

NBK-04
TANK-TOP MOUNTED LEVEL INDICATOR



Flow
Pressure
Level
Temperature
measurement
monitoring
control

N2



- **Measuring Depths to 13 Feet**
- **Maximum Pressure to 230 PSIG**
- **Maximum Temperature to 250°F**
- **Highly Visible Level Indication for Underground Tanks and Pumps**
- **Switches and Transmitters Available**



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Model:
NBK-04

Features

- Measuring Depths to 13 Feet
- Maximum Pressure to 230 PSIG
- Maximum Temperature to 250° F
- Highly Visible Level Indication for Underground Tanks and Sumps
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The rugged simplicity of our NBK series bypass level indicator has been adapted for above tank level indication. The NBK tank-top mounted indicators are used for continuous indication, transmission and monitoring of tank level. A sealed float inside the tank is connected to a magnetic carrier in the indicating tube. The magnetic carrier operates magnetic roller indicators on the local level display as well as optional adjustable level switches and level transmitter. The magnetic carrier is sealed inside the measuring tube so that it operates the level indicator, switches and transmitters in a non-contacting fashion. Since the carrier is inside indicating tube, above the level of the tank, it never touches the process liquid, thereby minimizing problems associated with measuring dirty or coating liquids.

The following peripheral devices are available with the NBK tank-top mounted level indicator:

Magnetic Roller Indicators:

An assembly of rollers may be mounted on the side of the gauge body. The roller indicators contain small bar magnets and are free to rotate about their axes. Passage of the carrier magnet causes them to rotate 180°. The indicators are white on one side and red on the other. The roller indicators transition from white to red as level rises and red to white as level falls. This allows liquid level to be clearly seen at the red to white transition point on the indicator.

Level Transmitter:

If data transmission is required, a signal can be generated with the aid of a level transmitter externally mounted onto the side of the indicator body. Level transmitters offered are variable resistance and magnetostrictive. The variable resistance transmitter will transmit level as a varying resistance output with a resolution of +/-0.4" (10 mm) for measuring lengths less than 6.6 feet and +/-0.8"



NBK Tank-Top Mounted Level Indicator

(20 mm) for measuring lengths above 6.6 feet. The variable resistance output is available with an integrally mounted 4-20 mA transmitter as an option. The Magnetostrictive transmitter has a resolution of +/- .040" (1 mm) and comes standard with an integral 4-20 mA transmitter.

Adjustable switches:

One or more adjustable limit switches can be attached to the indicator body for level control schemes or level alarms.

Specifications

Max. Measuring Length: 13 Ft. (4000 mm)
Indicator Body Length: Measuring Length + 5.2 inches
Submerged Length: Measuring Length + 12.6 inches

Max. Operating

Pressure: 230 PSIG
Max. Operating Temperature: 250°F
Min. Liquid SG: 0.95, 0.75 or 0.55 depending on model number and measuring length

Max. Liquid Viscosity: 200 cSt

Wetted Materials

Submerged Tube: 316-Ti SS
Connecting Rod: 316-Ti SS for measuring length: <60 inches, Titanium for measuring length >60 inches
Float: 316-Ti SS or titanium depending on model number
Flange: 316-Ti SS

Electrical Specifications

Adjustable Switches

Model Number: NBK-R
Switch Rating: SPDT, Max. 220 VAC
 0.5 Amp, 60 watt
Hysteresis: 0.6 inches
Electrical Connection: 10 Ft. PVC cable
Protection: NEMA 4X/IP 65
Ambient Temp: -10 to + 158°F

Resistance Transmitter

Ordering Code: Type W
Output Resistance: Approx. 5000 ohm
Measuring Circuit Voltage: 24 VDC Max.
Measuring Circuit Current: 100 mA Max.
Ambient Temp: 176°F Max.
Resolution
Measuring Length <6.6 Ft: 0.4" (10mm)
Measuring Length >6.6 Ft: 0.8" (20mm)
Protection: NEMA 4/IP65

Resistance w/ 4-20 mA Transmitter

Ordering Code: Type M
Output: 4-20 mA, 2-wire
Power Supply: 16-32 VDC
Max. Loop Resistance: 750 ohm @24 VDC
Ambient Temp: 140°F Max.
Resolution
Measuring Length <6.6 Ft: 0.4" (10mm)
Measuring Length >6.6 Ft: 0.8" (20mm)
Protection: NEMA 4/IP65

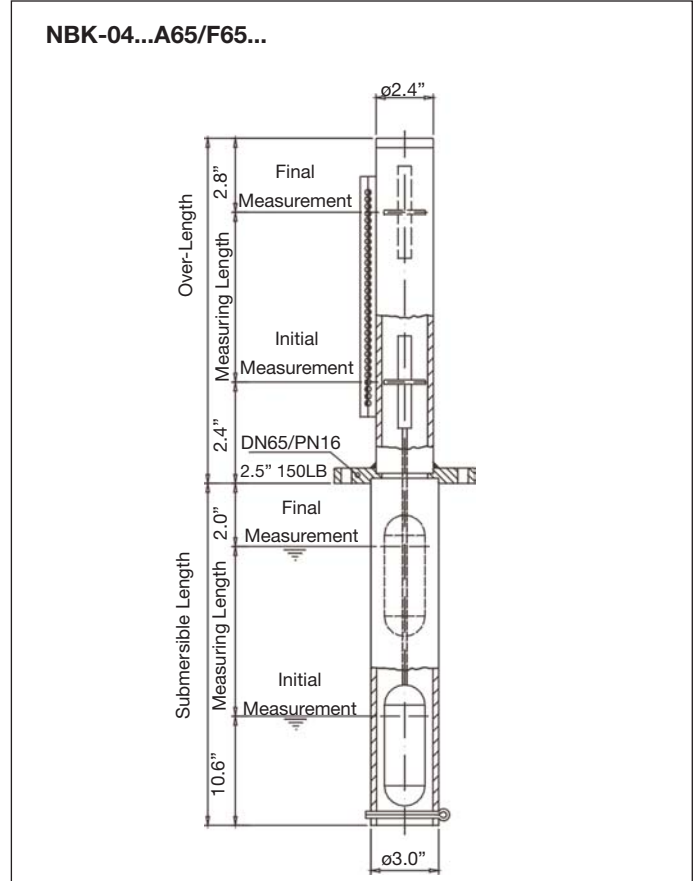
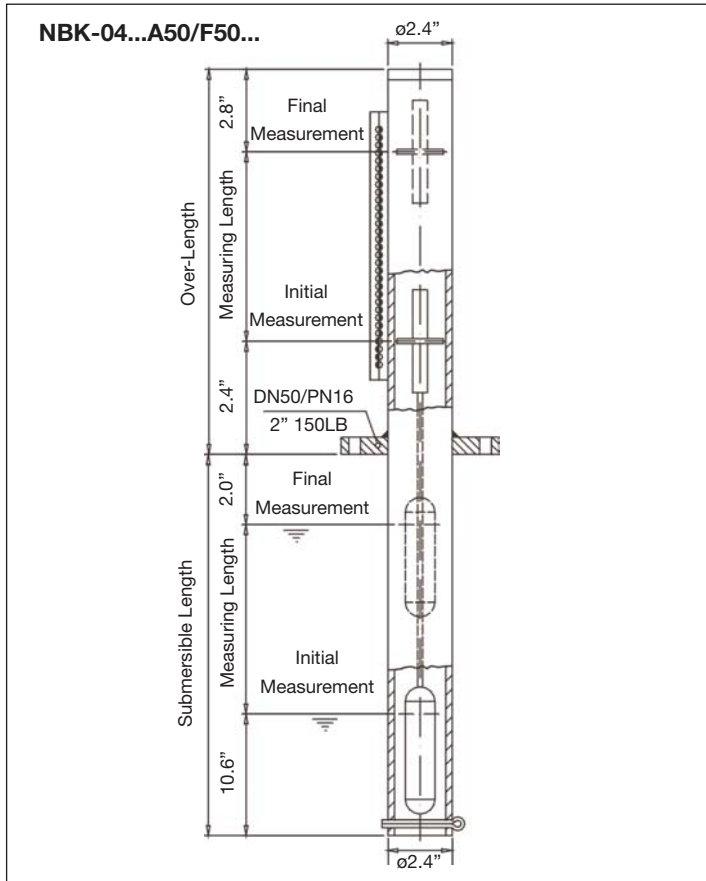
Magnetostrictive Transmitter

Ordering Code: Type T
Output: 4-20 mA, 4-wire
Power Supply: 24 VDC
Max. Loop Resistance: 500 ohms
Ambient Temp: 140°F Max.
Resolution: +/- .040" (1mm)
Protection: NEMA 4/IP65



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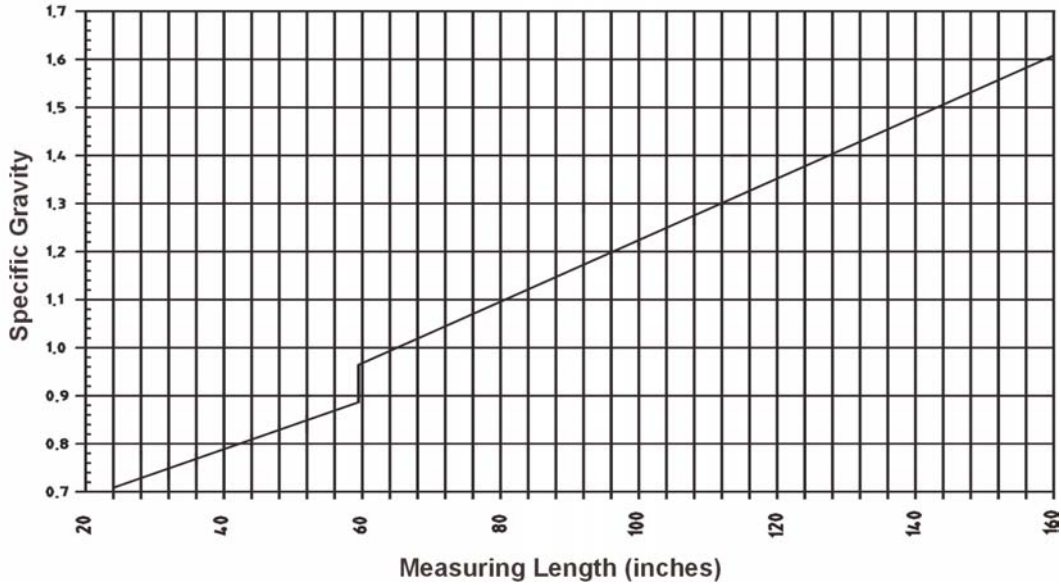
Dimensions



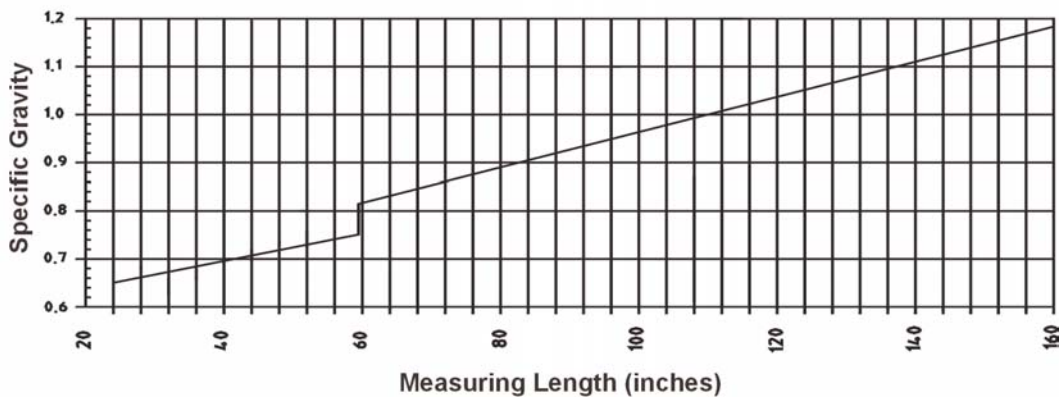
Minimum allowable liquid specific gravity versus measuring length

Use the graphs below to determine the proper float /fitting combination based on the process liquid specific gravity and desired measuring length. The graphs give the minimum allowable liquid specific gravity versus desired measuring length for float styles 9, 7 and 5. Choose the float style to ensure that the minimum allowable specific gravity is less than the process liquid specific gravity for the desired measuring length. Acceptable specific gravity per length combinations are located above the line.

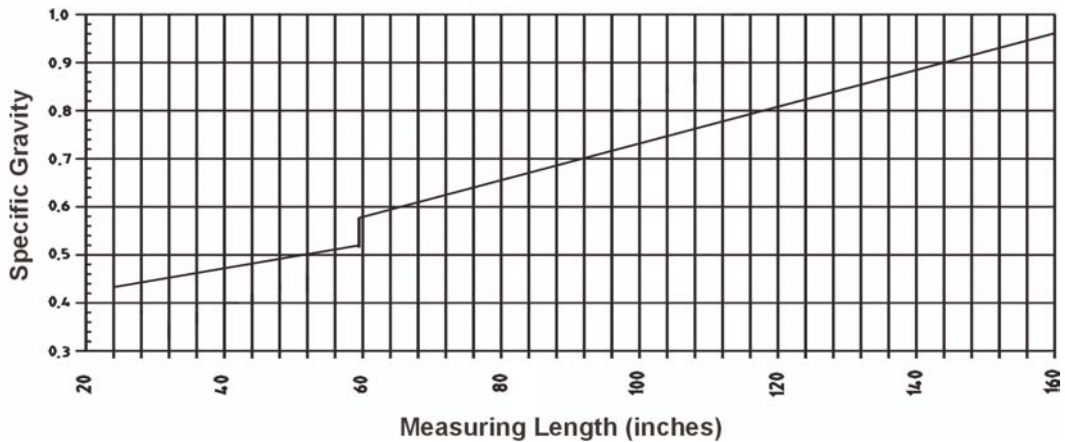
NBK-04...9, St. Steel Float



NBK-04...7, Titanium Float



NBK-04...5, Titanium Float



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NBK-04 Ordering Information

Base Model	Connection	Roller Indicators	Transmitter	Specific Gravity Float Type
NBK-04...	...F50 =50 mm PN 16 DIN Flange ...A50 =2" 150 LB ANSI Flange	...00 =No indicator rollers ...RP =Polypropylene rollers	...O =No transmitter ...M =Resistive w/ 4-20 mA ...T =Magnetostrictive ...W =Resistive only	...9 =SG> 0.95 ...7 =SG> 0.75
	...F65 =65 mm PN 16 DIN Flange ...A65 =2-1/2" 150 LB ANSI Flange	...00 =No indicator rollers ...RP =Polypropylene rollers	...O =No transmitter ...M =Resistive w/ 4-20 mA ...T =Magnetostrictive ...W =Resistive only	...5 =SG> 0.55
Switch Part Number = NBK-R				
Ordering Code Example: NBK-04A65M7 with NBK-R				



NBK-04 Tank-Top Mounted Level Indicator Application Guide Form #NBK04-001 Rev. 02/01/04 FAX to: KOBOLD Instruments Inc. 412-788-4890 (USA) 514-428-8899 (Canada)	Customer Name: _____ Company Name: _____ Phone: _____ Fax: _____
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Quote #: _____ Date: _____ Price: _____ Each Part Number: _____

- 1. Pressure:** Normal _____ PSIG Maximum _____ PSIG
- 2. Temperature:** Normal _____ °F Maximum _____ °F
- 3. Liquid Type:** _____
- 4. Liquid Specific Gravity at Normal Operating Temp:** _____
- 5. Liquid Viscosity:** _____ Centistoke

Process Conditions

Accurate process information is essential to ensure the proper operation of your level indicator. Please fill out accurately and completely.

* To ensure fast order processing, please retain the completed quote form and send it along with your purchase order.

Mounting Configuration

1. Measuring Length M: _____ Inches

*Note: Overall indicator length above tank is 5.2 inches longer than measuring length. Submerged portion is 12.6 inches longer than measuring length)

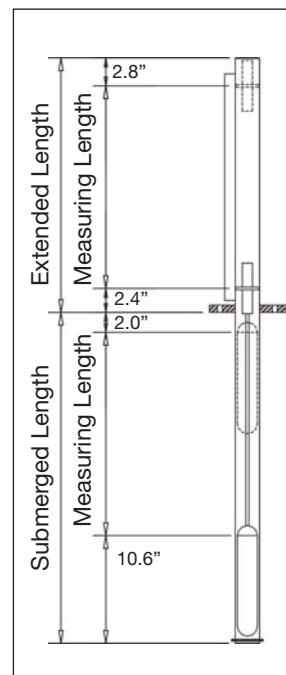
- 2. Fitting Size:** 2" 2-1/2"
- 3. Fitting Type:**
 150 LB ANSI Flange DIN Flange

Indicator Type

- Polypropylene (250°F Max. Temp.) Suffix-RP

Options

- 1. Switches (SPDT):** Quantity _____ (See datasheet for switch specifications)
- 2. Level Transmitter (see datasheet for transmitter specifications)**
 - Resistive (5 Kohm Max.)
 - Resistive with 4-20 mA transmitter (2-wire)
 - Magnetostrictive with 4-20 mA transmitter (4-wire)



3. Other Options/ Custom Configurations / Special Requirements (specify): _____
