



*NK Instruments Pvt. Ltd.*



Process Control Instruments for Indication and Control of:

PRESSURE

VACCUM

DP

FLOW

VELOCITY

LEVEL

TEMPERATURE

CONDUCTIVITY

pH

VIBRATION

# INSTRUCTION MANUAL FLOAT & BOARD LEVEL INDICATOR



#### CONTACT DETAILS

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## Warning

Read all warnings and instructions before performing installation or maintenance. Safety glasses and gloves should be worn at all times when working with or examining water gauge glass and connections

## Danger

Improper installation or maintenance of gauge glass and connections can cause immediate or delayed breakage resulting in bodily injury and / or property damage.

## Installation

Only properly trained personnel should install and maintain water gauge and connections. Remember to wear safety gloves and glasses during installation. Before installing, make sure all parts are free of chips and debris.

The Float & Board Gauge is packed in separate pieces for protection during shipment. It is easy to assemble by following the guidelines in this manual. Upon unpacking, inspect all components for damage. Check the NK Instrument nameplate in the Gauge Housing Chamber to verify that the specifications of the Reflex Level Gauge are correct for the operating conditions. Contact NK Instruments if you have any questions or encounter any problems.

The number of different types of Welded Pad Liquid Level Gauge installations is infinite to adequately detail in an installation manual. It is therefore the user's responsibility to assure that the knowledgeable installation personnel plan and carry out installation in the safe manner. The following procedures are some of the installation guidelines that should be employed

### 1. ENSURE THAT

- That the interior of the gauge piping is clean
- No kinks in the wire rope (cables)
- No noticeable binding friction in the mechanism.
- Installation cleanliness
- Location of float away from inlet pipes and mixers.

Note : Do not proceed with installation of the level gauge unless all components listed above are received in the required quantity.

### 2. ASSEMBLING

- a. A Schematic diagram of the entire assembly has been provided in this manual
- b. The stainless steel float is to be inserted into the tank through the manhole.
- c. One end of the sheave vessel connector is flanged and had to be connected to the process flange while the other is screwed and has to be connected to the sheave housing.
- d. The Sheave Housings have to be assembled as shown. The telescopic pipe has to be adjusted based on the distance of the process connection flange and the outer wall of the tank. After adjustment tighten the bolts provided on the adjuster union to keep the assembly secure.
- e. Scale Board T Bracket will have to be welded on the tank and the scale board will have to be bolted using  $\frac{1}{4}$ " BSW x  $\frac{3}{4}$ " long bolts nuts and washers.
- f. Prior to bolting the last scale board locate the scale board between the two parallel nylon

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rollers of the pointer cradle assembly.

- g. While one end of the wire rope assembly is knotted onto the float the other end is passed through the sheave housings and has to be knotted or crimped in the hole provided on the pointed cradle assembly.
- h. Check that the brackets are welded correctly and are in plumb. If out of plumb then pointer cradle movement will be effected.

Note : Failure to install the level Gauge may result in shortage of components thereby rendering the assembly incorrect and incomplete.

### 3. INITIAL OPERATION

Initial filling of the tank must be at reduced rate of flow, until the float travel and the indicator operation are verified. This checks that the installation was correctly made and prevents possible damage to the gauge system.

- 1) Station an observer at the gauge board.
- 2) Begin filling the tank to raise the float around a meter to 1.5 meters from the bottom.
- 3) Continue filling the tank to the desired level.
- 4) Hand gauge the product and compare the measurement with the Pointer Cradle. If they do not

### 4. NORMAL OPERATION

When the tank is full, the indicator will be at the bottom of the gauge board. As the tank is emptied the float will fall and the indicator will rise.

## Product Warranty

NK Instruments warrants its products as designed and manufactured by NK Instruments to be free of defects in material and workmanship for a period of one year after the date of installation or eighteen months after the date of manufacture, whichever is earliest. NK Instruments will, at its option, replace or repair any products which fail during the warranty period due to defective material or workmanship.

Prior to submitting any claim for warranty service, the owner must submit proof of purchase to NK Instruments and obtain written authorization to return the product. Thereafter, the product shall be returned to NK Instruments with freight prepaid.

This warranty shall not apply if the product has been disassembled, tampered with, repaired or altered outside of the NK Instruments factory, or if it has been subjected to misuse, neglect or accident.

NK Instruments responsibility hereunder is limited to repairing or replacing the product at its expense. NK Instruments shall not be liable for loss, damage, or expenses directly or indirectly related to the installation or use of its products, or from any other cause or for consequential damages. It is expressly understood that NK Instruments is not responsible for damage or injury caused to other products, building, property or persons, by reason of the installation or use of its products.

THIS IS NK INSTRUMENTS SOLE WARRANTY AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED WHICH ARE HEREBY EXCLUDED, INCLUDING IN PARTICULAR ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

#### CONTACT DETAILS

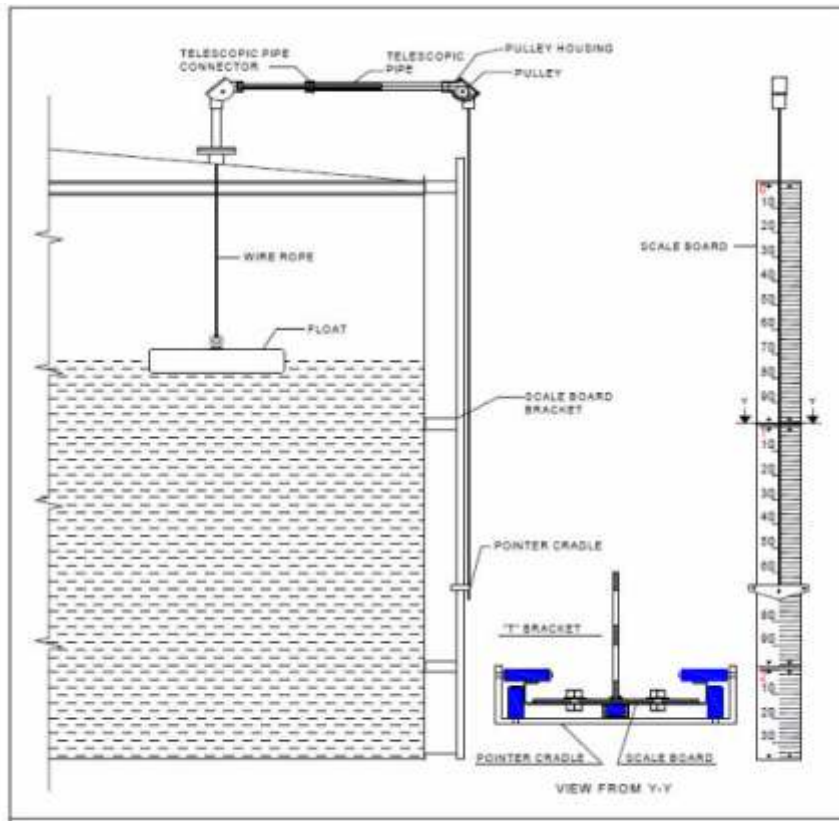
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This document and the warranty contained herein may not be modified and no other warranty, expressed or implied, shall be made by or on behalf of NK Instruments unless modified or made in writing and signed by the Proprietor of NK Instruments.



## Warning

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## Danger

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## Use And Care

- DO NOT's
- DO NOT use glass if it contains any scratches, chips, or any other visible signs of damage.
- DO NOT reuse any glass packing.
- DO NOT subject gauge glass to bending or torsional stresses.
- DO NOT over tighten glass packing nuts.
- DO NOT allow glass to touch any metal parts.
- DO NOT exceed the recommended pressure of the gauge or gauge glass.
- DO NOT clean the gauge or gauge glass while pressurized or in operation.

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## DO's

DO verify proper gauge has been supplied.

DO examine gauge and packing carefully for damage before installation.

DO install protective guards and utilize automatic ball checks where necessary to help prevent injury in case of glass breakage.

DO inspect the gauge daily, keep maintenance records, and conduct routine replacements. DO protect glass from sudden changes in temperature such as drafts, water spray, etc.

## Maintenance

Examine the gauge regularly for any signs of clouding, scratching, erosion, or corrosion. This will help establish the routine inspection and routine replacement schedules.

## Inspection

Examine the surface of the gauge for scratches, corrosion, chips, cracks, surface flaws, or nicks.

## Storing

Keep the gauge in original packaging until ready to install.

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