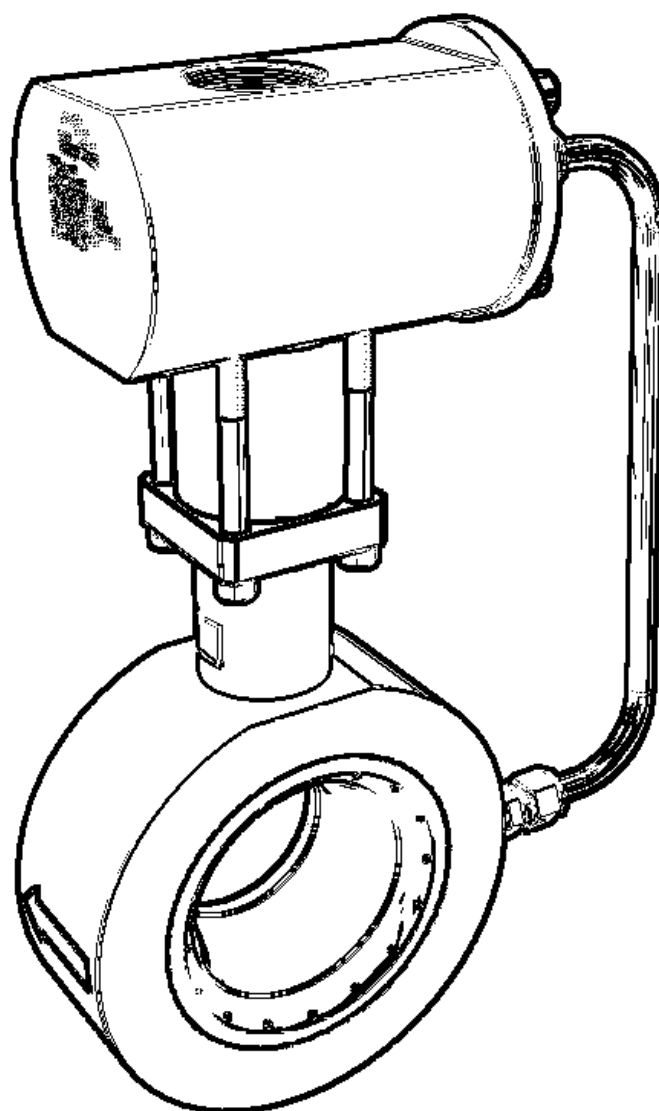


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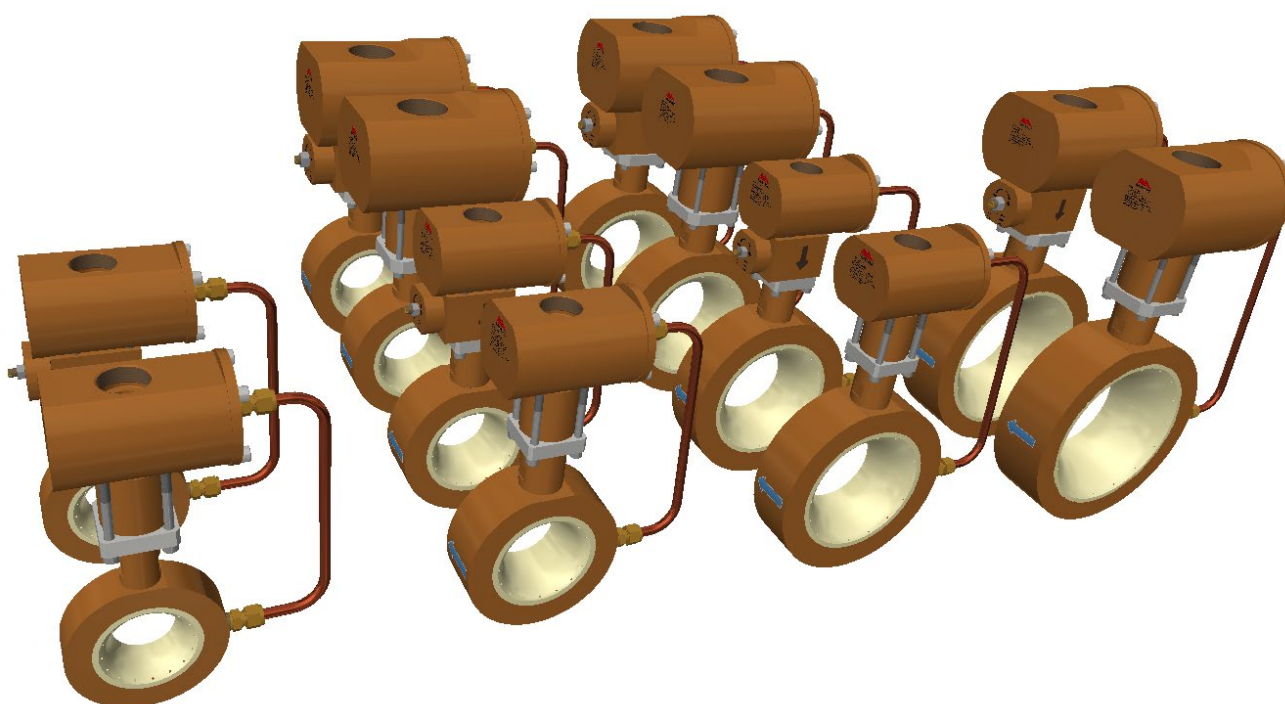
MATRE BALANCED FOAM PROPORTIONERS BP-R





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1 General product information

Matre Balanced Foam Proportioners are specially designed to induce foam concentrate into the firewater feed line. Proportioning accuracy is maintained over a wide flow range.

Matre Balanced Foam Proportioners are known for their reliability. This proportioner design is simplified to a minimum of parts. The simple and robust design make it easy to service and inspect. Water can be used instead of foam for function testing. This proportioner is available in three versions:

- with fixed insertion rate
- with manually adjustable insertion rate

2 General product features

Material	Bronze EN 1982 CC493K
Interface for water supply	ANSI 16.5 150 lb / 300 lb DIN PN10 – 40 JIS 16K / 20K
Design pressure	20 bar
Integrity test pressure	30 bar
Temperatures	Operational liquid temperatures up to 80°C and downwards to the liquid freezing point. For storage and standby the environmental temperature limitations is -40°C - +100°C.
Water pressure range	5-15 bar
Foam concentrates inlet pressure*	1-5 bar higher than the water pressure limited to 16 bar.
Insertion rate	Nominal 1% (Within 1% - 1,3%) Nominal 3% (Within 3% - 3,9%) Nominal 6% (Within 6% - 7%) (Tolerance according to NFPA 11)
Installation recommendations	The proportioner can be installed in any position. In- and outlet piping to same diameter as the proportioner Straight pipe should be 3 x DN at inlet. Outlet piping to same specification as inlet, but no requirements for straight pipe length.

** Any valves put in front of the foam inlet that have a cracking pressure or gives a significant resistance must be considered. The given minimum foam inlet pressure is at the proportioner inlet.*

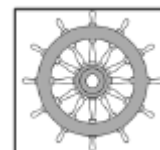
Example:

A valve with cracking pressure or resistance of 2 bar and a water pressure of 8 bar gives the equation of minimum foam pressure of $8+2+1=11$ bar. Maximum $8+2+5=15$ bar

3 Conformity and approvals

The Foam Proportioners keep the following certifications:

DNV-GL type approval	TAF0000154
Maritime Equipment Directive	MEDB000046T
CCS type approval	BG19PTB00009

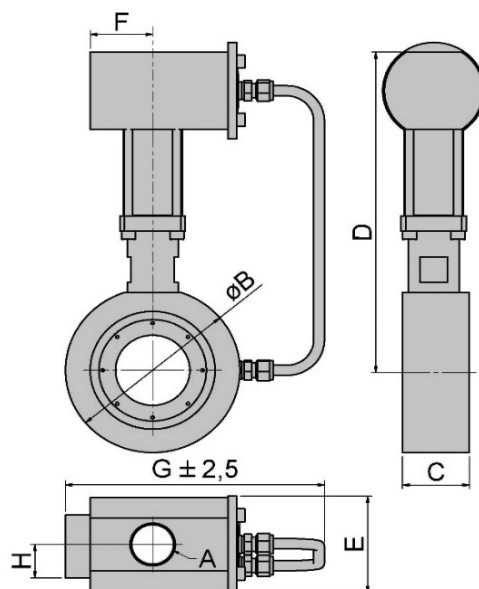




4 Dimensions and interfaces

Product dimensions and interfaces can be found in this section. The foam inlet is BSPP F. Product comes in three versions with fixed, manually adjustable, and remotely adjustable insertion rates.

FIXED INSERTION RATE VERSION



Type	Range (l/min)	Water conn.	A (Foam inlet)	øB	C	D	E	F	G	H	Wt. (kg)	Ins. rate	Item no.
BP20R	350-1200	2" ANSI DN 50 JIS 50	1 1/4"	102	37	276,5	95	58	211	20,5	10	1%	12042 ⁵
												3%	12043
												6%	12044 ¹
BP30R	1000-3800	3" ANSI DN 80 JIS 80	1 1/4"	133	37	292,5	95	58	225	20,5	11	1%	11570
					62	301	95	58	225	33	13	3%	11590
												6%	11648
BP40R	1600-6500	4" ANSI DN100 JIS 100	1 1/4"	162	62	316	95	58	241	33	15	1%	11356
			1 1/2"	162	62	351	122	70	264	33	22,5	3%	11584
												6%	11649
BP60R	3500-13500	6" ANSI DN150 JIS 150	1 1/4"	220	62	345	95	58	299	33	19	1%	11562
			1 1/2"	220	62	380	122	70	299	33	26,5	3%	11597
			2"	220	62	390	138	78	300	33	31	6%	11650 ²
BP80R	6100-23500	8" ANSI DN200 JIS 200	2"	272	82	416	138	78	351	44	38,5	1%	11644
			3"	272	82	540	205	105	379	44	64,5	3%	11645
												6%	12121
BP100R	8500-33500	10" ANSI DN250 JIS250	2"	329	82	463	138	78	351	44	45	1%	12024
												3%	12025
	8500-31000	10" ANSI DN250 JIS250	3"	329	82	573	205	105	408	44	71	6%	12008

Note 1: Minimum flowrate is 500 l/min

Note 2: Maximum flowrate is 11500 l/min

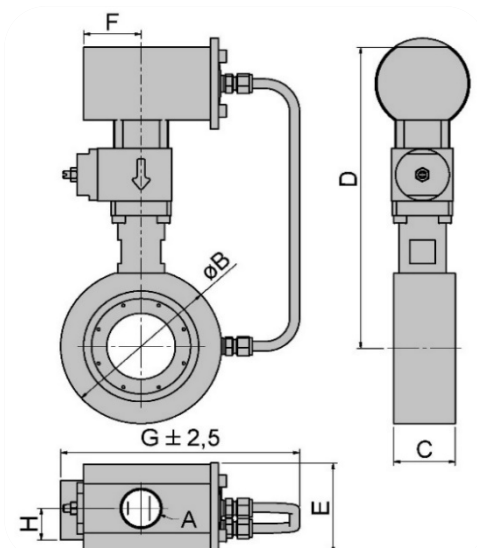
Note 5: The proportioner performance is given at 1 bar higher foam inlet pressure than water inlet pressure (ΔP). At flowrates between 350-750 l/min with ΔP higher than 1 bar the insertion ratio may exceed the tolerances at 1 % insertion rate. Contact Matre for more details.



ADJUSTABLE INSERTION RATE VERSIONS

Units with adjustable insertion rates are equipped with a screw mechanism for adjusting volume of inserted foam concentrate in field.

Available sizes are presented in the table below.



Type	Range (l/min)	Water conn.	A (Foam inlet)	øB	C	D	E	F	G	H	Wt. (kg)	Ins. rate	Item no.
BP20R	350-1200	2" ANSI DN 50 JIS 50	1 1/4"	102	37	276,5	95	58	211	20,5	11,5	1-6%	12045 ⁵
BP30R	1000-3800	3" ANSI DN 80 JIS 80	1 1/4"	133	37	292,5	95	58	225	20,5	12,5	1-3%	11591
					62	301	95	58	225	33	14	1-6%	12370
BP40R	1600-6500	4" ANSI DN100 JIS 100	1 1/4"	162	62	316	95	58	241	33	16	1-3%	11354
			1 1/2"	162	62	351	122	70	264	33	24,5	1-6%	11760
BP60R	3500-13500	6" ANSI DN150 JIS 150	1 1/2"	220	62	380	122	70	299	33	28,5	1-3%	11598
			2"	220	62	390	138	78	300	33	33	1-6%	11761 ³
BP80R	6100-23500	8" ANSI DN200 JIS 200	2"	272	82	416	138	78	351	44	40	1-3%	11638
			3"	272	82	540	205	105	379	44	70	1-6%	12122
BP100 R	8500-33500	10" ANSI DN250 JIS250	3"	329	82	573	205	105	408	44	78	1-6%	12031 ⁴

Note 3: Maximum flowrate at 6% insertion is 11500 l/min

Note 4: Maximum flowrate at 6% insertion is 31000 l/min

Note 5: The proportioner performance is given at 1 bar higher foam inlet pressure than water inlet pressure (ΔP). At flowrates between 350-750 l/min with ΔP higher than 1 bar the insertion ratio may exceed the tolerances at 1 % insertion rate. Contact Matre for more details.



5 Pressure loss

