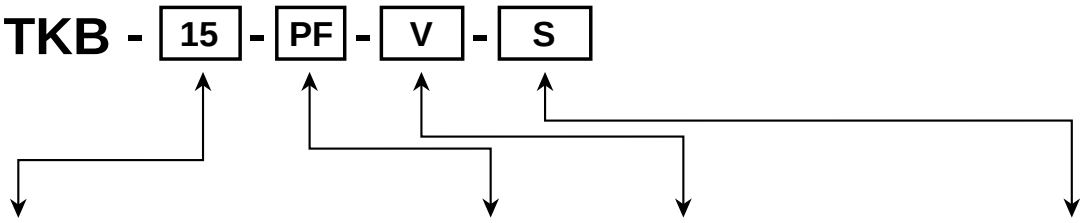
QUICK START MANUAL

TKB SERIES BATTERY OPERATED FLOW METER

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

⚠ **Read the User's Manual Carefully before Starting to Use the Unit.**
Manufacturer reserves the right to implement changes without prior notice.

1. Model Selection



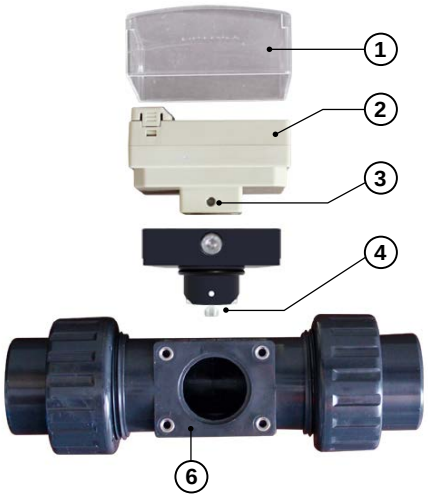
Pipe Size		Body Material	O-Rings Seals	End Connections
08 = DN08 (¼")* 10 = DN10 (3/8")* 15 = DN15 (½") 20 = DN20 (¾") 25 = DN25 (1")	40 = DN40 (1 ½") 50 = DN50 (2") 65 = DN65 (2 ½" 80 = DN80 (3")** 100 = DN100 (4")**	PVC = PVC PP = PP PF = PVDF ST = SUS 316	V = Viton*** E = EPDM	(PVC) T = NPT | S = SOC | F = Flanged (PP | PVDF) T = NPT | B = Butt | F = Flanged (316SS) T = NPT | S = Sanitary | F = Flanged

* SST Version Only | Note : Sanitary and Flanged Connections Size ½"- 4" Only
** Plastic Versions Only *** Viton is Standard

2. General Data

Specification	Description
Product	**TKB Series Battery Operated LCD Flow Meter**
Model	TKB- ☐ - ☐ - ☐ - ☐
Flow total meter	Range = 0~999999 ; Unit = Gallon or Liter or Ton (KL) Selectable
Flow rate meter	Range = 0.0~999.9 ; Unit = GPM or LPM or TPM Selectable
Operating voltage	3.0 VDC
Battery	Lithium Battery (CR2477T)
Life of battery	>1 Year Normal >2 Years Eco Mode
Housing material	Polycarbonate (UL-94V0)
Fluid	Water or Chemical Liquid-Viscosity Range: .5-20 centistokes
Accuracy	± 0.5% of F.S. @ 25°C
Flow velocity	10 m / s max
Low cut	0.3 m / s min.
Operating press.	150 PSI (10 Bar) @ Ambient Temp-Non Shock
Range ability	10 : 1
Response time	Real time
Material	Paddle = Tefzel | Body = PVC / PP / PVDF / SUS 316 | Shaft / Rotor = Zirconium Ceramic
Operating temperature	PVC < 60°C | PP < 80°C | PVDF < 110°C | ST < 120°C
Operating Circumstance	-20°C ~ +80° ; 35% ~ 85% RH
Protection Class	NEMA 4X IP-66
Approval	CE Rohs

3. PARTS TKB SERIES



1. Polycarbonate Cover
2. Flow Controller
3. Hall Sensor
4. Redesigned Paddle Wheel
5. Zirconium Ceramic Shaft + Bearings
6. Body | PVC | PP | PVDF *

Zirconium Ceramic
Rotor Pin & Bearings

On Paddle Assembly

Removable Cover

LPM | GPM | KL

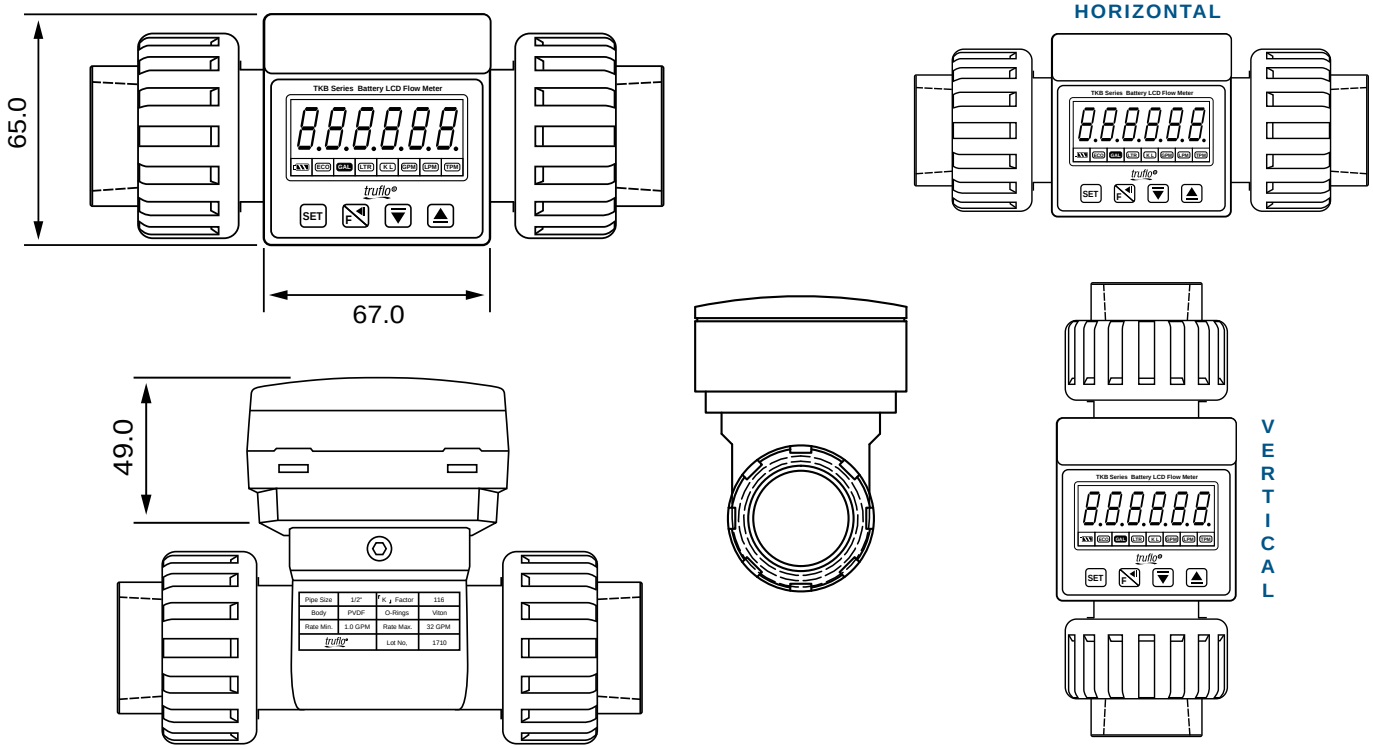
Waterproof Battery Holder Standard "C" Type Battery

Screen Backlight

Battery Life Indication

Removable Cover (No Tools Required)

4. DIMENSIONS



5. Programming

SETUP	SELECTION	DESCRIPTION
Step-1 Flow Rate or Flow Total | Display Flashing Press ENT Key for 3 sec (Hold) or 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
Step-2 Set Password | Enter # Press SET & F Key for 5 sec or Press to Select	Programmable 0~9	Factory Unlock Number is 8 Enter ANY Number from 0 - 9 to Set Press SET & FF Key for 5 sec Password #
Step-3 Changing K Factor | K = # Press SET key or Display Flashing 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
Display Mode | dSP.non Press SET key or Display Flashing Press to Select	Selectable dSP-Eco dSP-non	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
Light -On | t-5 Press SET key or Display Flashing Press to Select	Programming Backlight 'ON' Time 1~9999	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)
Flow Alarm Delay | dt-10 Press SET key or Display Flashing Press to Select	Programming Alarm Delay time | sec 1~9999	Delay Time ensures Alarm Setting only becomes active after the flow remains constant for xx seconds ☞ Programming the High | Low Alarm Press SET + ▲ 3 Sec to Display High Alarm Setting Press ▲ or ▼ to Enter Alarm Value. Press SET to Display Low Alarm Setting. Press ▲ or ▼ to Enter Alarm Value. The Press SET to Confirm
Reset Totalizer | rESEt.0 Press SET key or Display Flashing Press to Select	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 Key for Hold 3 Seconds, then press ▲ or ▼ to select

Scrolling Menu

Flow Rate Units → Flow Total | Totalizer Units

GPM → LPM → TPM → GAL → LTR → KL

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

6-1. Please press the ▲ key for 🕒 3 seconds hold to show current value of the 7th ~ 8th digits

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

7. How to Set the Alarm Limit of Flow Rate Meter?

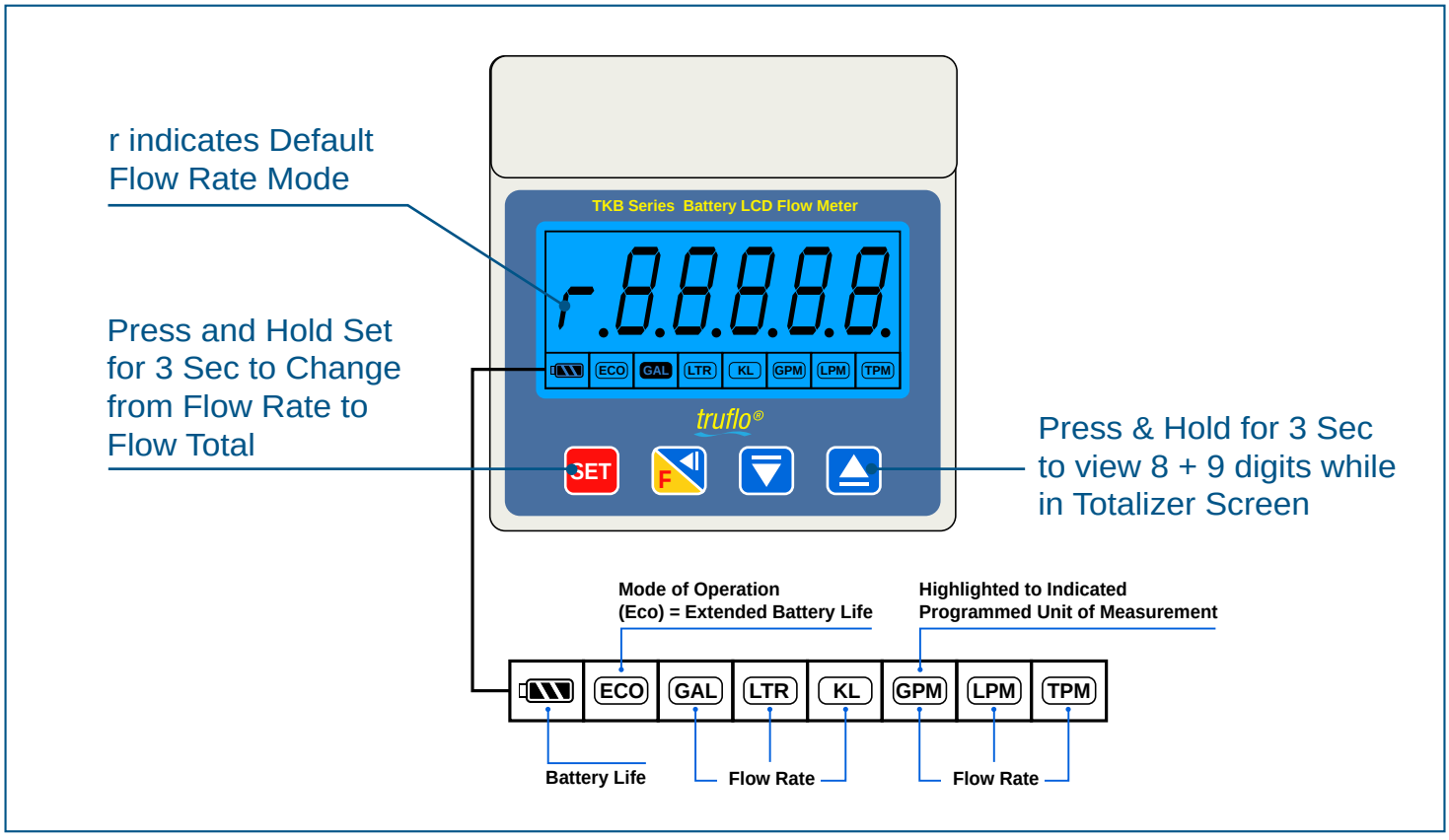
7-1. The Flow Total | Totalizer can be Protected from an Accidental Reset. To set lockout program any number from 0-9 excluding | # 5 | The Unlock Number = 5 = Factory Default

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

8. Low Battery Notification

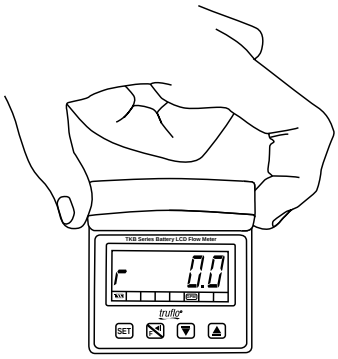
Voltage of Battery	Symbol of Battery	Status
3.0V		**Full Scale**
< 3.0V		**Mild Scale**
< 2.8V		**Low Scale** (Pilot BAT flashing)
< 2.6V		**Low Voltage** (Pilot BAT & Display flashing)

9. Displaying Flow Rate | Flow Totalizer

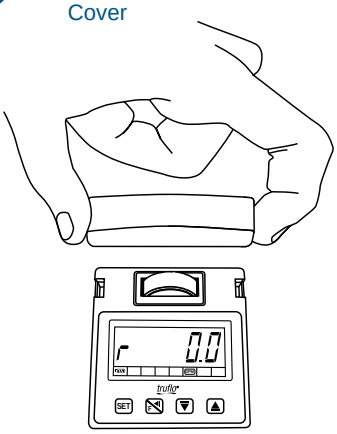


10. Battery Replacement

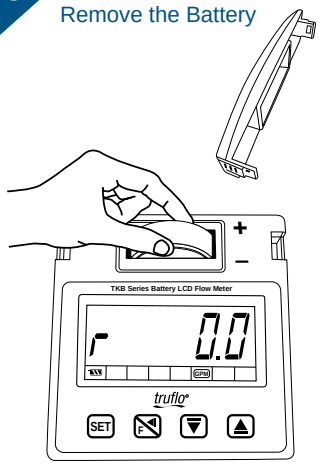
1 Lightly Press on Both Sides Battery Cover



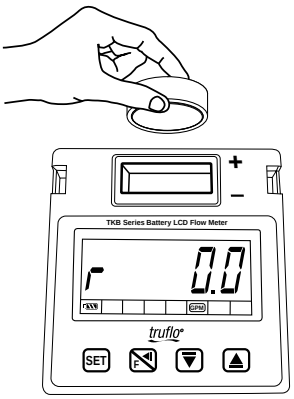
2 Remove the Battery Cover



3 Remove the Battery

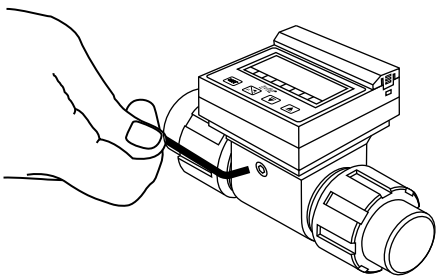


4 Insert the New Battery Ensure (+ -) orientation is correct

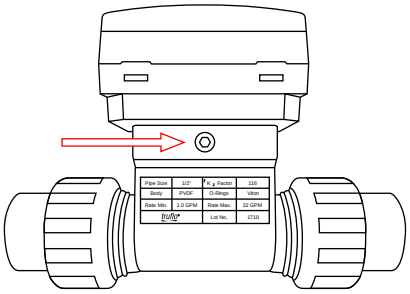


11. Procedure to Rotate Display

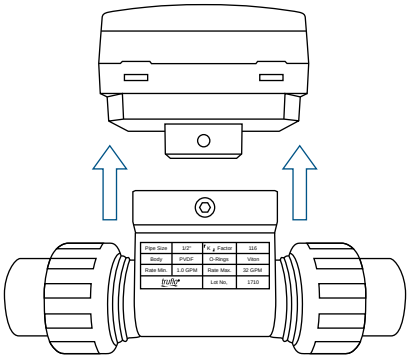
1 Use an Allen key and loosen the screws located on both side of the display



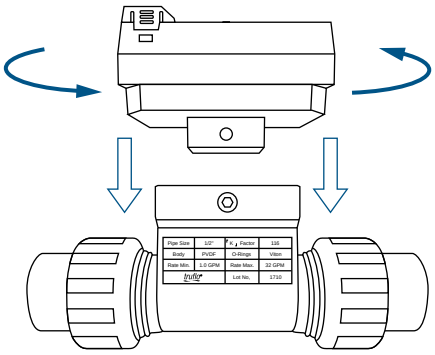
2 Lightly pull on the screws in an outwards direction Screws are Captive - Do Not Completely Remove



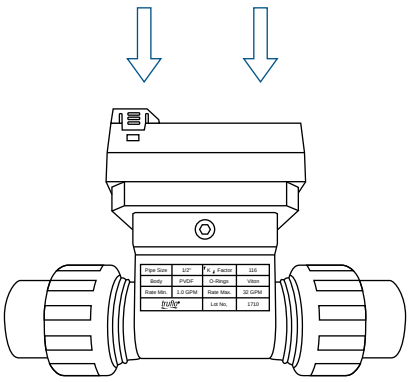
3 Lift the display



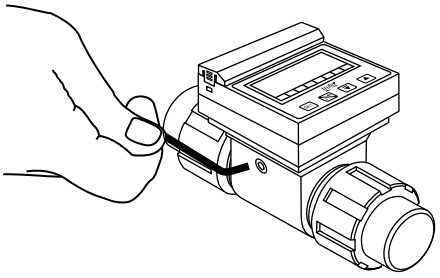
4 Rotate Display



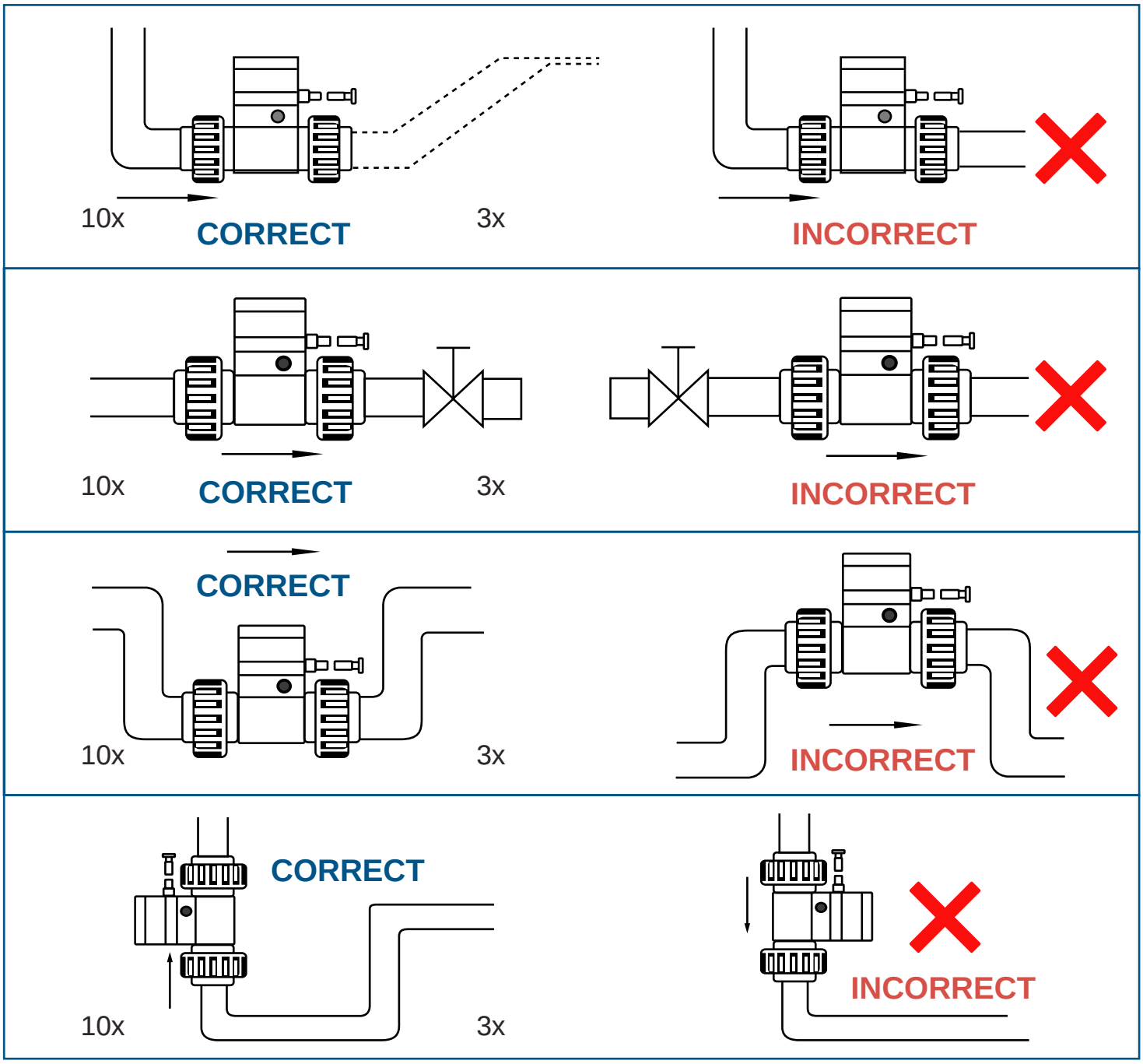
5 Reposition the Display



6 Tighten (Snug) the Allen Screws Both Sides



12. Installation Positions



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

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

TKB 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.