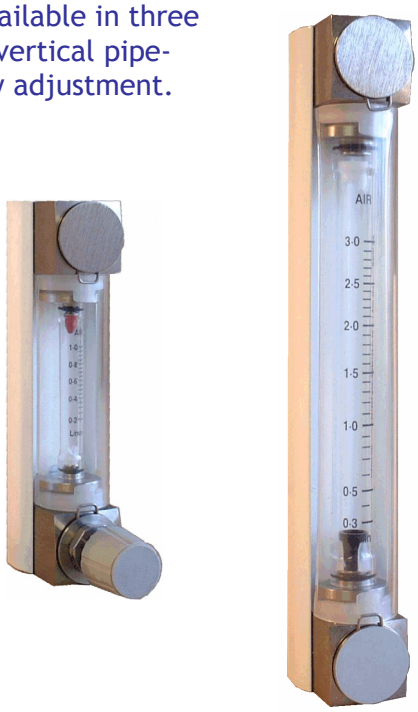
Flowquip
Flowmetering systems

Product data

NFX Glass Tube Low-Cost Flowmeter

The Flowquip NFX Glass Tube Variable Area Flowmeter is available in three scale lengths and is designed to measure liquids or gases in vertical pipe-work installations. An integral needle valve allows fine flow adjustment.



- **Measures flows from 2 cc/min to 4.6 l/min**
- **Economically Priced**
- **Brass or stainless steel options**
- **Integral needle valve option**
- **Working pressure up to 20 bar**
- **Repeatability better than ±0.5% of reading**

Introduction

The Flowquip NFX glass tube variable area flowmeter is ergonomically styled for todays modern flow installations and is available in three scale lengths. The NFX is suitable for liquid or gas measurement and customised scales can be provided to indicate flow rate in any desired engineering units. Flow rate can be accurately and reliably regulated by means of an integral needle valve and flow tubes can easily be removed from the flowmeter frame for easy replacement or cleaning. The ¼" process connections can be either straight-through or rear entry (to enable panel mounting) and a polycarbonate cover is fitted to ensure operator safety in the event of a tube fracture.

Operating Principle

Fluid flowing vertically through a tapered tube exerts an upward force on the float such that the float takes up a point of equilibrium where the downward weight is balanced by the upward thrust of the fluid. This point then represents a specific flowrate. An increase in fluid velocity will cause the float to rise again until the next equilibrium point is reached and this represents a higher specific flowrate. The tube may thus be scaled in terms of flowrate in an almost linear manner.

Ranging and Scaling

Ranging and scaling depends on three main factors:

- Shape and density of the float
- Taper of the tube
- Fluid density and viscosity

Several special versions of the NFX flowmeter are available. The "Long" Series provide maximum readability and the extended flow ranges – suitable for laboratory and calibration applications. Accuracy to 1% of reading and to fully traceable standards is available on request and an infra-red alarm can be fitted which can be user set to provide a switched output on safety-critical applications. Units can be fitted with a bench stand for laboratory applications and anaesthetic flow tubes for use in medical equipment are available for air, oxygen and nitrous oxide.

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Type "S" Standard Series Scales at 20° C. and 1.013 bar reference

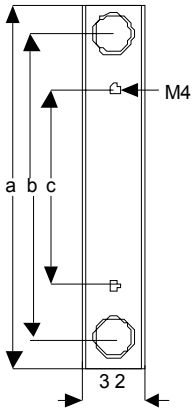
Units	Water	Air	Oxygen	Nitrogen	Carbon Dioxide	Argon	Hydrogen	Methane	Propane
cc/min	4-60	—	—	—	—	—	—	—	—
cc/min	30-280	—	—	—	—	—	—	—	—
cc/min	40-480	—	—	—	—	—	—	—	—
cc/min	50-570	50-750	50-700	50-800	50-750	40-660	100-2000	100-1100	100-850
l/min	0.1-1.2	0.1-1.2	0.1-1.1	0.1-1.2	0.1-1.1	—	—	—	—
l/min	0.3-3	0.3-3	0.4-2.8	0.3-3	0.3-2.8	—	—	—	—
l/min	0.4-4.4	0.5-5	0.4-4.4	0.6-5	0.6-4.4	0.4-4	1-15	1-7	0.8-4.8
l/min	—	1-13	1-12	1-13	1-11	—	—	—	—
l/min	—	2-26	2-25	2-28	2-20	—	—	—	—
l/min	—	4-50	4-50	4-50	4-40	4-44	10-180	5-70	4-40
l/min	—	10-100	10-100	10-100	10-80	—	—	—	—

Type "L" Long Series Scales

Units	Water	Air
cc/min	2-80	—
cc/min	—	—
cc/min	10-350	—
l/min	—	—
l/min	0.05-1.5	0.05-1.8
l/min	0.2-4.6	0.25-4.5
l/min	—	1-30
l/min	—	4.100

Type "C" Compact Scales

Water	Air
10-80	—
25-250	20-200
100-700	40-400
0.2-1	0.2-1
—	0.5-3
—	1-6
—	2-12
—	4-24



Technical Data

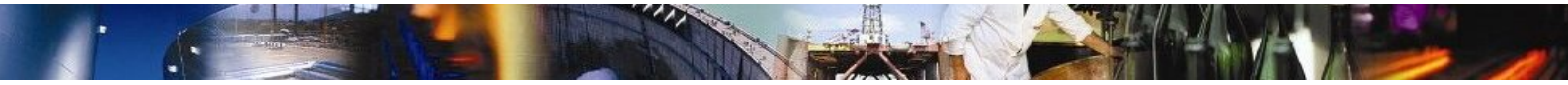
Body:	Brass or stainless steel
Flow Ranges:	Gas range 20cc/min to 100 l/min (air equivalent)
Liquid range:	2.0 cc/min to 4.6 l/min (water equivalent)
Scale Length:	140mm - long 100mm - standard 30mm – compact
Accuracy Class:	1.6% - long 2.5% - standard 4% - compact
Temp. Range:	-15 to + 120° C.
Max. Pressure:	20 BarG (non shock)
Connections:	Stainless steel or nickel plated brass ¼" BSP female
Seals:	Viton
Flow Tube:	Borosilicate glass
Float:	Stainless steel or anodised aluminium

Customised scales can also be supplied to suit any specific fluid and operating conditions.

Basic Dimensions

Units	Compact	Standard	Long
mm			
a	133	210	250
b	108	184	226
c	65	121	121

Specification subject to change without prior notice.



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