Quick Start Manual

Read the user's manual carefully before starting to use the unit.
Producer reserves the right to implement changes without prior notice.

Contents

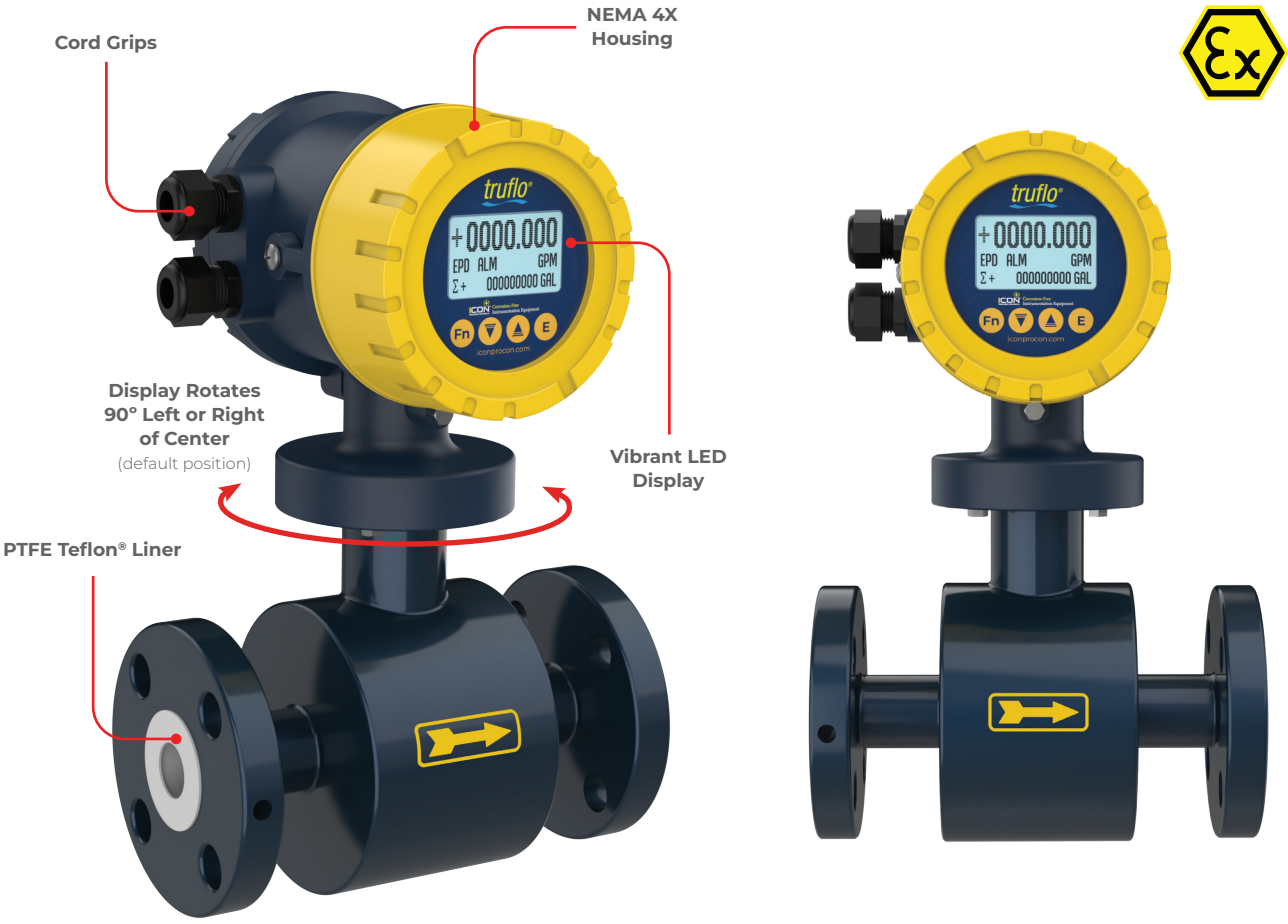
Symbol Explanation

This symbol denotes especially important guidelines concerning the installation and operation of the device. Not complying with the guidelines denoted by this symbol may cause an accident, damage or equipment destruction.

Basic Requirements | User Safety

- Do not use the unit in areas threatened with excessive shocks, vibrations, dust, humidity, corrosive gasses and oils.
- Do not use the unit in areas where there is risk of explosions (Unless Ex Model).
- Do not use the unit in areas with significant temperature variations, exposure to condensation or ice.
- The manufacturer is not responsible for any damages caused by inappropriate installation, not maintaining the proper environmental conditions and using the unit contrary to its assignment.
- The unit uses dangerous voltage that can cause a lethal accident. The unit must be switched off and disconnected from the power supply prior to starting installation of troubleshooting (in the case of malfunction).
- Do not attempt to disassemble, repair or modify the unit. The unit has no user serviceable infield parts.
- Defective units must be disconnected and submitted for repairs at an authorized service center.

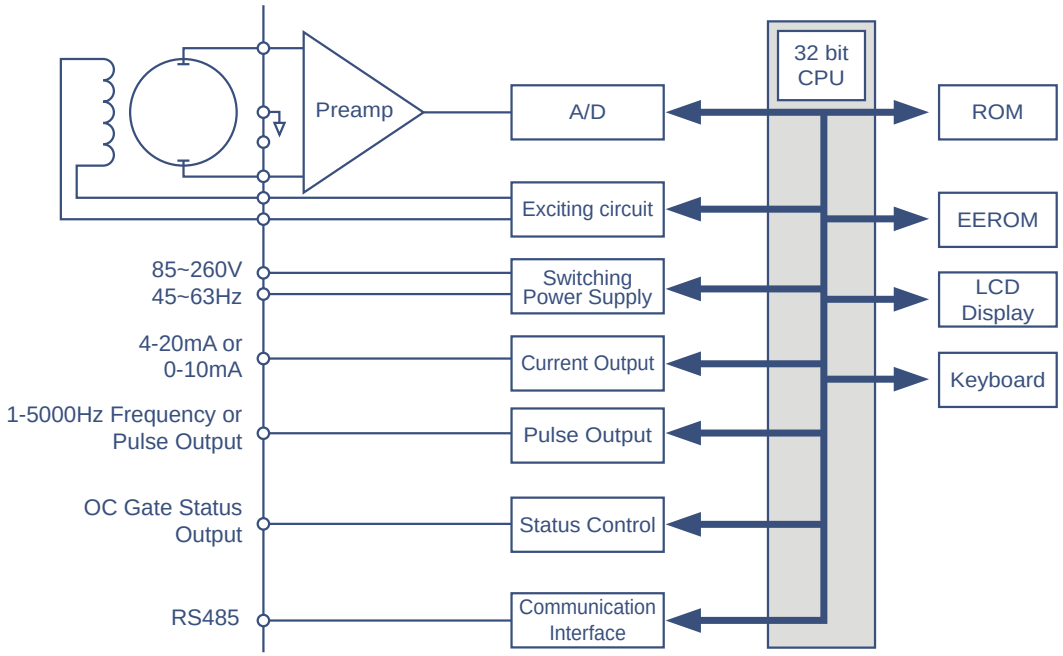
Product Introduction



Specifications

Measuring System	
Measuring Principle	Faraday's Law
Primary Measured Value	Flow Velocity
Secondary Measured Value	Flow Volume
Operating Conditions	
Supply Voltage	18 - 36VDC | 85 - 240VAC | Battery Powered
Measurement Range	0.98 - 33 ft/s | 0.3 – 10 m/s
Diameter Range	1/2" - 12" | DN15 – DN300
Medium	Conductive Liquids
Electrical Conductivity	≥ 20 µS/cm
Pressure	1/2" - 2": 580 Psi | 2½" - 6": 232 Psi | 8' - 12": 145 Psi
Accuracy	±0.5% of rate
Measuring Conditions	
Process Temperature	Hard Rubber Liner: 23 ~ 194°F | Polypropylene Liner: 23 ~ 194°F | Teflon: 250°F
Ambient Temperature	-4 - 140 °F | -20 - 60 °C
Storage Temperature	-4 - 158 °F | -20 - 70 °C
Permissible Gas Content (Volume)	≤ 5%
Permissible Solid Content (Volume)	≤ 30%
Installation	
Flow Direction	Forward and Reverse (Arrow on flow sensor indicates positive flow direction)
Inlet Run	≥ 10 Pipe Diameter
Outlet Run	≥ 2 Pipe Diameter
Materials	
Sensor Housing	Carbon Steel+PU Coated | SS304/SS316
Measuring Tube	SS304
Flanges	Carbon Steel+PU Coated | SS304/SS316
Connection Box (Remote Type)	Standard: Polyurethane Coated Die-cast Aluminum | Standard : SS316L
Grounding Rings	Hastelloy C or Same Material as Electrode.
Grounding Electrodes	Same Material as Measuring Electrodes

Converter Circuit Structure



Converter Circuit Structure

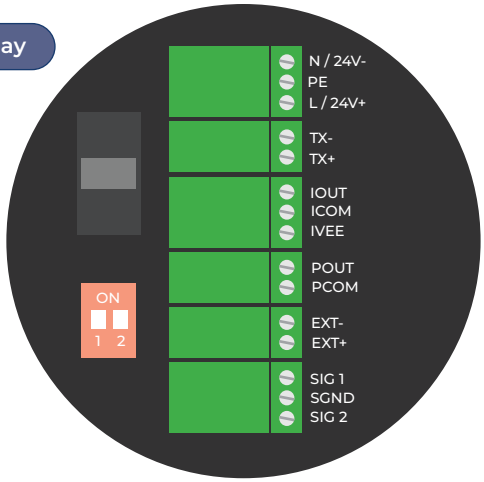
Product Structure

The structure of the electromagnetic flowmeter is mainly composed of a magnetic circuit system, measuring conduit, electrodes, housing and converter. The components of the magnetic circuit system, measuring conduit electrodes and housing are called electromagnetic sensors.

1. **Magnetic circuit system** : Its role is to produce a uniform DC or AC magnetic field.
2. **Measuring conduit :** Its function is to pass the conductive medium to be tested. In order to prevent the magnetic flux from being shunted or short-circuited when the magnetic flux passes through the measuring conduit, the measuring conduit must adopt non-magnetic permeability, low electrical conductivity, low thermal conductivity and certain mechanical strength. Made of materials, stainless steel, glass reinforced plastic, high-strength plastic and other materials which are non-magnetic.
3. **Electrode :** Its function is to draw and measure the induced potential signal proportional to it. The electrodes are typically made of non-magnetically conductive Hastelloy C and are required to be flush with the liner so that the fluid passes unimpeded.
4. **Lining :** There is a complete electrical insulation lining on the inside of the measuring tube and on the flange sealing surface. It directly contacts the medium to be measured, and its function is to increase the corrosion resistance of the measuring conduit and prevent the induced potential from being short-circuited by the metal measuring tube wall. Lining materials are mostly corrosion resistant, high-temperature resistant, wear-resistant rubber, fluoroplastics, ceramics, etc.
5. **Converter :** The induced potential signal generated by the flow of the medium is very weak and is greatly affected by various interference factors. The function of the converter is to amplify and convert the induced potential signal into a unified standard signal and suppress the main interference signal. Its task is to amplify and convert the induced potential signal detected by the electrode into a unified standard DC signal.

Wiring Diagram

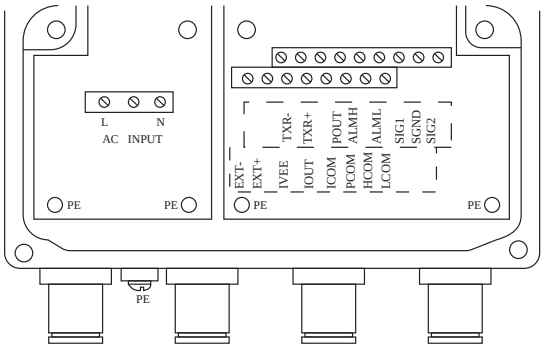
Local Display



PCOM	Frequency, Pulse, and Current Common (GND)
POUT	Frequency (Pulse) Output for Bi-directional Flow
ICOM	Frequency, Pulse, and Current Common (GND) | 4-20mA-
IOUT	Current Output of Flow Rate | 4-20mA+
TX-	- Communication RS485(-)
TX+	+ Communication RS485(+)
IVEE	24V DC Power Supply for 2-wire 4-20mA Output
N / 24V-	-24V DC Power Supply (Default) | N: Naught Wire of 110-240V AC
L / 24V+	+24V DC Power Supply (Default) | L: Live Wire of 110-240V AC
PE	Ground

Note: Don't connect 110-240V AC Power on which is DC Power Supply Type. Once you connect the wrong power supply, the fuse will be broken and you need to replace it.

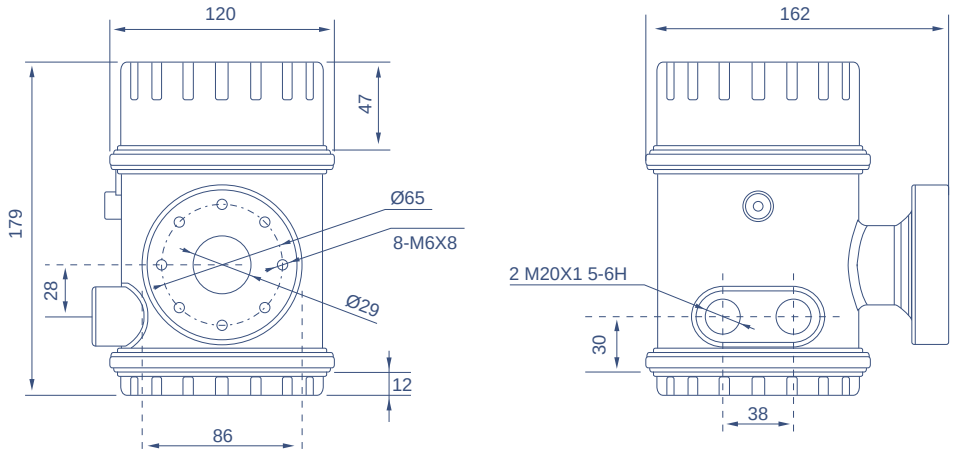
Remote Display



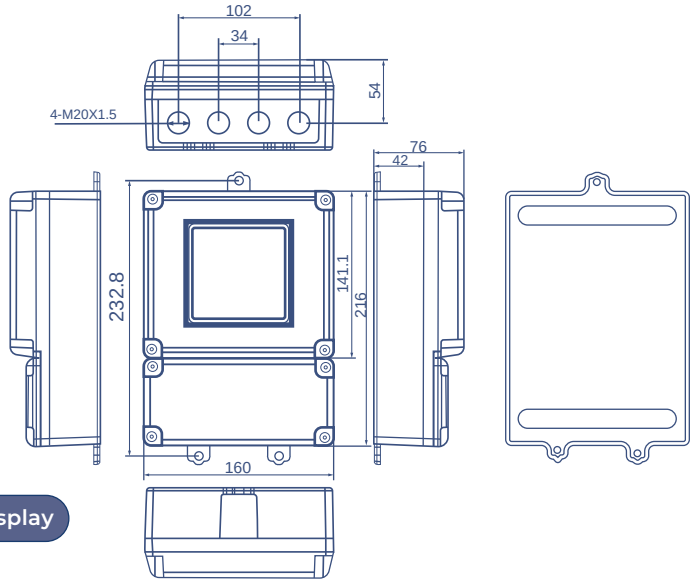
PCOM	Pulse Output Ground
POUT	Frequency (Pulse) Output for Bi-directional Flow
LCOM	Alarm Output Ground
ALML	Alarm Output for Lower Limit
HCOM	Alarm Output Ground
ALMH	Alarm Output for Upper Limit
TRX+	Communication RS485+
IVEE	External 24VDC Power Supply for 2-Wire 4-20mA Output
TRX-	Communication RS485 -
IOUT	Analog Current Output
ICOM	Analog Current Output Ground
EXT+	Exciting Current +
EXT-	Exciting Current -
SIG1	Signal 1
SIG2	Signal 2
SGND	Signal Ground

Description of Outputs	
Digital Frequency Output	
Frequency Output Range	1 to 10000 Hz
Output Electric Isolate	Photoelectric Isolate > 1000V
Frequency Output Capacity	Field-effect Transistors Output Maximum Voltage: 36V DC Maximum Current: 250 mA
Digital Pulse Output	
Pulse Output Range	1 to 9999 pulses/sec
Pulse Output Value	0.001-10000. L/S, 0.001-10000UG/S 0.001-10000 IG/S
Pulse Output Capacity	Field-effect Transistors Output Maximum Voltage: 36 V DC Maximum Current: 250 mA
Alarm Output	
Alarm Output Junction	ALMH: Upper Flow Limit ALML: Lower Flow Limit
Alarm Outptut Capacity	Field-effect Transistors Output Maximum Voltage: 36 V DC Maximum Current: 250 mA

Converter Dimensions - MF1000 with Local Display

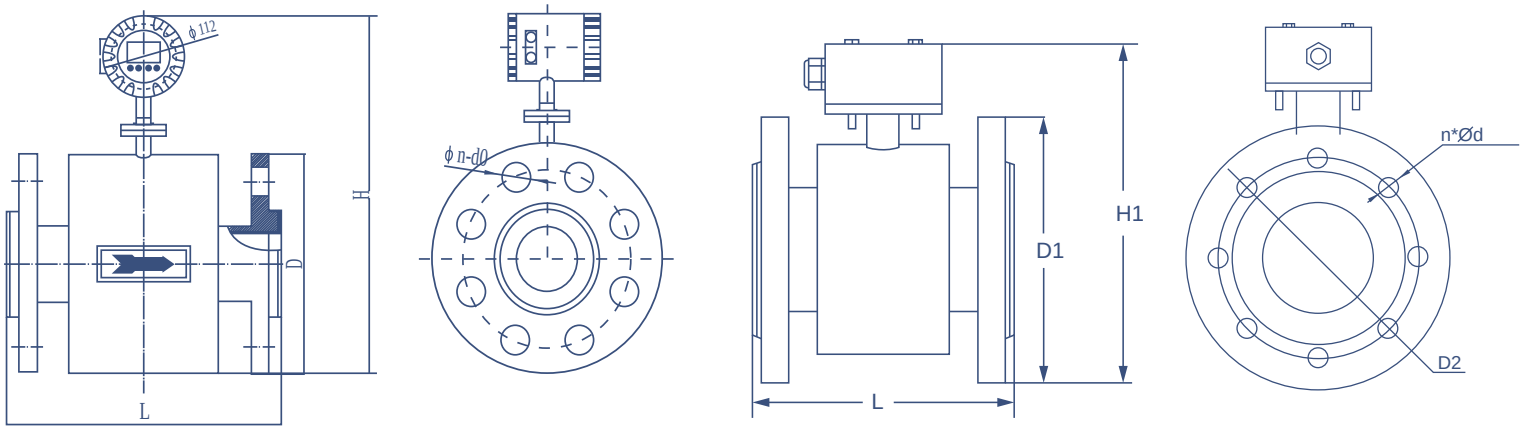


Converter Dimensions - MF1000 with Remote Display



Remote Display

Product Dimensions

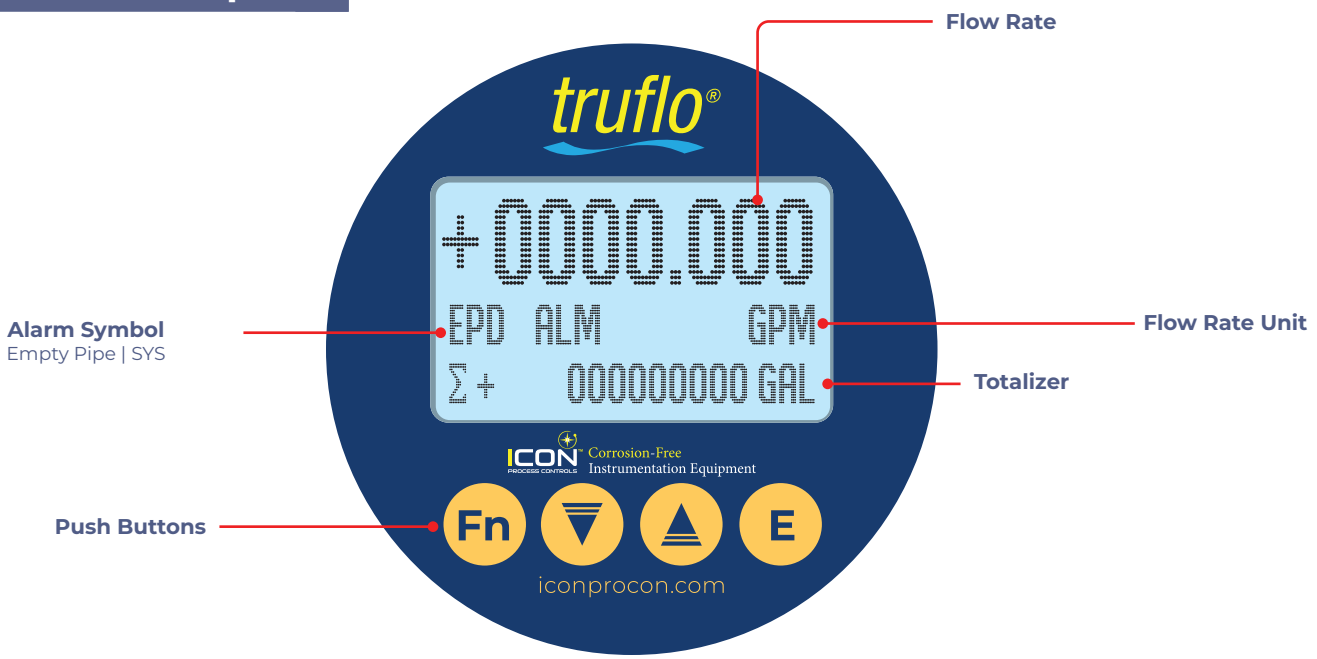


Size	L	H	H1	D1	D2	n*Ød
½ inch (15 mm)	7.9 inch (200 mm)	11.8 inch (300 mm)	8.9 inch (227 mm)	3.5 inch (88.9 mm)	2.4 inch (60.45 mm)	4 x 0.62 in
¾ inch (20 mm)	7.9 inch (200 mm)	12.2 inch (310 mm)	9.5 inch (240 mm)	3.9 inch (98.6 mm)	2.8 inch (69.85 mm)	4 x 0.62 in
1 inch (25 mm)	7.9 inch (200 mm)	12.6 inch (320 mm)	9.6 inch (243 mm)	4.3 inch (108 mm)	3.1 inch (79.25 mm)	4 x 0.62 in
1 ¼ inch (32 mm)	7.9 inch (200 mm)	13.6 inch (345 mm)	10 inch (253 mm)	4.6 inch (117.3 mm)	3.5 inch (88.9 mm)	4 x 0.62 in
1 ½ inch (40 mm)	7.9 inch (200 mm)	14.0 inch (355 mm)	10.2 inch (260 mm)	5 inch (127 mm)	3.9 inch (98.6 mm)	4 x 0.62 in
2 inch (50 mm)	7.9 inch (200 mm)	14.6 inch (370 mm)	10.8 inch (275 mm)	6 inch (152.4 mm)	4.8 inch (120.7 mm)	4 x 0.75 in
2.5 inch (65 mm)	9.8 inch (250 mm)	15.4 inch (390 mm)	11.4 inch (290 mm)	7 inch (177.8 mm)	5.5 inch (139.7 mm)	4 x 0.75 in
3 inch (80 mm)	9.8 inch (250 mm)	16.0 inch (405 mm)	12.2 inch (310 mm)	7.5 inch (190.5 mm)	6 inch (152.4 mm)	4 x 0.75 in
4 inch (100 mm)	9.8 inch (250 mm)	16.7 inch (425 mm)	13 inch (330 mm)	9 inch (228.6 mm)	7.5 inch (190.5 mm)	8 x 0.75 in
5 inch (125 mm)	9.8 inch (250 mm)	17.9 inch (455 mm)	14.6 inch (370 mm)	10 inch (254 mm)	8.5 inch (215.9 mm)	8 x 0.88 in
6 inch (150 mm)	11.8 inch (300 mm)	19.3 inch (490 mm)	15.6 inch (395 mm)	11 inch (279.4 mm)	9.5 inch (241.3 mm)	8 x 0.88 in
8 inch (200 mm)	13.8 inch (350 mm)	22.2 inch (565 mm)	19.1 inch (485 mm)	13.5 inch (342.9 mm)	11.8 inch (298.5 mm)	8 x 0.88 in
10 inch (250 mm)	17.7 inch (450 mm)	23.6 inch (600 mm)	19.7 inch (500 mm)	16 inch (406.4 mm)	14.3 inch (362 mm)	12 x 1 inch
12 inch (300 mm)	19.7 inch (500 mm)	25.6 inch (650 mm)	21.7 inch (550 mm)	19 inch (482.6 mm)	17 inch (431.8 mm)	12 x 1 inch

Flow Range

Size (inch)	DN (mm)	Velocity (ft/s)												
		0.98	1.3	1.6	3.3	6.6	9.9	13.1	16.4	19.6	23	26	29.5	33
		Flow Rate (GPM)												
½”	15	0.88	1.3	1.6	2.6	5.7	8.4	11.0	14.0	16.7	19.8	22.4	25	27.7
¾”	20	1.6	2.2	2.4	4.8	10.1	14.9	19.8	25.0	29.9	34.8	36.9	44	48.4
1”	25	2.6	3.0	4.0	7.9	15.4	23.3	31.2	38.1	48.4	52.8	61.6	70.4	74.8
1 ¼”	32	4.0	5.2	6.1	12.8	25.5	38.3	52.8	61.6	74.8	88.0	101.3	114.5	123.2
1 ½”	40	6.1	7.9	10.1	19.8	39.6	61.6	79.2	101.3	118.9	140.9	158.5	180.7	198.1
2”	50	9.6	12.3	15.4	31.2	61.4	92.4	123	154	185	216	251	282	308
2 ½”	65	15.6	21.1	26.4	52.8	106	157	207	264	317	370	422	440	484
3”	80	24	32	40	79	157	251	317	396	440	528	616	704	793
4”	100	37	48	62	123	251	374	440	616	784	837	969	1100	1233
5”	125	61.4	75	97	194	352	572	748	967	1145	1321	1541	1717	1937
6”	150	88	110	141	282	528	837	1100	1365	1673	1937	2201	2510	2774
8”	200	150	198	251	484	969	1497	1981	2466	2950	3478	4359	4402	4843
10”	250	238	313	387	793	1541	2334	3082	3875	4403	5283	6164	6604	7885

Front Panel Description



Function of Push Buttons

Default Password : 09000

Key	Measuring Mode	Menu Mode	Sub-Menu | Function Mode	Parameter & Data Mode
Fn + E	**Function Selection** 1. Parameter Set 2. Clear Total Rec 3. Fact Modif Rec	Enter	En	Save Data
E	Enter the Function Selection	Return to measuring mode but will be prompted to save data.	Press 1 time to return to menu mode with data saved.	Press 1 time to return to sub-menu or function with data saved.
	In Any Mode, Press & Hold Enter for 3 Secs to Return to Measuring Mode			
▲ or ▼	**Switch between display screens:** · Flow · Velocity · Percentage · Positive Total · Negative Total · Net Total	Select Menu	Select Sub-Menu or Function	Use the cursor highlighted to change a number, unit setting, or to move the decimal point.
Fn + ▲ or Fn + ▼				For digital values, move one cursor position to the right or left

Note: The display will return to measuring mode automatically after 3 minutes of inactivity

Function Selection

Fn + E	Edit | Save/Enter
Fn + ▼	Back the Cursor
Fn + ▲	Forward the Cursor
E	Return/Back
E 3 SEC	Exit to Main Display

Parameter Settings

STEPS	DISPLAY	OPERATION
① Main Display → Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password → Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter	PARAMETER	**PARAMETER** Settings

Parameter Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor

PARAMETER → (Fn + E) → DIAMETER (Preset (Enter Value)) → ▼ DAMPING TIME (08 Sec (Default)) → ▼ FLOW UNIT (GPM (Default)) → ▼ FLOW DEC NUM → ▼ VOLUME UNIT (GAL (Default)) → ▼ MEASURING RANGE → ▼ EXTERNAL FREQUENCY (1/8 PF (Default)) → ▼ EXTERNAL CURRENT (100% (Default)) → ▼ LIQUID DENSITY (H_2O : 1000Kg/m³ (Default))

Note:

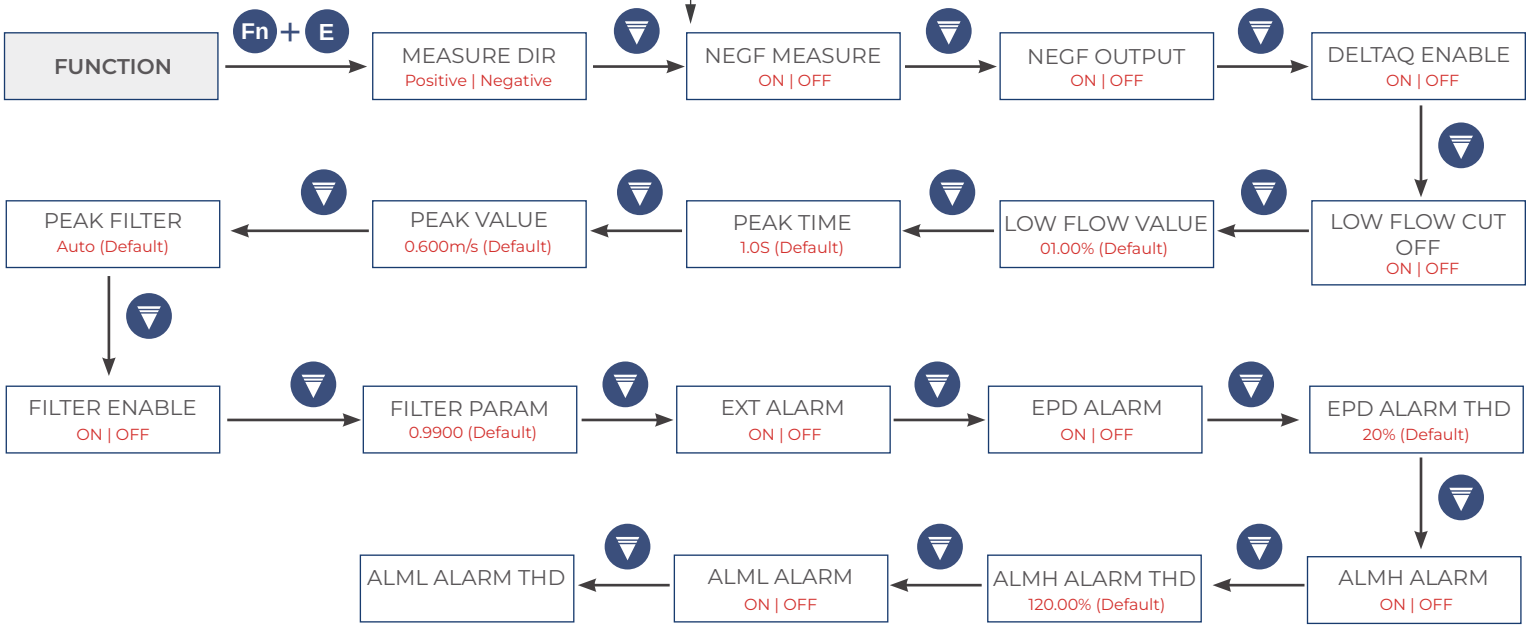
- For 4-20mA Output, if the FLOW UNIT is changed, then MEASURE RANGE needs to be changed to the same unit accordingly.
- Refer Page 18 for more details.

Function Settings

STEPS	DISPLAY	OPERATION
① Main Display ▸  Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password  Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter  ▼	PARAMETER	Parameter Settings ▪ See Page 10
④ Function ▸	FUNCTION	**FUNCTION** Settings

Function Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor



Note:

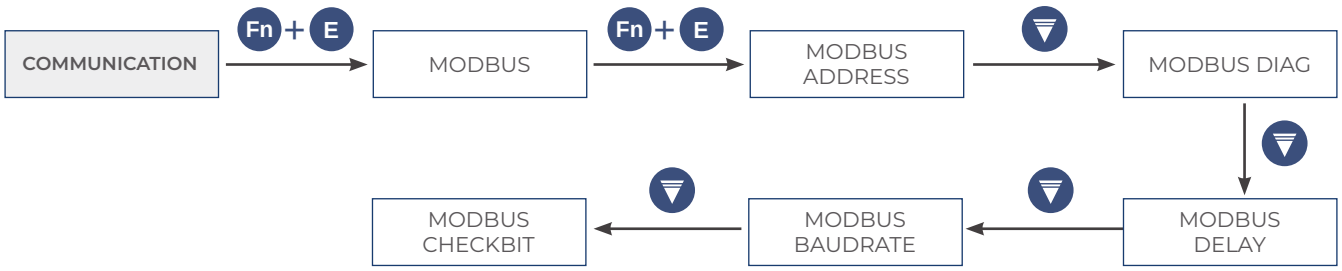
- Refer Page 18 & 19 for more details.

RS485 Communication Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▼	PARAMETER	Parameter Settings ▪ See Page 10
④ Function ▼	FUNCTION	Function Settings ▪ See Page 11
⑤ Communication	COMMUNICATION	**COMMUNICATION** Settings

Communication Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor



Note:

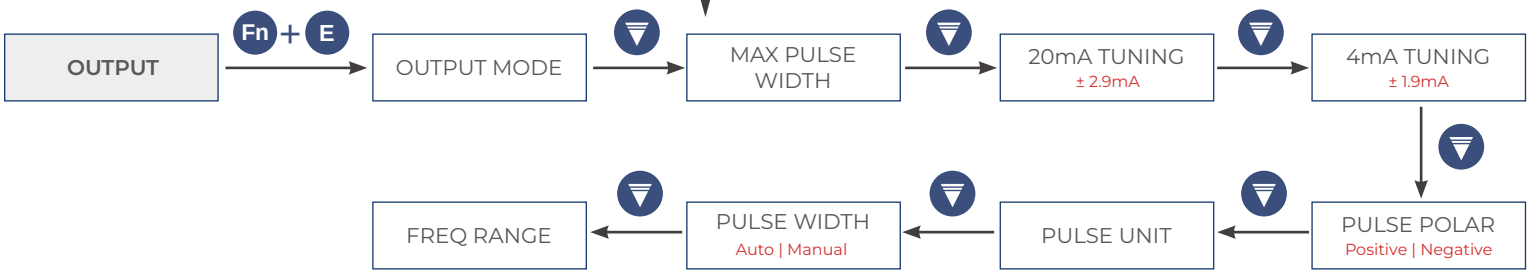
- Refer Page 19 for more details.

Frequency | Pulse Output Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▼	PARAMETER	Parameter Settings ▪ See Page 10
④ Function ▼	FUNCTION	Function Settings ▪ See Page 11
⑤ Communication ▼	COMMUNICATION	Communication Settings ▪ See Page 12
⑥ Output	OUTPUT	**OUTPUT** Settings

Output Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor



Note:

- Refer Page 19 for more details.

Diagnostic Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 00000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▼	PARAMETER	Parameter Settings ▪ See Page 10
④ Function ▼	FUNCTION	Function Settings ▪ See Page 11
⑤ Communication ▼	COMMUNICATION	Communication Settings ▪ See Page 12
⑥ Output ▼	OUTPUT	Output Settings ▪ See Page 13
⑦ Diagnostic	DIAGNOSTIC	**DIAGNOSTIC** Settings

Diagnostic Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor

DIAGNOSTIC → (Fn + E) → 4-20mA TEST → (▼) → PULSE TEST → (▼) → FREQ TEST

Note:

- Refer Page 19 for more details.

Data Logging Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▼	PARAMETER	Parameter Settings ▪ See Page 10
④ Function ▼	FUNCTION	Function Settings ▪ See Page 11
⑤ Communication ▼	COMMUNICATION	Communication Settings ▪ See Page 12
⑥ Output ▼	OUTPUT	Output Settings ▪ See Page 13
⑦ Diagnostic ▼	DIAGNOSTIC	DIagnostic Settings ▪ See Page 14
⑧ Record Review	RECORD REVIEW	**DATA LOGGING** Settings

Record Review Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor

RECORD REVIEW → (Fn + E) → START STOP REC → (▼) → MONTHLY RECORD → (▼) → DAILY RECORD

Note:

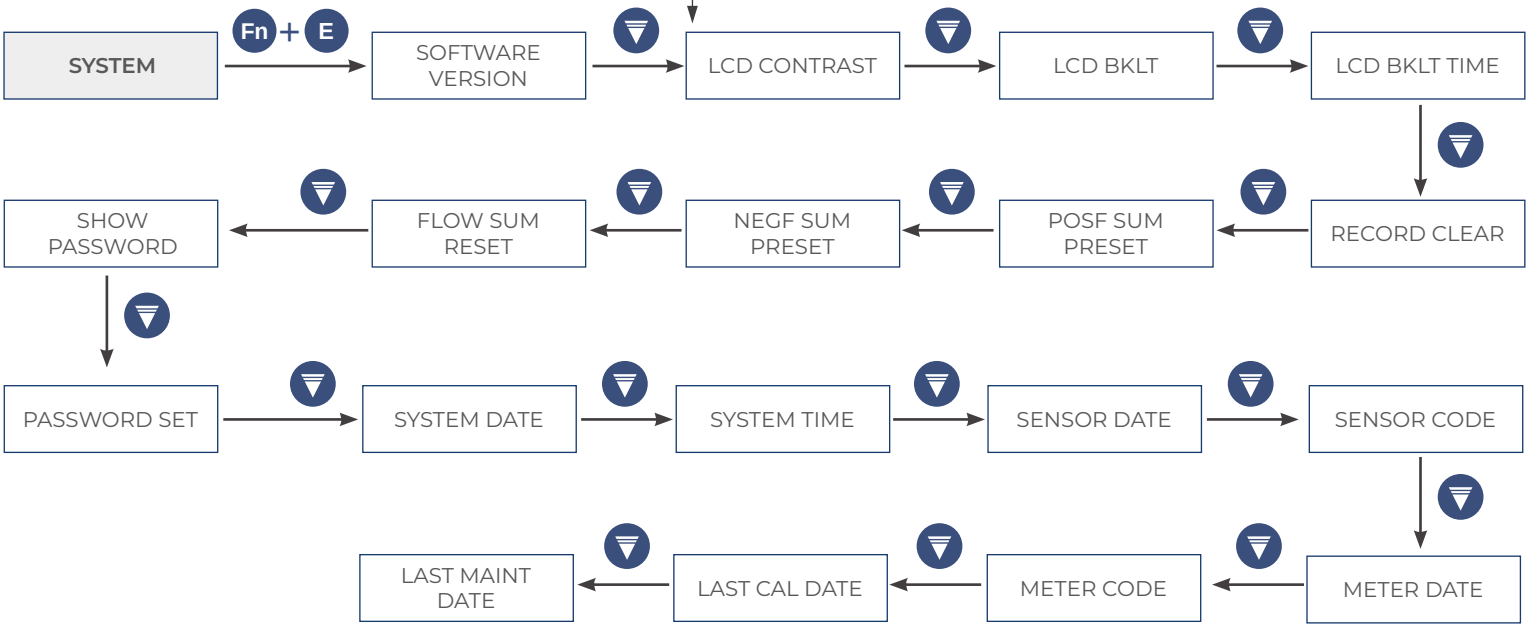
- Refer Page 19 for more details.

System Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 00000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▲	PARAMETER	Parameter Settings ▪ See Page 10
④ Calibration ▲	CALIBRATION	Calibration Settings ▪ See Page 17
⑤ System	SYSTEM	**SYSTEM** Settings

System Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor



Note:

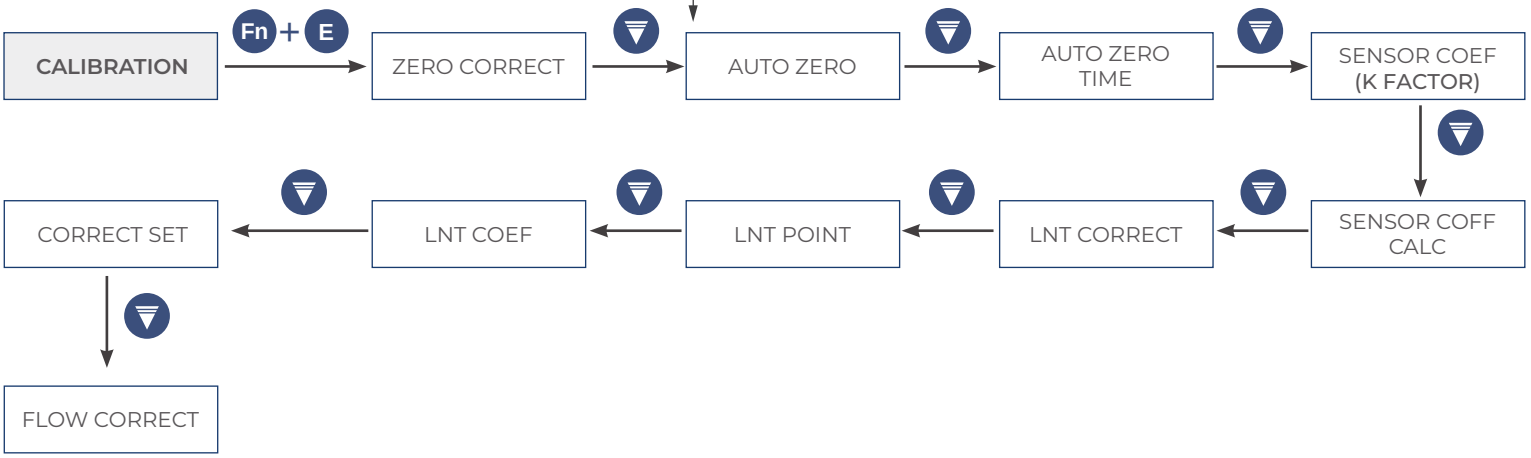
- Refer Page 20 for more details.

Calibration Settings

STEPS	DISPLAY	OPERATION
① Main Display Fn + E	+0000.000 EPD ALM GPM Σ+ 000000000 GAL	**MAIN DISPLAY**
② Password Fn + E	INPUT PASSWORD 09000	Enter **PASSWORD** (**Default Password : 09000**) Use Fn + ▲ to move cursor
③ Parameter ▲	PARAMETER	Parameter Settings ▪ See Page 10
④ Calibration	CALIBRATION	**CALIBRATION** Settings

Calibration Menu Structure

Fn + E to Enter Value/Save | Fn + ▲ to Move Cursor



Note:

- Refer Page 20 for more details.

Abbrevations

Abbreviation	Description
BLKT	Back Light
NEGF	Negative Flow
CAL	Calibration
COEF	Coefficient
COD	Code of Production
DEC	Decimal
DIR	Direction
DOD	Date of Production
EPD	Empty Pipe Detection

Abbreviation	Description
EXT	Excitation
POSF	Positive Flow
FREQ	Frequency
ALMH	High Limit Alarm
INIT	Initialization
ALML	Low Limit Alarm
MAINT	Manitenance
PF	Power Frequency
THD	Threshold

Menu List

First Menu	Second Menu	Third Menu
PARAMETER	DIAMETER	1/2" ~ 12"
	DAMPING TIME	0 ~ 99 Sec
	FLOW UNIT	GPM (Default)| GPH | GPS | t/s | t/m | t/h | Kg/s | Kg/m | Kg/h | m^3/s | m^3/m | m^3/h | L/s | L/m | L/h | AF/h | AF/m | CF/h | CF/m | CF/s | BBL/h | BBL/m
	FLOW DECIMAL NUMBER	AUTO, MANU (0 | 1 | 2 | 3)
	VOLUME UNIT	1 GAL (Default) | 1t | 1Kg | $1m^3$ | $0.1m^3$ | $0.01m^3$ | $0.001m^3$ | 1L | 0.1L | 0.01L | 0.001L | 1AF | 0.1AF | 0.01AF | 0.001AF | 1CF | 1BBL | 1 10^3m^3 |
	MEASURE RANGE (20mA VALUE) Enter Max. Flow Rate Value	00000.00 ~ 99999.99 FLOW UNIT
	THREE LEVEL EXT**	ON | OFF
	EXT FREQ	1/8PF
	EXT CURRENT	100% | 55%
■ See Page 10	LIQUID DENSITY	0010.0 ~ 9999.9 Kg/m^3
FUNCTION	MEASURE DIR	PO | NE (Positive | Negative)
	NEGF MEASURE (Direction)	ON | OFF
	NEGF OUTPUT	ON | OFF
	DELTAQ ENABLE	ON | OFF
	DISPLAY CUT OFF	ON | OFF
	LOW FLOW CUT OFF	ON | OFF
	LOW FLOW VALUE	00.00% ~ 99.99%
	PEAK TIME	0 ~ 9.9 S
	PEAK VALUE	0 ~ 34ft/s | 0 ~ 9.999 m/s
	PEAK FILTER	AUTO | ON | OFF
	FILTER ENABLE	ON | OFF
■ See Page 11	FILTER PARAM	0 ~ 9.9999

First Menu	Second Menu	Third Menu
FUNCTION	METER ALARM**	ON | OFF
	EXT ALARM**	ON | OFF
	EPD COEF** (Empty Pipe)	0.1 ~ 9.9
	INNER LINING**	PTFE | OTHERS
	EPD ALARM (Empty Pipe Detection Alarm)	ON | OFF
	EPD ALARM THD (EPD Alarm Hysterisis)	0% ~ 99%
	EPD MODE**	0 | 1
	ALMH ALARM*** (High Flow Alarm)	ON | OFF
	ALMH ALARM THD*** (High Flow Alarm Hysterisis)	0 ~ 500%
	ALML ALARM*** (Low Flow Alarm)	ON | OFF
	ALML ALARM THD*** (Low Flow Alarm Hysterisis)	0 ~ 100%
	BAT ALARM** (Battery Alarm)	ON | OFF
■ See Page 11	BAT VALUE** (Battery Value)	15%
RS485 COMMUNICATION	MODBUS ADD	0,1,2 | 0,1,9 | 0,1,9
	MODBUS DIAG	
	MODBUS DELAY	0 ~ 99 ms
	MODBUS BAUDRATE	9600 | 4800 | 2400 | 1200 | 600 | 300 | 38400 | 19200
■ See Page 12	MODBUS CHECKBIT	NONE | EVEN | ODD
OUTPUT Pulse | Frequency | 4-20	OUTPUT MODE	PULSE | FREQ
	MAX PULSE WIDTH	ON | OFF
	20mA TUNING	±0.000mA (0 ~ 2.999mA)
	4mA TUNING	±0.000mA (0 ~ 1.999mA)
	DIGITAL OUTPUT**	DIR OUTPUT | ALML | ALMH
	PULSE POLAR	PO | NE (Positive | Negative)
	PULSE UNIT	00000.000 USG | IG | L (0.001 ~ 1000.00)
	PULSE WIDTH	AUTO | MANUAL (0 ~ 400.0ms)
■ See Page 13	FREQ RANGE	00000Hz (0 ~ 10000Hz)
DIAGNOSTIC	4-20mA TEST	04mA | 10mA | 20mA
	SIG DIA**	
	SPEED TEST**	00000mm/s (0 ~ 99999 mm/s)
	PULSE TEST	000.0ms (0 ~ 100.0ms)
■ See Page 14	FREQ TEST	00000Hz (0 ~ 10000Hz)
RECORD REVIEW	START STOP REC	
	MONTHLY RECORD	
■ See Page 15	DAILY RECORD	

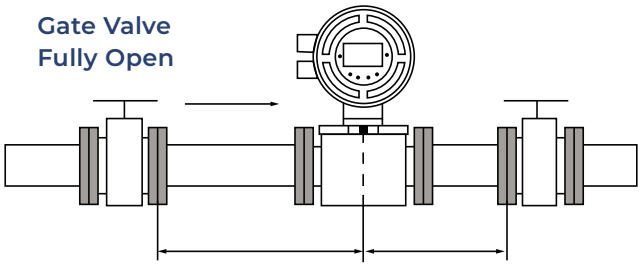
First Menu	Second Menu	Third Menu
SYSTEM	LANGUAGE**	
	SYSTEM UNIT**	
	RESTORE DEFAULT**	
	SAVE AS DEFAULT**	
	SOFTWARE VERSION	
	LCD CONTRAST	0 ~ 99
	LCD BKLT	OPEN | CLOSE
	LCD BKLT TIME	1 ~ 999 MIN
	RECORD CLEAR	INPUT PASSWORD
	POSF SUM PRESET	0 ~ 999999999 m^3
	NEGF SUM PRESET	0 ~ 999999999 m^3
	FLOW SUM RESET**	INPUT PASSWORD
	SHOW PASSWORD	LEVEL 1 | LEVEL 2 | LEVEL 3
	PASSWORD SET	LEVEL 1 | LEVEL 2 | LEVEL 3
	SYSTEM DATE	0000Y 00M 00D
	SYSTEM TIME	00H 00M 00S
	SENSOR DATE	0000Y 00M 00D
	SENSOR CODE	0 000 000 000
	METER DATE	000Y 00M 00D
	METER CODE	0 000 000 000
	LAST CAL DATE	0000Y 00M 00D
■ See Page 16	LAST MAINT DATE	0000Y 00M 00D
CALIBRATION	ZERO CORRECT	± 0000.0mm/s
	AUTO ZERO	ON | OFF
	AUTO ZERO TIME	10 ~ 99S
	AUTO COMPENSATE	ON | OFF
	SENSOR COEF **(K FACTOR)**	0.0000 (0.0001 ~ 9.9999)
	SENSOR COFF CALC	00000.00 FLOW UNIT
	NORMALIZED COEF**	0.0000 (0 ~ 9.9999)
	NORMAL COEF CALC**	00000 mm/s
	LNT CORRECT	ON | OFF
	LNT POINT	0 ~ 9999 mm/s
	LNT COEF	±0000mm
	KALMAN FILTER**	ON | OFF
	CORRECT SET	CORRECT UNIT
■ See Page 17	FLOW CORRECT	ON | OFF

** Consult Factory
*** Item is optional for Local Display Type and Standard for Remote Type

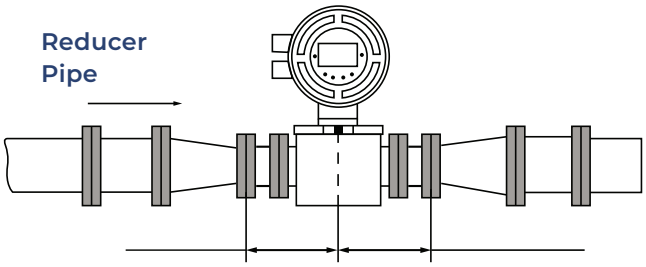
Straight Pipe Length Requirements

For optimum accuracy performance, sufficient inlet and outlet straight pipe are required.An equivalent to 5 diameters of straight pipe is required on the inlet side, and 2 diameters on the outlet side. There are no special requirements for standard concentric pipe reducers. See Diagram 2 for required straight runs when there is an altering device.

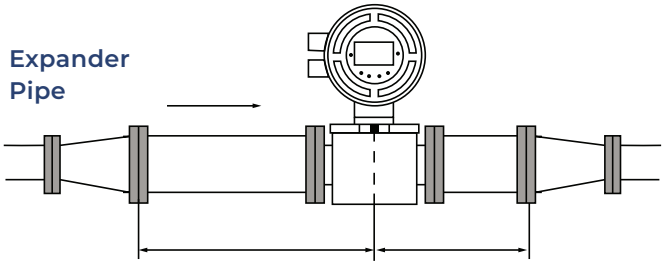
Gate Valve
Fully Open



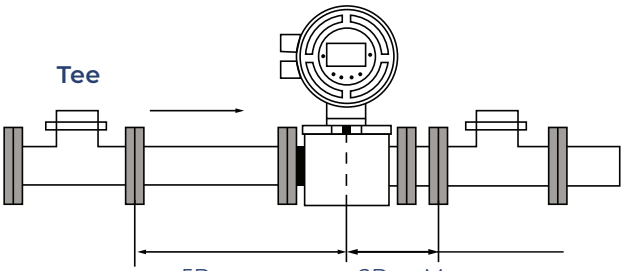
Reducer
Pipe



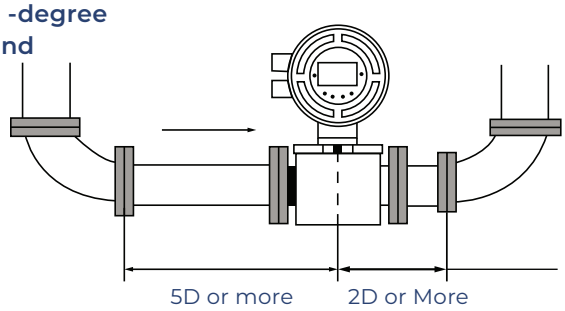
Expander
Pipe



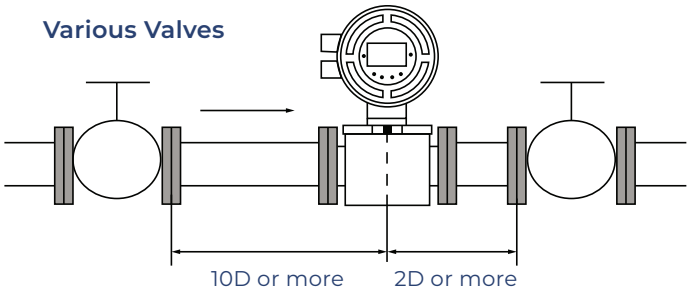
Tee



90 -degree
bend



Various Valves



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Icon Process Controls Ltd warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by **Icon Process Controls Ltd** for a period of one year from the date of sale of such products. **Icon Process Controls Ltd** obligation under this warranty is solely and exclusively limited to the repair or replacement, at Icon Process Controls Ltd option, of the products or components, which **Icon Process Controls Ltd** examination determines to its satisfaction to be defective in material or workmanship within the warranty period. **Icon Process Controls Ltd** must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the one year from the date of replacement.

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