

## LIQUID VOLUME

To Convert	Into	Multiply by
Ounces (oz)	Milliliters (ml)	29.57
Pints (pt)	Liters (l)	0.4732
Quarts (qt)	Liters (l)	0.9464
Gallons (gal)	Liters (l)	3.785
Milliliters (ml)	Ounces (oz)	0.0338
Liters (l)	Pints (pt)	2.113
Liters (l)	Quarts (qt)	1.057
Liters (l)	Gallons (gal)	0.2642

## SOLID VOLUME - WEIGHT

To Convert	Into	Multiply by
Ounces (oz)	Grams (g)	28.3495
Pounds (lb)	Kilograms (kg)	0.4536
Grams (g)	Ounces (oz)	0.035
Kilograms (kg)	Pounds (lb)	2.205

## PRESSURE

To Convert	Into	Multiply by
Pounds per square inch (psi)	Kilopascals (kPa)	6.895
Pounds per square inch (psi)	bar	0.06895
Kilopascals (kPa)	Pounds per square inch (psi)	0.145
Kilopascals (kPa)	bar	0.01
bar	Pounds per square inch (psi)	14.503
bar	Kilopascals (kPa)	100.00

## LENGTH

To Convert	Into	Multiply by
Inches (in)	Millimeters (mm)	25.4
Inches (in)	Centimeters (cm)	2.54
Feet (ft)	Centimeters (cm)	30.48
Yards (yd)	Meters (m)	0.9144
Miles (mi)	Kilometers (km)	1.609
Millimeters (mm)	Inches (in)	0.039
Centimeters (cm)	Inches (in)	0.394
Meters (m)	Yards (yd)	1.0936
Kilometers (km)	Miles (mi)	0.6214

## AREA

To Convert	Into	Multiply by
Square inches (sq in)	Square Centimeters (cm <sup>2</sup> )	6.452
Square feet (sq ft)	Square Meters (m <sup>2</sup> )	0.093
Square Yards (sq yd)	Square Meters (m <sup>2</sup> )	0.836
Square Miles (sq mi)	Square Kilometers (km <sup>2</sup> )	2.59
Square Centimeters (cm <sup>2</sup> )	Square inches (sq in)	0.155
Square Meters (m <sup>2</sup> )	Square feet (sq ft)	1.196
Square Kilometers (km <sup>2</sup> )	Square Yards (sq yd)	0.386

## TIP SIZES

3/4" Tip = 19 mm	1-1/2" Tip = 38 mm
7/8" Tip = 22 mm	1-3/4" Tip = 45 mm
1" Tip = 25 mm	2" Tip = 50 mm
1-1/8" Tip = 28 mm	2-1/4" Tip = 57 mm
1-1/4" Tip = 32 mm	2-1/2" Tip = 64 mm
1-3/8" Tip = 35 mm	3" Tip = 76 mm

## HOSE SIZES

1" Hose = 25.4 mm	4" Storz = 100.00 mm
1.5" Hose = 38.1 mm	4" Hose = 101.60 mm
1.75" Hose = 44.5 mm	4.5" Hose = 114.30 mm
2" Hose = 50.8 mm	5" Storz = 125.00 mm
2.5" Hose = 63.5 mm	5" Hose = 127.00 mm
3" Hose = 76.2 mm	6" Hose = 152.40 mm
3.5" Hose = 88.9 mm	

## PRESSURES

50 psi = 345 kPa = 3.45 bar	300 psi = 2069 kPa = 20.69 bar
60 psi = 414 kPa = 4.14 bar	350 psi = 2413 kPa = 24.13 bar
70 psi = 488 kPa = 4.88 bar	400 psi = 2758 kPa = 27.58 bar
75 psi = 517 kPa = 5.17 bar	450 psi = 3103 kPa = 31.03 bar
80 psi = 552 kPa = 5.52 bar	500 psi = 3448 kPa = 34.48 bar
90 psi = 621 kPa = 6.21 bar	550 psi = 3792 kPa = 37.92 bar
100 psi = 690 kPa = 6.90 bar	600 psi = 4137 kPa = 41.37 bar
150 psi = 1034 kPa = 10.34 bar	650 psi = 4482 kPa = 44.82 bar
200 psi = 1379 kPa = 13.79 bar	700 psi = 4827 kPa = 48.27 bar
250 psi = 1723 kPa = 17.23 bar	

## FLOW RATE

12 gpm	=	45.42 l/min	=	45 l/min
13 gpm	=	49.20 l/min	=	50 l/min
20 gpm	=	75.70 l/min	=	75 l/min
23 gpm	=	87.06 l/min	=	90 l/min
25 gpm	=	94.62 l/min	=	95 l/min
30 gpm	=	113.55 l/min	=	115 l/min
40 gpm	=	151.40 l/min	=	150 l/min
50 gpm	=	189.25 l/min	=	190 l/min
55 gpm	=	208.18 l/min	=	210 l/min
60 gpm	=	227.10 l/min	=	230 l/min
70 gpm	=	264.95 l/min	=	265 l/min
75 gpm	=	283.88 l/min	=	285 l/min
85 gpm	=	321.73 l/min	=	320 l/min
95 gpm	=	359.58 l/min	=	360 l/min
100 gpm	=	378.50 l/min	=	380 l/min
120 gpm	=	454.20 l/min	=	460 l/min
125 gpm	=	473.13 l/min	=	475 l/min
150 gpm	=	567.75 l/min	=	550 l/min
175 gpm	=	662.38 l/min	=	660 l/min
200 gpm	=	757.00 l/min	=	750 l/min
250 gpm	=	946.25 l/min	=	950 l/min
300 gpm	=	1135.50 l/min	=	1140 l/min
350 gpm	=	1324.75 l/min	=	1325 l/min
375 gpm	=	1419.38 l/min	=	1420 l/min
400 gpm	=	1514.00 l/min	=	1525 l/min
450 gpm	=	1703.25 l/min	=	1700 l/min
500 gpm	=	1892.50 l/min	=	1900 l/min
700 gpm	=	2649.50 l/min	=	2660 l/min
750 gpm	=	2838.75 l/min	=	2900 l/min
800 gpm	=	3028.00 l/min	=	3030 l/min
1000 gpm	=	3785.00 l/min	=	3800 l/min
1200 gpm	=	4542.00 l/min	=	4500 l/min
1250 gpm	=	4731.25 l/min	=	4800 l/min
1500 gpm	=	5677.50 l/min	=	6000 l/min
2000 gpm	=	7570.00 l/min	=	7600 l/min

## POLAR SOLVENT FIRE SPILL RESPONSE

SPILL SIZE (square feet)	3% CONCENTRATE					6% CONCENTRATE				
	GPM REQUIREMENTS		TOTAL GALLONS REQUIRED For Minimum of 15 Minutes Application Time			GPM REQUIREMENTS		TOTAL GALLONS REQUIRED For Minimum of 15 Minutes Application Time		
	FOAM SOLUTION GPM	CONCEN- TRATE GPM	SOLUTION (GALLONS)	CONCEN- TRATE (GALLONS)	WATER (GALLONS)	FOAM SOLUTION GPM	CONCEN- TRATE GPM	SOLUTION (GALLONS)	CONCEN- TRATE (GALLONS)	WATER (GALLONS)
50	10	0.3	150	4.5	146	10	.06	150	9	141
100	20	0.6	300	9	291	20	2.1	300	18	282
150	30	0.9	450	13.5	437	30	1.8	450	27	423
200	40	1.2	600	18	582	40	2.4	600	36	564
250	50	1.5	750	22.5	728	50	3	750	45	705
300	60	1.8	900	27	873	60	3.6	900	54	846
350	70	2.1	1,050	31.5	1,019	70	4.2	1,050	63	987
400	80	2.4	1,200	36	1,164	80	4.8	1,200	72	1,128
450	90	2.7	1,350	40.5	1,310	90	5.4	1,350	81	1,269
500	100	3	1,500	45	1,455	100	6	1,500	90	1,410
550	110	3	1,650	49.5	1,601	110	6.6	1,650	99	1,551
600	120	3.6	1,800	54	1,746	120	7.2	1,800	108	1,692
650	130	3.9	1,950	58.5	1,892	130	7.8	1,950	117	1,833
700	140	4.2	2,100	63	2,037	140	8.4	2,100	126	1,974
750	150	4.5	2,250	67.5	2,183	150	9	2,250	135	2,115
800	160	4.8	2,400	72	2,328	160	9.6	2,400	144	2,256
850	170	5.1	2,550	76.5	2,474	170	10.2	2,550	153	2,397
900	180	5.4	2,700	81	2,619	180	10.8	2,700	162	2,538
950	190	5.7	2,850	85.5	2,765	190	11.4	2,850	171	2,679
1,000	200	6	3,000	90	2,910	200	12	3,000	180	2,820
1,500	300	9	4,500	135	4,365	300	18	4,500	270	4,230
2,000	400	12	6,000	180	5,820	400	24	6,000	360	5,640
2,500	500	15	7,500	225	7,275	500	30	7,500	450	7,050
3,000	600	18	9,000	270	8,730	600	36	9,000	540	8,460
3,500	700	21	10,500	315	10,185	700	42	10,500	630	8,460
4,000	800	24	12,000	360	11,600	800	48	12,000	720	11,280

**Foam application rates for Polar Solvent fires:** per NFPA for ignited fuel spills less than 1" in depth.

**Solution Ratio:** 3% Concentrate, 97% Water

**Minimum Application Time:** 15 minutes

**Application Rate:** 0.2 GPM Foam Solution per sq. ft.

**Solution Ratio:** 6% Concentrate, 94% Water

**Minimum Application Time:** 15 minutes

**Application Rate:** 0.2 GPM Foam Solution per sq. ft.

**Rule of Thumb:** Foam Solution Flow Rate x 5 = sq. ft. of ignition spill area that can be covered.

**Example:** Eductor flow/max. square feet area of spill:

60 gpm = 300 sq ft

95 gpm = 475 sq ft

125 gpm = 625 sq ft

250 gpm = 1250 sq ft

*This foam application chart has been designed to provide a quick means of calculating an approximation of the initial flow rates of various foam concentrates when used on hydrocarbon and polar solvent fuels. Actual flow rates required will vary depending on the conditions at the scene. The application data shown assumes the use of fully aspirating nozzles. This foam application chart is not designed to, nor can it provide the user with the definitive requirements to address a particular fire fighting situation. The selection of appropriate foam liquid concentrate, of application devices and application methods for the fire hazard being addressed, is the responsibility of the fire fighting professional.*

Ref: IFSTA Fire Protection Publications Fire Stream Practices 7th Edition

# HYDROCARBON FIRE SPILL RESPONSE

SPILL SIZE (square feet)	3% CONCENTRATE					6% CONCENTRATE				
	GPM REQUIREMENTS		TOTAL GALLONS REQUIRED For Minimum of 15 Minutes Application Time			GPM REQUIREMENTS		TOTAL GALLONS REQUIRED For Minimum of 15 Minutes Application Time		
	FOAM SOLUTION GPM	CONCENTRATE GPM	SOLUTION (GALLONS)	CONCENTRATE (GALLONS)	WATER (GALLONS)	FOAM SOLUTION GPM	CONCENTRATE GPM	SOLUTION (GALLONS)	CONCENTRATE (GALLONS)	WATER (GALLONS)
50	5	0.15	75	2.25	73	5	0.3	75	4.5	70.5
100	10	0.3	150	4.5	146	10	0.6	150	9	141
150	15	0.45	225	6.75	219	15	0.9	225	13.5	211.5
200	20	0.6	200	9	291	20	1.2	300	18	282
250	25	0.75	375	11.25	364	25	1.5	375	22.5	352.5
300	30	0.9	450	13.5	437	30	1.8	450	27	423
350	35	1.05	525	15.75	510	35	2.1	525	31.5	493.5
400	40	1.2	600	18	582	40	2.4	600	36	564
450	45	1.35	675	20.25	655	45	2.7	675	40.5	634.5
500	50	1.5	750	22.5	728	50	3	750	45	705
550	55	1.65	825	24.75	801	55	3.3	825	49.5	775.5
600	60	1.8	900	27	873	60	3.6	900	54	846
650	65	1.95	975	29.25	946	65	3.9	975	58.5	916.5
700	70	2.1	1,050	31.5	1,019	70	4.2	1,050	63	987
750	75	2.25	1,125	33.75	1,092	75	4.5	1,125	67.5	1,057.5
800	80	2.4	1,200	36	1,164	80	4.8	1,200	72	1,128
850	85	2.55	1,275	38.25	1,237	85	5.1	1,275	76.5	1,198.5
900	90	2.7	1,350	40.5	1,310	90	5.4	1,350	81	1,269
950	95	2.85	1,425	42.75	1,383	95	5.7	1,425	85.5	1,339.5
1,000	100	3	1,500	45	1,455	100	6	1,500	90	1,410
1,500	150	4.5	2,250	67.5	2,183	150	9	2,250	135	2,115
2,000	200	6	3,000	90	2,910	200	12	3,000	180	2,820
2,500	250	7.5	3,750	112.5	3,638	250	15	3,750	225	3,525
3,000	300	9	4,500	135	4,365	300	18	4,500	270	4,230
3,500	350	10.5	5,225	157.5	5,093	350	21	5,250	315	4,935
4,000	400	12	6,000	180	5,820	400	24	6,000	360	5,640

**Foam application rates for Hydrocarbon fires:** per NFPA for ignited fuel spills less than 1" in depth.

"For simple Hydrocarbons."

**Solution Ratio:** 3% Concentrate, 97% Water

**Minimum Application Time:** 15 minutes

**Application Rate:** 0.1 GPM Foam Solution per sq. ft.

**Solution Ratio:** 6% Concentrate, 94% Water

**Minimum Application Time:** 15 minutes

**Application Rate:** 0.1 GPM Foam Solution per sq. ft.

**Rule of Thumb:** Foam Solution Flow Rate x 10 = sq. ft. of ignition spill area that can be covered.

**Example:** Eductor flow/max. square feet area of spill:

60 gpm = 600 sq ft

95 gpm = 950 sq ft

125 gpm = 1250 sq ft

250 gpm = 2500 sq ft

*This foam application chart has been designed to provide a quick means of calculating an approximation of the initial flow rates of various foam concentrates when used on hydrocarbon and polar solvent fuels. Actual flow rates required will vary depending on the conditions at the scene. The application data shown assumes the use of fully aspirating nozzles. This foam application chart is not designed to, nor can it provide the user with the definitive requirements to address a particular fire fighting situation. The selection of appropriate foam liquid concentrate, of application devices and application methods for the fire hazard being addressed, is the responsibility of the fire fighting professional.*

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## PRODUCT GROUP SPECIFICATIONS

**AYNG Hi-Rise Wye Series** - A 2-½" female inlet by one 1-½" male threaded outlet with ball valve and one 1½" non-valved outlet with protected pressure gauge shall be standard. Wye construction shall be of corrosion resistant hardcoat anodized, powder coated aluminum alloy with stainless steel components. Valve shall include high strength nylon folding handle for compact storage, and hardcoat aluminum shutoff ball with easily changeable valve seats. Valve shall have engraved serial number and a 5-year warranty.

**AYNJ Gated Leader Wye Series** - A 2-½" female inlet by two 1-½" male threaded outlets shall be standard. Wye construction shall be of corrosion resistant hardcoat anodized, powder coated aluminum alloy, and stainless steel components. Valve shall include high strength nylon handles with built-in stops, and hardcoat aluminum shutoff balls with easily changed valve seats. Valve shall have engraved serial number and a 5-year warranty.

**Ball Intake Valve Series** - Ball intake valve shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy, with stainless steel components and ball section. The unit shall have limited friction loss at 2000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an adjustable 90-300 psi pressure relief valve, air/water drain valve, valve position indicator, chain/lanyard attachment anchor eye, maximum operating pressure shall be 250 psi, and shall meet a 900 psi hydrostatic strength test. The valve shall meet NFPA 1965. The valve shall have a silver powder coat finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. The 30° inlet elbow shall swivel 360° and have multiple positive detents to prevent hose kinking and coupling stress. Gear box mounted handcrank or side handwheel meets NFPA 1901 slow-close requirements, and handwheel shall be reversible from side to side. Unit shall be available with a choice of hose threaded or Storz couplings, have a serial number, and be covered by a 5-year warranty.

**Ball Intake Valve Short Series** - Ball intake valve shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy, with stainless steel components and ball section. The unit shall have limited friction loss at 2000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an air/water drain valve, valve position indicator, chain/lanyard attachment anchor eye. Maximum operating pressure shall be 250 psi, and meet a 900 psi hydrostatic strength test. The valve shall meet NFPA 1965. The valve shall have a silver powdercoated finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. Gear box mounted hand crank or side handwheel meets NFPA slow close requirements, and handwheel is reversible from side to side. Units shall be available with or without automatic pressure relief valve. Units shall be available with your choice of hose threaded or Storz couplings, have a serial number, and be covered by a 5-year warranty.

**Ball Intake Valve RC Series** - Ball Intake Valve with electric remote control for opening and closing. And have a panel-mounted electric quick connect between the valve and control box. Control box to display open, closed, and intermediate valve positions. Control box and motor shall be waterproof. Ball intake valve shall be constructed of corrosion resistant, hard coat anodized aluminum alloy, with stainless steel components and ball section. The unit shall have limited friction loss at 2000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an adjustable 90-300 psi pressure relief valve, air/water drain valve, valve position indicator, chain/lanyard attachment anchor eye, maximum operating pressure shall be 250 psi, and shall meet a 900 psi hydrostatic strength test. The valve shall meet NFPA 1965. The valve shall have a silver powder coat finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. The 30° inlet elbow shall swivel 360° and have multiple positive detents to prevent hose kinking and coupling stress. Manual override handwheel meets NFPA 1901 slow-close requirements, and be reversible from side to side. Unit shall be available with a choice of hose threaded or Storz couplings, have a serial number, and be covered by a 5-year warranty.

**Ball Valve Series** - Valve shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Unit shall have nylon valve ball with detent flow control and high strength nylon handle. Inlet shall have 1-½" or 2-½" inlet (specify) and discharge outlet shall have 1-½" thread for coupling to a combination nozzle or smooth bore tip. Internal waterway shall be 1.375". Color-coded, injection molded nylon pistol grips, and valve handle covers shall be available. Rubber covered playpipe handles are available on 2-½" models. Nozzle shall have a full-time swivel inlet and laser engraved serial number and a 5-year warranty.

**Ball Valve 75 Series** - Valve body shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Valve shall have stainless steel ball shut-off and quick-change polymer valve seat. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. Female inlet (specify rigid or swivel) and male outlet shall have 1" thread. Valve will have .75" internal waterway. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Ball Valve 100 Series** - Valve body shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Valve shall have stainless steel ball shut-off and quick-change polymer valve seat. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. Swivel female inlet and male outlet shall have 1-½" thread (specify). Valve shall have 1" internal waterway. Color-coded, injection molded nylon pistol grips and valve covers shall be available. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Ball Valve 140 Series** - Valve body shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Valve shall have stainless steel ball shut-off and quick-change polymer valve seat. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. Swivel female inlet and male outlet shall have 1-½" or 2-½" thread (specify). Valve shall have 1.375" internal waterway. Color-coded, injection molded nylon pistol grips and handle covers shall be available. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Blitzfire® Series** - Rated to 500 gpm, the Blitzfire® is a highly maneuverable attack monitor. The unit shall have folding legs with replaceable carbide tips, a 10-50° manually operated elevation outlet angle, and will include an automatic safety flow shut-off to reduce the risk of injury. The six-detent slide valve shut-off shall slow near stroke end to reduce the effects of water hammer. A 40° side-to-side manually operated pivoting outlet shall be standard. An up/down pivot on the hose inlet shall allow the monitor to have stability on uneven surfaces. An anchor strap shall be included, the main body is hard coat anodized aluminum with a blue powder coat finish inside and out, and a 2-½" inlet and outlet is standard. An optional, field-installed oscillating package upgrade shall be available. Monitor shall have laser engraved serial number and a 5-year warranty.

**Blitzfire OSC® Series** - Rated to 500 gpm, the Blitzfire OSC® is a highly maneuverable self-oscillating attack monitor. The unit shall have folding legs with replaceable carbide tips, a 10-50° manually operated elevation outlet angle, and will include an automatic safety flow shut-off to reduce the risk of injury. The six-detent slide valve shut-off shall slow near stroke end to reduce the effects of water hammer. A user-adjustable 20, 30 or 40° side-to-side automatic oscillating sweep outlet with manual override shall be standard. An up/down pivot on the hose inlet shall allow the monitor to have stability on uneven surfaces. An anchor strap shall be included, the main body is hard coat anodized aluminum with a blue powder coat finish inside and out, and a 2-½" inlet and outlet is standard. Monitor shall have laser engraved serial number and a 5-year warranty.

**Blitzfire® HE Series** - Rated to 500 gpm, the Blitzfire® HE is a highly maneuverable attack monitor. The unit shall have folding legs with replaceable carbide tips, a 10-86° manually operated elevation outlet angle, and will include an automatic safety flow shut-off to reduce the risk of injury. The six-detent slide valve shut-off shall slow near stroke end to reduce the effects of water hammer. A 40° side-to-side manually operated pivoting outlet shall be standard. An up/down pivot on the hose inlet shall allow the monitor to have stability on uneven surfaces. An anchor strap shall be included, the main body is hard coat anodized aluminum with a blue powder coat finish inside and out, and a 2-½" inlet and outlet is standard. An optional, field-installed oscillating package upgrade shall be available. Monitor shall have laser engraved serial number and a 5-year warranty.

**Blitzfire HE OSC® Series** - Rated to 500 gpm, the Blitzfire HE OSC® is a highly maneuverable self-oscillating attack monitor. The unit shall have folding legs with replaceable carbide tips, a 10-86° manually operated elevation outlet angle, and will include an automatic safety flow shut-off to reduce the risk of injury. The six-detent slide valve shut-off shall slow near stroke end to reduce the effects of water hammer. A user-adjustable 20, 30 or 40° side-to-side automatic oscillating sweep outlet with manual override shall be standard. An up/down pivot on the hose inlet shall allow the monitor to have stability on uneven surfaces. An anchor strap shall be included, the main body is hard coat anodized aluminum with a blue powder coat finish inside and out, and a 2-½" inlet and outlet is standard. Monitor shall have laser engraved serial number and a 5-year warranty.

**Booster Series** - The Booster is a secondary supply inlet for standpipe-mounted monitors. The Booster shall be rated up to 2500 gpm and shall allow pressure to be boosted using a pump, and/or foam to be introduced. The Booster shall allow a large diameter hose or in-line foam eductor to be connected to the secondary inlet with optional Storz or female hose threads ranging from 3.5" up to 6.0" (specify). Body shall be constructed of hard coat anodized aluminum alloy and have a red powder coat finish inside and out for maximum corrosion protection. A swing check valve within the secondary inlet shall allow connections to be made while the monitor is flowing from the main inlet (standpipe). An external automatic drain valve is standard to completely drain the monitor and Booster body following each use. The main inlet shall be available for either direct connection to a Task Force Tips Hydrant Under Monitor (HUM), or adapted to a 4" ANSI 150 flange bolt pattern (specify). Various outlets for monitor connection are available including 4" ANSI 150 flange or direct Task Force Tips monitor connection eliminating one flange (specify). The unit shall have a unique serial number and a written 5-year warranty.



**Booster OSC Series** - The Booster OSC is a secondary supply inlet with automatic monitor oscillation for standpipe-mounted monitors. The unit shall be rated up to 2500 gpm and shall allow pressure to be boosted using a pump, and/or foam to be introduced. The Booster shall allow a large diameter hose or in-line foam eductor to be connected to the secondary inlet with Storz or female hose threads ranging from 3.5" up to 6.0" (specify). An internal water-driven turbine shall power the oscillation without discharging water to the ground below the unit. Oscillation shall be functional from either boost or standpipe water sources. Oscillation angle shall be adjustable by hand from 0° to 120° with or without water flowing. The sweep range shall be capable of being tested without flowing by means of a wrench or low speed drill. The oscillation pattern can be centered throughout 360° travel by rotating the monitor hand wheel or tiller bar. Two field changeable gear ratio options for 4 or 8 cycles per minute (rated @2000 gpm flow) shall be included. Body shall be constructed of hardcoat anodized aluminum alloy and have a red powder coat finish inside and out for maximum corrosion protection. A swing check valve within the secondary inlet shall allow connections to be made while the monitor is flowing from the main inlet (standpipe). An external automatic drain valve shall be standard to completely drain the monitor and Booster body following each use. The main inlet shall be available for either direct connection to a Task Force Tips Hydrant Under Monitor (HUM), or Industrial Valve Under Monitor (IVUM), or adapted to a 4" ANSI 150 flange bolt pattern (specify). The Booster OSC is compatible with TFT Monsoon, Typhoon and Hurricane monitors that are specified with inlet option W) swivel base. The unit shall have a unique serial number and a written 5-year warranty.

**Bubble Cup® Series** - Lightweight fog, straight stream, and foam aspiration nozzles with dual gallonage settings. Nozzles shall have a retractable aluminum sleeve for foam aspiration, twist shut-off, and shall be available with stainless steel ball shut-off and quick-change polymer valve seat. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body and sleeve shall be hardcoat anodized and reflective labeling shall be standard. Color-coded, injection molded nylon pistol grips and handle covers shall be available. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Bubble Cup® ER Series** - Lightweight fog, straight stream, and foam aspiration nozzles with dual gallonage settings. Nozzle shall have a retractable aluminum sleeve for foam aspiration, electric motor operation of nozzle spray pattern, gallonage flow rate selection, and nozzle shut off. The extruded aluminum alloy body and sleeve shall be hardcoat anodized and reflective labeling shall be standard. Nozzle shall be for use with Task Force Tips EF1 monitor only. Nozzle shall have laser engraved serial number and a 5-year warranty.

**CAFS-Force Nozzle** - Nozzles shall be engineered to provide optimal foam stream performance, as well as offering low pressure nozzle operations when using water alone. Nozzles shall have a molded rubber bumper with "power fog" teeth, flush without shutting down, reflective labeling shall be standard, and meet NFPA 1964. The extruded aluminum alloy body shall be hard coat anodized and nozzle shall have an automatic dual-pressure control with a water flow capacity of 70-200 gpm that may be switched from standard low pressure (water application) to CAFS mode. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Crossfire® Series** - Rated to 1250 gpm, the Crossfire® is a portable ground monitor and/or deck mounted monitor. The Crossfire® monitor top with hand wheel shall provide elevation control from 90° to the safety stop at 30° above horizontal, and shall be capable of lower elevation angle when truck mounted. A visually verifiable lever action rotational lock, quick release bar with locking pawls, automatic drain valve, stainless steel worm gear, integral stream straighteners, and pressure gauge shall all be standard. The SAFE-TAK® ground base shall have replaceable carbide tipped, stainless steel folding legs, and will include an automatic safety flow restriction device to reduce the risk of injury. An anchor strap attached to protective ground base outlet cap shall be included. All castings are hardcoat anodized aluminum alloy with a powder coat finish inside and out, and available with twin 2-1/2" clappered inlet, or single large diameter inlet. An optional pressure relief valve (single inlet models only), truck mounting bracket, apparatus mounting adapters and nozzles are available. Monitor and base shall each have laser engraved serial number and a 5-year warranty.

**Dual Flow LX Foam Nozzle** - The foam aspirating dual gallonage high flow nozzle has two flow settings of 800 and 1585 gpm @ 150 psi. Flow settings are changed using a locking lever handle. Unit requires no grease or other maintenance. Nozzle shall be constructed of lightweight hardcoat anodized materials. Standard inlet shall be 3-1/2" female swivel. Nozzle shall have a laser engraved serial number and a 5-year warranty.

**Dual-Force® Series** - Lightweight fog and straight stream nozzles with constant pressure / variable gallonage operation. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with detent flow control (except tip-only models), and inlet debris screen. The nozzle shall have a dual pressure selector that allows for 100 psi or 55 psi pressure operation or a low-pressure version that allows 75 psi or 45

psi pressure operation. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers (except tip-only models) shall be available and nozzles shall accept the low and multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Extend-A-Gun™ Manual Series** - The telescoping waterway shall be capable of being lowered to deck level (or into a monitor well) for monitor storage, and shall be capable of raising the monitor to an extended position by lifting the quick release bar and raising the unit manually. The extension shall be available in extension travel lengths of either 12" or 18" (specify) and shall lock into and be usable in fully raised or fully lowered positions. The Extend-A-Gun shall allow for full 360-degree monitor rotation operation in either the raised or lowered positions. Shall have a 3" waterway, hard coat anodized finish, and built-in sensor for connection to "monitor raised" warning light. The inlet shall be either 3" grooved Victaulic or 3" male NPT or BSP thread (specify). The outlet shall be either 3" male NPT thread or Crossfire monitor connection (specify). Unit shall have laser engraved serial number and be covered by a 5-year warranty.

**Extend-A-Gun RC 3™ Series** - The remote controlled telescoping waterway shall be capable of being lowered to deck level (or into a monitor well) for monitor storage, and shall be capable of raising the monitor to an extended position by electric remote control. The extension travel length shall be either 12" or 18" and shall lock and be usable in fully raised or fully lowered positions and operated by an electric motor controlled from TFT RC monitor controls or with optional remote control operator's panel. Manual override shall be included. The Extend-A-Gun RC 3 shall allow for full 360° monitor rotation operation in either the raised or lowered positions. Shall have a 3" waterway, hard coat anodized finish, and built-in sensor for connection to "monitor raised" warning light. The inlet shall be either 3" grooved Victaulic or 3" male NPT or BSP thread (specify). The outlet shall have Tornado, Hurricane, Typhoon or Monsoon manual or electric remote monitor attachment (specify). Unit shall have serial number and be covered by a 5-year warranty.

**Extend-A-Gun RC 4™ Series** - The remote controlled telescoping waterway shall be capable of being lowered to deck level (or into a monitor well) for monitor storage, and shall be capable of raising the monitor to an extended position by electric remote control. The extension travel length shall be 18" and shall lock and be usable in fully raised or fully lowered positions and be operated by an electric motor controlled from TFT RC monitor controls or with optional remote control operators panel. Manual override shall be included. The Extend-A-Gun RC 4 shall allow for full 360° monitor rotation operation in either the raised or lowered position. Shall have a 4" waterway, hard coat anodized finish, and built-in sensor for connection to "monitor raised" warning light. The inlet shall be either 4" grooved Victaulic or 4" male NPT or BSP thread (specify). The outlet shall have Hurricane, Typhoon or Monsoon manual or electric remote monitor attachment (specify). Unit shall have serial number and be covered by a 5-year warranty.

**Extend-A-Gun Pipe** - Easily add 18" to your Crossfire Deck gun outlet connection using the Extend-A-Gun Pipe. Simply remove the Crossfire monitor from the truck mount adapter, add the Extend-A-Gun Pipe and connect the Crossfire. Visually verifiable rotation lock and locking mechanism. Extend-A-Gun Pipe is made from hardcoat anodized aluminum alloy for light weight and corrosion resistance. Not for use on Extend-A-Gun telescoping waterway. Not for use on portable ground base.

**Flip Tip 2 Series** - Nozzle shall have a spring-loaded locking ring with large grips for releasing the lock on the swivel joint to quickly and securely switch between two nozzles during use. Unit shall be constructed of corrosion resistant hardcoat anodized aluminum alloy. Unit shall have either two sizes of smooth bore, or a smooth bore in the base section and a combination fog/straight stream nozzle (specify). Combination nozzle shall be available in either single or dual pressure automatic constant pressure variable flow, or fixed gallonage (specify). Unit shall have a serial number, Scotchlite reflective labeling, 2-1/2" threads, and be covered by a 5-year warranty.

**Foam Eductor 125 Series** - Portable in-line foam eductor shall be constructed of corrosion resistant, hard coat anodized aluminum alloy, with stainless steel components. Eductor shall have 1-1/2" or 2-1/2" inlet (specify) and 1-1/2" outlet, and shall be available in 60, 95 or 125 gpm flow rating (specify) and shall accurately proportion at 0.25%, 0.5%, 1%, 3%, and 6% user adjustable settings with detents. The pickup head shall include a quick connector and push-button back-flush function. Concentrate pick-up tube shall be constructed of 1" ID industrial grade, transparent reinforced tubing and stainless steel components. The units shall meet a 900 psi hydrostatic strength test. Eductors shall meet NFPA 1965. Units shall have a laser engraved serial number and be covered by a 5-year warranty.

**Foam Eductor 350 Series** - Portable in-line foam eductor shall be constructed of corrosion resistant, hard coat anodized aluminum alloy, with stainless steel components.

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Eductor shall have 2-½" inlet and outlet, and shall be available in 250 or 350 gpm flow rating at either 150 or 200 psi inlet pressure (specify). It shall accurately proportion at 0.5%, 1%, 3%, and 6% user adjustable settings with detents. The pickup head shall include a quick connector and push-button back-flush function. Concentrate pick-up tube shall be constructed of 1.25" ID industrial grade, UV resistant tubing and stainless steel components. The units shall meet a 900 psi hydrostatic strength test. Eductors shall meet NFPA 1965. Units shall have a laser engraved serial number and be covered by a 5-year warranty.

**Forestry Gated Wye Series** - A 1" or 1-½" female inlet (specify) by two 1" or 1-½" male threaded outlets (specify) shall be standard. Wye construction shall be of corrosion resistant hard coat anodized, aluminum alloy, and stainless steel components. Valve shall include high strength nylon handles with built-in stops, and easily changed valve seats. Valve shall have engraved serial number and a 5-year warranty.

**Forestry In-line Valve** - A 1" or 1-½" female inlet (specify) by 1" or 1-½" male threaded outlet (specify) shall be standard. Valve construction shall be of corrosion resistant hard coat anodized, aluminum alloy, and stainless steel components. Valve shall include high strength nylon handle with built-in stops, and easily changed valve seats. Valve shall have engraved serial number and a 5-year warranty.

**Forestry In-line Tee** - A 1-½" female inlet and 1-½" male threaded outlet shall be standard. Branch outlet shall be 1" NH or NPSH male thread (specify). Valve shall include high strength nylon handle. Valve shall have engraved serial number and a 5-year warranty.

**Gated Wye 2 ½"** - shall have a full 2-½" waterway, field replaceable valve seats, and a quarter-turn valve handle or slow close knob (specify) requiring low force to move valve with up to 250 psi (17 bar) maximum operating pressure from either side of valve. Automatic valve lock to maintain valve position while flowing at partial openings shall be standard. Quarter turn color coded folding valve handles for compactness, or large knob with valve position indicator (specify) and cast in carrying handle shall be standard. Pipe threaded ports for pressure gauge or bleed valve and hole for cap tether attachment shall be included. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. Available with many combinations of inlet and outlet connections. Valve shall have serial number and a 5-year warranty.

**Gated Siamese 2 ½"** - shall have a full 2-½" waterway, field replaceable valve seats, and a quarter-turn valve handle or slow close knob (specify) requiring low force to move valve with up to 250 psi (17 bar) maximum operating pressure from either side of valve. Automatic valve lock to maintain valve position while flowing at partial openings shall be standard. Quarter turn color coded folding valve handles for compactness, or large knob with valve position indicator (specify) and cast in carrying handle shall be standard. Pipe threaded ports for pressure gauge or bleed valve and hole for cap tether attachment shall be included. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. Available with many combinations of inlet and outlet connections. Valve shall have serial number and a 5-year warranty.

**Handline Series** - Lightweight fog and straight stream nozzles with constant pressure / variable gallonage operation. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with detent flow control, (except tip-only models) and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized, and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and color-coded valve handle covers shall be available (except tip-only models). Nozzles shall accept the low and multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Hemisphere Series** - The portable monitor shall be capable of flows up to 500 gpm while attached securely to adequate supporting structures using one of the attachment mounts. The unit shall be constructed of corrosion resistant hardcoat anodized aluminum alloy and stainless steel components. The 90° ball valve inlet shall rotate 360° and shall have a valve handle with locking off position. The nozzle outlet connection shall rotate 360° using a hand crank, and have adjustable double ball swivel to allow water or foam discharge anywhere in a hemispherical range. Various mounts including an I-beam clamp and 2" hitch receiver mount, dedicated 2" hitch mount, fixed mount, and cross-pin mount shall be available (specify). The monitor and valve body shall have blue powdercoated finish inside and out. The unit shall have a serial number and be covered by a 5-year warranty.

**Hose Roller** - Hose roller components shall be made from aluminum alloy with stainless steel hardware and polymer rollers. Unit shall have three hand grips and be hinged at one end. Unit shall be covered by a 5-year warranty.

**HUM** - Hydrant Under Monitor Series - The valve with two large diameter hose ports shall be designed for use under monitors and have low friction loss through its large,

unobstructed waterway. Rated up to 300 psi (21 bar) and supporting monitors up to 2500 gpm. Valve body shall be constructed of hard coat anodized aluminum alloy and have a red powder coat finish inside and out for maximum corrosion protection. All other structural components shall be constructed of hard coat anodized aluminum alloy. Two concentric slow-close half ball valves shall allow the monitor to be operated either independently or simultaneously with the hose ports. Each half ball shall be controlled by a hand crank through a sealed gear box with color-coded retro-reflective valve position indicator for visibility in most light conditions. Valve inlet base shall be a 6" ANSI 150 flange. An external automatic drain valve is standard, as well as a second internal drain valve located within the monitor valve half ball to completely drain the monitor and valve body following each use. An optional third internal automatic drain valve within the main shutoff half ball (specify) shall be available to assist in draining water when the valve is closed, after the incoming water pressure is shut off. Various outlets for monitor connection are available including 4" ANSI 150 flange, direct Task Force Tips monitor connection eliminating one flange, or Task Force Tips Booster unit (specify). Various outlets for hose port connection are available including Storz couplings, male threaded spouts or gated wye, with sizes ranging from 1.5" up to 6.0" (specify). All hose connections are supplied with a pressure cap with lanyard. A blind plug shall be installed in the smaller of the two hose ports when no connection is specified. The unit shall have a unique serial number and have a written 5-year warranty.

**Hurricane Monitor Series** - Rated up to 1250 gpm, the Hurricane is a fixed station or truck mounted monitor. The hand wheel shall provide elevation control from 90° above to 90° below horizontal. The unit shall have a full 360° rotational travel, visually verifiable lever action rotational locking mechanism, automatic drain valve, stainless steel worm gear, and shall have grease zerk fittings for easy service and lubrication. The discharge elbow shall include an integral stream straightener. The monitor shall be hard coat anodized aluminum alloy, and shall have a red powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have laser engraved serial number and be covered by a 5-year warranty.

**Hurricane RC Monitor Series** - Rated up to 1250 gpm, the Hurricane RC is a remotely controlled fixed station or truck mounted monitor with electric remote control of rotation and elevation angle. The electric motor shall provide elevation control from 90° above and 45° below horizontal. The unit shall have an electrically operated 450° horizontal rotational travel, user installed travel limit stops, automatic drain valve, stainless steel worm gear drive, and shall have grease zerk fittings for easy service and lubrication. User operation controls shall be mounted on the monitor, and shall include rotation, elevation and nozzle stream pattern control programmable park and oscillate and two auxiliary controls. Optional remote wired, tethered and wireless remote controls shall be available. The discharge elbow shall include an integral stream straightener. The monitor shall be constructed of hard coat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and be covered by a 5-year warranty.

**Hydrant Adapter** - The adapter shall allow for permanent attachment to hydrant discharge. The adapter shall include a set screw for tamper-proof installation and a permanently secured Storz cap with lock. The unit shall include Scotchlite reflective labels to identify flow per NFPA. Adapter and cap shall be constructed of corrosion resistant hardcoat anodized aluminum alloy, with stainless steel components. The units shall meet NFPA 1963 and 1965 900 psi hydrostatic design strength test and be covered by a 5-year warranty.

**Hydrant Assist Valves** - Hydrant assist valve shall have stainless steel valve ball section, gear box mounted hand crank with valve position indicator, low friction loss, maximum operating of 250 psi, and shall meet a 900 psi hydrostatic strength test. An automatic clapper valve with position indicator shall be standard to allow water flow in the event of booster pump failure for uninterrupted water flow. Large diameter inlets and outlets shall have corrosion resistant polymer bearing strip, and be available in threaded or Storz connections (specify), and shall have a carrying strap. Aluminum casting shall be hardcoat anodized and silver TFT-powdercoat finished for maximum corrosion protection. The unit shall have a serial number and a 5-year warranty.

**Hydrant Master** - Electric remote controlled low friction loss hydrant valve shall meet slow operating requirements of NFPA 1965 utilizing a sliding plug. Unit shall be capable of being operated manually with control on the valve, electrically from push buttons on the valve and the wireless handheld controller. The handheld controller and valve both include a pressure display and valve position feedback, and controls the valve up to 1200 feet away. Valve and controller are backlit for low-light conditions, operate using (4) AA batteries, valve is pressure activated, and both are equipped with power-save mode. Aluminum casting is hardcoat anodized and powder coated silver inside and out. The valve shall have an automatic drain to drain valve body once water pressure is removed. Electronics on valve and controller are waterproof. Mounting bracket for



wireless controller is included. Various inlet and outlet couplings are available (specify). The units shall have serial numbers and be covered by a 5-year warranty.

**In-line Pressure Gauge** - Gauge waterway body shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Units shall be available in 2-1/2" female swivel inlet and male outlet or 1-1/2" female swivel inlet and male outlet (specify). Pressure gauge shall be liquid-filled, with pitot-type probe into the waterway. Gauge shall have protective rubber bumper and be available in 0-200 psi or 0-300 psi (specify). Unit shall be covered by a 5-year warranty.

**In-line Pressure Gauge** - Gauge waterway body shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Units shall be available in 2-1/2" female swivel inlet and rigid male outlet or pivoting male outlet (specify). Pressure gauge shall be liquid-filled, with pitot-type probe into the waterway. Gauge shall have protective ring and lens cover and be available in 0-200 psi or 0-300 psi (specify). Unit shall be covered by a 5-year warranty.

**In-line Valve Ground / Loose** - LDH in-line valve shall be constructed of hardcoat anodized aluminum alloy with silver powder coat finish inside and out for maximum corrosion protection, and shall include a carrying handle. Valve shall have stainless steel valve ball section, maximum operating pressure of 250 psi, and shall meet a 900 psi hydrostatic design strength test. Gear box mounted hand crank or side handwheel (specify) meets NFPA 1901 slow-close requirements, and handwheel shall be reversible from side to side. A 3/4" pipe threaded port for optional air bleeder/drain valve shall be provided. Large diameter inlet and outlet shall have corrosion resistant polymer bearing strip, and be available with threaded or Storz connections with full time swiveling couplings that will swivel when connection is tightened (except male threaded, which shall be rigid) (specify). An optional pressure relief valve shall be available. Unit shall have a unique serial number and be covered by a 5-year warranty.

**In-line Valve Truck / Fixed** - LDH in-line valve shall be constructed of hardcoat anodized aluminum alloy with silver powder coat finish inside and out for maximum corrosion protection, and shall include a carrying handle. Valve shall have stainless steel valve ball section, maximum operating pressure of 250 psi, and shall meet a 900 psi hydrostatic design strength test. Gear box mounted hand crank or side handwheel (specify) meets NFPA 1901 slow-close requirements, and handwheel shall be reversible from side to side. A 3/4" pipe threaded port for optional air bleeder/drain valve shall be provided. Large diameter inlet and outlet shall have corrosion resistant polymer bearing strip, and be available with threaded connections with swiveling couplings that will not allow swiveling of the valve when connection is tightened (except male threaded, which shall be rigid) (specify). An optional pressure relief valve shall be available. Unit shall have a unique serial number and be covered by a 5-year warranty.

**IVUM 4" Industrial Valve Under Monitor Series** - Valve shall be designed for use under monitors and have low friction loss through its large, unobstructed waterway. Rated up to 300 psi (21 bar) and supporting monitors up to 2500 gpm. Valve body shall be constructed of hard coat anodized aluminum alloy and have a red powder coat finish inside and out for maximum corrosion protection. Inlet flange, half ball and associated hardware shall be available as a collective option of either stainless steel or hard coat anodized aluminum alloy (specify). Valve shall control water flow adjacent to the 4" ANSI 150 inlet flange. An external automatic drain valve is standard to completely drain the monitor and valve body following each use. An optional internal automatic drain valve within the half ball (specify) shall be available to assist in draining water when the valve is closed, after the incoming water pressure is shut off. Various outlets for monitor connection are available including 4" ANSI 150 flange or direct TFT monitor connection eliminating one flange (specify). Monitor valve control shall be controlled by a hand crank through a sealed gear box with two retro-reflective valve position indicators for visibility around a 360° perimeter in most light conditions. Valve seats shall be field replaceable using a tool available from Task Force Tips. The unit shall have a serial number and a written 5-year warranty.

**Jumbo Ball Intake Valve Series** - Ball Intake Valve shall have a 5-1/4" diameter waterway. The unit shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy, with stainless steel components and ball section. The unit shall have limited friction loss at 3000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an adjustable 90-300 psi pressure relief valve, air/water drain valve, valve position indicator, chain/lanyard attachment anchor eye, maximum operating pressure shall be 250 psi, and shall meet a 900 psi hydrostatic strength test. The valve shall meet NFPA 1965. The valve shall have a silver powder coat finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. The 30° inlet elbow shall swivel 360° and have multiple positive detents to prevent hose kinking and coupling stress. Models without inlet elbow shall be available. Gear box mounted hand crank or handwheel (specify) shall meet NFPA 1901 slow-close requirements, and handwheel shall be reversible from side to side. Unit shall be available with a choice of hose threaded or Storz couplings, have a serial number and be covered by a 5-year warranty.

**Jumbo Ball Intake Valve RC Series** - Ball Intake Valve with electric remote control for opening and closing and have a panel mounted electric quick connect between the valve and control box. Control box to display open, closed, and intermediate valve positions. Control box and motor shall be waterproof. Ball Intake Valve shall have a 5-1/4" diameter waterway. Ball intake valve shall be constructed of corrosion resistant, hard coat anodized aluminum alloy, with stainless steel components and ball section. The unit shall have limited friction loss at 3000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an adjustable 90-300 psi pressure relief valve, air/water drain valve, valve position indicator, chain/lanyard attachment anchor eye, maximum operating pressure shall be 250 psi, and shall meet a 900 psi hydrostatic strength test. The valve shall meet NFPA 1965. The valve shall have a silver powder coat finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. The 30° inlet elbow shall swivel 360° and have multiple positive detents to prevent hose kinking and coupling stress. Models without inlet elbow shall be available. Manual override hand wheel shall meet NFPA 1901 slow-close requirements, and be reversible from side to side. Unit shall be available with a choice of hose threaded or Storz couplings, have a serial number, and be covered by a 5-year warranty.

**Jumbo Ball Intake Valve Low Profile Series** - Ball intake valve shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy, with special coating on wetted components. The unit shall have limited friction loss at 2000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an air/bleeder valve, valve position indicator, chain/lanyard attachment anchor eye. Maximum operating pressure shall be 250 psi, and meet a 900 psi hydrostatic design strength test. The valve shall meet NFPA 1965. The valve shall have a silver powder-coated finish inside and out. All hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. The 30° inlet elbow at the bottom of the valve shall swivel to a below the valve for storage and swivel out to reduce hose kinking and coupling stress. Gear box mounted with top or front facing operating crank handle meets NFPA slow close requirements and shall have position indicator. Units shall be available with an automatic pressure relief valve. Units shall be available with your choice of hose threaded or Storz connections (specify), have a serial number, and be covered by a 10-year warranty.

**Jumbo Ball Intake Valve Low Profile RC Series** - Ball intake valve shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy, with special coating on wetted components. The unit shall have limited friction loss at 2000 gpm flow and be designed for both pressure and vacuum service. The valve shall have an air/bleeder valve, valve position indicator, and chain/lanyard attachment anchor eye. Maximum operating pressure shall be 250 psi, and meet a 900 psi hydrostatic design strength test. The valve shall meet NFPA 1965. The valve shall have silver powdercoated finish inside and out. All hose couplings shall use a polymer bearing ring for preventions of galvanic corrosion. The 30° inlet elbow at the bottom of the valve shall swivel to below the valve for storage and swivel out to reduce hose kinking and coupling stress. Valve shall have electric remote control for valve operation. The control box shall display open, closed, and intermediate valve positions using LEDs. The valve shall include a waterproof quick connect electrical plug and receptacle for panel mounting near the valve location. Control box and motor shall be waterproof. Manual override knob shall meet NFPA 1901 slow close requirements. Units shall have an automatic pressure relief valve with visible pressure setting indication. Units shall be available with threaded or Storz connections (specify), have a serial number, and be covered by a 10 year warranty.

**Jumbo Siamese and Wye Series** - Wye and Siamese shall be constructed of corrosion resistant, hard coat anodized aluminum alloy, with stainless steel components. The units shall have chain/lanyard attachment anchor eye, rugged carrying handle (except 2-1/2" models), and shall meet a 900 psi hydrostatic strength test. Units shall meet NFPA 1965. The unit shall have a silver powder coat finish inside and out. All LDH hose couplings shall use a polymer bearing ring for prevention of galvanic corrosion. Siamese unit shall include dual clapper valves (except 2-1/2" models, which shall include a single clapper valve). Unit shall be available with a choice of hose threaded or Storz couplings, have a serial number, and be covered by a 5-year warranty.

**LDH Gated Water Thief** - LDH Water Thief shall have two (2) full 2-1/2" waterway valved ports with field replaceable valve seats, and multi-turn, slow close knob with valve position indicator. 2-1/2" ports shall be available with male thread or female swivel threaded connections (specify). Large diameter valve shall have a stainless valve ball section with gear box mounted hand crank that meets NFPA 1901 slow-close requirements. Large diameter ports shall have corrosion resistant polymer bearing strips and shall be available in threaded or Storz connections (specify). Aluminum casting shall be hardcoat anodized, and silver TFT powdercoat finished inside and out for maximum corrosion protection. Units shall include 3/4" pipe threaded port for optional air bleeder/drain valve. An optional, adjustable, automatic pressure relief valve shall be available. The unit shall have a maximum operating pressure of 300 psi, and shall meet a 900 psi hydrostatic design strength test. Unit shall have a serial number and a 5-year warranty.

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**LDH In-Line Valves** - LDH in-line valve shall have stainless steel valve ball section, valve position indicator, maximum operating of 250 psi, and shall meet a 900 psi hydrostatic strength test. Gear box mounted hand crank or side handwheel (specify) meets NFPA 1901 slow-close requirements, and handwheel shall be reversible from side to side. ¾" pipe threaded port for optional air bleeder/drain valve shall be included. Large diameter inlet and outlet shall have corrosion resistant polymer bearing strip, and be available in threaded or Storz connections (specify), and shall have a carrying handle. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. An optional, adjustable pressure relief valve shall be available. The unit shall have a serial number and a 5-year warranty.

**LDH Manifold and Siamese, 3-Way - LDH by 2-½"** LDH 3-way manifold and Siamese shall have three (3) full 2-½" waterway valved ports with field replaceable valve seats, quarter turn valve handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure from either side of the valves. Automatic valve lock on 2-½" inch valves keep their position while flowing at partial openings and shall be standard. Units shall include three folding color coded valve handles to minimize storage space. ¾" pipe threaded port for optional air bleeder/drain valve shall be included. Large diameter port shall have corrosion resistant polymer bearing strip, and be available in threaded or Storz connections (specify). Unit shall have a strap for carrying and dragging hose. Aluminum casting shall be hardcoat anodized and silver TFT-powdercoat finish inside and out for maximum corrosion protection. 3-Way Manifold shall have male thread on 2-½" valved ports and Siamese shall have female swivel threaded connections on 2-½" valved ports. Maximum operating pressure of the unit shall be 250 psi. An optional, adjustable pressure relief valve shall be available. The unit shall have a serial number and a 5-year warranty.

**LDH Manifold and Siamese, 4-Way - LDH by 2-½"** LDH 4-way manifold and Siamese shall have four (4) full 2-½" waterway valved ports with field replaceable valve seats, quarter turn valve handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure from either side of the valves. Automatic valve lock on 2-½" inch valves keep their position while flowing at partial openings and shall be standard. Units shall include four folding color coded valve handles to minimize storage space. ¾" pipe threaded port for optional air bleeder/drain valve shall be included. Large diameter port shall have corrosion resistant polymer bearing strip, and be available in threaded or Storz connections (specify). Unit shall have a strap for carrying and dragging hose. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. 4-way manifold shall have male thread on 2-½" valved ports and Siamese shall have female swivel threaded connections on 2-½" valved ports. Maximum operating pressure of the unit shall be 250 psi. An optional, adjustable pressure relief valve shall be available. The unit shall have a serial number and a 5-year warranty.

**LDH Manifold, 5-Way - LDH by 2-½"** LDH 5-way manifold shall have stainless steel slow close, slow open slide valve on LDH waterway. Manifold shall have four (4) full 2-½" waterway valved ports with field replaceable valve seats, quarter turn color-coded valve handles with low force to move even under pressure up to 250 psi (17 bar) maximum operating pressure. Automatic valve lock on 2-½" valves keep their position while flowing at partial openings and shall be standard. Unit shall have four folding color coded valve handles to minimize storage space. Large diameter ports shall have corrosion resistant polymer bearing strip, and be available in Storz connections (specify). Unit shall have a carrying handle. Aluminum casting shall be hardcoat anodized and silver TFT powder coat finish inside and out for maximum corrosion protections. Maximum operating pressure shall be 250 psi. Unit shall have pressure relief valve and protected pressure gauge. The unit shall have a serial number and a 5-year warranty.

**Low Expansion Foam Attachment** - Air aspirating nozzle foam attachment shall be constructed of corrosion resistant, high strength materials with stainless steel screen (except FJ-LX-M model) and components. Attachment shall attach to appropriate nozzle bumper with a locking mechanism. Unit shall have reflective labeling, engraved serial number, and be covered by a 5-year warranty.

**Master Foam Series 250, 350, 500, and 750 gpm** - Fixed gallonage combination fog, straight stream, self-educing, constant gallonage foam nozzle shall be available with a flow of 750, 500, 350, or 250 gpm@ 100 psi (specify) and user selectable foam proportioning ratios of 0.5%, 1%, 3%, or 6% utilizing included orifice disks. Nozzle shall be hardcoat anodized aluminum alloy. Nozzle shall include an industrial grade UV resistant 1-1/2" concentrate pickup hose with cam lock connection to nozzle foam inlet. A UV resistant rubber bumper and halo ring for fog pattern adjustment shall be provided. 2.5" female inlet is standard and the nozzle shall accept the FJ-LX-M low expansion foam attachment. Nozzle shall have reflective labeling, laser engraved serial number and be covered by a 5 year warranty.

**Master Foam 1000, 1250, 1500 and 2000 GPM Series** - Fixed gallonage combination fog, straight stream, self-educing, constant gallonage foam nozzle shall be available with a flow of 1250 or 1000 gpm@ 100 psi (specify) and user selectable foam proportioning ratios of 0.5%, 1%, or 3% utilizing included orifice disks. Nozzle shall be hardcoat anodized aluminum alloy. Nozzle shall include an industrial grade UV resistant concentrate pickup hose with cam lock connection to nozzle foam inlet. Metal fog teeth and handles for fog pattern adjustment shall be provided. 2.5" female inlet shall be provided. Nozzle shall have reflective labeling, laser engraved serial number and be covered by a 5 year warranty.

**Master Foam ER 1000, 1250, 1500, and 2000 GPM Series** - Fixed gallonage combination fog, straight stream, self-educing, constant gallonage foam nozzle shall be available with a flow of 1000, 1250, 1500, or 2000 gpm@ 100 psi (specify) and user selectable foam proportioning ratios of 1%, or 3% utilizing included orifice disks. Nozzle shall be hardcoat anodized aluminum alloy. Nozzle shall include a 10' industrial grade UV resistant concentrate pickup hose with cam lock connections to nozzle foam inlet and foam supply. Nozzle shall have electrically operated pattern control for use on remote applications. The rugged, aluminum actuator shall be totally enclosed and waterproof. The actuator shall operate from 12-24 volts DC and draw 3 amps. A manual override knob shall be included. Water pattern shall adjust from straight stream to a wide fog and shall have metal fog teeth. 2.5" or 3.5" (specify) female inlet shall be provided. Nozzle shall have reflective labeling, laser engraved serial number and be covered by a 5 year warranty.

**Master Stream 1000 Fixed Series** - Fixed Gallonage combination fog and straight stream Master Stream nozzle with a fixed gallonage setting shall be provided. The nozzle shall be pre-set and laser marked at the factory to meet the customer's specified flow (up to 1000 gpm @ 100 psi). The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Operational halo ring shall be available. Nozzle shall provide variable pattern selection from straight stream to wide protective fog. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1000 Selectable Series** - Selectable Gallonage combination fog and straight stream Master Stream nozzle with multiple constant gallonage settings of 250, 350, 500, 750, 1000 gpm @ 100 psi shall be provided. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling, and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1000 Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (150-1000 gpm) @ 100 psi shall be provided. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1250 Small Body Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (150-1250 gpm) @ 100 psi shall be provided. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1250 Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (150-1250 gpm) shall be provided. User adjustable pressure control shall allow nozzle pressure adjustment of 70-120 psi. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1250 Automatic with Flush Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the



nozzle's flow range (300-1250 gpm) shall be provided. Large user adjustable pressure control knob shall allow nozzle pressure adjustment with tactile detent settings between 70-120 psi. At pressures other than 100 psi, maximum flow is determined by K-factor of 125. The extruded aluminum alloy body and bumper shall be hardcoat anodized for corrosion resistance. Reflective labeling and aluminum bumper with fixed fog teeth to provide variable pattern selection from straight stream to wide dense fog pattern shall be standard. Nozzle shall allow easy field flushing by twisting the selector ring without shutting off the flow. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1000 Automatic with Flush Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (300-1000 gpm) shall be provided. Large user adjustable pressure control knob shall allow nozzle pressure adjustment with tactile detent settings between 70-120 psi. At pressures other than 100 psi, maximum flow is determined by K-factor of 125. The extruded aluminum alloy body and bumper shall be hardcoat anodized for corrosion resistance. Reflective labeling and aluminum bumper with fixed fog teeth to provide variable pattern selection from straight stream to wide dense fog pattern shall be standard. Nozzle shall allow easy field flushing by twisting the selector ring without shutting off the flow. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1000 Selectable Flow with Flush Series** - Selectable gallonage combination fog and straight stream Master Stream nozzle with selectable flow settings of 350, 500, 750, and 1000 at 100 psi shall be provided. A unique flow limiting function shall assure maximum stream performance at each gallonage selection setting. The extruded aluminum alloy body and bumper shall be hardcoat anodized for corrosion resistance. Reflective labeling and aluminum bumper with fixed fog teeth to provide variable pattern selection from straight stream to wide dense fog pattern shall be standard. Nozzle shall allow easy field flushing by twisting the selector ring without shutting off the flow. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1250 Selectable Flow with Flush Series** - Selectable gallonage combination fog and straight stream Master Stream nozzle with selectable flow settings of 500, 750, 1000, and 1250 gpm at 100 psi shall be provided. A unique flow limiting function shall assure maximum stream performance at each gallonage selection setting. The extruded aluminum alloy body and bumper shall be hardcoat anodized for corrosion resistance. Reflective labeling and aluminum bumper with fixed fog teeth to provide variable pattern selection from straight stream to wide dense fog pattern shall be standard. Nozzle shall allow easy field flushing by twisting the selector ring without shutting off the flow. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1250 Fixed Flow with Flush Series** - Fixed Gallonage combination fog and straight stream Master Stream nozzle with a fixed gallonage setting shall be provided. The nozzle shall be pre-set and laser marked at the factory to meet the customer's specified K-factor of 50-130. The extruded aluminum alloy body and bumper shall be hardcoat anodized for corrosion resistance. Reflective labeling and aluminum bumper with fixed fog teeth to provide variable pattern selection from straight stream to wide dense fog pattern shall be standard. Nozzle shall allow easy field flushing by twisting the selector ring without shutting off the flow. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 1500 Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (300-1500 gpm) shall be provided. User adjustable pressure control shall allow nozzle pressure adjustment of 70-120 psi. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 2000 Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (300-2000 gpm) shall be provided. User adjustable pressure control shall allow nozzle pressure adjustment of 80-120 psi. The extruded aluminum alloy body shall be hardcoat anodized. Reflective labeling and a UV resistant front rubber bumper with molded fog teeth shall be standard. Nozzle shall allow easy field flushing without tools and provide variable pattern selection from straight stream to wide protective fog. Electrically operated models shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Master Stream 4000 Automatic Series** - Constant pressure/variable gallonage automatic combination fog and straight stream Master Stream nozzle with an automatic pressure mechanism that maintains a constant pressure throughout the nozzle's flow range (600-4000 gpm) shall be provided. User adjustable pressure control shall allow nozzle pressure adjustment of 80-120 psi. The extruded aluminum body shall be hardcoat anodized. Reflective labeling and a large cast aluminum hardcoat anodized bumper with fog teeth and folding handles shall be standard. Nozzle shall allow field flushing without tools and a variable pattern selection from straight stream to wide protective fog. Hydraulically operated pattern adjustment nozzles without folding handles shall be available. Nozzle shall have a laser engraved serial number and a 5-year warranty.

**Master Stream 2500 & 5000 GPM Selectable Series** - Selectable gallonage combination fog and straight stream Master Stream nozzle shall allow two user adjustable flow settings of 2500 gpm and 5000 gpm shall be provided. The extruded aluminum body shall be hardcoat anodized. Reflective labeling and a large cast aluminum hardcoat anodized bumper with fog teeth and folding handles shall be standard. Nozzle shall allow field flushing without tools and a variable pattern selection from straight stream to wide protective fog. Nozzle shall have a laser engraved serial number and a 5-year warranty.

**Max-Force Automatic Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, detent flow control (hand-held models only). The nozzle shall have a dual pressure selector that allows for 100 psi or 55 psi pressure operation. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (hand-held models only), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (hand-held models only). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Max-Flow Fixed Gallonage Series** - Lightweight fog and straight stream nozzles with fixed gallonage operation of 500 gpm @ 100 psi shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, detent flow control (hand-held models only). The extruded aluminum alloy body shall be hardcoat anodized, and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (hand-held models only), flush without shutting down and meet NFPA 1964. Color-coded injection molded nylon pistol grips and valve handle covers shall be available (hand-held models only). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Max-Matic Automatic Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation of 100-500 gpm @ 100 psi or 100-500 gpm @ 80 psi (specify) shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, detent flow control (hand-held models only). The extruded aluminum alloy body shall be hardcoat anodized, and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (hand-held models only), flush without shutting down and meet NFPA 1964. Color-coded injection molded nylon pistol grips and valve handle covers shall be available (hand-held models only). Nozzle shall have laser engraved serial number and a 5-year warranty.

**METRO 0 Series** - Lightweight fog and straight stream nozzles with fixed gallonage setting. New Matrix specifying flow disc installed. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with detent flow control, (except tip-only models) and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down. Color-coded, injection molded nylon pistol grip and valve handle covers shall be available (except tip-only models). Nozzle shall accept the FJ-U low expansion and FJ-UMX multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**METRO 0 Impulse With Trigger Valve System** - Lightweight fog and straight stream nozzles with fixed gallonage setting. New Matrix specifying flow disc installed. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with trigger flow control with locking feature, and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down. Nylon pistol grip with ribbed surface shall be standard. Nozzle shall accept the FJ-U low expansion and FJ-UMX multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**METRO 1 Series** - Lightweight fog and straight stream nozzles with fixed gallonage setting. New Matrix specifying flow disc installed. Nozzles shall have a molded rubber bumper with "power fog" teeth or stainless steel spinning teeth (specify), a stainless steel slide valve with detent flow control, (except tip-only models) and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except tip-only models). Nozzle shall accept

## PRODUCT GROUP SPECIFICATIONS

the FJ-MX-HM multi-expansion and FJ-HM, FJ-LX-HM low-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**METRO 1 Impulse With Trigger Valve System** - Lightweight fog and straight stream nozzles with fixed gallonage setting. New Matrix specifying flow disc installed. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with trigger flow control with locking feature, and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Nylon pistol grip with ribbed surface shall be standard. Nozzle shall accept the FJ-HM and FJ-LX-HM low expansion and FJ-MX-HM multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**METRO 2 Series** - Lightweight fog and straight stream nozzles with fixed gallonage setting. New Matrix specifying flow disc installed. Nozzles shall have a heavy duty nylon valve ball (except tip only models). Nozzles shall have a molded rubber bumper with "power fog" teeth. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except tip-only models). Nozzle shall accept the FJ-HMX multi-expansion and FJ-H low-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Mid-Force Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth or stainless steel spinning teeth (specify), a stainless steel slide valve with detent flow control (except tip-only models), and inlet debris screen. The nozzle shall have a dual pressure selector that allows for 100 psi or 55 psi pressure operation or a low-pressure version that allows 75 psi or 45 psi pressure operation (specify). The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers (except tip-only models) shall be available and nozzles shall accept the FJ-HM, FJ-LX-HM low and FJ-MX-HM multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Mid-Force Impulse With Trigger Valve System** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with trigger flow control with locking feature, and inlet debris screen. The nozzle shall have a dual pressure selector that allows for 100 psi or 55 psi pressure operation, or a low-pressure version that allows 75 psi or 45 psi pressure operation (specify). The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Nylon pistol grip with ribbed surface shall be standard. Nozzle shall accept the FJ-HM, FJ-LX-HM low expansion and FJ-MX-HM multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**Mid-Matic Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation with a flow range of 70-200 gpm @ 100 psi or 70-200 gpm @ 75 psi (specify) shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth or stainless steel spinning teeth (specify), a stainless steel slide valve with detent flow control, (except tip-only models) and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized, and reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers (except tip-only models) shall be available. Nozzles shall accept the FJ-HM, FJ-LX-HM low and FJ-MX-HM multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Mid-Matic Impulse With Trigger Valve System** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation of 70-200 gpm @ 100 psi or 70-200 gpm @ 75 psi (specify) shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with trigger flow control with locking feature, and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Nylon pistol grip with ribbed surface shall be standard. Nozzle shall accept the FJ-HM, FJ-LX-HM low expansion and FJ-MX-HM multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**Monsoon® Monitor Series** - Rated up to 2000 gpm, and 200 psi, the Monsoon is a manually operated fixed station or truck mounted monitor with manual control of rotation and elevation angle. The hand wheel shall provide elevation control from 90° above and 45° below horizontal through a segmented waterway with minimal waterway turning

angles and built-in stream shaping vane. The unit shall have hand wheel operated 360° continuous rotational travel, stainless steel worm gear, or tiller bar rotation (specify), user installed travel limit stops. The monitor shall be hardcoat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Unit shall have serial number and be covered by a 5-year warranty.

**Monsoon® RC Monitor Series** - Rated up to 2000 gpm, and 200 psi, the Monsoon RC is a remotely controlled fixed station or truck mounted monitor with electric remote control of rotation, elevation angle and nozzle pattern. The unit shall have an electrically operated elevation control from 90° above and 45° below horizontal through a segmented waterway with minimal waterway turning angles and built-in stream shaping vane. The unit shall have an electrically operated 450° horizontal rotational travel, stainless steel worm gear, and user installed travel limit stops. User operation controls shall be mounted on the monitor, and shall include rotation, elevation, and nozzle stream pattern control programmable park and oscillate and two auxiliary controls. Optional remote wired, tethered and wireless remote controls shall be available. The monitor shall be hardcoat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and be covered by a 5-year warranty.

**Multi-Expansion Foam Attachment** - Air aspirating nozzle foam attachment shall be constructed of corrosion resistant, high strength materials with stainless steel screen and components (except FJ-MX-MD model). Attachment shall attach to appropriate nozzle bumper with a locking mechanism. Unit shall have reflective labeling, engraved serial number, and be covered by a 5-year warranty.

**NY Stacked Smooth Bore Tips** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Each tip shall be laser engraved with flow/pressure chart, and orifice size. Tip sizes shall be 15/16" and 1/2". Inlet shall be 1-1/2". Unit shall be covered by a 5-year warranty.

**Oasis Under Monitor Series** - The unit shall be constructed of corrosion resistant hardcoat anodized aluminum alloy and have a red powdercoated finish inside and out and shall have stainless steel components. The gear box mounted hand crank shall have a valve position indicator. An automatic clapper valve with position indicator shall be standard to allow water flow in the event of a booster pump failure for uninterrupted water flow. Large diameter inlets and outlets shall have corrosion resistant polymer bearing strip and shall be available in threaded or Storz connections (specify). Maximum operating pressure shall be 250 psi. Unit shall be available with TFT monitor connection or 4" ANSI flange (specify). Unit shall have a serial number and be covered by a 5-year warranty.

**Pressure Relief Valve** - TFT's Pressure Relief Valve shall be adjustable from 90 to 300 psi (6 to 21 bar) with easy to see increments of 90, 125, 150, 200, 250, and 300 psi. Each pressure relief valve shall include an OFF position. The pressure relief valve shall be NFPA 1901 compliant. The aluminum casting shall be hardcoat anodized, and TFT-powder coat finished inside and out for maximum corrosion protection. The units shall be available to install on Darley, Waterous, or Hale bolt hole patterns for direct use on pump flanges. Housings shall be available with 2" male pipe thread, 2.5" male NH thread, or 2.5" Victaulic® connection on the discharge. Add 1.5" to depth for models A1850 and A1860. The pressure relief valves shall be covered by a written five-year warranty.

**Protector Series Industrial Monitor** - Rated up to 1250 gpm, the Protector is an industrial-type fixed station monitor. The unit shall have a patented waterway design with integral stream shaping vane to reduce friction loss and have an optional built-in on/off valve with position indicator (specify). The unit can be directly bolted to many common pipe flanges (specify flange size) and the outlet shall be available with 2-1/2" male threads. Threaded ports shall be provided for drain valve and pressure gauge installation and maximum operating pressure shall be 250 psi. The unit shall require no grease or other maintenance and swiveling elements and seals (including valve seat) shall be easily replaced. The Protector shall be hardcoat anodized aluminum alloy. The monitor shall have a powder coat finish inside and out. Swivel clamps, 3" valve ball, and hardware shall be stainless steel. Unit shall have laser engraved serial number and a 5-year warranty.

**Quad Stacked Smooth Bore Tips for Tsunami** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Inlet shall be proprietary nozzle connection for attachment for Tsunami Series monitors. The unit shall include an integral stream straightener. Each tip shall be laser engraved with flow/pressure chart and orifice size. Tip sizes shall be 5.125", 4.5" 4.0", and 3.5". Unit shall be covered by a 5-year warranty.

**QuadraCup® Selectable Gallonage Nozzle Series** - Lightweight fog and straight stream nozzles with four constant gallonage settings of 30, 60, 95, and 125 gpm @ 100 psi. Nozzles shall have a retractable aluminum sleeve for foam aspiration, and shall be available with either stainless steel ball shut-off with quick-change polymer valve seat, or

twist shut-off (tip-only models). Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body and sleeve shall be hardcoat anodized with stainless steel components, and reflective labeling shall be standard. The nozzle shall have a swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except tip-only models). Nozzle shall have laser engraved serial number and a 5-year warranty.

**QuadraFog® DQ40 Selectable Gallonage Nozzle Series** - Lightweight fog and straight stream nozzles with multiple constant gallonage settings. Nozzles shall have fixed fog teeth, a protective front bumper, and shall be available with either stainless steel ball shut-off and quick-change polymer valve seat, or twist shut-off. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body shall be hardcoat anodized with stainless steel components, and reflective labeling shall be standard. The nozzle shall have a swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except tip-only models), and nozzles shall accept the low expansion and multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**QuadraFog® DQ60 Selectable Gallonage Nozzle Series** - Lightweight fog and straight stream nozzles with multiple constant gallonage settings. Nozzles shall have fixed fog teeth, a protective front bumper, and shall be available with either stainless steel ball shut-off and quick-change polymer valve seat, or twist shut-off. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body shall be hardcoat anodized with stainless steel components, and reflective labeling shall be standard. The nozzle shall have a swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except tip-only models), and nozzles shall accept the low expansion and multi-expansion foam attachments. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Quad Stacked Smooth Bore Tips 2-1/2" Inlet** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Inlet shall be 2-1/2" swivel coupling. Each tip shall be laser engraved with flow/pressure chart, orifice size and thread size. Tip sizes shall be 2", 1.75", 1.5" and 1.375". Unit shall be covered by a 5-year warranty.

**Quad Stacked Smooth Bore Tips 3-1/2" Inlet** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Inlet shall be 3-1/2" swivel coupling with integral stream straightener. Each tip shall be laser engraved with flow/pressure chart, orifice size and thread size. Tip sizes shall be 2.75", 2.5", 2.25" and 2". Unit shall be covered by a 5-year warranty.

**Quick Connect 90° Elbow** - The quick connect elbow shall have a 4-1/2" female coupling for attachment to 4" F NPT, 4" ANSI 150 flange inlet adapter or to TFT VUM Valve Under Monitor with quick connect outlet (adapters and VUM sold separately). The unit shall be constructed of corrosion resistant, hardcoat anodized aluminum alloy and have a silver powder coat finish inside and out. The unit shall have a large carrying handle, a boss for drilling and threading for a drain/bleeder or pressure gauge. Various threaded and Storz outlet connections shall be available (specify). The unit shall have a serial number and be covered by a 5-year warranty.

**Quarter-Turn Hydrant Valve** - The lightweight quarter-turn ball hydrant valve shall be configured with a 2-1/2" female rocker lug or long handle swivel inlet and 2-1/2" male rigid outlet. The unit shall have quarter-turn aluminum ball valve with full 2-1/2" waterway, and folding Nylon handle with auto-lock feature. A 3/4" NPT female plugged bleeder valve port shall be standard. For corrosion resistance the valve shall be hardcoat anodized and shall have a durable silver powder coat interior and exterior finish. The unit shall be covered by a five-year warranty.

**Selectable Electric Remote Nozzle Series** - Lightweight fog and straight stream nozzles with constant gallonage settings that may be infinitely adjusted from 15-120 gpm @ 100 psi. Nozzles shall have a molded rubber bumper with "power fog" teeth. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down. The electric motor shall have a manual override. Nozzles shall accept the FJ-U low and FJ-UMX multi-expansion foam attachments. Standard nozzle inlet is 1-1/2" female swivel. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Slow Close Hydrant Valve** - The lightweight slow close high rise ball valve shall have an aluminum valve ball with full 2-1/2" waterway, and multi-turn, slow close knob with valve position indicator. Pressure gauge shall be liquid-filled, with pitot-type probe in waterway.

3/4" NPT female plugged bleeder valve port shall be standard. Aluminum casting shall be hardcoat anodized, and silver TFT powdercoat finished inside and out for maximum corrosion protection. Units shall be available in 2-1/2" female rocker lug or long handle swivel inlet (specify) and 2-1/2" rigid male outlet or pivoting male outlet (specify). The pivoting male outlet shall pivot  $\pm 20^\circ$  from center. Gauge shall have protective ring and lens cover shall be available in 0-200 psi or 0-300 psi (specify). Unit shall have a serial number and a 5-year warranty.

**Slow Close High Rise Valve** - The lightweight slow close high rise ball valve shall have an aluminum valve ball with full 2-1/2" waterway, and multi-turn, slow close knob with valve position indicator. Pressure gauge shall be liquid-filled, with pitot-type probe into the waterway. A 3/4" NPT female plugged bleeder valve port shall be standard. For corrosion resistance the valve shall be hardcoat anodized and shall have a durable silver powder coat interior and exterior finish. Units shall be available in 2-1/2" female rocker lug or long handle swivel inlet (specify) and 2-1/2" rigid male outlet or pivoting male outlet (specify). The pivoting male outlet shall pivot  $\pm 20^\circ$  from center. Gauge shall have protective ring and lens cover and be available in 0-200 psi or 0-300 psi (specify). Unit shall be covered by a 5-year warranty.

**Smooth Bore Insert Set** - Set shall include 7/8", 15/16", 1", and 1-1/8" orifice smooth bore inserts made of durable, polymer material and shall have orifice size laser engraved. Units shall be capable of being installed in the stainless steel ball of the 140 series ball valves and outlet waterway of the VIT series valves. Insert set shall be covered by a 5-year warranty.

**Smooth Bore Tips 1" Inlet Set (Forestry)** - Set of six interchangeable smooth bore tips shall be constructed of corrosion resistant, high strength nylon. One 1" hard coat anodized aluminum alloy coupling with rubber gasket shall be included. Smooth bore tips shall be marked with orifice size. Smooth bore tip set shall include one tip each of 1/8", 3/16", 1/4", 5/16", 3/8" and 7/16" orifice size. Units shall be covered by a 5-year warranty.

**Smooth Bore Tip 1-1/2" Inlet** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Smooth bore tips shall be laser engraved with orifice size and inlet thread size. 1.5" inlet is standard with a choice of 1/2", 5/8", 3/4", 7/8", 15/16", 1", 1-1/8" and 1-1/4" orifice sizes (specify). Unit shall be covered by a 5-year warranty.

**Smooth Bore Slug Tip 1-1/2" Inlet & Outlet** - Smooth bore slug tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Smooth bore tips shall be laser engraved with orifice size, flow and pressure chart, and inlet/outlet thread size. 1-1/2" inlet is standard with a choice of 7/8" or 15/16" orifice sizes (specify). A set screw for secure attachment to valve shall be included. Unit shall be covered by a 5-year warranty.

**EF1 RC Monitor Series** - Rated up to 200 gpm, the EF1 RC is a remotely controlled truck mounted monitor with electric remote control of rotation and elevation angle and nozzle pattern. The electric motor shall provide elevation control from 90° above horizontal to 45° below horizontal. The unit shall have an electronically operated 270° horizontal rotational travel, user installed travel limit stops to give 180° of rotation, and stainless steel worm gear drive with manual override knobs. Optional remote wired, tethered and wireless remote controls shall be available. Compact design with waterproof, integral motor and electronics enclosure reduces potential for damage. The discharge elbow shall include an integral stream straightener and mounting flange for optional light kit. The monitor shall be constructed of hard coat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets shall be available (specify) with 1-1/2" outlet. Unit shall have serial number and a 5-year warranty.

**Suction Strainer (Barrel)** - The strainer shall be made from molded nylon with hard anodized aluminum couplings with corrosion resistant nylon bearing strip. Strainer shall have large eye for rope attachment. Strainer shall have serial number and a 5-year warranty.

**Suction Strainer (Low Level)** - The strainer shall be made from hard anodized and powder coated aluminum alloy and stainless steel. Suction hose coupling shall be attached with corrosion resistant nylon bearing strip, allowing easy swiveling. A large clog-resistant stainless steel filter screen shall be standard and allow clearing without tools. Low level strainer shall be designed to allow suction from minimal depths with minimal friction loss. Suction hose coupling pivot shall have 45° range of motion. Optional jet siphon shall have 1-1/2" female multiple swiveling connection, and plug with lanyard attached. A large carrying handle shall be standard. Strainer shall have serial number and a 5-year warranty.

**Suction Strainer (Low Level/Floating)** - The strainer shall be made from hard anodized and powder coated aluminum alloy and stainless steel. Suction hose coupling shall be attached with corrosion resistant nylon bearing strip, allowing easy swiveling. A large clog-resistant stainless steel filter screen shall be standard and allow clearing without



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tools. Low level strainer shall be designed to allow suction from minimal depths with the float attached, with minimal friction loss. The removable, high visibility yellow float shall be made from polyethylene and nest over the strainer body, allowing compact storage. Suction hose coupling pivot shall have 45° range of motion. Optional jet siphon shall have 1-½" female multiple swiveling connection, and plug with lanyard attached. A large carrying handle shall be standard. Strainer shall have serial number and a 5-year warranty.

**ThunderFog® Selectable Gallonage Nozzle Series** - Lightweight fog and straight stream nozzles with multiple constant gallonage settings. Nozzles shall have fixed fog teeth or stainless steel spinning teeth (specify), a protective front bumper, and shall be available with either stainless steel ball shut-off and quick-change polymer valve seat, or twist shut-off. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body shall be hardcoat anodized with stainless steel components, and reflective labeling shall be standard. The nozzle shall have a swivel inlet (except tip-only models), flush without shutting down and meet NFPA 1964. Color-coded, injection molded nylon pistol grips and handle covers shall be available (except tip-only models), and nozzles shall accept the FJ-MX-FT multi-expansion foam attachment. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Tornado® LT Monitor Series** - Rated up to 500 gpm, the Tornado LT is a compact, remotely controlled truck mounted monitor with electric remote control of rotation and elevation angle and nozzle pattern. The electric motor shall provide elevation control from 90° above horizontal to 45° below horizontal. The unit shall have an electronically operated 370° horizontal rotational travel, user installed travel limit stops, stainless steel worm gear drive with manual override knobs, and shall have grease zerk fittings for easy service and lubrication. Waterproof electrical plugs are provided to connect to remote wired, and tethered remote controls. The discharge elbow shall include an integral stream straightener. The monitor shall be constructed of hard coat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets shall be available (specify). Unit shall have serial number and a 5-year warranty.

**Tornado® Monitor Series** - Rated up to 500 gpm, the Tornado is a truck-mounted or fixed installation monitor. The tiller handle shall provide elevation control from 90° above horizontal to 45° below horizontal. The unit shall have a full 360° continuous horizontal rotation with locking knob. User installed travel limit stops shall be included. The monitor shall be constructed of hardcoat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and a 5-year warranty.

**Tornado® OSC Monitor Series** - Rated up to 500 gpm, the Tornado OSC is a truck-mounted or fixed installation monitor. The monitor outlet shall have a user adjustable sweep pattern of 20°, 30°, or 40° automatic oscillating sweep pattern with manual override. The oscillating outlet component can be rotated to allow side to side, up and down, or any angle in between. An internal water-driven turbine shall power the oscillation without discharging water to the ground below the unit. The handwheels shall provide elevation control from 90° above horizontal to 45° below horizontal, and a full 360° continuous horizontal rotation. User installed travel limit stops shall be included. The monitor shall be constructed of hard coat anodized aluminum alloy and shall have a red powder coat finish inside and out. Various flange inlets shall be available (specify). Unit shall have serial number and a 5-year warranty.

**Tornado® RC Monitor Series** - Rated up to 500 gpm, the Tornado is a remotely controlled truck mounted monitor with electric remote control of rotation and elevation angle and nozzle pattern. The electric motor shall provide elevation control from 90° above horizontal to 45° below horizontal. The unit shall have an electronically operated 370° horizontal rotational travel, user installed travel limit stops, stainless steel worm gear drive with manual override knobs, and shall have grease zerk fittings for easy service and lubrication. User operation controls shall be mounted on the monitor, and shall include rotation, elevation, and nozzle stream pattern control programmable park and oscillate and two auxiliary controls. Optional remote wired, tethered and wireless remote controls shall be available. The discharge elbow shall include an integral stream straightener. The monitor shall be constructed of hard coat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and a 5-year warranty.

**Triple Stacked Smooth Bore Tips 1-½" Inlet** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Each tip shall be laser engraved with flow/pressure chart, orifice size and thread size. Tip sizes shall be 1.25", 1.125", and 1". Unit shall be covered by a 5-year warranty.

**Triple Stacked Smooth Bore Tips 2-½" Inlet** - Smooth bore tips shall be constructed of corrosion resistant, hard coat anodized aluminum alloy. Inlet shall be 2-½" swivel

coupling. Each tip shall be laser engraved with flow/pressure chart, orifice size and thread size. Tip sizes shall be 1.5", 1.25" and 1". Unit shall be covered by a 5-year warranty.

**Tsunami Monitor Series** - Rated up to 8000 gpm, and 150 psi, the Tsunami is a manually operated fixed station or truck mounted monitor with manual control of rotation and elevation angle. The hand wheel shall provide elevation control from 90° above and 10° below horizontal through a segmented waterway with minimal waterway turning angles and built-in stream shaping vane. The unit shall have hand wheel operated 320° rotational travel, stainless steel worm gear rotation, user installed travel limit stops in 5° increments. The monitor shall be hardcoat anodized aluminum alloy and shall have a silver or red (specify) powder coat finish inside and out. Unit shall have an 8" ANSI flange inlet and proprietary nozzle connection for easy nozzle installation. Unit shall have serial number and be covered by a 5-year warranty.

**Tsunami RC Monitor Series** - Rated up to 8000 gpm, and 150 psi, the Tsunami RC is a remotely controlled fixed station or truck mounted monitor with electric remote control of rotation, elevation angle and nozzle pattern. The unit shall have an electrically operated elevation control from 90° above and 10° below horizontal through a segmented waterway with minimal waterway turning angles and built-in stream shaping vane. The unit shall have an electrically operated 320° horizontal rotational travel, stainless steel worm gear, and user installed travel limit stops in 5° increments. User operation controls shall be mounted on the monitor, and shall include rotation, elevation, and nozzle stream pattern control programmable park and oscillate and two auxiliary controls. Optional remote wired, tethered and wireless remote controls shall be available. The monitor shall be hardcoat anodized aluminum alloy and shall have a silver or red (specify) powder coat finish inside and out. Unit shall have an 8" ANSI flange inlet and proprietary nozzle connection for easy nozzle installation. Unit shall have serial number and be covered by a 5-year warranty.

**Twister® Dual Gallonage Series** - Lightweight fog and straight stream nozzles with dual gallonage settings shall be provided. Nozzles shall have fixed fog teeth, a protective front bumper, twist shut-off and shall be available with stainless steel ball shut-off and quick-change polymer valve seat. Valve handle shall be produced from high strength molded nylon and shall be provided with positive open and close stops. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available (except for tip only models) and nozzles shall accept the FJ-MX-D (1") and FJ-MX-F (1-½") multi-expansion foam attachment. Nozzle shall have laser engraved serial number and a 5-year warranty.

**Typhoon Monitor Series** - Rated up to 1500 gpm, and 200 psi, the Typhoon is a manually operated fixed station or truck mounted monitor with manual control of rotation and elevation angle. A handwheel or tiller handle with locking knob (specify) shall provide elevation control from 90 degrees above to 45 degrees below horizontal. A handwheel or tiller handle with locking knob (specify) shall provide 360 degree continuous horizontal rotation. User installed travel limit stops shall be included. The discharge elbow shall include an integral stream straightener. The monitor shall be constructed of hardcoat anodized aluminum alloy and shall have a silver powdercoat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and a 5 year warranty.

**Typhoon RC Monitor Series** - Rated up to 1500 gpm, and 200 psi, the Typhoon RC is a remotely controlled fixed station or truck mounted monitor with electric remote control of horizontal rotation, elevation, and nozzle pattern. The unit shall have an electrically operated elevation control from 45 degrees below horizontal up to a maximum of 45 degrees past vertical for a total possible travel of 215 degrees (specify). Unit shall have user installed elevation travel limit stops than can reduce the travel to 20 degrees past vertical or less in 10 degree increments. The unit shall have an electrically operated 450 degree maximum horizontal travel, stainless steel worm gear, and user installed horizontal travel limit stops in 10 degree increments. Knobs shall be mounted on the vertical and horizontal drives for manual override. User operation controls shall be mounted on the monitor, and shall include rotation, elevation, and nozzle stream pattern control, programmable park and oscillate and two auxiliary controls. Optional remote wired, tethered, and wireless remote controls shall be available. The discharge elbow shall include an integral stream straightener. The monitor shall be constructed of hardcoat anodized aluminum alloy and shall have a silver powder coat finish inside and out. Various flange and threaded inlets including locking quick connect shall be available (specify). Unit shall have serial number and a 5 year warranty.

**Ultimate Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation of 10-125 gpm @ 100 psi or 10-100 gpm @ 75 psi (specify) shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with detent flow control, (except tip-only models) and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized, and

reflective labeling shall be standard. The nozzle shall have a full-time swivel inlet (except tip-only models) and the ability to flush without shutting down. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available. Nozzles shall accept the FJ-U low and FJ-UMX multi-expansion foam attachments. Female inlets of 1" and 1-1/2" shall be available (specify). Nozzle shall have laser engraved serial number and a 5-year warranty.

**Ultimatic Impulse With Trigger Valve System Series** - Lightweight fog and straight stream nozzles with constant pressure/variable gallonage operation of 10-125 gpm @ 100 psi or 10-100 gpm @ 75 psi (specify) shall be provided. Nozzles shall have a molded rubber bumper with "power fog" teeth, a stainless steel slide valve with trigger flow control with locking feature, and inlet debris screen. The extruded aluminum alloy body shall be hardcoat anodized and reflective labeling shall be standard. The nozzle shall flush without shutting down and meets the flow and performance criteria of NFPA 1964. Nylon pistol grip with ribbed surface shall be standard. Nozzle shall accept the FJ-U low expansion and FJ-UMX multi-expansion foam attachments. Nozzles shall have laser engraved serial number and a 5-year warranty.

**VIT Valve Integral Tip Ball Valve Series With Inserts** - Valve body shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Lightweight valve with detent flow control shall include 7/8", 15/16", 1", and 1 1/8" orifice inserts made of durable, lightweight nylon material and shall have orifice size laser engraved. Discharge shall have 1-1/2" male thread for coupling to a combination nozzle. Internal waterway shall be 1.375". Color-coded, injection molded nylon pistol grips and valve handle covers shall be available. Rubber covered playpipe handles are available on 2-1/2" models. Nozzle shall have a full-time swivel 1-1/2" or 2-1/2" inlet (specify), laser engraved serial number, and a 5-year warranty.

**VIT Valve Integral Tip Ball Valve Series** - Valve body shall be constructed of corrosion resistant, hardcoat anodized extruded aluminum alloy. Lightweight valve with detent flow control shall be available with 7/8", 15/16", 1", 1-1/4" or 1-3/8" orifice (specify). The unit shall have orifice size laser engraved. Discharge shall have 1-1/2" male thread with retractable outlet thread protector for coupling to a combination nozzle. Internal waterway shall be 1.375" with smooth taper to orifice. Color-coded, injection molded nylon pistol grips and valve handle covers shall be available. Nozzle shall have a full-time swivel 1-1/2" or 2-1/2" inlet (specify), laser engraved serial number, and a 5-year warranty.

**Vortex Series** - The Vortex is a manually operated stream dispersing device to be installed behind the smooth bore nozzles. The unit shall have six internal vanes that pivot proportionally from 0° to 30° by rotating the shaper. The vanes shall reduce turbulence when in the straight position, and create a spin in the water stream to create a uniformly dispersed vortex pattern when the vanes are pivoted. The vanes shall allow debris to flush from the nozzle. The unit shall be compatible with water and firefighting foam. The monitor shall be hardcoat anodized aluminum alloy and shall have reflective labeling to indicate vane position. Unit shall be available as tip only, with detent ball valve, or with detent ball valve and pistol grip (specify). 1-1/2" NH female rocker lug inlet and 1-1/2" NH male outlet are standard. Unit shall have serial number and be covered by a 5-year warranty.

**Vortex RC Series** - Rated up to 8000 gpm, the Vortex RC is a remotely controlled stream dispersing device to be installed behind the Task Force Tips Tsunami stacked tip smooth bore nozzles. The unit shall have six internal vanes that pivot proportionally from 0° to 30° by the attached electric actuator. The vanes shall reduce turbulence when in the straight position, and create a spin in the water stream to create a uniformly dispersed vortex pattern when the vanes are pivoted. The vanes shall allow debris to flush from the nozzle. The electric actuator shall have a manual override knob. The unit shall be compatible with water and firefighting foam. The monitor shall be hardcoat anodized aluminum alloy and shall have reflective labeling to indicate vane position. Unit shall have a 6" NH female rocker lug inlet and 6" NH male outlet. Unit shall have serial number and be covered by a 5-year warranty.

**VUM Valve Under Monitor Series** - Valve shall be designed for use under monitors and have low friction loss through its large, unobstructed waterway. Valve shall be constructed of hard coat anodized aluminum alloy and have silver TFT-powder coat finish inside and out for maximum corrosion protection. Hardware and half-ball valve section shall be stainless steel and shall control water flow at the base of the monitor. Valve inlet base shall be 4" ANSI 150 flange. Various outlets for monitor connection are available including 4" ANSI 150 flange; or straight or 22.5° forward angle for direct TFT monitor connection eliminating one flange (specify). Monitor valve control shall be controlled by a compact gear box mounted hand crank or side handwheel (specify) that meets NFPA 1901 slow-close requirements have a valve position indicator, and handwheel shall be reversible from side to side and shall have shaft extensions available for improved clearance (specify). An optional automatic drain valve (specify) shall be available in the stainless steel half-ball section to assist in draining water after the incoming water pressure is shut

off. Four (4) auxiliary ports shall allow installation of straight or elbow 2-1/2" valves, hose or pipe threaded fittings, (specify) to allow water flow through these connections when the primary monitor valve is opened, closed or in an intermediate position. Blind plugs shall be installed in the auxiliary ports when other connections are not installed. Elbow and straight 2-1/2" valves shall have field replaceable valve seats, quarter turn tee valve handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure. Automatic valve lock on 2-1/2" valve keeps its position while flowing at partial openings and shall be standard. 2-1/2" elbow valves shall have the ability to allow swiveling up to 45° or to be locked in place and 4-3/4" long extensions shall be available where more clearance from the primary monitor valve is desired (specify). Elbow and straight valves shall include a 2-1/2" to 1-1/2" reducer with 1-1/2" cap with lanyard. The unit shall have a serial number and a 5-year warranty.

**VUM Valve Under Monitor RC Series** - Valve shall be designed for use under monitors and have low friction loss through its large, unobstructed waterway. Valve shall be constructed of hard coat anodized aluminum alloy and have silver TFT-powder coat finish inside and out for maximum corrosion protection. Hardware and half-ball valve section shall be stainless steel and shall control water flow at the base of the monitor. Valve inlet base shall be 4" ANSI 150 flange. Various outlets for monitor connection are available including 4" ANSI 150 flange; or straight or 22.5° forward angle for direct TFT monitor connection eliminating one flange (specify). Monitor valve control shall be controlled by an electric motor with manual override knob, manual valve position indicator, and shall meet NFPA 1901 slow-close requirements. The override knob shall be reversible from side to side and shall have shaft extensions available for improved clearance (specify). Electric control of the valve shall be by included control box which shall display open, closed, and intermediate valve positions. Control box and motor shall be waterproof. Electric control of the valve can be controlled from any TFT RC monitor control auxiliary 2 valve open/close button. An optional automatic drain valve (specify) shall be available in the stainless steel half-ball section to assist in draining water after the incoming water pressure is shut off. Four (4) auxiliary ports shall allow installation of straight or elbow 2-1/2" valves, hose or pipe threaded fittings, (specify) to allow water flow through these connections when the primary monitor valve is opened, closed or in an intermediate position. Blind plugs shall be installed in the auxiliary ports when other connections are not installed. Elbow and straight 2-1/2" valves shall have field replaceable valve seats, quarter turn valve tee handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure. Automatic valve lock on 2-1/2" valve keeps its position while flowing at partial openings and shall be standard. 2-1/2" elbow valves shall have the ability to allow swiveling up to 45° or to be locked in place and 4-3/4" long extensions shall be available where more clearance from the primary monitor valve is desired (specify). Elbow and straight valves shall include a 2-1/2" to 1-1/2" reducer with 1-1/2" cap with lanyard. The unit shall have a serial number and a 5-year warranty.

**Water Thief 2-1/2" by 1-1/2"** - Water Thief shall have full 2-1/2" and 1-1/2" inch waterways, field replaceable valve seats, quarter turn color coded valve handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure from either side of the valves. Automatic valve lock on 2-1/2" inch valve keeps its position while flowing at partial openings and shall be standard. Special internal contour on 1-1/2" valves keeps them in position while flowing shall be standard. Units shall include three folding valve handles to minimize storage space. Pipe threaded port for pressure gauge shall be included. Unit shall have a carrying strap. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. The unit shall have a serial number and a 5-year warranty.

**Water Thief and Siamese - LDH by 2-1/2"** LDH Water Thief and Siamese shall have full 2-1/2" waterway valved ports with field replaceable valve seats, color coded quarter turn valve handles with low force to move even under pressure with up to 250 psi (17 bar) maximum operating pressure from either side of the valves. Automatic valve lock on 2-1/2" inch valves keep their position while flowing at partial openings and shall be standard. Units shall include two folding valve handles to minimize storage space. Large diameter inlet and outlet ports shall have full flow through, corrosion resistant polymer bearing strip, and be available in threaded or Storz connections (specify). Unit shall have a strap for carrying and dragging hose. Aluminum casting shall be hardcoat anodized and silver TFT-powder coat finish inside and out for maximum corrosion protection. Water thief shall have male thread on 2-1/2" valved ports and Siamese shall have female swivel threaded connections on 2-1/2" valved ports. Maximum operating pressure of the unit shall be 250 psi. An optional, adjustable pressure relief valve shall be available. The unit shall have a serial number and a 5-year warranty.

**ZM Industrial Fixed Gallonage Nozzle Series** - A fixed gallonage adjustable straight stream/fog nozzle available with 500, 750, 1000, or 1250 gpm @100 psi, or user specified Kfactor flow setting (specify) and 2-1/2" female inlet shall be provided. Nozzle shall be capable of flowing water or foam solution. Fog angle is user adjustable between 120° wide fog and straight stream. Unit's baffle shall be removable with a wrench for

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flushing debris. Unit requires no grease or other maintenance. The unit shall be hardcoat anodized ANSI A356.0.T6 aluminum. Unit shall have reflective labeling, engraved serial number, and be covered by a 5-year warranty.

**ZN Industrial Nozzle Series** - A fixed gallonage fog nozzle rated at 100 psi is available with your choice of 350, 500 or 750 gpm. Fog angle is user adjustable between 120° wide fog and straight stream. Units baffle shall be removable with a wrench for flushing debris. Unit requires no grease or other maintenance. The stream shaper shall be made from non-corroding high temperature polymer. The rubber bumper shall be UV resistant. Unit shall be hardcoat anodized ANSI A356.0.T6 aluminum. Unit shall have reflective labeling, engraved serial number, and be covered by a 5-year warranty.

**ZO Industrial Fixed Gallonage Nozzle Series** - A fixed gallonage adjustable straight stream/fog nozzle available with 1250, 1500, 1750, 2000, or 2500 gpm @100 psi (specify). 3-1/2" female inlet shall be provided. Nozzle shall be capable of flowing water or foam solution. Fog angle is user adjustable between 120° wide fog and straight stream using folding handles to assist pattern change. A locking ring to set the nozzle pattern shall be standard. Unit's baffle shall be removable with a wrench for flushing debris. Unit requires no grease or other maintenance. The unit shall be hardcoat anodized ANSI A356.0.T6 aluminum and shall be powder coated. Unit shall have reflective labeling, engraved serial number, and be covered by a 5-year warranty.

### STANDARDS REFERENCED IN THE CATALOG

NFPA 1962 (2013) - Standard for the Care, Use, Inspection, Service Testing and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances.

NFPA 1963 (2009)- Standard for Fire Hose Connections

NFPA 1964 (2008)- Standard for Spray Nozzles

NFPA 1901 (2009)- Standard for Automotive Fire Apparatus

FM 5511 (2005)- Firefighting Nozzles for Use with Hose, Monitor Assemblies and other Firefighting Equipment

FM 1421 (2007)- Monitor Assembly

ISO 228-1:1994- Pipe Threads where Pressure-Tight Joints are Not Made on Threads- Part 1: Dimensions, Tolerances and Design

ISO 228-2: 1987- Pipe Threads where Pressure-Tight Joints are Not Made on Threads- Part 2: Verification by Means of Limit Gauges

ANSI/ASME B1.20.1-1983 (R1992)- Pipe Threads, General Purpose (inch)

### CE- Refers to the following:

IEC 61000-6-3 (2006) General Standards- Emission Standard for Residential, Commercial and Light Industrial Environments

IEC 61000-6-2 (2005) Generic Standards- Immunity for Industrial Environments

### STATEMENT OF WARRANTY AND REPAIR

Task Force Tips LLC, 3701 Innovation Way, Valparaiso, Indiana 46383-9327 USA ("TFT") warrants to the original purchaser of its nozzles and other equipment ("equipment"), and to anyone to whom it is transferred, that the equipment shall be free from defects in material and workmanship during the five (5) year period from the date of manufacture. (Selected items have a ten (10) year warranty)

TFT's obligation under this warranty is specifically limited to replacing or repairing the equipment (or its parts) which are shown by TFT's examination to be in a defective condition attributable to TFT. To qualify for this limited warranty, the claimant must return the equipment to TFT, at 3701 Innovation Way, Valparaiso, Indiana 46383-9327 USA, within a reasonable time after discovery of the defect. TFT will examine the equipment. If TFT determines that there is a defect attributable to it, TFT will correct the problem within a reasonable time. If the equipment is covered by this limited warranty, TFT will assume the expenses of repair.

If any defect attributable to TFT under this limited warranty cannot be reasonably cured by repair or replacement, TFT may elect to refund the purchase price of the equipment, less reasonable depreciation, in complete discharge of its obligations under this limited warranty. If TFT makes this election, claimant shall return the equipment to TFT free and clear of any liens and encumbrances.

This is a limited warranty. The original purchaser of the equipment, any person to whom it is transferred, and any person who is an intended or unintended beneficiary of the equipment, shall not be entitled to recover from TFT any consequential or incidental damages for injury to person and/or property resulting from any defective equipment manufactured or assembled by TFT. It is agreed and understood that the price stated for the equipment is in part consideration for limiting TFT's liability. Some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

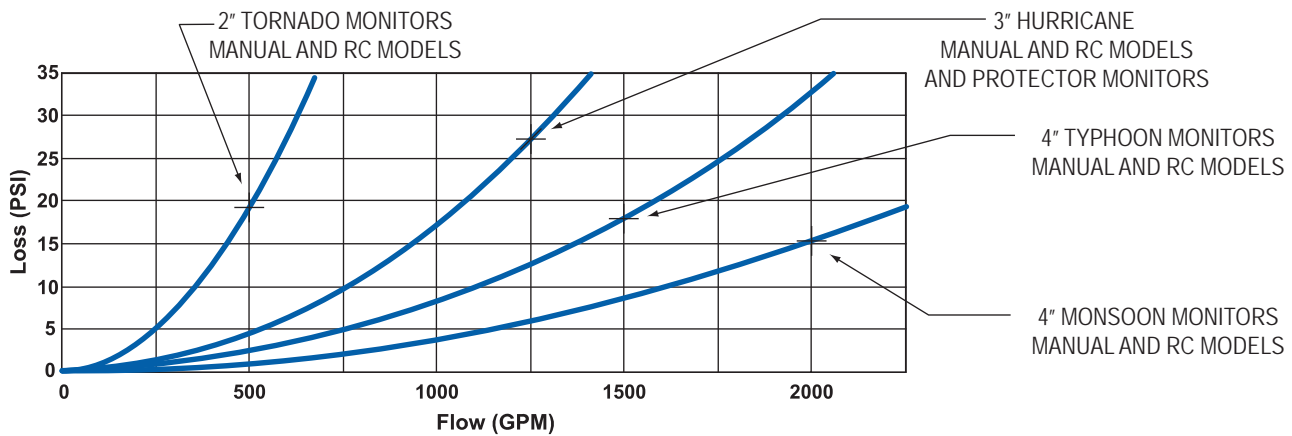
TFT shall have no obligation under this limited warranty if the equipment is, or has been, misused or neglected (including failure to provide reasonable maintenance) or if there have been accidents to the equipment or if it has been repaired or altered by someone else.

THIS IS A LIMITED EXPRESS WARRANTY ONLY. TFT EXPRESSLY DISCLAIMS WITH RESPECT TO THE EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY TFT BEYOND THAT STATED IN THE DOCUMENT.

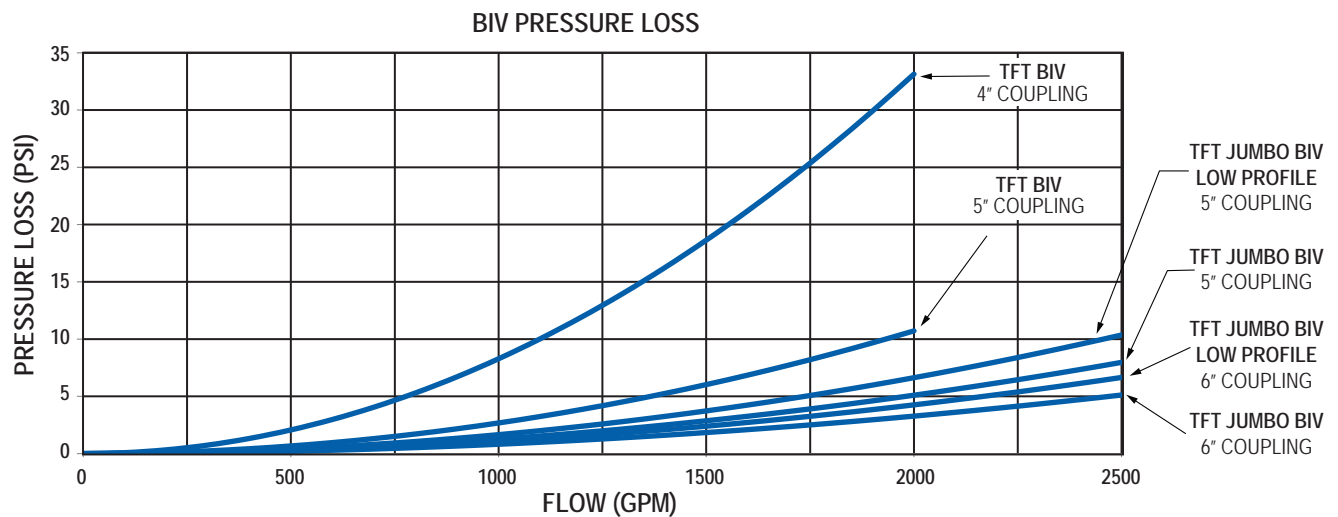
This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



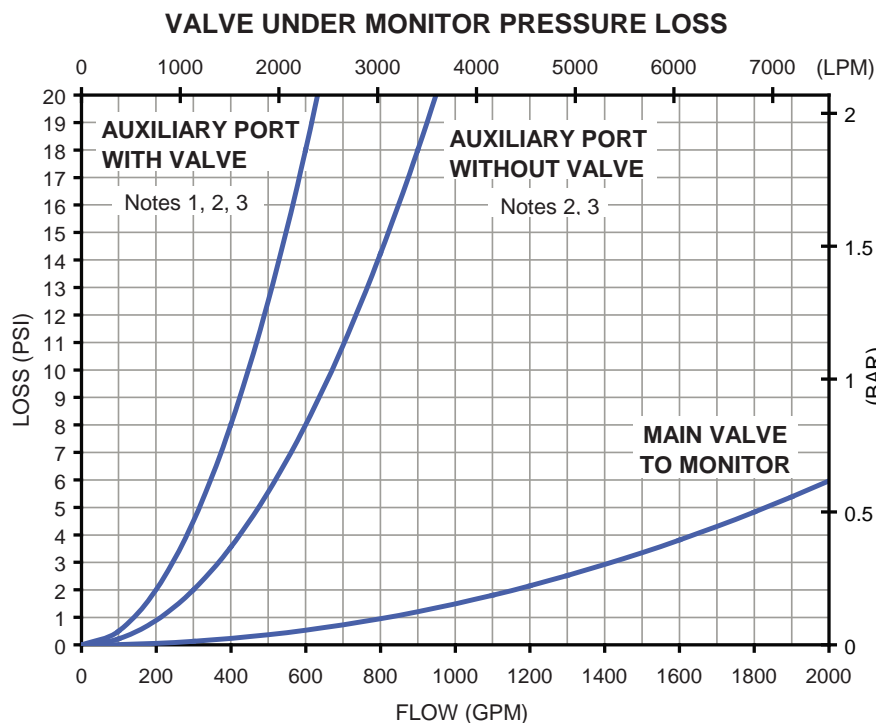
## MONITOR PRESSURE LOSS



## BIV PRESSURE LOSS



## VUM PRESSURE LOSS



### NOTES:

- 1) Curve represents auxiliary port options 2 and 3 (gated elbows). Pressure loss for auxiliary port option 4 (straight hydrant valve) is about 15% less than indicated.
- 2) When valve to monitor is open, pressure loss through auxiliary ports C3 and C4 may be up to 50% greater than indicated. Auxiliary ports C1 and C2 are not affected by this condition.
- 3) Extension pipes (auxiliary port options B through F) do not add significant pressure loss.

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# TFT.com

The screenshot shows the TFT.com website homepage. At the top is a navigation bar with links for Products, Education, About, and Find a Dealer. The main hero section features a firefighter and the text "First on Scene with Innovation" and "NEW IDEAS LIVE HERE". Below this is a section titled "Explore the New Force Line" with a "Learn More" button. Further down is a dark section with the text "Task Force Tips protects people and property by designing and manufacturing innovative tools for those who risk their lives." and another "Learn More" button. Below that is a section titled "Water is All We Do" with a "Learn More" button. The "News and Events" section displays three event cards: "NYSAFEC 112th Annual Conference & FIRE Expo", "Texas Annual Fire Training School", and "Texas Annual Industrial Fire School". At the bottom is a search bar and social media links.

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