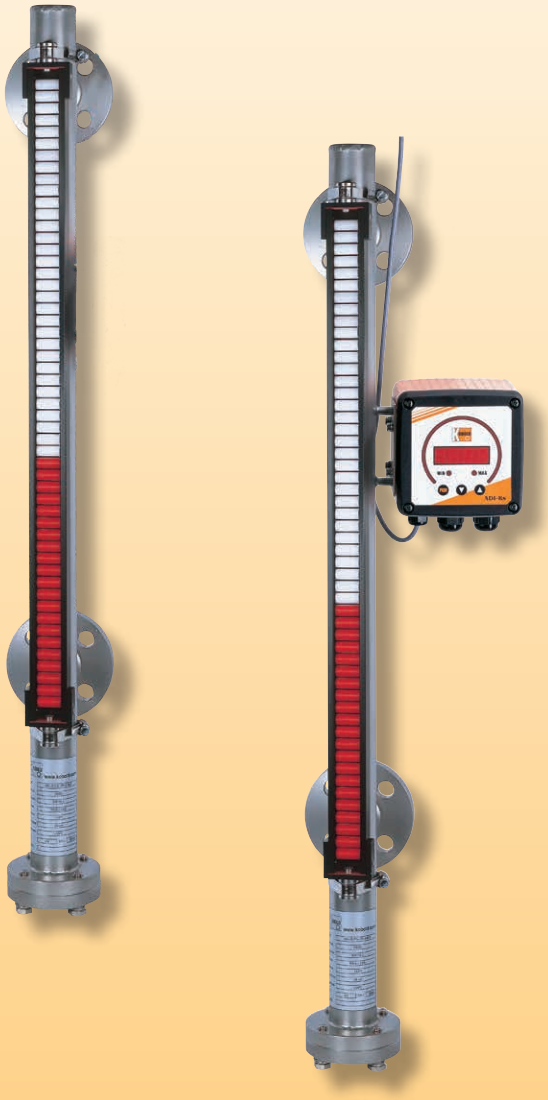
Economical Bypass Level Indicator

Mini-NBK

measuring • monitoring • analyzing

NBK-M



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

KOBOLD companies worldwide:

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Description

The KOBOLD NBK-M bypass level indicator provides many of the unique features of our standard NBK, but at a fraction of the cost. It uses our 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 makes the NBK-M an economical choice for low pressure level measurement. A magnetic roller indicator strip allows local level reading at the tank as they rotate from white to red as the level changes. This assembly can be rotated in the field to any position on the bypass tube for easier readings in tight locations. Rollers are made of POM for temperatures under 250 °F and are made of ceramic for temperatures above. SPDT switches are available for use in hi/low level alarms and 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. Magnetostricitve and variable resistance level transmitters are available for remote indicators or control systems. A universal indicating unit, ADI series, can be mounted on the bypass to display and evaluate the standard signal (4-20mA) generated by the transmitter.

Specifications

Max. Measuring Length: 9.8 ft.
Max. Pressure
- **Threaded Fitting:** 580 PSIG
- **Flanged Fitting:** Per ANSI B16.5 for the Specified Flange Rating, up to 580 PSIG

Wetted Materials
- **Bypass Pipe, Fittings:** 316-Ti Stainless Steel
- **Float:** Titanium
- **Seals:** NBR (-4...212 °F) (Standard)
  FKM, Silicone, PTFE, FFKM (Optional)
- **Rollers:** POM or Ceramic (Model Based)

Protection Roller Indicator: IP54
Max. Liquid Viscosity: 200 Centistokes
Allowable Liquid S.G.
- **Float Type "8":** 0.78...0.95
- **Float Type "1":** Water, Liquid with S.G. > 0.95

Electrical Specifications

Resistive, Level Transmitter: Option "W"
- **Output:** Resistive, 0 to 700...7000 ohm depending on Measuring Length "M"
  36 Ω each 10 mm, M <1900 mm (6.2 feet)
  10 Ω each 10 mm, M ≥1900 mm (6.2 feet)
- **Working Voltage:** 24 VDC Max.
- **Working Current:** 100 mA Max.
- **Resolution:** ± 3/8" for Measuring Lengths < 6.6 ft.
  ± 3/4" for Measuring Lengths > 6.6 ft.
- **Max. Process Temp.:** 390 °F
- **Max. Ambient Temp.:** 265 °F
- **Electrical Connection:** Cable Gland, PG 9
- **Electrical Protection:** IP 65

Resistive, Head Mount 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 > 6.6 ft.
- **Max. Process Temp.:** 250 °F
- **Max. Ambient Temp.:** 175 °F
- **Electrical Connection:** Cable Gland, PG 9
- **Electrical Protection:** IP 65

Magnetostrictive, Head Mount Transmitter: Option "T"
- **Output:** 4-20 mA, 4-wire
- **Supply Voltage:** 24 VDC ± 10%
- **Max. Loop Burden:** 500 Ohms
- **Resolution:** ±1 mm
- **Max. Process Temp.:** 250 °F
- **Max. Ambient Temp.:** 175 °F
- **Electrical Connection:** Cable Gland, PG 9
- **Electrical Protection:** IP 65

Low Temperature Switches: Model NBK-RM
- **Function:** Bistable Reed Contact, SPDT
- **Ratings:** Max. 60 Watt, 230 VAC, 0.8 A
- **Hysteresis:** Approx. 1/2"
- **Max. Process Temp.:** 212 °F
- **Max. Ambient Temp.:** 165 °F
- **Electrical Connection:** 10 ft. PVC Cable
- **Electrical Protection:** IP 67

High Temperature Switches: Model NBK-RT200M
- **Function:** Bistable, Magnetically Activated, SPDT
- **Ratings:** Max. 80 Watt, 230 VAC, 1.0 A
- **Hysteresis:** Approx. 1/2"
- **Max. Process Temp.:** 390 °F
- **Max. Ambient Temp.:** 290 °F
- **Electrical Connection:** Cable Gland, PG 9
- **Electrical Protection:** IP 65

Order Details (Example: **NBK-M 2 A 15 P M 8**)

Model	Flange Rating	FItting Type	Fitting Size	Roller Indicator	Transmitter	Float S.G.[2]
NBK-M..	**..0..** = No Flange (Threaded Fitting) **..2..** = ANSI Class 150 lb **..3..** = ANSI Class 300 lb	**..A..** = ANSI Flange **..N..** = NPT Thread	**..15..** = 1/2" **..20..** = 3/4" **..25..** = 1"	**..0..** = None **..P..** = POM (250 °F Max.) **..K..** = Ceramic (390 °F Max.)	**..0..** = None **..M..** = Resistive, 4-20 mA Transmitter **..T..** = Magnetostrictive, 4-20 mA Transmitter **..W..** = Resistive, 0-5 Kohm Output	**..1** = 1.0 For use with S.G > 0.95 **..8** = 0.8 For use with S.G 0.78...0.95

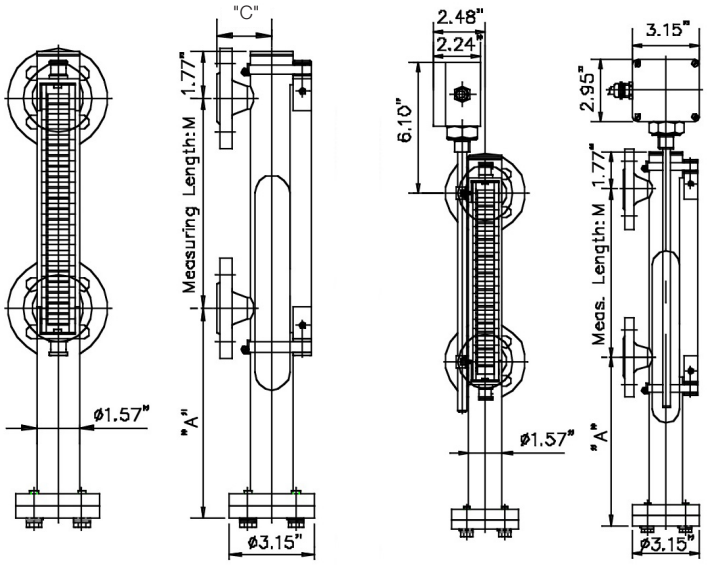
Options (Add Codes to Base Part Number)	
..S2 = Vent Plug 1/4" NPT	**..W1** = FKM Seal on the Bottom Flange (5...390 °F)
..S3 = Vent Plug 1/2" NPT	**..W2** = Silicone Seal on the Bottom Flange (-76...390 °F)
..R2 = Drain Plug 1/4" NPT	**..W3** = PTFE Seal on the Bottom Flange (-4...250 °F)
..R3 = Drain Plug 1/2" NPT	**..W4** = FFKM Seal on the Bottom Flange (-4...390 °F)
..E3 = Drain Flange, ANSI 1/2"	**..M1** = Engraved Level Measuring Scale, Max. Process Temp. 390 °F
..E4 = Drain Flange, ANSI 3/4"	**..M2** = Laser Etched Level Measuring Scale, Max. Process Temp. 250 °F
..J = Upper Clean-out Flange	**..C**[1] = Digital and Bargraph Display model ADI-1V00 WF
..L2 = Drain Valve, 1/4" NPT	**..P** = Radiographic Weld Testing per DIN 54111 T1
..L3 = Drain Valve, 1/2" NPT	**..X** = Hydrostatic Testing at 1.5x Nominal Pressure
..H2 = Top and Bottom Flush Connections, 1/2" ANSI Flange	

Accessories (Order as Separate Line Items)
NBK-RM = Standard SPDT Contact, Max. Process Temperature 212 °F
NBK-RT200M = High Temperature SPDT Contact, Max. Process Temperature 390 °F

[1] Only available with level transducer T (magnetostrictive transmitter) or M (reed chain transmitter) ouput options

[2] For more accurate indication, floats can be wieghted per exact customer specified S.G.; consult factory for details

Dimensions



***Additional Information Required for Order:**

To ensure proper operation, this product requires a completed application guide form to be submitted with any order. Please refer to the 'documentation' tab on the bottom of the product page for this product on our website in order to obtain the correct form. You can also contact your KOBOLD representative for this form.

Clearance Dimensions "A"

Specific Gravity	
0.8	**1.0**
11.22"	7.09"

Clearance Dimensions "C"

Type	1/2"	3/4"	1"
150 lb ANSI V Flange	2.52"	2.64"	2.60"
300 lb ANSI V Flange	2.72"	2.84"	2.88"
NPT Threaded	2.37"	2.37"	2.37"