

Apparatus Buyer's Guide



A Resource to Help
Fire Departments
Make Informed
Decisions

WHY AND HOW TO USE THE GUIDE



The specification of fire service equipment can be a complex process in which departments have to assess both their current and future needs and understand the tradeoffs on every decision. This guide is a resource that helps fire departments make informed decisions specifying water and foam flow products. Whether departments are specifying new apparatus, refurbishing a truck or simply upgrading their equipment, this guide will offer both advice and additional resources for helpful information.

APPARATUS AREAS = GUIDE SECTIONS

Each area of the apparatus has its own section in this guide with specifications, charts, diagrams, and links to videos and web resources that will be helpful in the apparatus specification process.

GUIDE SECTIONS = APPARATUS SYSTEMS

The guide's sections are broken into logical systems of the apparatus: monitors, portable monitors, foam applications, ball intake valve, etc. Each section includes important considerations into the spec process, an overview of primary systems, and important available options.

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INTERACTIVITY OF THE GUIDE (see example right)

When the guide is viewed digitally, users can quickly move around inside the document using the table of contents or the navigation located at the top of each page.

The guide also contains external hyperlinked content to supportive resources such as other documents, videos and more. Linked content within the document may appear as an image, graphic, chart, a rollover button or text.

Just like viewing a Web page, when mousing over linked content within the document, your cursor may change appearance or the content may change color. Simply click on the link and you will be taken to the linked content.

External content links provide deeper detail and understanding when making decisions on components needed for your apparatus.

USING THE PRINTED GUIDE (see example right)

When printed, users can link to external content using the QR (quick response) codes. When scanned with the camera of most smartphones, QR codes link users to the same resources as hyperlinks found in the digital version of the guide.

TO ACCESS THE INTERACTIVE VERSION OF THIS GUIDE VISIT:

TFT.com/Apparatus-Buyers-Guide

WHY AND HOW TO USE THE GUIDE

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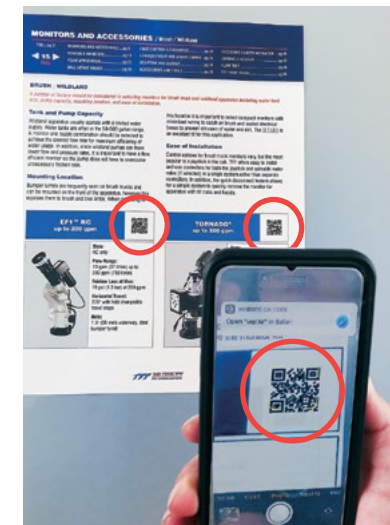
- Section Name and Content
- Jump To Table of Contents
- Page Location
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- Jump to sections

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QR CODES

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MONITORS AND ACCESSORIES / Brush / Wildland			
TOC ... pg 3	MONITORS AND ACCESSORIES ... pg 6	HARD SUCTION ACCESSORIES ... pg 30	DECON AND CANCER MITIGATION ... pg 40
◀ 13 ▶	PORTABLE MONITORS ... pg 16	LDH EQUIPMENT AND WATER SUPPLY ... pg 34	HANDHELD NOZZLES ... pg 42
PAGE	FOAM APPLICATION ... pg 22	ADAPTERS AND ELBOWS ... pg 36	FLOW TEST ... pg 48
	BALL INTAKE VALVES ... pg 26	ACCESSORIES AND TOOLS ... pg 38	TFT YOUR TRUCK ... pg 50

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 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.

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 (if selected) 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.

EF1™ RC up to 200 gpm



Style: RC only


Flow Range: 10 gpm (37 l/min) up to 200 gpm (750 l/min)

Friction Loss at Max: 19 psi (1.3 bar) at 200 gpm

Horizontal Travel: 270° with field changeable travel stops

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

TORNADO® up to 500 gpm



Style: Manual or RC

Flow Range: 10 gpm (37 l/min) up to 500 gpm (2000 l/min)

Friction Loss at Max: 19 psi (1.3 bar) at 500 gpm

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

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

SUGGESTED QR CODE READERS/SCANNERS

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WHY AND HOW TO USE THE GUIDE

For full product details including pricing and specifications, TFT offers a 200+ page [Price List and Production Specifications](#) book. Hard copies can be obtained from your local [TFT dealer](#) or by [contacting TFT](#).

The TFT Buyer's Guide is only one of many resources available to fire departments.

TFT has an experienced distribution network capable of helping departments through the specification process. TFT also maintains a staff of [Territory Managers](#) available for additional support as well as demonstration support with our dealers.



TABLE OF CONTENTS

Click on a heading to navigate to each section or sub section.



Price List and Production Specifications



TFT Dealer Locator



Contact TFT



TFT Company Directory

WHY CHOOSE TFT? 6

MONITORS AND ACCESSORIES 8

Pumpers / Rescue Pumpers

- Monitors
- Telescoping Waterways

Aerials / Ladders / Platforms / Tillers / Towers / Water Towers

- Monitors

Monitor Valves

- VUM / Valve Under Monitor

Brush / Wildland

- Monitors

Monitor Nozzles

- Monitor Nozzle Selection Matrix

Controls and Wire Kits

Adapters and Wiring Kits

PORTABLE MONITORS 23

- Blitzforce
- Blitzfire
- Crossfire
- Hemisphere

FOAM APPLICATION 25

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

DECON AND CANCER MITIGATION 31

- DECON/pak

BALL INTAKE VALVES 32

SUCTION STRAINERS 34

LDH EQUIPMENT AND WATER SUPPLY 35

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

ADAPTERS AND ELBOWS 38

- Adapters
- Elbows
- Detent Elbows

ACCESSORIES AND TOOLS 39

- Wyes and Siamese
- Wrenches and Spanners

HANDHELD NOZZLES 40

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

FLOW TEST 48

- SHO-FLOW
- SHO-FLOW APP

TFT YOUR TRUCK 50

- Pumper / Rescue Pumper Worksheet
- Aerials / Ladders / Platforms / Tillers / Towers / Water Towers Worksheet
- Brush / Wildland Worksheet

ADDITIONAL RESOURCES 53

WHY CHOOSE TFT?

A History of Innovation and Quality

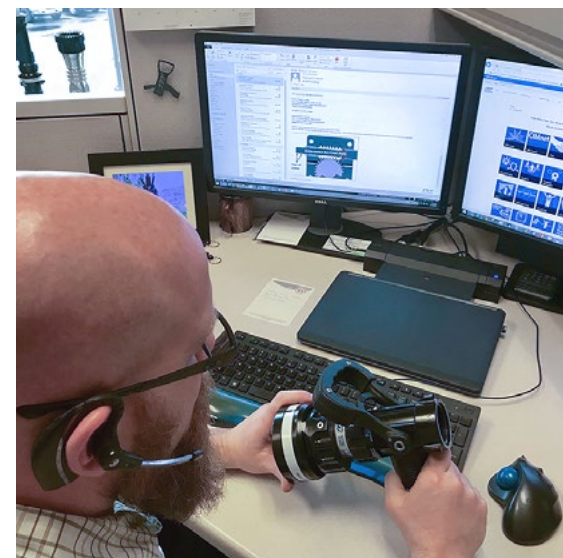
From a simple [sketch on a napkin](#) by founder Clyde McMillan that started the company over 50 years ago, Task Force Tips today designs, manufactures, and delivers innovative high performance products and agent delivery solutions to emergency responders around the world. However, the commitment to innovation and excellence remains unchanged.

The [ISO 9001: 2015 certified](#) TFT manufacturing campus in Valparaiso, Indiana spans over 200,000 square feet. The buildings house more than 250 employees and the very latest technology in information systems, CNC machines, parts distribution and quality control. TFT continues to innovate today and has a company metric that 15% of its revenue come from new products to meet the ever-changing needs of first responders.



Unrivaled Customer Support

TFT products are designed to withstand the demands of rugged fire service use. Less than 1% of products shipped require any level of warranty service. However, should products require repair, TFT offers several options:



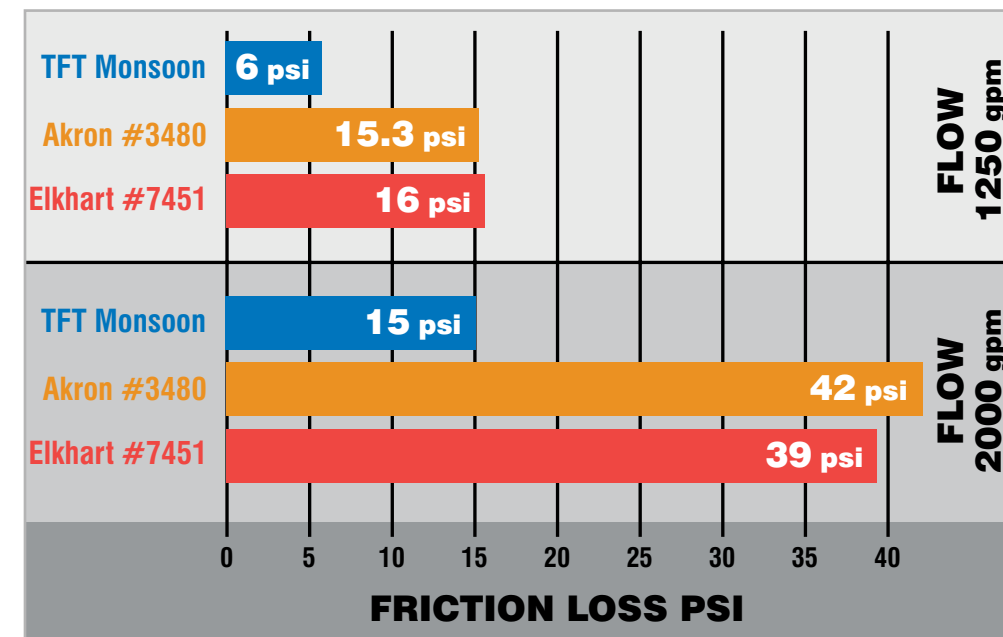
- 1) **Repair via the service department of your local dealer.**
- 2) **Repair your own equipment by attending TFT's service boot camp and learning how to maintain and perform simple repairs to products**
- 3) **Send the product to TFT directly. The TFT customer service department turns most repairs around in 24 hours.**

TFT serial numbers on all products allows customers easy access to product information, repair kits, manuals, warranty information and custom technical support.

In addition, TFT's QROC [technical support team](#) is available 24/7 for support with information, repairs, parts, returns and more.

WHY CHOOSE TFT?

Flow Efficiency in Design



During the design process for new products, flow efficiency is an important consideration. No product better exemplifies this than the [TFT Monsoon® monitor](#). Its unique patented, segmented waterway directs the water through very few turns as it travels through the monitor resulting in low friction loss and a far-reaching, effective stream. It has only 6 psi (0.4 bar) loss at 1250 gpm (4750 l/min) and 15 psi (1 bar) of friction loss at 2000 gpm (7600 l/min). Other products like nozzles, low level strainers and ball intake valves also were designed with high flow efficiency in mind.

Versatility to Customize

Every department has a unique set of needs depending upon its coverage area and demands, apparatus layout, and budget. Therefore, TFT designs products around a core model with options for customization. One good example of this concept is TFT's [Ball Intake Valve \(BIV™\)](#), which offers a solution for every application. Options include handle placement, inlet/outlet sizes, body profile, pressure relief, and remote control. Customers can customize items like handle placement to eliminate panel interference and even low profile options for small panels contained within body compartments.



Sketch On A Napkin



ISO 9001: 2015 Certified



Technical Support Team



Monsoon Monitor Series



Ball Intake Valve (BIV) Series

MONITORS & ACCESSORIES

OVERVIEW

TFT manufactures a wide range of apparatus mounted monitors in flows from 10 gpm (37 l/min) to 8000 gpm (30,000 l/min). 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](#)
4. [MONITOR NOZZLES](#)
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 on to 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.

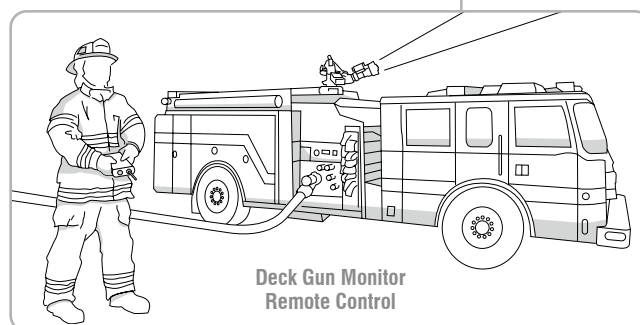
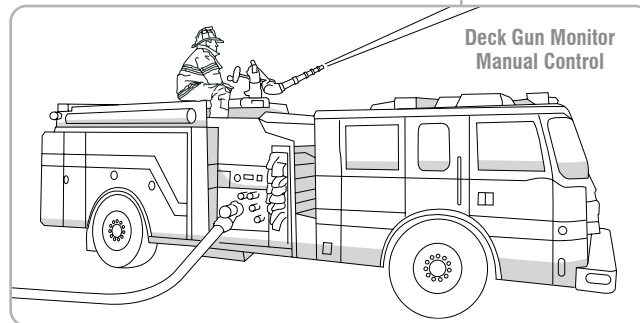
Flow Ranges

When selecting the flow range of the monitor, pump capacity and frequent 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.



NFPA
Resource Link



MONITORS



Style:
RC only

Flow Range:
10 gpm (37 l/min) up to 200 gpm (750 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 200 gpm

Horizontal Travel:
270° with field changeable travel stops

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




Style:
Manual or RC

Flow Range:
10 gpm (37 l/min) up to 500 gpm (2000 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 500 gpm

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

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




Style:
Manual only

Flow Range:
150 gpm (570 l/min) up to 1250 gpm (4750 l/min)

Friction Loss at Max:
25 psi (1.7 bar) at 1250 gpm

Horizontal Travel:
360° continuous rotation

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



Style:
Manual or RC

Flow Range:
150 gpm (570 l/min) up to 1250 gpm (4750 l/min)

Friction Loss at Max:
25 psi (1.7 bar) at 1250 gpm

Horizontal Travel:
450° rotational travel, RC (pumper version)
360° continuous rotation, manual

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

MONITORS



Style:
Manual or RC

Flow Range:
300 gpm (1135 l/min) up to 1500 gpm (6000 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 1500 gpm

Horizontal Travel:
450° rotational travel, RC (pumper version)
360° continuous rotation, manual

Note:
3.5" (89 mm) waterway



Style:
Manual or RC

Flow Range:
2700 gpm (10,000 l/min) up to 8000 gpm (30,000 l/min)

Friction Loss at Max:
15 psi (1 bar) at 8000 gpm

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

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



Style:
Manual or RC

Flow Range: 2 versions

- 150 gpm (570 l/min) up to 1250 gpm (4750 l/min)
- 300 gpm (1135 l/min) up to 2000 gpm (7600 l/min)

Friction Loss at Max:
6 psi (.4 bar) at 1250 gpm
15 psi (1 bar) at 2000 gpm

Horizontal Travel:
450° rotational travel, RC (pumper version)
360° continuous rotation, manual

Note:
4" (101 mm) waterway, lowest friction loss waterway in the fire service

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 is the EXTEND-A-GUN series.

Using the TFT [EXTEND-A-GUN](#) in conjunction with a monitor, the device may be raised to its extended position 12 or 18 extra inches (30.5 or 45.7 extra cm) 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 Series

	3" MANUAL	3" REMOTE CONTROLLED	4" REMOTE CONTROLLED
Waterway	3" (75 mm)	3" (75 mm)	4" (100 mm)
Raise Extensions	12" (30.5 cm) or 18" (45.7 cm)	12" (30.5 cm) or 18" (45.7 cm)	12" (30.5 cm) or 18" (45.7 cm)
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 110' (33 m) 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 1000 gpm (4000 l/min) at 100 psi (700 kPa).

Flow Efficiency

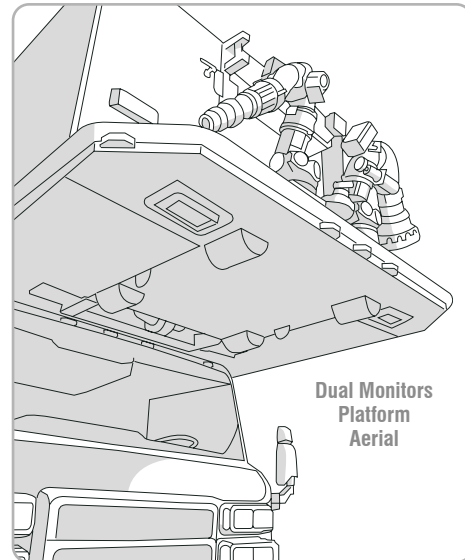
As water makes its way through the aerial, pressure loss will be a factor. The piping will yield loss as it twists and turns through the aerial waterway. In addition, as the water fights gravity going up the ladder, there will be pressure loss. Finally, the valve and monitor itself will also cause friction 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 a combination fog/straight stream nozzle at any pressure setting.



MONITORS



Style:
Manual or RC

Flow Range:
150 gpm (570 l/min) up to 1250 gpm (4750 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 1250 gpm

Horizontal Travel:
180° horizontal travel

Vertical Travel:
Platform 45° below horizontal to 45° above horizontal.
Ladder 45° below horizontal to 90° above horizontal.

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



Style:
Manual or RC

Flow Range:
300 gpm (1135 l/min) up to 1500 gpm (6000 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 1500 gpm

Horizontal Travel:
180° horizontal travel

Vertical Travel:
Platform 45° below horizontal to 45° above horizontal.
Ladder 45° below horizontal up to 135° above horizontal depending on models.

Note:
3.5" (89 mm) waterway



Style:
Manual or RC

Flow Range:
2 versions

- 150 gpm (570 l/min) up to 1250 gpm (4750 l/min)
- 300 gpm (1135 l/min) up to 2000 gpm (7600 l/min)

Friction Loss at Max:
6 psi (0.4 bar) at 1250 gpm
15 psi (1 bar) at 2000 gpm

Horizontal Travel:
180° horizontal travel

Vertical Travel:
Platform 45° below horizontal to 45° above horizontal.
Ladder 45° below horizontal to 90° above horizontal.

Note:
4" (101 mm) waterway, lowest friction loss waterway in the fire service

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. The better value and more efficient solution is a TFT half ball valve.

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

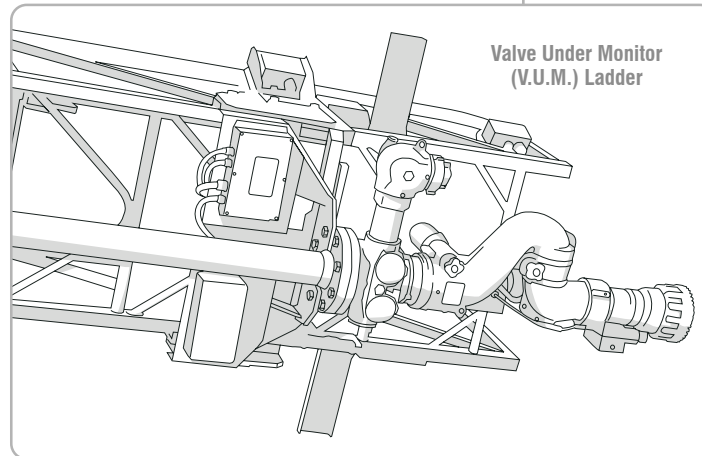
The V.U.M. is a lightweight, low friction-loss valve and manifold for installation directly beneath monitors on ladders and platforms. The V.U.M. combines the robust valve mechanism from the TFT Ball Intake Valve with a 4" (101 mm) ANSI 150 inlet and up to four 2.5" (65 mm) outlets. When paired with 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 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 (V.U.M.) Ladder



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 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 that can catch on brush 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




Style:
RC only

Flow Range:
10 gpm (37 l/min) up to 200 gpm (750 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 200 gpm

Horizontal Travel:
270° with field changeable travel stops

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



Style:
Manual or RC

Flow Range:
10 gpm (37 l/min) up to 500 gpm (2000 l/min)

Friction Loss at Max:
19 psi (1.3 bar) at 500 gpm

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

Note:
2.25" (57 mm) 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 20 and 60 gpm (75 and 230 l/min) Bubble Cup nozzle, even though the monitor's maximum flow rate is 200 gpm (750 l/min). 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 70 to 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. Pricing and exact models can be found in the [Price List and Product Specifications Catalog](#).



EF1 Monitor



Bubble Cup Nozzle



Price List and Production Specifications

MONITOR NOZZLE SELECTION MATRIX

• EF1 RC 1.5" • Tornado 1.5" • Tornado RC 1.5"						
Nozzle Choice	Performance (add litres/bar)	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
BubbleCup ER Dual Gallonage (EF1 Only)	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
Smooth Bore/ 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	15-120 GPM @ 100 psi	E	Selectable at the nozzle		Low flow options for improved water management	P, W
Ultimatic Automatic	10-125 GPM @ 100 psi; 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	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	70-200 GPM @ 100 & 55 or 75 & 45 psi	M, E	Best choice when using gateable valve/joystick	For higher capacity pumps and tanks	Pressure control for improved performance	P, W
CAFS-Force 1 Dual Pressure Automatic	70-200 GPM @ 75 & 45 psi	M, E	Best choice for CAFS (Compressed Air Foam Systems)		Pressure control for adjusting foam qualities	P, W



EF1 RC



Tornado RC

MONITOR NOZZLE SELECTION MATRIX *continued*

• Tornado 2.5" • Tornado RC 2.5"						
Nozzle Choice	Performance (add litres/bar)	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smooth Bore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		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)		P, W
Max-Force Dual Pressure Automatic	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	100-500 GPM @ 100 or 80 psi	M,E	Best choice when using gateable valve/joystick		Low flow options for improved water management	P, W
Max-Flow Fixed	500 GPM @ 100 psi	M, E	For higher capacity tanks and pumps			P, W



Tornado RC

MONITOR NOZZLE SELECTION MATRIX *continued*

• Crossfire • Hurricane • Hurricane RC • Monsoon 1250 • Monsoon 1250 RC						
Nozzle Choice	Performance (add litres/bar)	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smooth Bore/ Stacked Tips Fixed Gallonage	Various	M	Single flow/ pressure with each tip size	Best choice for CAFS (Compressed Air Foam Systems)		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	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	100-500 GPM @ 100 or 80 psi	M, E	For higher capacity pumps and tanks			P, W
Max-Flow Fixed Gallonage	500 GPM @ 100 psi	M, E	Single Flow/ Pressure	For higher capacity pumps and tanks		P, W
Master Stream Automatic	150-1000 GPM @ 100 psi; 150-1250 GPM @ 100 psi	M, E	Automatic for variable flow, constant pressure	Adjustable pattern from straight stream to full fog	Models available with flush without shutting down. Models available with adjustable pressure.	A, P
Master Stream Selectable Gallonage	250, 350, 500, 750, & 1000 GPM @ 100 psi; 500, 750, 1000 & 1250 GPM @ 100 psi	M, E (E 250-1000 only)	Selectable Gallonage	Adjustable pattern from straight stream to full fog	Models available with flush without shutting down	A, P
Master Stream Fixed Gallonage	Up to 1000 GPM @ 100 psi; up to 1250 GPM @ 100 psi	M, E (E 1250 only)	Fixed flow, user specified	Adjustable pattern from straight stream to full fog	Models available with flush without shutting down	A, P



Crossfire



Hurricane RC



Monsoon RC

MONITOR NOZZLE SELECTION MATRIX *continued*

• Typhoon • Typhoon RC						
Nozzle Choice	Performance (add litres/bar)	M = Manual E = Electric	Selection Factors	Additional	Additional	A = Aerial P = Pumper W = Wildland
Smooth Bore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		A, P
Vortex 3	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
Master Stream Automatic	300-1500 GPM @ 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						
Smooth Bore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		A, P
Vortex 3	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
Master Stream Automatic	300-2000 GPM @ 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						
Smooth Bore/ Stacked Tips Fixed Gallonage	Various	M	Best choice for CAFS (Compressed Air Foam Systems)	Single flow		P
Vortex 6	Used w/Smooth Bore/Stacked Tips	E	Straight stream or uniformly dispersed steam pattern			P
Master Stream Automatic	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	2000 & 4000 GPM @ 100 psi	E	Dual gallonage	Adjustable pattern from straight stream to full fog		P



Typhoon RC



Monsoon RC



Tsunami RC

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 is 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 1" (25 mm), 1.5" (38 mm), 2" (50 mm), 2.5" (65mm), and 3" (76 mm) 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.



Tactile Touch Controller (TTC)™ and Bluetooth® Adapter



The Bluetooth adapter when used with the TTC allows users to operate, configure or service any TFT RC monitor or RC Valve Under Monitor. When in the operate mode, the controller provides flow and motion controls for the monitor. In configuration mode, the operator can set the operating parameters such as park function, oscillate pattern, and nozzle type. In service mode, operators can access error codes and communication status.

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.



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 10' (3 m) 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.



Tethered and Wireless Operator Stations

Handheld operator stations are available in tethered 10' (3 m), 30' (9 m), or 100' (30 m) cable connection or wireless transmitter with a range of up to 500' (152 m) 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.

Absolute Position Upgrade Kit for RC Monitors

The Absolute Position Kit is designed to be used along with any monitor that is equipped with the Position Retention feature. These include the Tornado, Hurricane, Typhoon, and Monsoon monitors. Once installed, the Absolute Position Adapter will regularly check position sensors for the horizontal & vertical axes. This position data will be used to verify the monitor positions. Ideal applications for this kit would include installations where absolute position is deemed critical to operation by the truck designers. Applications such as ladders, platforms, booms, or when the monitor movement is tightly restricted by other equipment may benefit from an absolute positioning kit.

Custom harnesses can be made if specific requirements are not met with these listed options. Minimum quantity restrictions may apply.



PORTABLE MONITORS

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 250 gpm (950 l/min) to 1250 gpm (4750 l/min). 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. TFT offers four portable monitor families that can be configured with a variety of nozzles and accessories.

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

Blitzforce™

The Blitzforce is a compact, economical portable monitor solution. Its flow range is up to 500 gpm (2000 l/min). 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 500 gpm (2000 l/min) 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°.



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 500 gpm (2000 l/min). 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.



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 1250 gpm (4750 l/min) 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.



See combination packages section of the [TFT Price List and Product Specifications](#) for packages that combine nozzles and accessories for TFT Portable Monitors.



Price List and
Production
Specifications

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](#)



TFT Foam
Categories



In-Line Eductor Series

TFT 1.5" (38 mm) Eductor Series

TFT 1.5" 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 60 gpm (227 l/min), 95 gpm (360 l/min), 120 gpm (450 l/min), and 125 gpm (473 l/min) flow rates.
- Required inlet pressure is 200 psi (13.8 bar) while maximum allowable back pressure is 130 psi (9 bar). Other psi's also available.
- 1.5" or 2.5" (38 or 65 mm) NH full-time swivel rocker lug inlet, 1.5" (38 mm) NH outlet with available camlock fittings on pickup hose.



TFT 2.5" (65 mm) Eductor Series

TFT 2.5" 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 250 gpm (946 l/min) and 350 gpm (1324 l/min) flow rates.
- Two pressure versions of either 200 psi (14 bar) inlet and 130 psi (9 bar) back pressure or a 150 psi (10 bar) inlet and 80 psi (5.5 bar) back pressure.
- 2.5" (65 mm) NH full-time swivel rocker lug inlet, 2.5" (65 mm) NH outlet with available camlock fittings on pickup hose.



Self-Educting Foam Nozzles

MASTER FOAM Self-Educting Nozzle

A fixed gallonage fog nozzle rated at 100 psi (7 bar) that is available in 250, 350, 500 or 750 gpm (950, 1300, 2000, 3000 l/min) 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 Monitor Nozzle

A fixed gallonage, monitor fog nozzle rated at 100 psi (7 bar) 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 1000 or 1250 gpm (3800 or 4800 l/min) or a larger size for 1500 or 2000 gpm (5700 or 8000 l/min).
- Manual and ER versions available.
- 2.5" (65 mm) NH, NPSH, or BSP swivel coupling or 3.5" (89 mm) NH female threads.



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 75 psi pressure (water application) to low pressure CAFS mode at 45 psi. Nozzles are tip only and require a ball valve to shut off. Available in a 70-200 gpm @ 75 psi (265-757 l/min @ 5 bar) or a 95-250 gpm @ 75 psi (360-946 l/min @ 5 bar) version.



CAFS Straight Tip

Available in with either a 1.5" (38 mm) or 2.5" (65 mm) with a smooth taper to a 1-3/8" (35 mm) tip. The tip is also suitable with water.



CAFS Force Nozzle Series

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.



Foam Attachments

Medium-Expansion Foam Nozzle

The attachment is paired to an in-line ball valve for shutoff capability and is engineered to provide optimum foam production, when paired with a 60, 95, or 125 gpm TFT eductor.



FOAM ATTACHMENTS
Continued Next Page

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

PRO/pak

Everything is contained in one package that attaches to the end of a 1 or 1½" (25 or 38 mm) fire hose. The PRO/pak has a high impact 2.5 gal. (9.5 l) 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.



DECON & CANCER MITIGATION

OVERVIEW

As the fire service continues to address firefighter cancer, TFT manufactures a tool to help reduce one of the risks, contaminated PPE. 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%.**



DECON/pak



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.



DECON/pak Video Recap

For more information about the DECON/pak, watch this 2 minute video recap.

* 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.

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.

TFT's Ball Intake Valve (BIV) is the best all-around solution when customization, performance, and durability are considered.



BIV Series Overview Document

Customization

Models available with either a 3.65" (97 mm) or jumbo 5.25" (133 mm) 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.

TFT BIV SERIES OVERVIEW						
Model/Feature	New Force Low Profile Ball Style Intake Valve	Ball Style Intake Valve - AB Series	Short Ball Style Intake Valve - ABS Series	Jumbo Ball Style Intake Valve - AX Series	Short Jumbo Ball Style Intake Valve - AP Series	Jumbo Low Profile Ball Style Intake Valve AXD & AXE Series
Waterway	3.65"	3.65"	3.65"	5.25"	5.25"	5.25"
Storz Suction Gasket	Pressure gasket installed, suction gasket upon request	Pressure gasket installed, suction gasket upon request	Pressure gasket installed, suction gasket upon request	Pressure gasket installed, suction gasket upon request	Pressure gasket installed, suction gasket upon request	Pressure gasket installed, suction gasket upon request
Remote Control Option	No	Yes	Yes	Yes	Yes	Yes
Friction Loss @ 1250 gpm	5	5	5	2.5	2.5	2.5
Friction Loss @ 2000 gpm	11	11	11	5	5	5
Swiveling elbow	No	Yes	No	Yes	No	Yes
Handle Options	No	Left side handwheel, Right side handwheel or top mount crank (parallel shaft)	Left side handwheel, Right side handwheel or top mount crank (parallel shaft)	Left side handwheel, Right side handwheel or top mount crank (parallel shaft)	Left side handwheel, Right side handwheel or top mount crank (parallel shaft)	AXD Left side - top or front mount crank AXE Right side - top or front mount crank
Field Adjustable Pressure Relief Valve 90 - 300 psi	Yes	Optional If yes ABS series If no AC series	Optional If yes ABS series If no ACS series	Optional If yes AX series If no AZ series	Optional If yes AP series If no AQ series	Optional If yes AXD or AXE series If no AZD or AZE series
Warranty	5 Years	5 Years	5 Years	5 Years	5 Years	10 Years Manufacturer's/Corrosion
Standard with one vent drain, but to add a secondary vent/drain	N/A	A1621-KIT, additional cost	A1621-KIT, additional cost	A1621-KIT, additional cost	A1621-KIT, additional cost	N/A
Depth*	12.1"	13.2"	9.3"	15.0"	11.1"	11.4"
Height*	14.6"	17.6"	17.5"	18.8"	18.6"	15.3"
Width*	11.4"	11.2"	11.2"	11.2"	11.2"	15.1"
Weight	17.5 lbs.	35.0 lbs.	31.1 lbs.	35.0 lbs.	32.0 lbs.	27.5 lbs.

*Dimensions shown are top-mount handle with PRV and 5" Storz connection. Dimensions will vary by handle configuration, PRV option and hose connection type.

tft.com (800) 348-2686 (219) 462-6161

BALL INTAKE VALVES

Performance

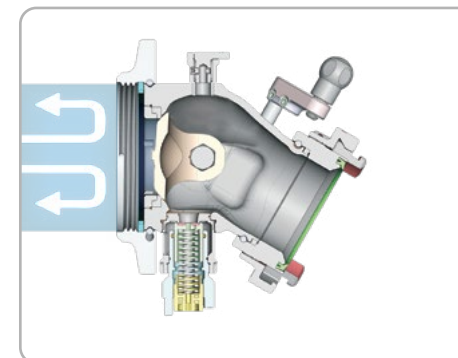
TFT BIV's include a 360-degree swiveling elbow to make connecting the hose easy because the swivel allows the elbow to twist with the charging LDH from the fire hydrant.

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.

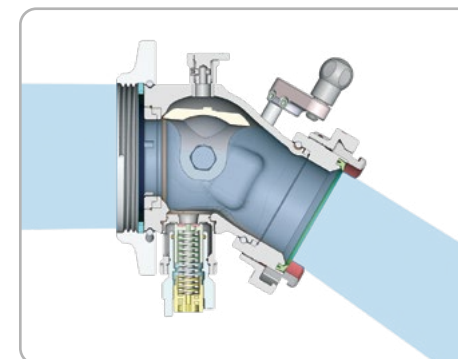
Because the BIV is available in either RC or Manual version, the pump operator has tremendous flexibility. For example, a manual BIV could be utilized on the primary panel, while an RC version could be used on the other side of the truck. The operator could then control the RC valve remotely and view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



For more information about the TFT BIV Series, watch this 2 minute video recap.



BIV Video Recap

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

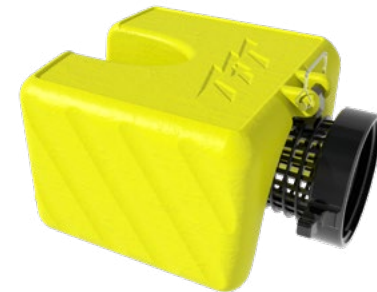
A heavy-duty, lightweight barrel strainer for suction hose. The impact resistant polymer won't dent or corrode, even in contaminated water. It's designed with a wavy straining pattern to it resists debris from sticking against the holes.

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 1500 gpm (5678 l/min) draft from a 6"-10' hose and its pivoting inlet allows the strainer to lay flat on the bottom assuring maximum draw down. With only 0.5 psi (0.03 bar) friction loss at 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.



Strainer Series
Video

LDH EQUIPMENT AND WATER SUPPLY

OVERVIEW

The green section of TFT's catalog details 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 300 psi (21 bar) pressure gauge and quarter turn air vent and drain valve. The valve comes in an apparatus/fixed version and a ground/loose equipment version.



LDH Gated Wye

Jumbo Siamese and Wye

Designed for 2.5" through 6" (65 mm through 150 mm) 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 6" (150 mm) Storz on inlet/outlet.



Jumbo Siamese and Wye



Hydrant Valve

Hydrant valves offer additional flexibility for water management and control at the hydrant. TFT's 2.5" (65 mm) Hydrant Valve is a lightweight valve with a full 2.5" (65 mm) waterway with 300 psi (20 bar) operating pressure from either side of valve. They are available with either quarter turn valve handles or slow close multi-turn knobs.

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



Oasis Hydrant Assist Valve



Oasis Hydrant Assist Valve Document



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

Water from Discharge of Boost Apparatus

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

More info at TFT.com/oasis

Water to Inlet of Boost Apparatus

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 2.5" (65 mm) quarter-turn ball valves with folding handles make for the ultimate in versatility. A slow close valve is also available. All four 2.5" (65 mm) 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.

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 2.5" (65 mm) waterway with a variety of inlet and outlet sizes.

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).

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.

2.5" version includes a full open waterway and can operate at 300 psi (20 bar) 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.

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



5-Way Manifold



LDH Water Thief



LDH Gated Water Thief



Gated Wye



Gated Siamese - Slow Close

ADAPTERS AND ELBOWS

OVERVIEW

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

- **PRODUCT ACCURACY & QUALITY**

With a long history in water flow and the latest state-of-the-art systems, TFT delivers the right size, the right thread, and a product of high quality.

- **CONSISTENT LEAD TIMES**

Many products are in stock for quick shipping. Orders that are more specialized will ship in a timely and consistent fashion.

- **A BRAND YOU CAN TRUST**

TFT is a leader in water flow. Product quality, service and support, and integrity in our business practices are an important part of how we do business every day.

A complete listing of products can be found in TFT's [Adapters, Caps & Plugs, Couplings, Elbows, Wrenches, and Tools catalog](#).



Adapter Catalog



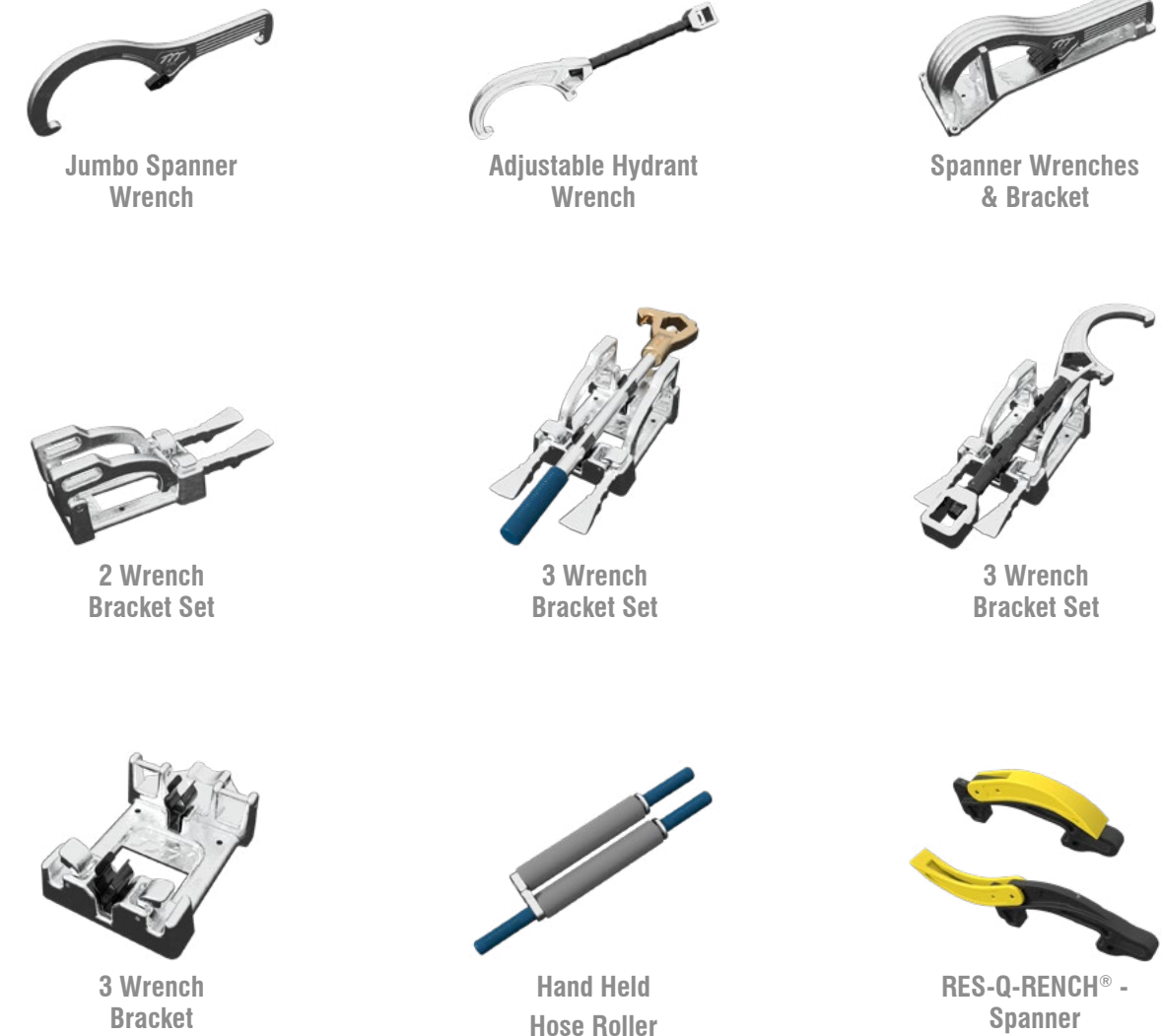
ACCESSORIES AND TOOLS

OVERVIEW

TFT's global fire service experience aids its design team in creating tools to increase the safety and ease of water flow for emergency operations.

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 in TFT's [Adapters, Caps & Plugs, Couplings, Elbows, Wrenches, and Tools catalog](#).



Adapter Catalog

HAND HELD NOZZLES

OVERVIEW

Because of a passion for innovation and safety, TFT invented the automatic nozzle 50 years ago. However today it's focused on not just one nozzle type, but instead 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.

(The New Force in Firefighting™ Brand)

Based on a highly customizable global nozzle platform design, the unique **G-Force** series of 1" (25 mm) and 1.5" (38 mm) 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.



G-Force Nozzles

TFT
The New Force in Firefighting™

Integral Inlet Screen on all slide valve models and 1.5" (38 mm) models prevents debris from entering nozzle and affecting stream quality

Serialization provides track-ability and immediate access to on-line operational instructions

Color-Coded Polymer Pistol Grip, and Valve Handle Covers offer rugged durability in harsh firefighting conditions

Flush without nozzle shutdown or pattern adjustment

Large Index Ring with Indicator allows easy flow, or flush selections with a gloved hand

Integral Tactile Indicator provides optional preset pattern selection

Choice of:
• Fixed Pressure and Flow
• Selectable Flow with Fixed Pressure, or
• Automatic Pressure and Variable Flow Choices

Choice of:
• Tip Only
• Shutoff
• Shutoff with Grip Models

Stainless Steel Slide Valve provides turbulence-free flow control when gated

Available IMPULSE™ Trigger Nozzle System (page 4)

Bonded Rubber Bumper provides maximum durability in harsh conditions

Choice of:
• Fixed Cut Metal
• Fixed Molded Rubber
• Metal Spinning Teeth (shown)

Lightweight Hard Anodized Aluminum Alloy Body includes permanent laser engraved operational markings and highly visible reflective labeling

#GF3C1S Model Shown

Made in The USA

FM APPROVED
For a complete list of FM Approved models visit newforce.tft.com
NFPA #1964 compliant

HAND HELD NOZZLES / Fixed Flow

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.

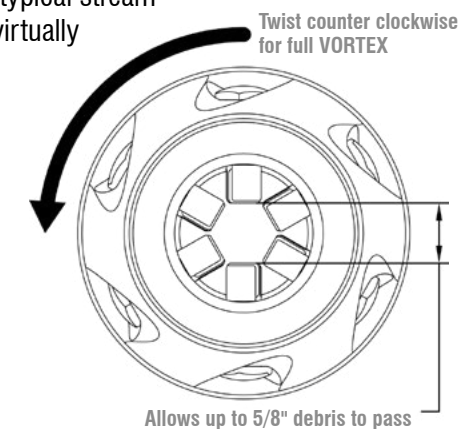
- Traditional Smooth Bore
- Compact Options
- Stacked Tips



Smooth Bore Nozzles

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.



VORTEX



Fixed Flow Nozzles (continued)

TFT manufactures a wide range of [ball valves](#) and ball valves with integrated tips ([VIT](#)) in 1.0" (38 mm) through 2.5" (65 mm) sizes.

The [Metro series](#) fixed gallonage nozzles are available in three sizes: Metro 0, 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 0—seven flow choices:

20-100 gpm (50-378 l/min)

Metro 1—nine flow choices:

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

Metro 2—seven flow choices:

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

Pressures choices:

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



Ball Valves



VIT
Ball Valves with
Integrated Tips



Metro Nozzles

Selectable and Dual Gallonage Nozzles

The [TWISTER series](#) is a family of selectable, dual gallonage, combination nozzles available in ¾" (19 mm), 1" (25 mm) and 1.5" (38 mm) 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 1" (25 mm), 1.5" (38 mm), and 2.5" (65 mm) 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 1" (25 mm) version is a dual gallonage foam nozzle while the 1.5" (38 mm) 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)



RETRACT = COMBINATION NOZZLE ↔ EXTEND = FOAM ASPIRATION



TWISTER
Nozzles



QUADRAFOG
Nozzles



THUNDERFOG
Nozzles



BUBBLE CUP
Nozzles

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. 1.5" (38 mm) thread is standard.



QUADRACUP
Nozzles

Automatic Nozzles

An automatic nozzle available in 100 psi (7 bar) and 75 psi (5 bar) models in 1" (25 mm) 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.



ULTIMATIC
Nozzles

The 1.5" (38 mm) [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 70-200 gpm (260-760 l/min) and operational pressure choices of 100, 75 or 55 psi (7, 5 or 4 bar).



MID-MATIC
Nozzles

Automatic Nozzles (continued)

The dual pressure [Mid-Force](#) automatic nozzle has a wide flow range of 70-200 gpm (265-760 l/min) that gives superior performance with a 1.5" (38 mm), 1.75" (45 mm) or 2" (52 mm) 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 100 psi ± 15 psi (7 bar ± 1 bar) or 75 psi ± 15 psi (5 bar ± 1 bar) 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.



Mid-Force
Nozzles

In the standard mode, the Mid-Force nozzle maintains a 100 psi (7 bar) 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 55 psi (3 bar) (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 or 95-300 gpm (360-1150 l/min). The 1.5" (38 mm) version is an excellent choice for 1.5", 1.75", and 2.0" (38, 45, and 50 mm) attack lines. The 2.5" (65 mm) version combines with 2.5" (65 mm) and 3" (76 mm) lines. Models are offered in 100, 75, and 55 psi (7, 5, and 4 bar) versions.



HANDLINE
Nozzles

Automatic Nozzles (continued)

The **Dual-Force** is all conventional handline sizes in one. With a wide flow range of 95-300 gpm (360- 1150 l/min), this series is an excellent choice for 1.5"- 2.5" (38 - 65 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.



Dual-Force Nozzles

In the standard mode, the Dual-Force nozzle maintains a 100 psi (7 bar) 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 55 psi (4 bar) (approximately 45psi / 3 bar in low pressure version).



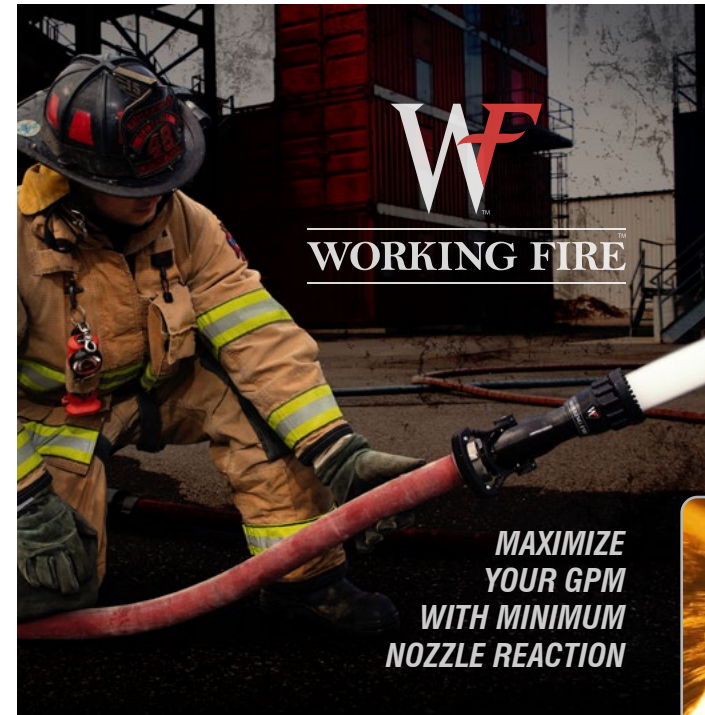
Nozzles (continued)

The new **Working Fire** nozzle delivers revolutionary performance when you need maximum flows for a "working fire." For everyday use, it is a 150 gpm @ 75 psi Fixed GPM Nozzle, but when you need even more GPM, the nozzle's exclusive pressure relief system dramatically limits nozzle reaction.



Working Fire Nozzles

At low flows, just like every other fixed GPM nozzle, it is clear from the stream quality that optimum flow has not yet been reached. When you achieve the 150gpm rate, the nozzle flows great, and there is about 65lbs of nozzle reaction force. However when you need a lot more GPM, that is where the Working Fire excels. By integrating pressure relief, a 33% increase in flow rates only yields a 33% increase in reaction force. Compare that to a traditional fixed nozzle, which increases 78%. With the Working Fire nozzle, TFT is able to deliver high GPM (200 gpm) with about 30lbs less reaction force than other nozzles!



- Built with a Stainless Steel Ball Valve
- (4) Color Options Available for Handle, Grip, Stream Shaper
- Hose Can Pack Through the Bail Handle
- A Tactile Detent on the Stream Shaper to Prevent Unintentional Movement
- One Piece and Break Apart Models

MAXIMIZE YOUR GPM WITH MINIMUM NOZZLE REACTION



Working Fire Video

Watch the Working Fire Nozzle Video

FLOW TEST

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, GPS, or LPS in real time.

Full Flow Range

- SHO-FLOW models include a 1.5" (38 mm) 50-300 gpm (200-1150 l/min), 2.5" (65 mm) 100-500 gpm (400-2000 l/min), and a 2.5" (65 mm) 500-1250 gpm (2000-4700 l/min) model.
- Use with any hose line or appliance with 1.5" (38 mm) (SHO-FLOW 1) or 2.5" (65 mm) (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.

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.



For more information about the TFT SHO-FLOW, watch this 2 minute video recap.

FLOW TEST / Sho-Flow App



SHO-FLOW Video

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.



Click to download.



SHO-FLOW APP
Google Play

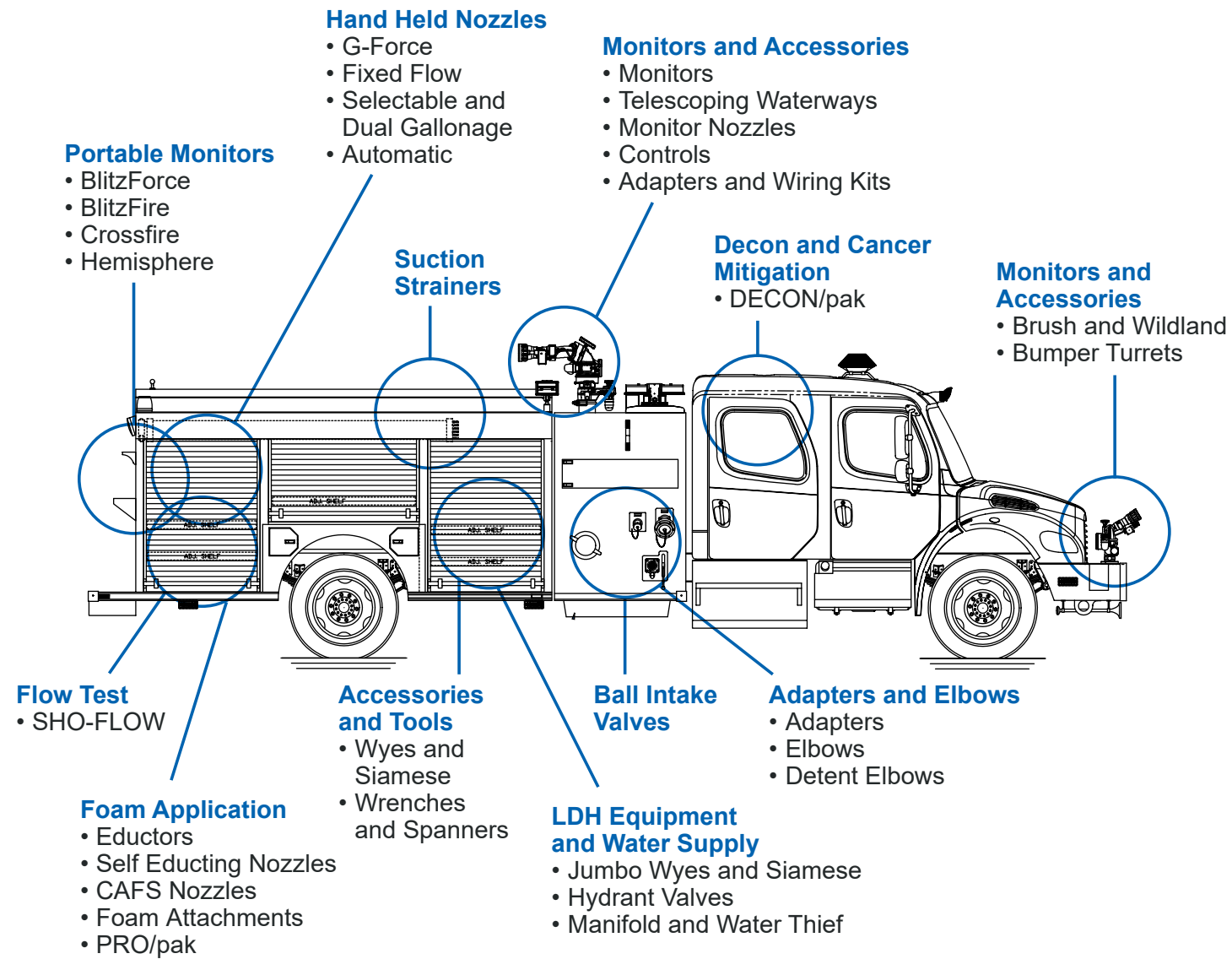


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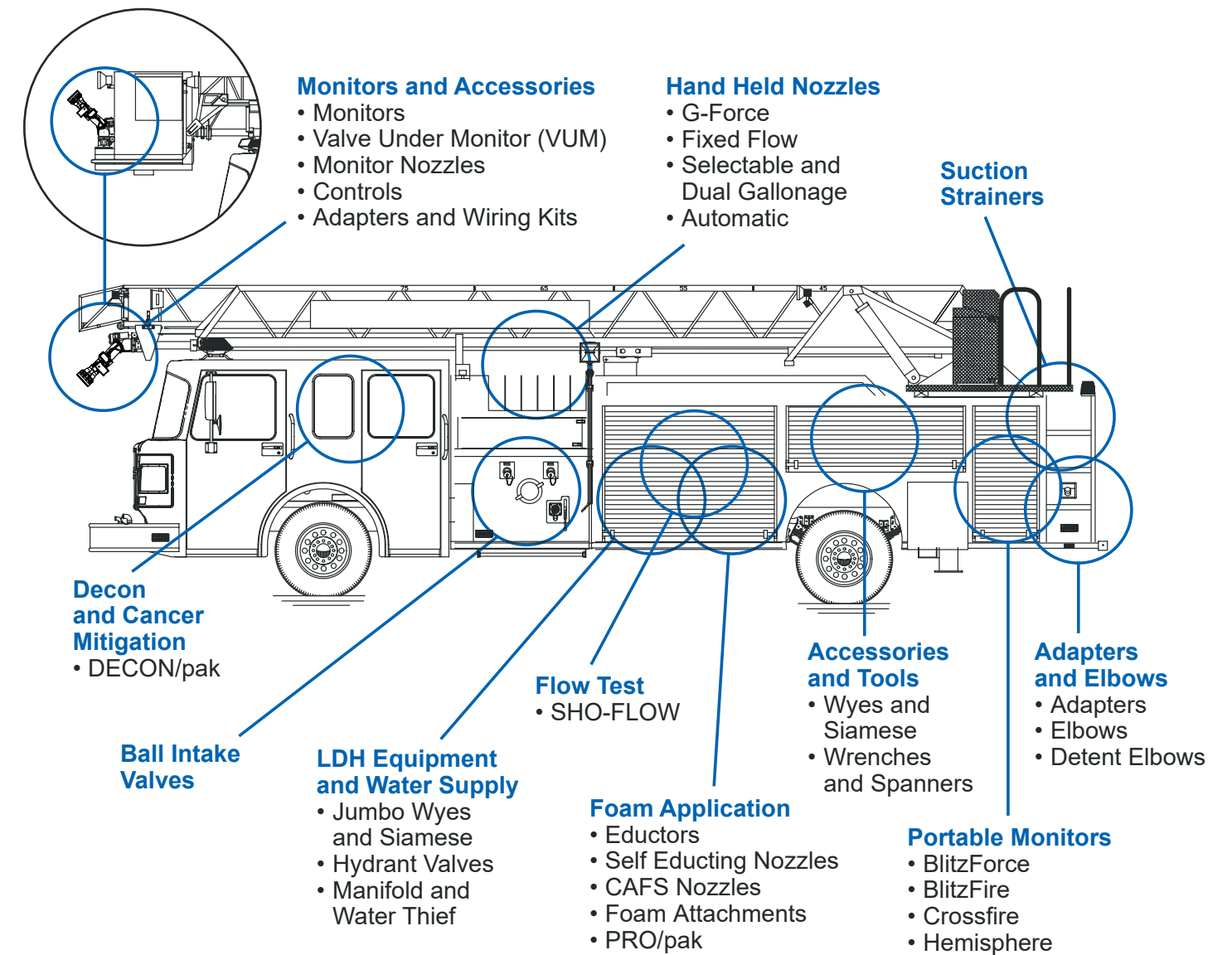


SHO-FLOW APP
App Store

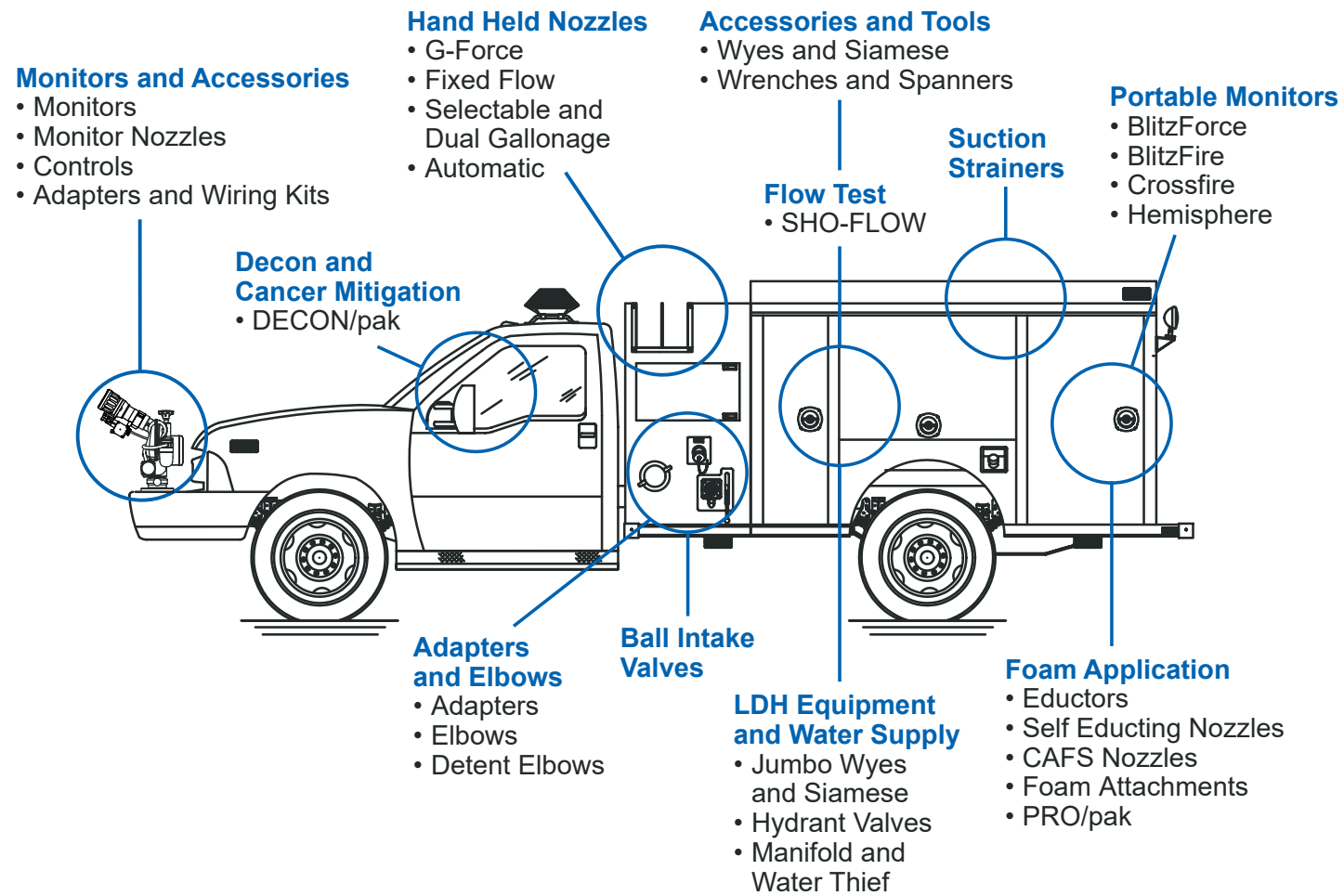
PUMPERS / RESCUE PUMPERS WORKSHEET



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

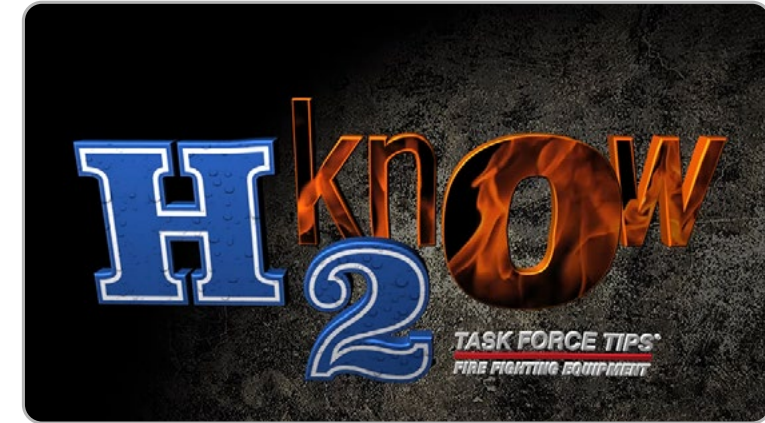


BRUSH/WILDLAND WORKSHEET



ADDITIONAL RESOURCES

H2KNOW VIDEO SERIES



H2KNOW is a series of videos designed to teach the fundamentals of firefighting water flow and to deliver fact-based results that are measurable and grounded in physics, not opinion.



H2KNOW Video Series

FIRE WATCH VIDEO SERIES




Fire Watch is a video series where fire departments share their stories. See department challenges, lessons learned, and firefighters experiences with TFT products.



Fire Watch Video Series

JOIN THE CONVERSATION



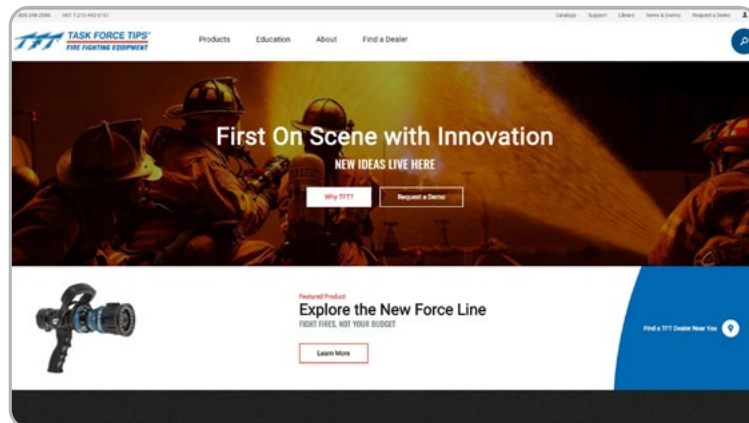
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- Interactive Catalog
- Enhanced Search Features
- Technical Library
- 24 Hour Customer Service
- TFT Dealer Locator
- News and Events



TFT Web Site



Portable Monitors

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



Truck Monitors

- 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
- 3.65" or 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
- Only 6 lbs of Friction Loss at 2000 gpm



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
- Only 0.5 psi of Friction Loss at 1500 gpm Draft



Foam Delivery Equipment

- Foam Attachments Available for All Nozzles
- Easy Cleaning Foam Eductors at 60, 95, 125, 250, or 350 gpm
- 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—45, 50, 55, 75 and 100 psi
- One Piece and Break Apart Options