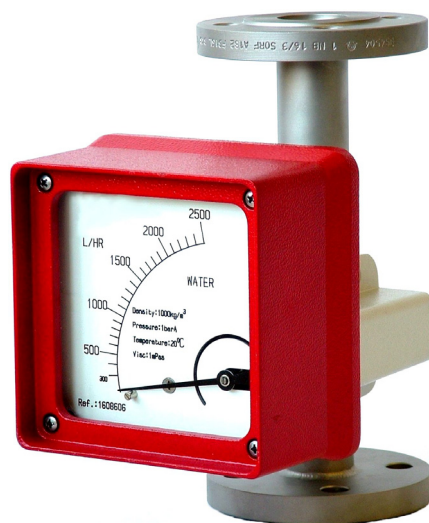


## BGN Metal Tube Variable Area Flowmeter

The BGN range of variable area flowmeters offers a low cost solution for metering liquids, steam and gases in vertical pipelines. The simple proven design provides high reliability with the option of alarm or analogue outputs.

- ◆ Simple and proven design
- ◆ Very low maintenance
- ◆ Can be used on liquids or gases
- ◆ Alarm or 4-20mA options
- ◆ High pressure & temperature resistance
- ◆ ATEX approvals for use in hazardous areas



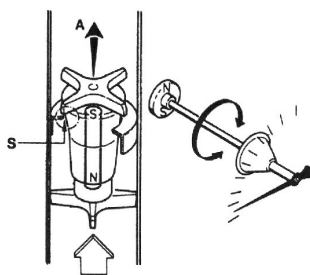
### Introduction

The BGN range of metal tube variable area flowmeters has been designed for those applications where conventional glass tube instruments may not be used on account of high pressures or liquid opacity, or for safety considerations when metering hazardous chemicals.

Operating pressures are largely limited only by the flange rating, and elevated temperature operation is possible by extending the indicator coupling to remove the indicator and associated electrical transmitters from the source of heat.

### Principle of Operation

The measuring system comprises a sharp edged fixed orifice ring and a tapered float. When the line fluid flows vertically upward the float rises until a point of equilibrium is reached where the weight of the float is balanced by the buoyancy force "A".

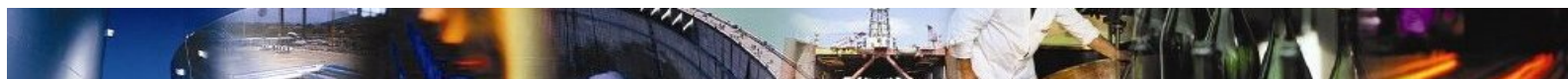


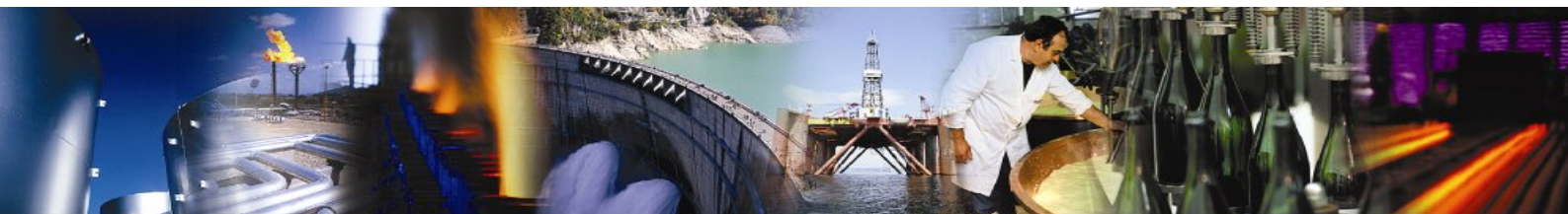
This results in an annulus "S" the area of which is directly proportional to flow rate. The vertical movement of the float is transmitted to an external indicator via a magnetic coupling system such that glands and seals are avoided.

### Installation

The meter must be mounted vertically in the pipeline with direction of flow from bottom to top. The rugged construction and light weight permits the unit to be supported by the surrounding pipework and under normal circumstances additional bracketing is not required.

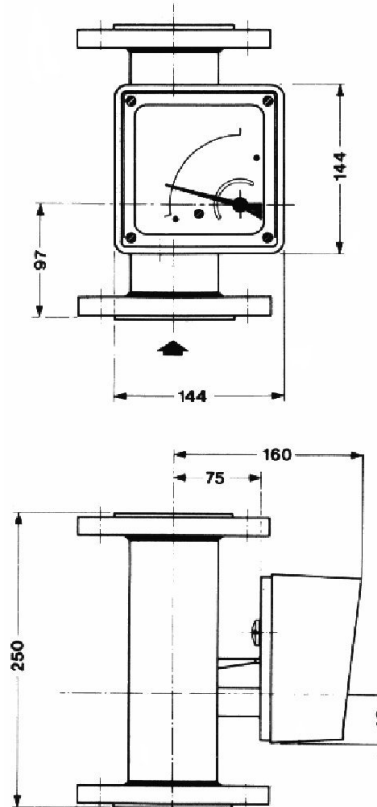
For liquids, valves of any type may be installed up or downstream of the meter without affecting accuracy. For gas measurement however, valves should be installed downstream of the unit. When opening valves, care should be taken to open slowly since hammer of the float against the tube stop may cause damage.





Flow Range Data					
Bore mm	Float Nr.	Water l/hr (20° C.)	Air m <sup>3</sup> /h (1.013 Bar, 20° C.)	BGN 120	BGN 170
15	1	0.5-5	0.015-0.15		
	2	1.0-10	0.03-0.3		
	3	1.6-16	0.048-0.48		
	4	2.5-25	0.075-0.75		
	5	4.0-40	0.13-1.3		
	6	5.0-50	0.15-1.5		
	7	7.0-70	0.21-2.1		
	8	10-100	0.3-3		•
	9	16-160	0.46-4.6		•
	10	25-250	0.7-7		•
	11	40-400	1.1-11		•
	12	60-600	1.7-17		•
	13	100-1000	2.9-29		
	14	160-1600	4.6-46		
	15	250-2500	7.1-71		
25	1	0.5-5	0.015-0.15		
	2	1.0-10	0.03-0.3		
	3	1.6-16	0.048-0.48		
	4	2.5-25	0.075-0.75		
	5	4.0-40	0.13-1.3		
	6	5.0-50	0.15-1.5		
	7	7.0-70	0.21-2.1		
	8	10-100	0.3-3		
	9	16-160	0.46-4.6		
	10	25-250	0.7-7		•
	11	40-400	1.1-11		•
	12	60-600	1.7-17		•
	13	100-1000	2.9-29		•
	14	160-1600	4.6-46		•
	15	250-2500	7.1-71		•
	16	400-4000	11-110		
50	13	100-1000	2.9-29		
	14	160-1600	4.6-46		
	15	250-2500	7.1-71		
	16	400-4000	11-110		•
	17	600-6000	17-170		•
	18	1000-10000	29-290		•
80	16	400-4000	11-110		
	17	600-6000	17-170		
	18	1000-10000	29-290		
	19	1600-16000	46-460		•
	20	2500-25000	71-710		•
100	19	1600-16000	46-460		
	20	2500-25000	71-710		
	21	4000-40000	110-1100		•
	22	6000-60000	170-1700		•

## Dimensions



## Specification

Standard flanges	ANSI 150
Special flanges	DIN, BS1560
Pressure rating	As flange rating
Installation	Vertical, with flow upwards
Length	250mm
Measuring span	10:1
Scale length	100mm
Accuracy	±2% fsd (option ±1.5% fsd extra)
Temp. rating	-50 to +200° C. (higher on request)
Ambient	-40 to +80° C.
IP rating	IP65
Steam jacket	Supplied to special order

Sizes marked "•" are available on the shortest lead times.

Specification subject to change without prior notice.



flowquip limited  
 p 01422 829 920  
 f 01422 829 921  
 e info@flowquip.co.uk  
 w www.flowquip.co.uk

riverside  
 canal road  
 sowerby bridge  
 west yorkshire hx6 3lf