

# Foam Proportioning



Fire Engineering  
Pty Limited

## In-Line Balance Pressure Proportioners

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### Description

There are a number of implementations of balanced proportioning systems. These systems use a venturi device that is a variant of the line proportioner. The venturi produces only a moderate low-pressure zone and the pressure reduction in the proportioner is proportional to the flow through the proportioner. If the foam concentrate is supplied to the proportioner at the same pressure as the water then the proportioning rate is constant over a wide range of flows. Turn down ratios of 7 to 10 are possible with these systems.

Bladder tank systems use the water from the water supply to pressurise a bladder containing foam concentrate. The bladder tank system naturally balances the water and foam concentrate pressures. This method is relatively low cost but refilling the system is quite difficult making them effectively one shot systems in an emergency.



Pumped systems use a foam concentrate pump to supply the foam concentrate and a double acting control valve to regulate the foam concentrate supply pressure to the water supply pressure. Pumped systems are commonly used for large installations where one proportioning pump unit can be used for many different foam systems. Pressure balancing can be done at the pump (surplus systems) or at the proportioner (ILBP systems).

The difference in the implementation of the ILBP proportioning method comes in the way the foam concentrate is supplied and how the pressure balance is maintained. With ILBP proportioners foam concentrate is supplied to the proportioner by the foam pump at a pressure greater than the maximum water supply pressure by about 1 Bar and the pressure balance is maintained by the balance valve built into the proportioner.

The Orion I-BVW series balanced pressure proportioners are available in 65, 80, 100, 150 and 200mm sizes. The standard proportioner is compact, economical and suited to most applications. The larger 'wafer' type proportioners complement our range of smaller threaded proportioners. The proportioners are fitted with balance valves for use as In-Line Balanced Pressure Proportioners.

This style of proportioner is particularly useful for centralised pumping systems where many different risks are protected.

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### ORION FIRE ENGINEERING PTY LIMITED

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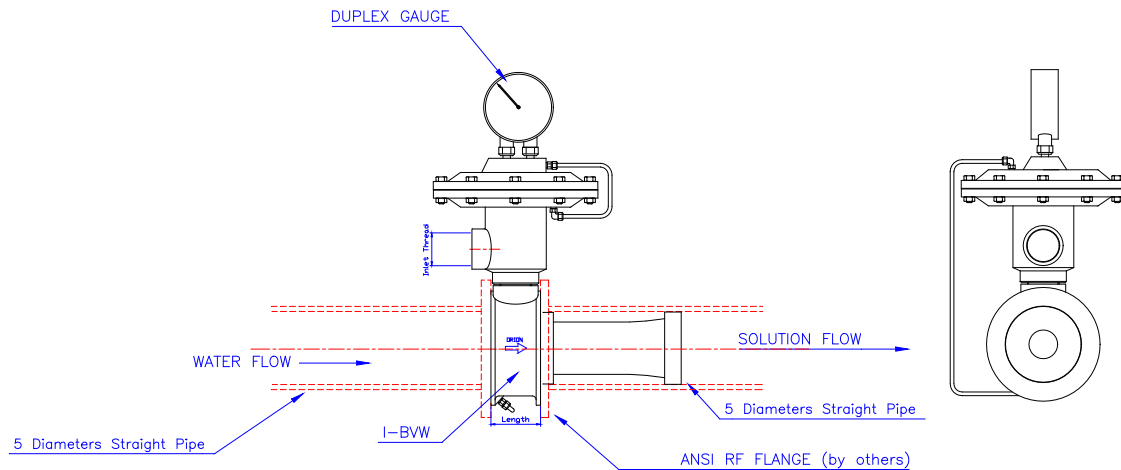
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## Materials of Construction

Standard proportioners are manufactured from gunmetal, alloy C83600 per AS 1565. We can also manufacture our proportioners from Aluminium Bronze for harsh environments.

## Technical Specifications



MODEL	Length mm	Foam Inlet Thread mm	Weight kg
65mm ILBP65T-tS-xg	230	25mm BSP/NPT	20
80mm ILBP80W-tS-xg	65	40mm BSP/NPT	25
100mm ILBP100W-tS-xg	75	40mm BSP/NPT	30
150mm ILBP150W-tS-xg	85	50mm BSP/NPT	40
200mm ILBP200W-tS-xg	105	65mm BSP/NPT	50

Proportioners are designed to fit between ANSI #150 flanges.

MODEL	Std Flow Range lpm
65mm ILBP65T-tS-xg	200 – 1,300
80mm ILBP80W-tS-xg	265 – 1,700
100mm ILBP100W-tS-xg	650 – 4,200
150mm ILBP150W-tS-xg	1,140 – 9,465
200mm ILBP200W-tS-xg	3,230 – 18,925

Model #'s: Replace t with B for BSP or N for NPT inlet, replace x with proportioning rate, replace g with S for AFFF, F for Fluoroprotein foam and P for ARAFFF.

Pressure loss through the proportioners is 100 kPa at maximum flow.

Models are fitted with a diffuser for optimum performance.

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