TECHNICAL DATA

Stainless Steel Vertical & Horizontal Bladder Tank

Foam Storage Devices | Model MXC | ASME Sec. VIII Div. 1 – U-1A

1 General description

The bladder tank is a carbon steel pressure vessel containing an elastomeric bladder between the water and foam concentrate.

The bladder permits water pressure to be transferred to the foam concentrate without the two fluids mixing together.

This Technical Data Page is intended for trained experts. It contains basic information needed to use the product described. Legally binding is the product operation and maintenance manual which must be observed.

For further information, please contact the appropriate sales office in Section 5 Availability or refer to the technical documentation.

The contents of this publication are subject to modifications without notice.

Technical data can be found on the KCA website at http://www.kcantincendi.com. The website may include a more recent edition of this technical data sheet.

For further information, please contact KCA or refer to the technical documentation. The contents of this publication are subject to modifications without notice.





Images for illustration purposes only.
Standard finish is painted flame red RAL3000.
Natural finish available on special request.

2 Listings and approvals

The bladder tank is FM Approved and UL Listed as part of a fire extinguishing system combining designated foam concentrates, proportioning devices and discharge devices. Approved and Listed system components can be found at www.approvalguide.com and https://iq.ulprospector.com

- FM Approved – Low Expansion Foam Systems (FM5130)
- UL Listed – Guide GHXV.EX6015 & GHXV. EX26572 (UL162)
- CNBOP Approved. CNBOP-PIB-KOT-2024/0411-1005wydanie 1 F001/01/0924 CNBOP-PIB
- Constructed according to ASME Boiler and Pressure Vessel Code (BPVC) Sec. VIII Div. 1 with U-1A ("U" Stamp) certification process
- CE marked according to the PED Directive 2014/68/EU (Europe only)

NOTICE *Other international approval certificates may be available upon request.*

"SFFF compatible" refers to this product as being part of a SFFF Foam system that has been tested to recognised standards. Not all configurations are available. Please consult technical data and/or the Approval/Listing for usage requirements.

SFFF compatible

FM APPROVED

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3 Technical data

3.1 Construction features

- Vertical tanks on legs or horizontal tanks on saddles
- Legs and saddles are provided with ground fixing holes
- Approved system design pressure of 175 psi (12.1 bar) or 232 psi (16.0 bar)
- 100% pressure tested according to the applied design code
- Shell and heads in ASME SA240 316
- Lockable corrosion resistant brass tank trim/service ball valves (UL Listed / FM Approved)
- Inspection flange available on left or right side of horizontal tanks (left as standard)
- Machine welded circumferential and longitudinal seams for maximum quality and durability
- Welded lifting lugs to facilitate safe handling operations
- Earth lug for electrical safety
- Safety thermal valve on water side of bladder to prevent slow overpressure and relieve thermal fluctuations
- Bladder equipped with cast rubber caps to ensure water & foam integrity under constant pressure
- Bladder specifically tested for compatibility with foams shown in FM Approval and UL Listing
- Oversized to permit concentrate thermal expansion (volume expansion allowance)
- Tank equipped with inside protection at any opening to ensure no damage to the bladder
- Internal PVC foam concentrate distribution pipe ensures optimal foam concentrate usage
- Internal water distribution channel to equalize the water pressure everywhere avoiding damage to the bladder and to drain the tank during service and maintenance
- Nameplate holder to avoid undetected corrosion on the tank's shell behind the plate
- Sight tube level indicator
- External epoxy zinc rich primer with aliphatic polyurethane finish tested by FM and UL for corrosive atmosphere (salt fog)

3.2 Standard materials

Tank shell and heads:	ASME SA240 316
Bladder:	Reinforced Hypalon, polyurethane or NBR and EPDM (material used depend on tank size and foam concentrate)
Trim valves:	Stainless steel 316L
Safety thermal relief valve:	Stainless steel 316L
Pressure gauges:	Stainless steel
Level indicator:	Sight tube: PVC
Paint:	Epoxy zinc rich primer with aliphatic polyurethane finish
Standard colour:	Flame red RAL3000
Connection:	Grooved (2.5" available with 73.0 or 76.1 mm - specify upon ordering)

Table 3.2.1 - Standard materials

3.3 Standard design specifications

Design pressure:	175 psi / 12.1 bar (1.2 MPa) **or** 232 psi / 16.0 bar (1.6 MPa)
Operating temperature range*:	35 °F to 120 °F (1.7 °C to 49 °C)
Capacity:	***See tables***
Empty weight:	***See tables***
Proportioning range:	***See ratio controller, ILBP or wide range proportioner data sheet***
** Further temperature limitations come from foam concentrate and water.*	

Table 3.3.1 - Standard design specifications

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3.4 Ordering information

The following information is provided to ensure that the correct design requirements are provided during the order and manufacturing process. Mandatory information is required in every case. Optional information is required in case of special project or specification requirements. Pre-assembled bladder tank information is required when the bladder tank will be supplied pre-piped including the ratio controller.

	Ref	Criterion	Option
Mandatory information (required for quote | order processing)	1a	Configuration	a) Vertical b) Horizontal c) Twin vertical
	1b	Capacity	a) 25 to 4,000 US gallons vertical b) 50 to 5,250 US gallons horizontal (see tables for available sizes)
	1c	Design code	ASME Boiler and Pressure Vessel (BPVC) Code with U-1A Manufacturer Data Report
	1d	Standby pressure rating	a) 175 psi / 12.1 bar (1.2 MPa) b) 232 psi / 16.0 bar (1.6 MPa)
	1e	Inspection flange	a) Left b) Right (required for horizontal tanks only)
	1f	Language	Select bladder tank manual language (see ***table 12.1.2***)
Optional	2a	Design temperature	Contact technical department
	2b	Corrosion allowance	Contact technical department
	2c	Radiographic test report*	Contact technical department
	2d	Liquid penetrant test report*	Contact technical department
Pre-Assembled with ratio controller*	3a	Ratio controller size(s)	2", 2.5", 3", 4", 6", 8"
	3b	Direction of flow	a) Left to right b) Right to left (direction of flow as you face the tank)
	3c	Water line piping	a) Stainless steel
	3d	Foam line piping	a) Stainless steel
	3e	Foam concentrate type**	a) AFFF 1% Ultra LT C6 b) AFFF 3%S C6 c) ARC 3X3S C6 d) FP 3% C6 e) AFFF 3%M C6 f) AFFF 6% Ultra C6 g) LS-xMax 3% h) Enviro ARK i) Enviro USP j) Enviro AX1 1%
	3f	Concentrate control valve	Viking Halar® CCV (FM|UL) or Hydraulic ball valve

* *With additional cost. Please refer to data page **TD2.3.1.2** for full technical data on pre-assembled bladder tanks*
** *These foam concentrates have been tested for bladder compatibility as per UL162 and/or FM5130. The long term compatibility of other foam concentrates cannot be verified.*

Table 3.4.1 - Ordering information

INFORMATION

Some of the available options may be not covered by the UL Listing or FM Approval. Please always make reference to the appropriate approval directory or guides. Contact us for further assistance.

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4 Scope of delivery

Ensure that all components are complete and in good condition.
The bladder tank is supplied in or on a suitable wooden pallet skid or shipping crate in the horizontal position.
All bladder tanks have lifting lugs to allow safe maneuverability on site.
Tank is supplied empty with pre-installed bladder.
Small trim valves and contents level device are supplied pre-assembled to the tank as standard.
Safety valve supplied as standard, unmounted from tank. UV marked safety valve according to ASME BPVC Sec. VIII Div. 1 available at additional cost.
Anchor fixing bolts are not part of our supply scope.

Standard documentation	Optional documentation*
Warranty certificate	Dimensional drawings
PED Declaration of conformity	Material certificates according to ASME code specifications
Safety thermal relief valve declaration of conformity	Certificate of conformity type 2.1 to EN10204
Hydrostatic pressure test certificate	Design structural calculations
Bladder pneumatic test certificate	Spot or full radiographic examination with report (when not mandatorily required by design parameters)
Painting inspection certificate	Spare parts list
Final inspection certificate	Copy of procedure qualification record (PQR) and welding procedure specification (WPS) according to tank construction code
Operating, filling and maintenance manual (English)	Operating, filling and maintenance manual (Language)
Manufacturer data report form U-1A	
** Contact KCA for further information and price.*	

Table 4.1.1 - Documentation

5 Availability

Please contact KCA for further information.
The product is available directly from KCA and official distributors only.

6 Product variants

6.1 Options

- Pre-assembled with ratio controller and water/foam pipe work
- Flanged connections (ANSI or PN16)
- Twin tank configurations
- Special coatings for salt-water applications or harsh environmental conditions
- Nameplate in corrosion resistant material
- Increased wall thickness for corrosion allowance
- Internal coatings such as epoxy tar
- 232 psi / 16.0 bar (1.6 MPa) design pressure rating with UL Listing
- Other design pressure and seismic ratings
- Ladders | Work platform | Sunshield
- Heat tracing and/or insulation
- Bladder tank pre-installed on base frame or containerized to customer requirements
- Various colors and painting cycles with UL Listing (120-300 microns)
- Nondestructive examinations
- Factory acceptance test, notified body or third party inspections
- Special sea freight and fumigated packaging
- UV certified safety valve according to ASME BPVC Code Sec. VIII Div. 1

Please contact KCA for further details, pricing and availability.

INFORMATION

Some of the available options may be not covered by the FM Approval or the UL Listing. Please always make reference to the appropriate approval directory or guides. Contact us for further assistance.

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6.2 General bladder tank layout and P&ID

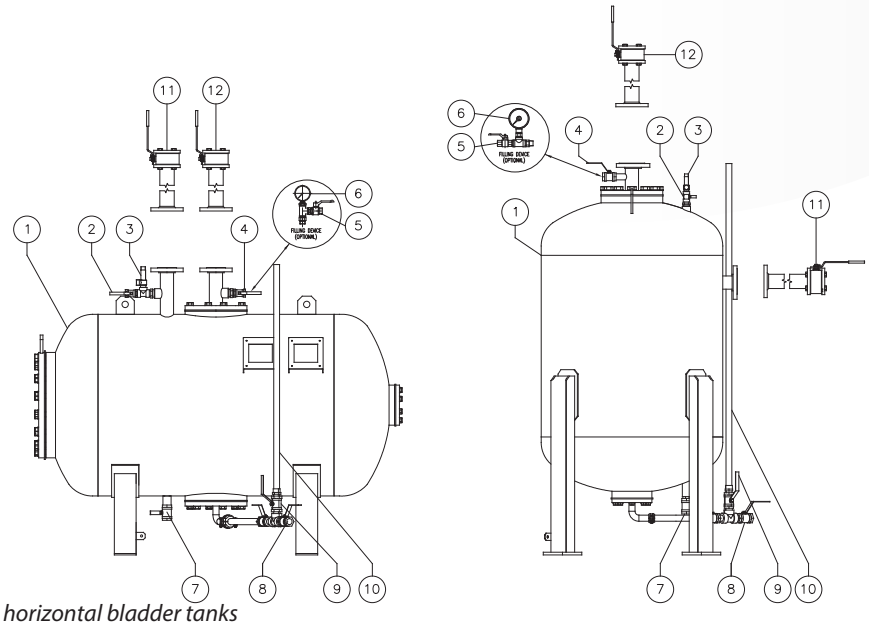


Figure 6.2.1 - Vertical and horizontal bladder tanks

Item	Description	Item	Description
1	Bladder tank	7	Water filling/drain valve (NPT)
2	Water vent valve (NPT)	8	Foam concentrate filling/drain valve (NPT)
3	Safety thermal relief valve	9	Concentrate level indicator drain valve
4	Foam concentrate vent valve (NPT)	10	Concentrate level indicator
5	Filling vent valve (optional)	11	Water shut off valve (to be ordered separately)
6	Filling pressure gauge 1-10 kpa (optional)	12	Foam concentrate shut off valve (to be ordered separately)
Note: Item 10 shown with sight tube. Level gauge also available and connected at position 10.			

Table 6.2.2 - General bladder tank layout and P&ID

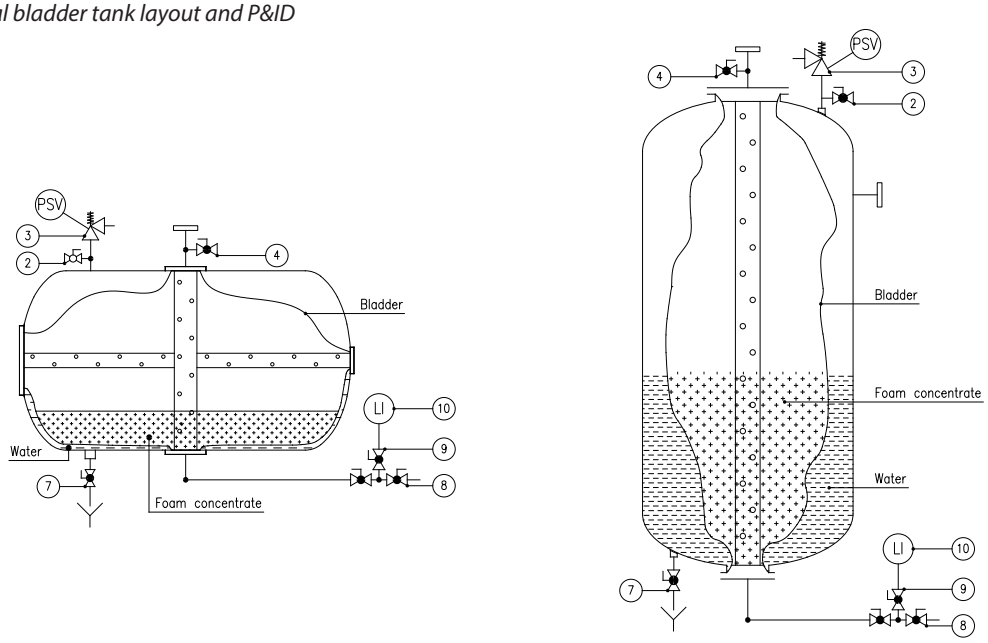


Figure 6.2.3 - P&ID

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6.3 Dimensions

Figure 6.3.1 - Vertical bladder tank: 25 to 200 US gallons

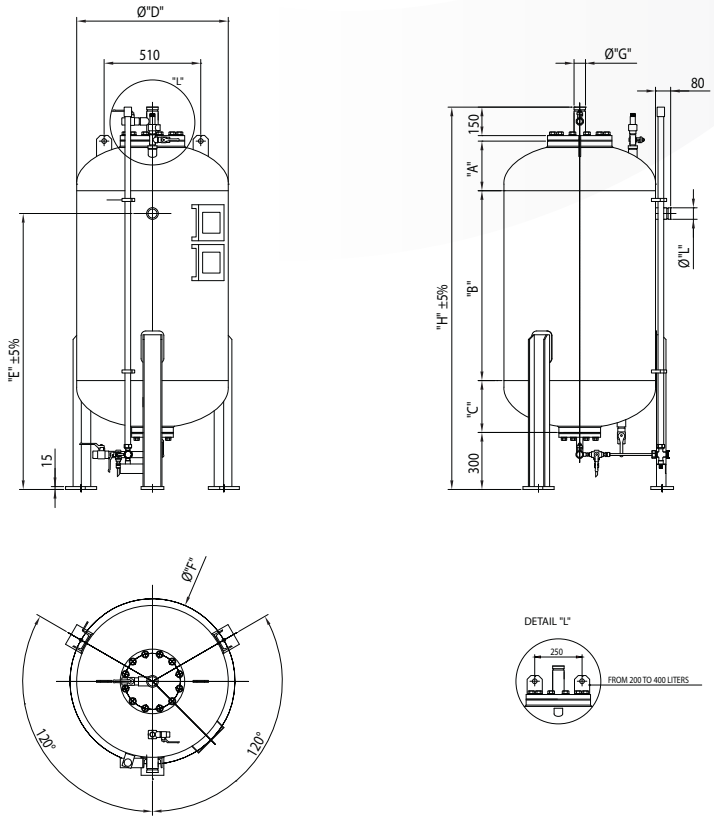
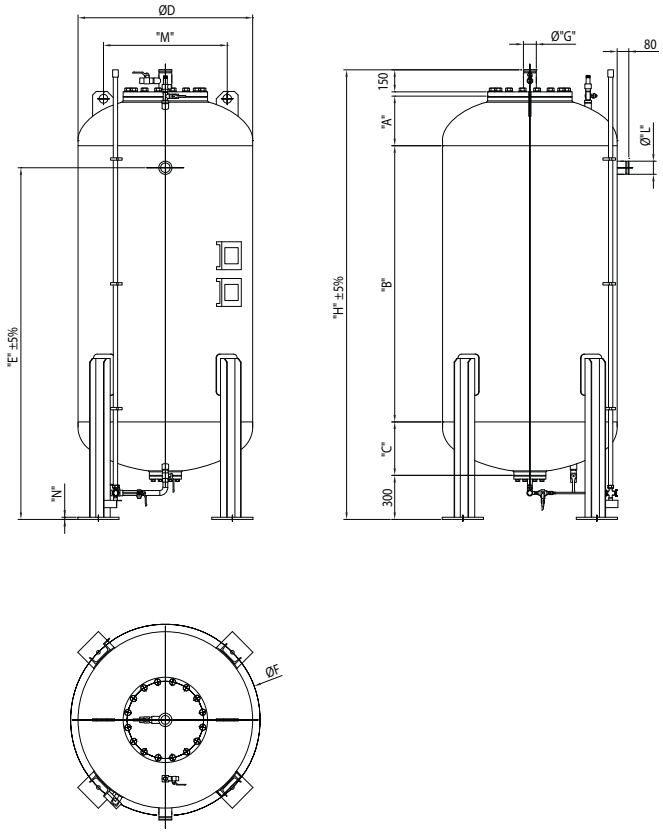


Figure 6.3.2 - Vertical bladder tank: 250 to 4,000 US gallons



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Stainless Steel Vertical & Horizontal Bladder Tank

Foam Storage Devices | Model MXC | ASME Sec. VIII Div. 1 – U-1A

Part number ASME Sec. VIII Design Code		Capacity		Weight		A	B	C	ØD	E	ØF	ØG	H	ØL	M	N
175 psi / 12.1 bar	232 psi / 16.0 bar	USG	Litres	lbs	kg	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch
						mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MXCV0025U-ST	MXCV0025U-16-ST	25	94	232	105	6.4	15.7	7.0	19.7	30.2	22.4	2	48.1	2	9.8	0.6
						163	400	178	500	768	570	50	1,221	50	250	15
MXCV0036U-ST	MXCV0036U-16-ST	36	136	324	147	6.4	23.6	7.0	19.7	38.1	22.4	2	55.9	2	9.8	0.6
						163	600	178	500	968	570	50	1,421	50	250	15
MXCV0050U-ST	MXCV0050U-16-ST	50	189	432	195	7.4	27.6	8.0	23.6	44.5	26.4	2	61.8	2	9.8	0.6
						187	700	203	600	1,130	670	50	1,570	50	250	15
MXCV0075U-ST	MXCV0075U-16-ST	75	283	473	214	7.4	35.4	8.0	23.6	44.5	26.4	2	69.7	2	9.8	0.6
						187	900	203	600	1,130	670	50	1,770	50	250	15
MXCV0100U-ST	MXCV0100U-16-ST	100	378	554	251	7.4	49.2	8.0	23.6	64.6	26.4	2	83.4	2	9.8	0.6
						187	1,250	203	600	1,640	670	50	2,120	50	250	15
MXCV0150U-ST	MXCV0150U-16-ST	150	567	893	404	10.3	39.4	10.8	31.5	57.1	34.3	2	79.4	2	20.1	0.6
						262	1000	274	800	1,450	870	50	2,016	50	510	15
MXCV0200U-ST	MXCV0200U-16-ST	200	757	985	446	10.3	51.2	10.8	31.5	57.1	34.3	2	91.2	2	20.1	0.6
						262	1,300	274	800	1,450	870	50	2,316	50	510	15
MXCV0250U-ST	MXCV0250U-16-ST	250	946	987	447	12.9	39.4	13.2	39.4	59.7	42.6	2.5	84.3	2.5	24.0	0.6
						327	1,000	336	1,000	1,516	1,082	65	2,142	65	610	15
MXCV0300U-ST	MXCV0300U-16-ST	300	1,135	1,146	519	12.9	51.2	13.2	39.4	71.5	42.6	2.5	96.1	2.5	24.0	0.6
						327	1,300	336	1,000	1,816	1,082	65	2,442	65	610	15
MXCV0350U-ST	MXCV0350U-16-ST	350	1,324	1,169	529	12.9	55.1	13.2	39.4	75.4	42.6	2.5	100.1	2.5	24.0	0.6
						327	1,400	336	1,000	1,916	1,082	65	2,542	65	610	15
MXCV0400U-ST	MXCV0400U-16-ST	400	1,514	1,208	547	12.9	65.0	13.2	39.4	85.3	42.6	2.5	109.9	2.5	24.0	0.6
						327	1,650	336	1,000	2,166	1,082	65	2,792	65	610	15
MXCV0450U-ST	MXCV0450U-16-ST	450	1,703	1,914	867	13.0	59.1	13.3	43.3	79.4	46.5	2.5	104.1	2.5	24.0	0.6
						329	1,500	337	1,100	2,017	1,181	65	2,645	65	610	15
MXCV0500U-ST	MXCV0500U-16-ST	500	1,892	2,104	953	13.0	70.9	13.3	43.3	91.2	46.5	2.5	115.9	2.5	24.0	0.6
						329	1,800	337	1,100	2,317	1,181	65	2,945	65	610	15
MXCV0600U-ST	MXCV0600U-16-ST	600	2,271	2,380	1,078	13.0	65.0	14.5	47.2	84.6	51.2	3	110.5	3	37.4	0.6
						329	1,650	368	1,200	2,148	1,300	80	2,807	80	950	15
MXCV0700U-ST	MXCV0700U-16-ST	700	2,649	2,640	1,196	14.1	65.0	15.5	51.2	86.4	55.3	3	113.4	3	33.5	0.6
						358	1,650	394	1,300	2,194	1,405	80	2,881	80	850	15
MXCV0800U-ST	MXCV0800U-16-ST	800	3,028	2,830	1,282	14.1	78.7	15.5	51.2	100.2	55.3	3	127.2	3	33.5	0.6
						358	2,000	394	1,300	2,544	1,405	80	3,231	80	850	15
MXCV0900U-ST	MXCV0900U-16-ST	900	3,406	4,102	1,859	15.3	78.7	16.5	55.1	100.0	59.3	3	129.4	3	36.6	0.6
						388	2,000	420	1,400	2,540	1,505	80	3,287	80	930	15
MXCV1000U-ST	MXCV1000U-16-ST	1,000	3,785	3,762	1,704	15.8	74.8	17.1	57.1	96.6	61.2	3	126.6	3	36.6	0.6
						402	1,900	434	1,450	2,454	1,555	80	3,215	80	930	15
MXCV1100U-ST	MXCV1100U-16-ST	1,100	4,163	3,952	1,790	15.8	82.7	17.1	57.1	104.5	61.2	3	134.4	3	36.6	0.6
						402	2,100	434	1,450	2,654	1,555	80	3,415	80	930	15
MXCV1200U-ST	MXCV1200U-16-ST	1,200	4,542	4,008	1,815	16.4	82.7	17.6	59.1	105.0	63.2	3	135.5	3	37.4	0.6
						416	2,100	447	1,500	2,667	1,605	80	3,442	80	950	15
MXCV1300U-ST	MXCV1300U-16-ST	1,300	4,921	4,490	2,034	17.4	78.7	18.5	63.0	102.0	67.1	3	133.6	3	41.3	0.6
						443	2,000	471	1,600	2,591	1,705	80	3,393	80	1,050	15
MXCV1400U-ST	MXCV1400U-16-ST	1,400	5,299	4,576	2,073	17.4	88.6	18.5	63.0	111.9	67.1	3	143.4	3	41.3	0.6
						443	2,250	471	1,600	2,841	1,705	80	3,643	80	1,050	15
MXCV1500U-ST	MXCV1500U-16-ST	1,500	5,678	4,751	2,153	19.6	74.8	20.6	68.9	100.1	73.2	3	133.8	3	45.3	0.6
						497	1,900	522	1,750	2,542	1,860	80	3,398	80	1,150	15
MXCV1600U-ST	MXCV1600U-16-ST	1,600	6,056	4,868	2,205	19.6	78.7	20.6	68.9	104.0	73.2	3	137.7	3	45.3	0.6
						497	2,000	522	1,750	2,642	1,860	80	3,498	80	1,150	15
MXCV1700U-ST	MXCV1700U-16-ST	1,700	6,435	4,960	2,247	20.5	78.7	21.5	70.9	103.4	75.2	3	139.6	3	45.3	0.6
						521	2,000	547	1,800	2,627	1,910	80	3,547	80	1,150	15
MXCV1800U-ST	MXCV1800U-16-ST	1,800	6,813	5,614	2,543	22.6	59.1	23.5	78.7	88.5	83.5	3	121.3	3	51.2	0.8
						575	1,500	598	2,000	2,248	2,120	80	3,082	80	1,300	20
MXCV1900U-ST	MXCV1900U-16-ST	1,900	7,192	5,776	2,617	22.6	63.0	23.5	78.7	92.4	83.5	3	125.3	3	51.2	0.8
						575	1,600	598	2,000	2,348	2,120	80	3,182	80	1,300	20
MXCV2000U-ST	MXCV2000U-16-ST	2,000	7,570	6,008	2,722	22.6	68.9	23.5	78.7	98.3	83.5	3	131.2	3	51.2	0.8
						575	1,750	598	2,000	2,498	2,120	80	3,332	80	1,300	20
MXCV2200U-ST	MXCV2200U-16-ST	2,200	8,327	6,782	3,072	22.6	82.7	23.5	78.7	112.1	83.5	3	145.0	3	51.2	0.8
						575	2,100	598	2,000	2,848	2,120	80	3,682	80	1,300	20
MXCV2400U-ST	MXCV2400U-16-ST	2,400	9,084	7,026	3,183	22.6	88.6	23.5	78.7	119.2	83.5	3	150.9	3	51.2	0.8
						575	2,250	598	2,000	3,028	2,120	80	3,832	80	1,300	20
MXCV2600U-ST	MXCV2600U-16-ST	2,600	9,842	7,302	3,308	22.6	102.4	23.5	78.7	131.8	83.5	3	164.6	3	51.2	0.8
						575	2,600	598	2,000	3,348	2,120	80	4,182	80	1,300	20
MXCV2800U-ST	MXCV2800U-16-ST	2,800	10,599	7,985	3,617	22.6	114.2	23.5	78.7	143.6	83.5	3	176.5	3	51.2	0.8
						575	2,900	598	2,000	3,648	2,120	80	4482	80	1,300	20
MXCV3000U-ST	MXCV3000U-16-ST	3,000	11,356	8,296	3,758	22.6	122.0	23.5	78.7	151.5	83.5	3	184.3	3	51.2	0.8
						575	3,100	598	2,000	3,848	2,120	80	4682	80	1,300	20
MXCV3200U-ST	MXCV3200U-16-ST	3,200	12,113	8,864	4,015	22.6	133.9	23.5	78.7	163.3	83.5	3	196.1	3	51.2	0.8
						575	3,400	598	2,000	4,148	2,120	80	4982	80	1,300	20
MXCV3400U-ST	MXCV3400U-16-ST	3,400	12,870	9,325	4,224	22.6	145.7	23.5	78.7	175.1	83.5	3	208.0	3	51.2	0.8
						575	3,700	598	2,000	4,448	2,120	80	5282	80	1,300	20
MXCV3600U-ST	MXCV3600U-16-ST	3,600	13,627	9,569	4,334	22.6	151.6	23.5	78.7	181.0	83.5	3	213.9	3	51.2	0.8
						575	3,850	598	2,000	4,598	2,120	80	5432	80	1,300	20
MXCV3800U-ST	MXCV3800U-16-ST	3,800	14,384	10,110	4,580	22.6	165.4	23.5	78.7	194.8	83.5	3	227.6	3	51.2	0.8
						575	4,200	598	2,000	4,948	2,120	80	5782	80	1,300	20
MXCV4000U-ST	MXCV4000U-16-ST	4,000	15,141	10,412	4,717	22.6	173.2	23.5	78.7	202.7	83.5	3	235.5	3	51.2	0.8
						575	4,400	598	2,000	5,148	2,120	80	5982	80	1,300	20

Table 6.3.3 - Vertical bladder tank dimensions (ASME Sec. VIII Design Code)

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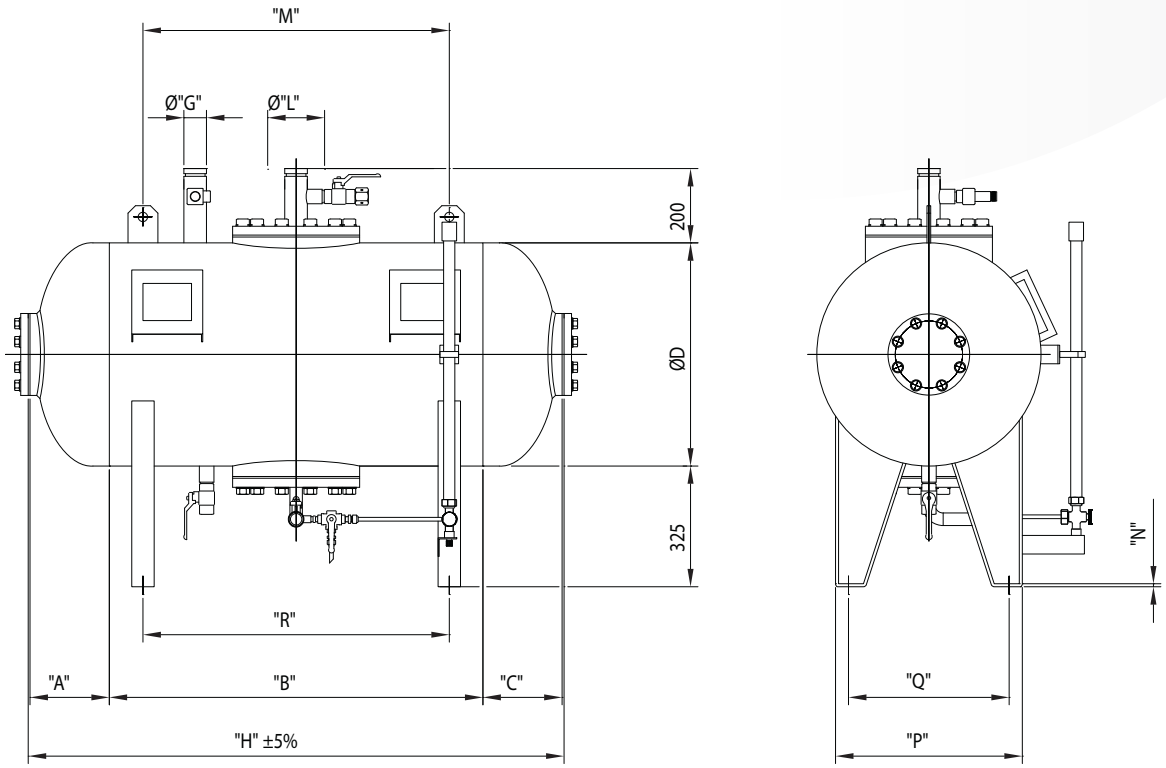


Figure 6.3.4 - Horizontal bladder tank: 50 to 100 US gallons

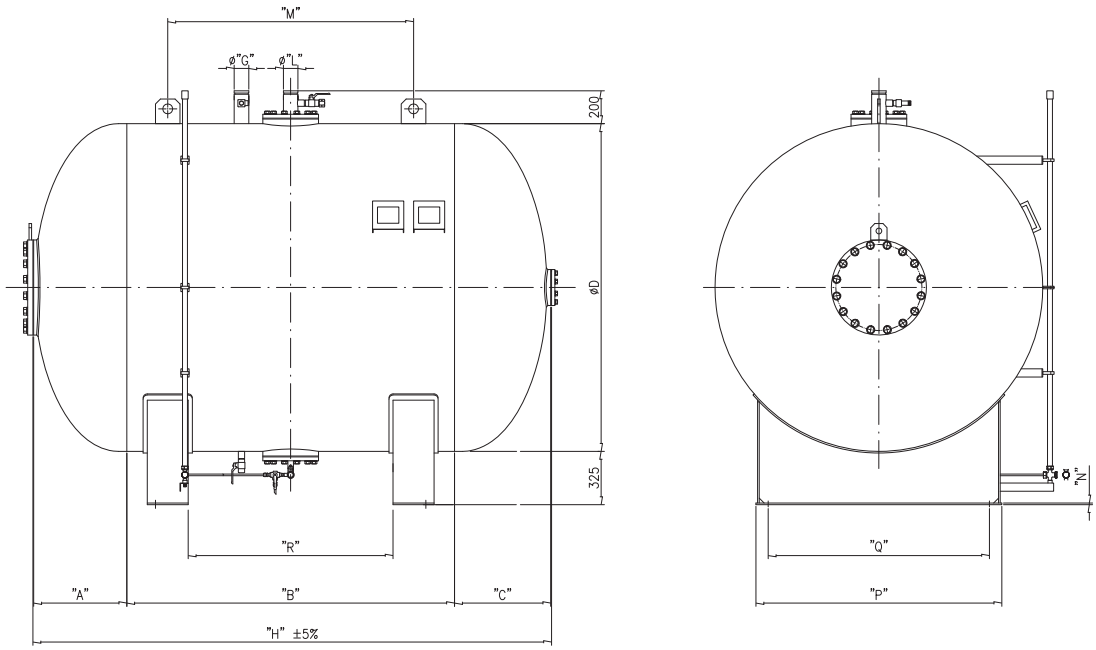


Figure 6.3.5 - Horizontal bladder tank: 150 to 5,250 US gallons

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Stainless Steel Vertical & Horizontal Bladder Tank

Foam Storage Devices | Model MXC | ASME Sec. VIII Div. 1 – U-1A

Part number ASME Sec. VIII Design Code		Capacity		Weight		A	B	C	ØD	ØG	H	ØL	M	N	O	P	Q	R
175 psi / 12.1 bar	232 psi / 16.0 bar	USG	Litres	lbs	kg	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch
						mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MXCH0050U-ST	MXCH0050U-16-ST	50	189	603	273	8.0	39.4	8.0	19.7	2	55.4	2	32.3	0.3	7.9	16.7	13.8	32.3
						203	1,000	203	500	50	1,406	50	820	8	200	425	350	820
MXCH0075U-ST	MXCH0075U-16-ST	75	283	672	305	9.0	39.4	9.0	23.6	2	57.3	2	32.3	0.3	7.9	19.7	16.9	32.3
						228	1,000	228	600	50	1,456	50	820	8	200	500	430	820
MXCH0100U-ST	MXCH0100U-16-ST	100	378	718	326	9.0	49.2	9.0	23.6	2	67.2	2	42.1	0.3	7.9	19.7	16.9	40.2
						228	1,250	228	600	50	1,706	50	1,070	8	200	500	430	1,020
MXCH0150U-ST	MXCH0150U-16-ST	150	567	869	394	10.3	39.4	10.8	31.5	2	60.5	2	51.0	0.3	7.9	19.7	15.7	32.3
						262	1,000	274	800	50	1,536	50	1,295	8	200	500	400	820
MXCH0200U-ST	MXCH0200U-16-ST	200	757	927	420	10.3	51.2	10.8	31.5	2	72.3	2	62.8	0.3	7.9	19.7	15.7	42.1
						262	1,300	274	800	50	1,836	50	1,595	8	200	500	400	1,070
MXCH0250U-ST	MXCH0250U-16-ST	250	946	1,321	599	11.3	39.4	13.2	39.4	2.5	63.9	2.5	51.0	0.3	7.9	27.6	23.6	32.3
						288	1,000	336	1,000	65	1,624	65	1,295	8	200	700	600	820
MXCH0300U-ST	MXCH0300U-16-ST	300	1,135	1,461	662	11.3	51.2	13.2	39.4	2.5	75.7	2.5	39.4	0.3	7.9	27.6	23.6	42.1
						288	1,300	336	1,000	65	1,924	65	1,295	8	200	700	600	1,070
MXCH0350U-ST	MXCH0350U-16-ST	350	1,324	1,526	683	11.3	55.1	13.2	39.4	2.5	79.7	2.5	39.4	0.3	7.9	27.6	23.6	42.1
						288	1,400	336	1,000	65	2,024	65	1,000	8	200	700	600	1,070
MXCH0400U-ST	MXCH0400U-16-ST	400	1,514	1,553	704	11.3	65.0	13.2	39.4	2.5	89.5	2.5	51.2	0.3	5.9	27.6	23.6	53.5
						288	1,650	336	1,000	65	2,274	65	1,300	8	150	700	600	1,360
MXCH0450U-ST	MXCH0450U-16-ST	450	1,703	2,244	1,016	11.6	59.1	13.2	43.3	2.5	83.9	2.5	45.3	0.3	5.9	31.5	27.6	48.0
						294	1,500	336	1,100	65	2,130	65	1,150	8	150	800	700	1,220
MXCH0500U-ST	MXCH0500U-16-ST	500	1,892	2,434	1,103	11.6	70.9	13.2	43.3	2.5	95.7	2.5	57.1	0.3	5.9	31.5	27.6	59.8
						294	1,800	336	1,100	65	2,430	65	1,450	8	150	800	700	1,520
MXCH0600U-ST	MXCH0600U-16-ST	600	2,271	2,496	1,131	12.7	65.0	14.2	47.2	3	91.9	3	53.5	0.3	5.9	35.4	31.5	56.7
						322	1,650	361	1,200	80	2,333	80	1,360	8	150	900	800	1,440
MXCH0700U-ST	MXCH0700U-16-ST	700	2,649	2,784	1,261	13.8	65.0	15.2	51.2	3	94.0	3	58.3	0.3	5.9	35.4	31.5	56.7
						351	1,650	386	1,300	80	2,387	80	1,480	8	150	900	800	1,440
MXCH0800U-ST	MXCH0800U-16-ST	800	3,028	3,043	1,379	13.8	78.7	15.2	51.2	3	107.8	3	63.0	0.3	5.9	35.4	31.5	66.1
						351	2,000	386	1,300	80	2,737	80	1,600	8	150	900	800	1,680
MXCH0900U-ST	MXCH0900U-16-ST	900	3,406	3,864	1,750	15.3	78.7	16.3	55.1	3	110.3	3	63.0	0.3	5.9	39.4	33.5	66.1
						389	2,000	413	1,400	80	2,801	80	1,600	8	150	1,000	850	1,680
MXCH1000U-ST	MXCH1000U-16-ST	1,000	3,785	3,772	1,708	15.8	74.8	16.8	57.1	3	107.4	3	63.0	0.4	5.9	39.4	33.5	62.2
						402	1,900	426	1,450	80	2,728	80	1,600	10	150	1,000	850	1,580
MXCH1100U-ST	MXCH1100U-16-ST	1,100	4,163	3,966	1,797	15.8	82.7	16.8	57.1	3	115.3	3	63.0	0.4	5.9	39.4	33.5	66.1
						402	2,100	426	1,450	80	2,928	80	1,600	10	150	1,000	850	1,680
MXCH1200U-ST	MXCH1200U-16-ST	1,200	4,542	4,367	1,978	16.5	82.7	17.3	59.1	3	116.4	3	66.9	0.4	5.9	39.4	33.5	70.1
						418	2,100	439	1,500	80	2,957	80	1,700	10	150	1,000	850	1,780
MXCH1300U-ST	MXCH1300U-16-ST	1,300	4,921	4,573	2,072	17.5	78.7	18.3	63.0	3	114.6	3	63.0	0.4	5.9	43.3	37.4	68.1
						445	2,000	465	1,600	80	2,910	80	1,600	10	150	1,100	950	1,730
MXCH1400U-ST	MXCH1400U-16-ST	1,400	5,299	4,860	2,202	17.5	88.6	18.3	63.0	3	124.4	3	70.9	0.4	5.9	43.3	37.4	76.0
						445	2,250	465	1,600	80	3,160	80	1,800	10	150	1,100	950	1,930
MXCH1500U-ST	MXCH1500U-16-ST	1,500	5,678	4,751	2,153	19.6	74.8	20.6	68.9	3	115.0	3	61.0	0.4	5.9	47.2	41.3	63.4
						498	1,900	522	1,750	80	2,920	80	1,550	10	150	1,200	1,050	1,610
MXCH1600U-ST	MXCH1600U-16-ST	1,600	6,056	4,983	2,258	19.6	78.7	20.6	68.9	3	118.9	3	61.0	0.4	5.9	47.2	41.3	65.4
						498	2,000	522	1,750	80	3,020	80	1,550	10	150	1,200	1,050	1,660
MXCH1700U-ST	MXCH1700U-16-ST	1,700	6,435	5,215	2,363	20.2	78.7	21.1	70.9	3	120.0	3	61.0	0.4	5.9	47.2	41.3	66.1
						513	2,000	535	1,800	80	3,047	80	1,550	10	150	1,200	1,050	1,680
MXCH1800U-ST	MXCH1800U-16-ST	1,800	6,813	5,985	2,711	22.3	59.1	23.1	78.7	3	104.4	3	47.2	0.4	5.9	59.1	53.1	49.2
						566	1,500	586	2,000	80	2,652	80	1,200	10	150	1,500	1,350	1,250
MXCH1900U-ST	MXCH1900U-16-ST	1,900	7,192	6,147	2,785	22.3	63.0	23.1	78.7	3	108.3	3	52.4	0.4	5.9	59.1	53.1	49.2
						566	1,600	586	2,000	80	2,752	80	1,330	10	150	1,500	1,350	1,250
MXCH2000U-ST	MXCH2000U-16-ST	2,000	7,570	6,390	2,895	22.3	68.9	23.1	78.7	3	114.3	3	52.4	0.4	5.9	59.1	53.1	55.1
						566	1,750	586	2,000	80	2,902	80	1,330	10	150	1,500	1,350	1,400
MXCH2200U-ST	MXCH2200U-16-ST	2,200	8,327	6,910	3,130	22.3	82.7	23.1	78.7	3	128.0	3	63.0	0.4	5.9	59.1	53.1	68.9
						566	2,100	586	2,000	80	3,252	80	1,600	10	150	1,500	1,350	1,750
MXCH2400U-ST	MXCH2400U-16-ST	2,400	9,084	7,164	3,246	22.3	88.6	23.1	78.7	3	133.9	3	68.9	0.4	5.9	59.1	53.1	74.8
						566	2,250	586	2,000	80	3,402	80	1,750	10	150	1,500	1,350	1,900
MXCH2600U-ST	MXCH2600U-16-ST	2,600	9,842	7,730	3,502	22.3	102.4	23.1	78.7	3	147.7	3	82.7	0.4	5.9	59.1	53.1	88.6
						566	2,600	586	2,000	80	3,752	80	2,100	10	150	1,500	1,350	2,250
MXCH2800U-ST	MXCH2800U-16-ST	2,800	10,599	8,264	3,743	22.3	114.2	23.1	78.7	3	159.5	3	94.5	0.4	5.9	59.1	53.1	100.4
						566	2,900	586	2,000	80	4,052	80	2,400	10	150	1,500	1,350	2,550
MXCH3000U-ST	MXCH3000U-16-ST	3,000	11,356	8,586	3,889	22.3	122.0	23.1	78.7	3	167.4	3	102.4	0.4	5.9	59.1	53.1	108.3
						566	3,100	586	2,000	80	4,252	80	2,600	10	150	1,500	1,350	2,750
MXCH3200U-ST	MXCH3200U-16-ST	3,200	12,113	9,049	4,099	22.3	133.9	23.1	78.7	3	179.2	3	114.2	0.4	5.9	59.1	53.1	120.1
						566	3,400	586	2,000	80	4,552	80	2,900	10	150	1,500	1,350	3,050
MXCH3400U-ST	MXCH3400U-16-ST	3,400	12,870	9,371	4,245	22.3	141.7	23.1	78.7	3	187.1	3	126.0	0.4	5.9	59.1	53.1	131.9
						566	3,600	586	2,000	80	4,752	80	3,200	10	150	1,500	1,350	3,350

Table 6.3.6 - Horizontal bladder tank dimensions (ASME Sec. VIII Design Code)

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Part number ASME Sec. VIII Design Code		Capacity		Weight[1]		A	B	C	ØD	ØG	H	ØL	M	N	O	P	Q	R
175 psi / 12.1 bar	232 psi / 16.0 bar	USG	Litres	lbs	kg	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch
						mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MXCH3600U-ST	MXCH3600U-16-ST	3,600	13,627	9,777	4,429	22.3	151.6	23.1	78.7	3	196.9	3	139.8	0.4	5.9	59.1	53.1	145.7
						566	3,850	586	2,000	80	5,002	80	3,550	10	150	1,500	1,350	3,700
MXCH3800U-ST	MXCH3800U-16-ST	3,800	14,384	10,113	4,581	22.3	159.4	23.1	78.7	3	204.8	3	139.8	0.4	5.9	59.1	53.1	145.7
						566	4,050	586	2,000	80	5,202	80	3,550	10	150	1,500	1,350	3,700
MXCH4000U-ST	MXCH4000U-16-ST	4,000	15,141	10,679	4,837	22.3	173.2	23.1	78.7	3	218.6	3	139.8	0.4	5.9	59.1	53.1	145.7
						566	4,400	586	2,000	80	5,552	80	3,550	10	150	1,500	1,350	3,700
MXCH4250U-ST	MXCH4250U-16-ST	4,250	16,088	11,163	5,057	22.3	185.0	23.1	78.7	3	230.4	3	139.8	0.4	5.9	59.1	53.1	145.7
						566	4,700	586	2,000	80	5,852	80	3,550	10	150	1,500	1,350	3,700
MXCH4500U-ST	MXCH4500U-16-ST	4,500	17,034	11,650	5,277	22.3	196.9	23.1	78.7	3	242.2	3	139.8	0.4	5.9	59.1	53.1	151.6
						566	5,000	586	2,000	80	6,152	80	3,550	10	150	1,500	1,350	3,850
MXCH4750U-ST	MXCH4750U-16-ST	4,750	17,980	12,216	5,534	22.3	210.6	23.1	78.7	3	256.0	3	139.8	0.4	5.9	59.1	53.1	151.6
						566	5,350	586	2,000	80	6,502	80	3,550	10	150	1,500	1,350	3,850
MXCH5000U-ST	MXCH5000U-16-ST	5,000	18,927	12,702	5,754	22.3	222.4	23.1	78.7	3	267.8	3	139.8	0.4	5.9	59.1	53.1	159.4
						566	5,650	586	2,000	80	6,802	80	3,550	10	150	1,500	1,350	4,050
MXCH5250U-ST	MXCH5250U-16-ST	5,250	19,873	13,268	6,010	22.3	236.2	23.1	78.7	3	281.6	3	139.8	0.4	5.9	59.1	53.1	159.4
						566	6,000	586	2,000	80	7,152	80	3,550	10	150	1,500	1,350	4,050

Table 6.3.6 - Horizontal bladder tank dimensions (ASME Sec. VIII Design Code) (continued)

7 Installation

Refer to appropriate installation standards (i.e. NFPA, VdS, LPCB, etc.) and / or applicable FM Global Property Loss Prevention Data Sheets such as 4-12, Foam-Water Sprinkler Systems.
The installation, operation and maintenance bladder tank manual shall also be referenced.

NOTICE

When designing a bladder tank into your fire protection system, please give consideration to future maintenance activities. Ensure that adequate clearance above a vertical bladder tank or at the inspection flange end of a horizontal tank is allowed. For further guidance contact us.

8 Operation

1. Foam concentrate is stored inside the bladder. When used in conjunction with a ratio controller it proportions foam concentrate accurately into the water stream.
2. During system activation, the outer side of the bladder is pressurized by the system water supply which forces foam concentrate to the ratio controller.
3. Simultaneously, as water flows through the venturi area of the ratio controller, a metered pressure drop draws foam concentrate into the system water stream creating a foam solution mixed to the appropriate ratios.
4. The foam solution flows through the system pipework and out of any open sprinklers, nozzles or other discharge devices.
5. As the foam concentrate continues to flow from the inside of the bladder, system water enters the bladder tank on the outside of the bladder keeping a balanced pressure system.

9 Guarantee

For details of warranty, refer to KCA's current list price schedule or contact KCA directly.

10 Inspections, tests and maintenance

⚠ WARNING

Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection capabilities of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected areas.

Refer to respective requirements, according to the relevant standards for Inspection, Testing and Maintenance.
If applicable, refer to FM Global Property Loss Prevention Datasheet 4-12 for specific test and commissioning criteria.
In addition, the "Authority Having Jurisdiction" (AHJ) may have additional maintenance, testing and inspection requirements that must be followed.

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11 Disposal



At end of use the product described here should be disposed of via the national recycling system.
Upon request the manufacturer can take back and properly dispose of the electrical equipment and electronic devices.

12 Accessories and spare parts

Description	Material	Connection	Part numbers	
			12 bar tanks	16 bar tanks
Safety thermal relief valve	Stainless steel 316L	1/2″	D10C12.1316	D10C16316
ASME safety valve	Stainless steel 316	3/4″	EUV34ST-12.1	EUV34ST-16.0
Filling device with KPA gauge	Carbon steel	1″	FILLDEVICE	
Replacement bladder	Hypalon-neoprene or NBR	Contact us with tank serial number		
Sight tube replacement kit	Various	Contact us with tank serial number		

Table 12.1.2 - Bladder tank manual

Language	Part number
English	TM2.3.1.1_en
German	TM2.3.1.1_de
Italian	TM2.3.1.1_it

Table 12.1.1 - Optional / Standard spare parts

13 Declaration of conformity

If required. Contact KCA for further information.

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