

## FIRE SPRINKLER FLOWMETERS SGUV Mark 2

### Shunt Orifice Flowmeter For Automatic Sprinkler Installations

The Shunt Gapmeter Model SGUV Mark 2 has been developed specifically to meet the requirement for a direct reading flowmeter for use in automatic sprinkler installations, water spray or deluge systems. It is approved for regular monitoring and testing of such systems by the LPCB, Loss Prevention Certification Board, under their 'Rules for Automatic Sprinkler Installations', in the UK, and by many equivalent organisations in other countries.

The SGUV Mark 2 provides a compact, robust, direct reading flowmeter for 50mm-200mm pipelines and is suitable for use in horizontal or vertical pipes.



*Approved and listed by the  
Loss Prevention Certification Board,  
and equivalent overseas authorities.*

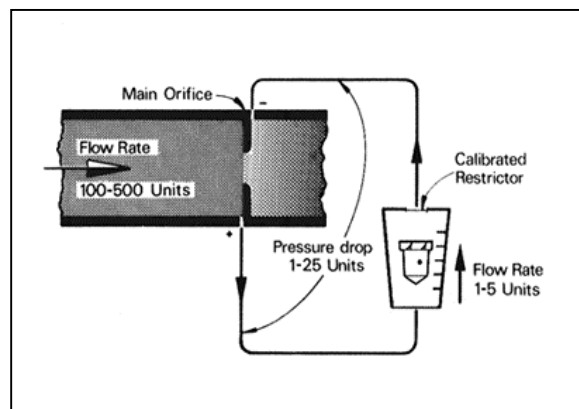


### FEATURES

- Simple water flow measurement
- No electrical power needed
- Approved and Listed by LPCB
- Easy installation between pipe flanges
- Instantaneous reading
- Air bleed and drain valves
- Isolation valves for tube replacement and cleaning
- Spare tube supplied

## PRINCIPLE OF OPERATION

The Shunt Gapmeter MK2 is a combination of two simple measuring elements. In the main flow line an orifice plate is inserted between two pipe flanges, producing a pressure drop related to flow rate. Across the orifice plate, a shunt or bypass loop uses this pressure drop to create a small flow through a similar orifice restrictor and a Variable Area flowmeter. The flow in the bypass VA meter is proportional to the main line flow and special scaling on the glass tube allows the main line flow to be measured directly.



## SPECIFICATION

<b>Orifice Plate</b>	Stainless Steel mounted in a 38mm thick, red polyester coated steel carrier ring
<b>Measuring Tube</b>	Borosilicate Glass with 100mm fused-in ceramic scale
<b>Float</b>	Stainless Steel
<b>Accuracy</b>	±5% at various test flows specified by LPCB
<b>'O' Seals</b>	Nitrile
<b>Indicator Housing</b>	Die-cast Aluminium with white polyester coating, black bezel and perspex window
<b>Inpulse Pipe</b>	Bright nickel plated copper with plated brass connections
<b>Isolating Valves</b>	Full bore (8mm) brass ball valves bright nickel plated
<b>Drain/Bleed Valves</b>	Brass, bright nickel plated with PTFE seat
<b>Rodding Device</b>	Brass body, 316 Stainless Steel rod
<b>Filter Unit</b>	316 Stainless Steel element with 1.5mm perforations, TPX tube, plated Brass connections and Nitrile 'O' seals
<b>Temperature Limitation</b>	80°C
<b>Pressure Limitation</b>	12 Bar g @ 20°C
<b>Pressure Test</b>	30 bar hydraulic
<b>Pressure Drop</b>	At max flow rate 65% of the orifice pressure loss of 354" WG is recovered
<b>Installation</b>	As per manual OMM 1001 suitable for installation between BS10 table D or E flanges
<b>Approval</b>	Units approved by LPCB (UK VdS (Germany) ANPI/NVBB (Belgium) FPIS (Australia) ASIB (S Africa)
<b>LPCB Listing</b>	Approved Fire and Security products and Services Part 5, Automatic Sprinkler, Water Spray and Deluge Systems, Section 6: Direct Reading Flowmeters.

## SPECIAL FEATURES

This LPCB specified version of the Shunt Gapmeter features full bore **isolating valves** in the bypass flow line, allowing meter isolation for filter cleaning or flow tube replacement.

The **in-line filter** avoids clogging of the bypass line or the flow restrictor with pipe debris. In addition, a special '**rodding device**' allows the operator or inspector to clear the bypass orifice restrictor of such debris or algae.

**Bleed valves** allow draining of the metering section or venting of trapped air.

The flow tube is replaceable on site and a **spare tube** is supplied with each meter and should be kept in the cabinet containing the replacement sprinklers.

### Recommended Spares List:

**23056 Insert 'O' Rings (10)**

**23012 Tube 'O' Ring (10)**

**23014 Bonded Seal (10)**

**GTF-F1/\* Tube & Float Set (\*Specify size on order )**

## FLOW RANGES AND ORDER CODE

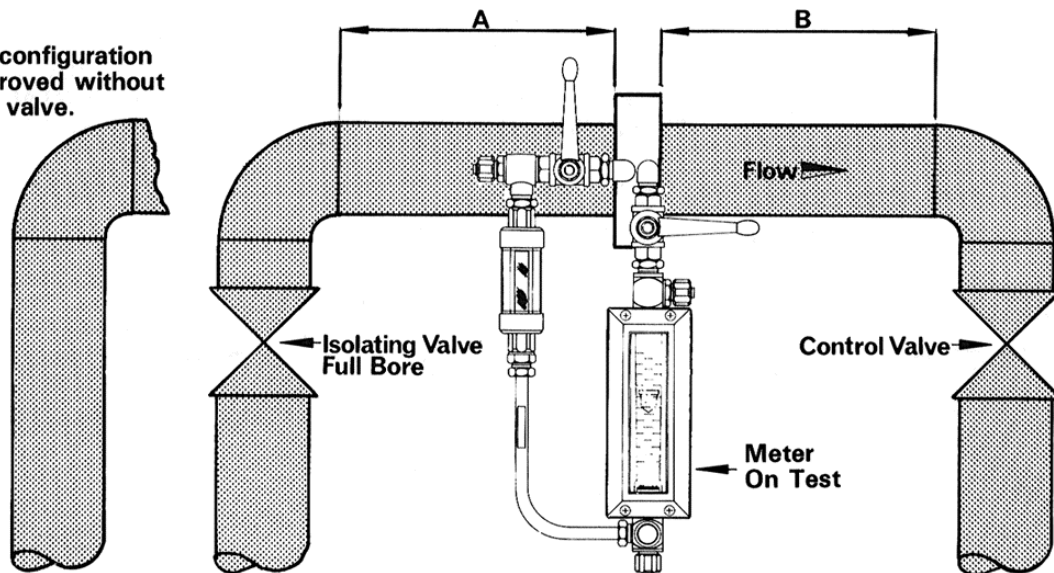
LPCB Reference	PIPE SIZE (mm)	FLOW RANGE (dm <sup>3</sup> /min)	ORDER CODE
F1/5	50	150-750	LPC-F1/5
F1/6	80	300-1500	LPC-F1/6
F1/7	100	500-2500	LPC-F1/7
F1/8	150	1000-5000	LPC-F1/8
F1/9	200	2500-12500	LPC-F1/9

Note: Unit dm<sup>3</sup>/min is the SI equivalent of Litres/minute

## INSTALLATION

### RECOMMENDED PIPELINE CONFIGURATIONS

**NOTE:**  
Pipeline configuration also approved without isolating valve.



The recommended minimum length of straight pipe required upstream and downstream of the orifice plate is defined by the table below:

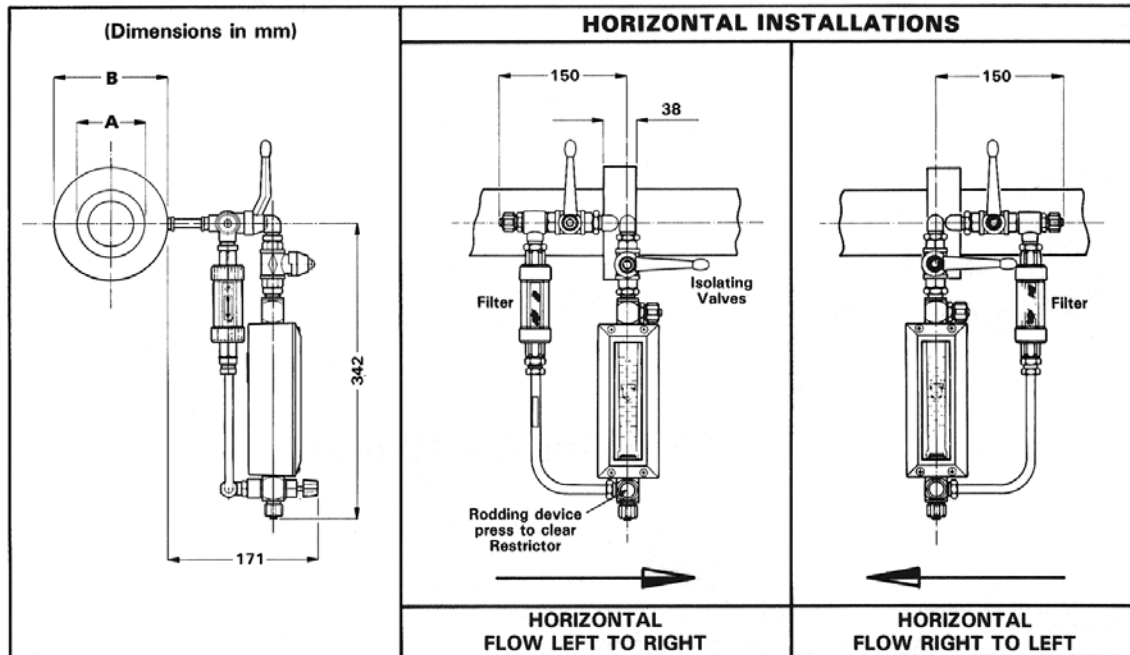
Meter size		50mm	80mm	100mm	150mm	200mm
Recommended length of straight pipe	A	250mm	400mm	500mm	1500mm	2000mm
	B	250mm	400mm	500mm	1500mm	2000mm

## EQUIPMENT SUPPLIED

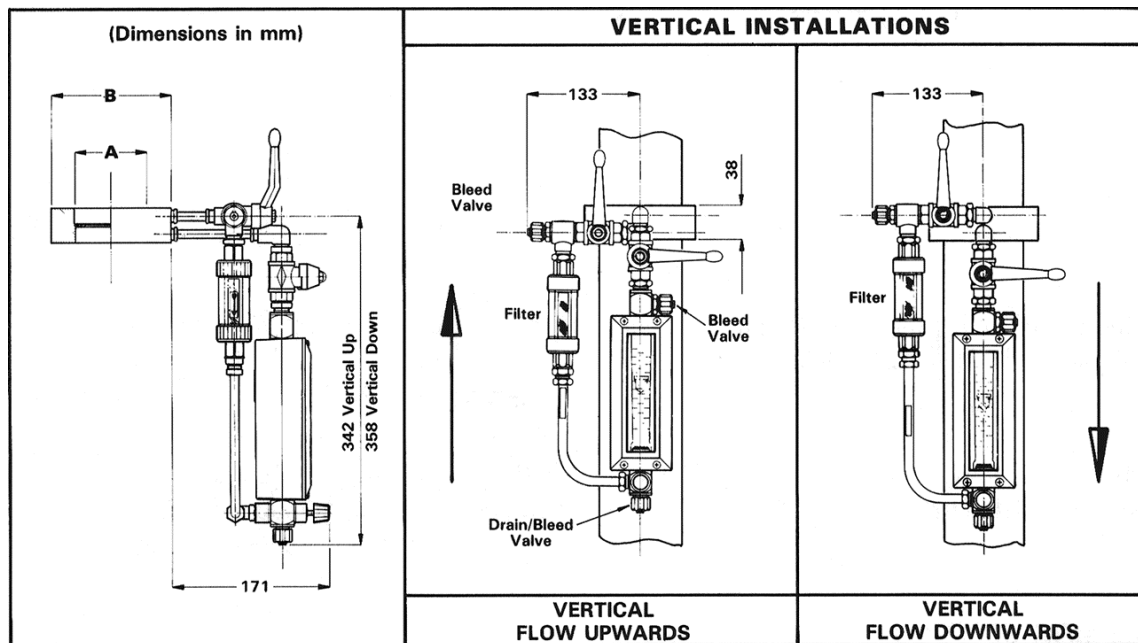
- Shunt orifice flowmeter suitable for installation in horizontal pipelines
- Alternative pipe sections for installations in vertical up or down flow lines
- Spare glass indicator tube as required by LPCB
- Installation and Operation Manual OMM 1001.

SHUNT GAPMETER TYPE SGUV MK2  
LPCB APPROVED DIRECT-READING FLOWMETER FOR WATER

OVERALL DIMENSIONS AND INSTALLATION ARRANGEMENTS



DIMENSION 'A' = PIPE SIZE (50, 80, 100, 150 or 200mm)  
DIMENSION 'B' = FLANGE BOLT P.C.D. MINUS BOLT DIAMETER



For more detailed Dimensions, Certified drawings, Operation, Installation and Maintenance Instructions and recommended Spares etc, refer to Operation and Maintenance Manual OMM 1001.