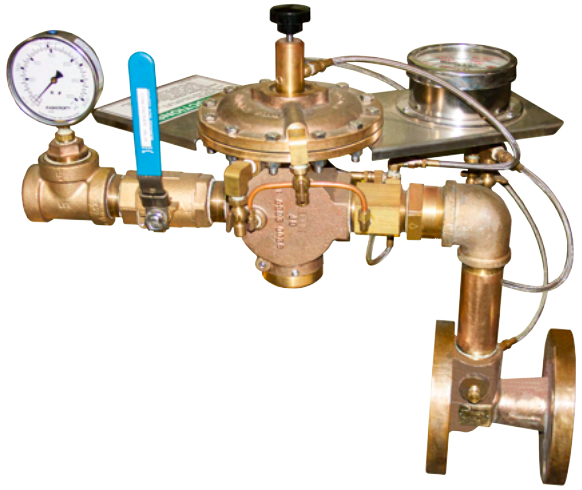
FLANGE STYLE ILBP
PROPORTIONING MODULES

NPR200

Approvals: UL, ULC

- Zone Specific Foam Proportioning Device
- Seawater Compatible
- Field Adjustable Ratio Controller
- Proportioning Range 70 - 5000 GPM (265-18927 LPM)
- Seawater Compatible
- 1%, 3%, 6% Proportioning



Description

The In-Line Balanced Pressure Proportioning Module is used in ILBP Proportioning Systems to provide accurate proportioning at multiple locations remote from the foam concentrate pump system and storage tank. The modules are designed with (2) 150 # flanges which allow connection directly into the system water main piping. A typical ILBP Proportioning Module consists of a flanged style ratio controller, diaphragm valve with manual override, duplex pressure gauge, manual ball valve and foam concentrate inlet pressure gauge. All components are factory assembled using corrosion resistant materials ready for installation into the customers water supply main. National Foam ILBP Proportioning Modules are capable of providing foam protection to all types of hazards on land and are also excellent for various marine applications.

The ILBP Proportioning Module automatically and accurately proportions foam concentrate over the proportioner flow range, regardless of pressure, without manual adjustments. Proper proportioning is achieved simply by maintaining identical water and foam concentrate pressures at the respective inlets of the ratio controller. Foam concentrate is supplied to the ILBP Proportioning Module, at a constant pressure, from the foam concentrate pump system.

The diaphragm balancing valve automatically adjusts the foam concentrate pressure to correspond to the water pressure. A duplex gauge monitors balancing of the foam concentrate and water pressures at the ratio controller and also allows the system to be manually balanced in the event of diaphragm valve failure by utilizing the manual override capability of the diaphragm valve.

Features

- May be used with either fresh or salt water
- All foam concentrate valves, pipe and fittings are brass for compatibility with all types of foam concentrates, better corrosion resistance and reduction of sedimentation due to internal corrosion. All manual valves are brass or bronze ball valves, which provide low loss characteristics
- Accurate proportioning over a wide flow range
- Bolts easily into Risers
- Allows for a Centralized Foam System
- Mounts in any position
- Design working pressure of 250 PSI (17 bar)
- Fits between two flanges and does not require special piping accommodations for removal after initial installation as with wafer style ratio controllers
- Available in 1%, 3% or 6% injection for specific foam concentrate proportioning needs or can be supplied with a metering valve for variable proportioning
- The foam concentrate orifice has an adjustment feature, (factory set) which allows the user to easily fine tune the foam concentrate injection percentage in the field.
- Able to be ganged together to create infinite flow ranges.
- Allows independent selection of water or foam discharge on systems with multiple discharge devices.

Applications

- Closed head foam-water sprinkler systems
- Aircraft hangars
- Flammable liquid warehouses, drum storage facilities
- Facilities requiring multiple foam injection points or risers
- Tank farms and dike protection
- Warehouses, offshore drilling rigs, fire boats
- Docks, piers
- Any application requiring choice of water or foam application at multiple points

Specifications

The In-Line Balance Pressure (ILBP) Proportioning Module shall be a complete self-contained unit designed to proportion foam concentrate, with fresh or salt water, at the required percentage of concentration over the entire flow range of the ratio controller. See chart for appropriate flow range of each size proportioner. Foam concentrate shall be supplied to the module from a remote source with a constant inlet pressure which exceeds the water pressure at the proportioner inlet by 25 to 30 PSI. The In-Line Balance Pressure (ILBP)

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Specifications (cont.)

Proportioning Module shall include all piping, valves and fittings necessary to comprise a complete foam proportioning unit and shall be factory assembled using corrosion resistant materials ready for installation into the customers water supply main. The assembled module shall be UL Listed and shall be rated for a working pressure of 250 PSI (17 bar).

ILBP Proportioning Modules are available in sizes from 3" through 8" and shall consist of a cast bronze, flanged style ratio controller (modified venturi proportioner), with 150 Lb. flat face flanged connections and a foam concentrate orifice adjustment feature, factory set, which allows the user to easily fine tune the foam concentrate injection percentage in the field. A pressure reducing control type diaphragm valve, constructed of a brass body and diaphragm chamber with reinforced Buna-N diaphragm and stainless steel internals, shall be provided to automatically adjust the foam concentrate pressure to correspond to the water pressure. Balancing shall be accomplished by sensing the water and foam concentrate pressures at the inlet to the ratio controller and adjusting the diaphragm valve opening, to maintain the foam concentrate at the same pressure as the water. Teflon tubing, with stainless steel outer braid, shall be used for all pressure sensing lines. The diaphragm valve shall be provided with a manual override feature, which locks the diaphragm valve in the open position. A full port brass ball valve shall be installed in the foam concentrate piping for manual shutoff of the foam concentrate supply to the proportioner and also to allow manual regulation of the foam concentrate in the event of the diaphragm valve failure. A duplex gauge shall be provided to verify proper balance of the foam concentrate and water pressures at the ratio controller and also to allow the system to be manually balanced. A pressure gauge shall be provided to verify proper foam concentrate inlet pressure. The foam concentrate piping shall be schedule 40, brass pipe with threaded brass fittings and shall terminate in 1-1/2" FNPT (3 & 4" modules) or 2" FNPT (6 & 8" modules) inlet connections. The 6" module can also be provided with 1-1/2" foam concentrate piping in lieu of the standard 2" when using 3% foam concentrates.

Approvals and Listings

- Underwriters Laboratories, Inc. (UL Listed)
- Underwriters Laboratories, Canada. (ULC Listed)

Technical Data

Ratio Controller:
Cast bronze, 150# FF flanged connections

Piping:
Brass, Schedule 40, Screwed couplings

Manual Valves:
Ball valve , bronze body, & brass or chrome plated brass ball, 400# WOG

Diaphragm Valve:
Brass body with Stainless steel internals, Reinforced Buna-N diaphragm

Tubing:
Teflon with stainless steel overbraid

Hardware:
Stainless steel

Duplex Gauge:
Stainless steel case, 4-1/2" dial, 400 PSI (27.6 Bar) range [figure intervals 50 PSI (3.4 Bar), small graduations 5 PSI (0.3 Bar)], ¼" CBM connections, English & Metric, phosphor bronze bourdon tube, 1% accuracy

Pressure Gauge:
Stainless steel case, 3-1/2" dial, 300 PSI (20.7 Bar) range [figure intervals 50 PSI(3.4 Bar), small graduations 5 PSI (0.3 Bar)], ¼" LM connections, English & Metric, phosphor bronze bourdon tube, 1% accuracy

Working Pressure:
200 PSI (13.8 Bar)

Finish:
Natural

Options

- Special Finishes
- Metering Valves

NOM. PIPE SIZE	*PROPORTIONING RANGE - GPM (LPM)		TABLE OF DIMENSIONS INCHES (MILLIMETERS)							
	MIN	MAX	A	B	C	D	E	F	G	H
3	70 (265)	730 (2763)	16-1/4 (413)	2 (51)	6-1/2 (165)	3" 150# FLAT FACE	20-1/2 (521)	8 (203)	12 (305)	1-1/2 NPT
4	60 (227)	1606 (6079)	15-1/4 (387)	3 (76)	10 (254)	4" 150# FLAT FACE	22 (559)	9-1/2 (241)	12 (305)	1-1/2 NPT
6	106 (401)	3298 (12484)	15-3/16 (386)	3-1/16 (78)	12-3/4 (324)	6" 150# FLAT FACE	23-5/8 (600)	11 (279)	12 (305)	1-1/2 NPT
8	760 (2877)	5308 (20093)	18-1/4 (464)	3-1/2 (89)	13-1/2 (343)	8" 150# FLAT FACE	26-1/4 (667)	12-3/4 (324)	12-3/4 (324)	2 NPT

* Represents the overall flow range for all foam concentrates listed with respective ratio controller. Refer to UL directory for specific flow range for each foam concentrate.

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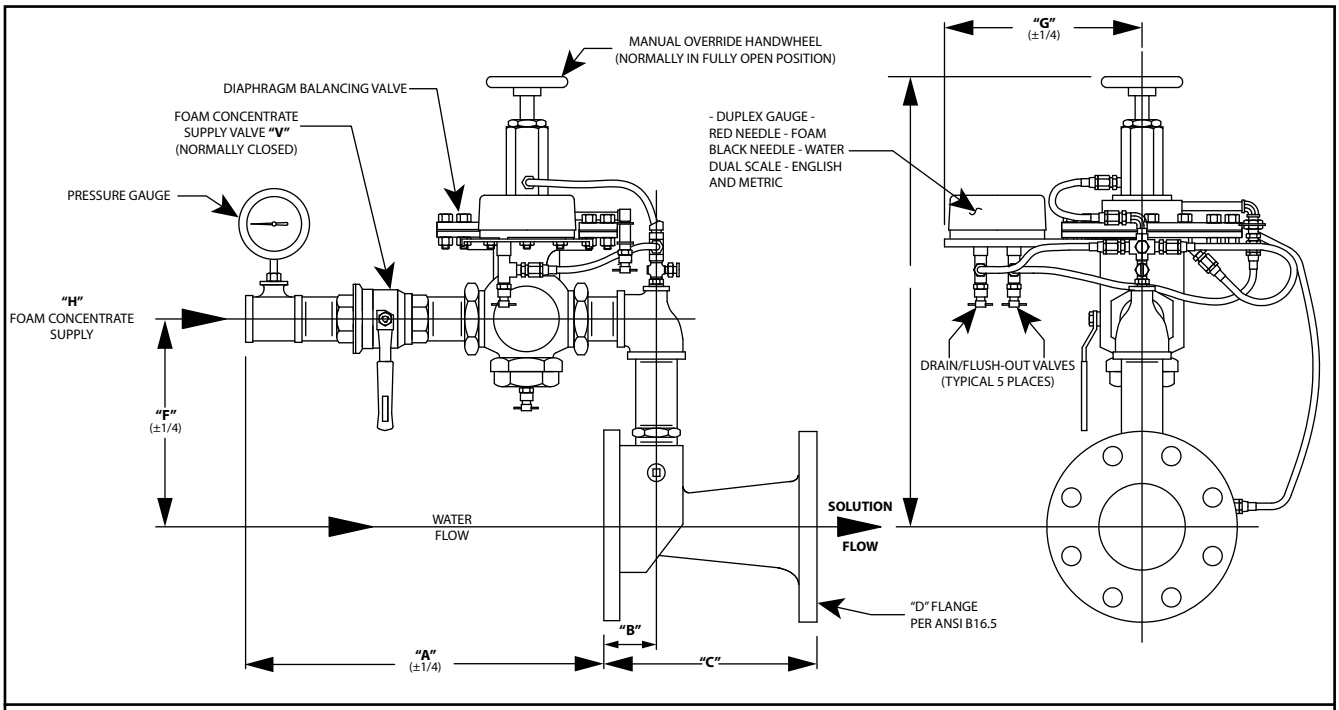

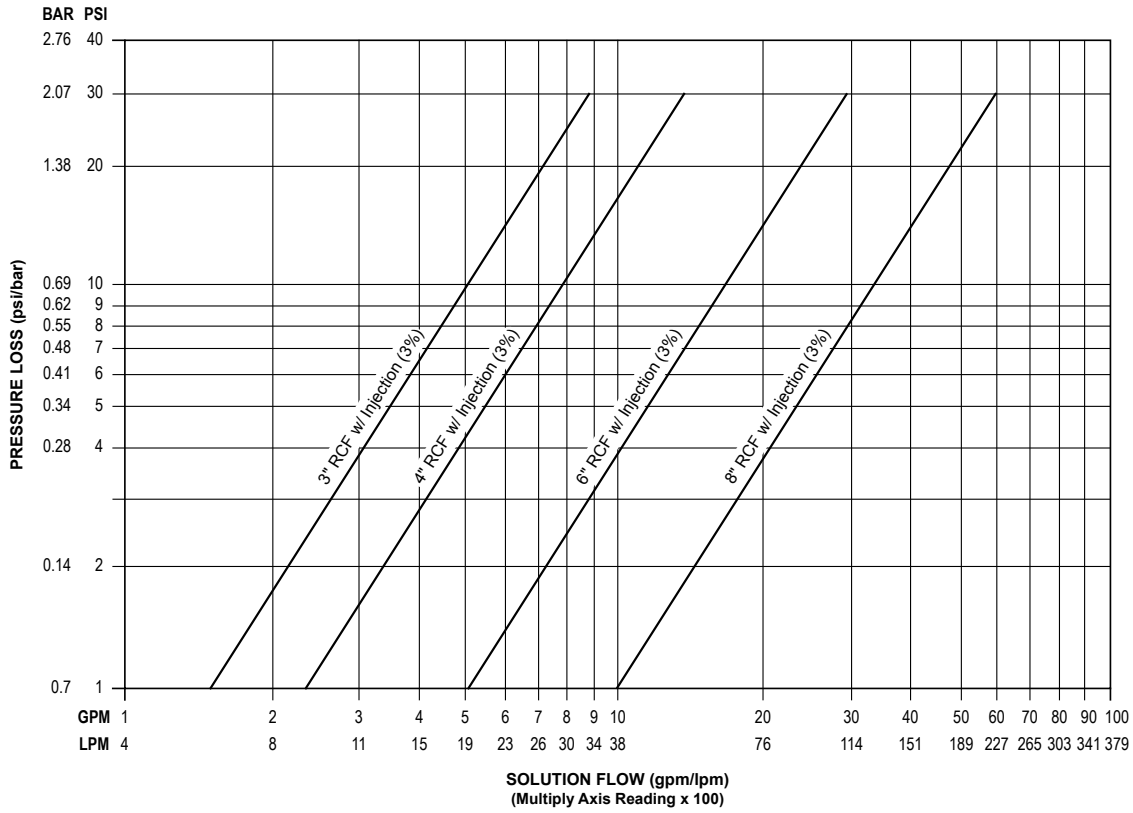

Ratio Controller For Balanced Pressure Proportioners Pressure Loss Performance Data

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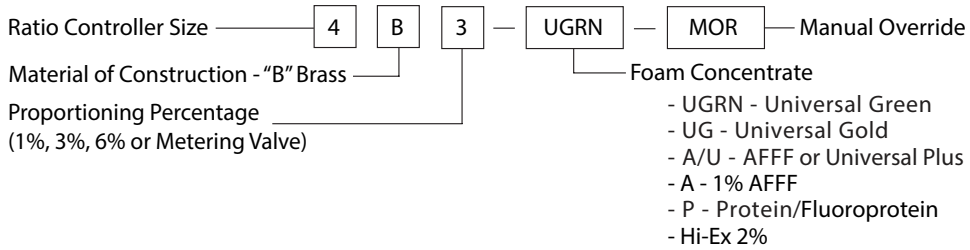
ORDERING INFORMATION

				Weight		Shipping	
Size	%	Part #	Model #	LBS	Kgs	Ft^3	M^3
3	1%	1233-9002-6	3B 1-A-MOR	90	41	6.2	0.18
3	3%	1233-9002-7	3B 3-P-MOR	90	41	6.2	0.18
3	3%	1233-9003-0	3B 3-A/U-MOR	90	41	6.2	0.18
3	6%	1233-9003-6	3B 6-A/U-MOR	90	41	6.2	0.18
3	3%	1233-9003-7	3B 3-UG-MOR	90	41	6.2	0.18
3	1, 3, 6%	1233-9003-8	3B M-MOR	90	41	6.2	0.18
3	3%	1233-9003-5	3B 3-UGRN-MOR	90	41	6.2	0.18
4	1%	1233-9005-0	4B 1-A-MOR	110	50	7.4	0.21
4	3%	1233-9005-1	4B 3-P-MOR	110	50	7.4	0.21
4	3%	1233-9005-4	4B 3-A/U-MOR	110	50	7.4	0.21
4	6%	1233-9006-0	4B 6-A/U-MOR	110	50	7.4	0.21
4	3%	1233-9006-2	4B 3-UG-MOR	110	50	7.4	0.21
4	1, 3, 6%	1233-9006-1	4B M-MOR	110	50	7.4	0.21
4	3%	1233-9006-4	4B 3-UGRN-MOR	110	50	7.4	0.21
6	1, 3, 6%	1233-9007-4	6B M-MOR	145	66	8.8	0.25
6	3%	1233-9007-5	6B 3-P-MOR-1.5	145	66	8.8	0.25
6	3%	1233-9007-8	6B 3-A/U-MOR-1.5	145	66	8.8	0.25
6	1%	1233-9010-0	6B 1-A-MOR	145	66	8.8	0.25
6	3%	1233-9010-3	6B 3-P-MOR	145	66	8.8	0.25
6	3%	1233-9010-6	6B 3-A/U-MOR	145	66	8.8	0.25
6	6%	1233-9011-2	6B 6-A/U-MOR	145	66	8.8	0.25
6	3%	1233-9011-3	6B 3-UG-MOR	145	66	8.8	0.25
6	3%	1233-9011-4	6B 3-UGRN-MOR	145	66	8.8	0.25
6	2%	1233-9015-0	6B 3-Hi-Ex-MOR	145	66	8.8	0.25
8	1%	1233-9011-5	8B 1-A-MOR	220	100	12.0	0.34
8	3%	1233-9011-8	8B 3-P-MOR	220	100	12.0	0.34
8	3%	1233-9012-1	8B 3-A/U-MOR	220	100	12.0	0.34
8	6%	1233-9012-7	8B 6-A/U-MOR	220	100	12.0	0.34
8	3%	1233-9012-8	8B 3-UG-MOR	220	100	12.0	0.34
8	3%	1233-9012-9	8B 3-UGRN-MOR	220	100	12.0	0.34

MODEL NUMBER IDENTIFICATION



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