



# MULTI-TUBE FLOWMETER BANK

## FUNCTION

The Flow Head incorporates the following functions :

- Gas indexed pneumatic inlet ports
- N<sub>2</sub>O gas flow cut off in the event of oxygen failure
- Flow control needle valves
- N<sub>2</sub>O/O<sub>2</sub> flow ratio hypoxic mixture prevention proportioning system
- Color coded, marked specific labels for flow tubes and flow control valves
- Gas mixing chamber, mixed gas outlet



## GENERAL OPERATION

The Flow Head integrates O<sub>2</sub>, N<sub>2</sub>O and Air channels (the N<sub>2</sub>O and Air channels are optional).

The O<sub>2</sub> Air and N<sub>2</sub>O needle valves gas supply pressure is externally regulated to 400Kpa±10Kpa as per standard.

The N<sub>2</sub>O channel incorporates a pressure cut-off valve. The O<sub>2</sub> supply pressure in the circuit controls the output pressure of the pressure cut-off valve. Under all conditions of operation, the N<sub>2</sub>O flow shall reach zero before the O<sub>2</sub> flow. In this flow head the N<sub>2</sub>O pressure switch shall cut off the flow of N<sub>2</sub>O before the O<sub>2</sub> pressure drops below 50±15Kpa.

## PERFORMANCE STANDARDS

Standard flow conditions defined at 20<sup>0</sup>C, 101.3Kpa, (760mmHg)

Conforms to ISO 5358 requirements

## Flow Tubes

- Flow Tubes are calibrated for discharge into an ambient atmosphere of 101.3Kpa at an operating temperature of 20<sup>0</sup>C.
- Each flow tube shall be calibrated to accuracy of ±10% of reading, or better.
- Flow tubes withstand 690Kpa internal pressure without breaking.

## Flow Control Valves

- Anti-clockwise rotation shall cause an increase in flow.
- Flow control knob are color coded and touch coded. Smooth and precise rotation ensures accurate flow setting.

## FLOW CAPACITY OPTIONS

Gas	Oxygen				AIR		Nitrous Oxide			
Min. Flow LPM	1	1.2	1.5	2	1	1.5	1	1.2	1.5	2
Max. Flow LPM	10	12	15	20	10	15	10	12	15	20

## PROPORTIONING SYSTEM %OXYGEN IN MIXED GAS TOTAL FLOW

Total Flow Below 1 L/min.	Total Flow 1 L/min. & above
Min. 21%	21% to 33%

## PRESSURE CUT-OFF VALVE

N<sub>2</sub>O regulated pressure shall drop with falling of O<sub>2</sub> supply pressure and shall progressively reduce flow of this gas while maintaining the proportion of O<sub>2</sub> (22% min.) until O<sub>2</sub> pressure falls to 50±15Kpa at which point the supply of N<sub>2</sub>O shall be cut off.

The only means of restoring N<sub>2</sub>O flow after O<sub>2</sub> supply failure (O<sub>2</sub> pressure below 50±15Kpa) shall be the restoration of O<sub>2</sub> pressure.

## ASSEMBLY

Leakage from atmosphere shall not exceed 10Sml/min. when a vacuum of 80cm H<sub>2</sub>O is applied to all internal.

## MATERIALS

All wetted material are compatible with all gases used and all anaesthetic agents.

Equipment complies with RoHS requirements.



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