

# Balance Valves

## Angus Balanced Pressure Foam Proportioners (BPPs)

- Tough diaphragm actuated piston valve covers widely varying flow demands
- Excellent accuracy and reliable performance year-round
- Duplex gauge confirms correct functioning at all times
- High corrosion resistance for severe environments



Angus Balance Valves (BVs) provide versatile foam proportioning of newtonian and shear-thinning concentrates across a wide and varying range of foam solution demand, to deliver accurate performance over a range of changing flow and pressure conditions.

### Responsive wide diaphragm

They adjust the supply pressure of foam concentrate to ensure it is accurately balanced with the water pressure at the BPP inlet, to delivery responsive, reliable and accurate proportioning to the whole foam system. As such the Balance valve-BPP combination forms the 'heart' of any variable foam system design, fed using an atmospheric storage tank, foam pump and ancillary pipework and valving.

### Flexible proportioning options

Angus BVs use a large diameter tough re-inforced diaphragm actuating a piston valve with duplex pressure gauge fitted as standard. This provides increased accuracy and visual confirmation the unit (and hence the proportioning system) is functioning correctly at all times, while delivering performance reliability over a wide range of concentrate operating pressures (between 4 and 20 bar g.) and system operating conditions year-round.

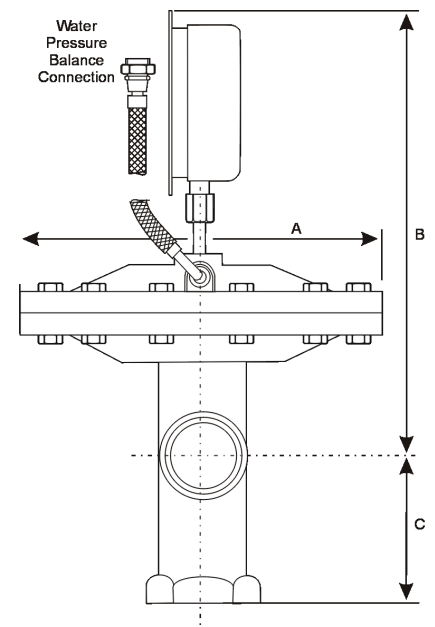
### Upright orientation assists gravity

Functioning in any orientation, it is recommended balance valves be installed in the upright position wherever possible to allow gravity to assist the mechanism in draining concentrate when not in use so minimising the risk of drying out, particularly relevant in hot climates

Providing Balance Valves and BPPs as modular components allows the system design engineer to select individual units best suited to their specific applications.

Alternatively, Angus Fire can provide fully assembled and tested, self-contained skid units, comprising Balance Valve and BPP combinations with reliable foam pump and all necessary ancillary equipment, along with suitable foam concentrate tanks, auxiliary power units in modular formats for maximum flexibility – full details to meet your site requirements on request.

Typical applications include centralised foam proportioning systems feeding a number of smaller foam delivery systems, which may be operating individually, in groups or all together, providing maximum flexibility, reliability and cost-effectiveness.

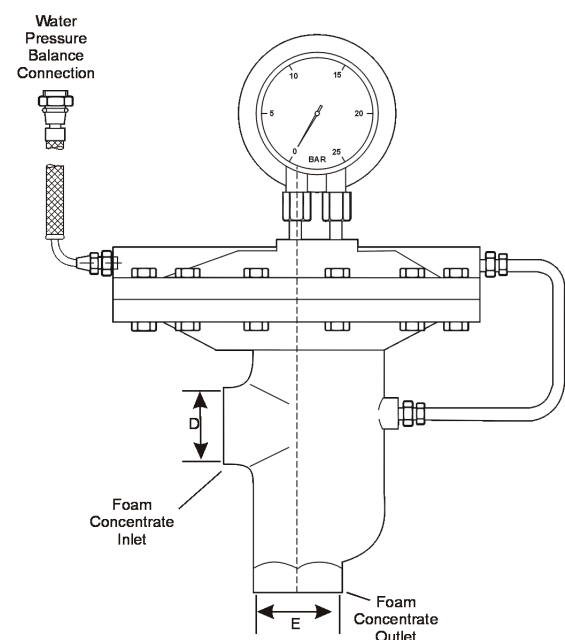


### Approvals

Underwriters Laboratories Inc. :

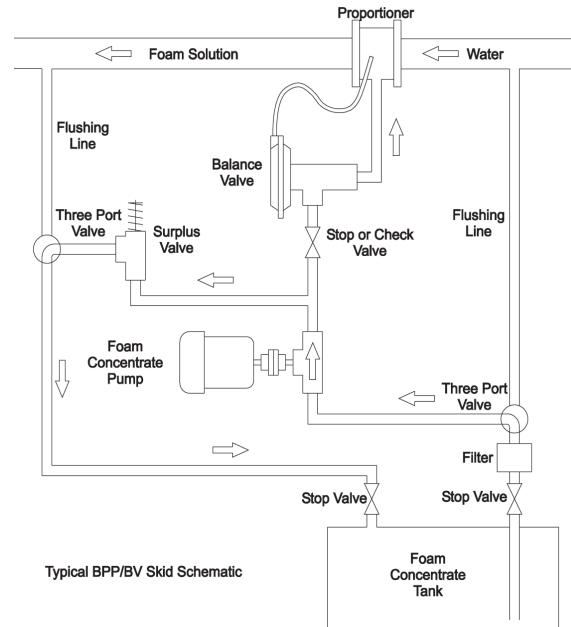
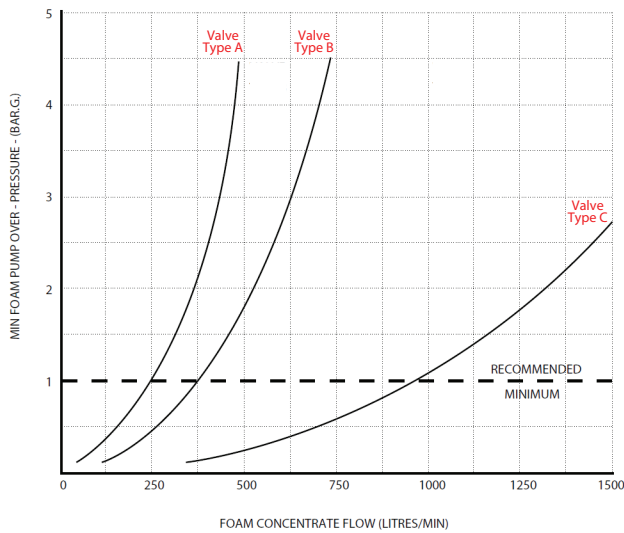
Type A with Model BPP-80

Balanced Pressure Proportioner



# Balance Valves

## Angus Balanced Pressure Foam Proportioners (BPPs)



### Valve selection

Three Balance valve sizes (A, B or C) are available dependent on required foam concentrate flows up to 1,500l/min maximum (Valve C). Selection of the appropriate Balance Valve depends on the operating conditions. It is necessary to have full performance details of the foam concentrate pump (minimum overpressure 1 bar g. required at maximum concentrate flow - superimposed on the graph overleaf). Using the graph, locate the operating point of maximum foam concentrate flow rate and minimum over-pressure (recommended minimum 1 bar g.). The Balance Valve curve to the right of this operating point will be the minimum size suitable for your specific application.

Dimensions		TYPE A	TYPE B	TYPE C
Dimension	A (mm)	260 dia.	320 dia.	320 dia.
	B (mm)	300	315	325
	C (mm)	114	130	180
	D (mm)	1½" BSP (F)	2" BSP (F)	3" BSP (F)
	E (mm)	1½" BSP (F)	2" BSP (F)	3" BSP (F)
	Water Pressure Balance Pipe Length (mm)	900	900	900
	Water Pressure Balance Pipe	½" BSP	½" BSP (M)	½" BSP
	Operating Pressure Range	5 - 18 bar	5 - 18 bar	5 - 18 bar

Construction				
Materials	Body	Gunmetal LG4		
	Diaphragm	Neoprene rubber/nylon		
	Piston Valve	Stainless steel 316S16		
	Water Pressure Balance Pipe	Stainless steel 316S16/PTFE		
Finish		Natural		
Approx Weight		20.5 kg	38.5 kg	53 kg