



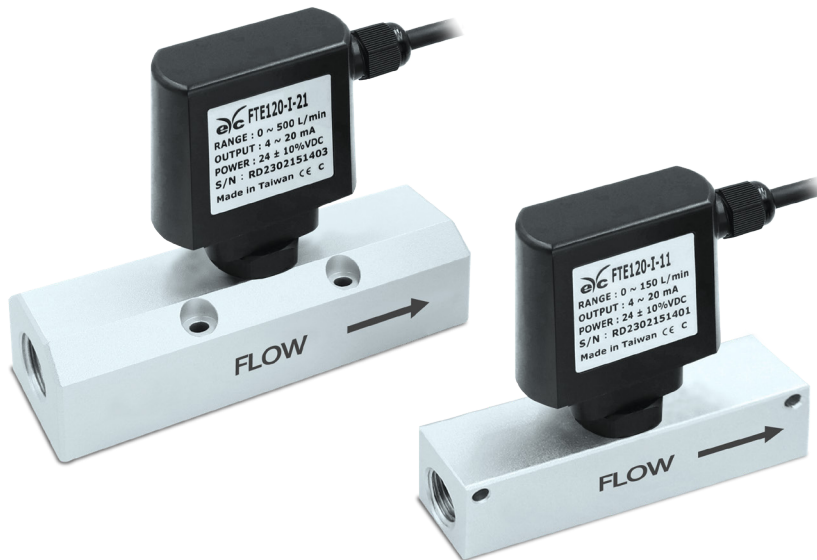
FTE120-I Inline Type Air Flow Transmitter

Air flow / Air velocity -FTE120-I

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RST MEASUREMENT CONTROL
TECHNOLOGIES

www.rst-elektronik.com



| Features |

- Optional multiple output : 4 ... 20 mA / 0 ... 10 V / RS-485 / Frequency / Pulse (Option)
- Accuracy : $\pm 2\%$ F.S. , Operating pressure : Max. 10 bar
- Calibrated by sonic nozzles calibration system
- Multiple diameter (DN10 / DN15 / DN20 / DN25), easy installation
- Polycarbonate housing, aluminum alloy pipe
- RS-485 programmable software : Data logger / Charts

| Applications |

Pneumatic system / Compressed air system / Industrial machinery equipment
Pipeline air flow monitoring

| Specification |

Input

Sensor type	Thermal mass flow sensor
Measuring range*	DN10 : 0 ... 150 l/min
	DN15 : 0 ... 500 l/min
	DN20 : 0 ... 1000 l/min
	DN25 : 0 ... 1500 l/min
Minimum measuring range	5 l/min

*The measurement range is defined at the standard condition(1013 mbar, 20°C).

This product is also calibrated at this condition.

Output

Signal	4 ... 20 mA / 0 ... 10 V / RS-485
	Frequency (0 ... 100 Hz)
	Pulse (1 ... 100 l/pulse, option)
Accuracy	±2% F.S.
Temp. influence	0.2% / °C
Response time	t90 5 sec
Load resistance	Current output : 500 Ω
	Voltage output : 100 KΩ
Warm-up time	< 2 min.

Environmental

Medium	Air
Housing operating Temp. / Humid.	0 ... 50°C / 0 ... 95%RH (Non-condensing)
Medium operating Temp. / Humid.	0 ... 50°C / 0 ... 95%RH (Non-condensing)
Storage Temp.	-20 ... +60°C
Operating pressure	10 bar

Electrical

Power supply	DC 24 V ±10%
Current consumption	100 mA
Overvoltage protection	DC : < 40 V
Electrical connections	PVC cable (1 m)

Installation

Inline type	DN10 - G1/4
	DN15 - G1/2
	DN20 - G3/4
	DN25 - G1

Protection

IP rating	IP 65 (Housing) / IP20 (Probe)
Electrical protection	Reverse polarity
	Over-voltage
	Short-circuit

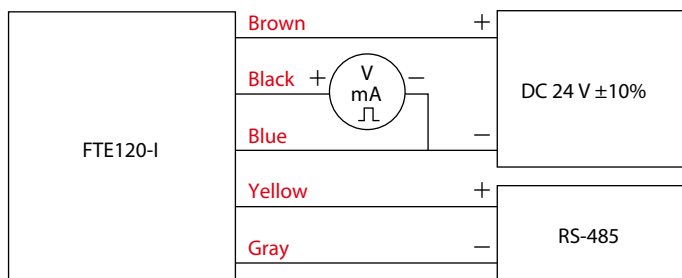
Certification

Certification	CE
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Material

Housing	PC
Pipe	Aluminum alloy
Weight	DN10 : 160 g
	DN15 : 400 g
	DN20 : 465 g
	DN25 : 520 g

| Connection Diagram |



*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

| Calibration System |

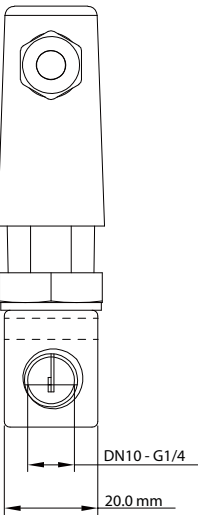
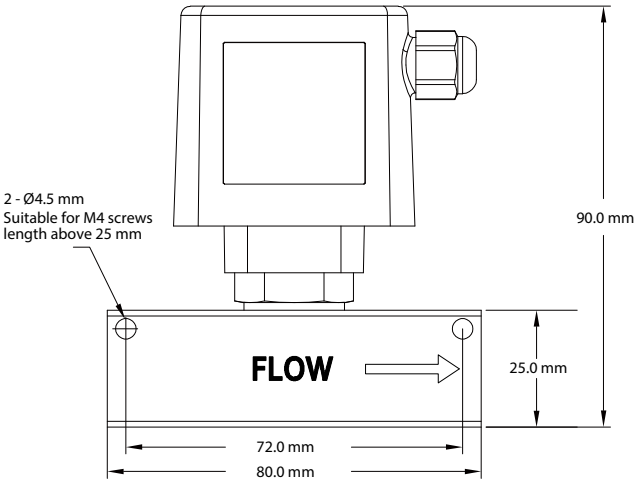


Air volume standard calibration system
Air volume : 0.5 m³/h ... 1000 m³/h

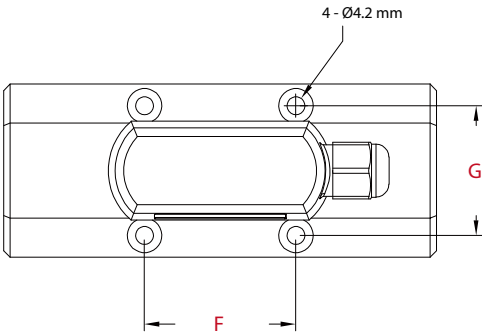
Referring to ISO 9300 "Flow Measurement of Critical Flow Venturi Nozzles", this device is a standard flow device combination consisting of multiple venturi nozzles according to the maximum and minimum flow ranges that need to be calibrated.



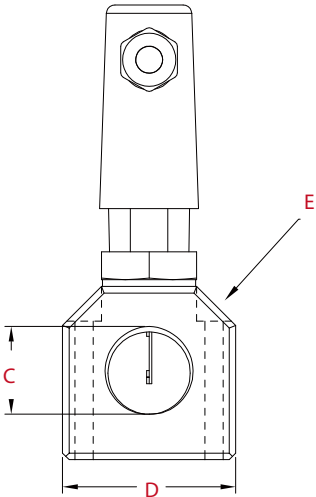
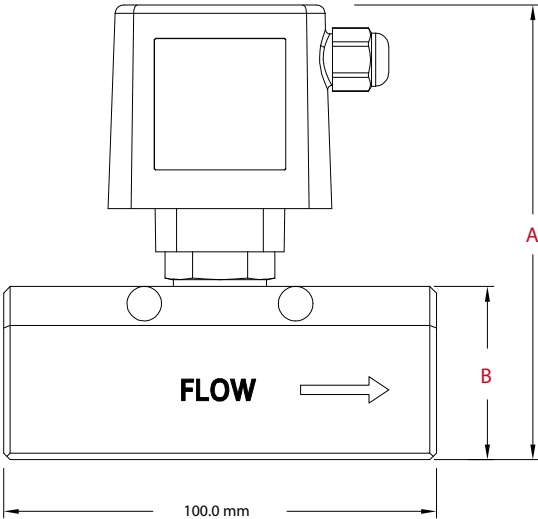
DN10 (1/4)



DN15 (1/2"), DN20 (3/4"), DN25 (1")



	DN15 (1/2")	DN20 (3/4")	DN25 (1")
A	105.0 mm	110.0 mm	115.0 mm
B	40.0 mm	45.0 mm	50.0 mm
C	DN15 - G1/2	DN20 - G3/4	DN25 - G1
D	40.0 mm	45.0 mm	50.0 mm
E	Suitable for M4 screws length above 45 mm	Suitable for M4 screws length above 50 mm	Suitable for M4 screws length above 55 mm
F	35.0 mm	50.0 mm	50.0 mm
G	30.0 mm	37.0 mm	40.0 mm



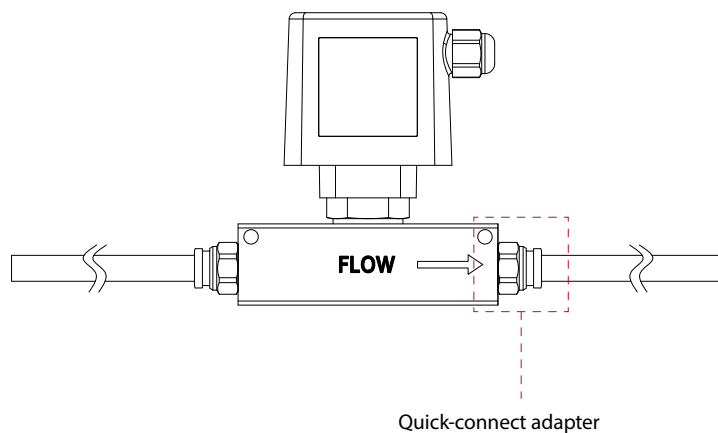
| Air Pipes Installation |

It can be connected to air pipes through commercially available quick-connect adapters.

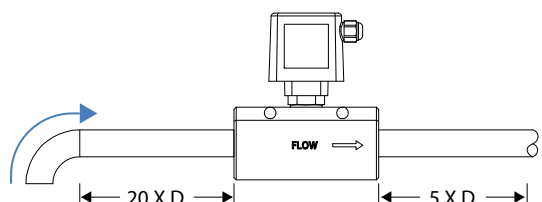
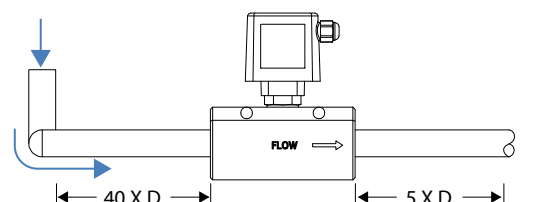
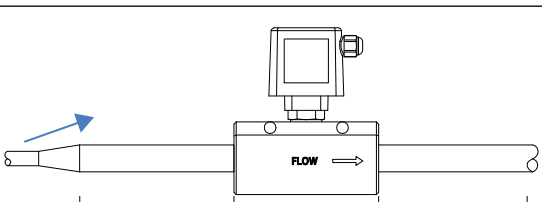
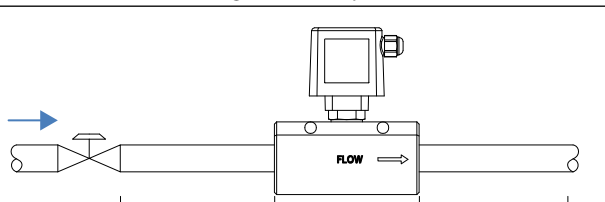
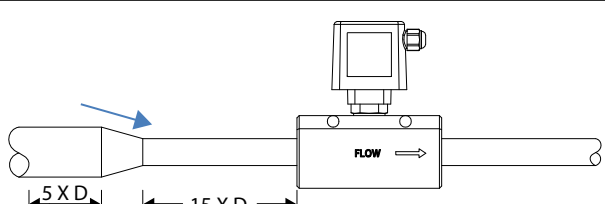
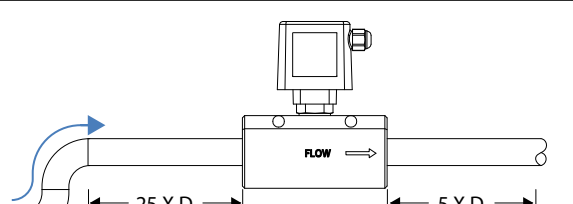
The common thread sizes for adapters are G1/4" and G1/2", and the common pipe diameters for connections are $\varnothing 4 \dots 16$ mm.

To ensure a stable flow profile inside transmitter, it is necessary to keep a straight pipe section during installation.

The length of the straight pipe section can be referred to the "Installation Instructions" below.

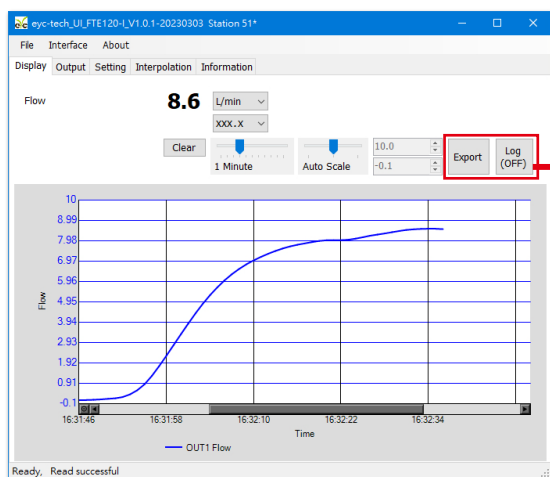


| Installation Instructions |

90° pipe (Air passes through the pipe turn)	Continuous 90° pipes in different horizontal planes (Vertical gas flow and through curved pipes)
	
Tube expanding state (Gas flow becomes large from small)	Control valve status (Switch switching / Air flow adjustment)
	
Shrinking tube state (Air flow from large to small)	The gas flows continuously through the 90° bend in the same horizontal plane
	

| With RS-485 Software |

Data logger and Charts

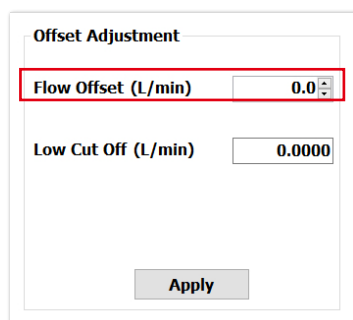


Charts



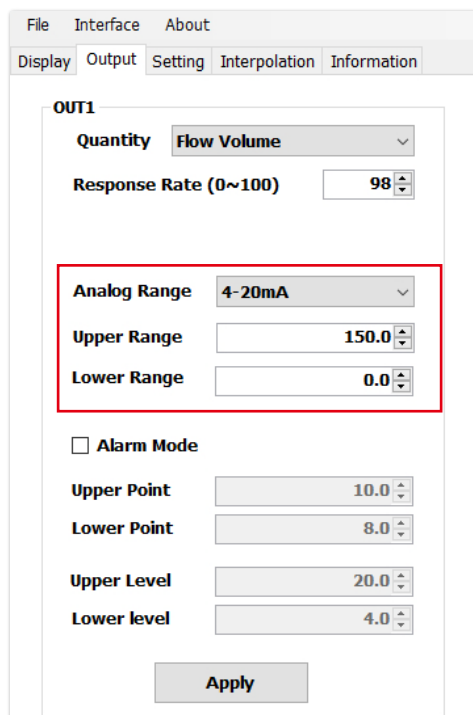
Time	OUT1 Flow	Out2
023/03/14 下午 04:31:15	0.144879028	0.008692
023/03/14 下午 04:31:16	0.150521591	0.009031
023/03/14 下午 04:31:17	0.152126953	0.009127
023/03/14 下午 04:31:18	0.149822235	0.008989
023/03/14 下午 04:31:19	0.146389008	0.00878
023/03/14 下午 04:31:20	0.139109299	0.008346
023/03/14 下午 04:31:21	0.129747391	0.007784
023/03/14 下午 04:31:22	0.12319883	0.00739
023/03/14 下午 04:31:23	0.119654335	0.00717
023/03/14 下午 04:31:24	0.115013123	0.006900
023/03/14 下午 04:31:25	0.108544029	0.006512
023/03/14 下午 04:31:26	0.101693474	0.006101
023/03/14 下午 04:31:27	0.096416473	0.005784
023/03/14 下午 04:31:28	0.09161631	0.00549

Offset adjustment



The 'Offset Adjustment' dialog box shows the 'Flow Offset (L/min)' set to 0.0 and the 'Low Cut Off (L/min)' set to 0.0000. An 'Apply' button is at the bottom.

Adjustable range



The 'Adjustable range' settings dialog box shows the 'OUT1' section. The 'Quantity' is set to 'Flow Volume' and the 'Response Rate (0~100)' is set to 98. The 'Analog Range' is set to '4-20mA'. The 'Upper Range' is set to 150.0 and the 'Lower Range' is set to 0.0. The 'Alarm Mode' checkbox is unchecked. The 'Upper Point' is 10.0, 'Lower Point' is 8.0, 'Upper Level' is 20.0, and 'Lower level' is 4.0. An 'Apply' button is at the bottom.



| Ordering Guide |

FTE120 — I —

I : Inline type

Range

2

1 : 150 l/min, DN10-G1/4

2 : 500 l/min, DN15-G1/2

3 : 1000 l/min, DN20-G3/4

4 : 1500 l/min, DN25-G1

Output

1

2 : 4 ... 20 mA+RS-485

3 : 0 ... 10 V+RS-485

4 : Frequency

5 : Pulse (Option)

| Additional Option Test Report |

For more detailed information please contact us.

ISO 9001

Project	Measurand level or range
Air volume	Air volume : 0 ... 1000 m ³ /h