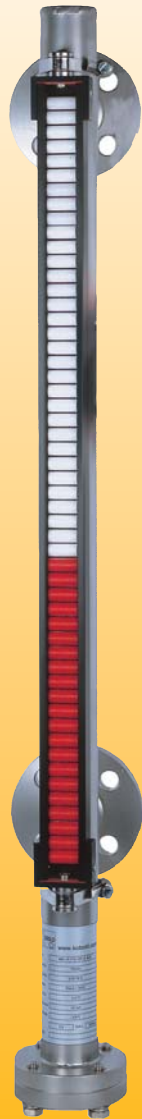


MINI-NBK ECONOMICAL LEVEL INDICATOR



Flow
Pressure
Level
Temperature
measurement
monitoring
control



- **316 Stainless Steel Tube**
- **Maximum Pressure: 580 PSIG**
- **Maximum Temperature: 390°F**
- **Measuring Lengths to 9.8 Ft.**
- **Optional Switches, Transmitters and Digital Displays Available**
- **Economical Rugged Design**

N2

Contact:
Industrial Process Measurement, Inc.
3910 Park Avenue, Unit 7
Edison, NJ 08820
732-632-6400
support@instrumentation2000.com
<http://www.instrumentation2000.com>

Model:
NBK-M

Features

- 316 Stainless Steel Tube
- Maximum Pressure 580 PSIG
- Maximum Temperature 390 F
- Measuring Lengths to 9.8 ft.
- Optional Switches, Transmitters and Digital Displays Available
- Economical Rugged Design

The Mini-NBK bypass level indicator provides many of the unique features of our standard NBK series but at a fraction of the cost. Like its predecessor, the Mini-NBK uses KOBOLD's revolutionary ring magnet float design allowing the user full flexibility in adding roller indicators, switches and other options anywhere on the periphery of the bypass tube.

The use of lighter gauge materials and a streamlined manufacturing process makes the Mini-NBK a very economical choice for low pressure level measuring applications.

Roller Indicators:

A magnetic indicator strip allows the user to take local level readings at the tank. The indicator rollers rotate from white to red as tank level changes. The roller indicator assembly can be rotated in the field to any position on the bypass tube in order to allow for easy readings when installed in a tight location. Rollers are available made of polypropylene for low temperature applications (<212°F) and ceramic for higher temperature applications.

Switches:

SPDT switches are available to use hi/low level alarms or for automatic tank fill/empty operations. The switch level setpoint is adjusted in the field by sliding the switch assembly up or down on the bypass pipe.

Level Transducers:

Magnetostrictive and variable resistance level transducers are available for transmission of tank level to a remote indicator or control system.

Digital Indicators:

For units which have a transducer installed, a digital indicator can also be mounted on the Mini-NBK to allow for local digital indication, an analog output and/or switches. Contact your KOBOLD Representative for details.

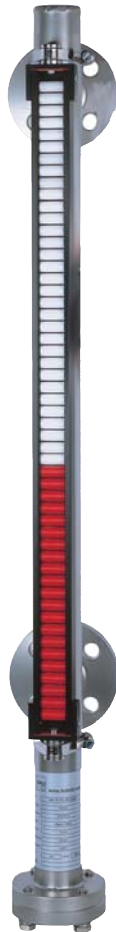


Table 1: Process Temperature Limits for Various Options

Option	Process Temperature Limit
Polypropylene Rollers	212°F
Ceramic Rollers	390°F
NBK-R	212°F
NBK-RT200	390°F
Option-M	265°F
Option-M1	390°F
Option-M2	250°F
Option-T	175°F
Option-W	265°F

***All options not listed in this table have a maximum process temperature limit of 390°F**

Specifications

Max. Pressure

Threaded Fittings: 580 PSIG
 Flanged Fittings: Per ANSI B16.5 or DIN for the specified flange rating to 580 PSIG Max.

Wetted Materials:

Bypass Pipe & Fittings: 316-Ti stainless steel
 Titanium
 Float: Buna-N standard, viton, silicone, Teflon and Kalrez optional
 Seals:

Roller Materials:

Polypropylene or ceramic based on ordering code

Max. Liquid Viscosity:

200 Centistokes

Allowable Liquid SG:

Float style 8: Liquid specific gravity between 0.78 and 0.94
 Float style 1: Water and any liquid with specific gravity above 0.95

Max. Measuring Length:

9.8 ft

Electrical Specifications

**Level Transducers
Resistive, Option-W**

Output: Resistive 0 to 5 K-ohm Approx.
 Working Voltage: 24 VDC Max.
 Working Current: 100 mA Max.
 Resolution: ±3/8" for Measuring lengths <6.6 Ft.
 ±3/4" for Measuring lengths >6.6Ft.
 Max. Process Temperature: 390°F
 Max. Ambient Temperature: 265°F
 Electrical Connection: Cable gland, PG 9
 Electrical Protection: NEMA 4/IP65

*Option W can be combined with DFM, DST or DFA series remote controllers/transmitters to achieve an analog output, switching or remote indication.

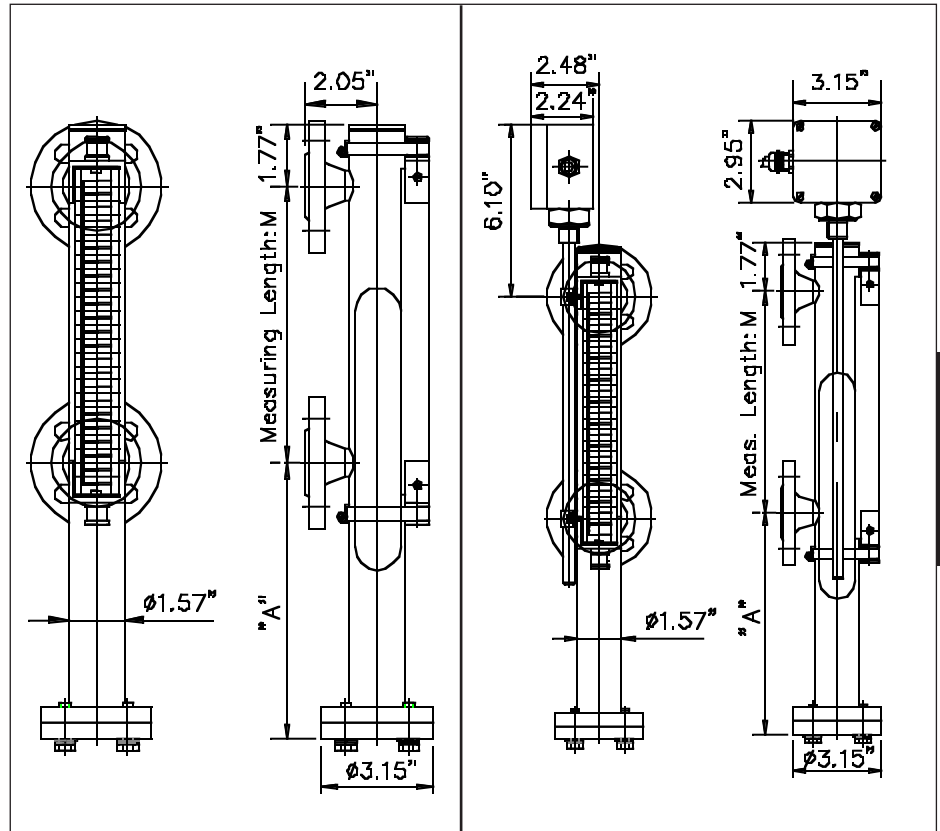
Resistive, with Head Mounted Transmitter, Option-M

Output: 4-20 mA, 2-wire
 Supply Voltage: 16-32 VDC
 Max. Loop Burden: (V_{supply}-9)/0.02 ohms
 Resolution: ±3/8" for Measuring lengths <6.6 Ft.
 ±3/4" for Measuring lengths >6.6Ft.

Max. Process Temperature: 265°F
 Max. Ambient Temperature: 175°F
 Electrical Connection: Cable gland, PG 9
 Electrical Protection: NEMA 4/IP65

Magnetostrictive, with Head Mounted Transmitter, Option-T

Output: 4-20 mA, 4-wire
 Supply Voltage: 24 VDC +/-10%
 Max. Loop Burden: 500 ohms
 Resolution: +/-1mm
 Max. Process Temperature: 175°F
 Max. Ambient Temperature: 175°F
 Electrical Connection: Cable gland, PG 9
 Electrical Protection: NEMA 4/IP65



N2

Float Well Dimension A		
Flange Rating	Specific Gravity	
	Customer Specified	1.0
PN 6	10.27"	6.64"
150 LB	10.27"	6.64"
300 LB	11.18"	7.0"

Switches

Low Temperature, Model NBK-R
 Function: Bistable reed contact, SPDT
 Ratings: Max. 60 watt, 230 VAC, 0.8A
 Hysteresis: Approx. 1/2"
 Max. Process Temperature: 212°F
 Max. Ambient Temperature: 165°F
 Electrical Connection: 10 Ft. PVC cable
 Electrical Protection: NEMA 4X/IP67

High Temperature, Model NBK-RT200

Function: Bistable, magnetically activated, SPDT
 Ratings: Max. 80 watt, 230 VAC, 1.0A
 Hysteresis: Approx. 1/2"
 Max. Process Temperature: 390°F
 Max. Ambient Temperature: 290°F
 Electrical Connection: Cable Gland, PG 9
 Electrical Protection: NEMA 4X/IP65



NBK-M = Mini NBK Bypass Level Indicator

0	= No flange (threaded fittings)
1	= DIN PN 6 (for DIN flanges only)
2	= ANSI CI.150 LB/DIN PN 16
3	= ANSI CI. 300 LB/DIN PN 40

Fitting Type	
A	= ANSI Flange
F	= DIN Flange
N	= NPT Thread
R	= BSP Thread

Fitting Size	
10	= DN 10 mm (DIN Flange only)
15	= 1/2"/DN 15 mm
20	= 3/4"/DN 20 mm
25	= 1"/DN 25 mm

Roller Indicator Type	
0	= None
P	= Polypropylene (212°F Max.)
K	= Ceramic (390°F Max.)

Level Transducer Type	
0	= None
M	= Resistive, with 4-20 mA transmitter
T	= Magnetostrictive, with 4-20 mA transmitter
W	= Resistive, 0 to 5 K-ohm output

Float Specific Gravity	
1	= Float S.G. = 1.0 for liquid specific gravity above 0.95
8	= Float S.G. = 0.8 for liquid specific gravity between 0.78 and 0.94

Options (add option codes to base part number)

E1	= Drain flange, DIN 15 mm, 316-Ti SS
E2	= Drain flange, DIN 20 mm, 316-Ti SS
E3	= Drain flange, ANSI 1/2", 316-Ti SS
E4	= Drain flange, ANSI 3/4", 316-Ti, SS
H1	= Top and bottom flush connections DIN 15 mm flange, 316-Ti SS
H2	= Top and bottom flush connections 1/2" ANSI flange, 316-Ti SS
L1	= Drain valve, 1/4" BSP, 316-Ti, SS
L2	= Drain valve, 1/4" NPT, 316-Ti, SS
M1	= Level measuring scale, engraved scale Max. process temperature 390°F
M2	= Level measuring scale, foil scale Max. process temperature 250°F

R1	= Drain plug 1/4" BSP
R2	= Drain plug 1/4" NPT
P	= Radiographic weld testing per DIN 54111 T1
W1	= Viton seal on bottom flange
W2	= Silicone seal on bottom flange
W3	= Teflon seal on bottom flange
W4	= Kalrez seal on bottom flange
X	= Hydrostatic testing at 1.5 X nominal pressure

Accessories (order as separate line items)	
NBK-R	Standard SPDT contact, 212°F Max. process temperature
NBK-RT200	High temperature SPDT contact, 390°F max. process temperature