TKB SERIES
INSTALLATION MANUAL

truflo®

TKB SERIES BATTERY OPERATED FLOW METER

The TKB Series Paddle Wheel Flow Meter has been Factory Programmed ⟶ No K-Factor Programming Required

Important !

To Ensure Full Pipe ⟶ Please Follow the Installation Instructions on (pg 6)

ICON™ PROCESS CONTROLS
Corrosion-Free
Instrumentation Equipment
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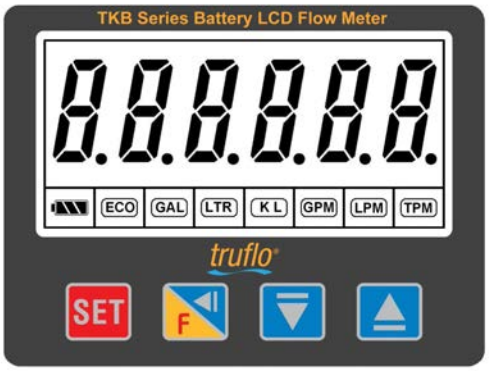
Instruction Manual

CE RoHS Compliant

TKB Series Battery Operated LCD Flow Meter



Features

1. Energy Saving 'ECO' Mode Option
2. Units of Measurement
   2-1. Flow Rate || GPM | LPM | TPM | Range 0.0~999.9
   2-2. Totalizer || GAL | LTR | KL | Range 0~99,999,999
3. Totalizer Reset Protection
4. Four Directions for Installation-90 Degrees
5. Low Battery Indication
6. Eprom Memory- Retains Setting during Battery Change-out
7. High | Low Level Alarm

Model Selection

TKB - 15 - PF - V - S 1 2 3 4 5		
1	Series	TKB Battery Operated LCD Flow Meter
2	Pipe Size	「08」= 「DN08 (1/4")*」 / 「10」 = 「DN10 (3/8")*」/ 「15」= 「DN15 (1/2")」/ 「20」= 「DN20 (3/4")」 「25」= 「DN25 (1")」/ 「40」= 「DN40 (1 1/2")」/ 「50」= 「DN50 (2")」/ 「65」= 「DN65 (2 1/2")」 「80」= 「DN80 (3")**」/ 「100」= 「DN100(4")**」
3	Body Material	「PVC」= PVC / 「PP」= PP / 「PF」= PVDF / 「ST」= SUS 316
4	O-Rings Seals	**V** | Viton*** **E** | EPDM
5	End Connections	**PVC** | **S**: SOC | **T**: NPT | **F**: Flanged || **PP** | **PVDF** | **T**: NPT | **B**: Butt | **F**: Flanged || **316SS** | **T**: NPT | **S**: Sanitary | **F**: Flanged

General Data

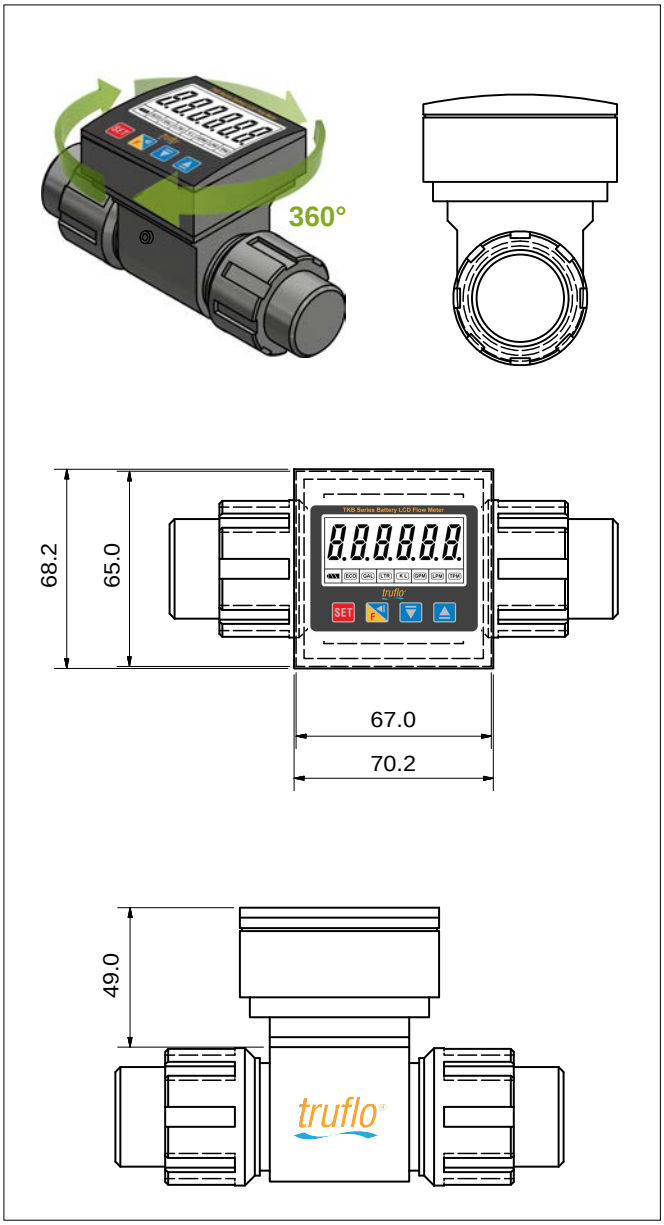
* SST Version Only | Note: Sanitary and Flanged Connections Size 1/2"- 4" Only
** Plastic Versions Only *** Viton is Standard

Specification	Description
Fluid	Liquids | Viscosity Range: .5-20 centistokes
Accuracy	± 0.5% of F.S. @ 25°C
Max Flow Velocity	10 m/s max
Low Cut-Off	0.3 m/s min.
Operating press.	150 PSI (10 Bar) @ Ambient Temperature | Non Shock
Range | Turn-Down	10 : 1
Response time	Real Time
Materials of Construction	**Paddle** | Tefzel || **Bodies** | PVC | PP | PVDF | SUS 316 || **Rotor** | **Bearings** | Zirconium Ceramic
Operating Temperature	「PVC」< 60°C / 「PP」< 80°C / 「PVDF」< 110°C / 「ST」< 120°C
Ambient Temperature	-20°C ~ +80° | 35% ~ 85% RH
Protection Class	NEMA 4X | IP-66
Approval	CE | Rohs

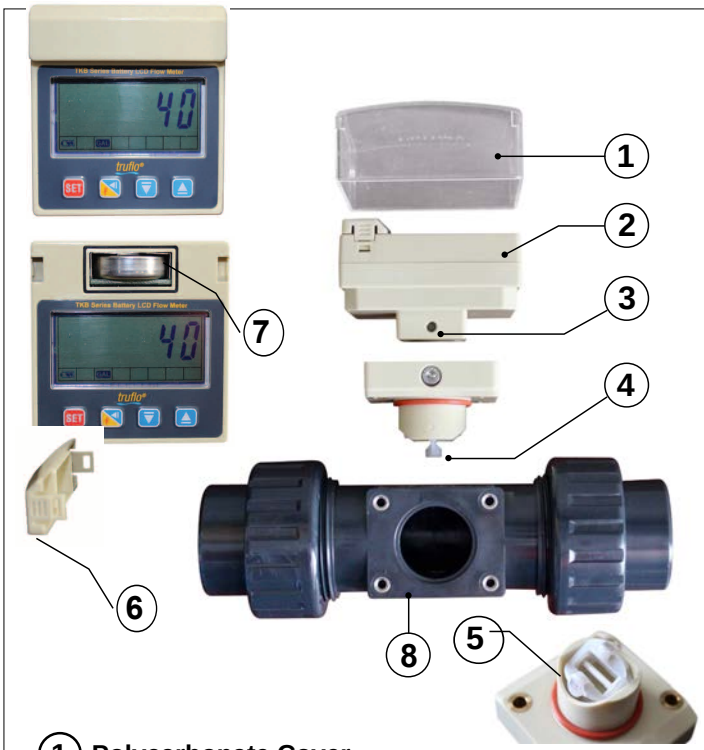
Specification

Product	TKB Series Battery Operated LCD Flow Meter
Model	TKB-☐☐☐
Flow Total (Totalizer)	Range = 0~999999 | Programmable Unit = Gallon | Liter | KL
Flow Rate	Range = 0.0~999.9 | Programmable Units = GPM | LPM | TPM
Operating voltage	3.0 VDC
Battery	Lithium Battery (CR2477T)
Life of battery	> 2 Years Under Normal Operating Conditions
Housing material	Polycarbonate (UL-94V0)

Outline Dimensions



Parts List



1. **Polycarbonate Cover**
2. **Flow Controller**
3. **Hall Effect Sensor**
4. **Paddle Wheel | Tefzel**
5. **Zirconium Ceramic Rotor Pin + Bearings**
6. **Removable Battery Cover**
7. **Battery**
8. **Body Material || PVC | PP | PVDF | 316 SS**

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Programming

* Units come Factory Preprogrammed | No K-Factor Programming is Required

SETUP	SELECTION	DESCRIPTION
Flow Rate or Flow Total — Display Flashing Press & Hold (3 Sec) SET Press to Scroll Between Flow Rate and Flow Total (Totalizer)	0~999999 or 0.1~9999.9	Battery Installed | LCD Display On r = Flow Rate | Default Setting Press & Hold (3 Sec) SET Press to Scroll Between Flow Rate and Flow Total (Totalizer)
Set Password — Enter # Press SET & F Key *for 5 sec*	Programmable 0~9	Factory Unlock Number is 8 Enter ANY Number from 0- 9 to Set Password #
1. **Changing K Factor** — K = # Press or Press to Select	Factory Preset	1. Flow Coefficient = Input pulses x 1/k * Only required if changing displays from one size to another i.e. 1" to 2" pipe size
2. **Display Mode** — dSP.non Press key Display Flashing Press or Press to Select	Selectable dSP-non dSP-Eco	1. dSP-non | Press any key to turn on the LED back light | Default is set to 6 seconds 2. dSP-Eco | Backlight LED function is not active
3. **Light On** — t-5 Press key Display Flashing Press or Press to Select	Programming Backlight 'ON' Time	In dSP-non mode Backlight default is t-0006 | Set Duration Time (sec) of Backlight to remain On. Press any key to turn on the display to turn on LED light (> Time = < Reduced Battery Life)
4. **Flow Alarm Delay** — dt-10 Press key Display Flashing Press or Press to Select	1~9999 Programming Alarm Delay time (sec)	Delay Time ensures Alarm Setting only becomes active after the flow remains constant for xx seconds Programming the High | Low Alarm Press + 3 Sec to Display High Alarm Setting Press or to Enter Alarm Value. Press to Display Low Alarm Setting. Press or to Enter Alarm Value. The Press to Confirm
5. **Reset Totalizer** — rESEt.0 Press key Display Flashing Press or Press to Select	1~9999 Programming Totalizer Password	1. To Prevent Totalizer reset - Enter Password Number 0-9 (excluding # 5) Flow Totalizer Reset Protection Active | 2. rESEt.= 5 Default = Flow Totalizer Reset Enabled

Selection of the Engineering Units for Flow Rate | Flow Total

Press SET **SET** Key for 3 Seconds, then press or to select

Flow Rate Units → Flow Total | Totalizer Units →

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3. Display the Current Value of Flow Totalizer : Range 0~99,999,999

3-1. Please press the ▲ key for 3 seconds to show current value of the 7th ~ 8th digits

3-2. After releasing the ▲ key the current value of the 1st ~ 6th digits will be displayed

4. Totalizer Reset | Password Protection Feature

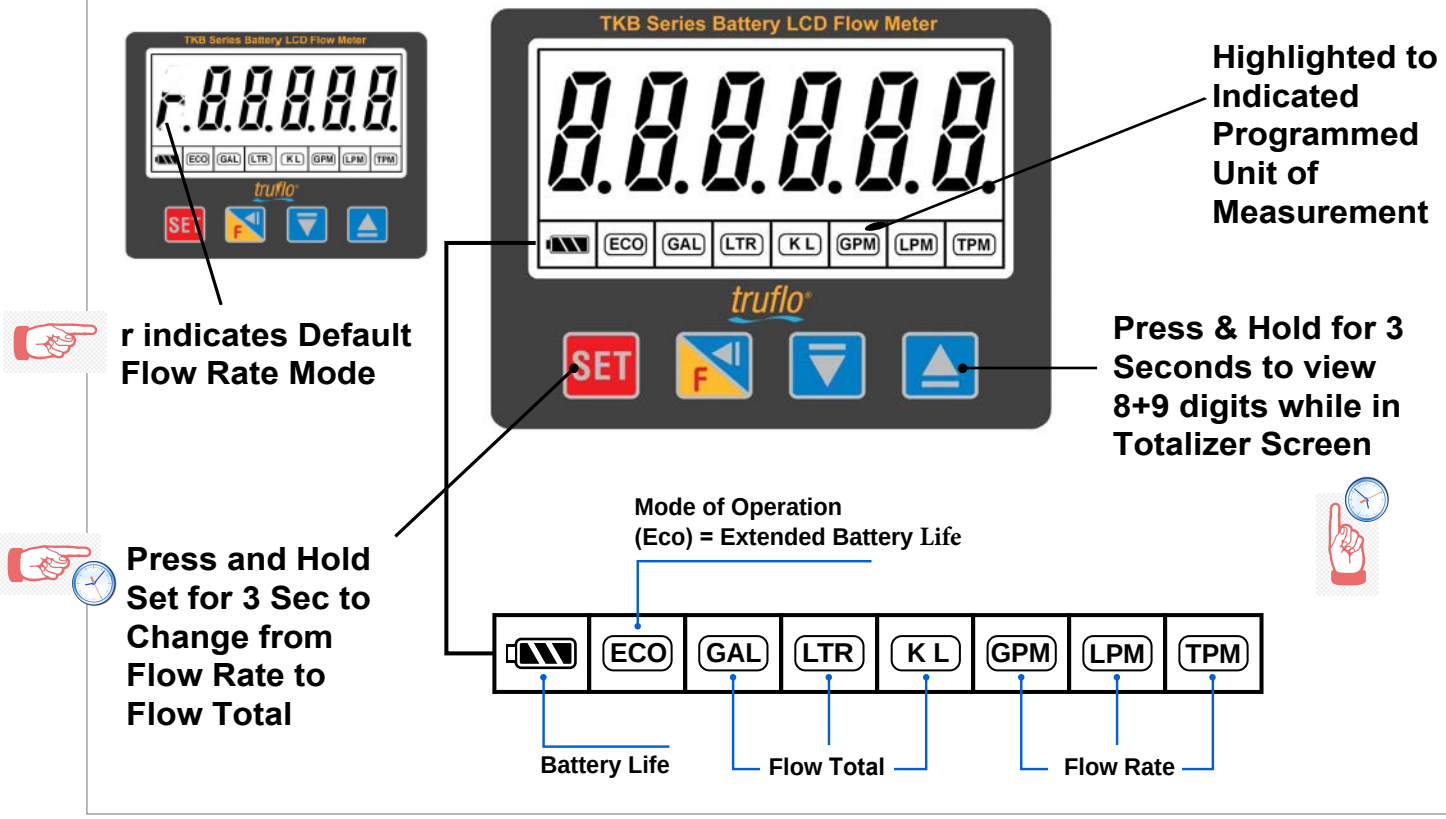
4-1. The Flow Total (Totalizer) can be Protected from an Accidental Reset. To set lockout program any number from 0-9 excluding (# 5) The Unlock Number = (5) Factory Default

Totalizer Reset → Press Both ▲ & ▼ Keys Together for 3 Seconds

5. Battery Life Notification

Voltage of battery	Symbol of battery	Status
3.0V		Full scale
< 3.0V		Mid scale
<2.8V		**Low Scale** (Pilot BAT Flashing)
<2.6V		**Low Voltage** (Pilot BAT & Display Flashing)

6. Displaying Flow Rate | Flow Totalizer



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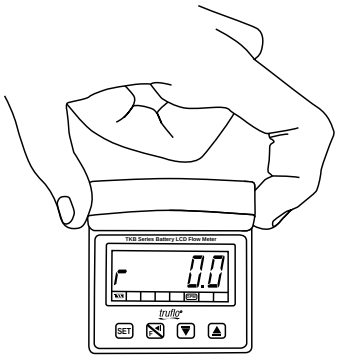
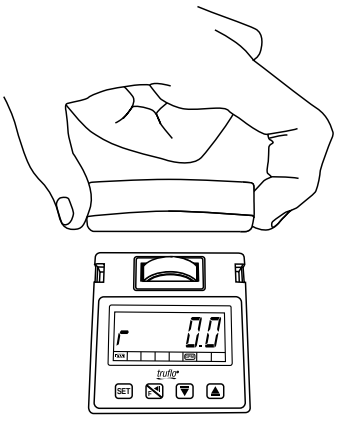
Battery Replacement

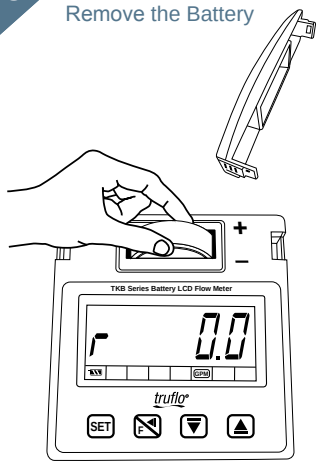
1 Lightly Press on Both Sides Battery Cover



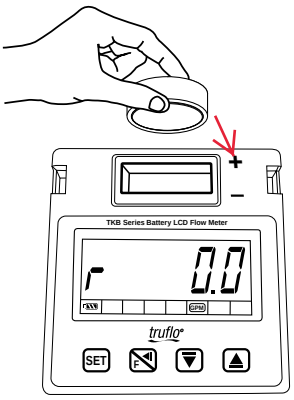
2 Remove the Battery Cover



3 Remove the Battery

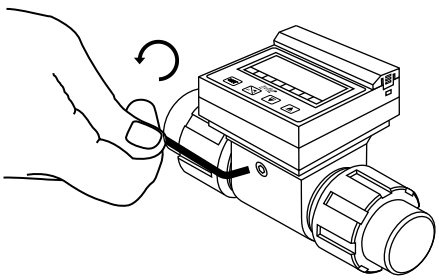


4 Insert the New Battery Ensure (+ -) orientation is correct

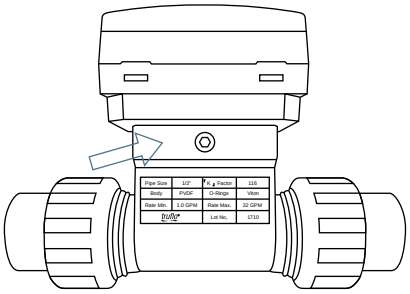


Procedure to Rotate Display

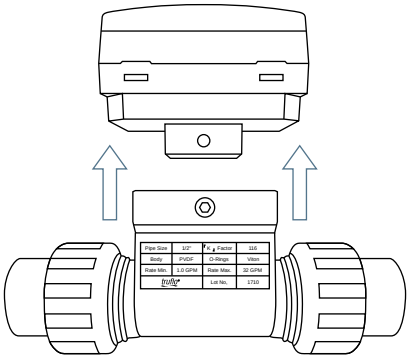
1 1. Use an Allen key and loosen the screws located on both side of the display



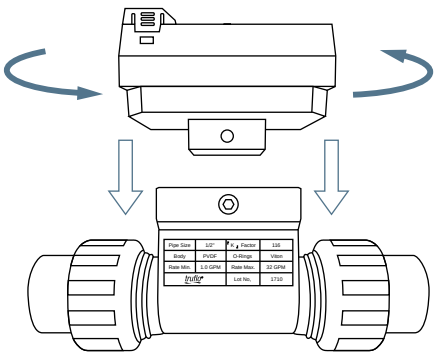
2 2. Lightly pull on the screws in an outwards direction
Screws are Captive - Do Not Completely Remove



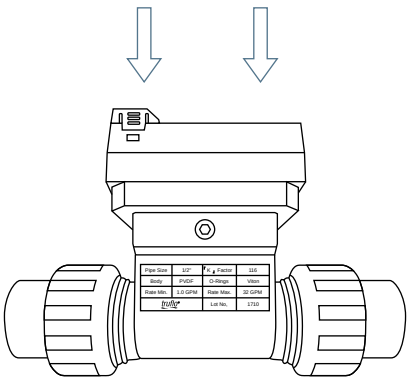
3 Lift the display



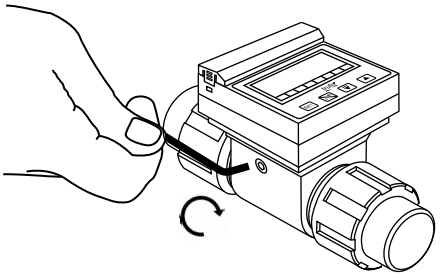
4 Rotate Display



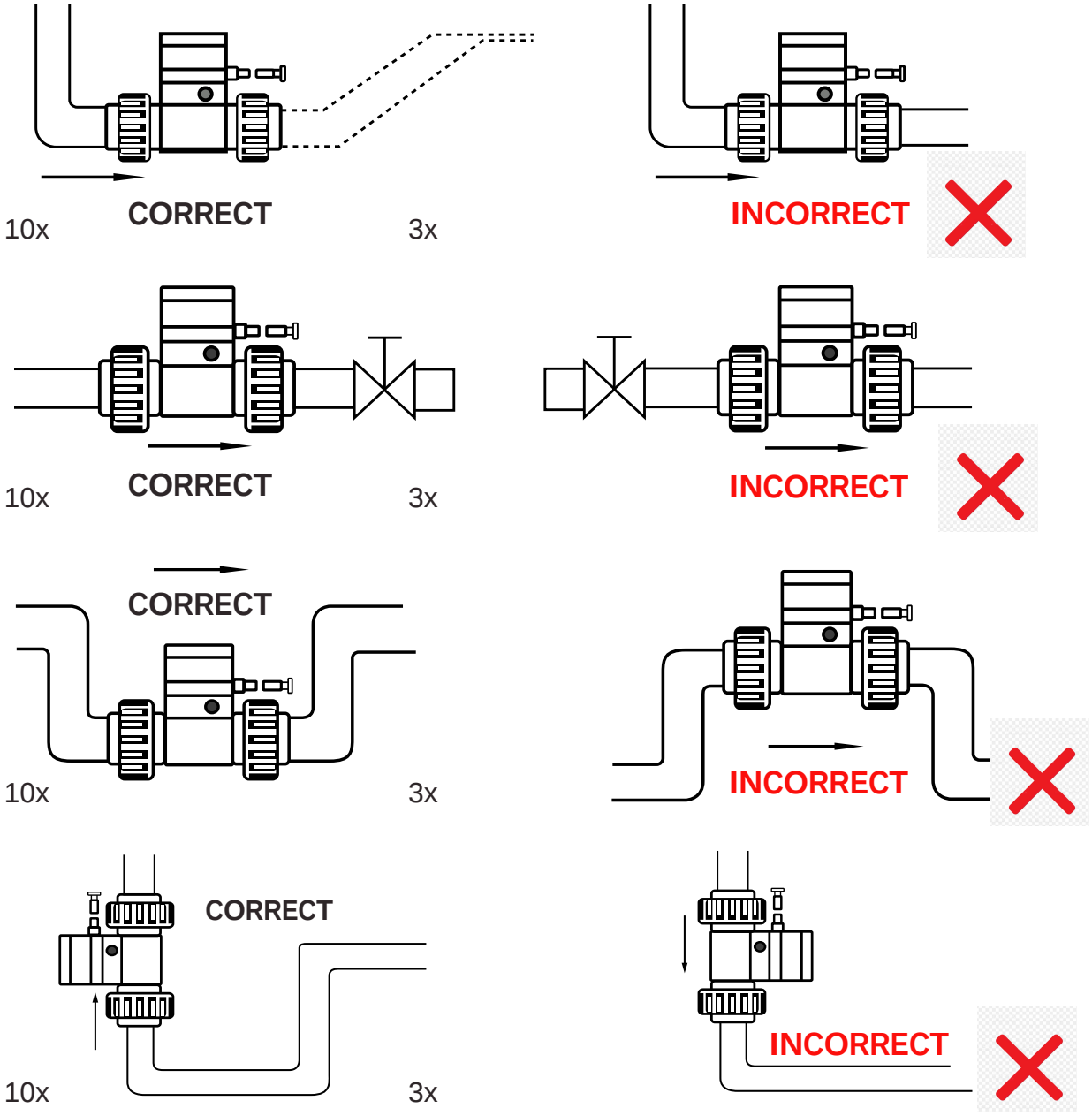
5 Reposition the Display



6 Tighten (Snug) the Allen Screws
Both Sides



Installation Positions



Please Ensure the PIPE is FULL with the fluid under normal operation.

Min 10x Pipe Diameters Upstream 3x Pipe Diameters Downstream.

TKR Series can be installed in a Horizontal or Vertical direction.

A Plastic Basket Strainer, Bag Filter or Y Strainer Filtering Device upstream to Avoid the Paddle Wheel from being damaged by the solids or fibers - max 10% Particle Size - Not to Exceed .5mm Cross Section or Length.