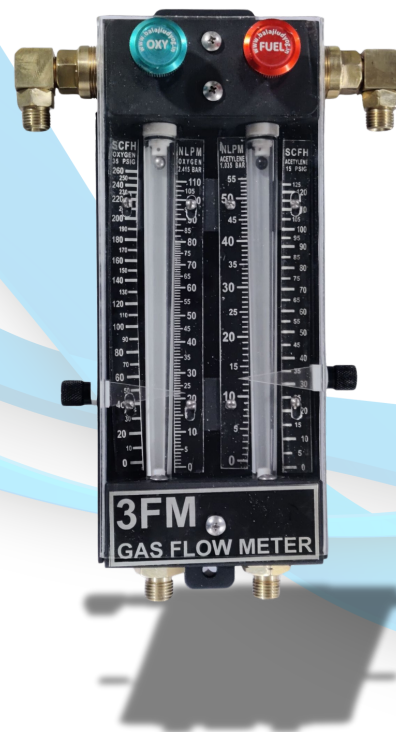


BU BALAJI UDYOG

MANUFACTURER OF
METAL SPRAY EQUIPMENT & BLASTING ACCESSORIES

3GFM Flowmeter Product Boucher

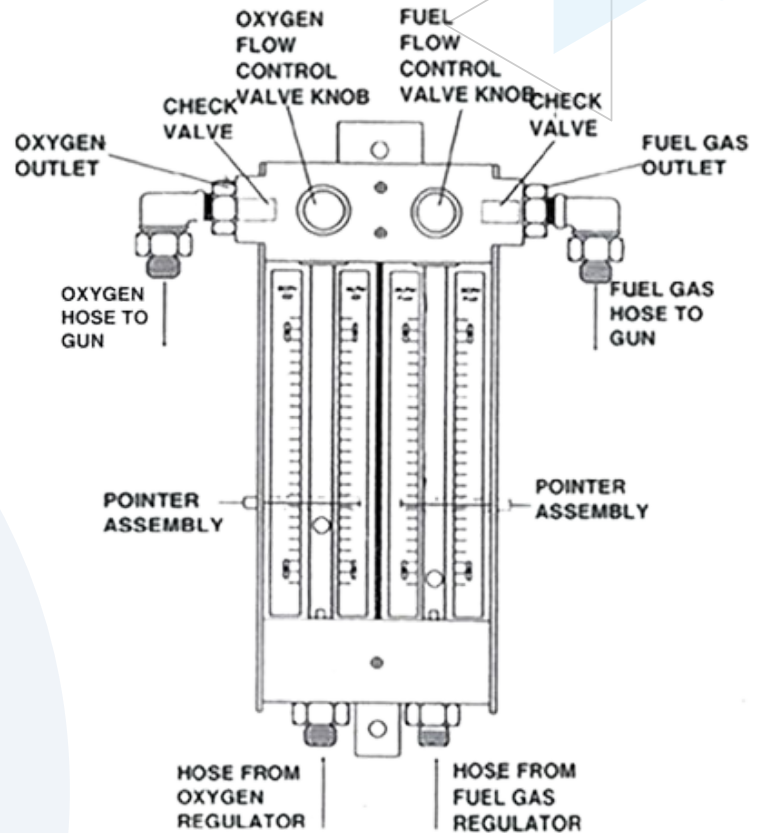


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1 Overview

1.1 Product Description



3GFM Flowmeter

GENERAL

The BU 3GFM Gas Flow meter is dual section precision instrument for regulating and measuring the flow of oxygen and fuel gas to a combustion flame spray gun. The flow meter, connected between the gas supply and the gun, is a reliable indicator of gas flow, to warn of obstructions or leakage in the gas lines and an aid to coating quality. The gases used for flame spraying are usually supplied from standard compressed gas cylinders or in plant pipe lines. For heavy duty service, it is customary to manifold several cylinders together.

Regulators are required to reduce the high gas pressure in the cylinder to the lower gas pressure required for flame spray operation. BU has regulators which are for flame spray use.

The gauge on a pressure regulator indicates only gas pressure, not gas flow. Gas leaks or obstructions (that develop in the gas passages) can cause considerable change in gas flow without noticeably changing pressure readings.

GAS FLOW INFORMATION

The 2GFM Gas Flowmeter Spraying Tables are the primary source of information on gas flow parameters for the 3GFM Gas Flowmeter. Refer also to the Comparison Data Charts in Section 9 of these Instructions to convert the 2GFM readings, expressed in gas flowmeter units, into 3GFM readings, expressed in standard cubic feet per hour (SCFH) or normal liters per minute (NLPM) for both oxygen and fuel gas.

ADJUSTING FOR SPECIFIC GRAVITY OF FUEL GAS

The 3GFM Gas Flowmeter settings are based on the use of acetylene as the fuel gas. When a fuel gas other than acetylene is used, the flowmeter pointer settings must be adjusted to account for the difference in specific gravity. Proceed as follows:-

Set The Initial Flow Values

1. On the flowmeter, fully open the two gas flow control valves.
2. At the gas takes, adjust the pressure regulators to obtain the pressure required from the 2GFM spraying tables for the material to be sprayed.
3. Light the gun and adjust the needle valves on the 3GFM Flowmeter as necessary to maintain the desired gas flowmeter readings.
4. Verify pressure at the gas tanks and adjust regulators after adjusting flowmeter needle valves.

Apply the correction factor for fuel gas specific gravity

5. Multiply the fuel gas flow value at the flowmeter by the appropriate specific-gravity correction factor. This will provide flow values corrected for specific gravity.

Fuel Gas	Multiplier (SGx/SGa)
Propane	1.233
Acetylene	1.000
Hydrogen	0.263
Natural Gas	0.806

Gas flow formula: $SCFH \text{ fuel gas} = SCFG \text{ acetylene} \times (SGx/SGa)$

Where: SGx/SGa = specific gravity ratio of fuel gas to acetylene

FUEL GAS FLOW CORRECTION FACTORS FOR SPECIFIC GRAVITY

PSIG	Bars	Correction Factor
0	0	0.55
5	0.345	0.63
10	0.690	0.71
15	1.035	0.79
20	1.380	0.85
25	1.725	0.90
30	2.070	0.96
35	2.415	1.00
40	2.760	1.06
45	3.105	1.10
50	3.450	1.50

OXYGEN FLOW DATA CORRECTION FACTORS FOR PRESSURE

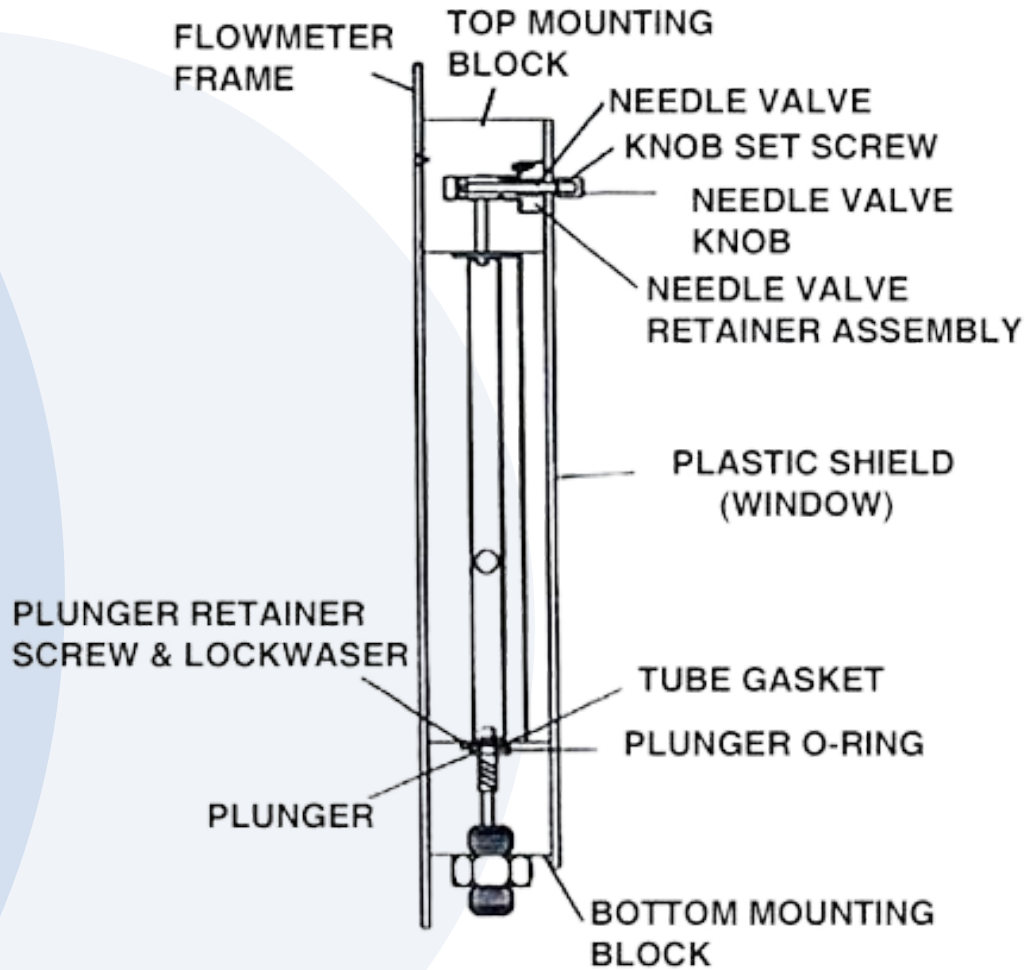
Correcting flow data for acetylene pressure

The correction factor (multiplier) applied to initial flow value when acetylene pressure is other than 15 PSIG (1.035 bars). The resulting information is helpful in assessing the amount of acetylene used in a given operation.

PSIG	Bars	Correction Factor
0	0	0.69
5	0.345	0.80
10	0.690	0.89
15	1.035	1.00
20	1.380	1.07
25	1.725	1.14

ACETYLENE FLOW DATA CORRECTION FACTORS FOR PRESSURE

3GFM Flowmeter Side View With Part Name



3GFM Flowmeter

3GFM Flowmeter Side View With Part Number

