

Apparatus Buyer's Guide



A Resource to Help
Fire Departments
Make Informed
Decisions

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MONITORS & ACCESSORIES

OVERVIEW

TFT manufactures a wide range of apparatus mounted monitors in flows from 37 l/min (10 gpm) to 30,000 l/min (8000 gpm). Most are available in both a manual and electric remote control (RC) version and can be matched with a variety of nozzles. This section is comprised of five primary discussions:

- [1. PUMPERS / RESCUE PUMPERS — monitors and Extend-A-Guns](#)
- [2. AERIAL LADDER / TDA / PLATFORMS — monitors and Valve Under Monitors \(VUM\)](#)
- [3. BRUSH / Wildland — monitors and bumper turrets](#)
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- [5. CONTROLS AND WIRE KITS](#)

PUMPERS / RESCUE PUMPERS

A number of factors should be considered in selecting monitors for pumper apparatus including budget, pump panel and plumbing locations, flow rates, water supply, body style, and crew size.

Manual vs. RC

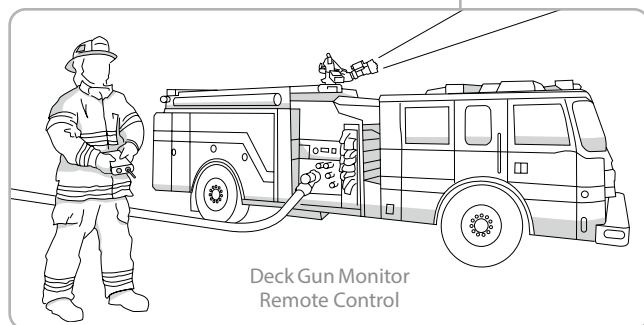
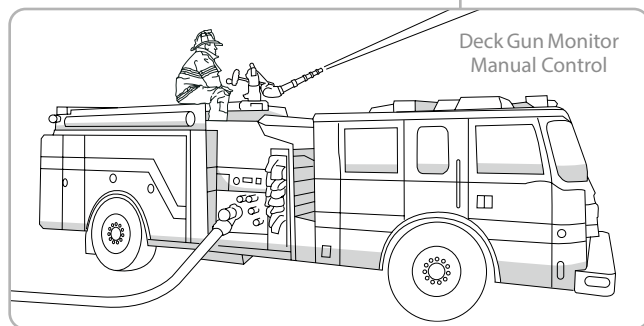
Manual monitors have the lowest initial purchase and installation costs and are often selected based upon price alone. However, they require dedicated personnel to operate them, which may be an issue in departments challenged with small crews. In addition, personnel have to climb onto the truck, which increases the chance of injury. In fact, [NFPA](#) states that strains, sprains, and muscular pain accounted for 48 percent of firefighter fireground injuries.

If the deck gun is a frequently utilized tool, an RC monitor may be an excellent alternative. RC monitors can eliminate the need to dedicate personnel through the use of electric operation and controls can be tethered in a compartment, panel/body mounted or handheld wireless for easy access.

Flow Ranges

When selecting the flow range of the monitor, pump capacity and water sources should be considered. In a rural environment where the apparatus is frequently drafting, departments should consider matching their monitor capacity with the pump's capacity. However if a department has hydrants with adequate or excellent water supply, then increasing the monitor flow range beyond the rated pump capacity is acceptable.

If the monitor will be flowing foam, capacity of the foam system should also be taken into consideration.



MONITORS

EF1™ RC
up to 750 l/min (200 gpm)



Style:
RC only

Flow Range:
Up to 750 l/min (200 gpm)

Friction Loss at Max:
1.3 bar (19 psi) at 750 l/min

Horizontal Travel:
270° with field changeable travel stops

Note:
38 mm (1.5") waterway, ideal bumper turret

TORNADO®
up to 3000 l/min (800 gpm)



Style:
Manual, RC, Max, LT

Flow Range:
Up to 3000 l/min (800 gpm)

Friction Loss:
1.3 bar (19 psi) at 2000 l/min (500 gpm)

Horizontal Travel:
370° with field changeable travel stops, RC 360° continuous rotation, manual

Note:
57 mm (2.25") waterway, flexible all-purpose monitor

CROSSFIRE®
up to 4750 l/min (1250 gpm)



Style:
Manual only

Flow Range:
Up to 4750 l/min (1250 gpm)

Friction Loss at Max:
1.7 bar (25 psi) at 4750 l/min

Horizontal Travel:
360° continuous rotation

Note:
82 mm (3.25") waterway, can be converted to a portable monitor

RADIUS™
up to 6000 l/min (1500 gpm)



Style: Manual only

Flow Range: Up to 4750 l/min (1250 gpm) or 6000 l/min (1500 gpm)

Friction Loss: 76 mm (3") Inlet / 64 mm (2.5") Outlet
2.9 bar (42 psi) at 4750 l/min


Horizontal Travel: 360° continuous rotation

Vertical Travel: -45° to 90°

Note: 64 mm (2.5") & 89 mm (3.5") outlet and 76 mm (3") or 102 mm (4") ANSI 150 inlet

MONITORS

HURRICANE™
up to 4750 l/min (1250 gpm)



Style:
Manual or RC


Flow Range:
Up to 4750 l/min
(1250 gpm)

Friction Loss at Max:
1.7 bar (25 psi) at 4750 l/min

Horizontal Travel:
45° rotational travel, RC
(pumper version)
360° continuous rotation,
manual

Note:
82 mm (3.25") waterway,
low profile monitor

Flex™
up to 7600 l/min (2000 gpm)



Style:
Manual or RC


Flow Range:
Up to 7600 l/min
(2000 gpm)

Friction Loss at Max:
.55 bar (8 psi) at 7600 l/min

Horizontal Travel:
45° rotational travel, RC
(pumper version)
360° continuous rotation,
manual

Note:
76.2 mm (3") or 101.6 mm
(4") waterway

MONSOON®
up to 4750 l/min and 7600 l/min
(1250 and 2000 gpm)



Style:
Manual or RC

Flow Range: 2 versions


- Up to 4750 l/min (1250 l/min)
- Up to 7600 l/min (2000 gpm)

Friction Loss at Max:
0.4 bar (6 psi) at 4750 l/min
1 bar (15 psi) at 7600 l/min

Horizontal Travel: 45° rotational
travel, RC (pumperversion) 360°
continuous rotation, manual

Note: 102 mm (4") waterway

TSUNAMI™
up to 30,000 l/min (8000 gpm)



Style:
Manual or RC

Flow Range:
Up to 30,000 l/min
(8000 gpm)

Friction Loss at Max:
1 bar (15 psi) at 30,000 l/min

Horizontal Travel:
320° rotational travel, RC,
360° continuous rotation,
manual

Note:
203 mm (8") waterway,
apparatus or trailer mount

TELESCOPING WATERWAYS

When a monitor is mounted in a pump house dunnage area or on some portion of the body, it is possible for lighting, generators, cab roofs or body components to present an obstruction to the water flow. A telescoping waterway allows for the monitor to be stored in a lower position and then raised when needed, either manually or electrically, to a position that eliminates stream interference and allows the operator 360 degrees of operating range. While traditionally hand extended, electronic extenders are also available using a remote control for safety and ease of use.

TFT's telescoping waterway EXTEND-A-GUN series.

Using the TFT EXTEND-A-GUN in conjunction with a monitor, the device may be raised to its extended position 30.5 or 45.7 extra cm (12 or 18 extra inches) above the truck's pump house. The EXTEND-A-GUN offers a hard coat anodized finish, and built-in sensor for connection to "monitor raised" light or truck open compartment warning system. It can be specified with new, or retrofitted to existing apparatus. Users may pair a manual deck gun with an RC waterway for increased functionality.

EXTEND-A-GUN™			
	76 mm MANUAL	76 mm REMOTE CONTROLLED	102 mm REMOTE CONTROLLED
Waterway	76 mm (3")	76 mm (3")	102 mm (4")
Raise Extensions	30.5 cm (12") or 45.7 cm (18")	30.5 cm (12") or 45.7 cm (18")	30.5 cm (12") or 45.7 cm (18")
Compatible Monitors	Variety	TFT Only**	TFT Only**
Position Sensor	Included	Included	Included
Controllers	Manual	Any TFT RC Controller*	Any TFT RC Controller*



*except toggle switch

**except Tsunami

AERIAL LADDER / TDA / PLATFORMS

A number of factors should be considered in selecting monitors for aerial ladders, tractor drawn aerials, and platforms including NFPA standards, flow efficiency, monitor controls and even the number of monitors.

NFPA Standards

Per NFPA 1901, for 33 m (110') or less ladders with a waterway (NFPA 1901 19.6.1) and platforms (NFPA 1901 19.12.1), departments must specify a monitor with a rating of at least 4000 l/min (1000 gpm) at 700 kPa (100 psi).

Flow Efficiency

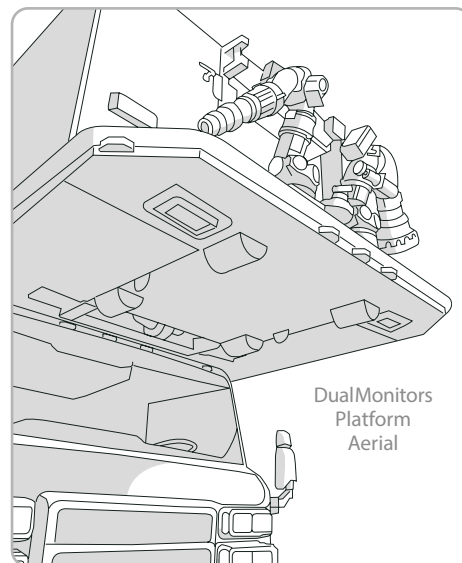
As water makes its way through the aerial, pressure loss will be a factor. The piping will yield loss as it twists and turns through the aerial waterway. In addition, as the water fights gravity going up the ladder, there will be pressure loss. Finally, the valve and monitor itself will also cause friction loss. Therefore, it is important to select a monitor and valve with low friction loss for a far-reaching stream.

Monitor Controls

When selecting a monitor for an aerial ladder, it will almost exclusively be an RC (remote control) monitor. Platforms may have either control style, manual or remote control. NFPA 1901 19.12.3.4 requires that the base of any monitor include a slow operating valve. Departments should consider specifying an electric valve for any RC monitor so that it can be opened from the ground. If a manual valve is mistakenly left closed, then personnel would have to climb the ladder to open the valve for operation of the monitor.

Dual Monitors

Dual monitor operation is common on platform aerial apparatus. Monitors can be either manual or RC versions. Departments will frequently specify one manual monitor with a smooth bore nozzle and one RC monitor with a fog nozzle. While this is an acceptable specification, an alternative solution is to explore the use of adjustable pressure nozzles, which allow the nozzle to operate like a smooth bore at a low-pressure rating or as combination fog/straight stream nozzle at any pressure setting.



MONITORS

HURRICANE™
up to 4750 l/min (1250 gpm)



Style: Manual or RC
 Flow Range:
 Up to 4750 l/min (1250 gpm)
 Friction Loss at Max: 1.3 bar (19 psi) at 4750 l/min
 Horizontal Travel: 180° horizontal travel
 Vertical Travel:
 Platform 45° below horizontal to 45° above horizontal.
 Ladder 45° below horizontal to 90° above horizontal.
 Note:
 83 mm (3.25") waterway, low profile monitor

MONSOON®
up to 4750 and 7600 l/min (1250 and 2000 gpm)



Style: Manual or RC
 Flow Range: 2 versions
 • Up to 4750 l/min (1250 gpm)
 • Up to 7600 l/min (2000 gpm)
 Friction Loss at Max:
 0.4 bar (6 psi) at 4750 l/min
 1 bar (15 psi) at 7600 l/min
 Horizontal Travel:
 180° horizontal travel
 Vertical Travel:
 Platform 45° below horizontal to 45° above horizontal.
 Note: 102 mm (4") waterway, Ladder 45° below horizontal to 90° above horizontal.

Flex
up to 7600 l/min (2000 gpm)



Style: Manual or RC
 Flow Range:
 Up to 7600 l/min (2000 gpm)
 Friction Loss at Max:
 .55 bar (8 psi) at 7600 l/min
 Horizontal Travel:
 450° rotational travel, RC (pumper version)
 360° continuous rotation, manual
 Note:
 76.2 mm (3") or 101.6 mm (4") waterway

TORNADO® Max
up to 3000 l/min (800 gpm)



Style: RC
 Flow Range:
 Up to 3000 l/min (800 gpm)
 Friction Loss:
 1.3 bar (19 psi) at 2000 l/min
 Horizontal Travel:
 370° with field changeable travel stops, RC 360° continuous rotation, manual
 Note:
 57 mm (2.25") waterway,

MONITOR VALVES

NFPA 1901, 19.12.3.4 requires that an aerial monitor include a slow close valve at its base. There are two primary solutions to this requirement, butterfly valve or ball valve.

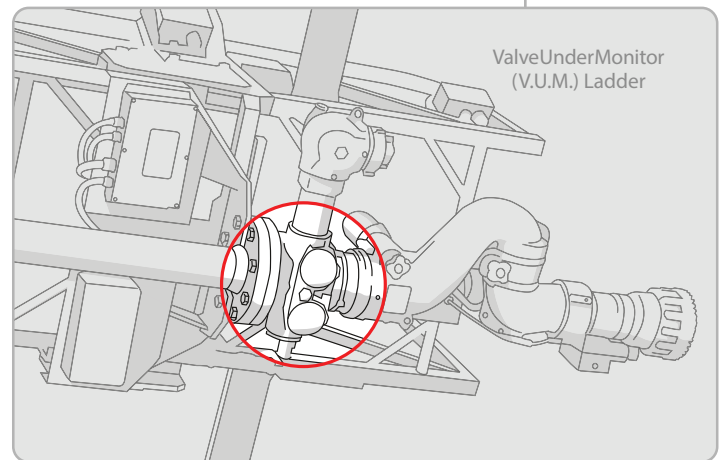
A butterfly valve is a cheap solution, but it introduces a great deal of flow inefficiency, restriction and turbulence into the water stream.

TFT's version of the ball valve is the [Valve Under Monitor or V.U.M.](#)

The V.U.M. is a lightweight, low friction-loss valve and manifold for installation directly beneath monitors on ladders and platforms. The V.U.M. combines the robust valve mechanism from the TFT Ball Intake Valve with a 102 mm (4") ANSI 150 inlet and up to four 64 mm (2.5") outlets. When paired with a TFT monitor, the monitor flange is omitted for additional weight savings and ease of maintenance.

The V.U.M. is available in either a manual or electric version. When using an RC monitor, the electric V.U.M. can be controlled from either a dedicated panel mount control or from TFT RC Monitor Operator Stations.

The 64 mm (2.5") outlets available in the V.U.M. can be configured with integrated valves, male hose threads or female pipe threads. This allows the addition of auto drain valves, pressure relief valves and discharge valves so that the aerial could essentially be used as an exterior standpipe for firefighting operations. All of these outlets can flow when the monitor valve is closed.



VALVE UNDER MONITOR (V.U.M.)™



Valve Under Monitor (VUM) Examples of Configuration Options



BRUSH / WILDLAND

A number of factors should be considered in selecting monitors for brush truck and wildland apparatus including water tank size, pump capacity, mounting location, and ease of installation.

Tank and Pump Capacity

Wildland apparatus usually operate with a limited water supply. Water tanks are often in the 190-1900 Liter (50-500 gallon) range. A monitor and nozzle combination should be selected to achieve the desired flow rate for maximum efficiency of water usage. In addition, since wildland pumps can have lower flow and pressure rates, it is important to have a flow efficient monitor so the pump does not have to overcome unnecessary friction loss.

Mounting Location

Bumper turrets are frequently seen on brush trucks and can be mounted on the front of the apparatus,

however this exposes them to brush and tree limbs. When mounting in this location it is important to select compact monitors with minimized wiring and sealed electrical boxes to prevent intrusion of water and dirt. The TFT EF1 is an excellent fit for this application.

Ease of Installation

Control options for brush truck monitors vary, but the most popular is a joystick in the cab. TFT offers easy to install and use controllers for both the joystick and gateable water valve (optional) in a single system rather than separate controllers. In addition, the quick disconnect feature allows for a simple system to quickly remove the monitor for apparatus with tilt cabs and hoods.

MONITORS

EF1™ RC
up to 750 l/min (200 gpm)



Style:
RC only

Flow Range:
Up to 750 l/min (200 gpm)

Friction Loss at Max:
1.3 bar (19 psi) at 750 l/min

Horizontal Travel:
270° with field changeable travel stops

Note:
38 mm (1.5") waterway, ideal bumper turret

TORNADO®
up to 3000 l/min (800 gpm)



Style:
Manual, RC, Max, or LT

Flow Range:
Up to 3000 l/min (800 gpm)

Friction Loss:
1.3 bar (19 psi) at 1900 l/min

Horizontal Travel:
370° with field changeable travel stops, RC or 360° continuous rotation, manual

Note:
57 mm (2.25") waterway, flexible all-purpose monitor

MONITOR NOZZLES

Once a monitor has been selected, the next step is the nozzle decision. The options are varied with dozens of potential models. Departments have many factors to consider including flow and pressure ranges and nozzle types.

Flow and Pressure Ranges

Nozzles should be selected based upon the desired flow range and pressure, not necessarily based solely upon the maximum flow of the monitor. For example, when selecting a nozzle for a brush truck monitor like TFT's [EF1](#), users often select a 75 and 230 l/min (20 and 60 gpm) [Bubble Cup](#) nozzle, even though the monitor's maximum flow rate is 750 l/min (200 gpm). This is done so that limited water supplies found on brush trucks can be used as efficiently as possible.

Nozzle Types

TFT monitor nozzle types include smooth bore, fixed, selectable and automatic in both manual and RC versions. Departments may select based upon their tradition and operational guidelines. Note that adjustable pressure nozzles can be an effective solution for reach and flow with pressures that range from 5 bar (70 psi) to 8 bar (120 psi) so that users can hydraulically match a smooth bore with an automatic nozzle.

Hundreds of Nozzle Configurations in Fixed, Selectable, and Automatic

TFT manufactures a wide range of monitor nozzles. Specific models can be found on the TFT website.

<p>BUBBLE CUP®</p>  <p>BUBBLE CUP electric remote in 75/225 l/min (20/60 gpm) or 75/360 l/min (20/95 gpm). Integrated shutoff and integrated retractable aspirating sleeve allows foam aspiration. Control with a Bluetooth device or joystick.</p>	<p>ULTIMATIC®</p>  <p>ULTIMATIC electric remote in automatic and selectable versions from 40-500 l/min (10-125 gpm)</p>	<p>MID-MATIC™ & MID-FORCE™</p>  <p>MID-MATIC and MID-FORCE electric remotes in automatic and dual pressure automatic versions from 260-760 l/min (70-200 gpm)</p>	<p>VORTEX® & STACKED TIPS</p>  <p>VORTEX® enhances the performance of any master stream smooth bore or set of stacked tips by going from straight stream to dispersed pattern with no loss to stream flow. Available in a 64 mm (2.5"), 89 mm (3.5") and 152 mm (6") versions.</p>
<p>METRO™ 1</p>  <p>Fixed flow electric remote nozzles with molded rubber or stainless steel spinning teeth in 60-200 gpm (227-757 l/min) at 50, 75 or 100 psi (3, 5 or 7 bar).</p>	<p>MAX-SERIES</p>  <p>MAX-SERIES nozzles include fixed flow, automatic and dual pressure automatic nozzles from 400-2000 l/min (100-500 gpm).</p>	<p>MASTER FORCE™</p>  <p>Dual pressure automatic that adjusts to give the greatest flow rate, reach, and impact force. Operates at either a standard 7 bar (100 psi) or 4 bar (55 psi) low pressure selected by operator.</p>	<p>MASTER STREAM</p>  <p>Dozens of configurations in fixed, selectable and automatic versions with manual or electric remote controls. Flows range from 600-8000 l/min (150-2000 gpm).</p>

MONITOR NOZZLE SELECTION MATRIX

• EF1 RC 1.5" • Tornado 1.5" • Tornado RC 1.5"						
Nozzle Choice	Performance	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
BubbleCup ER Dual Gallonage (EF1 Only)	75 & 230 or 75 & 360 l/min (20 & 60 or 20 & 95 GPM @ 100 psi)	E	Dual flow for various attack options	Includes shut off; Aspirates foam	Low flow options for improved water management	P, W
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		P, W
Metro 1 Fixed Gallonage	Various	M, E	Single Flow/ Pressure	Available with fixed or spinning teeth		P, W
Ultimatic Selectable Gallonage	57 - 450 l/min @ 7 bar (15-120 GPM @ 100 psi)	E	Selectable at the nozzle		Low flow options for improved water management	P, W
Ultimatic Automatic	40 - 500 l/min @ 7 bar (10-125 GPM @ 100 psi); 40 - 400 l/min @ 5, 8, or 10 bar (10-100 GPM @ 75, 120, or 150 psi)	M, E	Best choice when using gateable valve/joystick	Match with pump flow/pressure capabilities	Low flow options for improved water management	P, W
Mid-Matic Automatic	260-760 l/min @ 7 bar (70-200 GPM @ 100 psi)	M, E	Best choice when using gateable valve/joystick	For higher capacity pumps and tanks		P, W
Mid-Force Automatic	260 - 760 l/min @ 7 & 3 bar or 5 & 3 bar (70-200 GPM @ 100 & 55 or 75 & 45 psi)	M, E	Best choice when using gateable valve/joystick	For higher capacity pumps and tanks	Best choice for CAFS (Compressed Air Foam Systems)	P, W



EF1 RC



Tornado RC

MONITOR NOZZLE SELECTION MATRIX continued

• Tornado 2.5" • Tornado RC 2.5"						
Nozzle Choice	Performance	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		P, W
Vortex 2	Used w/ Smoothbore/ Stacked Tips	M, E	Straight stream or uniformly dispersed steam pattern	Great choice for CAFS (Compressed Air Foam Systems)		P, W
Max-Force Dual Pressure Automatic	400 to 2000 l/ min @ 7 & 4 bar (100-500 GPM @ 100 & 55 psi)	M, E	Good choice for CAFS (Compressed Air Foam System)	For higher capacity pumps and tanks	Pressure control for improved performance	P, W
Max-Matic Automatic	400 to 2000 l/ min @ 7 bar (100-500 GPM @ 100 psi)	M	Best choice when using gateable valve/joystick	For higher capacity pumps and tanks	Low flow options for improved water management	P, W
Max-Flow Fixed	2000 l/min @ 7 bar (500 GPM @ 100 psi)	M, E	For higher capacity tanks and pumps			P, W



Tornado RC

MONITOR NOZZLE SELECTION MATRIX continued

- Crossfire • Radius • Hurricane • Hurricane RC • Monsoon 1250
- Monsoon 1250 RC • Flex

Nozzle Choice	Performance	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Single flow/ pressure with each tip size	Best choice for CAFS (Compressed Air Foam Systems)	Use with Vortex 2 for improved straight and dispersed streams	A, P, W
Vortex 2	Used w/Smooth Bore/Stacked Tips	M, E	Straight stream or uniformly dispersed steam pattern	Great choice for CAFS (Compressed Air Foam Systems)		A, P, W
Max-Force Dual Pressure Automatic	400 - 2000 l/min @ 7 & 4 bar (100-500 GPM @ 100 & 55 psi)	M, E	Good choice for CAFS (Compressed Air Foam System)	For higher capacity pumps and tanks	Pressure control for improved performance	P, W
Max-Matic Automatic	400 - 2000 l/min @ 7 or 5.5 bar (100- 500 GPM @ 100 or 80 psi)	M, E	For higher capacity pumps and tanks			P, W
Max-Flow Fixed Gallonage	2000 l/min @ 7 bar (500 GPM @ 100 psi)	M, E	Single Flow/ Pressure	For higher capacity pumps and tanks		P, W
Master Force Dual Pressure Automatic	1100 to 3000 l/min @ 7 & 4 bar (300- 800 GPM @ 100 & 55 psi)	M, E	Good choice for CAFS (Compressed Air Foam System)	Adjustablepattern from straight stream to full fog	Pressure control for improved performance	P, W
Master Stream Automatic	600 - 4000 l/min @ 7 bar (150-1000 GPM @ 100 psi); 600 - 4500 l/min @ 7 bar (150-1250 GPM @ 100 psi); 1100 - 4700 l/min @ 4.8 - 8.3 bar (300-1250 GPM @ 70-120 psi)*	M, E	Automatic for variable flow, constantpressure	Adjustablepattern from straight stream to full fog	*Modelsavailable with adjustable pressure.	A, P
Master Stream Selectable Gallonage	1000, 1500, 2000, 3000, 4000 @ 7 bar (250, 350, 500, 750, & 1000 GPM @ 100 psi)	M, E	Selectable Gallonage	Adjustablepattern from straight stream to full fog		A, P
Master Stream Fixed Gallonage	Up to 1000 GPM @ 100 psi	M, E	Fixed flow, user specified	Adjustablepattern from straight stream to full fog		A, P



Crossfire



Radius



Hurricane RC



Monsoon RC

MONITOR NOZZLE SELECTION MATRIX continued

• Radius • Typhoon • Typhoon RC						
Nozzle Choice	Performance	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		A, P
Vortex 3	Used w/ Smoothbore/ Stacked Tips	M, E	Straight stream or uniformly dispersed steam pattern	Great choice for CAFS (Compressed Air Foam Systems)		A, P
Master Stream Automatic	1100 - 5700 l/ min @ 4.8-8.3 bar (300-1500 GPM @ 70-100 psi)	M, E	Automatic for variable flow, constant pressure	Adjustable pattern from straight stream to full fog	User adjustable nozzle pressure	A, P
• Monsoon 2000 • Monsoon 2000 RC • Flex						
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		A, P
Vortex 3	Used w/ Smoothbore/ Stacked Tips	M, E	Straight stream or uniformly dispersed steam pattern	Great choice for CAFS (Compressed Air Foam Systems)		A, P
Master Stream Automatic	1100 - 7600 l/ min @ 5.5-8.3 bar (300-2000 GPM @ 80-100 psi)	M, E	Automatic for variable flow, constant pressure	Adjustable pattern from straight stream to full fog	User adjustable nozzle pressure	A, P
• Tsunami • Tsunami RC						
Smoothbore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		P
Vortex 6	Used w/ Smoothbore/ Stacked Tips	E	Straight stream or uniformly dispersed steam pattern			P
Master Stream Automatic	2300 - 15000 l/min @ 5.5-8.3 bar (600 to 4000 GPM @ 80-120 psi)	E	Automatic for variable flow, constant pressure	Adjustable pattern from straight stream to full fog	User adjustable nozzle pressure	P
Master Stream Selectable	7600-15000 l/min @ 7 bar (2000 & 4000 GPM @100 psi)	E	Dual gallonage	Adjustable pattern from straight stream to full fog		P



CONTROLS AND WIRE KITS

TFT manufactures a number of valves, remote control accessories and wiring kits for monitor products. See below for option overviews for each category.

Valve Kits

Valve kits are available for TFT monitors in gateable and non-gateable versions. The valve operation controlled through a joystick monitor operator station or the flow open/close button on any TFT monitor operator station membrane switch. The valves come in 25 mm (1"), 38 mm (1.5"), 50 mm (2"), 65mm (2.5"), and 76 mm (3") versions and are most frequently used in conjunction with the TFT EF1 and Tornado monitors.



Remote Control Accessories

TFT RC monitors may be controlled with one or more remote control accessories. Units can be mixed and matched for operational efficiency. For example, one side of the apparatus may have a tethered operator station while the controls on the other side of the apparatus are mounted to the pump panel.

SHO-FLOW® Bluetooth® APP



The SHO-FLOW app is a dual featured application that can be used with or without a TFT SHO-FLOW® Bluetooth® flow meter. When used in conjunction with a SHO-FLOW, users can determine actual flow rates for fire hose lines and nozzles as well as calculate true Pump Discharge Pressures (PDP), Nozzle Reaction, and Hose Friction. In addition an NFPA 1962 nozzle flow test can be performed. As a stand-alone water flow calculator, many of these functions can be performed using established fire flow formulas. The app also includes water flow education videos and recommendations for target fire flows when using water or foam.

Joystick Monitor Operator Station

Joystick controllers are typically mounted in the cab and are frequently selected for wildland apparatus, however they can be used with any TFT RC electric monitor. Moving the joystick controls monitor vertical and horizontal movement, while the thumb switches control nozzle pattern. A trigger built into the joystick handle can be used to open and close some water valves. The joystick is factory installed on an enclosure or can be mounted in a console. A 3 m (10') cable is supplied with stripped wires for connection in the control system terminal box. The joystick control is also equipped with push buttons on top for PARK and OSCILLATE functions as well as monitor DEPLOY. An additional configurable button can be set up



for RC Extend-A-Gun or LED light kit control.

Panel Mount Operator Station

The panel mount station allows RC monitors to be controlled from a remote location and is designed to be mounted in a panel. Models are available with a display screen for advanced system feedback and are configurable for multi-monitor control. This will allow a user to control up to ten TFT RC monitors from one operator station.



Tethered and Wireless Operator Stations

Handheld operator stations are available in tethered 3' (10'), 9 m (30'), or 30 m (100') cable connection or wireless transmitter with a range of up to 152 m (500') styles. Models are available with a display screen for advanced system feedback and are configurable for multi-monitor control. This will allow a user to control up to ten TFT RC monitors from one operator station. Wireless versions are available at 900 MHz and 2.4 GHz.



ADAPTERS AND WIRING KITS

TFT manufactures a number of valve, remote control accessories and wiring kits for monitor products. See below for option overviews for each category.

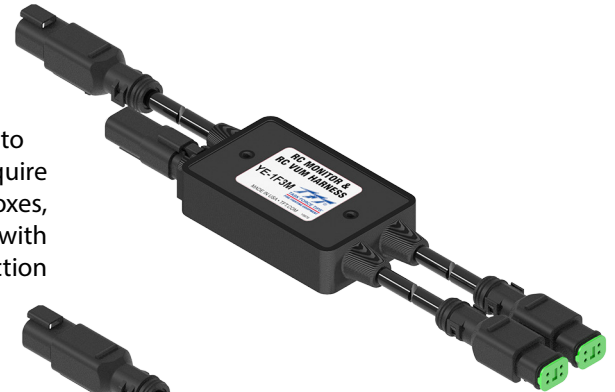
CANbus Adapter for RC Monitors & VUMs

For applications where the user desires to control a TFT RC monitor or RC VUM from a multiplex system, this CANbus adapter allows the direct control of TFT RC equipment from a J1939 CANbus system. The CANbus adapter also provides additional position and diagnostic feedback to the multiplex system. Jumpers are provided to configure adapter address, terminating resistor, and application.



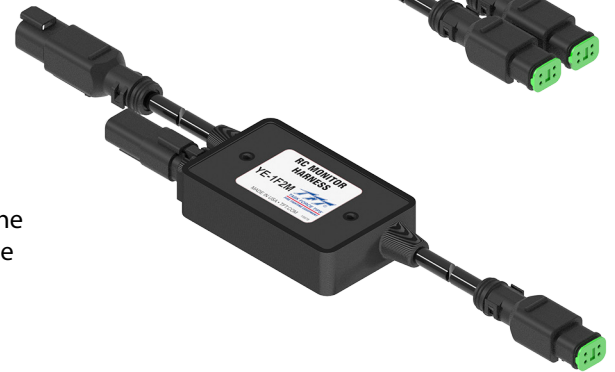
RC Monitor & VUM Connection Harness

This Monitor & VUM Connection Harness enables a quick, easy connection to both devices when they are mounted together. For applications that do not require hardwired inputs or feedback relays located in the monitor or VUM interface boxes, this connection harness will save installation time and reduce weight. Along with connections to the monitor & VUM, an additional plug is provided for connection to other TFT operator stations.



RC Monitor Connection Harness

This Monitor Connection Harness is ideal for ladder applications where the customer desires monitor control using a TFT toggle switch operator station and does not require hardwire inputs or AT PARK relay provided in the interface box. The connection harness will save installation time and provide a quick, easy connection to each device.



Power Conditioner Adapter

The PurePWR Power Conditioner is your solution for inconsistent voltage power, voltage variances, and insufficient power supply to your electronic monitors, VUMs, ball intake valves, and Extend-A-Guns. The PurePWR helps correct undersized wiring, dirty voltage, or poor wiring due to corrosion without the need for a battery on your apparatus.



OVERVIEW

The addition of a portable monitor can be an effective firefighting strategy that offers the ability to attack fires or defend structures, in many cases unmanned. Fire flows range from 950 l/min (250 gpm) to 4750 l/min (1250 gpm). Portable monitors are appropriate for both exterior and interior attack and can be an excellent choice for use in high-risk environments. Important considerations when selecting a monitor include range of elevation, safety systems, and flow rates.

1. Blitzforce™
2. Blitzfire®
3. Crossfire®
4. Hemisphere™

Blitzforce™

The Blitzforce is a compact, economical portable monitor solution. Its flow range is up to 2000 l/min (500 gpm). Elevation is adjustable between 30° to 60° unmanned, and down to 20° when manned. Horizontal rotation is manually adjustable 20° either side of center. When the legs are folded or unfolded, the drag mechanism in the legs provide added resistance so they stay in position. The heavy-duty carbide tipped legs are easily folded out to a wide deployed stance. The Blitzforce series does not include options for a safety shutoff, oscillation, or high elevation.

Blitzfire®

The Blitzfire essentially created the category of high performance portable monitors. Its flow range is up to 2000 l/min (500 gpm) and it integrates an exclusive safety shutoff system that reduces the risk of injury due to an out-of-control appliance during critical fire-ground operations. The base model's attack angle (10° to 46° elevation and 20° side to side horizontal) is perfect for directing a fire stream into any door or window opening during an initial attack. While the HE (high elevation) version provides an even higher 86° up elevation angle for tactical advantages. The OSC (oscillating) version automatically sweeps the nozzle 20°, 30°, or 40°.

BLITZFORCE™



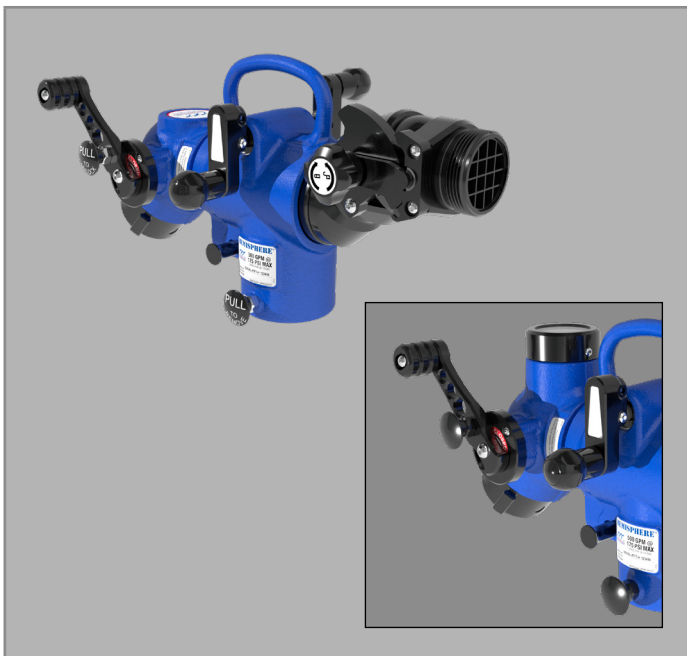
BLITZFIRE®



Hemisphere™

The Hemisphere is more than a portable monitor, it's the fire service's only transportable monitor. A versatile, lightweight, and quick-to-deploy portable monitor that gives the user the ability to quickly establish water flow in locations that ground monitors cannot. Its flow range is up to 2000 l/min (500 gpm). Since the HEMISPHERE doesn't rely on gravity for stability, it can be pointed horizontal and down, in addition to up, unlike portable ground monitors. The rotating, swiveling waterway allows the stream to be pointed in virtually any direction, within a hemispherical range, without interrupting water flow. A variety of mounts, including, a variety of clamps that double as a 2" hitch mount, a dedicated hitch mount, and fixed mounts, provide the user the ability to quickly attach the monitor, and establish coverage on the fire ground, or in preplanned locations.

HEMISPHERE™



Crossfire®

The CROSSFIRE monitor is a unique master stream appliance that is lightweight, compact and incredibly versatile. It can be connected to either a portable base or a truck. With a flow rating of 4750 l/min (1250 gpm) in portable operation, the TFT Crossfire monitor integrates the exclusive Safe-Tak safety shutoff system to prevent unintentional movement. The monitor's compact and lightweight design includes stainless spring steel legs with carbide tips for maximum stability, and a visual attachment indicator for additional security.

CROSSFIRE®



HAND HELD NOZZLES

OVERVIEW

Because of a passion for innovation and safety, TFT invented the automatic nozzle 50 years ago. Today, the company is focused on not just one nozzle type, but on building the best nozzle of every type. TFT has the broadest range of nozzles available in fixed flow, selectable, and automatic for a variety of pressures.

Based on a highly customizable global nozzle platform design, the unique G-Force series of 25 mm (1") and 38 mm (1.5") fixed, selectable, and automatic nozzles combine over 40 years of Task Force Tips design innovation and experience into true next generation firefighting tools. Incorporating unique performance components such as a stainless steel slide valve, inlet debris screen and protective fog pattern choices, the G-Force series delivers high performance and rugged dependability in a low cost package.



Fixed Flow Nozzles

Engineered with a smooth, tapered waterway, TFT's smooth bore tips provide the stream quality, reach, and penetration that you have come to expect from a traditional smooth bore. Engineered for performance and durability, all smooth bore tips are manufactured from aluminum alloy which is then hard coat anodized, the critical orifice of the smooth bore is recessed 1/8" back into the taper, and an aluminum bumper is machined around the outside of that same edge to prevent damage to the critical orifice edge. The smooth bore size and an easy to read pressure/flow chart is laser engraved on each smooth bore tip to identify which smooth bore will meet your tactical needs on the fireground.

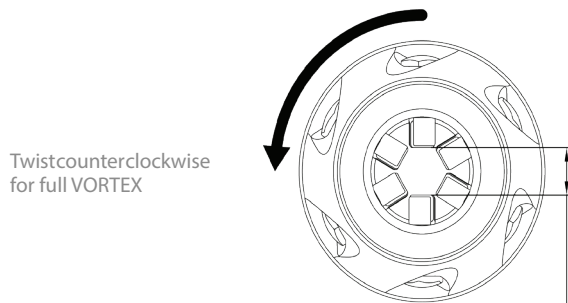
- Traditional Smooth Bore
- Compact Options
- Stacked Tips



The TFT **VORTEX** enhances the use of a smooth bore nozzle. With just a simple twist, the VORTEX moves from a hard hitting straight stream to a uniformly dispersed pattern without gating the valve and reducing the fire flow. Available in a tip only, with valve or with valve and grip. A complete range of smooth bore tips are offered separately.



Create a dispersed pattern without gating your valve and reducing your fire flow. In addition, VORTEX vanes are less obtrusive than a typical stream straightener, resulting in virtually no friction loss.



Allows up to 5/8" debris to pass

Fixed Flow Nozzles (continued)

TFT manufactures a wide range of [ball valves](#) and ball valves with integrated tips ([VIT](#)) in 38 mm (1") through 64 mm (2.5") sizes.

The [Metro series](#) fixed gallonage nozzles are available in two sizes: Metro 1 and Metro 2. You get the flow of your choice, flush without shutting down, a selection of optional foam attachments, and models with stainless steel slide valve. TFT's IMPULSE™ trigger valve system is ideal for single-handed operations with Metro 0 and Metro 1.

[Metro 1—nine flow choices:](#)

150-757 l/min (40-200 gpm)

[Metro 2—seven flow choices:](#)

359-1230 l/min (95-325 gpm)

[Pressures choices:](#)

3, 5 and 7 bar (50, 75, 100 psi)



Selectable and Dual Gallonage Nozzles

The [TWISTER series](#) is a family of selectable, dual gallonage, combination nozzles available in 19 mm (¾"), 25 mm (1") and 38 mm (1.5") threads and is designed for simplicity and durability. The rubber bumper provides a positive grip and protects the front end. Twisting the shaper from the off position produces the following settings: low flow straight stream, low flow narrow fog, high flow straight stream, and high flow fog.



The [QUADRAFOG](#) and [THUNDERFOG](#) series are economical and lightweight selectable gallonage nozzles in 25 mm (1"), 38 mm (1.5"), and 64 mm (2.5") sizes. Models are available in various flow and pressure choices and are suitable for use with low-expansion or multi-expansion foam attachments. All units are NFPA 1964 compliant, include flush without shutting down, and are available in tip-only configurations or with a stainless steel ball shutoff.



A unique combination nozzle capable of producing aspirated finished foam, conventional straight stream and a wide fog pattern. The 25 mm (1") version is a dual gallonage foam nozzle while the 38 mm (1.5") version is available as either a single or dual gallonage foam nozzle. The [BUBBLE CUP](#) offers versatility not found in any other aspirating foam nozzle.



Selectable and Dual Gallonage Nozzles (continued)

The [QUADRACUP](#) is a rugged and dependable selectable gallonage nozzle with a retractable foam aspiration sleeve. When the outer sleeve is in the retracted position, the nozzle operates as a selectable gallonage nozzle for water or foam. When the sleeve is extended, additional foam aspiration can be achieved. Flow can be set to any one of four flow settings, or to a flush mode. The front end can be rotated from straight stream through wide fog patterns. (38 mm) thread is standard.



1.5"

Automatic Nozzles

An automatic nozzle available in 7 bar (100 psi) and 5 bar (75 psi) models in 25 mm (1") or 1.5" (38 mm) versions. It features flush without shutting down, molded rubber bumper with "power fog" teeth, detent flow control, "Gasket Grabber" inlet screen, patented TFT slide valve, optional colored pistol grip and handle covers. The [ULTIMATIC](#) 125 is available in several configurations for a wide variety of applications. It is adjustable from a straight stream to a dense fog pattern.



The 38 mm (1.5") [MID-MATIC](#) automatic nozzle series includes a wide flow range and multiple operational pressure choices. Models feature flush without shutting down, your choice of molded rubber bumper with "power fog" teeth or stainless steel spinning teeth, detent flow control, "Gasket Grabber" inlet screen, and patented TFT slide valve. The MID-MATIC offers a wide flow range of 260-760 l/min (70-200 gpm) and operational pressure choices of 100, 75 or 55 psi (7, 5 or 4 bar).



Automatic Nozzles (continued)

The dual pressure [Mid-Force](#) automatic nozzle has a wide flow range of 265-760 l/min (70-200 gpm) that gives superior performance with a 38 mm (1.5"), 44 mm (1.75") or 51 mm (2") hose. The baffle of the nozzle is equipped with a low-pressure override knob, which allows the nozzle to achieve even greater flows at lower nozzle pressures. All nozzles are regulated to 7 bar \pm 1 bar (100 psi \pm 15 psi) or 5 bar \pm 1 bar (75 psi \pm 15 psi) according to NFPA #1964 flow requirements. It is adjustable from a straight stream to a dense fog pattern with your choice of molded rubber fog teeth for a fully-filled "power fog" pattern or stainless steel spinning teeth.



In the standard mode, the Mid-Force nozzle maintains a 7 bar (100 psi) operating nozzle pressure (75 psi / 5 bar for low pressure version). This gives you the desired ability to aggressively conduct a hard-hitting fire attack. However, with a twist of the knob on the front of the nozzle, you switch to the low pressure mode, which immediately reduces the nozzle's operating pressure to around 4 bar (55 psi) (45 psi / 3 bar for low pressure version). This exclusive TFT feature provides you with the unique ability to change operating nozzle pressure depending on the situation, thereby allowing maximum flow at a lower nozzle pressure.

The [HANDLINE](#) series is all conventional handline sizes in one automatic nozzle series with flow rates of 360-1150 l/min (95-300 gpm). The 38 mm (1.5") version is an excellent choice for 38, 44, and 51 mm (1.5", 1.75", and 2.0") attack lines. The 64 mm (2.5") version combines with 64 mm (2.5") and 76 mm (3") lines. Models are offered in 7, 5, and 4 bar (100, 75, and 55 psi) versions.



Automatic Nozzles (continued)

The [Dual-Force](#) is all conventional handline sizes in one. With a wide flow range of 360- 1150 l/min (95-300 gpm), this series is an excellent choice for 1.5"- 2.5" (38 - 64 mm) hose lines. The Dual-Force feature flush without shutdown, molded rubber bumper with "power fog" teeth, TFT's patented stainless steel slide valve, and optional colored pistol grip and handle covers. All models accept low- or multi-expansion foam attachments.



In the standard mode, the Dual-Force nozzle maintains a 7 bar (100 psi) operating nozzle pressure (75 psi / 5 bar on low pressure version). With a twist of the knob on the front of the nozzle, you can switch the Dual-Force to the low-pressure mode, which immediately reduces the nozzle's operating pressure to around 4 bar (55 psi) (approximately 3 bar (45 psi) in low pressure version).



FOAM APPLICATION

OVERVIEW

Fire departments should review the need for the ability of the apparatus to disperse foam and the types of foam that may be used. Not only does the proper delivery of finished foam extinguish a flammable or combustible liquid, it can also be used to prevent fires from even happening. Foam distribution is typically accomplished with eductors, self-educing nozzles, or on-board foam systems installed on the apparatus. Foam application can be quickly and easily established using TFT's wide range of foam delivery solutions.

TFT foam products fall into the following categories:

- [1. In-Line Eductors](#)
- [2. Self-Educing Nozzles](#)
- [3. CAFS Nozzles](#)
- [4. Foam Attachments](#)
- [5. PRO/pak](#)



IN-LINE EDUCTORS

One popular and affordable option for occasional foam use is an in-line foam eductor that introduces foam into a water stream outside of the apparatus pump house. The eductor uses a pressurized water stream to create a vacuum (the Venturi effect) which sucks foam concentrate into the eductor body from a bucket, tote, or apparatus foam tank and then distributes the water and proportioned foam through the line to the nozzle.

Eductors come in various sizes, ranging typically from 225 l/min (60 gpm) to 1500 l/min (350 gpm), and can be attached directly to the apparatus discharge. They may also be placed between two hose sections in the discharge line. Eductors are typically pumped with a 200-psi inlet pressure. This is due to the high friction loss, roughly 30 percent, through the small Venturi area.

TFT 38 mm Eductor Series

TFT 38mm in-line foam eductors have a metering head with an easy-read knob for use with Class A foam concentrates at .25%, .5% and 1% and with Class B foam concentrates at 1%, 3%, and 6%. Options include the choice of a 36" (91cm) pickup hose with stainless steel wand or direct truck connection pickup hose. The meter head is equipped with a unique back flush push-button for fast and easy cleaning.

- Models for 225 l/min and 450 l/min flow rates.
- Required inlet pressure is 10 bar while maximum allowable back pressure is 6.5 bar. Other psi's also available.
- 38 or 64 mm NH full-time swivel rocker lug inlet, 38 mm NH outlet with available camlock fittings on pickup hose.

TFT 64 mm Eductor Series

TFT 64mm in-line foam eductors have a metering head with easy-read knob for use with Class A foam concentrates at .5% and 1%, and with Class B foam concentrates at 1%, 3%, and 6%. The meter head is equipped with a unique backflush push-button for fast cleaning. Units also include a helpful Go/NoGo gage on the outlet to show back pressure on eductor.

- Models for 1000 l/min and 1500 l/min flow rates.
- Required inlet pressure is 10 bar while maximum allowable back pressure is 5.5 bar. Other psi's also available.
- 64 mm NH full-time swivel rocker lug inlet, 64 mm NH outlet with available camlock fittings on pickup hose.

TFT 38 mm Eductor Series



TFT 64 mm Eductor Series



SELF-EDUCTING FOAM NOZZLES

Self-educating nozzles turn master stream monitors into foam distribution stations without any additional equipment. The nozzles include a 10' (3m) tube to draw foam from a bucket or tote. The simple flow geometry can can educt foam concentrates at .5% through 6% and foam tubes can be attached for additional expansion.

MASTER FOAM Self-Educting Nozzle

A fixed gallonage fog nozzle rated at 7 bar (100 psi) that is available in 950, 1300, 2000, 3000 l/min (250, 350, 500 or 750 gpm) flows. The fog angle is user adjustable between 90° wide fog and straight stream. It can educt foam concentrate at .5%, 1%, 3%, or 6% and the percentage is easily set with interchangeable orifice plates.

MASTER FOAM™ Self-Educting Nozzle



MASTER FOAM Self-Educting Monitor Nozzle

A fixed gallonage, monitor fog nozzle rated at 7 bar (100 psi) that is available in both manual and ER (electric remote) versions in two sizes. The fog angle is user adjustable between 90° wide fog and straight stream. The simple design requires minimal maintenance.

- Models for 3800 or 4800 l/min (1000 or 1250 gpm) or a larger size for 5700 or 8000 l/min (1500 or 2000 gpm).
- Manual and ER versions available.
- 64 mm (2.5") NH, NPSH, or BSP swivel coupling or 89 mm (3.5") NH female threads.

MASTER FOAM™ Self-Educting Monitor Nozzle



CAFS NOZZLES

After study, some fire departments install CAFS, compressed air foam system, onto their apparatus. CAFS offers the unique ability to produce a wide range of foam qualities or foam types to provide the most appropriate foam response to individual fire situations. The system includes a water source, a pump, foam concentrate tanks, a direct-injection foam proportioning system on the discharge side of the pump, a mixing chamber or device, a rotary air compressor, and control systems to ensure the correct mixes of concentrate, water, and air. TFT manufactures both Automatic and Straight Tip nozzles appropriate for CAFS application.

CAFS Automatic Nozzles

TFT's CAFS-Force is engineered to provide optimal foam stream performance and can be used with water as well. The nozzles have a molded rubber bumper with "power fog" teeth, flush without shutting down, and include an automatic dual pressure control that may be switched from standard 5 bar (75 psi) pressure (water application) to low pressure CAFS mode at 3 bar (45 psi). Nozzles are tip only and require a ball valve to shut off. Available in a 265-757 l/min @ 5 bar (70-200 gpm @ 75 psi) or a 360-946 l/min @ 5 bar (95-250 gpm @ 75 psi) version.



CAFS Straight Tip

Available in with either a 38 mm (1.5") or 64 mm (2.5") with a smooth taper to a 35 mm (1-3/8") tip. The tip is also suitable with water.



FOAM ATTACHMENTS

Foam attachments can quickly and easily turn almost any nozzle into a high performance foam nozzle. The attachments can be removed for a water-only or non-aspirated stream. Attachments are generally low or multi-expansion types and models are available in handheld and monitor nozzle versions.



Low-Expansion Foam Attachments

A variety of sizes and configurations of models within the FOAMJET family can be quickly attached to any TFT Quadrafog, Ultimatic 125, Midmatic, Mid-Force, Handline, Dual-Force, Metro 0, Metro 1, or Metro 2 nozzle. When used with AFFF and Class A foams, the FOAMJET™ can develop expansion ratios of 6:1. This low-expansion attachment is compact and offers long stream reach.

The FOAMJET-LX is a series of lightweight, low-expansion foam-making, air-aspirating attachments. Different models pair with different size nozzle families. Simple, rugged and dependable, the FOAMJET-LX can be quickly attached and provides superior foam-making ability with most modern foam concentrates. Models include handheld, industrial and master stream versions. This low-expansion attachment has slightly less reach than the FOAMJET, but produces superior quality foam.

Multi-Expansion Foam Attachment

The MX-FOAMJET series are simple to attach, compact, lightweight, and rugged multi-expansion foam-aspirating attachments for most TFT nozzles. It can be used with many foam concentrates that are recommended for low or medium expansion equipment. The thick foam blanket produced has superior vapor suppression capabilities and is longer lasting than foam from non-aspirated nozzles. The locking ring attaches easily and securely to the rubber bumper and can also be removed quickly for water-only or non-aspirated streams. Rotating the MX-FOAMJET provides the ability to vary the expansion ratio and stream reach of finished foam.



PRO/pak

TFT's compact, all-in-one PRO/pak foam injection and application system is the ideal choice for application of Class A foam concentrates, and rapid vapor suppression with any Class B AFFF or Alcohol Resistant foam concentrates.

PRO/pak

Everything is contained in one package that attaches to the end of a 25 or 38 mm (1 or 1½") fire hose. The PRO/pak has a high impact 9.5 l (2.5 gal.) foam reservoir with a built-in eductor that can be set to the ratio of foam or wetting agents being used (0.1% to 6%). A large, easy-open fill port has an indicator to show the type of liquid in the tank. Flow is controlled by a twist grip valve that also functions as a carrying handle. With three different quick connect nozzles included, the PRO/pak system is capable of producing low or medium expansion finished foam, while operating at a variety of inlet pressures.



BALL INTAKE VALVES

OVERVIEW

Over many years, fire departments have used a variety of mechanisms to help control the incoming water into the pump of the apparatus. Strategies have included butterfly valves, gate valves, piston intake valves, master intake valves, and ball intake valves.

BIV MODELS

Models available with either a 97 mm (3.65") or jumbo 133 mm (5.25") waterway. TFT offers hundreds of BIV configurations for every panel layout. Options include handle placement, inlet/outlet sizes, body profile, pressure relief, and remote control. The spreadsheet below is a side-by-side overview of the different BIV families.

BIV Ball Intake Valve Overview Document

									
Description Low Profile Elbow, Front Crank, PRV	Description Low Profile Elbow, Top Crank, PRV	Description Low Profile Elbow, Top Crank, PRV	Description Low Profile Elbow, Top Crank, PRV	Description Low Profile Elbow, Front Crank, No PRV	Description Low Profile Elbow, Top Crank, No PRV	Description Low Profile Elbow, Top Crank, No PRV	Description Low Profile Elbow, Top Crank, No PRV	Description Low Profile Elbow, Electric, PRV	Description Low Profile Elbow, Electric, PRV
Dim Max 14.7"H, 13.8"W, 11.3"D	Dim Max 14.7"H, 13.8"W, 11.3"D	Dim Max 14.7"H, 13.8"W, 11.3"D	Dim Max 14.7"H, 13.8"W, 11.3"D	Dim Max 16.6"H, 13.4"W, 11.3"D	Dim Max 16.6"H, 13.4"W, 11.3"D	Dim Max 16.6"H, 13.4"W, 11.3"D	Dim Max 16.6"H, 13.4"W, 11.3"D	Dim Max 13.5"H, 15.6"W, 11.3"D	Dim Max 13.5"H, 15.6"W, 11.3"D
List Price \$2850.00	List Price \$2850.00	List Price \$2850.00	List Price \$2850.00	List Price \$2585.00	List Price \$2585.00	List Price \$2585.00	List Price \$2585.00	List Price \$4850.00	List Price \$4850.00
									
Description Elbow, Handwheel, PRV	Description Elbow, Top Crank, PRV	Description No Elbow, Handwheel, PRV	Description No Elbow, Top Crank, PRV	Description Low Profile Elbow, Handwheel, No PRV	Description Low Profile Elbow, Top Crank, No PRV	Description No Elbow, Handwheel, No PRV	Description No Elbow, Top Crank, No PRV	Description Elbow, Electric, PRV	Description No Elbow, Electric, PRV
Dim Max 17.8"H, 14.0"W, 15.5"D	Dim Max 18.7"H, 11.5"W, 15.5"D	Dim Max 17.4"H, 13.4"W, 12.9"D	Dim Max 18.7"H, 11.2"W, 12.9"D	Dim Max 12.7"H, 13.4"W, 16.1"D	Dim Max 14.6"H, 11.2"W, 16.1"D	Dim Max 12.7"H, 13.8"W, 12.1"D	Dim Max 14.6"H, 11.2"W, 12.1"D	Dim Max 17.9"H, 11.2"W, 16.1"D	Dim Max 17.9"H, 11.2"W, 12.1"D
List Price \$2700.00	List Price \$2700.00	List Price \$2700.00	List Price \$2700.00	List Price \$2435.00	List Price \$2435.00	List Price \$2435.00	List Price \$2435.00	List Price \$4700.00	List Price \$4700.00
<i>The TFT Ball Intake Valve (BIV) is being replaced by the Jumbo BIV and Jumbo Low Profile BIV making selection of a high performance pump inlet valve much easier.</i>									
									
Description Elbow, Handwheel, PRV	Description Elbow, Top Crank, PRV	Description No Elbow, Handwheel, PRV	Description No Elbow, Top Crank, PRV	Description Elbow, Handwheel, No PRV	Description Elbow, Top Crank, No PRV	Description No Elbow, Handwheel, No PRV	Description No Elbow, Top Crank, No PRV	Description Elbow, Electric, PRV	Description No Elbow, Electric, PRV
Dim Max 15.6"H, 13.0"W, 14.0"D	Dim Max 16.0"H, 11.5"W, 14.0"D	Dim Max 16.2"H, 13.4"W, 11.0"D	Dim Max 17.8"H, 11.2"W, 11.0"D	Dim Max 13.0"H, 13.4"W, 13.5"D	Dim Max 14.4"H, 11.2"W, 16.5"D	Dim Max 11.6"H, 13.4"W, 11.0"D	Dim Max 13.5"H, 11.2"W, 11.0"D	Dim Max 16.8"H, 11.2"W, 14.0"D	Dim Max 16.8"H, 11.2"W, 11.0"D

Performance

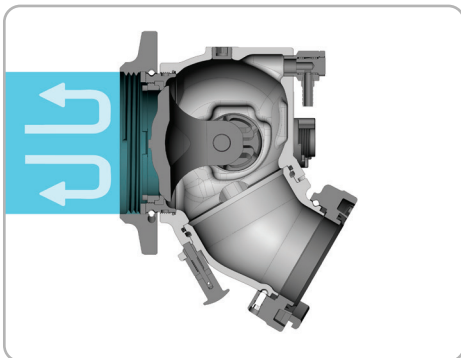
TFT BIV's include a 360-degree swiveling elbow to make connecting the hose easy because the swivel allows the elbow to twist with the charging LDH from the fire hydrant.

Meeting NFPA slow-close requirements, this valve is gateable to the users specific need. The position indicator clearly shows CLOSED, 1/2, and OPEN positions.

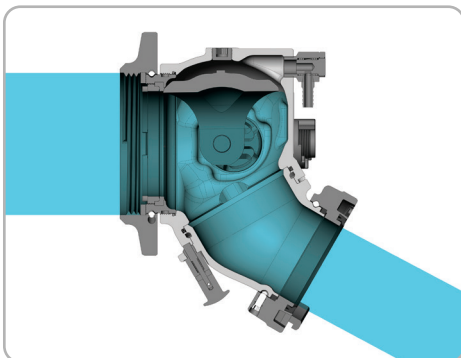
Because the BIV is available in either RC or Manual version, the pump operator has tremendous flexibility. For example, a manual BIV could be utilized on the primary panel, while an RC version could be used on the other side of the truck. The operator could then control the RC valve remotely and view its status on a pump panel LED screen.

Durability

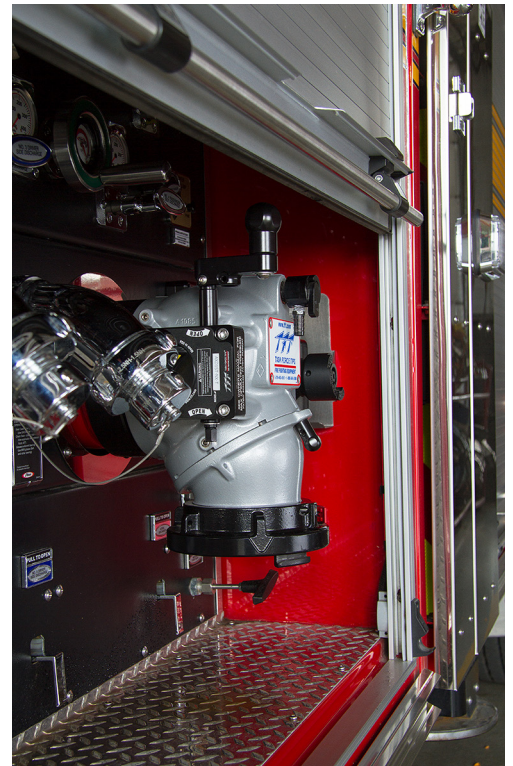
When the TFT BIV is closed, the water stays on the pump side so the inside of the valve is dry at all times. This helps to prevent corrosion and ensure long life. When the BIV is open, the valve is completely wide open providing a high flow unobstructed waterway.



When the BIV is closed, the water stays on the pump side so the inside of your valve is dry at all times.



When the BIV is open, the valve completely swings out of the way and provides high flow because of the unobstructed waterway.



Low Profile BIV versions for tight pump panels.

SUCTION STRAINERS

OVERVIEW

Many firefighters are used to having readily available hydrants supplied by a pressurized water source. Other firefighters, who serve in rural districts may regularly need to quickly access water from lakes, ponds, creeks, rivers or portable tanks. However, at some point, it is likely that a department will face the need to pull water from something other than a standard "wet" hydrant. In these cases, drafting may provide the only alternative to getting the water needed for the firefight. In addition to suction hose, a fire department requires a strainer to prevent debris from blocking the hose and entering into the pump.

TFT manufactures three basic styles of strainers that provide high flow and low friction loss.

Jumbo Barrel Strainer

A heavy-duty, lightweight barrel strainer for suction hose. The impact resistant polymer won't dent or corrode, even in contaminated water. It's designed with a wavy straining pattern to resist debris from sticking against the holes.

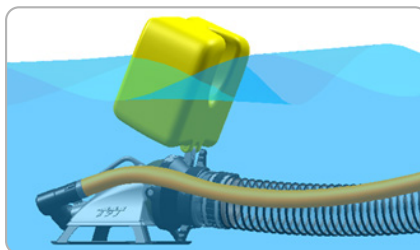
Floating Barrel Strainer

The extremely light weight float and strainer basket are made from corrosion proof hi-tech polymers. The float quickly and easily detaches for conversion to a simple, flow efficient barrel strainer that rides low reducing the risk of roll-overs. The swiveling inlet allows for quick suction hose connection and the entire package stores easily in tight compartment spaces.

The low-level strainer allows departments to tap deeply into water supplies like portable tanks. The TFT strainer allows a true 5678 l/min (1500 gpm) draft from a 152 mm - 3 m (6"-10') hose and its pivoting inlet allows the strainer to lay flat on the bottom assuring maximum draw down. With only 0.03 bar (0.5 psi) friction loss at 5700 l/min (1500 gpm), it is remarkably flow efficient. An optional jet siphon is available to increase suction lift capability and for tank shuttle, pump priming and dewatering.

TFT's low-level strainer also offers a removable floating device. This essentially gives the user two strainers in one. Adding the flotation device allows the strainer to collect clean water from ponds, streams, lakes, and pools.

By drafting near the surface, debris is minimized as is distance from the pump. The unique float design nestles onto the strainer so other equipment can be stacked on the top. An optional jet siphon is also available on this model.



LDH EQUIPMENT AND WATER SUPPLY

OVERVIEW

TFT offers a complete line of water valves and appliances. Below are just a few of the options available.

LDH Gated Wye

The LDH Gated Wye is a lightweight, low friction-loss valve that can be used in many water distribution applications. The ability to gate the dual robust valve mechanism allows water flow versatility and may even be helpful in drafting operations. This wye includes a 21 bar (300 psi) pressure gauge and quarter turn air vent and drain valve. The valve comes in an apparatus/fixed version and a ground/loose equipment version.

Jumbo Siamese and Wye

Designed for 64 mm through 152 mm (2.5" through 6") hose, the Siamese appliances feature dual clapper valves to allow one or both inlets to be disconnected without draining the water in the third hose line connection. The aluminum castings are hard coat anodized and TFT-powder coat finish inside and out for maximum corrosion protection. Three strategically placed legs allow the appliance to sit off the ground even with 152 mm (6") Storz on inlet/outlet.

TFT's Jumbo Wye offer the same construction as the Jumbo Siamese, but without the clapper.



LDH Gated Wye



Jumbo Siamese and Wye



Hydrant Valve

Hydrant valves offer additional flexibility for water management and control at the hydrant. TFT's 64 mm (2.5") Hydrant Valve is a lightweight valve with a full 64 mm (2.5") waterway with 21 bar (300 psi) operating pressure from either side of valve. They are available with either quarter turn valve handles or slow close multi-turn knobs.



Hydrant Valve

OASIS™ Hydrant Assist Valve

TFT also manufactures a unique hydrant assist valve, the Oasis. It is a versatile valve that can be used as a hydrant booster, as a gated wye, or for inline pumping during relay operations.

In hydrant boosting operation, the valve is first connected to the hydrant and to the intake supply line on the first pumper. Inlet and outlet supply lines on a boost pumper are then connected to the valve to draw water directly from the hydrant connection and increase pressure/flow to the first pumper.

A clapper valve with position indicator provides uninterrupted water flow to the fire when transitioning to boost mode, and in the event of boost pump failure. Two unique valve position indicators tell the operator if the ball and clapper valves are open or closed.



Oasis Hydrant Assist Valve

Boost Water Supply

The Oasis is the perfect choice for dramatic water supply improvements when used with poorly performing hydrants, long rural water delivery relays, or small diameter hose operations.

Water from Discharge of Boost Apparatus

Water to the Fire

Automatic clapper valve allows transfer from boosted to non-boosted without operator intervention.

More info at
TFT.com/oasis

Oasis Hydrant Assist Valve

Water Supply Inlet

Oasis can be used as a hydrant shutoff valve with a simple field modification.

Initial Attack Un-Boosted

Deliver water to attack apparatus at the fire scene.

Boost Pressure and Flow

Boost pressure and flow from the hydrant to attack apparatus.

In Relay Boost Pressure and Flow

Boost pressure and flow with a hose lay of 500 feet plus.

Manifold

TFT's 5-Way Manifold is a compact, portable, low friction-loss valve that can be used in a variety of water distribution applications. The hydraulically actuated slide valve combined with four of TFT's 64 mm (2.5") quarter-turn ball valves with folding handles make for the ultimate in versatility. A slow close valve is also available. All four 64 mm (2.5") valves can be used with or without the LDH valve being open.

Folding handles minimize required storage space. Device includes carrying handle, a pressure gauge and optional PRV.



5-Way Manifold

Water Thief

A water thief allows firefighters to divide one larger line into several smaller hose lines, each with independent control of water flow at the valve. Smaller versions are popular in wildland firefighting operations as attack lines are able to connect along a single water supply line. LDH versions have a 64 mm (2.5") waterway with a variety of inlet and outlet sizes.



LDH Water Thief

TFT's LDH Water Thief and Siamese Water Thief have a straight through main waterway with two valved side discharge ports. Choose either quarter turn or slow close handles. Available with a large variety of connections, or an optional Pressure Relief Valve (PRV).



LDH Gated Water Thief

Wyes and Siamese

Gated wye valves permit complete flow control when a hose line needs to be split into two lines. Siamese valves are for when two lines are combined into one hose line.

64 mm (2.5") version includes a full open waterway and can operate at 21 bar (300 psi) from either side of the valve. Units include field replaceable valve seats. The standard version includes quarter turn folding valve handles for compact storage, a cast in carrying handle, and automatic valve locks to keep the valve position while flowing at partial openings.



Gated Wye

The slow-close version replaces the handles with a multi-turn knob for slow closure of the valve and reduction in water hammer.



Gated Siamese - Slow Close

ADAPTERS , ELBOWS, AND TOOLS

OVERVIEW

TFT offers a wide range of adapters, detents, elbows, and tools. As water flow experts, TFT is able to offer its customers:

Adapters and Elbows

TFT's adapters and elbows are designed to meet your needs. A complete listing of adapters and elbows can be found on the TFT website.



Storz Blind Cap with Lanyard



Truck Adapter



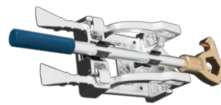
Adapter

Wrenches and Spanners

TFT spanners, wrenches and tools are designed for rugged fire service use in a variety of applications. Many items include brackets for easy truck mounting. A complete listing of tools can be found on the TFT website.



Jumbo Spanner Wrench



3 Wrench Bracket Set



Hydrant Wrench

The [SHO-FLOW Bluetooth™](#) is a series of flow meters designed to quickly and accurately determine the flow rate in a hose line, portable monitor, or deck gun. Any firefighting, training, or testing operation that flows water needs a SHO-FLOW Bluetooth.

No Wires, No Batteries Needed

- TFT's SHO-FLOW Bluetooth generates its own power using an unobstructed water driven turbine that will pass debris.
- Starting at the meter's minimum flow rating, the turbine generates power needed to supply a Bluetooth connection to any smart device which totalizes and displays an accurate flow rate in GPM, LPM, GPM, or LPS in real time.

Full Flow Range

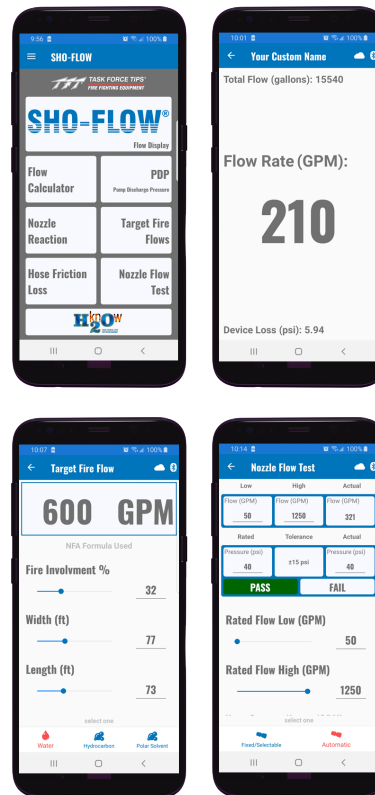
- SHO-FLOW models include a 38 mm (2.5") 100-500 l/min (25-125 gpm), and 38 mm (2.5") 200-1150 l/min (50-300 gpm), 64 mm (2.5") 400-2000 l/min (100-500 gpm), and a 64 mm (2.5") 2000-4700 l/min (500-1250 gpm) model.
- Use with any hose line or appliance with 38 mm (1.5") (SHO-FLOW 1) or 64 mm (2.5") (SHO-FLOW 2) couplings including nozzles and fixed and portable monitors.

Show your Flow with Bluetooth Technology

- The SHO-FLOW can connect to any smart device via Bluetooth to display flow rates and totals. The device displays the data via TFT's SHO-FLOW app which is available free through iTunes and the Google Play stores.
- TFT's SHO-FLOW App is available in SEVEN languages: English, Spanish, German, Japanese, Chinese-Mandarin, French, and Portuguese.

See Flow Rate and Totals

- Connect the SHO-FLOW Bluetooth and obtain readings of your flow rate and the total amount of water flowed.
- The totalizing function is handy for incident reporting, tracking water usage in billable areas, and understanding total flows as a part of firefighter training.



TFT's enhanced dual featured [SHO-FLOW® APP](#) works either independently with established fire flow formulas, or in conjunction with TFT's SHO-FLOW Bluetooth® Flow meter, determining actual flow rates for fire hose lines and nozzles, in addition to calculating true Pump Discharge Pressures (PDP), Nozzle Reaction, Hose Friction, and allowing for real time NFPA 1962 flow testing.

When used in its stand alone water flow calculating mode, SHO-FLOW's app allows both Android or Apple users to calculate flow rate, nozzle reaction, hose friction loss, or to target fire flow rates by using the application's built-in time tested formulas.

The revolutionary app, designed to deliver information in either metric or USA units, allows custom naming of the team's SHO-FLOW meter device, as well as enabling an unlimited amount of first responders to see real time flow rate, total water delivered, and device friction loss from up to a quarter mile away via the Bluetooth link. The dynamic app also includes instant links to water flow education videos and recommendations for target fire flows when using water or foam.

Download the new and improved free application from Google Play or the App Store.

The SHO-FLOW App is available in SEVEN languages: English, Spanish, German, Japanese, Chinese-Mandarin, French, and Portuguese.

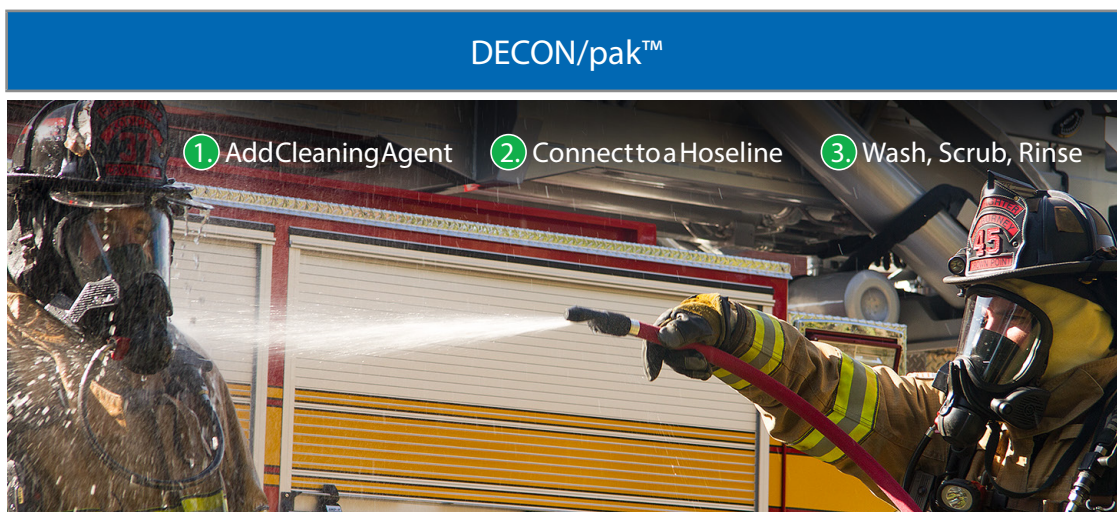


DECON & CANCER MITIGATION

OVERVIEW

The DECON/pak Portable Decontamination System is a self-contained agent proportioning and rinse application system developed specifically for gross decontamination of firefighting personnel and equipment.

Studies show that field decon using soap, water and brush can reduce cancer causing contamination on turnout gear an average of 85%.*



Flow is controlled by a twist grip valve that also functions as a carrying handle. Cleaning agents are added through the large, easy-open fill port that includes a debris screen.



Large selector for agent proportioning from 0.1 to 0.5% for cleaning agent** or set to rinse with water only.



The DECON/pak stores easily in tight compartment spaces.

* Source: Journal of Occupational and Environmental Hygiene DOI: 10.1080/15459624.2017.1334904

** Contact your turnout gear manufacturer for cleaning agent recommendation for your specific gear.

OVERVIEW

CrewProtect is a self-contained and comprehensive air decontamination and filtration system designed for enclosed cabs. This advanced device ensures the safety of you, your firefighting crew, and your extended first responder team by effectively eliminating air contamination and airborne threats encountered daily.



CrewProtect 50

CrewProtect™ 50 cleans the air in your vehicle cabs and small space with airflow of 1.42 CMM (50 CFM). The unit quickly and effectively removes particulates, VOCs (volatile organic compounds), smoke, and aerosols. The no-hassle combination cartridge contains a pre-filter, patented molecular media, and H13 HEPA capturing 99.95%+ of particulates and 95%+ VOCs.



CrewProtect 100

CrewProtect™ 100 cleans the air in your vehicle cabs and small space with airflow of 2.83 CMM (100 CFM). The unit quickly and effectively removes particulates, VOCs (volatile organic compounds), smoke, and aerosols. The no-hassle combination cartridge contains a pre-filter, patented molecular media, and H13 HEPA capturing 99.95%+ of particulates and 95%+ VOCs.

PUMPERS / RESCUE PUMPERS WORKSHEET

Decon and Cancer Mitigation

- DECON/pak
- CrewProtect

Monitors and Accessories

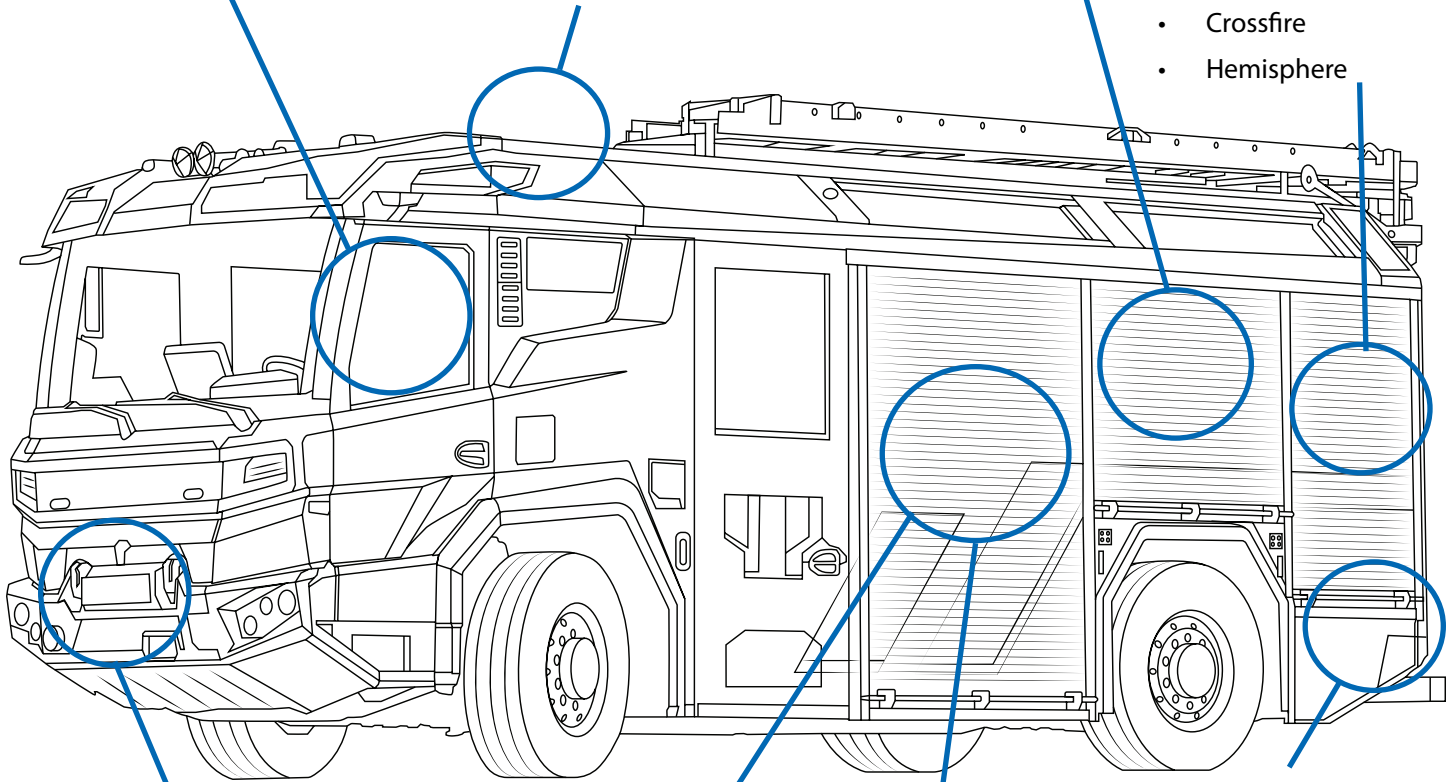
- Monitors
- Telescoping Waterways
- Monitor Nozzles
- Controls
- Adapters and Wiring Kits

Hand Held Nozzles

- G-Force
- Fixed Flow
- Selectable and Dual Gallonage
- Automatic

Portable Monitors

- BlitzForce
- BlitzFire
- Crossfire
- Hemisphere



Monitors and Accessories

- Bumper Turrets
- Brush and Wildland

Foam Application

- Eductors
- Self Educating Nozzles
- CAFS Nozzles
- Foam Attachments
- PRO/pak

LDH Equipment & Tools

- Jumbo Wyes and Siamese
- Hydrant Valves
- Manifold and Water Thief
- Wrenches and Spanners

Adapters, Elbows, and Valves

- Adapters
- Elbows
- Detent Elbows
- Ball Intake Valves
- Sho-Flow

AERIAL / LADDERS / PLATFORMS / TILLERS / TOWERS / WATER TOWERS WORKSHEET

Decon and Cancer Mitigation

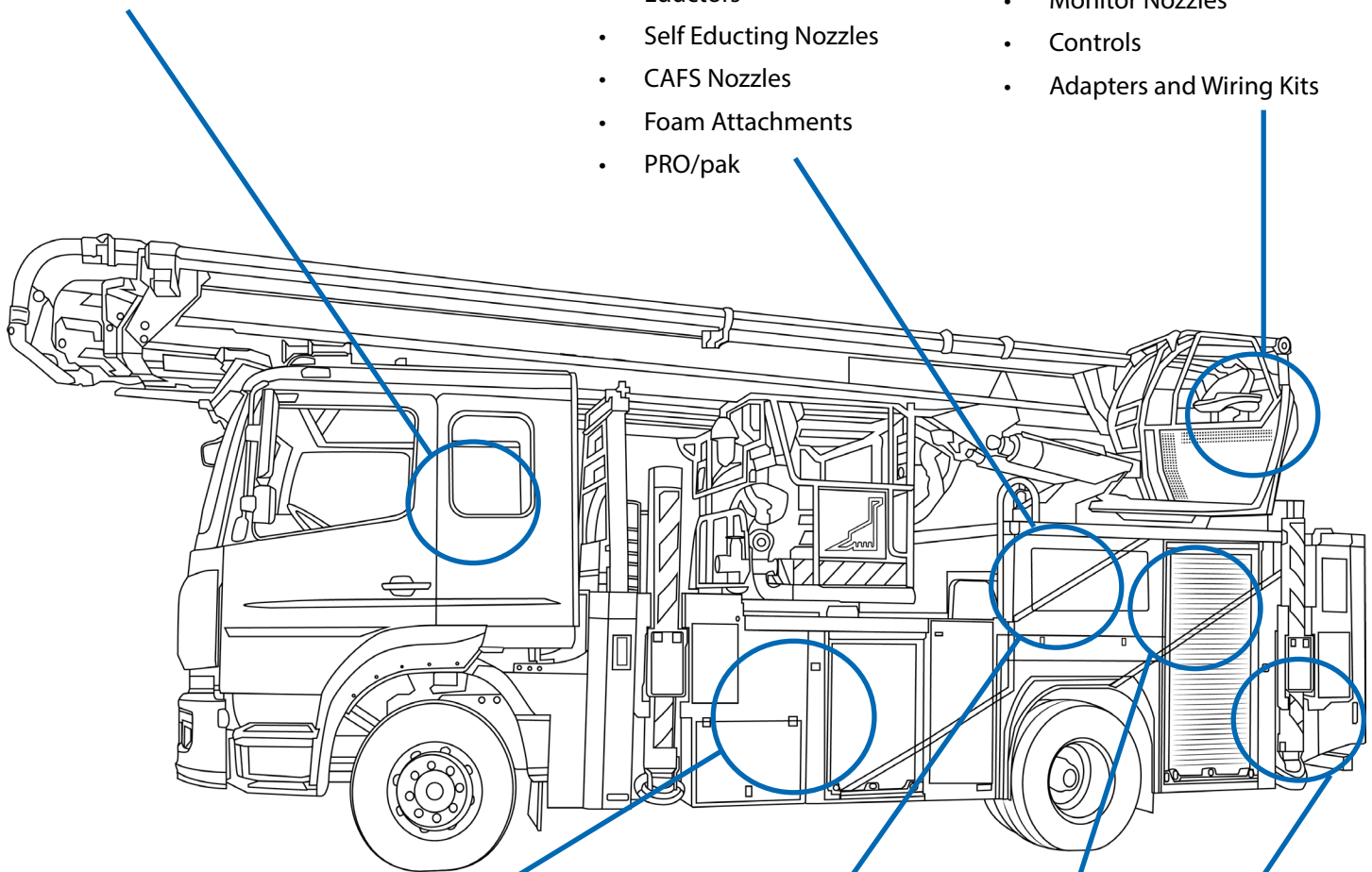
- DECON/pak
- CrewProtect

Foam Application

- Eductors
- Self Educating Nozzles
- CAFS Nozzles
- Foam Attachments
- PRO/pak

Monitors and Accessories

- Monitors
- Valve Under Monitor (VUM)
- Monitor Nozzles
- Controls
- Adapters and Wiring Kits



Accessories & Tools

- Wyes and Siamese
- Wrenches and Spanners
- Sho-Flow
- LDH and Water Supply

Hand Held nozzles

- G-Force
- Fixed Flow
- Selectable and Dual Gallonage
- Automatic

Adapters and Elbows

- Adapters
- Elbows
- Detent Elbows

Portable Monitors

- BlitzForce
- BlitzFire
- Crossfire
- Hemisphere

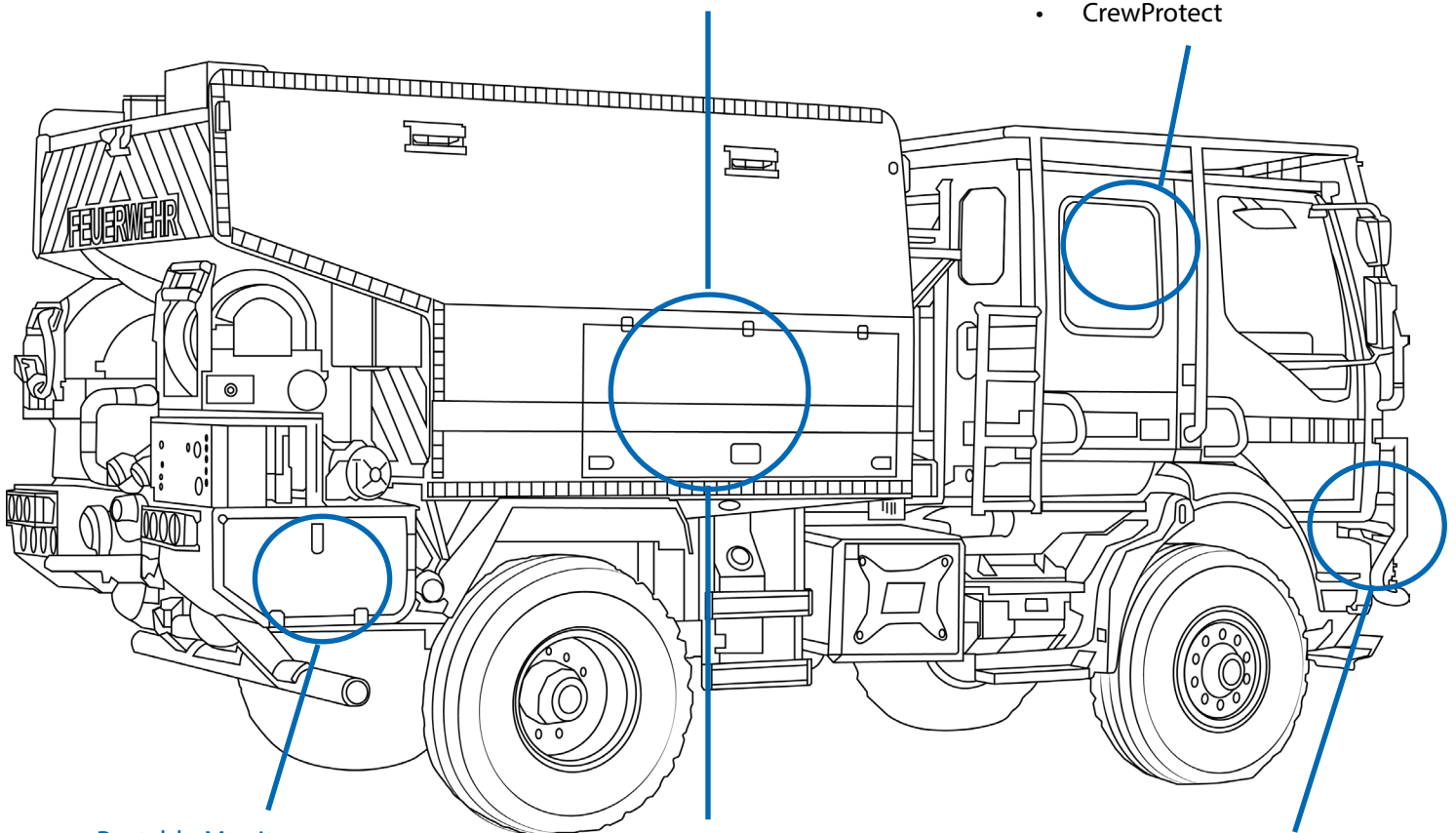
BRUSH/WILDLAND WORKSHEET

Hand Held Nozzles

- G-Force
- Fixed Flow
- Selectable and Dual Gallonage
- Automatic

Decon and Cancer Mitigation

- DECON/pak
- CrewProtect



Portable Monitors

- BlitzForce
- BlitzFire
- Crossfire
- Hemisphere

LDH Equipment and Water Supply

- Jumbo Wyes and Siamese
- Hydrant Valves
- Manifold and Water Thief
- Wyes and Siamese
- Wrenches and Spanners

Monitors and Accessories

- Monitors
- Monitor Nozzles
- Controls
- Adapters and Wiring Kits

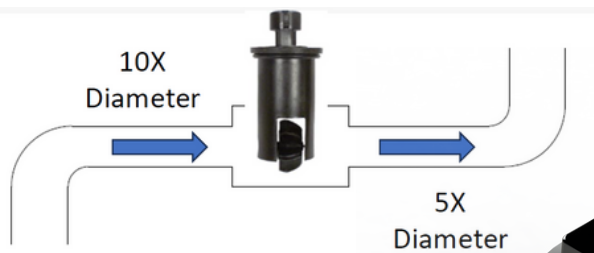


Truck Mounted Sho-Flow

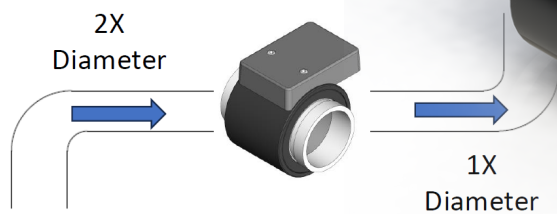
The Truck Mounted Sho-Flow is a flowmeter concept design that utilizes electromagnetic readings to measure waterflow inside vehicle plumbing. This design reduces the plumbing length necessary for installation and eliminates the need for a paddlewheel.

1X

Existing Flow Meters



TFT Sho-Flow



Specifications

Height: 160 mm (6.3")

Width: 160 mm (6.3")

Length: 144 mm (5.7")

Weight: 3.3 kg (7.3 lb)

Features:

- Flow Rate: 50 - 3000 L/MIN (15 - 800 GPM)
- Waterway Diameter: 76 mm (3")
- Accuracy: +/- 2.5% of Full Scale

Benefits

- Reduced installation length
- No false (ghost) readings
- Open waterway with no moving parts
- Electronics protected with potting process





Portable Monitors

- Exclusive Safety Options
- 10°–86° Unassisted Attack Angle
- Oscillating Options Available



Truck Monitors

- 750 - 30,000 L/min (200 – 8,000 gpm) Manual and Electric
- Lowest Friction Loss in the Industry for Maximum Flow and Reach
- Hard Coat Anodized & Powder Coated



Ball Intake Valves

- Manual and Electric Remote
- 93 mm (3.65") or 133 mm (5.25") Unobstructed Waterway
- Over 100 Options to Fit Any Pump Panel



Aerial Monitor Manifolds

- Manual and Electric Remote
- One Piece Construction Includes Valve for the Monitor and Up to Four Discharge Options



Adapters, Tools & Elbows

- Full Range of Male x Female, Double Male, and Double Female Adapters
- Special Threads are Always Free of Charge
- Quickest Delivery in the Industry



Strainers

- Low Level and Barrel Strainer Options
- Floating and Low Level Strainer in One



Foam Delivery Equipment

- Foam Attachments Available for All Nozzles
- Easy Cleaning Foam Eductors
- All Options Result in Fast, Easy Foam



Hydrant Valves

- Full, unobstructed waterways for minimum friction loss
- Automatic valve lock to keep the position of the valve while flowing at gated positions and water pressure
- Wide variety of sizes and couplings



Nozzles

- Smooth Bore, Fixed, Selectable and Automatic Nozzles
- Widest Range of Operating Pressures in the Industry
- One Piece and Break Apart Options