

Pressure and Temperature

Instrumentation for biodiesel applications

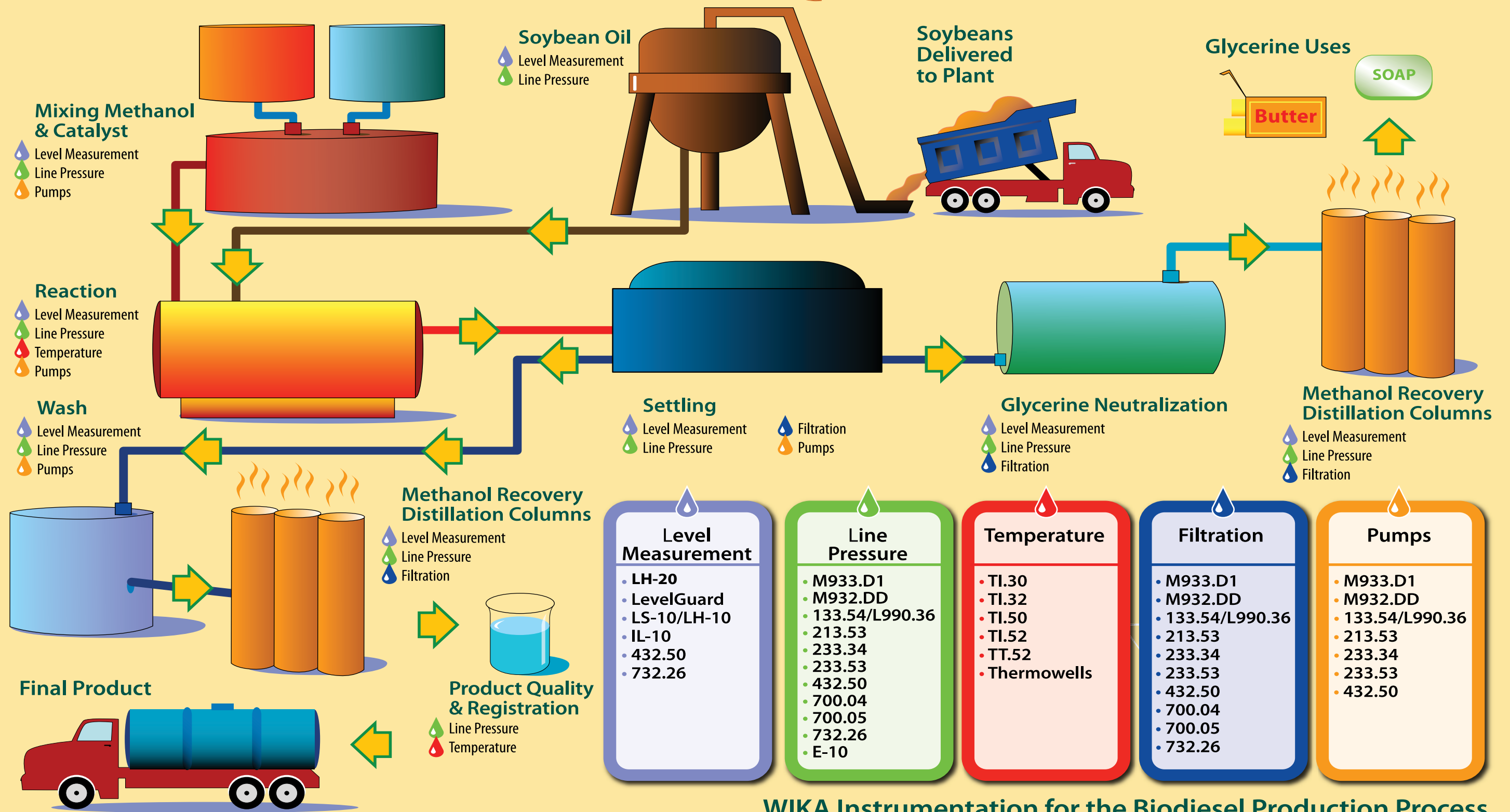


WIKA Instrument, LP manufactures products engineered with specific design features and gauge options optimized for utilization in the Biodiesel industry. This diagram illustrates how WIKA's technology will help insure reliability through every stage of the Biodiesel production process.

The color-coded selection guide provides easy product identification for the most common pressure and temperature measurement requirements in the Biodiesel industry. Featured products have been selected for their design, durability, and proven performance in Biodiesel production.

BIODIESEL PRODUCTION

PROCESS INSTRUMENTS



WIKA Instrumentation for the Biodiesel Production Process



Stainless Steel Case with Brass Wetted Parts Gauge, Liquid Filled

213.53

Type 213.53 is an ideal choice for OEM and general industrial applications requiring an economical liquid-filled pressure gauge. Typical applications include pumps, control systems, hydraulic, and pneumatic equipment. When vibration and/or pulsation are present, the glycerine fill dampens the Bourdon tube and minimizes pointer oscillation, which reduces wear on the gauge movement.



2 1/2" shown

- Size: 2 1/2", 4"
- Case: stainless steel
- Ring: stainless steel, crimped-on
- Wetted Parts: copper alloy
- Window: acrylic
- Liquid Filling: glycerine
- Accuracy: ±2/1/2% of span (2 1/2"); ±1.0% of span (4")



Process Gauge, Liquid Filled

233.34 XSEL®

WIKA process gauges are specifically designed for the petrochemical and processing industries. These durable gauges are engineered to provide reliable service in harsh and rugged environments.



4 1/2" shown

- Size: 4 1/2", 6"
- Case: black fiberglass reinforced thermoplastic
- Wetted Parts: 316 stainless steel
- Ring: threaded thermoplastic
- Window: acrylic
- Liquid Filling: ±0 .5% of span



SealGauge All Stainless Steel

432.50

The WIKA Model Type 400 Series SealGauge provides a unique solution to your tough Biodiesel processing applications. Offering full separating diaphragm seal technology with a mechanical linkage, the SealGauge provides a unique WIKA solution to even the most demanding service. With ranges beginning at 10"WC, it provides real-world application solutions unavailable from other instrument manufacturers.



- Size: 4"
- Diaphragm: 316 stainless steel, PTFE-lined
- Lower Housing: 316 stainless steel
- Window: laminated safety glass
- Accuracy: ±1.5% of span



All Stainless Steel Gauge, Liquid Filled

233.53

With all stainless steel construction, this industrial gauge ensures long service life in the harshest, most demanding environments. Typical applications include process, chemical/petrochemical, power stations, on and offshore, environmental technology, mechanical engineering, and plant construction.



4" shown

- Size: 2 1/2", 4"
- Case: stainless steel
- Ring: stainless steel, crimped-on
- Wetted Parts: stainless steel
- Window: polycarbonate
- Liquid Filling: glycerine
- Accuracy: ±2/1/2% of span (2 1/2"); ±1.0% of span (4")



Differential Gauges, Dry or Liquid Filled

700.04 / 700.05*

This piston-styled differential pressure gauge is used in measurement applications requiring high differential/static process pressures. This type gauge is suitable for measuring pressure drops across a variety of devices, including filters, strainers, separators, and heat exchanges.



700.05* - 2 1/2"

- Size: 2 1/2", 4 1/2"
- Case & Bezel: reinforced plastic or aluminum
- Sensor Housing: 316L stainless steel or anodized aluminum
- Wetted Parts: aluminum or 316 stainless steel & ceramic magnet



700.04 - 4 1/2"

- Window: acrylic or shatter-resistant glass
- Accuracy: ±2% of span (increasing)

*700.05 offers the addition of a separating diaphragm



Differential Gauge, Membrane Sensing Element

732.26

Type 732.26 is used in measurement applications requiring low to medium differential and/or static process pressures. Type 732.26 is suitable for measuring tough process applications and liquid level measurement.



4 1/2" shown

- Size: 4 1/2", 6"
- Case: black powder-coated aluminum
- Sensor Housing: 316L stainless steel
- Wetted Parts: 316L stainless steel
- Working Pressure: up to 600 psid
- Accuracy: ±1% of span



Temperature



Filtration



Pumps

Submersible Level Transmitters

LH-20

- Sub 1" diameter design
- Optional adjustable turndown via HART
- Resistant to harsh environmental conditions
- Double-sealed cable entry design
- Optional titanium case for improved media resistance

The model LH-20 submersible pressure transmitter is designed for most demanding level measurement applications. A sub 1" diameter, high accuracy, low temperature error and adjustable measuring range ensure the suitability of the LH-20 for most critical level measurement applications.

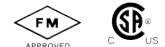


Explosion Proof Transmitters

E-10, E-11

The E series transmitters are FM-approved explosion-proof for Class I, Division 1 locations. Utilizing the same thin film technology as the industrial series of transmitters, the E-10 & E-11 are well suited for pump and control systems in enclosed environments where volatile or explosive conditions may exist.

Ranges: 50 InWC to 15,000 psi, vacuum, compound, absolute
 Output: 4-20 mA or 1-5V low power
 Accuracy: ≤0.25% B.F.S.L.



The Rugged All Stainless Steel LevelGuard Provides Excellent Durability and Service Life in Difficult Environments

The LevelGuard anti-clog attachment for TRONIC submersible liquid level transmitters is ideal for difficult level sensing applications where sludge, slurry, or turbulence may be present.

The large, 2" diaphragm provides excellent sensitivity and performance even when used to monitor extremely low liquid levels or when the assembly is buried in a layer of sludge or slurry. The cable supplied with WIKA submersible pressure transmitters is designed to withstand over 200 pounds of strain, eliminating the need for additional support or conduit connections. The added weight prevents movement of the transmitter when flow or turbulence is present.

The LevelGuard™ is available with the LS-10, LH-10 high performance, and IL-10 FM-approved, intrinsically-safe submersible level transmitters.

Features:

- For lift stations, wet wells, and other level applications
- All 316 stainless steel construction for durability
- 2" diameter diaphragm provides excellent sensitivity
- Diaphragm is protected from physical damage and turbulence
- Added weight prevents movement of the transmitter



Submersible Level Transmitters

LS-10 / LH-10

Submersible level transmitters have a watertight construction suitable for applications in tank level measurement, water/wastewater treatment, and reservoir or well depth measurement. They are submersible up to 1,000 feet and the integrated cable can withstand up to 220 lbs of strain.

Ranges: 50 InWC to 400 psi
 Output: 4-20 mA, 2-wire
 Accuracy: ≤0.25% - 0.125% B.F.S.L.



LS-10 LH-10



Intrinsically Safe Level Transmitters

IL-10

WIKA IL-10 intrinsically safe submersible liquid level transmitters are engineered for a wide variety of industrial and municipal liquid level measurement applications installed in hazardous areas. Each transmitter undergoes extensive quality control testing and calibration to achieve high accuracy and reliability.

Ranges: 50 InWC to 400 psi
 Output: 4-20 mA, 2-wire
 Accuracy: ≤0.125% B.F.S.L. may be present



Note: Hazardous area approvals available .



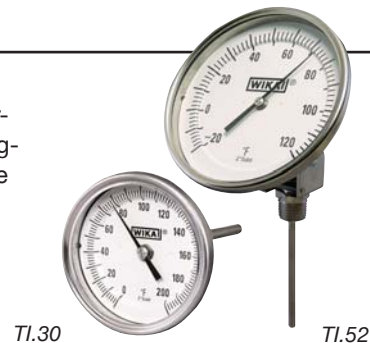
Bimetal Thermometer

TI.32/TI.52 All-Angle, TI.30/TI.50 Center Back Mount (CBM)

WIKA's process grade bimetal thermometers are suitable for nearly every direct-reading thermometer application. Their durable construction and finish ensure reliable readings and long-lasting service. The superior quality of the WIKA types 30, 32, 50, and 52 are reflected in the seven-year warranty.

Ranges: -100°F (-73°C) to 1000°F (538°C)
Accuracy: ± 1.0% full scale value (ASME B40.3)

Thermowells available. Patented "Dampened Movement" available for high vibration applications. Please consult factory for additional information.



Twin-Temp™ Thermometer

TT.52

The Twin-Temp thermometer can be an option if both analog and 4-20mA output is required. WIKA's unique Twin-Temp thermometer combines the accuracy, reliability and easy-to-read dial of a bimetal thermometer with the precision output and data acquisition capability of a thermocouple or RTD sensor. Every thermowell in your process can have two outputs from one instrument.

Ranges: -40°F (-40°C) to 550°F (288°C)
Accuracy: ± 1.0% of span for each sensor






*Solar digital models are also available with back and all-angle connections.



Selecting Criteria Guidelines

Mechanical vibration, pressure pulsation, and high temperature media can affect instrument performance. It is important to utilize configurations that will not only ensure optimal performance, but also increase the instrument's service life and operational safety.

Pump systems transport materials through the production process. This can cause mechanical vibration and pressure pulsation in the piping system. The resulting internal pressure pulsation and mechanical vibration is dependent on the type of pump system (rotary or piston-style design) and the type of media (mash or clean liquid).

WIKA Application Guideline for Mechanical Vibration / Pressure Pulsation / High Temperature Media			
0 = Not Effective 1 = Marginally Effective 2 = Highly Effective			
Option/Configuration	Mechanical Vibration	Pressure Pulsation	High Temperature Media
*Mechanical Pressure			
 Liquid Fill Case	2	2	0
 Restrictor	0	2	0
Snubber	0	2	0
Higher Pressure Range Gauge	1	1	0
Dampened Movement	1	1	0
Siphon	0	0	2
Throttling Snubber	0	2	0
Needle Valves	0	1	0
Overpressure Protector	0	1	0
SealGauge	1	1	1
*Diaphragm Seals			
Cooling Tower	0	0	2
 M933.D1 (AWS/all-welded seal)	0	1	1
 M933.D1 (AWS with flushing port)	0	1	1
 M933.D1 (AWS plus cooling element)	0	1	2
Diaphragm Seal with Capillary	2	2	2

* Many of the options in this chart can be assembled into one system. Consult the WIKA Technical Team for additional information.

 = Biodiesel process recommendations



**ISO 9001
Certified**

With almost 70 years of experience, WIKI Instrument, LP (www.wika.com) is the leading global manufacturer of pressure and temperature measurement instrumentation, producing more than 43 million pressure gauges, diaphragm seals, pressure transmitters, thermometers and other instruments annually. WIKI's extensive product line, including mechanical and electronic instruments, provides measurement solutions for any application in a large variety of industries. A global leader in lean manufacturing and instrumentation experience, WIKI also offers a broad selection of stock and custom instrumentation as well as dedicated services to provide customers with the right solutions, at the right time, wherever they need us.



**Twin-Temp
TT.52**



**XSEL® Process Gauge
232.34**

WIKI provides distinctive service and support to our channel partners and customers:

- Award winning U.S.-based manufacturing, sales and ordering customer service and technical support
- Certified technical specialists who conduct Best Practice Instrument Reviews with performance improvement reports
- An in-house engineering team for product customization and innovation
- Proven capabilities to connect with customer business processes for ordering and inventory management
- Web-based customer service features, including RFQs, literature request and competitor product cross reference

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