TRX40-C
TRX50-C
TRX80-C

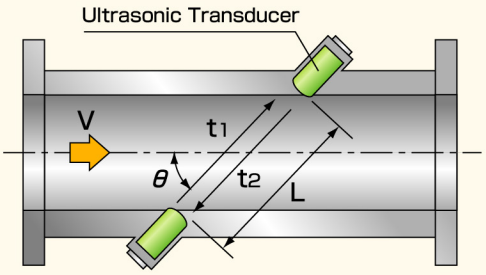
Ultrasonic Flow Meter for Air

- **Negligible pressure drop** (equivalent to straight pipe)
- **Robust against oilmist and dust**
- **Turndown ratio 50:1**
- **Ultrasonic sensor is integrated**
- **Easy to read LCD which can be oriented at a right angle for easy viewing**
- **2 outputs for easy integration with other system**
- **Lower cost than vortex flowmeters or clamp - on type flowmeters**
- **Options for power supply :**
  - **Built-in batteries (10 years of continuous operation)**
  - **DC power**

Overview

Model			TRX40-C	TRX50-C	TRX80-C
Size		mm	40A	50A	80A
		in.	1 1/2	2	3
Measurable fluids			Air		
Max.pressure		MPa	1		
		Bar (PSI)	10 (145)		
Flow range		m^3/h	1 to 50	2.4 to 120	5 to 250
		US gal/min	4.4 to 220	10.6 to 528	22 to 1100
Accuracy	±2% of rate	m^3/h	5 to 50	12 to 120	25 to 250
		US gal/min	22 to 220	52.8 to 528	110 to 1100
	±5% of rate	m^3/h	1 to 5	2.4 to 12	5 to 25
		US gal/min	4.4 to 22	10.6 to 52.8	22 to 110
Fluid temperature range			-10 to 60℃ (14°F to 140°F)		
Display	Main		Cyclic display : Total integrated flow/Trip integrated flow		
		Integrated flow	LCD 10digit		
	Sub	Instantaneous flow	LCD 4digit		
Output		Pulse	Pulse per 0.1m^3 or Pulse per 10 USgals (open drain unit pulse)		
		Analog	4 to 20mA (for DC power only)		
Power supply		Battery	Lithium battery with a life of 10 years		
		Extermal	24V DC		
Connection			Wafer		
Installation position			horizontal,vertical		
Materials in contact with fluid			PPS, Aluminum Alloy,etc.		
Protection class			IPX4		
Weight			1.1kg (2.4lbs)	1.3kg (2.9lbs)	1.8kg (4.0lbs)

Measurement principle



$$t_1 = \frac{L}{C + V\cos\theta}$$

$$t_2 = \frac{L}{C - V\cos\theta}$$

$$V = \frac{L}{2\cos\theta}\left(\frac{1}{t_1} - \frac{1}{t_2}\right)$$

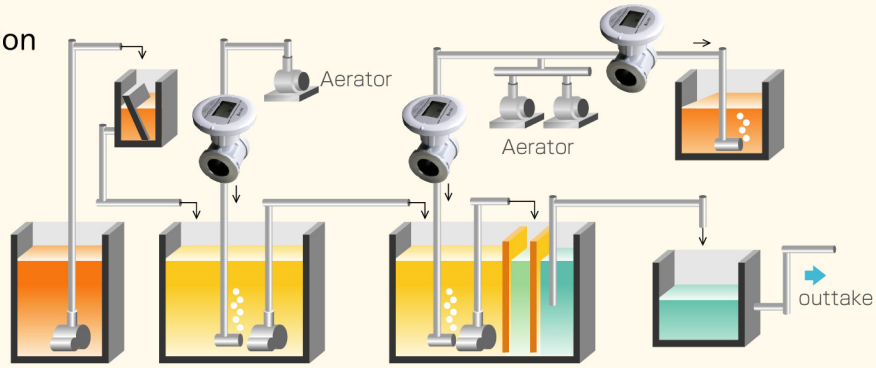
Flow-rate

$$Q = A \cdot K \cdot V$$

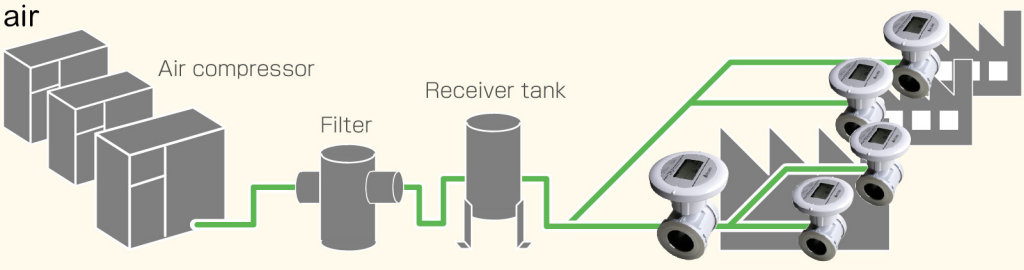
L : Distance between two sensors
C : Sound velocity
V : Mean current velocity
θ : Angle of the ultrasonic propagation axis and the measuring pipe's center axis
A : Cross section area
K : Correction coefficient

Examples of applications

●Monitering air flow for aeration

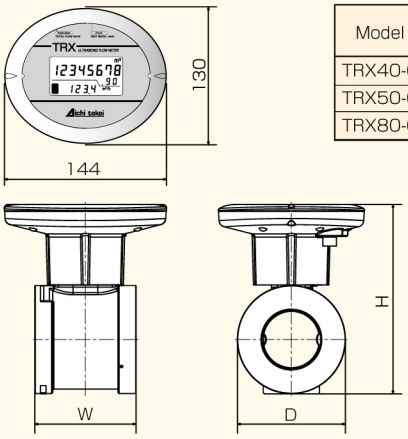


●Control of air flow to machines which run on compressed air



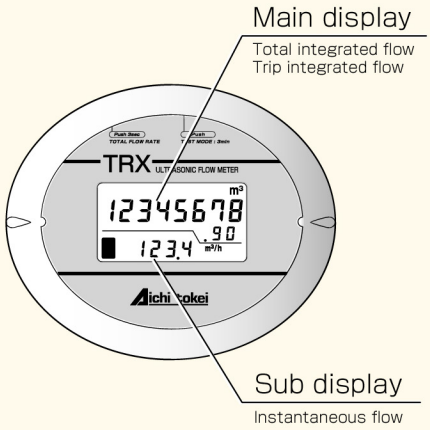
External dimensions

Unit : mm (in.)



Model	W	D	H
TRX40-C	76 (2.99)	80 (3.15)	159 (6.26)
TRX50-C	90 (3.54)	96 (3.78)	168 (6.61)
TRX80-C	117 (4.61)	126 (4.96)	217 (8.54)

Display



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