/- 0,15% of the calibrated measuring range, repeatability 0,05%, temperature effect <0,016% per 10°F
- Response time < 0,2 seconds
- Volume-/mass output (kg, l, %, gallon, £)
- Modular design: individual configuration and easy exchange of components

Practical experiences / Applications

- Precise fill level detection (composite error up to 3 x less than with common pressure transmitters)
- Reliable process supervision by head pressure metering
- Reliable control of pressure drop in order to avoid contamination risks
- Supervision of post-fermentation in juice production
- Pressure compensated level measurement in open vessels (e.g. for varying concentrations of the content)

Application examples:

- Fermentation tanks in breweries and dairies
- Aseptic storage and processes in dairy and high-purity water (WFI) production
- Juice storage tanks



The **temperature effect** (i.e. the deviation from calibration at room temperature) is only 0.016% per 10°F. At 225°F the temperature effect is below 0.4%, compared to <2.5% with conventional sensors.

Overview configuration possibilities (detailed order code see product information)

Order code of fully assembled sensor

D3 Sensor assembled

Capillary fill

- 1** Mineral Oil (FDA approved)
- 5** Neobee M20

Top Sensor URL

- 5** 0...6 PSI, 0...0.4 BAR, 0...166" w.c.
- 6** -14.7...30 PSI, -1...2 BAR, -400...830" w.c.
- 7** -14.7...100 PSI, -1...7 BAR, -400...2770" w.c.
- 8** -14.7...500 PSI, -1...35 BAR, -400...13850" w.c.

Top Sensor Fitting

XXX (See fittings table for 3 digit code)

Top Sensor Remote Cable

- 0** Integral
- B** 10' Cable
- E** 25' Cable
- F** 50' Cable

Bottom Sensor URL

- 5** 0...6 PSI, 0...0.4 BAR, 0...166" w.c.
- 6** -14.7...30 PSI, -1...2 BAR, -400...830" w.c.
- 7** -14.7...100 PSI, -1...7 BAR, -400...2770" w.c.
- 8** -14.7...500 PSI, -1...35 BAR, -400...13850" w.c.

Bottom Sensor Fitting

XXX (See fittings table for 3 digit code)

Bottom Sensor Remote Cable

- 0** Integral
- B** 10' Cable
- E** 25' Cable
- F** 50' Cable

Enclosure cap

- 2** Clear cap
- 3** Stainless steel cap

Connector Locations

	Electric	Top Sensor	Bottom Sensor
1	A	B	C
2	A	C	B
3	B	A	C
4	B	C	A
5	C	A	B
6	C	B	A

Electrical connection

- A** M12 QDR
- C** Cable gland
- N** 1/2" NPTF adaptor

Top Pressure Unit

- P** PSI
- B** BAR
- W** inches of water
- L** millibar

Top Pressure Range

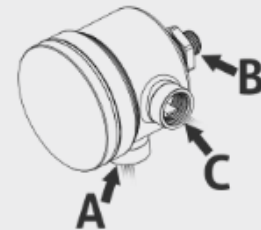
- XXX** See "Calibrated Range" table
- 999** Specify custom range

Differential Output Unit

- P** PSI
- B** BAR
- W** inches of water
- L** millibar

Differential Output Range

- XXX** See "Calibrated Range" table
- 999** Specify custom range



D3 1 6 005 A 6 005 A 2 1 A P 060 W 294