



**ELKHART  
BRASS**



A Safe Fleet Brand

**FULL LINE CATALOG**

**FE9**



## ELKHART BRASS



### HISTORY

Well known for its commitment to quality, value and customer service, Elkhart Brass celebrated its 100th anniversary in 2002. In 2015, Elkhart Brass was acquired by Safe Fleet creating the leading global provider of safety solutions for fleet vehicles. The combination of Elkhart Brass with FRC and Foam Pro enables the company to develop integrated systems of monitors, valves, foam proportioning, and electronic controls for the global emergency market.

Elkhart Brass still operates at its original site in Elkhart, Indiana, utilizing the in-house foundry where aluminum and brass are poured daily. In addition to manufacturing, Elkhart Brass also specializes in product research and development, engineering, and product testing thanks to 3D rapid prototyping capabilities, a dedicated flow test facility, and a complete product machine shop.

### CERTIFICATIONS AND QUALITY

Elkhart is committed to quality, as demonstrated by our ISO-9001 Registered Quality System. We strive for ways to streamline our processes while maintaining the quality craftsmanship our customers expect.

Our on-site foundry assures that we can document the quality of our materials, and our on-site testing facilities. We know firefighting is dangerous; our commitment to you is that we will do everything in our power to make sure when you use Elkhart Brass products, you have the highest quality, safest equipment available on the market.

As part of Elkhart's commitment to quality, we are continually evaluating our products and upgrading our certification credentials. Please let us know if you have a question about a specific certification.



- All data is provided for the standard configuration. Option changes may impact the weight, height or other specifications. Please inquire with our sales staff.
- Elkhart has trademarked the Elk-O-Lite® name for our proprietary aluminum alloy (cast alloy #356-A).







## BRASS TACKS HARD FACTS



Nozzle Selection and Comparison

### ENGINE COMPANY EDUCATION & FACT BASED EQUIPMENT SELECTION

Utilizing some of the country's top engine company instructors, we are checking our emotions at the door and presenting the pros and cons of the relevant engine company topics in the fire service. Part Art. Part Science.

This educational video series will be sure to leave you better informed about nozzles, flows, your fire flow system, and engine company operations as a discipline.

Watch the entire series at [www.BrassTacksHardFacts.com](http://www.BrassTacksHardFacts.com)



Standpipe Operations

### TOPICS COVERED

- Standpipe Operations
- Testing & Evaluation
- The Nozzle
- Topics of the Trade
- Portable Monitors
- The Art of Engine Work



Portable Monitor Attack with RAM XD



## EVERYTHING NEEDED FOR FLOW TESTING NOW AT YOUR FINGERTIPS!

- Smooth Bore Discharges & Flow/Pressure
- Nozzle Reaction for Smooth Bore Nozzles
- Nozzle Reaction for Fog Nozzles
- Pump Discharge Pressure for standard layouts, with ability to input hose coefficient depending on make and inside diameter
- Pump Discharge Pressure with elevation changes and appliances
- Pump Discharge Pressure for high-rise layouts
- Fire flow formula calculators for both the NFA and Iowa Formulas
- Also included in the app are direct links to the Brass Tacks Hard Facts video series



Calculating Nozzle Reaction

AVAILABLE FOR  
FREE DOWNLOAD












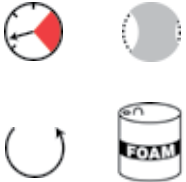



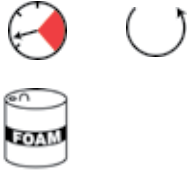
# HANDLINE NOZZLES





















## SELECTOR GUIDE










# HANDLINE NOZZLES

1-1

	AVAILABLE BASE	PRODUCT	DESCRIPTION	MATERIAL		"QUICK-KEY"					
				Brass	Elk-O-Lite®						
<b>FIXED</b> CHIEF XD™ & XD SHUTOFFS	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 95-300 (360-1136)	1.0	1.5	2.5	•	•	•	 <i>Page 1-4</i> <ul style="list-style-type: none"> <li>Dual drive shutoff with full round metal ball</li> <li>Forged Aluminum shutoff body and bale handle</li> <li>Spinning stainless steel</li> <li>Fixed flow</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									
<b>FIXED</b> CHIEF™	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 15-350 (57-1325)	1.0	1.5	2.5	•	•	•	 <i>Page 1-9</i> <ul style="list-style-type: none"> <li>Wide selection of flow and pressure</li> <li>Ideal for low pressure use</li> <li>Fixed flow</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									
<b>AUTOMATIC</b> SELECT-O-MATIC®	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 10-325 (38-1230)	1.0	1.5	2.5	•	•	•	 <i>Page 1-12</i> <ul style="list-style-type: none"> <li>Maintains effective stream reach throughout flow range</li> <li>Ideal for AFFF application</li> <li>Wide flow range / automatic flow</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									
<b>SELECTABLE</b> PHANTOM®	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 15-200 (57-757)	1.0	1.5	2.5	•	•	•	 <i>Page 1-15</i> <ul style="list-style-type: none"> <li>Firefighter chooses flow and stream</li> <li>Rugged and easy to use</li> <li>Wide flow range/constant flow</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									
<b>SELECTABLE</b> SELECT-O-FLOW®	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 40-250 (151-946)	1.0	1.5	2.5	•	•	•	 <i>Page 1-17</i> <ul style="list-style-type: none"> <li>Firefighter chooses flow and stream</li> <li>High flow range/constant flow</li> <li>Rugged all brass versions</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									
<b>VARIABLE</b> MYSTERY®	<table border="1"> <tr> <td>1.0</td> <td>1.5</td> <td>2.5</td> </tr> <tr> <td>•</td> <td>•</td> <td>•</td> </tr> </table> Available GPM (LPM) 60-250 (227-946)	1.0	1.5	2.5	•	•	•	 <i>Page 1-19</i> <ul style="list-style-type: none"> <li>Original fog nozzle</li> <li>Variable flow</li> </ul>	Brass	Elk-O-Lite®	
1.0	1.5	2.5									
•	•	•									

		AVAILABLE BASE	PRODUCT	DESCRIPTION	MATERIAL		"QUICK-KEY"
<b>FIXED</b>	<b>SELECT-O-STREAM®</b>	1.0	 <p><i>Page 1-21</i></p>	<ul style="list-style-type: none"> <li>Convenient detents for stream selection</li> <li>Rugged all brass construction with chrome finish</li> <li>Fixed Flow</li> </ul>	Brass	Elk-O-Lite®	 
		1.5					
Available GPM (LPM) 60-250 (227-946)		•			•		
<b>FIXED/VARIABLE</b>	<b>INDUSTRIAL FOG &amp; ELECTRICAL FOG</b>	1.0	 <p><i>Page 1-23</i></p>	<ul style="list-style-type: none"> <li>Durable and simple to use</li> <li>Designed for corrosive conditions</li> <li>For use on Class "C" fires</li> <li>Narrow to wide fog only</li> </ul>	Brass	Elk-O-Lite®	  
		1.5					
Available GPM (LPM) 12-250 (45-946)		•			•		
<b>FIXED</b>	<b>MARINE</b>	1.0	 <p><i>Page 1-25</i></p>	<ul style="list-style-type: none"> <li>85-5-5-5 Brass construction</li> <li>Designed for corrosive conditions</li> <li>Accepted US Navy Specifications</li> </ul>	Brass	Elk-O-Lite®	   
		1.5					
Available GPM (LPM) 95-250 (360-946)		•			•		
	<b>BALL SHUT-OFFS, &amp; PLAYPIPES</b>	1.0	 <p><i>Page 1-6</i></p>  <p><i>Page 1-27</i></p>	<ul style="list-style-type: none"> <li>Wide range of flows</li> <li>Smooth bore optional</li> <li>Design your own break-apart</li> <li>Playpipes for easy handling</li> </ul>	Brass	Elk-O-Lite®	
		1.5					
Available GPM (LPM) 118-209 (447-791)		•			•		
	<b>SPECIAL USE</b>	1.0	 <p><i>Page 1-35</i></p>	<ul style="list-style-type: none"> <li>Forestry</li> <li>Wat-R-Wall</li> <li>Cellar</li> <li>Bresnan</li> </ul>	Brass	Elk-O-Lite®	 
		1.5					
Available GPM (LPM)		•			•		

**KEY:**

								
Low Pressure Available	Ball Shut-off Available	Twist Shut-off Available	Rebuild/Retro Available	Electrical	Foam Compatible	U.S. Coast Guard/Navy Approved	Underwriters Laboratories	Factory Mutual

# HANDLINE NOZZLES



CHIEF XD™

HANDLINE NOZZLES

1-3



1.5" Mid-Range Chief XD Nozzle

The Chief XD takes the industry standard for handline nozzles to a whole new level. It offers accurate high volume flows at low tip pressures and is built tough like no other nozzle for Xtreme Duty, or XD. The Chief XD is the only handline nozzle that offers a forged shutoff body and forged metal bale handle for maximum strength. It also includes as standard a full round metal ball for the best stream performance, as well as fixed molded urethane or spinning stainless steel metal teeth that don't break. All indicators and markings are laser etched, with no labels to peel off or scratch. Ergonomic grip inserts help with handling and can also be color coded. It's durability and efficiency ensures an embedded level of safety for you and your crew, fire after fire.

- Accurate & wide range of flows
- Available with 50, 75, or 100 psi operating pressure
- Fixed gallonage from straight stream to full fog
- Forged aluminum shutoff body and bale handle
- Laser etched markings
- Dual drive shutoff with full round metal ball
- Spinning stainless steel or fixed molded urethane teeth
- Color coded bumper along with bale handle & pistol grip inserts



1.5" Mid-Range Chief XD Nozzle



## Chief XD Tips

### Mid-Range 1.5" / Rigid Base

150 @ 50	125 @ 75	95 @ 100
160 @ 50	150 @ 75	125 @ 100
175 @ 50	175 @ 75	150 @ 100
	185 @ 75	175 @ 100
	200 @ 75	

### High-Range 1.5" / Rigid Base

185 @ 50	250 @ 75	250 @ 100
210 @ 50	300 @ 75	
250 @ 50		
265 @ 50		

## Chief XD Nozzles

### Mid-Range 1.5" / Free Swivel Base

150 @ 50	125 @ 75	95 @ 100
160 @ 50	150 @ 75	125 @ 100
175 @ 50	175 @ 75	150 @ 100
	185 @ 75	175 @ 100
	200 @ 75	

### High-Range 1.5" / Free Swivel Base

185 @ 50	250 @ 75	250 @ 100
210 @ 50	300 @ 75	
250 @ 50		
265 @ 50		

### High-Range 2.5" / Free Swivel Base

185 @ 50	250 @ 75	250 @ 100
210 @ 50	300 @ 75	
250 @ 50		
265 @ 50		

## Chief XD Nozzles with Pistol Grip

### Mid-Range 1.5" / Free Swivel Base

150 @ 50	125 @ 75	95 @ 100
160 @ 50	150 @ 75	125 @ 100
175 @ 50	175 @ 75	150 @ 100
	185 @ 75	175 @ 100
	200 @ 75	

### High-Range 1.5" / Free Swivel Base

185 @ 50	250 @ 75	250 @ 100
210 @ 50	300 @ 75	
250 @ 50		
265 @ 50		

### High-Range 2.5" / Free Swivel Base

185 @ 50	250 @ 75	250 @ 100
210 @ 50	300 @ 75	
250 @ 50		
265 @ 50		



Mid-Range Tip



High-Range Tip



1.5" Mid-Range



1.5" Mid-Range



2.5" High-Range

### Specify when ordering:

- Flow rate & pressure
- Bumper, bale handle, and pistol grip insert color (orange standard)
- Spinning stainless steel metal teeth (standard) or fixed molded urethane teeth
- Inlet threads



# HANDLINE NOZZLES



## XD™ NOZZLE OPTIONS

HANDLINE NOZZLES

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### Colors

Choose bumper color, bale insert, and pistol grip insert color (orange is standard on Chief XD)



Orange



Red



Yellow



Glow



Tan



Pink



Green



Blue



Black



White



Gray



Purple

### Teeth

Choose from spinning stainless steel metal or fixed molded urethane teeth.



Spinning Stainless Steel  
(Standard)



Fixed Molded Urethane

### Inlet Threads

- NHT (Standard)
- NPSH
- BSPP
- Others available. Please provide thread spec: ODM (Outside Diameter Male), TPI (Threads Per Inch), and Province/City. (Ex. 3.030 x 8 NYFD Thread)

Use our Online  
Configurator to design  
your own XD Nozzle!  
[XDconfigurator.com](http://XDconfigurator.com)



2.5" XD Shutoff with 188-XD Smooth Bore

Elkhart Brass XD Shutoffs and Playpipes are designed and constructed for rugged use and reliable performance. They are built strong with forged shutoff bodies and forged metal bale handles earning the title Xtreme Duty, or XD. They provide an excellent foundation for break-apart applications using smooth bore or fog nozzle tips. Elkhart Brass XD Shutoffs are available with a variety of options, including built-in smooth bore discharges that can be used with fog nozzle tips for maximum versatility.

- Dual drive shutoff with full round metal ball
- Forged aluminum shutoff body
- Forged metal bale handle
- Attention to detail in waterway alignment and smoothness of operation throughout
- Laser etched markings
- Color coded pistol grip and bale handle inserts

1.5" XD Shutoff with ST-185-XD Smooth Bore







## XD™ SHUTOFFS

### XD Shutoffs

**1.5" Shutoff** Free Swivel Base  
1.5" Inlet 1.5" Outlet

**1.5" Shutoff** Free Swivel Base / Pistol Grip  
1.5" Inlet 1.5" Outlet

**2.5" Shutoff** Free Swivel Base  
2.5" Inlet 1.5" Outlet

**2.5" Shutoff** Free Swivel Base / Pistol Grip  
2.5" Inlet 1.5" Outlet

### XD Shutoffs with Integral Smooth Bore

Available discharge sizes: 7/8", 15/16", 1", 1-1/16", 1-1/8",  
1-3/16", 1-1/4"

**1.5" Shutoff** Free Swivel Base  
1.5" Inlet 1.5" Outlet

**1.5" Shutoff** Free Swivel Base / Pistol Grip  
1.5" Inlet 1.5" Outlet

**2.5" Shutoff** Free Swivel Base  
2.5" Inlet 1.5" Outlet

**2.5" Shutoff** Free Swivel Base / Pistol Grip  
2.5" Inlet 1.5" Outlet

### XD Playpipes

**2.5" Shutoff** Free Swivel Base  
2.5" Inlet 1.5" Outlet

**2.5" Shutoff** Free Swivel Base / Ladder Hook  
2.5" Inlet 1.5" Outlet



*Specify when ordering:*

- Bale and Pistol Grip insert colors (black standard)
- Inlet/Outlet threads
- Integral Smooth Bore discharge size (if applicable)



1.5" XD Shutoff



1.5" XD Shutoff w/Pistol Grip



2.5" XD Shutoff



2.5" XD Shutoff w/Pistol Grip



1.5" XD Shutoff w/Smooth Bore



1.5" XD Shutoff w/Smooth Bore & Pistol Grip



2.5" XD Shutoff w/ Smooth Bore



2.5" XD Shutoff w/Smooth Bore & Pistol Grip



2.5" XD Playpipe



2.5" XD Playpipe w/ Ladder Hook

# HANDLINE NOZZLES

XD™ SMOOTH BORE

Elkhart Brass took two classic smooth bore tips to the next level. The 187-XD and 188-XD smooth bore tips feature durable urethane bumpers and laser etching. Extra knurling has also been added for increased control and grip.

## Available Sizes:

- 7/8"
- 15/16"
- 1"
- 1-1/16"
- 1-1/8"
- 1-3/16"
- 1-1/4"



1.5" XD Shutoff with 187-XD Smooth Bore

- Lightweight aluminum construction
- Laser etched flow rates
- Durable urethane molded bumper



"Short Barrel"  
187-XD

"Long Barrel"  
188-XD

HANDLINE NOZZLES

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XD™ SMOOTH BORE

HANDLINE NOZZLES

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## Smooth Bore Single Tips

**185-XD** 1.5" Inlet / 1.5" Outlet / 4.5" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"

**187-XD** 1.5" Inlet / 4.5" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"

**188-XD** 1.5" Inlet / 7.0" Length  
Available Discharges: 7/8", 15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4"



185-XD



187-XD



188-XD

## Smooth Bore Stacked Tips

**ST-185-XD** 1.5" Inlet / 6.625" Length / FDNY Stack  
Available Discharges: 1/2" & 7/8", 15/16", 1-1/8", 1-3/16"

**ST-185-XD-IFD** 1.5" Inlet / 7.625" Length / Indy Stack  
Available Discharges: 1-1/8" & 1-1/4"

**ST-185-XD-CAFS** 1.5" Inlet / 6.625" Length / CAFS Stack  
Available Discharges: 15/16" & 1-1/8"

**ST-190-XD** 1.5" Inlet / 9.0" Length / Triple Stack  
Available Discharges: 1" & 1-1/8" & 1-1/4"



ST-185-XD



ST-185-XD-IFD



ST-185-XD-CAFS



ST-190-XD

*Specify when ordering:*

- Inlet threads (FNH or FNPSH)
- Smooth Bore discharge size (if applicable)



### Colors

Choose bumper color (black is standard on XD Smooth Bores)



Orange



Red



Yellow



Glow



Tan



Pink



Green



Blue



Black



White



Gray



Purple

### Bent Overhaul Tip

**BOT-XD** Fits any ST-185-XD FDNY Stack Tip.

- Small and compact ideal for carrying in your turnout gear pocket
- Flows 50 gpm @ 50 psi
- Creates a powerful penetrating low flow stream ideal for overhaul operations



**BOT-XD**



**BOT-XD**  
on Stack  
Tip

# HANDLINE NOZZLES



CHIEF™

## Chief™

Fixed flow Chief™ nozzles efficiently deliver a constant gallonage from straight stream to full fog. The simple rugged design makes the Chief™ easy to use, train with and reliable in tough situations. Superior hydraulics due to a fully machined waterway result in excellent stream quality and reach. The Chief™ is also available in true low pressure versions with specifically engineered, calibrated and labeled stems down to 50 psi. With more than 300 available variations the Chief™ is easily customized to meet your specific needs.

HANDLINE NOZZLES

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British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.







## Select-O-Matic®

Pressure-regulating Select-O-Matic® nozzles automatically adjust to fluctuating water flow to maintain effective pressure and a consistent fire stream in all flow ranges. Our patented, completely unobstructed waterway allows more gpm at lower pressures than any competitive brand. All models flush easily without shutting down and provide constant flow on either fog or straight stream, making them ideal for the application of AFFF foam. Corrosion resistant; no lubrication required.



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

# HANDLINE NOZZLES



## SELECT-O-MATIC®

# HANDLINE NOZZLES

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Base Size	FLOW RANGES	PRESSURE	BASE			HANDLE		TEETH		MODEL
	GPM (LPM)		PSI (BAR)	TYPE			Tab	Horseshoe	Spinning	
		Rigid		Swivel	Free Swivel					
1"	10-75 (38-284)	100 (6.89)		s				s		TSM-3F
	60-125 (227-475)	100 (6.89)	o	s				s	o	TSM-10F
1.5"	60-200 (227-757)	75 (5.17)	o	s				s		TSM-20FLP
		100 (6.89)	o	s				s	o	TSM-20F
	75-325 (284-1230)	75 (5.17)	o	s				s	o	TSM-30FLP
		100 (6.89)	o	s				s	o	TSM-30F
2.5"	75-325 (284-1230)	100 (6.89)		s				s	o	DTSM-30F

Select-O-Matic Tips



1"	10-75 (38-284)	100 (6.89)	o		s	s	o	s		SM-3F
	60-125 (227-475)	100 (6.89)	o	s	o	o	s	s	o	SM-10F
1.5"	60-200 (227-757)	75 (5.17)	o	s	o	o	s	s		SM-20FLP
		100 (6.89)	o	s	o	o	s	s	o	SM-20F
	75-325 (284-1230)	75 (5.17)	o	s	o	o	s	s	o	SM-30FLP
		100 (6.89)	o	s	o	o	s	s	o	SM-30F
2.5"	75-325 (284-1230)	75 (5.17)		s	o	o	s	s	o	DSM-30FLP
		100 (6.89)		s	o	o	s	s	o	DSM-30F

Select-O-Matic Nozzles



1"	10-75 (38-284)	100 (6.89)	o		s	s	o	s		SM-3FG
	60-125 (227-475)	100 (6.89)	o	s	o	o	s	s	o	SM-10FG
1.5"	60-200 (227-757)	75 (5.17)	o	o	s	o	s	s		SM-20FG
		100 (6.89)	o	o	s	o	s	s	o	SM-20FG
	75-325 (284-1230)	75 (5.17)	o	o	s	o	s	s	o	SM-30FG
		100 (6.89)	o	o	s	o	s	s	o	SM-30FG
2.5"	75-325 (284-1230)	75 (5.17)		o	s	o	s	s	o	DSM-30FG
		100 (6.89)		o	s	o	s	s	o	DSM-30FG






Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.



## OPTIONS

HANDLES	MOLDED URETHANE TEETH
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>TAB</p>  </div> <div style="text-align: center;"> <p>HORSESHOE</p>  </div> </div>	
THREADS	COLORS
<p><i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.</i></p>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: black; color: white; padding: 5px;">Black</div> <div style="background-color: red; color: white; padding: 5px;">Red</div> <div style="background-color: orange; color: white; padding: 5px;">Orange</div> <div style="background-color: yellow; color: black; padding: 5px;">Yellow</div> <div style="background-color: #90EE90; color: black; padding: 5px;">Glow</div> <div style="background-color: green; color: white; padding: 5px;">Green</div> <div style="background-color: blue; color: white; padding: 5px;">Blue</div> </div> <p><i>Color options available for pistol grip, bumper, and handle. Glow available for bumper only. Retrofit kit available for Glow bumper. <b>White bumper not available.</b></i></p> <p><i>Select-O-Matic nozzle comes standard with a yellow bumper, chrome handle, and natural Elk-O-Lite® pistol grip.</i></p>

### ADDITIONAL INFORMATION

PART NAME	PAGE #
<i>Thread Information</i>	<i>T-13</i>
<i>Nozzle Flow Data</i>	<i>T-2</i>
<i>Hose and Nozzle Accessories</i>	<i>2-1</i>
<i>Foam Expansion Tubes</i>	<i>2-2</i>

# HANDLINE NOZZLES



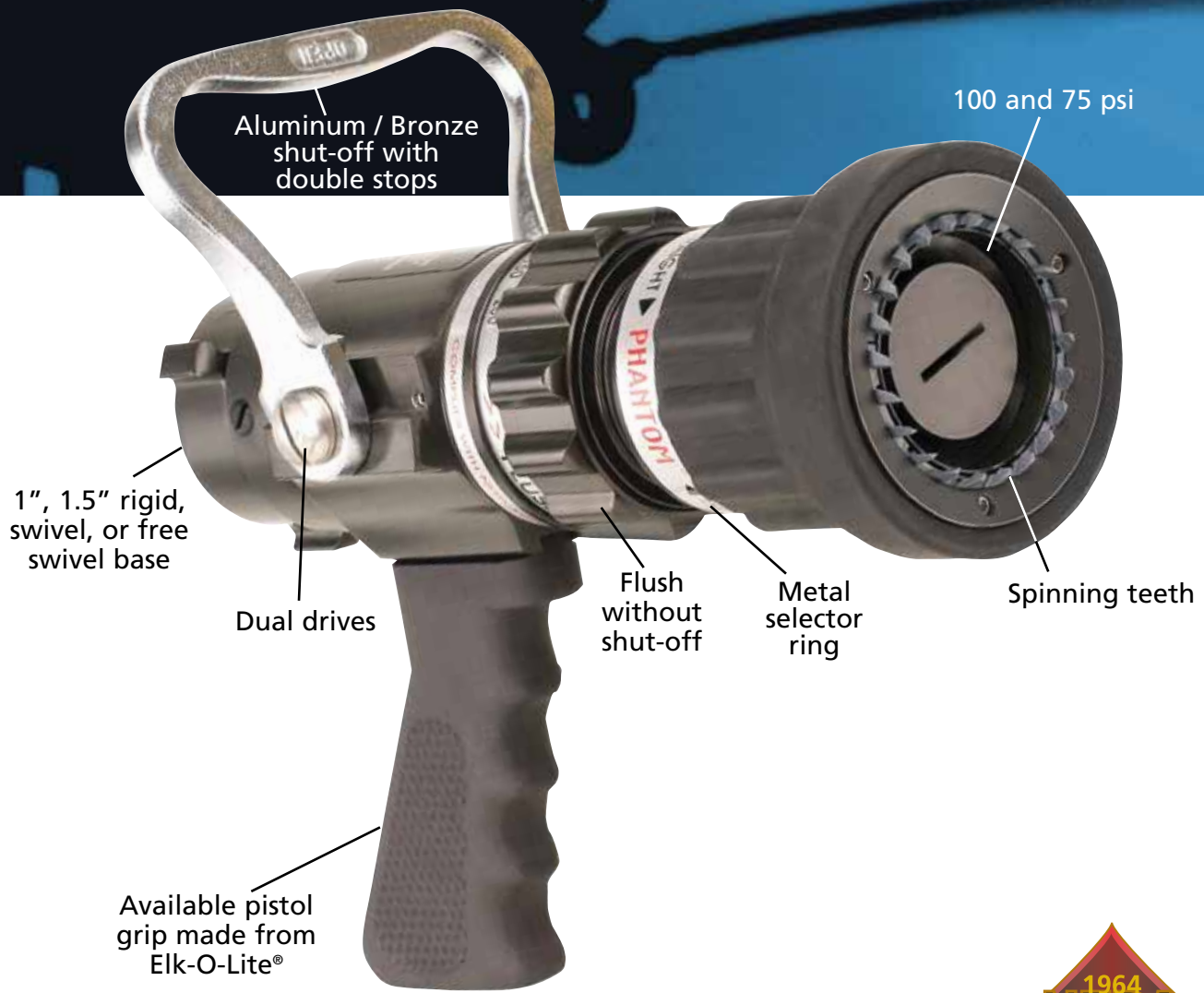
PHANTOM®

## Phantom®

The selectable gallonage Phantom® lets the firefighter select the appropriate flow. The wide selection range standard with the Phantom® makes it one nozzle for every use from brush to interior attack. The Phantom® is designed for reliable performance with rugged metal selector ring and dual drive metal ball shut-off. Available standard in 100 psi and true 75 psi models.

HANDLINE NOZZLES

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British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

# HANDLINE NOZZLES

PHANTOM®

HANDLINE NOZZLES

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Base Size	FLOW RATE	PRESSURE	BASE			SHUT-OFF		HANDLE			TEETH	MODEL	
	GPM (LPM)	PSI (BAR)	Rigid	Swivel	Free Swivel	Twist	Ball	Tab	Horseshoe	Spinning			
1"	15/30/45/60 (57/114/170/227)	100 (6.89)	s								s	TPSFS-HP	
			s				•				s	TPSFS-HPT	
1.5"	30/60/95/125/150/200 (114/227/360/473/568/757)	100 (6.89)		s							s	TSFM-HP	
				s			•				s	TSFM-HPT	
		75 (5.17)		s								s	TSFM-LP
				s				•				s	TSFM-LPT
1"	15/30/45/60 (57/114/170/227)	100 (6.89)			s		•	s		s		PSFS-HP	
1.5"	30/60/95/125/150/200 (114/227/360/473/568/757)	100 (6.89)		s	o		•	o	s	s		SFM-HP	
		75 (5.17)		s	o		•	o	s	s		SFM-LP	
1"	15/30/45/60 (57/114/170/227)	100 (6.89)			s		•	s		s		PSFS-HPG	
1.5"	30/60/95/125/150/200 (114/227/360/473/568/757)	100 (6.89)			o	s	•	o	s	s		SFM-HPG	
		75 (5.17)			o	s	•	o	s	s		SFM-LPG	



Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

HANDLES	COLORS
<p>TAB</p>  <p>HORSESHOE</p> 	 <p>Color options available for pistol grip, bumper, and handle. Glow available for bumper only. Retrofit kit available for Glow bumper. <b>White bumper not available.</b></p> <p>Phantom® nozzle standards are a black bumper, rough chrome handle, and natural Elk-O-Lite® pistol grip.</p>
<p>THREADS</p> <p>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.</p>	



# HANDLINE NOZZLES



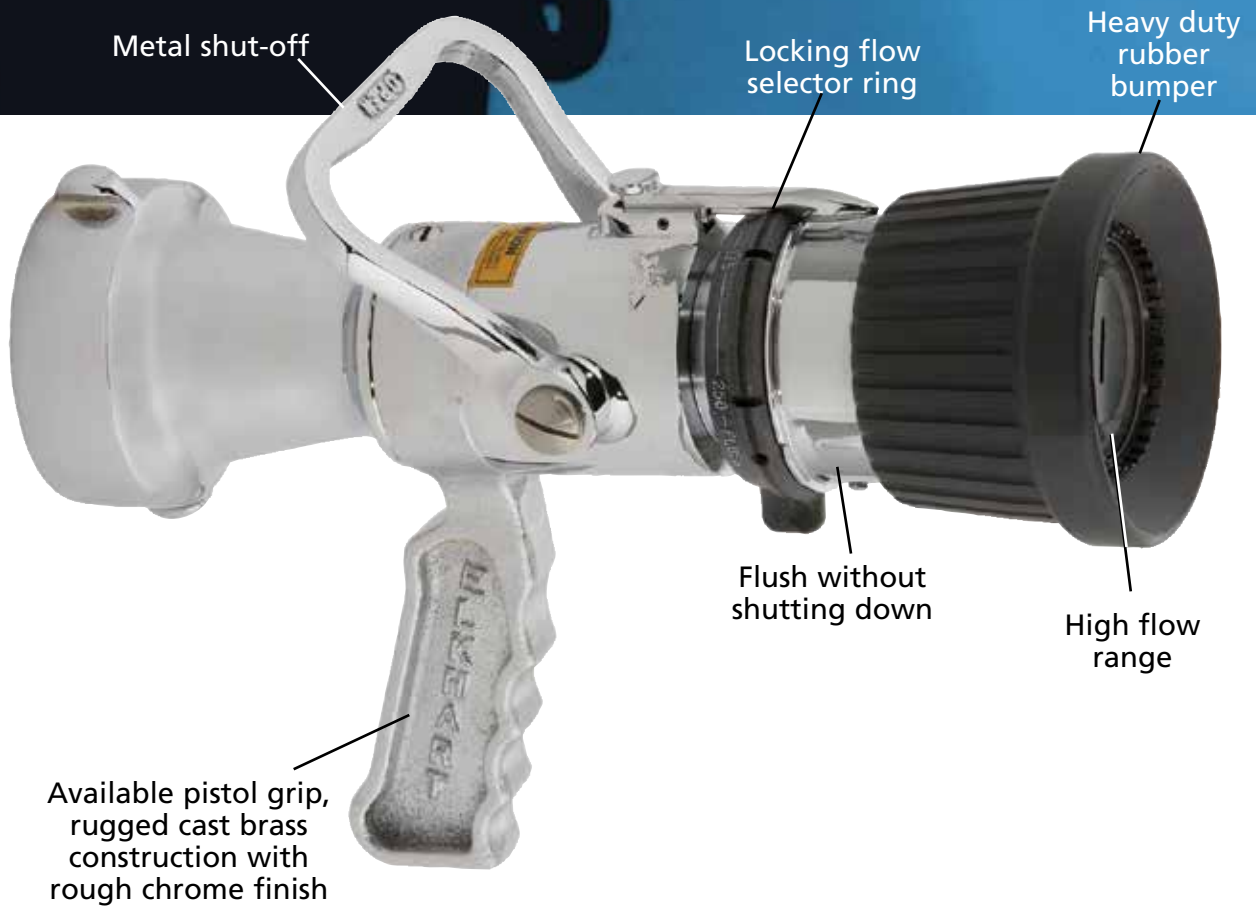
SELECT-O-FLOW®

## Select-O-Flow®

Select-O-Flow®, the original selectable gallonage nozzle, is similar in function to the Phantom® — allowing the firefighter to select the appropriate flow. The Select-O-Flow® range goes as high as 250 gpm.

HANDLINE NOZZLES

1-19

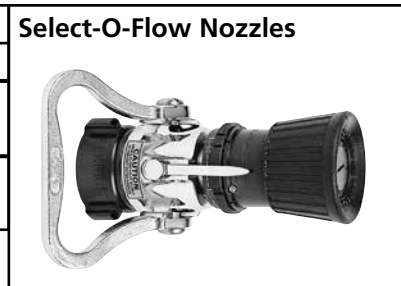


British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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Base Size	FLOW RATE	SHUT-OFF		HANDLE		BASE			TEETH			DIMENSIONS		MODEL
	GPM (LPM) PSI (BAR) 100 (6.89)	Twist	Ball	Tab	Horseshoe	Rigid	Swivel	Free Swivel	Molded Urethane	Spinning	Rigid Metal	Length (Inches)	Weight (Lbs.)	
1.5"	40/60/95/125 (151/227/360/473)	•					s				s	6.50	2.75	TSFL-O
	125/175/250 (473/662/946)	•					s				s	7.00	5.50	TSF
1.5"	40/60/95/125 (151/227/360/473)	•	o	s			s	o	o	s		7.625	7.75	SFL-B
	125/175/250 (473/662/946)	•		s	o	s	o			s		7.00	3.75	SFL-O
1.5"	125/175/250 (473/662/946)	•		s	o	s	o			s		8.00	8.00	SF
	125/175/250 (473/662/946)	•		s	o	s	o			s		10.75	10.00	DSF
1.5"	40/60/95/125 (151/227/360/473)	•	o	s			s	o	s			8.375	9.625	SFL-BG
	125/175/250 (473/662/946)	•		s	o	o	s			s		10.00	4.875	SFL-OG
1.5"	125/175/250 (473/662/946)	•		s	o	o	s			s		11.25	8.875	SF-G
	125/175/250 (473/662/946)	•		s	o	o	s			s		13.875	10.875	DSF-G

Key: s = standard o = option



Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

### HANDLES

#### TAB



#### HORSESHOE



- SFL-B, SFL-BG, SFL-O, SFL-OG all feature aluminum/bronze shut-off handles
- DSF, G, SF, SF-G, STDSF, SF-800 all feature manganese/bronze shut-off handles

### MOLDED URETHANE TEETH



### THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.

# HANDLINE NOZZLES



MYSTERY®

## Mystery®

The Mystery® Nozzle incorporates a twist-type shut-off, opening in straight stream and producing a flow from straight stream to wide fog. In combination with a ball shut-off, the Mystery® Nozzle promotes an extremely convenient method of advancing hoselines. Simply close the ball shut-off, remove the Mystery® tip, attach additional hose, and then reattach the tip at the end of the line. The tip's built-in shut-off allow for the line to be advanced rapidly without bringing in an additional nozzle.

HANDLINE NOZZLES

1-21



British Standard Parallel Pipe (BSPP) base options available.



Base Size	AVAILABLE STANDARD FLOW RATE GPM (LPM)						SHUT-OFF	BASE			TEETH	DIMENSIONS		MODEL			
	60 (227)	95 (360)	125 (473)	170 (644)	200 (757)	250 (946)		Twist	Ball	Rigid		Swivel	Free Swivel		Cut Metal	Length (Inches)	Weight (Lbs.)
	PSI (BAR)																
1.5"	•	•	•	•	•	•	•		s			s	4.625	1.375	L-205-BA		
							•		s	o		s	7.125	3.25	205-BA		
2.5"			•	•	•	•	•		s			s	7.50	3.50	D-205-BA		

MYSTERY TIPS



Key: s = standard o = option

Figures depict general product types only and are not intended to be inclusive of all product features.

## THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.*

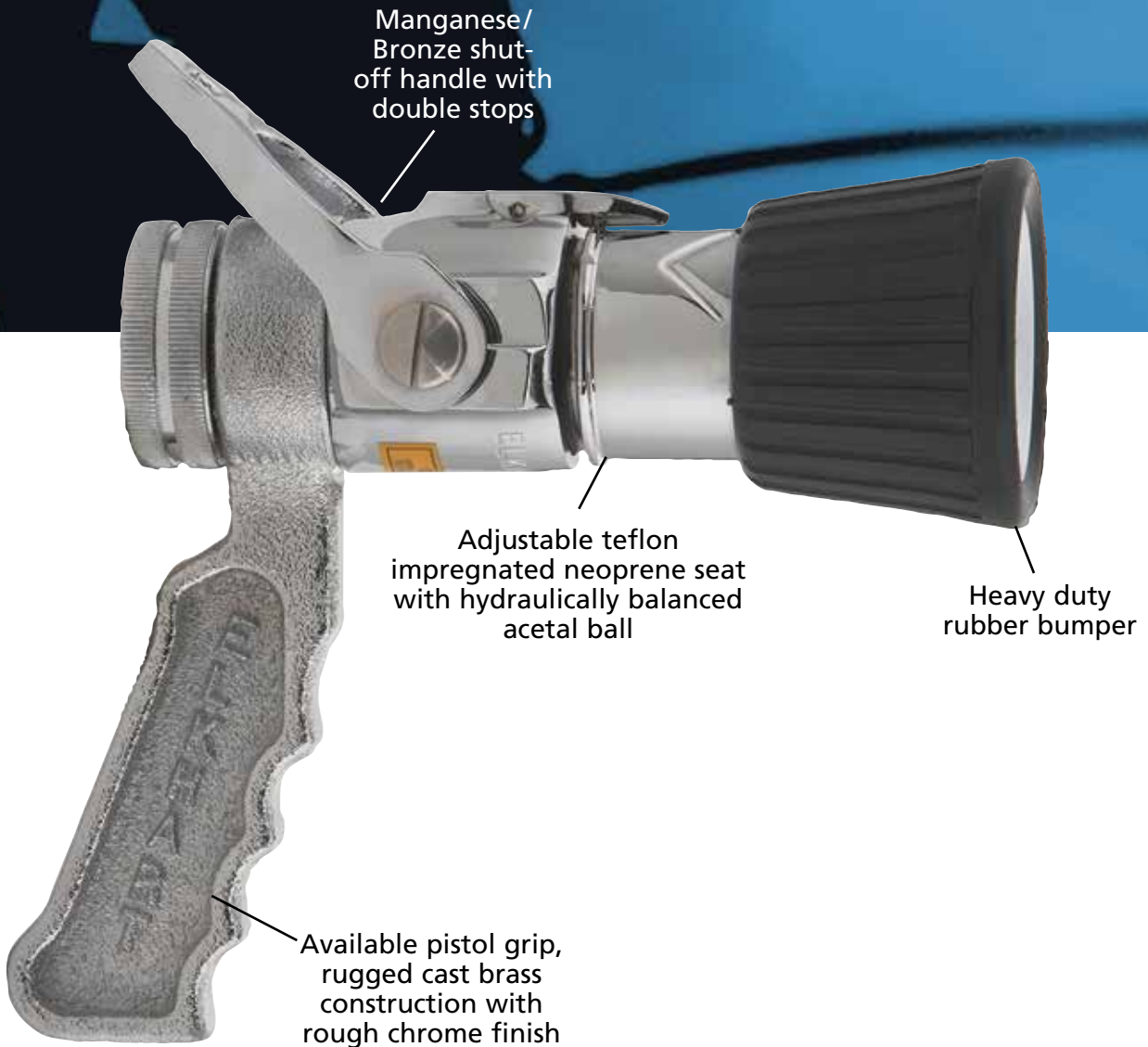
# HANDLINE NOZZLES



SELECT-O-STREAM®

## Select-O-Stream®

An industry standard for over 40 years, the Select-O-Stream® delivers constant gallonage at every pattern level, from straight stream to full fog. The rugged all brass construction with chrome finish has a proven record of standing up to corrosive conditions. The variety of available gpm options with the Select-O-Stream® allows for customized choices to match the needs of fire professionals.



HANDLINE NOZZLES

1-23

British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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# HANDLINE NOZZLES

SELECT-O-STREAM®

Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)					GRIP	FINISH		HANDLE	BASE			TEETH	DIMENSIONS		MODEL	
	60 (227)	95 (360)	125 (473)	170 (644)	250 (946)		Satin Brass	Chrome-Plated		Rigid	Swivel	Free Swivel		Cut Metal	Length (Inches)		Weight (Lbs.)
	PSI (BAR) 100 (6.89)																
1.5"	•	•	•			•	s	o	s	o	s	o	s	7.00	5.50	L-O	
	•	•	•			•	s	o	s		s	s		7.75	6.375	L-OG	

Key: s = standard o = option

## THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.

L-O & D



L-OG



Figures depict general product types only and are not intended to be inclusive of all product features.





INDUSTRIAL & ELECTRICAL FOG

HANDLINE NOZZLES

## Industrial & Electrical Fog

Our industrial fog nozzles were created to handle the rigors of industrial needs in refineries, chemical plants, office complexes and other on-site situations. Several different materials are available to suit every need, and most nozzles are U.L. listed and/or FM approved.

The fog nozzles with the electrical specification in the chart are designed to be used on class "C" hazards and utilize only fog capabilities in combating blazes at 10' or more from live electrical equipment and/or circuits with voltage up to 250,000. All other industrial fog nozzles can be used in either straight stream or fog combinations.

1-25



1575

205-B

L-205-B

L-200

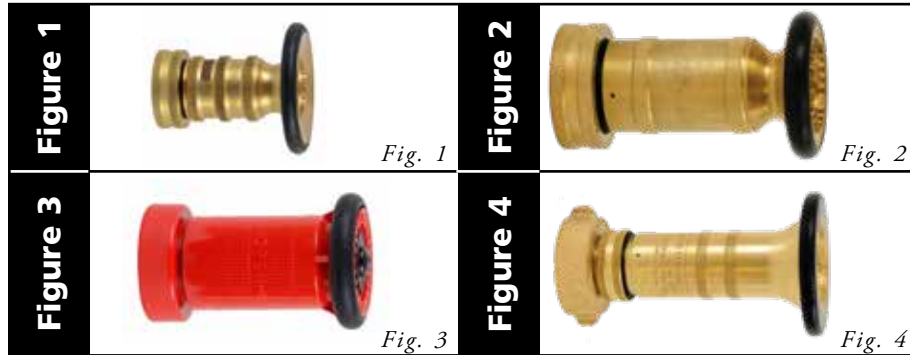


British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)							FLOW TYPE	SHUT-OFF			CERT.	BASE	MATERIAL / FINISH			DIMENSIONS		MODEL	FIGURE								
	12 (45)	23 (87)	60 (227)	75 (284)	95 (360)	125 (473)	170 (644)		250 (946)	Fixed Flow	Variable Flow			Twist	Ball	Electrical	FM Approved	U.L. Listed			Rigid	Swivel	Free Swivel	Satin	Chrome	Polycarbonate	Length (Inches)	Weight (Lbs.)
	PSI (BAR) 100 (6.89)																											
1.5"								•		•				•	s			s	o		5.00	2.875	L-205-B	2				
			•		•	•		•		•				•	s			s	o		4.75	4.125	L-200	1				
				•					•	•	•				s					s	4.875	0.375	1575	3				
							•	•	•		•			•	s			s	o		7.063	5.625	205-B	4				
					•	•			•		•			•	s			s	o		5.00	2.875	L-205-EB*	2				
				•					•		•			•	s			s	o		3.00	1.50	L-206-T					
					•				•	•	•			•	s			s	o		4.875	0.375	1575-E	3				
2.5"						•	•	•		•				•	s			s	o		7.063	5.625	205-EB	2				
						•	•	•		•				•	s			s	o		11.563	8.75	D-200	1				
						•	•	•		•			•	s			s	o		8.313	7.375	D-205-B	4					
						•	•	•		•				•	s			s	o		8.313	7.375	D-205-EB	4				

Key: s = standard o = option  
 \*NOTE: 125 GPM Nozzle NOT UL Listed

### FOG NOZZLE CONFIGURATIONS



**OPTIONS**

**THREADS**

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.

Figures depict general product types only and are not intended to be inclusive of all product features.

# HANDLINE NOZZLES



MARINE

## Marine

These handline nozzles are specifically designed and manufactured for the unique firefighting challenges of a marine environment. They utilize military spec, corrosion resistant cast brass construction and are ideal for the application of AFFF. The constant flow technology, combined with their durable construction, make them optimal for use in the shipping industry, in refineries and for off-shore drilling or production rigs, as well as within chemical complexes.

Most models meet the stringent performance requirements of the U.S. Navy.

HANDLINE NOZZLES

1-27



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

Base Size	AVAILABLE FLOW RATE GPM (LPM)			SHUT-OFF	BASE			TEETH	RATING			DIMENSIONS		MODEL		
	95 (360)	125 (473)	250 (946)		Ball	Rigid	Swivel		Free Swivel	Cut Metal	Complies with MIL*	Complies with USCG**	FM Approved		Length (Inches)	Weight (Lbs.)
	PSI (BAR)															
1.5"	•	•		•			s	s				7.375	6.50	SFL-N		
	•			•			s	s	•	•		8.06	6.92	SFL-CG-95		
1.5"	•			•			s	s	•			7.375	7.625	SFL-GN-95		
		•		•			s	s	•			7.375	7.625	SFL-GN-125		
	•			•			s	s		•		8.31	8.17	SFL-GN-95-SPL		
	•			•			s	s	•	•		8.31	8.25	SFL-GCG-95		
2.5"			•	•		s	s	•			12.5	13.5	DSF-N			

MARINE NOZZLES



MARINE NOZZLE with PISTOL GRIP



DSF-N



Figures depict general product types only and are not intended to be inclusive of all product features.

Key s = standard o = option  
 \* Complies with MIL-N-24408E Type 1  
 \*\* Complies with USCG Approval Number: 162.027/12/0-IAW CFR46 162.027

OPTIONS
<p><b>THREADS</b></p> <p>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.</p>
<p><b>HANDLES</b></p> <ul style="list-style-type: none"> <li>SFL-N feature manganese/bronze shut-off handles</li> <li>SFL-CG-95, SFL-GCG-95, SFL-GN series, and DSF-N feature silicon/bronze shut-off handles</li> </ul>



# HANDLINE NOZZLES



BALL SHUT-OFFS & PLAYPIPES

## Ball Shut-offs & Playpipes

Elkhart Brass Ball Shut-offs and Playpipes are designed and constructed for rugged use and reliable performance as well as an excellent foundation for your break-apart nozzle needs using either smooth bore or fog nozzles. Elkhart Brass Ball Shut-offs and Playpipes are available with a variety of options, including built-in smooth bores which can be used with a fog nozzle tip for maximum versatility.

HANDLINE NOZZLES

1-29



British Standard Parallel Pipe (BSPP) and British Instantaneous (BS336) base options available.

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# HANDLINE NOZZLES

## BALL SHUT-OFFS & PLAYPIPES

### BALL SHUT-OFFS & PLAYPIPES

Inlet Size	Outlet Size	WATERWAY SIZE						AVAILABLE INTEGRAL SMOOTH BORE DISCHARGE SIZE						BALL TYPES		SEAT		DRIVE		GRIP			BASE			HANDLE		MATERIAL		MODEL	FIGURE	
		1"	1 3/8"	1 1/2"	1 3/4"	1/2"	7/8"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 1/2"	1 3/4"	1 1/2"	1 3/4"	Double	Full Round	Single	Double	Double	Pistol Grip	Playpipe	Ladderhook	Rigid	Swivel	Free Swivel	Tab	Horseshoe	Brass			Elk-O-Lite®
1"	1"														S								S		O	S	O			SB-275	1	
															S									O		S	S	O			SB-275-A	1
															S									O		S	S	O			SB-275-AT	2
															S									O		S	S	O			SB-275-G	3
															S									O		S	S	O			SB-275-GA	3
															S									O		S	S	O			SB-275-GAT	4
1.5"	1.5"														S								O	S	O	O	S			LB-275	1	
															S									O	S	O	O	S			LB-275-A	1
															S									O	O	S	O	S			LB-275-GA	3
															S									O	S	O	O	S			B-275	1
															S									O	S	O	O	S			B-275-A	1
															S									O	O	S	O	S			B-275-GA	3
															O	S									S	O	O	S			B-375-A	1
															O	S									S	O	O	S			B-375-AT	2
															O	S									O	S	O	S			B-375-GA	3
															O	S									O	S	O	S			B-375-GAT	4
2.5"	1.5"														S								O	S	O	O	S			DB-275	1	
															S									O	S	O	O	S			DB-275-A	1
															S									O	O	S	O	S			DB-275-GA	3
															O	S									S	O	S			DB-375-A	1	
															O	S									S	O	S			DB-375-GA	3	
															S										S	O	S			DB-375-AT	2	
															S										S	O	S			DB-375-GAT	4	
															S										S	S				B-278	5	
															S										S	S				B-278-AT	5	
															S										S	S				B-278-L	5	
															S										S					279-L	6	
															S										S					279-LA	6	
2.5"	2.5"														S								S			S			JB-275	1		
															S									S		S			JB-275-A	1		
															S									S		S			JB-275-GA	3		

Key: s = standard o = option  
 \*B-278 (without ladderhook) + ST-190-BA (Triple Stack Tip)

See section 1-6 for available XD Shutoffs and Playpipes

HANDLINE NOZZLES

1-30

# HANDLINE NOZZLES



## BALL SHUT-OFFS & PLAYPIPES

HANDLINE NOZZLES

1-31

### BALL SHUT-OFFS AND PLAYPIPES CONFIGURATIONS

<b>Figure 1</b> SHUT-OFF 	<b>Figure 2</b> SHUT-OFF with INTEGRAL SMOOTH BORE 
<b>Figure 3</b> SHUT-OFF with PISTOL GRIP 	<b>Figure 4</b> SHUT-OFF with PISTOL GRIP & INTEGRAL SMOOTH BORE 
<b>Figure 5</b> PLAYPIPE with SHUT-OFF 	<b>Figure 6</b> PLAYPIPE without SHUT-OFF 

Figures depict general product types only and are not intended to be inclusive of all product features.

#### DOUBLE CUT-AWAY

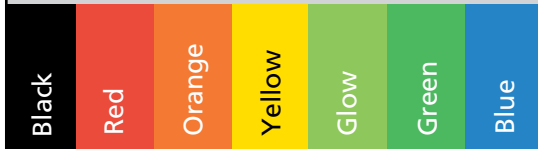
Ball is hydraulically balanced for a smooth transition from closed to open and open to closed.

#### FULL ROUND

Ball has a solid bore for optimal flow characteristics and stream quality — particularly for smooth bores and shut-offs with built-in smooth bores.

#### OPTIONS

##### COLORS



*Color options available for pistol grip and handle. Ball shut-offs standards are a rough chrome handle and natural Elk-O-Lite® pistol grip.*

##### HANDLES

TAB



HORSESHOE



##### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads, including British instantaneous.*

# Smooth Bore & Deluge Tips

For maximum reach, smooth bore tips create concentrated waterflow for use with either handlines or monitors while using lower pressures of 50 or 80 psi. Elkhart offers a wide variety of discharge sizes to suit any need. Additionally, Elkhart's stacked tips allow you to customize the smooth bore to meet your needs in the field.





# HANDLINE NOZZLES



SMOOTH BORE & DELUGE TIPS

HANDLINE NOZZLES

1-33

## SMOOTH BORE SINGLE TIP

Base Size	AVAILABLE DISCHARGE DIAMETER																				FINISH			DIMENSIONS		MODEL	FIGURE		
	GPM @ 50 PSI										GPM @ 80 PSI										Brass	Chrome	Elk-O-Lite®	Slug	w/bumper			Length (Inches)	Weight (Lbs.)
	3/8"	1/4"	3/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/16"	1 1/8"	1 1/4"	1 1/2"	1 3/8"	1 3/4"	1 7/8"	2"	2 1/4"	2 1/2"	3"									
1"	•	•	•	•	•																s	o		•	4.50	1.0	S-185B		
1.5"					•	•																	s		•	4.75	1.0	185-A	2
						•																	o		•	4.50	1.50	185-B	3
							•																	s	•	2.625	0.75	186A	1
								•																s		4.50	0.563	187A	4
									•															s	•	7.00	0.875	188A	5
										•														s		10.00	0.68	187CAF	6
2.5"									•													s	o		9.0	3.625	181	7	
										•													s		9.0	1.625	181A		
3.5"																						s	o		9.0	7.125	181-3		
																							s		12.0	4.0	181-3A	8	
5"																							s		17.06	6.3	181-5A	9	

Key: s = standard o = option

## SMOOTH BORE STACKED TIP

Base Size	AVAILABLE 1ST DISCHARGE				AVAILABLE 2ND DISCHARGE				AVAILABLE 3RD DISCHARGE				AVAIL. 4TH DISCHARGE	FINISH			DIMENSIONS		Model	Figure	
	GPM 50 PSI		GPM 80 PSI		GPM 50 PSI		GPM 80 PSI		GPM 50 PSI		GPM 80 PSI		GPM 80 PSI	Brass	Chrome	Elk-O-Lite®	Leader Threading*	Length (Inches)			Weight (Lbs.)
	3/4"	1/2"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"								
1.5"	•	•			•	•										s		6.625	0.688	ST-185A	10
																s	•	7.625	0.875	ST-185A-IFD	
																s		9.0	4.375	ST-190B	
																s	•	9.0	1.125	ST-190BA	
2.5"																s	o	14.0	7.25	ST-191	
																s	o	10.75	4.0	ST-191-1	
																s		10.50	2.0	ST-191A	
																s		9.625	1.675	ST-197A	13
3.5"																s		12.875	2.125	ST-194	11
																s		16.75	4.0	ST-195	12

\* 1.5 male for line extension

See section 1-8 for available XD Smooth Bore Tips

## OPTIONS

### THREADS

All base threads are NHT unless otherwise specified. See index T-13 for optional base threads.

### PRESSURE

All pressure specified for smooth bores at pitot pressure.

# HANDLINE NOZZLES

SMOOTH BORE & DELUGE TIPS







Figure 1	<b>SLUG</b>	
		<p><b>186-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p><i>Fig. 1</i></p>
Figure 2	<b>SINGLE SMOOTH BORE TIPS – HANDLINE</b>	
		<p><b>185-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> <li>• Bumper</li> </ul> <p><i>Fig. 2</i></p>
Figure 3	<b>SINGLE SMOOTH BORE TIPS – HANDLINE</b>	
		<p><b>185-B</b></p> <ul style="list-style-type: none"> <li>• Bumper</li> </ul> <p><i>Fig. 3</i></p>
Figure 4	<b>SINGLE SMOOTH BORE TIPS – HANDLINE</b>	
		<p><b>187-A</b></p> <ul style="list-style-type: none"> <li>• More compact than other tips</li> </ul> <p><i>Fig. 4</i></p>
Figure 5	<b>SINGLE SMOOTH BORE TIPS – HANDLINE</b>	
		<p><b>188-A</b></p> <ul style="list-style-type: none"> <li>• Longer tip for improved stream quality</li> <li>• Bumper</li> </ul> <p><i>Fig. 5</i></p>
Figure 6	<b>SINGLE SMOOTH BORE TIPS – HANDLINE/DELUGE</b>	
		<p><b>187-CAF</b></p> <ul style="list-style-type: none"> <li>• For applying CAF</li> </ul> <p><i>Fig. 6</i></p>

Figure 7	<b>SINGLE SMOOTH BORE TIPS – DELUGE</b>	
		<p><b>181</b></p> <ul style="list-style-type: none"> <li>• Classic deluge tip</li> </ul> <p><i>Fig. 7</i></p>
Figure 8	<b>SINGLE SMOOTH BORE TIPS – DELUGE</b>	
		<p><b>181-3A</b></p> <ul style="list-style-type: none"> <li>• Built-in stream shaper</li> </ul> <p><i>Fig. 8</i></p>
Figure 9	<b>SINGLE SMOOTH BORE TIPS – DELUGE</b>	
		<p><b>181-5A</b></p> <p><i>Fig. 9</i></p>
Figure 10	<b>STACKED SMOOTH BORE TIPS – HANDLINE</b>	
		<p><b>ST-185-A</b></p> <p><i>Fig. 10</i></p>
Figure 11	<b>STACKED SMOOTH BORE TIPS – MASTER STREAM</b>	
		<p><b>ST-194</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p><i>Fig. 11</i></p>
Figure 12	<b>STACKED SMOOTH BORE TIPS – MASTER STREAM</b>	
		<p><b>ST-195</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p><i>Fig. 12</i></p>
Figure 13	<b>STACKED SMOOTH BORE TIPS – MASTER STREAM</b>	
		<p><b>ST-197-A</b></p> <ul style="list-style-type: none"> <li>• Leader threading</li> </ul> <p><i>Fig. 13</i></p>

HANDLINE NOZZLES

1-34

# HANDLINE NOZZLES



## STREAM SHAPERS

HANDLINE NOZZLES

# Stream Shapers

Used to remove turbulence from a water flow, Elkhart Brass has stream shapers available in a variety of sizes and several materials to suit a variety of situations. Our new mini stream shapers reduce bulk while still providing excellent stream. Most Elkhart stream shapers feature replaceable vanes for easy repair.



Choice of materials

British Standard Parallel Pipe (BSPP) base options available.

1-35

## STREAM SHAPERS CONFIGURATIONS



	Inlet Size	Outlet Size	MATERIAL/FINISH			DIMENSIONS		MODEL	FIGURE
			BRASS		Elk-O-Lite®	Length (Inches)	Weight (Lbs.)		
			Satin	Chrome					
1.5"	1.5"			s	2.5	0.5	281A	1	
				s	1.5	0.2	281A-Mini	1	
2.5"	2.5"	s	o		4.5	3.3	282B	2	
				s	4.5	1.5	282A	2	
				s	2.3	0.5	282A-Mini	1	
3.5"	2.5"	s	o		5.8	3.5	283B	3	
				s	5.8	1.5	283A	3	
3.5"	3.5"	s	o		3.5	3.5	284B	4	
				s	3.5	1.5	284A	4	
5"	5"			s	5.1	1.7	284-5A	5	

Key s = standard o = option

### OPTIONS THREADS

*All shapers are NHT unless otherwise specified. See index T-13 for optional base threads.*

# Foam Expansion Tubes

When greater expansion rates of foam solution are needed, a foam aeration tube can be quickly attached to many of Elkhart Brass combination fog nozzles. All tubes are Elk-O-Lite® cast finish with a nylon cord wrap.



HANDLINE NOZZLES

1-36

## TUBE CONFIGURATIONS

Compatible Nozzle Model	FOAM EXPANSION TUBE MODELS					
	246-S	247-S	246	247	XD Mid-Range	XD High-Range
SM-10F/G	•		•			
TSM-10F	•		•			
SM-20F/G	•		•			
TSM-20F	•		•			
4000-10 thru 4000-19	•		•			
4000-20 thru 4000-26		•		•		
SFL-B/G	•		•			
SFL-G/CGC/GN/N/O						
SFM/G	•		•			
TSFM	•		•			
DSM-30F/G		•		•		
SM-30F/G		•		•		
TSM-30F		•		•		
SFM-HP/G	•		•			
TSFM-HP/T	•		•			
SFM-LP/G	•		•			
TSFM-LP/T	•		•			
XD handline fog nozzle series					•	•
Foam Expansion Tube Details						
Length	15.87"	15.87"	30.25"	30.25"	16.09"	16.77"
Weight (Lbs.)	3.80	3.80	4.75	4.75	3.6	3.8
Built-In Hydroverter	•	•			•	•
Figure	1	1	2	2	3	3





# HANDLINE NOZZLES



CELLAR / DISTRIBUTOR

HANDLINE NOZZLES

1-37



CELLAR NOZZLE

SPECIFICATIONS	MODELS	
	LR	R
Base	1.5" F	2.5" F
GPM @ 100 PSI (6.89 BAR)	160 GPM (606 LPM)	350 GPM (1325 LPM)
Spray Diameter (Fog pattern)	20 Feet	55 Feet
Materials/Finish	Brass with chrome finish	



BRESNAN  
DISTRIBUTOR  
NOZZLE 193-6

SPECIFICATIONS	MODELS		
	193-6	193-6	193-9
Base	1.5" F	2.5" F	2.5" F
GPM @ 100 PSI (6.89 BAR)	140 GPM (530 LPM)	395 GPM (1495 LPM)	495 GPM (1874 LPM)
Spray Diameter (Fog pattern)	20 Feet	45 Feet	36 Feet
Materials/Finish	Brass with chrome finish		



BRESNAN  
DISTRIBUTOR  
NOZZLE 193-9



1.5" APPLICATOR FOR  
CELLAR/BRESNAN  
NOZZLE

SPECIFICATIONS	MODELS	
	A-1.5	A-2.5
Inlet	1.5" Free Swivel	2.5" Free Swivel
Outlet	1.5"	2.5"
Shut-off	Yes	No
Materials/Finish	Brass with chrome-plated finish	Elk-O-Lite® with red urethane enamel and anodized trim



### S-205-BAF

- For forestry use
- 1.0" rigid base in NHT or NPSH; 0.75" GHT available
- Available in 12 or 23 gpm (45 or 87 lpm)
- Twist shut-off
- For use with pressure of up to 600 psi (41.37 bar)
- Straight stream to fog
- Elk-O-Lite® construction



### 222-1.5

- Wat-R-Wall
- 1.5" free swivel inlet, no outlet
- 100 gpm (380 lpm) @ 100 psi (6.89 bar)
- Brass construction with chrome plating
- Length: 8"
- Width: 10"
- Height: 7.25"
- Weight: 8 lbs.



### 222-2.5

- Wat-R-Wall
- 2.5" free swivel inlet, 2.5" outlet with cap and chain
- 100 gpm (380 lpm) @ 100 psi (6.89 bar)
- Brass construction with chrome plating
- Length: 8.25"
- Width: 10"
- Height: 8.25"
- Weight: 11.5 lbs.



## HOSE/NOZZLE ACCESSORIES & STANDPIPE

### SWIVELING PLATE REDUCER - 101A

- 101A - 2.5" Female NHT x 1.5" Male NHT
- Hard anodized cast Elk-O-Lite® body
- Swivel Inlet
- Low profile knurling



### SWIVELING BELL REDUCER - 102A

- 102A - 2.5" Female NHT x 1.5" Male NHT
- Hard anodized cast Elk-O-Lite® body
- Swivel Inlet
- Low profile knurling



### INCREASER ADAPTER - 111A

- 111A - 1.5" Female NHT x 2.5" Male NHT
- Elk-O-Lite® construction with hard anodized finish
- Ideal for extend operations
- Low profile knurling



### ELKHART STANDPIPE BAG

- Custom designed specifically for standpipe operations
- Handles and strap made of seat belt webbing with seat belt buckle fasteners
- Made with durability in mind; reinforced stitching and reflective trim
- Internal and external pockets ideal for door chocks, pipe wrenches, wire brushes, adapters, etc.



### STANDPIPE KIT

- (1) 228A Pressure Gauge
- (1) 105A Highrise Elbow
- (1) X-86A Gate Valve
- (2) T-464 Spanner Wrenches
- (1) Elkhart Standpipe Bag



228A



105A



X-86A



T-464







## FLOW GAUGES & HOSE/NOZZLE ACCESSORIES

### LINE GAUGE - 228A

- Fully guarded, shock resistant luminescent gauge
- Hard anodized cast Elk-O-Lite® body
- 228A – 1.5" 0-200 gauge with 1.5" free swivel inlet, 1.5" outlet, and 6" length
- 228A – 2.5" 0-200 gauge with 2.5" free swivel inlet, 2.5" outlet, color-coded zones, and 6.9" length



### PIEZOMETER GAUGE - 227A

- Liquid-filled 0-300 psi gauge
- Elk-O-Lite® construction with hard anodized finish
- 227A – 1.5" (1.5" swivel inlet, 1.5" outlet, and 4.8" length)
- 227A – 2.5" (2.5" swivel inlet, 2.5" outlet, and 5.5" length)



### PISTOL GRIP ADAPTER - PG

- For use with 1.5", 1.75" or 2" handline nozzles
- Elk-O-Lite® construction with hard anodized finish
- PG-S (1" free swivel inlet and waterway with 1" male outlet)
- PG (1.5" free swivel inlet and waterway with 1.5" female outlet)



### DIRECT CONNECT ADAPTER - D-327

- 2.5" inlet
- 1.5" outlet
- Rigid base
- D-327 (Brass construction)
- D-327A (Elk-O-Lite® construction)



### STANDPIPE FLOWMETER - 555A

- Compact design for high-rise kit applications
- Elk-O-Lite® construction with hard anodized finish
- Dual LED display - pressure and flow
- 45° swivel elbow
- 2.5" female swivel inlet / 2.5" threaded male discharge
- 250 GPM (946 LPM) maximum flow
- 250 PSI (17.2 BAR) max operating pressure
- Weight: 5 lb. 4oz. (2.38 kg)





### FLOWMETER - EB-500-XD

- EB-500-XD Portable Flowmeter
- Includes carrying case and wall charger



### NFPA 1962 FLOW TEST KIT

- (1) EB-500-XD Portable Flowmeter
- (1) Digital Handheld Pitot Gauge
- (3) Model 228A 1.5" Line Gauges
- (3) Model 228A 2.5" Line Gauges
- (1) Carrying case



### DIGITAL HANDHELD PITOT GAUGE

- Ideal for determining nozzle pressure for smooth bore tips
- Includes carrying case

### HOSE AND LADDER STRAP - 632

- Flexible woven nylon with brass ends
- Fits ladder rungs up to 1 1/2"
- Strap width 1"
- Length: 42"
- Less than 2 lbs.



### HOSE CLAMP - 285

- For use with 1.5" – 3" hose, including double jacket 3"
- Unique jaw design allows for safer release of clamped hose
- Spring-loaded safety lock for closed position
- Detachable carrying handle
- ZA-27 aluminum construction
- Weight: 19 lbs.
- Length: 15"
- 285-MB – optional Elk-O-Lite® mounting bracket can be positioned vertically or horizontally





## WRENCHES

### T-464 – UNIVERSAL SPANNER

- Hammer head, window jimmy, gas cock slot, and hanger loop
- Fits up to a 3.5" rocker/lug pin coupling
- Elk-O-Lite® construction
- Length: 11.5"
- Weight: 0.5 lbs.



### F-464 – FOLDING SPANNER

- One end is a spanner, the other is a window jimmy
- Fits up to a 3.5" rocker/lug pin coupling
- Clip ring
- Length: 10.4" (open) or 5.9" (folded)
- F-464A – Elk-O-Lite® construction (weight: 0.4 lbs.)
- F-464B – Brass construction (weight: 1.1 lbs.)



### 454 – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 2.5" pin lug couplings
- Knurled handle
- Length: 18.0"
- Weight: 3.8 lbs.



### S-454 – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 2.5" pin lug couplings or rocker lug couplings from 2.5" to 5.0"
- Knurled handle
- Length: 16.8"
- Weight: 4.6 lbs.



### S-454-S – ADJUSTABLE HYDRANT WRENCH

- Cast manganese bronze head with stainless steel handle
- Adjustable – fits up to 1.75" pentagon nut or 1.5" square nut
- Can be used as a spanner on 4.0" or 5.0" Storz couplings or rocker lug couplings from 2.5" to 5.0"
- Knurled handle
- Length: 17.3"
- Weight: 4.9 lbs.



### 469 – SPANNER WRENCH HOLDER

- Mounts vertically or horizontally on apparatus
- Holds two T-464 universal spanners
- Snap action release
- Elk-O-Lite® construction
- Length: 7.4"
- Weight: 1 lbs.
- Wrenches optional as kit



### 470 – HYDRANT AND SPANNER WRENCH HOLDER

- Mounts vertically or horizontally on apparatus
- Holds two T-464 universal spanners plus one hydrant wrench (454, S-454, or S-454-S)
- Snap action release
- Elk-O-Lite® construction
- Length: 10.0"
- Weight: 1.5 lbs.
- Wrenches optional as kit



## HYDRANT HOUSE ACCESSORIES

### 630 – CROWBAR

- Constructed of steel and finished with red paint
- Length: Ranges from 47.5" to 49.25"
- Weight: 12 1/8 lbs.



## WASHDOWN

### XD WASHDOWN KIT

- Lightweight aluminum construction with stainless steel and brass components.
- Operated via trigger controlled variable spray pattern that instantly shuts off when trigger is released.
- Nozzle is equipped with an insulated rubber cover with red direction arrows ready to withstand the harshest use.

- Swivel bell reducer simplifies attachment - no hose twisting
- Includes rugged carrying bag with durable seat belt handles and vents to aid in drying.

### TECHNICAL SPECIFICATIONS

- XD Washdown Nozzle has a rated flow of 7 gpm @ 100 psi.
- 50' x 5/8" Garden Hose rated for pressures up to 300 psi and equipped with brass couplings
- Model 104A swivel bell reducer has a 1.5" female swivel inlet X Garden Hose Thread (GHT) outlet







## ELKHART BRASS SPECIAL TOOLS



### 71251000 – SEAT WRENCH

- For seat adjustment and/or removal
- 1" or 1.5" nozzle/ball shut-off
- 1" waterway compatible



### 71252000 – SEAT WRENCH

- For seat adjustment and/or removal
- 1.75", 2" or 2.5" nozzle/ball shut-off
- 1.375" waterway compatible



### SEAT WRENCH

- Specially designed to be used for seat removal/installation on 9786 or 9787 PIV
- 4.5" outlet compatible (01501001)
- 5" or 6" outlet compatible (01502001)



### 80642001 – WYE SEAT WRENCH

- For seat adjustment and/or removal on 1.5" ball valved wyes
- Hex end fits old style B-100, B-100L and BG-104
- Blade end fits old style B-100A, B-100-LA and BG-104A



### 80269001 – STEM WEB WRENCH

- Designed to hold the stem web (base) while removing and/or installing Master Stream heads
- Slotted end fits Select-O-Stream®, Select-O-Flow®, and Mystery® stem bases



### 80313001 – STEM WEB WRENCH

- Designed to hold stem web (base) while removing and/or installing handline nozzle stem heads
- Slotted end fits most of Elkhart's handline nozzle bases (except Select-O-Matics®)



### 71258000 – OPEN FACE 2" SPANNER WRENCH

- Seat adjustments and/or removal on 800 series and 2800 series apparatus valves
- Seat adjustments and/or removal on Elkhart's wyes, Siamese and water thieves (2.5 seat only)
- Removal and/or installation of stem heads on all Select-O-Matic® handline nozzles



### 80291001 – STEM HEAD WRENCH

- Designed to assist in removing and/or installing slotted stem heads
- Blade end fits slotted handline nozzle stems (except Select-O-Matics®)

### 71303001 – OPEN FACE 4" SPANNER WRENCH

- Removal and/or installation of stem heads on Master Stream nozzles (except X-Stream® series)
- Larger version of P/N 71258000

### 603 – TOOL KIT

- Seat wrenches (71251000 and 71252000)
- Open faced spanner wrench (71258000)
- Stem head wrenches (80291001 and 80313001)
- Wye seat wrench (80642001)

# Foam Supply Kits

Elkhart offers two supply kits. Both kits include:

- One .75" quarter-turn, inlet valve assembly with elbow
- Quick-connect female coupling
- Quick-connect plug with chain
- Brushed stainless steel escutcheon plate
- Foam pick-up hose assembly with quick-connect male coupling



KIT 1



KIT 2

(P/N 81231001) Kit 1 is a built in by-pass foam eductor to utilize an off-board foam concentrate supply — either when the on-board supply has been depleted or to allow use of another type of foam concentrate.

(P/N 81232001) Kit 2 allows the use of an on-board foam concentrate tank with a separate portable foam eductor (such as Elkhart's 240 and 241 series) attached to a pump side discharge; permits easy switching from alternative supply to the on-board supply tank and back as necessary.

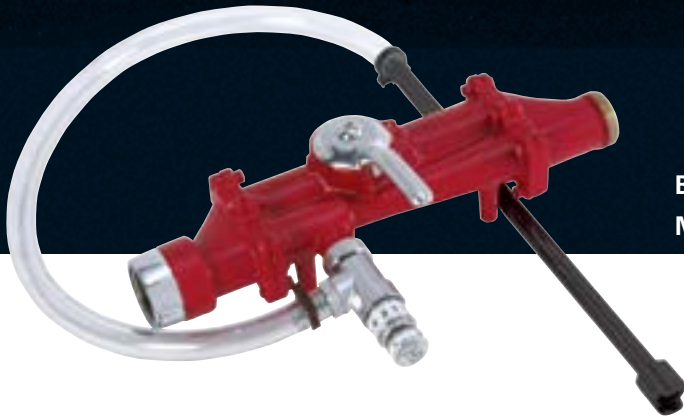


PORTABLE

## Portable

Elkhart offers an eductor for all handlines (1" through 2½") and the eductors are compatible with most foam concentrates. All Elkhart's eductors:

- Are easy hook-up / easy set-up
- Feature red urethane enamel finish
- Can be deployed in any position
- Offer a removable pick-up screen and removable metering valve
- Comes with a clear PVC pick-up hose



**BRASS BY-PASS INLINE EDUCTOR  
MO. 240**

*Fig. 1*



**BRASS INLINE EDUCTOR  
MO. 241**

*Fig. 2*



**COMPOSITE INLINE EDUCTOR  
MO. 242**

*Fig. 3*







BUILT-IN

## Built-In

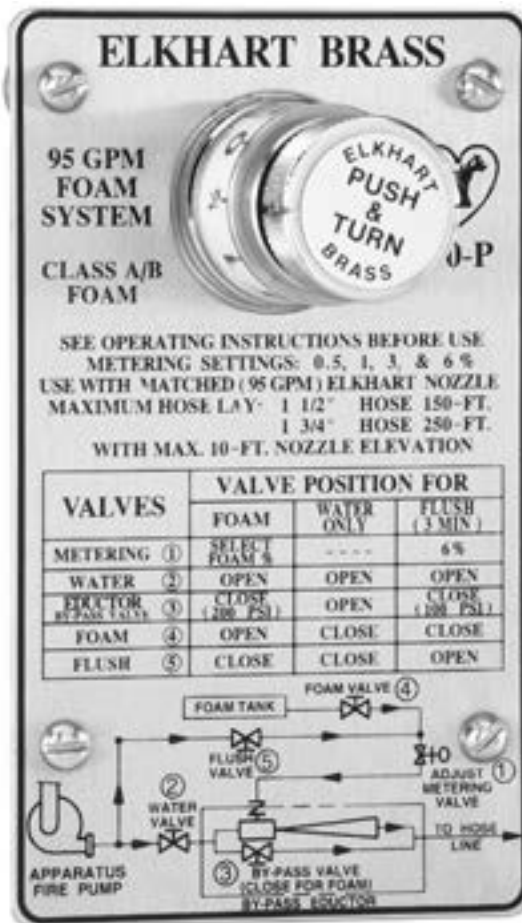
Elkhart offers built-in foam eductors for all handlines (pipe sizes of 1.5" and 2"), and the eductors are compatible with most foam concentrates. The built-in eductors come furnished with valves, fittings and accessories for installing permanently behind the panel in pump compartment.

Package includes:

- One (1) 240 by-pass eductor
- One (1) 890-01-01-D 1.00" inline valve
- Two (2) 775-15 tee handles
- Two (2) 775-11 rod guides
- One (1) "thru the panel" metering valve with 5 settings (0%, 1/2%, 1%, 3%, and 6%)
- One (1) ball check valve
- One (1) brushed stainless steel instruction plate (with hardware)

FOAM EDUCTORS

3-4

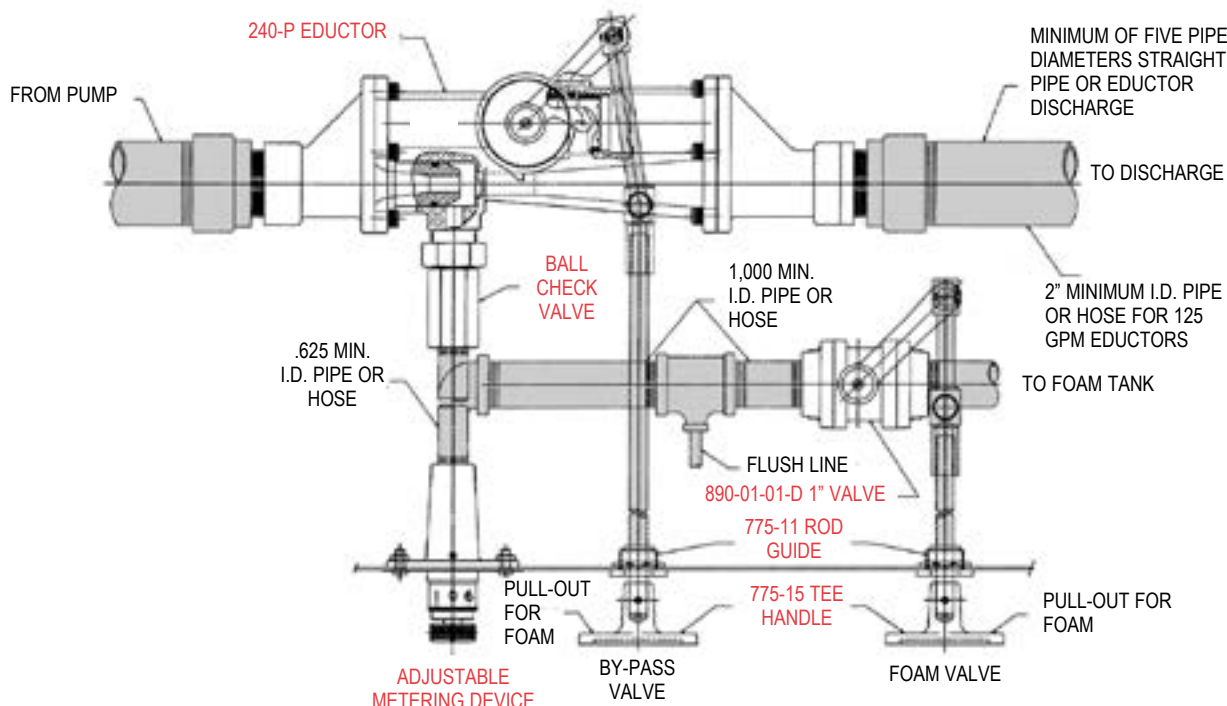




NPT INLET / OUTLET*	FLOW RATES GPM (LPM)			LENGTH (Inches)	PACKAGE WEIGHT (Lbs.)	MODEL NUMBER
	60 (227)	95 (360)	125 (473)			
2.0"	•			17.25	32.9	240-60P
s		•		17.25	32.9	240-95P
s			•	17.25	32.9	240-125P

KEY s = standard o = option  
\* Victaulic available

## Typical Installation



NOTE: Items listed in red type are included in package.

### Operating Pressures of Eductors

*These eductors are designed to achieve rated flow with an inlet pressure of 200 psi. They will operate at lower inlet pressures, but the flow rate and percentage rate will be affected.*

### Checklist if eductor fails to pick up foam

Ball check stuck	Clogged nozzle
Eductor handle not pulled out	Elbow plumbed too close to inlet/outlet
Excessive friction loss between eductor and discharge outlet	Foam handle not pulled out
	Foam tank not vented
Foam tank empty	Kink in hose
Hose lay too long	Metering valve set improperly
Metering valve clogged with dry foam	Partially closed nozzle
Mismatched nozzle	Too much nozzle elevation



WATER THIEFS

## Water Thiefs

A Water Thief allows the fire professional to extend attack lines from a main supply line. Elkhart's selection of Water Thief options includes Storz connectors which, when combined with our unique free swiveling inlets and/or outlets, help prevent accidental uncoupling of larger diameter hose for increased safety.



APPLIANCES

4-1

INLET			FLOW THROUGH OUTLETS			THIEF OUTLETS			RELIEF VALVE	MATERIAL /TRIM			DIMENSIONS		MODEL	FIGURE
2.5" F*	Storz** (Swivel)		Twist-Lock	Gear Driven		Quarter Turn	Self-Locking Quarter Turn	Gated		Satin Brass	Elk-O-Lite®		Length (Inches)	Weight (Lbs.)		
	4.0"	5.0"		2.5" M	4.0"						5.0"	Storz**				
						1.5" M (X2)	2.5" M (X2)	2.5" M (X2)								
s			s			•					•	10.5	10.8	BG-104A*	1	
s			s			•			•	•		10.5	23.5	BG-104	1	
	s	o		s	o		•		•		•	16.0	48.9	9743	2	
	s	o		s	o			•	•		•	16.0	46.9	9843	3	

KEY s = standard o = option

\* Optional pressure gauges available

\*\* Free swivel

FIGURE 1



### BG-104 / BG-104A

- Flow through outlet (2.5") has acetal ball with adjustable neoprene seat and metal twist-lock handles
- Thief outlets (1.5") have self-adjusting UHMWPE seats and flexible urethane handles
- Leather carrying handles
- Optional pressure gauge

Fig. 1

FIGURE 2



### 9743

- Flow through Storz outlet has a gear actuated quarter turn 4" ball valve with aluminum ball and UHMWPE seat
- Thief outlets are 2.5" full flow, self-locking, Hydro-Loc®, quarter turn, acetal ball valves with neoprene seats
- Adjustable relief valve (75-250 psi)

Fig. 2

FIGURE 3



### 9843

- Flow through Storz outlet is a gear actuated quarter turn 4" ball valve with aluminum ball and UHMWPE seat
- Thief outlets are 2.5" gate valved outlets
- Adjustable relief valve (75-250 psi)

Fig. 3

## OPTIONS

### HANDLES

BG-104A options include:



LONG  
(ELK-O-LITE®)



SHORT  
(ELK-O-LITE®)



MOLDED URETHANE



KNOB

### THREADS

All fireground connections are NHT T-13 for optional base threads.



PLAIN & CLAPPED SIAMESE

## Plain & Clappered Siamese

Used to combine several hoselines into one — usually in situations where seconds count — a Siamese must be both reliable and intuitive to use. Clappers allow additional lines to be added without interrupting flow. As with all Elkhart products, years of dependable service are to be expected from an Elkhart Siamese. While all the Siamese are finished in red urethane enamel, the Elk-O-Lite® versions feature hard anodized trim and the brass versions offer satin brass trim.





INLET SIZE	AVAILABLE OUTLET SIZE						TYPE			DRAIN VALVE .75"	ADJUSTABLE RELIEF VALVE	MATERIAL		DIMENSIONS		MODEL	FIGURE
	Male				Storz**		Plain	Clappered				Brass	Elk-O-Lite®	Length (Inches)	Weight (Lbs.)		
Female*	1.5"	2.5"	3.0"	4.0"	4.0"	5.0"		Single Swinging	Independent Spring Loaded								
1.5" (X2)	•	•					•				•		7.3	9.8	2	1	
2.5" (X2)		•	•	•			•				•		7.3	9.8	2	1	
		•	•	•			•				•		7.3	4.5	2A	1	
		•	•			•	•		s		•		8.8	8.6	4A	2	
		•	•				•		s		•		7.1	12.0	4	2	
						•	•		•	s	s	•	11.0	16.5	9702	3	
2.5" (X3)					•	•		•	s	s	•	13.5	19.0	9703	4		

KEY s = standard o = option

\* Swivel

\*\* Free swivel

**FIGURE 1**



**2/2A**

- Apparatus mountable

*Fig. 1*

**FIGURE 2**



**4/4A**

- Apparatus mountable
- Leather carrying handle

*Fig. 2*

**FIGURE 3**



**9702**

- Adjustable relief valve (75-250 psi)
- Locking Storz
- For ground use

*Fig. 3*

**FIGURE 4**



**9703**

- Adjustable relief valve (75-250 psi)
- Locking Storz
- For ground use

*Fig. 4*

**OPTIONS**

**THREADS**

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

**ADDITIONAL INFORMATION**

- Chrome trim available on some brass models. Please inquire with our sales staff.
- More Siamese options available. See page 4-5.





VALVED SIAMESE

APPLIANCES

## Valved Siamese





Used to combine several hoselines into one — usually at the fire scene — a Siamese must be both reliable and intuitive to use. All the Siamese are finished in red urethane enamel; the Elk-O-Lite® versions feature hard anodized trim. As with all Elkhart products, years of dependable service are to be expected from an Elkhart Siamese.

4-5



INLETS	AVAILABLE OUTLETS		TYPE		HANDLE STYLE			VALVE	MATERIAL		DIMENSIONS		MODEL	FIGURE	
	Type	Size	1/4 Turn Ball Valve	X-86A Gate Valve	Crank	Self-Locking	Twist-Lock	Adjustable Relief Valve	Brass	Elk-O-Lite®	Length (Inches)	Weight (Lbs.)			
2.5" F (X2)	Female (Swivel)	2.5"	•				•			•	9.0	12.0	B-98A	1	
		4"	•				•			•	9.0	12.5	B-98A	1	
		4.5"	•					•			•	9.0	13.0	B-98A	1
		5"	•					•			•	9.0	13.6	B-98A	1
		6"	•					•			•	9.0	14.5	B-98A	1
	Storz (Free Swivel)	4"	•				•		s		•	13.3	26.3	9722	3
		5"	•				•		s		•	13.3	26.3	9722	3
2.5" F (X3)	Female (Swivel)	2.5"	•				•			•	10.5	18.2	B-99A	2	
		4"	•				•			•	10.5	18.6	B-99A	2	
		5"	•					•			•	10.5	19.7	B-99A	2
		6"	•					•			•	10.5	20.7	B-99A	2
	Storz (Free Swivel)	4"	•				•		s		•	16.0	30.6	9723	4
		5"	•				•		s		•	16.0	30.6	9723	4

Key: s = standard o = option

<b>FIGURE 1</b>	 <p><b>B-98A</b></p> <ul style="list-style-type: none"> <li>• Apparatus mountable</li> <li>• Built-in strainer</li> <li>• Adjustable neoprene seats</li> </ul> <p><i>Fig. 1</i></p>	<b>FIGURE 2</b>	 <p><b>B-99A</b></p> <ul style="list-style-type: none"> <li>• Apparatus mountable</li> <li>• Built-in strainer</li> <li>• Adjustable neoprene seats</li> </ul> <p><i>Fig. 2</i></p>
<b>FIGURE 3</b>	 <p><b>9722</b></p> <ul style="list-style-type: none"> <li>• Full, flow Hydro-Loc® valves</li> <li>• Adjustable relief valve (75-250 psi)</li> </ul> <p><i>Fig. 3</i></p>	<b>FIGURE 4</b>	 <p><b>9723</b></p> <ul style="list-style-type: none"> <li>• Full, flow Hydro-Loc® valves</li> <li>• Adjustable relief valve (75-250 psi)</li> </ul> <p><i>Fig. 4</i></p>

### OPTIONS

#### THREADS

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

### ADDITIONAL INFORMATION

- All twist-locks feature metal knurled knobs.
- More Siamese options available. See page 4-3.



WYES

APPLIANCES

## Wyes

Used to divide a single flow, usually at a fireground scene, wyes must be both reliable and intuitive to use. Elkhart offers several customizable handle options. All Elkhart wyes give years of dependable service. When necessary, they are easy to field service and re-buildable for continued long-term use.



4-7

INLET SIZE (FEMALE)	OUTLET SIZE (MALE)					TYPE		HANDLE STYLE					MATERIAL/TRIM		DIMENSIONS		MODEL	FIGURE
	0.75"	1"	1.5"	2.5"		Plain	Ball Valved	Knob	Short Elk-O-Lite®	Long Elk-O-Lite®	Molded Urethane	Positive Twist Lock	Brass / Chrome	Elk-O-Lite® / Hard Anodized	Length (Inches)	Weight (Lbs.)		
	(x2)	(x2)	(x2)	(x2)	(x3)													
1.0" NHT		•				•			o	s	o		•		5.5	1.8	B-100-SA	2
1.5" NHT	•	•				•			o	s	o		•		5.5	1.8	B-100-SA	2
			•			•		o		s			•		5.5	8.5	B-100-L	2
2.5" NHT			•			•		o	o	s	o		•		5.5	4.5	B-100-A*	2
			•			•		o		s			•		5.5	9.0	B-100	2
			•			•					s		•		4.8	1.2	1A	3
			•			•					s		•		9.0	14.5	B-97A	1
			•			•						s	•		9.0	31.0	B-97	1
			•			•							•		7.6	2.6	1A	3
3.5" NHT			•			•					s		•		9.0	14.5	B-97A	1
			•			•					s	•			9.0	31.0	B-97	1
4.0" NHT			•			•					s		•		9.0	14.5	B-97A	1
4" STORZ			•			•					s		•		10.5	16.0	B-97A	1
4.5" NHT			•			•							•		7.9	4.8	1A	3
			•			•						•			8.8	15.8	1	3
			•			•					s		•		9.0	14.5	B-97A	1
5" NHT			•			•					s		•		9.0	31.0	B-97	1
			•			•					s		•		9.0	14.5	B-97A	1
5" STORZ			•			•					s		•		10.5	16.0	B-97A	1
5.0" NHT			•			•					s		•		9.0	14.5	B-97A	1
			•			•					s	•			9.0	31.0	B-97	1
6.0" NHT			•			•					s		•		9.0	14.5	B-97A	1
			•			•					s	•			9.0	31.0	B-97	1

KEY s = standard o = option  
 \* Optional pressure gauge available



## WYES

APPLIANCES

**FIGURE 1**

**B97/B97A (2-WAY) – POSITIVE TWIST LOCK**



*Fig. 1*

**FIGURE 2**

**B-100/B-100A**



*Fig. 2*

**FIGURE 3**







**1/1A**



*Fig. 3*

Figures depict general product types only and are not intended to be inclusive of all product features.

## OPTIONS

HANDLES					PRESSURE GAUGE	THREADS
						<i>All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.</i>
KNOB	SHORT (ELK-O-LITE®)	LONG (ELK-O-LITE®)	MOLDED URETHANE	POSITIVE TWIST LOCK		
<ul style="list-style-type: none"> <li>• Not all handles available on all models.</li> <li>• All twist-locks feature metal knurled knobs.</li> </ul>						

## PSI RATING

While all Elkhart wyes are rated to at least 200 psi (13.79 bar), the products specified below are rated to 300 psi (20.69 bar):

- B-100-A (2.5" F inlet)
- B-100-LA (1.5" F inlet)
- B-100-SA (1.0" F or 1.5" F inlet)



# Piston Intake

All piston valves include a variety of features to make your job easier: folding hand-wheel spinner, durable urethane seat, 4½" waterway, ¾" bleeder valve, adjustable relief/dump valve (75 to 250 psi)(factory set at 125 psi), and a red urethane enamel finish.

Piston intake valves are not intended for use in salt water applications.



125  
PSI

FACTORY SET



## PISTON INTAKE

HOSE CONNECTION (Inches)										TRUCK CONNECTION (Inches)			MATERIAL/ TRIM		DIMENSIONS		MODEL	FIGURE	
Female**				Male				Storz**		Female*			Brass	Elk-O-Lite®	Length	Weight			
3½	4	4½	5	3½	4	4½	5	6	4	5	4½	5	6	Chrome-plated	Hard Anodized	(Inches)	(Lbs.)		
o	o	o	o	o	o	o	o	o	o	o	o	o	s		•	11.4	22.5	9786	1

KEY s = standard o = option  
 \* Swivel  
 \*\* Free swivel

Figure 1



Fig. 1

### ADDITIONAL INFORMATION



• While many piston intake valves have the common issue of corrosion, resulting in minor leaks to complete failure — depending on service conditions and water supply; Elkhart's 9786 piston intake valve offers a solution. The replaceable anode electrolytically decomposes, while inhibiting the metal breakdown of the piston intake valve.

### THREADS

All fireground connections are NHT unless otherwise specified. See index T-13 for optional base threads.

Max. GPM	CONTROL OPTIONS							MOUNTING OPTIONS					DEGREES OF TRAVEL		CERTIFICATIONS		MATERIAL OPTIONS			MONITOR SERIES	PAGE	
	Manual			Hydraulic	Electric	Wireless (RF)	EXM2 Technology	Mobile			Stationary		Integral Ball Valve	Vertical	Horizontal	CE	FM Approved	Brass	Elk-O-Lite®			Stainless Steel
	Dual Hand-wheel	Single Hand-wheel	Tiller					Portable	Wheeled Cart	Apparatus	Fixed Installation	Elevated										
300 (1200)					•	•	•				•	•		135°	180°				•		Sidewinder® EXM2 UHP	5-14
500 (2000)					•						•			135°	334°	•			•		BrushHawk	5-16
			•											135°	360°				•		Sidewinder®	5-19
750 (3000)						•	•							43°	40°	•			•		R.A.M.® XD	5-26
						•	•							135°	350°				•		Sidewinder® EXM2	5-2
1000 (4000)	•		•											175°	360°			•			Manual Elevated	5-49
									•					50°	90°			•			Portable Carts	5-54
1250 (5000)					•	•	•							165°	350°				•		Cobra™ EXM2 7200	5-4
			•								•			95°	360°	•			•		Stinger® 2.0	5-28
	•		•											135°	360°	•			•		Vulcan™	5-31
														130°	360°	•	•	•	•		Stingray®	5-37
	•		•											135°	360°	•	•	•	•		Copperhead	5-40
			•											135°	360°	•	•	•	•		Python®	5-43
			•											130°	360°	•	•	•	•		Hydrant Mount	5-47
1500 (6000)					•	•	•							165°	350°				•		Cobra™ EXM2 7250	5-4
2000 (8000)					•	•	•							165°	350°				•		Boa 2000	5-12
														135°	347°	•		•	•		Scorpion® Electric	5-21
	•		•											135°	360°	•			•		Scorpion®	5-24
	•		•											135°	360°	•		•			Spit-Fire	5-34
2500 (10000)						•	•	•						135°	350°				•		Scorpion® EXM2	5-6
														150°	360°	•	•		•		Giant Python	5-45
3000 (12000)					•	•	•							135°	350°				•		SkyStream™ EXM2	5-8
5000 (20000)					•	•	•							135°	350°				•		Magnum™ EXM2	5-10

**DIMENSIONAL ABBREVIATIONS KEY:**

- D.L. = Discharge Length
- H.H. = Handle Height
- H.S.R. = Handle Swing Radius
- M.H. = Monitor Height
- O.H. = Overall Height
- O.L. = Overall Length
- P.H. = Pivot Height
- P.R. = Pivot Radius
- W. = Width

### ADDITIONAL INFORMATION

- Elkhart has trademarked the Elk-O-Lite® name for our proprietary aluminum alloy (cast alloy #356-A).

#### SYMBOLS



- Denotes flow or pressure rating

#### THREADS

- Throughout the monitor section, all threads – unless otherwise specified – are NHT. Additional thread information may be found on page T-13.

# MONITORS



SIDEWINDER® EXM2

MONITORS

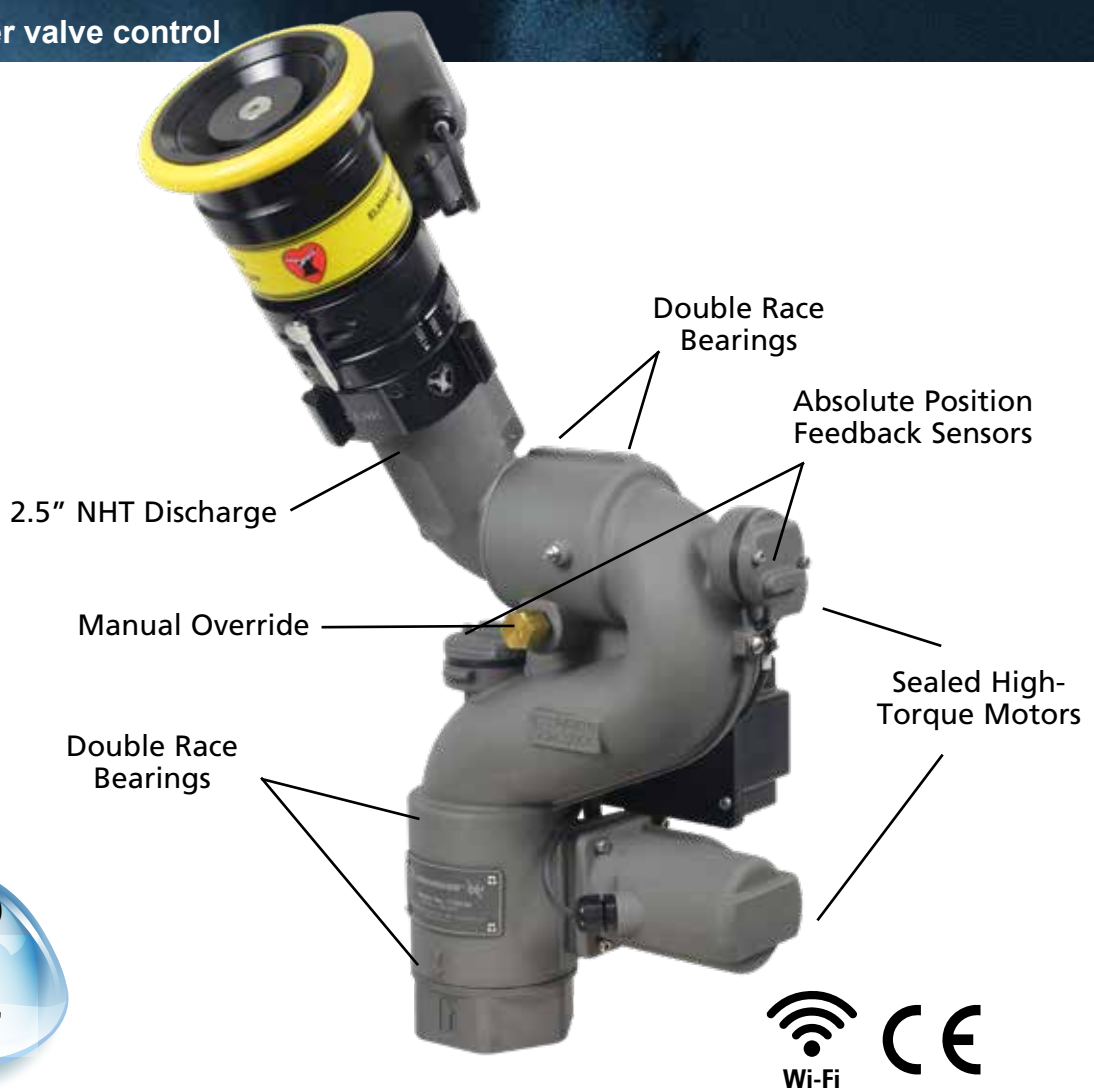
## Sidewinder® EXM<sup>2</sup>

The Sidewinder EXM2 monitor is specially designed for severe duty cycles. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in mining, construction, and wildland firefighting applications. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional WiFi device. The monitor may be powered with 12 or 24 volts.

- 750 GPM (3000 LPM) flow
- Available in standard or heavy duty motor configurations
- Sealed to NEMA 4
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow, deploy and oscillation
- Integrated water valve control

5-2

Sidewinder® EXM2  
Mo. 7100 SD  
(Nozzle sold separately)





SPECIFICATIONS	
Model:	7100SDX2/7100HDX2
Max Flow:	750 GPM (3000 LPM)
Max Pressure:	600 PSI (42 bar)
Inlet:	2.5" NPT
Outlet:	2.5" NHT
Travel:	Vertical: -45° to +90° (135°) Horizontal: L175 to R175 (350°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Stow Height	13.2" (335mm)
Weight:	18 lbs (8.2 kg)



**Sidewinder® EXM2**  
Mo. 7100 HD

### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	6000 Series Nozzle	Light Kit	Quick Connect
(2) 	(3) 	(4) 	(5) 	(6) 	(7) 	(8) 

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzles	Selectable	15/30/45/60/95/125/150/200/FLUSH GPM	6	6000-200E
		250/350/500/700/FLUSH GPM	6	6000-700E
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	Not Pictured	7095
Accessories	2.5" Quick Connect	Allows for quick removal of the monitor	8	7150
	Light Kit	Includes 3500 lumen FRC WorkPro spotlight, mounting bracket and power harness.	7	7091L
	Video Kit	Includes camera and mounting bracket, 7" color monitor and harnesses.	Not Pictured	7091V



# MONITORS



COBRA™ EXM2

## Cobra™ EXM<sup>2</sup>

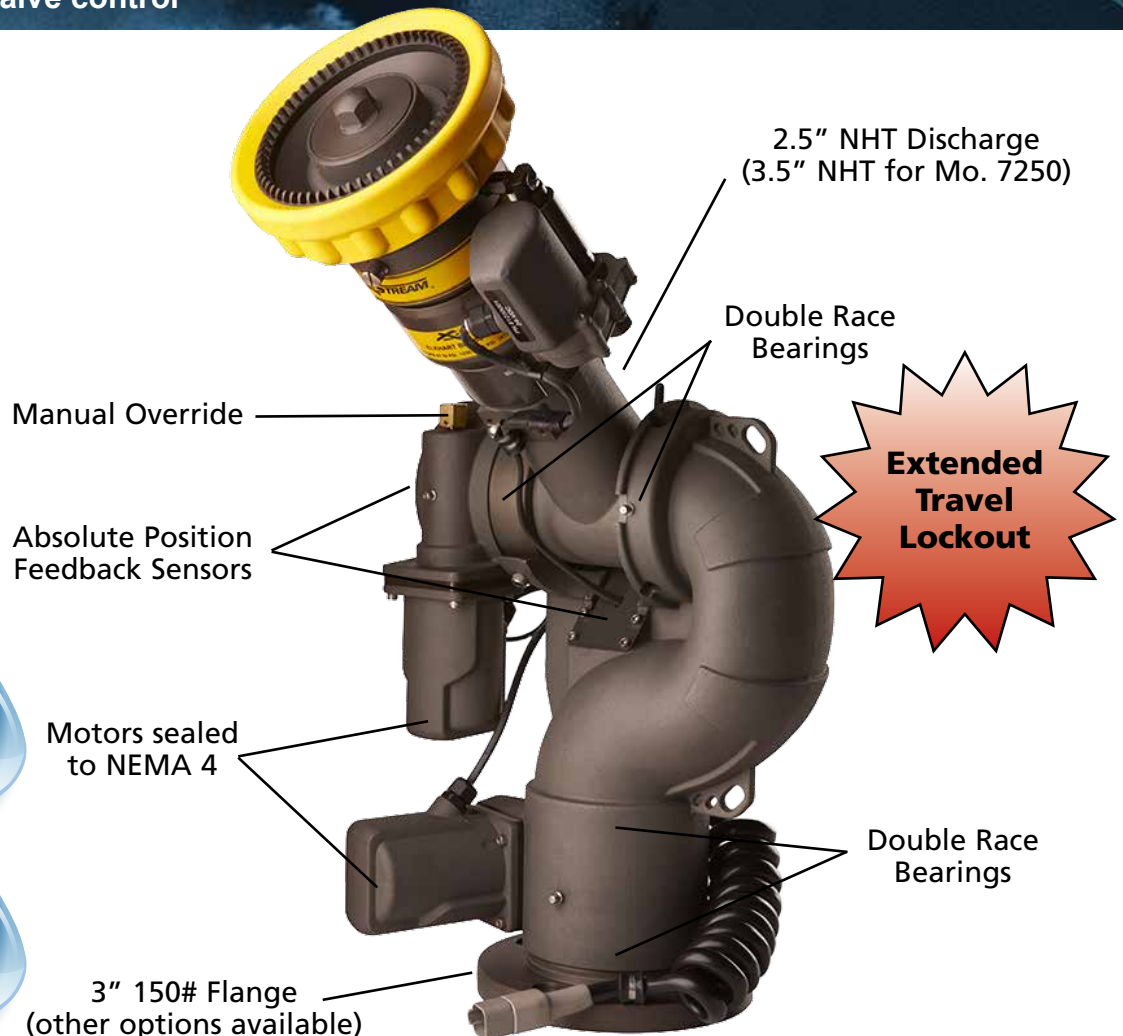
The Cobra™ EXM2 monitor is specially designed to be compact, providing a greatly reduced swing radius. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in a range of applications. The Cobra™ EXM2 utilizes a cast, vaned waterway to minimize large-scale turbulence. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional WiFi device. The monitor may be powered with 12 or 24 volts.

- Extended Travel Lockout
- 1250 or 1500 GPM flow
- Industry leading 6" swing radius
- Available in standard or heavy duty motor configurations
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

MONITORS

5-4

Cobra™ EXM2  
Mo. 7200 SD  
(Nozzle sold separately)



**1250  
GPM  
5000  
LPM**

**500  
PSI  
34.5  
bar**

**1500  
GPM  
6000  
LPM**

**500  
PSI  
34.5  
bar**

SPECIFICATIONS	
Model:	7200X2/7250X2
Max Flow:	1250 GPM (5000 LPM) / 1500 GPM (6000 LPM)
Max Pressure:	500 PSI (34.5 bar) Limited Duty
Inlet:	3"-150# Flg, 4"-150# Flg, 3" NPT, 3" BSPT, & DN80-PN16"
Outlet:	2.5" / 3.5" Male NHT & BSPP
Travel:	Vertical: -45° to +120° (165°) w/ Extended Travel Horizontal: L175 to R175 (350°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Swing Radius:	6" (152mm) 180°, 8" (203mm) 360°
Stow Height:	16" (406mm)
Weight:	31 lbs (14 kg) / 32 lbs (14.5 kg)



Cobra™ EXM2  
Mo. 7250 SD

### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	X-Stream Series Nozzle	Light Kit	EXM CAN Stow Module
(2) 	(3) 	(4) 	(5) 	(6) 	(7) 	(8) 

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzles	Selectable	2.5" Inlet: 350-1000 GPM (1325-3785 LPM)	6	SM-1000E
		2.5" Inlet: 350-1250 GPM (1325-4731 LPM)	6	SM-1250E
		3.5" Inlet: 500-1500 GPM (1893-5678 LPM)	6	SM-1500E
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	8	7095
Accessories	Light Kit	Includes 3500 lumen FRC WorkPro spotlight, mounting bracket and power harness.	7	7089L
	Video Kit	Includes camera and mounting bracket, 7" color monitor and harnesses.	Not Pictured	7089V

# MONITORS



SCORPION® EXM2

MONITORS

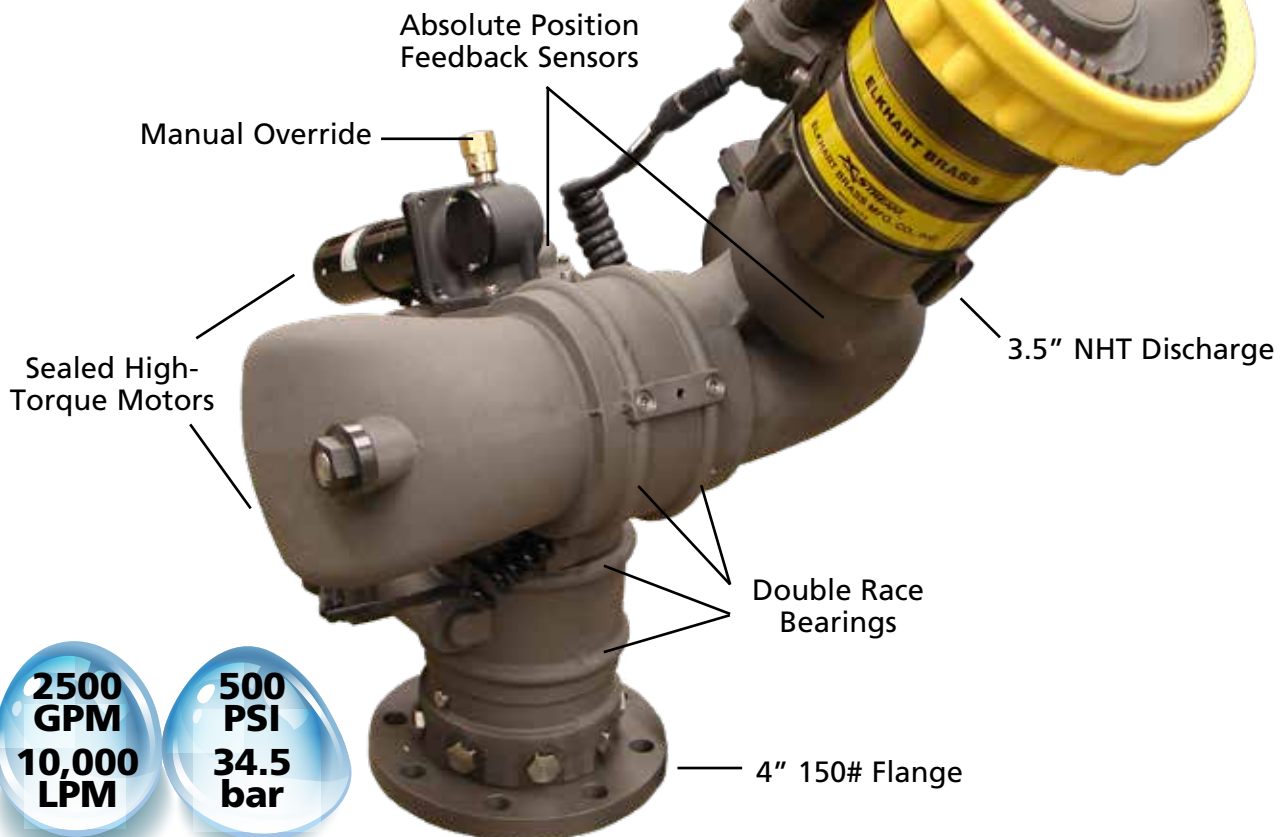
## Scorpion® EXM<sup>2</sup>

The Scorpion EXM2 monitor is specially designed for severe duty cycles. Unique waterway swivel joints utilize stainless steel thrust rods, and axially aligned thrust bearings for unprecedented durability in all firefighting applications. With its 3.5" vaned waterway, the Scorpion EXM provides large flow with minimal turbulence. The monitor can be controlled by hardwired input devices via CAN bus J1939, or by an optional Radio Frequency (RF) device. The monitor may be powered with 12 or 24 volts.

- 2500 GPM flow
- Large range of travel: -45° to +90° vertical & L175° to R175° horizontal (up to -80° or +120° vertical travel achievable with max travel of 135°)
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

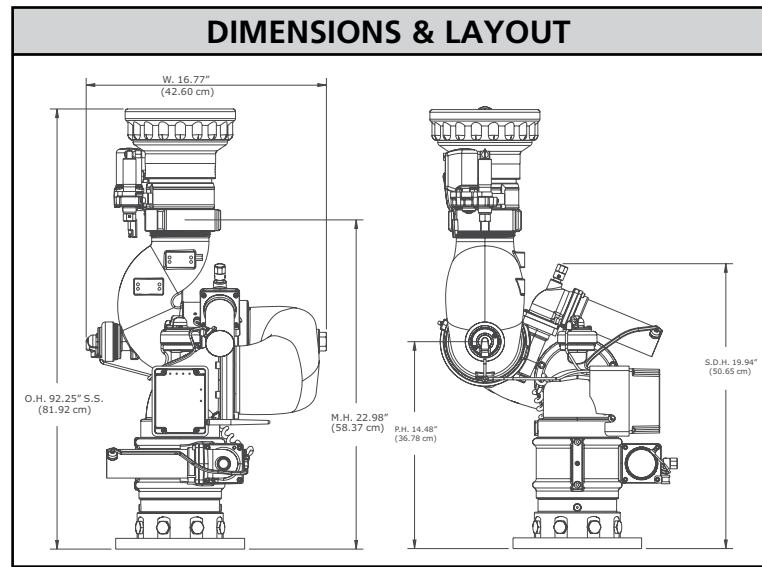
5-6

Scorpion® EXM2  
Mo. 7400  
(Nozzle sold separately)





SPECIFICATIONS	
Model:	7400X2
Max Flow:	2500 GPM (10,000 LPM)
Max Pressure:	500 PSI (34.5 bar)
Inlet:	4" ANSI, DN100
Outlet:	3.5" Male NHT & BSPP
Travel:	Vertical: -45° to +90° (135°) Horizontal: L175 to R175 (350°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Stow Height:	20" (508mm)
Weight:	52 lbs (23.6 kg)



### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	X-Stream Series Nozzle	Light Kit
(2)	(3)	(4)	(5)	(6)	(7)

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzles	X-Stream Series Automatic	3.5" Inlet: 350-1250 GPM (1325-4731 LPM)	6	SM-1250E
		3.5" Inlet: 500-2000 GPM (1893-7571 LPM)	6	SM-2000E
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	Not Pictured	7095
Accessories	Light Kit	Includes 3500 lumen FRC WorkPro spotlight, mounting bracket and power harness.	7	7092L
	Video Kit	Includes camera and mounting bracket, 7" color monitor and harnesses.	Not Pictured	7092V

# MONITORS



SKYSTREAM™ EXM2

MONITORS

## SkyStream™ EXM<sup>2</sup>

Taking the Scorpion EXM to the next level, the SkyStream EXM increases the flow capability to 3000 GPM (11355 LPM). With it's 5" NHT outlet, the SkyStream delivers best in class flow that provides a reach of up to 120 meters, making it ideal for use with fire apparatus, industrial pumper, and aerial vehicles.

- 3000 GPM flow
- Large range of travel: -45° to +90° vertical & L175° to R175° horizontal
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation
- Integrated water valve control

5-8

SkyStream™ EXM2  
Mo. 7500  
(Nozzle sold separately)

2 3/4" Smooth Bore Nozzle

Manual Override  
Handwheels

Stream Shaper

Sealed High-  
Torque Motors

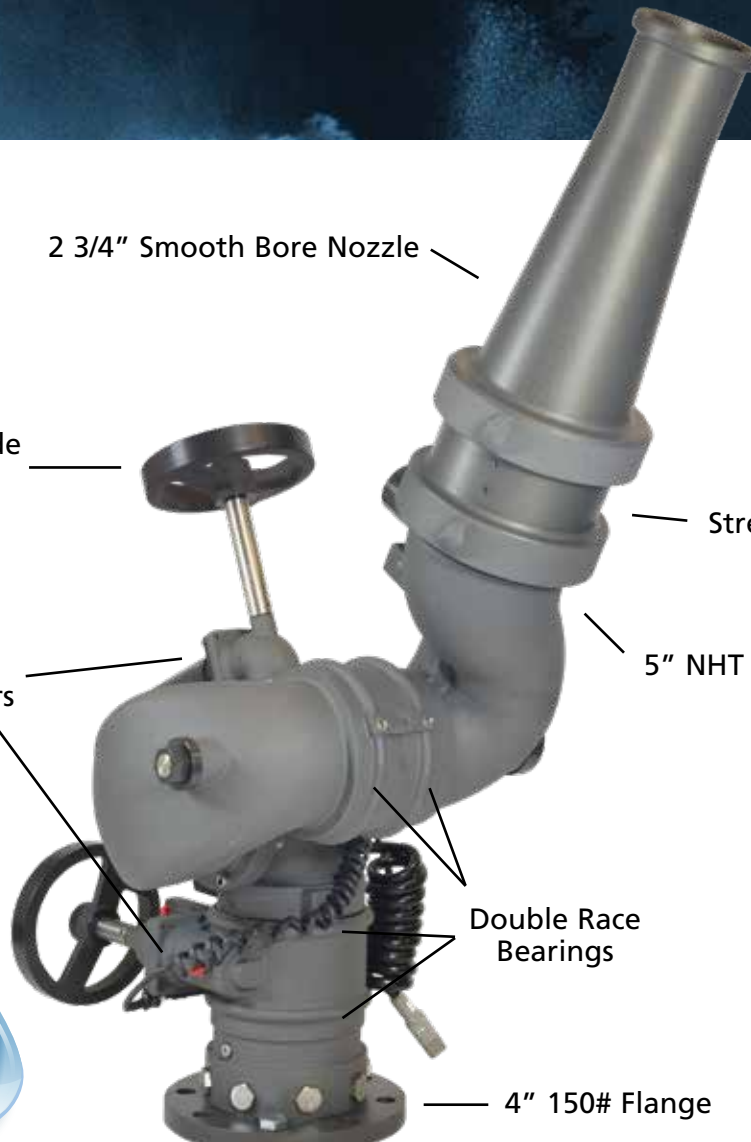
5" NHT Discharge

Double Race  
Bearings

**3000  
GPM  
12,000  
LPM**

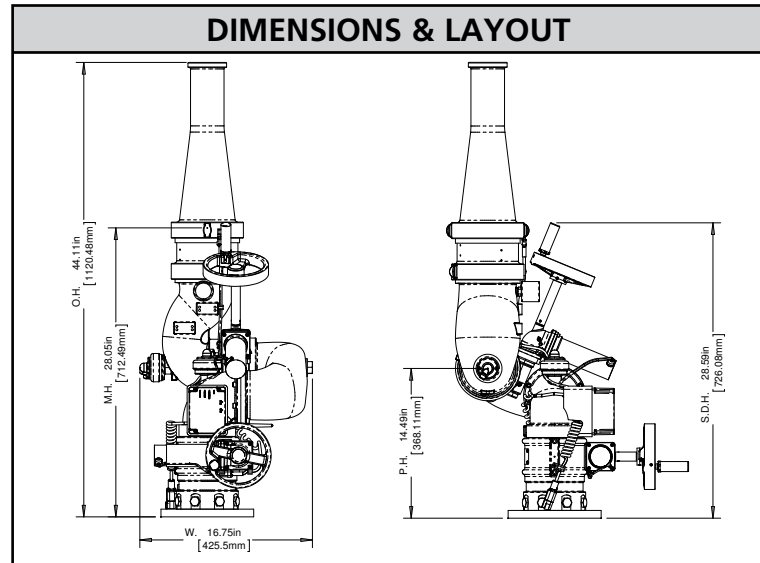
**500  
PSI  
34.5  
bar**

4" 150# Flange





SPECIFICATIONS	
Model:	7500X2
Max Flow:	3000 GPM (12,000 LPM)
Max Pressure:	500 PSI (34.5 bar)
Inlet:	4" ANSI, DN100
Outlet:	5" Male NHT & BSPP
Travel:	Vertical: -45° to +90° (135°) Horizontal: L175 to R175 (350°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Stow Height:	20" (508mm) without optional handwheel
Weight:	58 lbs (26.3 kg)



### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	Smooth Bore Nozzle	Light Kit
(2)	(3)	(4)	(5)	(6)	(7)

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Nozzle	Smooth Bore	17" long, custom 2 3/4" Smooth Bore Nozzle for use with the SkyStream™ EXM2.	6	181-5A
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	Not Pictured	7095
Accessories	Light Kit	Includes 3500 lumen FRC WorkPro spotlight, mounting bracket and power harness.	7	7092L
	Video Kit	Includes camera and mounting bracket, 7" color monitor and harnesses.	Not Pictured	7092V

# MONITORS



MAGNUM™ EXM2

MONITORS

## Magnum™ EXM<sup>2</sup>

With its large 6" inlet and unique waterway, the 7600 EXM is capable of providing 5000 GPM (18925 LPM) flow where you need it most. Designing the 7600 to be a part of the EXM2 family ensures the same level of quality and durability the industry has come to know. In addition, it has the same programmable EXM features such as 3D travel limits, keep-out zones, travel speeds, stow position, and oscillation.

- 5000 GPM flow
- Large range of travel: -60° to +90° vertical & L175° to R175° horizontal
- Patented, elliptical waterway is Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation

5-10

Magnum™ EXM  
Mo. 7600  
(Nozzle sold separately)

CM-3000E & CM-5000E  
Master Stream Nozzles

6" NHT Discharge

Sealed High-Torque Motors

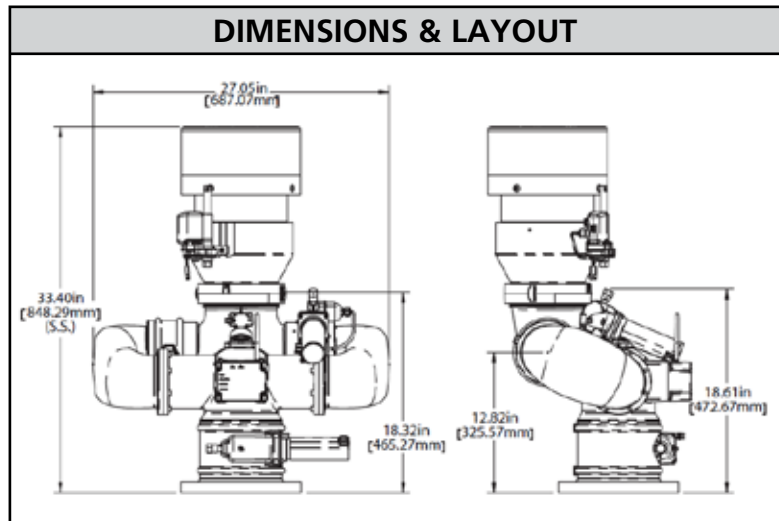
Manual Overrides

6" 150# Flange

5000  
GPM  
20,000  
LPM

200  
PSI  
13.8  
bar

SPECIFICATIONS	
Model:	7600X2
Max Flow:	5000 GPM (20,000 LPM)
Max Pressure:	200 PSI (13.8 bar)
Inlet:	6" 150# Flange
Outlet:	6" NHT
Travel:	Vertical: -60° to +90° (150°) Horizontal: L175 to R175 (350°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Stow Height:	18.6" (472mm)
Weight:	115 lbs (52 kg) including nozzle



### Recommended Products



### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzles	CM Series Fixed	6" Inlet: 3000 GPM (11355 LPM) @ 80 PSI (5.5 BAR)	6	CM-3000E
		6" Inlet: 5000 GPM (18925 LPM) @ 100 PSI (6.9 BAR)	6	CM-5000E
		6" Inlet: 3000 GPM (11355 LPM) @ 130 PSI (13.8 BAR)	6	CM-3000EX
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	8	7095
Accessories	Light Kit	Includes 3500 lumen FRC WorkPro spotlight, mounting bracket and power harness.	7	7093L
	Video Kit	Includes camera and mounting bracket, 7" color monitor and harnesses.	Not Pictured	7093V



BOA 2000

MONITORS

## BOA 2000

The efficient 4" vaned waterway and 3.5" discharge matched with an SM-2000E master stream nozzle delivers an effective stream while the power of the EXM2 provides all of the user-programmable options, including travel limits, oscillation, stow and keep-out zones.

Powered by:

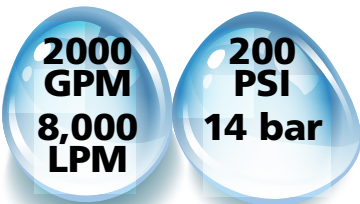


5-12

Boa 2000  
Mo. 7451  
(Nozzle sold separately)

EXM Control  
Module

3.5" NHT Discharge

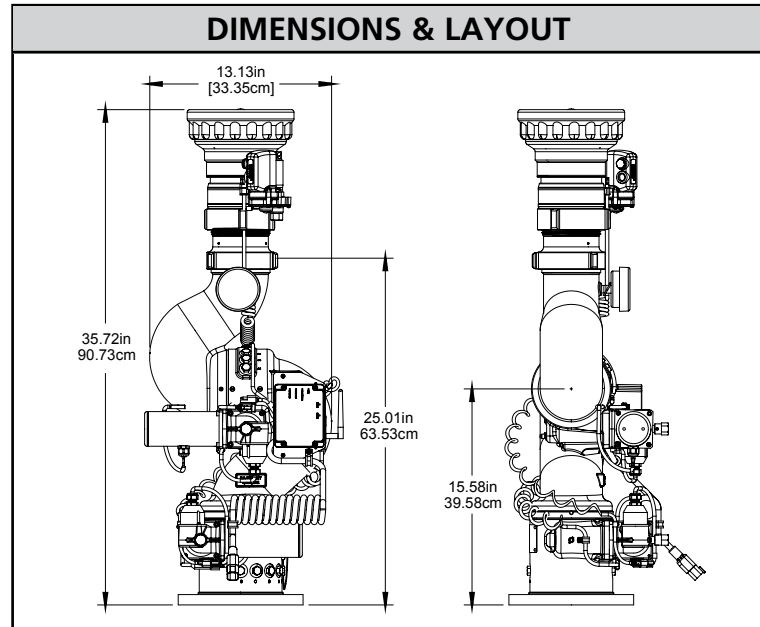


4" 150# Flange





SPECIFICATIONS	
Model	7451
Max Flow	2000 GPM (7570 LPM)
Max Pressure	200 PSI (13.8 bar)
Inlet	4" 150# Flange
Outlet	3.5" Male NHT
Travel (Factory Settings)	V: -45° to +120° (120°) H: L175 to R175 (350°)
Voltage	11-32 VDC
Control Communication	CAN bus (J1939) Digital radio frequency (unlicensed)
Material/Finish	Red urethane enamel, hard anodized Elk-O-Lite®
Stow Height	20"
Weight	47 Lbs. (21.3 kg)



### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	X-Stream Series Nozzle
(2)	(3)	(4)	(5)	(6)

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzles	X-Stream Series Automatic	3.5" Inlet: 350-1250 GPM (1325-4731 LPM)	6	SM-1250E
		3.5" Inlet: 500-2000 GPM (1893-7571 LPM)	6	SM-2000E
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	Not Pictured	7095



# MONITORS



SIDEWINDER® EXM2 UHP

## Sidewinder® EXM<sup>2</sup> UHP

Taking the Sidewinder EXM2 to the next level, Elkhart's 7161 Sidewinder EXM Ultra-High Pressure (UHP) monitor has been designed and developed to meet U.S. Air Force specifications, and is now being offered for all other UHP needs; including Aircraft Rescue & Fire Fighting (ARFF).

- 1500 PSI pressure
- Extreme Torque Motors
- Sealed to NEMA 4
- Teflon impregnated, hard anodized aluminum alloy
- Programmable travel speeds, 3D travel limits, keep out zones, stow and oscillation

5-14

Sidewinder® EXM2 UHP  
Mo. 7161  
(Nozzle sold separately)

Sealed  
High-Torque  
Motors

Manual Override

Absolute Position  
Feedback Sensors

1.5" NHT Discharge

Fully-Vaned, Cast  
Aluminum Waterway

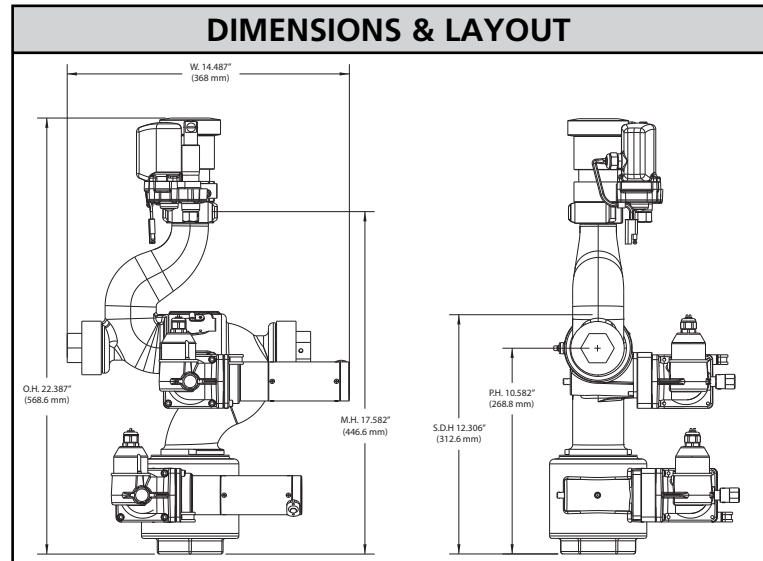
Double Race  
Bearings

2.5" NPT Base

300  
GPM  
1200  
LPM

1500  
PSI  
105  
bar

SPECIFICATIONS	
Model:	7161X2
Max Flow:	300 GPM (1200 LPM)
Max Pressure:	1500 PSI (105 bar)
Inlet:	2.5" NPT
Outlet:	1.5" NHT
Travel:	Vertical: -45° to +90° (135°) Horizontal: L90 to R90 (180°)
Voltage:	12 or 24 VDC compatible
Control:	CANbus J1939
Communication:	915 MHz RF - FCC 868 MHz RF - CE
Material/Finish:	Teflon impregnated, hard anodized Elk-O-Lite®
Stow Height:	12.3" (313 mm)
Weight:	27 lbs (12.2 kg)



### Recommended Products

Panel Mount	Handheld	Joystick	Position Display	5000-14E UHP Nozzle	EXM CAN Stow Module
(2)	(3)	(4)	(5)	(6)	(7)

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
Electric Nozzle	Fixed	60 GPM (227 LPM) with Flush	6	5000-14E UHP
Controllers	EXM2 Panel Mount Controller	Complete panel mount operator control suitable for 2-wire connection to any EXM2 enabled component.	2	7010X2
	EXM2 Wireless Handheld Controller Kit	Wireless remote control with powered docking station. Built-in charging circuit charges the remote whenever it is placed in the docking station.	3	7015X2
	EXM2 Joystick Controller	Proportional joystick with integrated CANbus communication. Hardwire joystick direct via CANbus to any EXM2 monitor.	4	7030X2
Modules	EXM Position Display Module	Monitor vertical and horizontal position display unit suitable for 2-wire connection to any EXM enabled component.	5	7051X2
	EXM CAN Stow Module	Connects to lockout devices to prevent equipment damage due to an improperly positioned monitor.	7	7095



BRUSHHAWK™

MONITORS

## BrushHawk™

- Allows for more effective use of personnel while reducing the potential risk of injury — controls can be mounted inside vehicle
- Double ball races with stainless steel bearings

5-16

(Nozzle sold separately)

12 or 24 VDC  
compatible

1.5" NHT  
discharge

Fully enclosed stainless  
steel worm gears

2" Fully-vented  
waterway

Electric motors  
feature manual  
override




1.5" or 2" inlet  
options

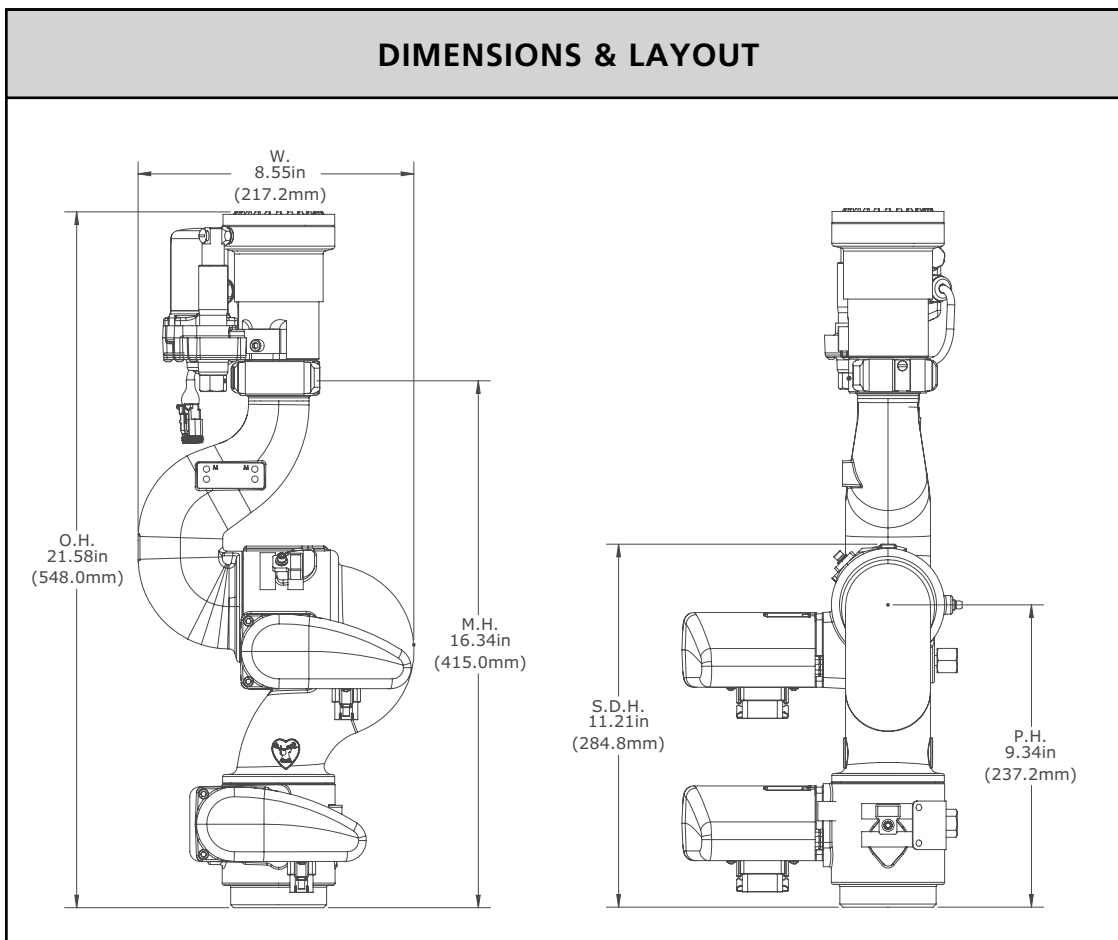
500  
GPM  
2000  
LPM

200  
PSI  
14 bar



SPECIFICATIONS	
Max Flow	500 GPM (2000 LPM)
Inlet	Size
	1.5" or 2" NPT (F)
Outlet	1.5" NHT
Controls	Electric
Material/Finish	Elk-O-Lite® with red urethane enamel
Friction Loss	26 psi at 500 gpm
	13 psi at 350 gpm
	3.9 psi at 200 gpm
Travel	V 30°/+90° or -45°/+45°
	H L90°/R90° or L175°/R175°
Weight	13.5 lbs. (6.1 kg)
Max. Power Requirement	3.0 Amps at 12V DC (24V opt)
Ratings and Certifications	CE

KEY CONFIGURATIONS (ACCESSORIES)		
 <p><b>JOYSTICK CONTROL BOX (8)</b></p>	 <p><b>VALVE (4)</b></p>	 <p><b>QUICK CONNECT (10)</b></p>



**ADDITIONAL INFORMATION**

*Technical Data on monitor performance may be found on page T-11.*





BRUSHHAWK™

## Sidewinder® Electric Selector Guide

INLET SIZE / TYPE		OUTLET SIZE	HORIZONTAL TRAVEL		BASES		CERTIFICATION	MODEL
1.5" NPT	2.0" NPT	1.5"	180°	334°	2.0" NPT	1.5" or 2" NPT Quick Connect (Elk-O-Lite®)	CE	
o	o	•	s	o	s	o	•	8495

KEY s = standard o = option

## Components & Options Chart

COMPONENTS & OPTIONS			MODEL
Electric Nozzles	Selectable Gallonage	15/30/45/60/95/125/150/200 GPM	6000-200E
	Fixed Gallonage	15, 30, 45 GPM ( <i>specify</i> )	5000-04
		60, 95, 125, 150 GPM ( <i>specify</i> )	5000-14
		175, 200, 250, 350, 400, 475 GPM ( <i>specify</i> )	5000-24
	Automatic	20 - 120 GPM	SM-10FE
Operator Controls	Joystick	With toggle for water on/off plus integrated water valve trigger	
Valve Kit 1", 2" or 2.5"	Harness - Joystick to monitor	2', 10', 15', 20', 30 or 40' length ( <i>specify</i> )	
	Harness - Joystick to valve	2', 10', 15', 20', 30 or 40' length ( <i>specify</i> )	
	Harness - Valve to monitor	2', 10', 15', 20', 30 or 40' length ( <i>specify</i> )	

## Recommended Products

5000-14 ELECTRIC NOZZLE	SM-10FE DE-ICING NOZZLE	281-A STREAM SHAPER	187CAF - SMOOTH BORE	6000-200E* ELECTRIC NOZZLE
(11)  <i>Page 6-4</i>	(13)  <i>Page 6-4</i>	 <i>Page 1-27</i>	 <i>Page 1-26</i>	(14)  <i>Page 6-9</i>

## Sidewinder®

- Compact — under 9" wide and requiring just 16" of clearance; perfect for wildland, dust abatement or small apparatus use — anywhere space is at a premium
- Designed specifically for the rigors of wildland and construction use
- 2" fully-vaned waterway
- Customizable — gpm and pressure can be customized through nozzle selection
- Fast-action tiller control
- Double-ball races with stainless steel bearings



(Nozzle sold separately)

Available in your choice of two materials – Brass or Elk-O-Lite®

360° continuous horizontal rotation

Fully-vaned 2" waterway

**500  
GPM  
2,000  
LPM**

**200  
PSI  
14 bar**



## SIDEWINDER®

### SPECIFICATIONS

Max Flow	500 GPM (2000 LPM)	
Inlet	Size	Type
	2"	NPT (F)
Outlet	1.5" NHT	
Control	Tiller	
Materials/Finishes	Brass or Elk-O-Lite® with red urethane enamel	
Friction Loss	26 psi at 500 gpm	
	14 psi at 350 gpm	
	4 psi at 200 gpm	
Travel	V -45° to +90° (135°)	
	H 360° (continuous)	
Weight	Variable (see chart for specifics)	
Ratings and Certifications		

### KEY CONFIGURATIONS (ACCESSORIES)



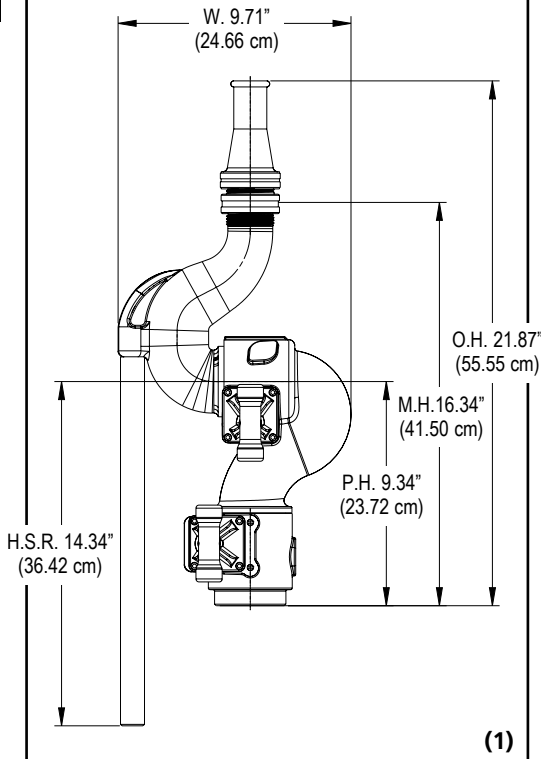
QUICK CONNECT (2)

### Sidewinder® Selector Guide

INLET SIZE/TYPE	OUTLET SIZE	MATERIALS		BASES			Weight (Lbs.)	MODEL
		Brass	Elk-O-Lite®	2" NPT	2" NPT Quick Connect (Brass)	2" NPT Quick Connect (Elk-O-Lite®)		
2.0" NPT	1.5"							
				s		o	16	8492
				s	o		48	8392
					2	2		Illustration

KEY s = standard o = option

### DIMENSIONS & LAYOUT



### Components & Options Chart

COMPONENTS & OPTIONS	
Dust Cover for Quick Connect Bases	Aluminum 3" x 3" push plug with stainless steel chain and safety tether. Used with either the Quick Connect (to keep contaminants out of the waterway and seal) or the harness connector (to keep contaminants out of the plug assembly).

### Recommended Products

TSM-HP – PHANTOM®	TSM-30F – SELECT-O-MATIC®	CHIEF XD MID-RANGE TIP
		
Page 1-15	Page 1-12	Page 1-3
185-B – SMOOTH BORE	281-A MINI – STREAM SHAPER	
		
Page 1-30	Page 1-33	

### ADDITIONAL INFORMATION

Technical Data on monitor performance may be found on page T-11.

# Scorpion® Electric

- Allows for more effective use of personnel while reducing the potential risk of injury
- Efficient at high flows — 4” fully -vaned waterway
- Extremely reliable system with built-in safety features:
  - Motors and control system components sealed to NEMA 4 rating
  - 10 vertical and 39 horizontal adjustable stop positions
  - Electronic controls with manual override
- Easy installation — monitor comes with:
  - NEMA 4 rated connectors
  - NEMA 4 rated controller
- Optional one-button automatic stow with choice of stow position (up or down) and output signal type (pulse or continuous)
- Liquid-filled pressure gauge

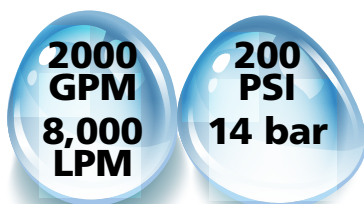


(Nozzle sold separately)

Shown with optional pressure gauge

Fully-vaned waterway for low friction loss and optimum stream quality

Lightweight Elk-O-Lite® construction







### SPECIFICATIONS

Max. GPM (LPM)	2000 (7570)	
Inlet	Size	Type
	4"	150# ANSI Flange
Outlet	3.5" NHT	
Controls	Electric	
Material/Finish	Elk-O-Lite® with red urethane enamel	
Friction Loss	39 psi at 2000 gpm	
	15 psi at 1250 gpm	
Travel	V -45° to +90° (135°)	
	H 347°	
Weight	Variable (see chart for specifics)	
Ratings and Certifications	CE	

### KEY CONFIGURATIONS (ACCESSORIES)



TOGGLE CONTROL BOX (2)

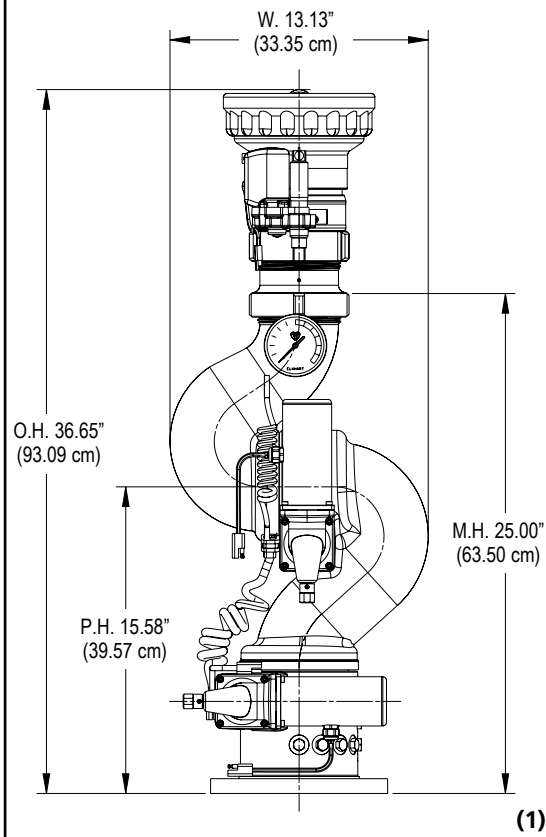
JOYSTICK CONTROL BOX (4)

PANEL MOUNT CONTROL (3)

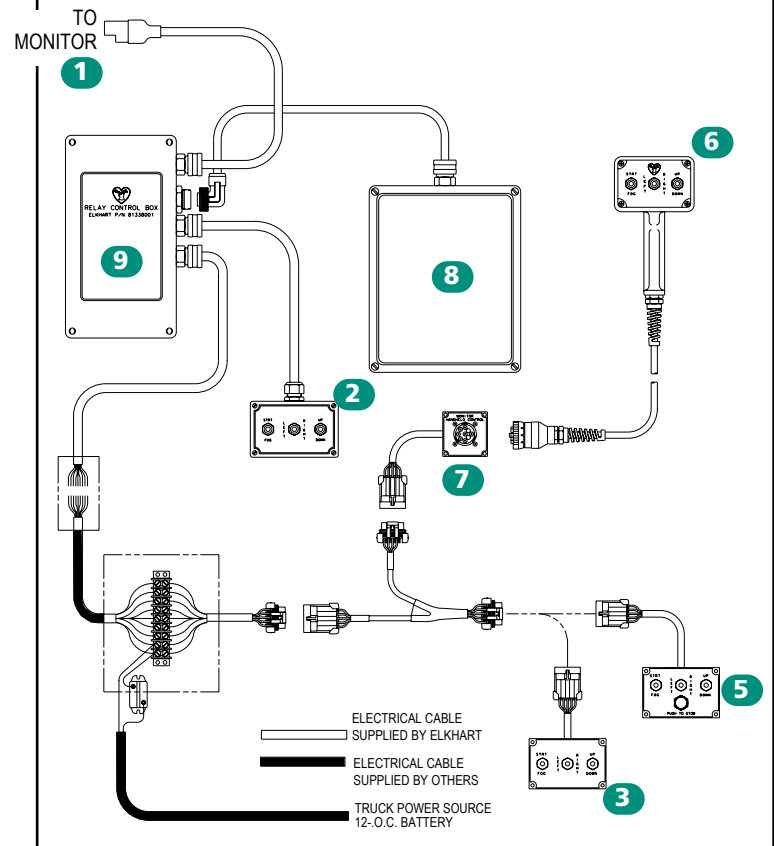
HAND HELD CONTROL (6)

HAND HELD RECEPTACLE (7)

### DIMENSIONS & LAYOUT



### CONTROL COMPONENTS CONFIGURATION



### ADDITIONAL INFORMATION

• Technical Data on monitor performance may be found on page T-11.

### Scorpion® Electric Selector Guide


INLET SIZE/ TYPE	OUTLET SIZE	CONTROL MODULE VOLTAGE	MATERIALS	CERTIFICATIONS	WEIGHT (Lbs.)	MODEL
4" 150# ANSI Flange	3.5" NHT	12V DC	Elk-O-Lite®	CE		
s	•	•	•	•	43	8294-04
			1			<i>Illustration</i>

KEY s = standard o = option

### Components & Options Chart

COMPONENTS & OPTIONS	ILLUSTRATION	MODEL	
Operator Controls	Panel Mount Controller	3	81339001
	Panel Mount Controller with Stow – adds stow button	5	81421001
	Aerial Switch Box Controller	2	81340001
	Joy Stick Controller – operator control	4	
	Hand-held remote control (includes receptacle)	6	81309001
Relay Control Box	Allows the monitor to interact with the operator control	9	81480001
Optional Control	Hand held control receptacle	7	81242001
24V Converter	24V to 12V		81093001
Auxiliary Battery Pack	Back-up to truck power (12V)	8	81466001
Companion Flange Kit	4" 150# ANSI steel flange with bolts and gaskets		81317001

### Recommended Products

SM-2000E – X-STREAM®	ST-195 – STACKED TIP	181-3 – DELUGE TIP	284A – STREAM SHAPER	84 – BUTTERFLY WAFER VALVE
				
<i>Page 6-7</i>	<i>Page 1-26</i>	<i>Page 1-26</i>	<i>Page 1-27</i>	<i>5-51</i>

### Product Highlights

The Scorpion® Electric provides two user selectable settings – stow position and stow signal output.

- The programmable options for the stow position are: 1) discharge up and 2) discharge down.
- The programmable options for stow signal output are: 1) no output until sequence is complete (for use as aerial interlock) and 2) flashing on/off signal during travel with steady signal when complete (for in-cab notification).

# MONITORS



SCORPION®

MONITORS

## Scorpion®

- Lightweight Elk-O-Lite® construction makes this monitor perfect for aerial applications
- Efficient at high flows – 4” fully vaned waterway
- Choice of manual controls
  - Dual hand-wheel style delivers:
    - Full 360° horizontal rotation while allowing the lower hand-wheel to remain stationary
    - 10 vertical and 39 horizontal adjustable stop positions
  - Tiller, in the “Big Stick®” style, allows vertical and horizontal travel to be conveniently controlled with one handle
- Low maintenance
  - Stainless steel balls in all swivel joints with grease fittings
  - Fully enclosed gearcase
  - Steel worm gears
- Liquid-filled pressure gauge

5-24

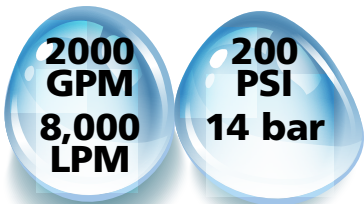
(Nozzle sold separately)

Pressure gauge

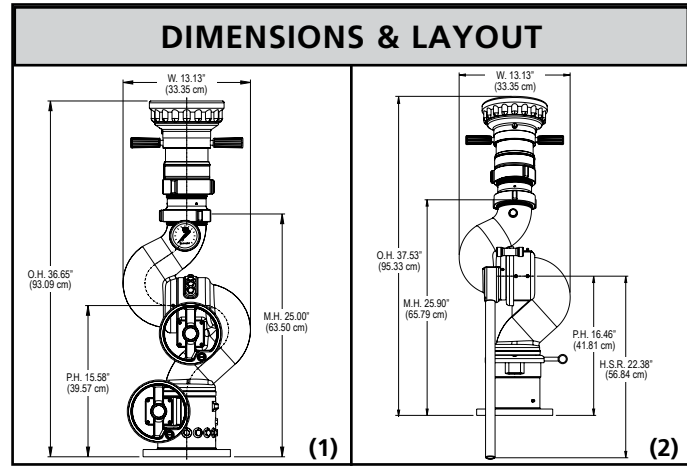
Steel worm gears

Choice of manual controls — dual hand-wheel or tiller

Fully vaned waterway



SPECIFICATIONS	
Max. GPM (LPM)	2000 (8000)
Inlet	<b>Size</b>
	<b>Type</b>
Outlet	4" 150# ANSI Flange
Controls	3.5" NHT
Material/Finish	Dual hand-wheel "Big Stick®"
Friction Loss	Elk-O-Lite® with red urethane enamel
Travel	39 psi at 2000 gpm
	15 psi at 1250 gpm
Weight	V -45° to +90° (135°)
Ratings and Certifications	H 360°
	38 Lbs.
	CE




### Scorpion® Selector Guide

INLET SIZE/TYPE	OUTLET SIZE	CONTROLS		CERTIFICATION	MODEL
		Dual Hand-wheel	Big Stick® (Tiller)		
4" 150# ANSI Flange	3.5" NHT			CE	
s	•	•	•	•	8294-02
s	•	•	•	•	8294-131
		1	2		Illustration

KEY s = standard o = option

**KEY CONFIGURATIONS (ACCESSORIES)**



(TILLER)  
"BIG STICK" (2)  
STYLE

### Components & Options Chart

COMPONENTS & OPTIONS	MODEL
Companion Flange Kits	4" 150# ANSI steel flange with bolts and gaskets 81317001

### Recommended Products

SM-2000HF – SELF-EDUCTING	SM-1250 – X-STREAM®	CSW-L – SELECT-O-FLOW®	284-A – STREAM SHAPER	181-3A – DELUGE TIP	84 – BUTTERFLY WAFER VALVE
					
6-16	Page 6-7	6-13	Page 1-27	Page 1-26	5-51

### ADDITIONAL INFORMATION

Technical Data on monitor performance may be found on page T-11.



# MONITORS



RAPID ATTACK MONITOR – R.A.M.®

MONITORS

## RAM XD™

- Easily deployed and operated by a single firefighter
- Patent pending hydraulic stability system harnesses reaction force to stabilize the monitor
- Four fold-out forged aluminum legs with carbide-tipped ground spikes extend to the largest footprint in its class for exceptional stability
- Rear ground spikes are angled to help carbide tips grip the surface
- Lock pin holds valve in a closed position to prevent accidental opening, allowing the R.A.M. to be carried attached to a charged line
- Patent pending design lowers friction loss and produces consistent stream quality in all ranges of motion
- Can be stored pre-connected
- Ergonomic U-shaped valve handle
- Attached safety strap includes storage pouch

5-26

RAM XD  
Mo. 8296  
(Nozzle sold separately)

Built-in vane for improved stream quality

Ergonomic carry handle



Rear angled carbide-tipped ground spikes

Counter balance system maintains vertical nozzle position from any angle

Carbide-tipped spring-loaded ground spikes

500  
GPM  
7,570  
LPM

150  
PSI  
14 bar







SPECIFICATIONS	
Max Flow	500 GPM (1893 LPM)
Inlet	Size
	2.5" NHT (F)
Outlet Size	2.5" NHT
Controls	Manual
Material/Finish	Elk-O-Lite® with red urethane enamel
Friction Loss	9.5 psi at 500 gpm
	5.8 psi at 400 gpm
Travel	V +14° to +51° (manned)
	V +35° to +51° (unmanned)
	H 20° in both directions (40°)
Weight	19.25 (Lbs.)
Ratings and Certifications	CE

### KEY CONFIGURATIONS (ACCESSORIES)



TRUCK STORAGE MOUNT (2)

### Recommended Products

R.A.N.™	ST-197A STACKED TIP	181-A DELUGE TIP	282-A - MINI STREAM SHAPER	HF-500A HYDRO FOAM	Oscillating R.A.N.™
(3) 	(4) 	(5) 	(6) 	(7) 	(8) 
Page 6-5	Page 1-26	Page 1-26	Page 1-27	6-16	

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
R.A.N.™ Nozzle	Fixed	500 GPM (1893 LPM)	3	3896
	Selectable	250/350/500 GPM (946/1325/1893 LPM)	3	3895
	Oscillating	500 GPM (1893 LPM)	8	3890
Self-Educting Nozzle	Fixed	500 GPM (1893 LPM) with configurable ½, 1, or 3% foam proportioning.	7	HF-500A
Smooth Bore Nozzle	Triple Stack Tip	Outlets: 1", 1 ¼", & 1 ½"	4	ST-197-A
		Outlets: 1 ¼", 1 ⅛", & 1 ½"	4	ST-197-A
	Deluge Tip	Outlet: 1 ⅛"	5	181-A
Accessories	Mini Stream Shaper	For use with R.A.M. smooth bore nozzles	6	282-A Mini
	Mounting Bracket	Truck storage mounting bracket for R.A.M.	2	8296-MB

### ADDITIONAL INFORMATION

- Technical Data on monitor performance may be found on page T-11.
- Please inquire with our sales staff for additional thread options.

### Product Highlights



#### ACTIVE SAFETY SYSTEM

Should a firefighter stumble, slip or otherwise lose his grip on the R.A.M.®, the monitor automatically raises – increasing the down force for additional stability – to prevent the monitor from moving.



STINGER® 2.0

MONITORS

## Stinger® 2.0

- Dual purpose break-apart monitor for use as a deck gun or portable monitor
- Numerous truck adapter and portable base options available to suit every need
- In portable mode, five forged aluminum legs with self-adjusting carbide-tipped ground spikes increase stability
- Rotation lock mechanism provides positive left-right lock with visual position indication
- By-passable safety stop at 35° above horizontal
- Safety strap for additional stability
- Lightweight for its class
- Most flow efficient in its class with a friction loss reducing 3<sup>3</sup>/<sub>8</sub>" vaned waterway
- Patented monitor to base latching mechanism is user-friendly and provides visual indication of status
- Fully enclosed stainless steel worm gear
- Liquid filled pressure gauge
- Two carrying handles

5-28

### Stinger 2.0

Mo. 8297

(Nozzle sold separately)

Fully enclosed stainless steel worm gear

Break-apart safety lock and handle

Quad Stacked Tips

Rotation lock lever

Stream Shaper

Latch pins with visual indicators

Safety Tie-down Strap

1250  
GPM  
5000  
LPM

200  
PSI  
14 bar

Carbide-tipped,  
spring-loaded,  
ground spikes





SPECIFICATIONS						
	Portable			Deck Mount		
Max Flow	1250 GPM (5000 LPM)			1250 GPM (5000 LPM)		
Inlets	Sizes	Types		Sizes	Types	
	2 x 2.5"	NHT	(1000 GPM)	1 x 3"	NPT	(1250 GPM)
	1 x 4.5"	NHT	(1250 GPM)	1 x 3"	150# ANSI Flange	(1250 GPM)
	1 x 4"	NHT	(1250 GPM)	2 x 2.5"	NHT	(1000 GPM)
	1 x 3.5"	NHT	(1250 GPM)			
	1 x 5.0"	Storz	(1250 GPM)			
	1 x 4.0"	Storz	(1250 GPM)			
Outlet Sizes	2.5" NHT			2.5" NHT		
Control	Single hand-wheel			Single hand-wheel		
Material/Finish	Elk-O-Lite® with red urethane enamel			Elk-O-Lite® with red urethane enamel		
Friction Loss	27 psi at 1250 gpm 16 psi at 1000 gpm			25 psi at 1250 gpm 16 psi at 1000 gpm		
Travel	V +35° to +75° (40°) H L45° to R45° (90°)			V -15° to +75° (95°) H 360° (continuous)		
Weight	29 Lbs. (with 2 x 2.5" inlets)			22 Lbs.		

### Stinger® 2.0 Selector Guide

INLET SIZES / TYPES						OUTLET SIZE	ILLUSTRATION	MODEL
SINGLE					DUAL			
3.5" NHT	4.0" NHT	4.5" NHT	4.0" STORZ	5.0" STORZ	2.5" NHT	2.5"		
o	o	o	o	o	s	•	1	8297-2.0*
o	o	o	o	o	s	•	2	8397-2.0
				6	7			Illustration

KEY s = standard o = option

\* For the Break-a-Part version, the upper and lower unit may be purchased separately.

8297 (1)



8397 (2)



### ADDITIONAL INFORMATION

- Technical Data on monitor performance may be found on page T-11.
- Please inquire with our sales staff for additional thread options.





## STINGER® 2.0

### KEY CONFIGURATIONS (ACCESSORIES)

STORAGE BRACKET (3)	ANSI FLANGE TOP MOUNT (4)	LDH INLET BASE (6)	THE PIPE™ 2.0 (9)	DECK MOUNT ADAPTER (8)	PROTECTIVE COVER (10)	NPT TOP MOUNT (5)	SIAMESE INLET BASE (7)

### Components & Options Chart

COMPONENTS & OPTIONS	ILLUSTRATION	MODEL
Truck Mount Adapters (8297-2.0)	1 x 3" NPT Female (without Flange)	5 8298 P 2.0
	1 x 3" - 150# ANSI	4 8298 F 2.0
	2 x 2.5" Deck Mount	8 8299
Storage Bracket	Truck storage mounting bracket for portable base or complete monitor	3 8297 MB
The PIPE™ (8297-2.0)	Increases the height of a deck mounted Stinger® 2.0 by 18 inches – constructed of Elk-O-Lite® (approximately 10 Lbs.)	9 8298 EX 2.0
Storage Bracket	Mounting bracket for storing the PIPE™ 2.0	8298 EX MB 2.0
Caution Light	For use with the PIPE™ – visual confirmation that The PIPE™ is attached	81258001
Anchor Kit	For portable monitors	81460001
Companion Flange Kit	3" 150# ANSI steel flange with bolts and gasket	81315001
Protective Cover	A shaped polymer covering for deck-mounted or portable mounted bases, designed to protect the swivel bearing and/or ring gear. Attached tether for securing the cover.	10

### Recommended Products

<b>SM-1000HF – SELF-EDUCTING</b>	<b>SM-1250 – X-STREAM®</b>	<b>282-A – STREAM SHAPER</b>	<b>ST-194 – QUAD STACKED TIPS</b>
6-16	Page 6-7	Page 1-27	Page 1-26

### Product Highlights

The Stinger® (8297 2.0) adds excellent value as the "break-apart" capability makes it two monitors in one – both a deck mount and a portable unit.

### Safety Aspects

Latch pin includes a visual position indicator which allows you to confirm, at a glance, that the pins are in the latched position.



Unlatched

Latched

# Vulcan™

- Efficient design creates the most cost effective monitor in its flow class
- Low friction loss due to 3 3/8" patented elliptical waterway with vaned interior
- Small footprint — less than 15" wide and requiring just 16" of clearance — makes it ideal for tight spaces
- Lightweight Elk-O-Lite® construction is compatible with aerial platform applications or any other use where a lightweight, highly flow-efficient monitor is needed
- Several control options are available, allowing customization for your needs:
  - Tiller control option allows for faster controls
  - Dual hand-wheel control features fully enclosed stainless steel worm gears and are available with either fixed or rotating base hand-wheel controls
- Liquid filled pressure gauge with bumper guard

Vulcan  
 Mo. 8500-03  
 (Nozzle sold separately)



Patented waterway

Pressure gauge with bumper guard

Choice of control type, including fixed and rotating base on the dual hand-wheel

360° continuous rotation

**1250  
GPM  
5000  
LPM**

**200  
PSI  
14 bar**





VULCAN™

MONITORS

SPECIFICATIONS			
Max Flow	1250 GPM (5000 LPM)		
Inlets	Sizes	Types	
	4"	150# ANSI Flange	
	3"	150# ANSI Flange	NPT (F)
Outlet	2.5" NHT		
Controls	Tiller		
	Dual hand-wheel – rotating base		
	Dual hand-wheel – fixed base		
Material/Finish	Elk-O-Lite® with red urethane enamel		
Friction Loss	16 psi at 1250 gpm		
	12 psi at 1000 gpm		
Travel	V -45° to +90° (135°)		
	H 360° (continuous)		
Weight	Variable (see chart for specifics)		
Ratings and Certifications	CE		



HAND WHEEL (1)





TILLER BAR (2)

## Vulcan™ Selector Guide

INLET SIZES / TYPES			OUTLET SIZE	CONTROLS			CERTIFICATION	Weight (Lbs.)	MODEL
NPT	150# ANSI Flange			Hand-wheels		Tillers			
3"	3"	4"	2.5" NHT	Fixed Base	Rotating Base	Bar	CE		
o	s	o	•			s	•	18	8500-02
o	s	o	•		s			22	8500-03
o	s	o	•	s				22	8500-03X
				3	1,4	2			<i>Illustration</i>

KEY s = standard o = option

## Recommended Products

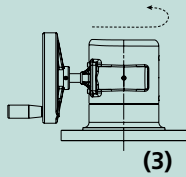
SM-1000HF – SELF-EDUCTING	SM-1250 – X-STREAM®	ST-194 – QUAD STACKED TIPS	282-A – STREAM SHAPER	84 – BUTTERFLY WAFER VALVE
				
6-16	Page 6-7	Page 1-26	Page 1-27	5-51

## Components & Options

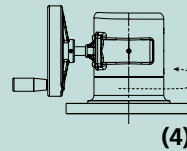
COMPONENTS & OPTIONS	ILLUSTRATION	MODEL
Companion Flange Kits	3" 150# ANSI steel flange with bolts and gaskets	81315001
	4" 150# ANSI steel flange with bolts and gaskets	81317001

## Product Highlights

The Vulcan™ offers a several control options including the dual hand-wheel which features a choice of two base configurations – fixed base or a rotating base.



- The fixed base dual hand-wheel control allows the operator to remain in a stationary position while manipulating the horizontal movement of the monitor. The fixed nature of the horizontal control can be especially beneficial when operating space is limited.



- When using the rotating base dual hand-wheel control, the operator moves in tandem with the monitor while managing the monitor's horizontal travel. The rotating base allows the operator to maintain visual contact with the monitor's water direction.

### ADDITIONAL INFORMATION

- Weights are approximate and will vary by selected inlet.
- Technical Data on monitor performance may be found on page T-11.





SPIT-FIRE

MONITORS

## Spit-Fire

- Efficient at high flows – 4” fully vaned waterway
- Choice of manual controls
  - Dual hand-wheel style delivers:
    - Full 360° horizontal rotation while allowing the lower hand-wheel to remain stationary
    - 10 vertical and 7 horizontal adjustable stop positions
  - Tiller, in the “Big Stick®” style, allows vertical and horizontal travel to be conveniently controlled with one handle
- Corrosion resistant brass construction
- Low maintenance
  - Fully enclosed gearcase
  - Steel worm gears
  - #316 stainless steel balls in all swivel joints with grease fittings
- Liquid-filled pressure gauge

5-34

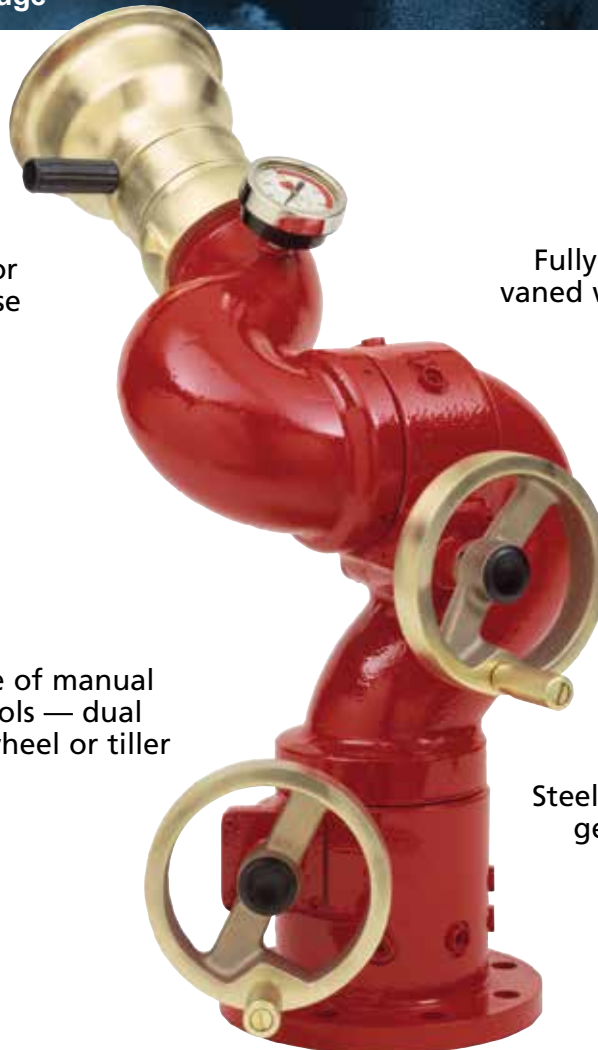
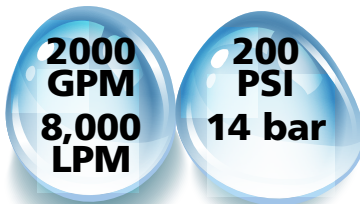
Spit-Fire  
Mo. 8394-02  
(Nozzle sold separately)

Designed for  
industrial use

Fully cast-in  
vaned waterway

Choice of manual  
controls — dual  
hand-wheel or tiller

Steel worm  
gears



SPECIFICATIONS			
Max Flow	2000 GPM (8000 LPM)		
Inlets	Size	Types	
	4"	150# ANSI Flange	NPT
Outlet Size	3.5" NHT		
Controls	Dual hand-wheel		
	"Big Stick®" Tiller		
Material/Finish	Brass with red urethane enamel		
Friction Loss	39 psi at 2000 gpm		
	15 psi at 1250 gpm		
Travel	V -45° to +90° (135°)		
	H 360°		
Weight	126 Lbs.		
Ratings and Certifications	CE, FM Approved		



HAND WHEEL (1)



TILLER (BIG STICK®) (2)



8394-04 (3)

### Spit-Fire Selector Guide

INLET SIZES/TYPES		OUTLET SIZE	CONTROLS			CERTIFICATION		MODEL
4" NPT	4" 150# ANSI Flange	3.5" NHT	Dual Hand-wheel	Tiller (Big Stick®)	Electric Operation 12V	CE	FM Approved	
o	s	•	•			•	•	8394-02
o	s	•		•		•	•	8394-121
	s	•			•			8394-04
			1	2	3			Illustration

KEY s = standard o = option

### Recommended Products (8394-021 & 8394-121)


SM-2000HF - SELF-EDUCTING	SM-2000B - SELECT-O-MATIC®	CSW-LB - SELECT-O-FLOW®	SM-2000BE - X-STREAM®
			
Page 6-16	Page 6-7	Page 6-13	Page 6-7
181-3 - DELUGE TIP	84 - BUTTERFLY WAFER VALVE	284-B STREAM SHAPER	WPO-2000
			
Page 1-26	Page 5-51	Page 1-27	Page 5-53

RECOMMENDED PRODUCTS (8394-04)		
		
TOGGLE CONTROL BOX	JOYSTICK CONTROL BOX	
		
PANEL MOUNT CONTROL	HAND HELD CONTROL	HAND HELD RECEPTACLE



## SPIT-FIRE

### Water Powered Monitor Oscillator (8394-121)

Inlet	Max Operating Pressure	Speed	Arc of Oscillation	Material	Certification	MODEL	WPO-2000
4.0"	200 PSI (14 BAR)	0-30°/sec oscillating speed range - 24°/sec max @ 100 PSI (7 BAR)	15° to 120°	316 stainless steel		WPO-2000	

#### Product Highlights

- All construction features designed to minimize maintenance needs for increased industrial reliability:*
- Corrosion resistant brass construction (85-5-5-5 "Marine Brass" available on select products)
  - Fully enclosed gearcase
  - Cast brass swivel joints
  - #316 stainless steel balls in all swivel joints
  - Grease zerks for easy lubrication

#### ADDITIONAL INFORMATION

- Technical Data on monitor performance may be found on page T-11.
- Marine Brass (85-5-5-5) construction is available. Please inquire with our sales staff.

# Stingray®

- Flow efficient 3" waterway allows for flows up to 1250 gpm
- All construction features designed to minimize maintenance needs
  - Choice of corrosion resistant brass or lightweight Elk-O-Lite® construction
  - Fully enclosed gearcase with stainless steel worm
  - Bronze balls in all swivel joints
  - Grease zerks for easy lubrication
- Flexible installation options include numerous base options and a hydrant mounting choice
- Compact size — 16" high or 21" high — is extremely versatile, allowing the monitor to serve a variety of real-world needs
- Built-in shut-off capabilities (with the Stingray® IV) from a full flow 3" ball valve



Stingray  
Mo. 8393IV  
(Nozzle sold separately)

1250  
GPM  
5000  
LPM

200  
PSI  
14 bar










STINGRAY®

MONITORS

SPECIFICATIONS			
Max Flow	1250 GPM (5000 LPM)		
Inlets	Sizes		Types
	4"	150# ANSI Flange	
	3"	150# ANSI Flange	NPT (F)
Outlet Size	2.5" NHT		
Control	Single hand-wheel		
Material/Finish	Brass or Elk-O-Lite® with red urethane enamel		
Friction Loss	27 psi at 1250 gpm		
	17 psi at 1000 gpm		
	9 psi at 750 gpm		
Travel	V -60° to +90° (150°)		
	H 360° (continuous)		
Weight	Varies (See specification chart)		
Ratings and Certifications	CE and FM Approved		

KEY CONFIGURATIONS (ACCESSORIES)		
 <b>STINGRAY® (2)</b>	 <b>PRESSURE GAUGE (3)</b>	 <b>BALL VALVE (4)</b>

## Stingray® Selector Guide

INLET SIZES / TYPES			OUTLET SIZE	VERTICAL TRAVEL		INTEGRAL COMPONENTS		MATERIALS		CERTIFICATIONS		DIMENSIONS				ILLUSTRATION	MODEL
NPT	150 # ANSI Flange		2.5"	-60° to +70°	-60° to +90°	Ball Valve	Pressure Gauge	Brass	Elk-O-Lite®	CE	FM Approved	Width (In.)	Depth (In.)	Height (In.)	Weight (Lbs.)		
3"	3"	4"		NHT	(130°)											(150°)	3"
o	o	s	•	o	s	s		•		•	•	14.75	15.75	20.375	68.25	1	8393IV
o	o	s	•	s	o		o	•		•	•	14.75	15.75	15.75	47.5	2	8393
o	o	s	•	s	o		o		•	•	•	14.75	15.75	15.75	16.0	2	8393-A
						4	3										Illustration

KEY s = standard o = option

## Recommended Products

<b>SM-1000HF – SELF-EDUCTING</b>  <i>Page 6-16</i>	<b>IMS-500 SELECT-O-STREAM®</b>  <i>Page 6-12</i>	<b>J-MYSTERY®</b>  <i>Page 6-14</i>	<b>282B STREAM SHAPER</b>  <i>Page 1-27</i>	<b>181-SMOOTH BORE</b>  <i>Page 1-26</i>	<b>SM-1250B X-STREAM®</b>  <i>Page 6-7</i>
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## Components & Options Chart

COMPONENTS & OPTIONS	ILLUSTRATION	MODEL
Companion Flange Kits	3" 150# ANSI steel flange with bolts and gaskets	81315001
	4" 150# ANSI steel flange with bolts and gaskets	81317001

## Product Highlights

*Our Stingray® IV features a 3" integral quarter-turn full flow ball valve. The integrated valve eliminates the need for a separate valve; it is both easier to install and more reliable than a separate wafer valve. The benefits of the integrated valve include:*

- 1) better total monitor efficiency as the friction loss between the traditional separate monitor and valve is reduced*
- 2) a turn-key package created by integrating the valve into the monitor*

*Highlights of the Stingray® IV valve include:*

- Hydraulically balanced acetal ball*
- Teflon impregnated seats*
- Full flow ball valve*

## ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat. Raised flanges are available with some inlet sizes. Please inquire with our sales staff.*
- Marine Brass (85-5-5-5) construction is available on some models. Please inquire with our sales staff.*
- Technical Data on monitor performance may be found on page T-11.*
- The Stingray® is also available in a portable cart version. Please see page 5-56 for details.*
- The Stingray® is also available in a hydrant mount version. Please see page 5-50 for details.*

# MONITORS



COPPERHEAD

MONITORS

## Copperhead®

- Rugged, corrosion resistant brass construction is ideal for use in refineries, chemical plants, off shore installations and for shipboard use
- Specific industrial reliability/maintenance-free features of the Copperhead IV include:
  - Sealed grease bearings with a built-in, one way, pressure release
  - Enclosed, stainless steel locking mechanism
  - Environmentally-sealed valve actuator
- Efficient design creates the most cost effective brass monitor in its flow class
- Low friction loss due to 3 $\frac{3}{8}$ " patented vaned elliptical waterway
- Small footprint — less than 15" wide and requires just 16" of clearance — makes it ideal for tight spaces

5-40

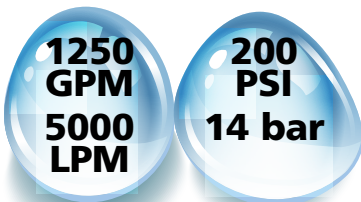
Copperhead  
Mo. 8593IV  
(Nozzle sold separately)

All surfaces sealed  
against moisture, sand,  
and particle penetration

Utilizes Unibody  
Valve technology  
with a stainless  
steel, quarter-turn,  
full-flow ball

Full 360° rotation

Single bolt change-  
out rotates valve  
handle position in  
45° increments



SPECIFICATIONS			
Max Flow	1250 GPM (5000 LPM)		
Inlets	Sizes	Types	
	4"	150# ANSI Flange	
	3"	150# ANSI Flange	NPT (F)
Outlet	2.5" NHT		
Controls	Tiller		
	Dual hand-wheel – rotating base		
	Dual hand-wheel – fixed base		
Material/Finish	Brass with red urethane enamel		
Friction Loss Copperhead	16 psi at 1250 gpm 12 psi at 1000 gpm		
Friction Loss Copperhead IV	21 psi at 1250 gpm		
	16 psi at 1000 gpm		
Travel	V -45° to +90° (135°)		
	V -49° to +86° (135°)		
	H 360° (continuous)		
Weight	Variable (see chart for specifics)		
Ratings and Certifications	CE, FM Approved		



INTEGRATED VALVE (1)



TILLER BAR (3)



HAND WHEEL (4)

### Copperhead Selector Guide

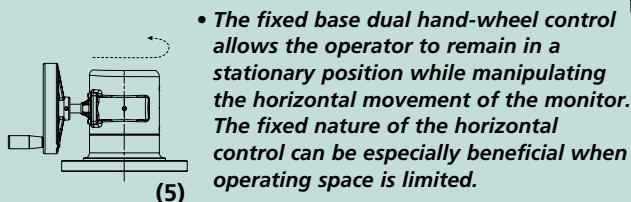
INLET SIZES / TYPES			OUTLET SIZE	CONTROLS				VERTICAL TRAVEL		INTEGRAL COMPONENTS		CERTIFICATION		MODEL		
NPT	150# ANSI Flange			Fixed Base (68 Lbs.)	Rotating Base (68 Lbs.)	Copperhead Bar (58 Lbs.)	Copperhead IV Bar (87 Lbs.)	-45 to +90° (135°)	-49 to +86° (135°)	3" Ball Valve		Pressure Gauge	CE		FM Approved	
3"	3"	4"	Hand-wheel							Tiller	Hand-wheel			Tiller		
o	s*	o*	•			s		•				o	•	•	3	8593-02
o	s	o	•		s			•				o	•	•	4,6	8593-03/ 294-11rev.06
o	s	o	•	s				•				o	•	•	4,5	8593-03X/ 294-11rev.06x
		s	•			s			•	o	s	o		•	1,2	8593IV
				4,5	4,6	3				2	1					Illustration

KEY s = standard o = option

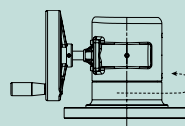
\*NOTE: 8593-02 with 3" & 4" 150# ANSI Flange are made from 85 Brass.

### PRODUCT HIGHLIGHTS

In addition to offering the only brass dual hand-wheel monitor of this size on the market, Elkhart's Copperhead monitor boasts a choice of base configurations:



- The fixed base dual hand-wheel control allows the operator to remain in a stationary position while manipulating the horizontal movement of the monitor. The fixed nature of the horizontal control can be especially beneficial when operating space is limited.











- When using the rotating base dual hand-wheel control, the operator moves in tandem with the monitor while managing the monitor's horizontal travel. The rotating base allows the operator to maintain visual contact with the monitor's stream direction.

In most industrial settings where the traditional- 294-11 is currently used, the Copperhead would be an appropriate replacement. The Copperhead offers a choice of control styles as well as higher flow capacity.






### Recommended Products

<b>SM-1000HF – SELF-EDUCTING</b>  <i>Page 6-16</i>	<b>SM-1250B – X-STREAM®</b>  <i>Page 6-7</i>	<b>CSW-LB – SELECT-O-FLOW®</b>  <i>Page 6-13</i>	<b>181 – DELUGE TIP</b>  <i>Page 1-26</i>
<b>282B – STREAM SHAPER</b>  <i>Page 1-27</i>	<b>84 – BUTTERFLY WAFFER VALVE</b>  <i>Page 5-51</i>	<b>CJB – SELECT-O-STREAM®</b>  <i>Page 6-12</i>	<b>IMS – SELECT-O-STREAM®</b>  <i>Page 6-12</i>

### Components & Options Chart

COMPONENTS & OPTIONS		ILLUSTRATION	MODEL
Companion Flange Kits	3" 150# ANSI steel flange with bolts and gaskets		81315001
	4" 150# ANSI steel flange with bolts and gaskets		81317001

### Water Powered Monitor Oscillator (8593-02)

Inlet	Max Operating Pressure	Speed	Arc of Oscillation	Material	Certification	MODEL	WPO-2000
4.0"	200 PSI (13.8 BAR)	0-30°/sec oscillating speed range - 24°/sec max @ 100 PSI (6.9 BAR)	15° to 120°	316 stainless steel		WPO-2000	

### ADDITIONAL INFORMATION

- Weights are approximate and will vary by selected inlet.
- Technical Data on monitor performance may be found on page T-11.
- LA style handles available on the Copperhead.

# Python™

- Seamless brass 2.5" waterway for flows up to 1250 gpm
- Flexible installation options
  - Extensive base options
  - Two choices in manual controls — tiller or steering wheel
  - Hydrant mounting option
- All construction features designed to minimize maintenance needs
  - Corrosion resistant brass construction
  - Cast brass swivel joints
  - Bronze balls in all swivel joints
  - Stainless steel handles
  - Grease zerks for easy lubrication
- Positive twist locks for both vertical and horizontal movement



Python  
 Mo. 299-11  
 (Nozzle sold separately)



Tiller control  
 allows fast action  
 changes

Seamless tube

**1250  
GPM**  
**5000  
LPM**

**200  
PSI**  
**14 bar**





PYTHON®

MONITORS

SPECIFICATIONS				
Max. GPM (LPM)	1250 (5000)			
Inlets	Sizes		Types	
	6"	150# ANSI Flange		
	4"	150# ANSI Flange	300# ANSI Flange	NPT (F)
	3"	150# ANSI Flange	300# ANSI Flange	NPT (F)
	2.5"	150# ANSI Flange	300# ANSI Flange	NPT (F)
Outlet Size	2.5" NHT			
Controls	Steering wheel			
	Tiller			
Material/Finish	Brass with red urethane enamel or chrome-plated			
Friction Loss	24 psi at 1250 gpm			
	18 psi at 1000 gpm			
	11 psi at 750 gpm			
Travel	V -45° to +90° (135°)			
	H 360° (continuous)			
Weight	45.00 Lbs. (See specification chart)			
Ratings and Certifications	FM Approved, CE			

KEY CONFIGURATIONS (ACCESSORIES)
 <p><b>STEERING WHEEL HANDLE (2)</b></p>
 <p><b>PRESSURE GAUGE (3)</b></p>

## Python® Selector Guide

INLETS										OUTLET SIZE	MAX. GPM (LPM)		Pressure Gauge	CONTROLS		CERT.	DIMENSIONS				FINISHES		MODEL	
SIZES / TYPES (INCHES)										SIZE / TYPE (IN.)	1250 (4732)	750 (2839)		Steering Wheel	Tiller Bar	CE	FM Approved	Width (in.)	Depth (in.)	Height (in.)	Weight (Lbs.)	Red Urethane		Chrome-plated
NPT			150# ANSI FLANGE			300# ANSI FLANGE			NHT															
2.5	3	4	2.5	3	4	2.5	3	4	2.5			0	0	s	•	•	18.0	31.5	17.5	45.0	•		299-11	
o	o	o	o	o	s	o	o	o	•	•		3	2	1									<i>Illustration</i>	

KEY s = standard o = option \* Swivel

## Recommended Products

SM-1250B – X-STREAM®	CJN-B – SELECT-O-STREAM®	SM-1000HF – SELF-EDUCTING	282B – STREAM SHAPER	181 – DELUGE TIP	84 – BUTTERFLY WATER VALVE
					
Page 6-7	Page 6-12	Page 6-16	Page 1-27	Page 1-26	Page 5-51

## Components & Options Chart

COMPONENTS & OPTIONS		MODEL
Companion Flange Kits	3" 150# ANSI steel flange includes bolts and gaskets	81315001
	4" 150# ANSI steel flange includes bolts and gaskets	81317001
Drain Valve	Automatic ball drip drain valve	702

### ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat faced. Raised face flanges are available with some inlet sizes. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.
- The Python® is also available in a hydrant mount version. Please see page 5-50 for details.

# Giant Python™

- 2500 gpm flow capacity — 3.5" waterway with seamless tube construction
- Double hand-wheel control for ease of operation and positive lock in any position
- All construction features designed to minimize maintenance needs
  - #304 stainless steel construction
  - Cast stainless swivel joints
  - Stainless steel balls in all swivel joints
  - Hand-wheel driven worm gears
- Liquid-filled pressure gauge



Giant Python  
Mo. 299-20  
(Nozzle sold separately)

Red urethane  
finish

3.5" flow-efficient  
waterway

Hand-wheel rotates with  
monitor for continuous  
360° horizontal travel

2500  
GPM  
10,000  
LPM

200  
PSI  
14 bar













## GIANT PYTHON®

### Giant Python® Selector Guide

INLET SIZES / TYPES								OUTLET SIZE	CERTIFICATIONS		MODEL
NPT		150# ANSI Flange			300# ANSI Flange			3.5"	CE	FM Approved	
3"	4"	3"	4"	6"	3"	4"	6"				
o	o	o	s	o	o	o	o	•	•	•	299-20
			1								<i>Illustration</i>

KEY s = standard o = option

### Recommended Products

CJK – MYSTERY®	SM-2000B – X-STREAM®	SM-2000HF – SELF-EDUCTING	181-3 – DELUGE TIP	284B – STREAM SHAPER	84 – BUTTERFLY WAFER VALVE
					
<i>Page 6-14</i>	<i>Page 6-7</i>	<i>Page 6-16</i>	<i>Page 1-26</i>	<i>Page 1-27</i>	<i>Page 5-51</i>

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### Components & Options Chart

COMPONENTS & OPTIONS	ILLUSTRATION	MODEL
Companion Flange Kits	3" 150# ANSI steel flange with bolts and gaskets	81315001
	4" 150# ANSI steel flange with bolts and gaskets	81317001

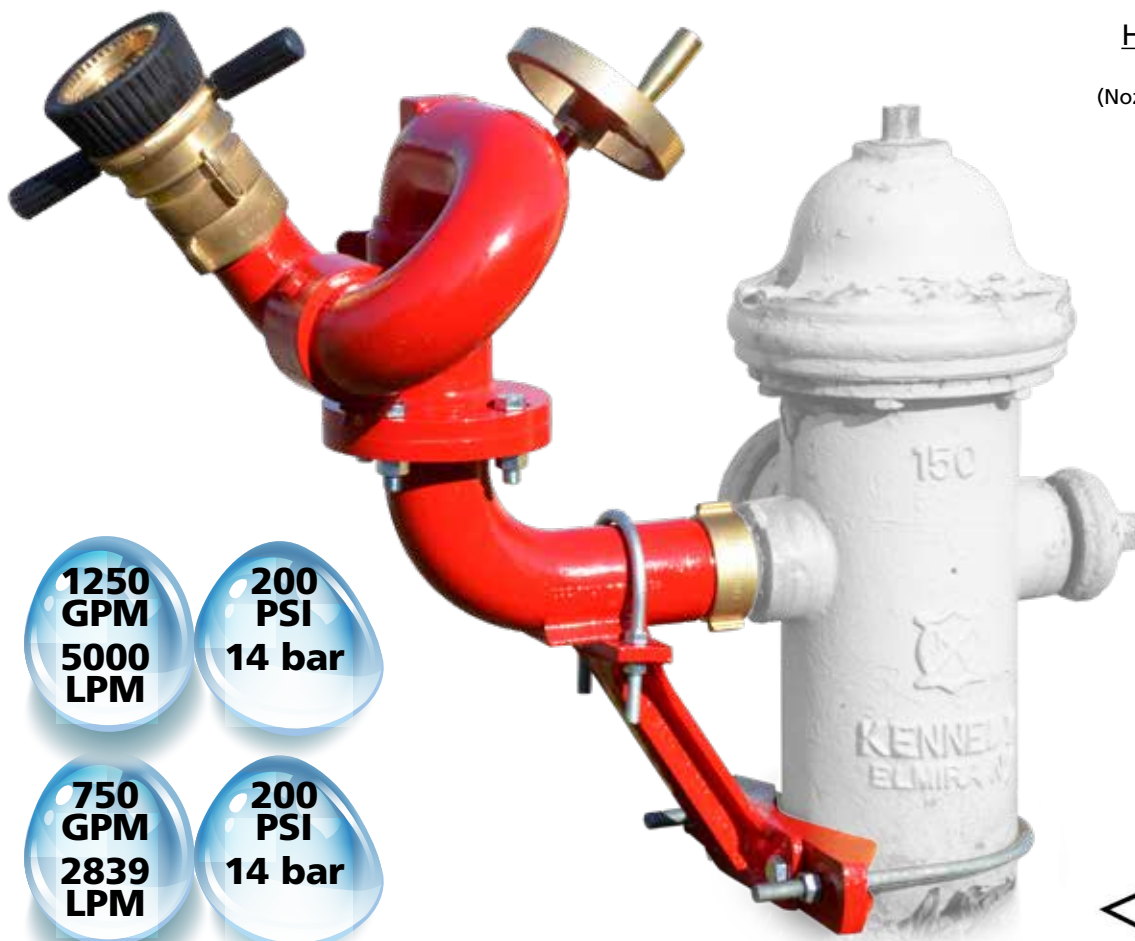
SPECIFICATIONS				
Max Flow	2500 GPM (10,000 LPM)			
Inlets	Sizes		Types	
	6"	150# ANSI Flange	300# ANSI Flange	
	4"	150# ANSI Flange	300# ANSI Flange	NPT (F)
	3"	150# ANSI Flange	300# ANSI Flange	NPT (F)
Outlet Size	3.5" NHT			
Controls	Dual hand-wheel			
Material/Finish	Stainless steel with red urethane enamel and brass trim			
Friction Loss	18 psi at 2500 gpm			
	6 psi at 1250 gpm			
Travel	V -60° to +90° (150°)			
	H 360° (continuous)			
Weight	126.00 Lbs.			
Ratings and Certifications	FM Approved, CE			

### ADDITIONAL INFORMATION

- All flanges specified with the monitor are flat faced. Raised face flanges are available with some inlet sizes. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.

# Hydrant Mount

- Several available size and flow options
- All construction features designed to minimize maintenance needs
  - Corrosion resistant brass construction
  - Bronze balls in all swivel joints
  - Grease zerks for easy lubrication
- Two choices in manual controls — tiller or hand-wheel



Hydrant Mount  
Mo. 8393H  
(Nozzle sold separately)

<b>1250 GPM 5000 LPM</b>	<b>200 PSI 14 bar</b>
<b>750 GPM 2839 LPM</b>	<b>200 PSI 14 bar</b>





## HYDRANT MOUNT

SPECIFICATIONS		
	8393H	299-11H
Max Flow	1250 GPM (5000 LPM)	750 GPM (2839 LPM)
Inlets	2.5" NHT (F)	2.5" NHT (F)
Outlet Size	2.5" NHT	2.5" NHT
Controls	Single hand-wheel	
		Tiller
Material/Finish	Brass with red urethane enamel	Brass with red urethane enamel
	27 psi at 1250 gpm	11 psi at 750 gpm
Friction Loss	17 psi at 1000 gpm	
	9 psi at 750 gpm	
Travel	V -60° to +70° (130°)	V -60° to +70° (130°)
	H 360° (continuous)	H 360° (continuous)
Weight Varies	85 lbs.	61 lbs
Ratings and Certifications	CE and FM Approved	CE and FM Approved

### ADDITIONAL INFORMATION

- For 8393H, the hydrant connection fits up to a 10.875" hydrant barrel and includes U-bolts, with nuts, in 10" and 8" sizes
- On all other hydrant mount monitors, the hydrant swivel connection attached to 2.5" hydrant nipple (includes elbow assembly and support rods)

### Hydrant Mount Selector Guide

INLET	OUTLET	MAX. GPM (LPM)		VERTICAL TRAVEL	CONTROLS				CONNECTION TYPE	PRESSURE GAUGE	CERTIFICATIONS		DIMENSIONS			ILLUSTRATION	MODEL
		1250 (4732)	750 (2839)		-60° to +70° (130)	Hand wheel	Tiller Bar	Nipple			Swivel	CE	FM Approved	Width (In.)	Height (In.)		
NHT 2.5"	NHT 2.5"	1250 (4732)	750 (2839)	-60° to +70° (130)	Hand wheel	Tiller Bar	Nipple	Swivel	Pressure Gauge	CE	FM Approved	Width (In.)	Height (In.)	Weight (Lb.)	ILLUSTRATION	MODEL	
S	•	•	•	S	•	•	•	•	0	•	•	14.75	37.5	85.0	2	8393H	
S	•	•	•	S	•	•	•	•	0	•	•	17.75	25.5	61	3	299-11H	
									3							Illustration	

### Recommended Products

HF-500 – HYDRO-FOAM	CJN-B – SELECT-O-STREAM®	J – MYSTERY®	181 – DELUGE TIP	282B – STREAM SHAPER
				
Page 6-16	Page 6-12	Page 6-14	Page 1-26	Page 1-27

### KEY CONFIGURATIONS (ACCESSORIES)

		
STINGRAY® (2)	PYTHON (3)	PRESSURE GAUGE (3)

# Manual Elevated

- Free standing or riser mounted
- Designed to have the horizontal and vertical movement controlled at ground level
- Control options:
  - Lever/tiller
  - Gear Driven



Manual Elevated  
Mo. 8394-02RC  
(Nozzle sold separately)

1000  
GPM  
4,000  
LPM

200  
PSI  
14 bar





## MANUAL ELEVATED

SPECIFICATIONS				
	299-11EL*		8394-02RC	
Max Flow	750		1000	
Inlet	Sizes / Types		Size / Type	
	6"	150# ANSI Flange		
	4"	150# ANSI Flange	4"	150# ANSI Flange
Outlet	2.5" NHT		3.5" NHT	
Controls	Tiller with locks		Dual hand-wheel	
Material/Finish	Brass and steel with red urethane enamel		Brass with red urethane enamel	
Friction Loss (excludes head loss)	13 psi at 750 gpm		10 psi at 1000 gpm	
	8 psi at 500 gpm		6 psi at 750 gpm	
Travel	V -37° to +45° (78°)		V -45° to +90° (135°)	
	H 360° (continuous)		H 360° (continuous)	
Elevation Height	Min. 10'		Min. 0'	
	Max. 40'		Max. 34'	
Weight	300 Lbs.		140 Lbs.	

\*All data supplied for 299-11EL assumes 10' riser pipe. Other lengths will change the data.

### 299-11EL



(1)

- Completely free standing
- Tiller handle operation for quick, easy stream directing
- Tubular steel horizontal drive sleeve for continuous 360° rotation
- Horizontal and vertical travel locks
- Available in standard heights from 10' to 40'

### 8394-02RC



(2)

- Base and upper that can be fabricated to any height (up to 34') with customer supplied intermediate pipe
- Lower base unit features chrome-plated brass worm gear and drive shaft
- Upper monitor unit features hardened steel worm gear, fully enclosed gear housing and stainless steel worm shaft
- 9" chrome hand-wheels
- Grease zerks furnished at swivel joints for easy lubrication
- Intermediate pipe attaches to upper monitor and base sections via NPT threads
- Intermediate pipe (4" schedule 40) and vertical drive rod (5/8") not included

### Elevated Monitor Selector Guide

INLET SIZES		OUTLET SIZES		CONTROLS		Galvanized Waterway	Riser Supplies	ELEVATION HEIGHT		Max Flow Limit @ Max Height	ILLUSTRATION	MODEL
4"	6"	2.5"	3.5"	Dual Hand-wheel	Tiller Handle			Min.	Max.			
s	o	•			•	o	o	10'	40'	750 (2839)	1	299-11EL*
s			•	•				0'	34'	500 (1893)	2	8394-02RC

KEY: s = standard o = option  
Specify length when ordering.  
\* Per client installation

### Components & Options Chart

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
<b>Support Bearing</b>	8394-02RC	For monitor support when overall height exceeds monitor limits (for use with 500 GPM flowed at 20'; 750 GPM flowed at 15'; or 1000 GPM flowed at 10')	4	295
<b>External Supply Items</b>				
<b>Riser Pipe</b>	8394-02RC	4" intermediate riser pipe		
<b>Drive Rod</b>	8394-02RC	0.625" brass or stainless steel drive rod for linking the vertical drive unit to the monitor		

### Recommended Products

CJ-B-RC – SELECT-O-STREAM®	283B – STREAM SHAPER	181 – DELUGE TIP
		
Page 6-12	Page 1-27	Page 1-26

### ADDITIONAL INFORMATION

- Marine Brass (85-5-5-5) construction is available on some models. Please inquire with our sales staff.
- Other bases may be available on some models. Please inquire with our sales staff.
- Technical Data on monitor performance may be found on page T-11.
- Nozzle Reaction Force x Height (in feet) of monitor = torque (Foot Pounds) at base of monitor.

### OPTIONS

#### 295 SUPPORT BEARING



(4)

- Designed so that 4" waterway and vertical control rod can rotate inside of bearing. 3" NPT female for attaching to adjacent support
- Finish: red urethane enamel
- Weight: 31.5 lbs.

#### 90° INTAKE BASE



- Used with 299-11EL & 8394-02RC monitors
- Carbon steel construction
- 6"-150# & 6"-300# flange inlet
- 4"-150#, 6"-150#, & 6"-300# flange outlet
- Full 4" waterway
- Red epoxy finish



## ACCESSORIES

### The Extender - 8598

For use with the Elkhart monitors and a range of other compact monitors, the Extender is designed to provide better clearance for the monitor which allows for a wider coverage range and addresses firefighter safety concerns. It is compatible with monitor and nozzle flow ratings of 1250 gpm (max) with 100 psi nozzle pressure (max inlet pressure rating of 200 psi).

The Extender deploys in 10 seconds and extends a full 18 inches. The Extender is designed to flow in both the full up and full down positions.

Safety features of the Extender include:

- An in-cab warning light to alert the driver to incomplete retraction
- Pressure switch to limit the movement when internal pressure exceeds 10 psi

The Extender is electrically actuated through a pump panel pushbutton control pad with actuator rated for a static load of up to 2500 pounds. The chassis 12VDC electrical system provides power for the Extender.

The Extender is compliant with applicable 2003 NFPA #1901 standards.

All mounting and wiring materials are included in the Extender package.

The Extender 8598 is available with the following options:

#### Inlet / Outlet

- 3" VIC / 3" MNPT
- 3" MNPT / 3" MNPT
- 3" VIC / 3" 150# Flange
- 3" MNPT / 3" 150# Flange
- 3" 150# Flange / 3" 150# Flange

Available with secondary panel mounted controller.



### Manual Extender - 8599

18" or 12" rise

- Raises stream to prevent damage to apparatus equipment
- More ergonomic operating position
- Monitor operates in raised or lowered position
- Full 360° rotation in either position
- Automatically locks in up/down position
- Cannot be accidentally unlocked
- Prevents unintended extension under pressure
- Prevents unintended collapse when extended
- Built-in sensor for connection to cab indicator light

Notifies personnel when Extender is NOT stowed and locked

3" waterway

- Capable of 1250 gpm flow

Mounting Options

- Dual bracket
- Plate and saddle bracket

Inlet Options

- 3" Victaulic
- 3" NPT
- 3" NPT with 150# Flange\*

Outlet Options

- 3" NPT
- 3" NPT with 150# Flange\*

\*Flange sold separately



Easy-op latch design for safe and simple deployment

### Components & Options Chart

COMPONENTS & OPTIONS		MODEL
Controller	with position indicator	81385101
	for primary/secondary controller	36824000
Harnesses	for caution lamp	36838000
	to chassis (power)	36792000
	5 ft	36793300
Power Sensor	10 ft	36793500
Harness (select one)	20 ft	36793600
	30 ft	36793700
	40 ft	36793800

### Packages

Available in 18" or 12" rise

PACKAGE 1	PACKAGE 2	
Manual Extender	Manual Extender	
3" MNPT inlet	3" Victaulic inlet	
3" MNPT outlet	3" MNPT outlet	
Dual saddle brackets	Dual saddle brackets	
PACKAGE 3	PACKAGE 4	
Manual Extender	Manual Extender	
3" MNPT inlet	3" Victaulic inlet	
3" MNPT outlet	3" MNPT outlet	
Plate and saddle bracket	Plate and saddle bracket	



### ANCHOR KIT

- Portable monitor (P/N 81460001)
  - Heavy duty spike
  - Mallet
  - Self-contained portable bag.



### 702 AUTOMATIC BALL DRIP DRAIN VALVE

- Drains at a rate of 2/3 gpm for up to 20' head of water when pressure drops below 10 psi
- 0.75" male NPT inlet and outlet
- Mounts horizontally
- Cast brass construction
- Good for saltwater applications
- Length: 3"
- Weight: 0.778 lbs.



### 84 BUTTERFLY WAFER VALVE

- Cast iron body with #316 stainless steel upper and lower stems
- Pressure rated at 250 psi
- Seat/seal is EPDM
- Standard handle features 10 locking positions
- Optional handle is gear operated
- Size: 3" (11.3 lbs.) or 4" (14.3 lbs.) – (specify)
- Thickness: 2"
- Not recommended for salt water application



### 90° INTAKE BASE FOR ELEVATED MONITORS

- Used with 299-11EL & 8394-02RC monitors
- Carbon steel construction
- 6"-150# & 6"-300# flange inlet
- 4"-150#, 6"-150#, & 6"-300# flange outlet
- Full 4" waterway
- Red epoxy finish

### WPO-2000 WATER POWERED MONITOR OSCILLATOR

- Compatible for use with Elkhart Brass Manual Copperhead w/tiller bar or Manual Spitfire w/tiller bar monitors:
  - WPO-2000 (W/5.25" CLAMP) for the 8593-02 w/4"-150# FF flange
  - WPO-2000 (W/6.5" CLAMP) for the 8394-121 w/4"-150# FF flange
- 4" Inlet
- 200 PSI (13.8 BAR) max operating pressure
- 0-30°/sec oscillating speed range
- Arc of oscillation - 15° to 120°
- Brass & 316 stainless steel construction







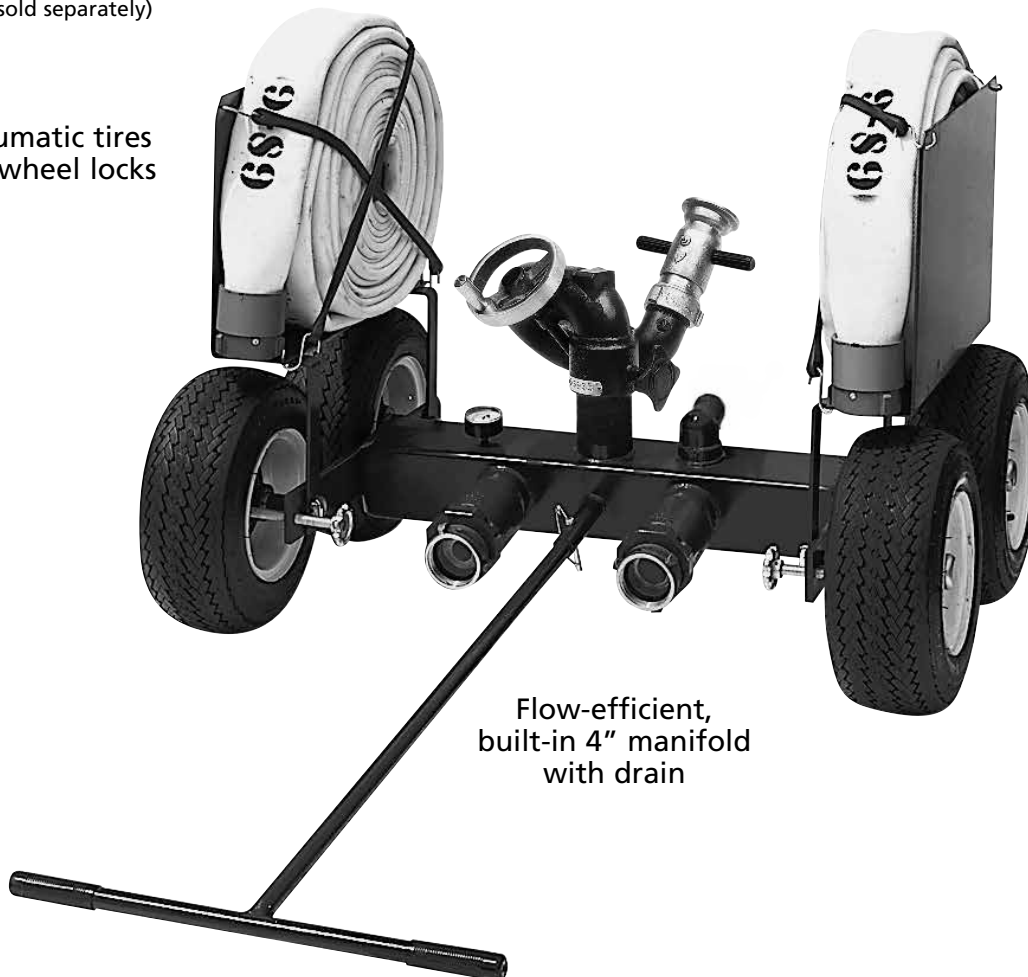
# Portable Carts

- Portable wheeled carts come furnished with a flow-efficient, built-in 4" manifold
- Wheels feature pneumatic tires and wheel locks
- The monitors have stop positions at 45° on either side of center and 20° above horizontal
- Cart specific highlights include:
  - The two wheel cart attaches with a 1 $\frac{7}{8}$ " or 2" coupler; to the vehicle for extra stability during flow; two hose beds each capable of holding two (2) 50' sections of 2 $\frac{1}{2}$ " or 3" hose
  - The four wheel cart has a detachable "tee" handle, optional hose racks above the wheels — each capable of holding a 50' "donut roll" of 2 $\frac{1}{2}$ " hose
- Liquid-filled pressure gauge

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(Nozzle sold separately)

Pneumatic tires  
and wheel locks



Red urethane  
finished



200  
PSI

750  
or  
1000  
GPM

Flow-efficient,  
built-in 4" manifold  
with drain

SPECIFICATIONS		
Max. GPM (LPM)	(See selector guide for specifics) 2 x 2.5" NHT (F)	
Inlet Sizes/Types	Optional Additional Cart Inlets	
	1 x 5" Storz	
	1 x 4" Storz	
	2 x 2.5" NHT (F) (Swivel)	
Outlet Size	2.5" NHT	
Controls	Single hand-wheel	
Material/Finish	Brass with red urethane enamel	
Friction Loss	GPM	Stingray® Carts (8393)
	*1000	56 psi
	750	34 psi
Travel	500	
	12 psi	
Travel	V Variable (see chart for specifics)	
	H L45° to R45° (90°)	
Weight	See selection chart for specifics	

\*8393-TW only

KEY CONFIGURATIONS (ACCESSORIES)	
	
8393TW (1)	8393FW (2)

ADDITIONAL INFORMATION
<ul style="list-style-type: none"> <li>• These monitor types are also available in monitor only and hydrant versions.</li> <li>• Please see page 5-35 for Stingray® (8393 series) details.</li> <li>• When flowing 1000 gpm, the cart must be attached to vehicle for safety.</li> </ul>

### Portable Cart Selector Guide

Cart Type/ GPM (LPM)	Monitor	INLET OPTIONS				OUT-LET	CART FEATURES				VERTICAL TRAVEL	CONTROLS	DIMENSIONS (Inches)			Weight (Lbs.)	ILLUSTRATION	MODEL	
		2 x 2.5" NHT*	2 x 2.5" NHT* +4" Storz	2 x 2.5" NHT* +5" Storz	4 x 2.5" NHT*		2.5" NHT	T Handle	Coupler	Pressure Gauge			Hose Beds	Width	Depth				Height
2-Wheel/ 1000 (3875)	Stingray 8393	s	o	o	o	•		⊗	s	s	+20° to 70° (50°)	•	s	67.00	72.00	34.00	310.0	1	8393TW
4-Wheel/ 750 (2839)	Stingray 8393	s	o	o	o	•	s		s	o	+20° to 70° (50°)	•	s	67.00	72.00	34.00	230.0	2	8393FW

KEY s = standard o = option

\* Clappered female swivel inlets.

\*\* This feature will change the height of the end product.

⊗ Storz inlet carts have 2.0" coupler - 2 x 2.5" & 4 x 2.5" NHT have 1.875" coupler

### Recommended Products

SM-1000HF – SELF-EDUCTING	IMS-500 – SELECT-O-STREAM®	J – MYSTERY®	181 – DELUGE TIP	282B – STREAM SHAPER
				
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# MASTER STREAM
























## SELECTOR GUIDE

# MASTER STREAM

6-1

	AVAILABLE BASE	PRODUCT	DESCRIPTION	MATERIAL			"QUICK-KEY"
				Brass	Composite	Elk-O-Lite®	
<b>FIXED</b>	<b>5000E</b> Available GPM (LPM) 15-475 (57-1798)	 Page 6-3	<ul style="list-style-type: none"> <li>Combination nozzle</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>AUTOMATIC</b>	<b>SIM-10FE</b> Available GPM (LPM) 20-120 (76-454)	 Page 6-3	<ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>FIXED/SELECTABLE</b>	<b>R.A.N.</b> Available GPM (LPM) 250-500 (946-1893)	 Page 6-5	<ul style="list-style-type: none"> <li>Designed for use with R.A.M.</li> <li>Integral stream shaper</li> <li>1/4 turn stream adjustment</li> <li>Optional oscillating configuration available</li> </ul>	Brass Composite Elk-O-Lite®	  		
						1.5 2.5 3.5	
<b>AUTOMATIC</b>	<b>X-STREAM®</b> Available GPM (LPM) 300-2000 (1136-7571)	 Page 6-6	<ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>Calibrated at lower pressures - 75 &amp; 80 PSI</li> </ul>	Brass Composite Elk-O-Lite®	      		
						1.5 2.5 3.5	
<b>SELECTABLE</b>	<b>6000</b> Available GPM (LPM) 15-700 (60-2700)	 Page 6-9	<ul style="list-style-type: none"> <li>Designed for use with Sidewinder EXM</li> <li>Maintains effective flow stream</li> <li>Motor enclosed and sealed</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>FOAM EXPANSION TUBES</b>	Available GPM (LPM)	 Page 6-10	<ul style="list-style-type: none"> <li>Quick-snap connection</li> <li>Composite or metal construction</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	

	AVAILABLE BASE			PRODUCT	DESCRIPTION	MATERIAL			"QUICK-KEY"	
	1.5	2.5	3.5			Brass	Composite	Elk-O-Lite®		
<b>FIXED</b>	<b>SELECT-O-STREAM®</b>			 <i>Page 6-11</i>	<ul style="list-style-type: none"> <li>Fully machined waterway for excellent stream quality</li> <li>Large handles for easy stream pattern management</li> <li>Constant Flow Nozzle</li> </ul>	•	•	•	  	
	Available GPM (LPM) 350-1000 (1325-3785)									
<b>SELECTABLE</b>	<b>SELECT-O-FLOW®</b>			 <i>Page 6-13</i>	<ul style="list-style-type: none"> <li>Large handles for easy stream pattern management</li> <li>Operator set flow and stream</li> <li>Selectable Flow Nozzle</li> </ul>	•	•	•	  	
	Available GPM (LPM) 300-1250 (1136-4732)									
<b>FIXED</b>	<b>MYSTERY</b>			 <i>Page 6-14</i>	<ul style="list-style-type: none"> <li>Created for Industrial applications</li> <li>Large handles for easy stream pattern management</li> <li>Low maintenance</li> </ul>	•	•	•	  	
	Available GPM (LPM) 350-2000 (1325-7571)									
<b>AUTOMATIC/FIXED</b>	<b>SELF-EDUCTING</b>			 <i>Page 6-15</i>	<ul style="list-style-type: none"> <li>Self-educating Class A and B foam</li> <li>1/2%, 1%, 3%, or 6% proportioning</li> <li>Field-adjustable foam proportioning</li> </ul>	•	•	•	    	
	Available GPM (LPM) 350-2000 (1325-7571)									
<b>ADJUSTABLE/FIXED</b>	<b>FIXED SYSTEM</b>			 <i>Page 6-19</i>	<ul style="list-style-type: none"> <li>Designed for use in fixed system applications</li> <li>Field-adjustable flow rate and fog pattern up to 120°</li> </ul>	•	•	•	 	
	Available GPM (LPM) 5-1000 (20-3780)									

**KEY:**

											
Electrical Operation	Manual Operation	Remote Control Operation	Hydraulic Operation	Hazardous Location	Self-Educting Foam	Foam Compatible	Underwriters Laboratories	Twist Shut-off Available	Low Pressure Available	Conformity European	Factory Mutual





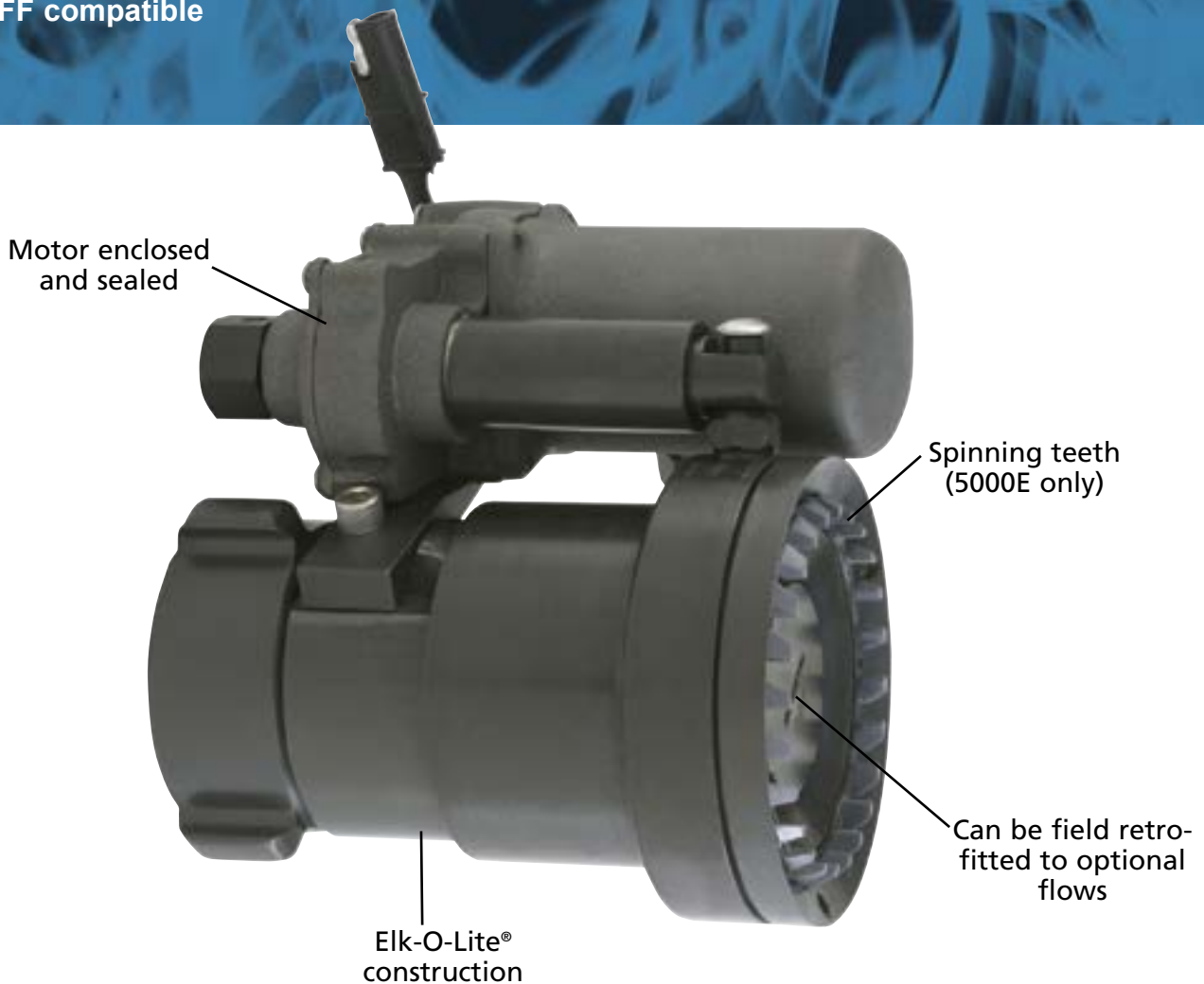
5000E & SM-10FE

MASTER STREAM

## 5000E & SM-10FE

- Created for the specific challenges, such as water flow limitations and protection needs, of wildland firefighting, dust abatement, de-icing, etc.
- Used in conjunction with smaller monitors such as the Sidewinder®
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with spinning teeth
- Either automatic or fixed flow nozzle type available
- Motor (12V or 24V DC available) totally enclosed and sealed
- Manual override standard
- Lightweight Elk-O-Lite® construction with hard anodized finish
- AFFF compatible

6-3





# MASTER STREAM



R.A.N.™ – RAPID ATTACK NOZZLE

MASTER STREAM

## R.A.N.™

- Designed to operate in conjunction with the R.A.M. at high flows with lower pressure (rated for 500 gpm at 75 psi)
- Integral stream shaper reduces weight and bulk
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Quick turn from straight stream to full fog
- Compatible with foam concentrate



Elk-O-Lite® construction



Integral stream shaper

6-5

Base Size	AVAILABLE STANDARD FLOW RATES	PRESSURE	FLOW TYPE		Oscillation	Effective Reach (Feet) @ 500 GPM	Weight (Lbs.)	MODEL	FIGURE
			Fixed	Selectable					
2.5"	GPM (LPM)	PSI (BAR)							
	500 (1893)	75 (5.17)	•			180	3.2	3896	1
	250/350/500 (946/1325/1893)			•			180	3.6	3895
500 (1893)			•		•	180	10.75	3890	3

### OPTIONS

#### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.*

Figure 1



Figure 2



Figure 3





## X-Stream®

- Automatically adjusts to maintain effective stream and maximum reach at variable or reduced flows
- Calibrated at lower pressures — 70 and 85 psi — for better suitability to real world conditions
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with hydrodynamic vanes and hub for increased flow efficiency
- Excellent with AFFF or Class A foam applications
- Models available for use in hazardous locations and for gas mitigation
- Gas mitigation nozzle features wider (120°) fog pattern and smooth face tip (no teeth) for optimized water flow characteristics
- Electric motors and connectors are completely sealed, with manual overrides while manual models have large handles for easy stream pattern management
- Corrosion-resistant brass nozzles, for industrial applications, have satin brass finish while Elk-O-Lite® nozzles have a hard anodized finish



\* Not available on gas mitigation model



# MASTER STREAM







X-STREAM®

MASTER STREAM

6-7

Base Size	FLOW RANGES GPM (LPM)	PRESSURE PSI (BAR)	PATTERN CONTROL				MATERIAL	Effective Reach (Ft.)	Weight (Lbs.)	MODEL	FIGURE	FM APPROVED			
			Manual	ELECTRIC		HYDRAULIC							Brass	Elk-O-Lite®	
				STANDARD UNCLASSIFIED	CLASS 1 DIV 2										
					Hazardous Location 120V AC										Gas Mitigation 120V AC
2.5"	350-1000 (1325-3785)	100 (6.89)		•			•	-	9.0	SM-500E-HP	2				
				•			•	-	9.0	SM-500E	2				
			•				•	255	7.5	SM-1000	1				
				•			•	255	9.2	SM-1000E	2				
							•	255	8.3	SM-1000H	3				
							•	271	7.5	SM-1250	1				
	350-1250 (1325-4732)	75 (5.17)	•				•	271	7.5	SM-1250B	1	•			
			•				•	271	22.5	SM-1250BE	2				
				•			•	271	9.2	SM-1250E	2				
							•	271	8.3	SM-1250H	3				
							•	271	19.8	SM-1250HB	3				
							•	241	7.5	SM-1000	1				
3.5"	350-1000 (1325-3785)	80 (5.51)	•				•	241	9.2	SM-1000E	2				
				•			•	241	8.3	SM-1000H	3				
						•	•	241	27.6	SM-1000BE-HL	4				
							•	229	7.5	SM-1250	1				
	350-1250 (1325-4732)	75 (5.17)	•				•	229	20.6	SM-1250B	1	•			
			•				•	229	22.5	SM-1250BE	2				
				•		•	•	270	27.6	SM-1250BE-HL	4	•			
						•	•	270	27.6	SM-1250BE-HLGM	5	•			
				•			•	229	9.2	SM-1250E	2				
							•	229	8.3	SM-1250H	3				
	500-2000 (1893-7571)	500-1500 (1893-5678)	70 (4.83)		•			•	240	10.5	SM-1500E	2			
				•				•	300	9.2	SM-2000	1			
•							•	300	24.7	SM-2000B	1	•			
				•			•	300	26.6	SM-2000BE	2				
80 (5.51)					•	•	320	32.0	SM-2000BE-HL	4	•				
					•	•	180	32.0	SM-2000BE-HLGM	5	•				
			•			•	300	10.5	SM-2000E	2					
						•	300	10.0	SM-2000H	3					
				•	300	24.8	SM-2000HB	3							

## X-STREAM® CONFIGURATIONS

<b>Figure 1</b>	<p><b>MANUAL</b></p>  <p style="text-align: right;"><i>Fig. 1</i></p>
<b>Figure 2</b>	<p><b>ELECTRIC</b></p>  <p style="text-align: right;"><i>Fig. 2</i></p>
<b>Figure 3</b>	<p><b>HYDRAULIC</b></p>  <p style="text-align: right;"><i>Fig. 3</i></p>
<b>Figure 4</b>	<p><b>HAZARDOUS LOCATION</b></p>  <p style="text-align: right;"><i>Fig. 4</i></p>

Figures depict general product types only and are not intended to be inclusive of all product features.

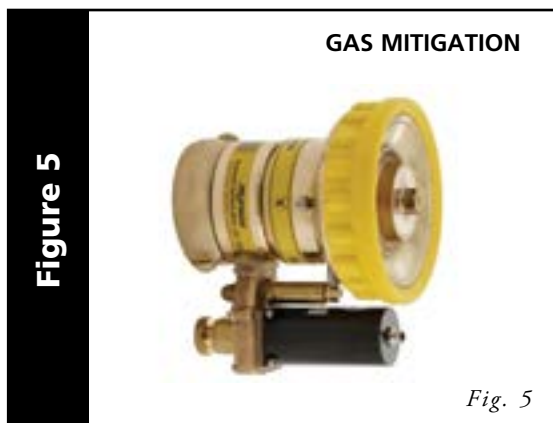
### PRODUCT HIGHLIGHTS

- Gas Mitigation nozzles are designed for use in Class 1, Division 2 fire suppression and protection applications — the nozzles have a specially designed face and wide fog pattern to support the containment of gas vapors. Most commonly, the nozzles are used in areas with hydrofluoric acid vapors.
- The smooth face of the nozzle has been specifically designed to create an unbroken fog pattern.
- The fog pattern has been enhanced to a full 120° to allow for better coverage.

### OPTIONS

#### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.*



# MASTER STREAM



6000 SERIES

MASTER STREAM

## 6000

- Designed for optimal performance when used with the Sidewinder EXM
- Features electric actuators for precise pattern control from straight stream to wide fog
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Offers ultra-wide flow range with quick-turn, locking, flow selector ring
- Compatible with foam concentrate



BASE SIZE	FLOW RATES GPM (LPM)	PRESSURE PSI (BAR)	Effective Reach (Feet) @ Highest Flow	Weight (Lbs.)	MODEL	FIGURE
1.5"	15/30/45/60/95/125/150/200/FLUSH (60/120/170/250/360/500/550/750/FLUSH)	100 (6.89)	124	4.7	6000-200E	3
2.5"	15/30/45/60/95/125/150/200/FLUSH (60/120/170/250/360/500/550/750/FLUSH)	100 (6.89)	124	4.7	6000-200E	1
	250/350/500/700/FLUSH (1000/1350/2000/2700/FLUSH)		190	5.8	6000-700E	2



# Foam Expansion Tubes

Lightweight composite foam tubes are corrosion resistant and easy to handle with bases that snap securely onto the nozzle in seconds. The foam tubes are specifically designed to require no alteration of the nozzle itself for use. The base of the tube includes large air intakes; expansion rates are easily varied with nozzle pattern.



Compatible Nozzle Model	FOAM TUBE MODELS		
	251-6	252-8	253-9
R.A.N.™	•		
6000 Series	•		
HF – 350/350A/500/500A	•		
IMS – 350/500	•		
CJ – B/RC/B-RC	•		
SM – 1000/E/H		•	
SM – 1250/E/B/BE/H/HB		•	
SM – 1500E			•
SM – 2000/E/B/BE/H/HB			•
SM – 1000-HF / E-HF			•
SM – 2000-HF / E-HF			•
Foam Tube Details			
Length (Inches)	14.75	16.688	16.136
Weight (Lbs.)	3.0	6.3	7.15
Tube Base	Composite	Metal	Metal





SELECT-O-STREAM®

## Select-O-Stream®

- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Elk-O-Lite® nozzles are hard anodized with chrome-plated trim
- Corrosion resistant brass nozzles have a satin brass finish
- Large handles allow for easy stream pattern management
- Grease zerk for easy lubrication of tip threads
- Heavy-duty protective rubber bumper
- AFFF compatible
- Available FM rated

MASTER STREAM

6-11



Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)				PATTERN CONTROL		TEETH	MATERIAL		CERT.	EFFECTIVE REACH (Ft.)		Weight (Lbs.)	MODEL	FIGURE
	350 (1325)	500 (1893)	750 (2839)	1000 (3785)	Direct Manual	Remote Control		Cut Metal	Brass		Elk-O-Lite®	At Lowest Flow			
	PSI (BAR) 100 (6.89)														
2.5"	•	•			•		•		•		150	173	5.5	CJ	1
	•	•			•		•	•	•		150	173	12.4	CJ-B	1
	•	•				•	•		•		150	173	7.3	CJ-RC	2
	•	•				•	•	•	•		150	173	14.5	CJ-B-RC	2
			•	•	•		•		•		238	248	6.5	CJN	1
			•	•	•		•	•	•		238	263	15.6	CJN-B	1
			•	•		•	•		•		238	263	8.5	CJN-RC	2
			•	•		•	•	•	•		238	263	17.8	CJN-B-RC	2
	•				•			•				150	10.8	IMS-350*	3
		•			•			•		•		173	10.8	IMS-500*	3
			•		•			•		•		238	13.1	IMS-750	4
				•	•			•		•		263	13.1	IMS-1000	4

\* Wide Fog is 140°

## SELECT-O-STREAM® CONFIGURATIONS

<b>Figure 1</b>	<b>Figure 2</b>
	
MANUAL <span style="float: right;"><i>Fig. 1</i></span>	REMOTE <span style="float: right;"><i>Fig. 2</i></span>
<b>Figure 3</b>	<b>Figure 4</b>
	
IMS-350 <span style="float: right;"><i>Fig. 3</i></span>	IMS-1000 <span style="float: right;"><i>Fig. 3</i></span>

<b>OPTIONS</b>
<b>THREADS</b>
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>

Figures depict general product types only and are not intended to be inclusive of all product features.

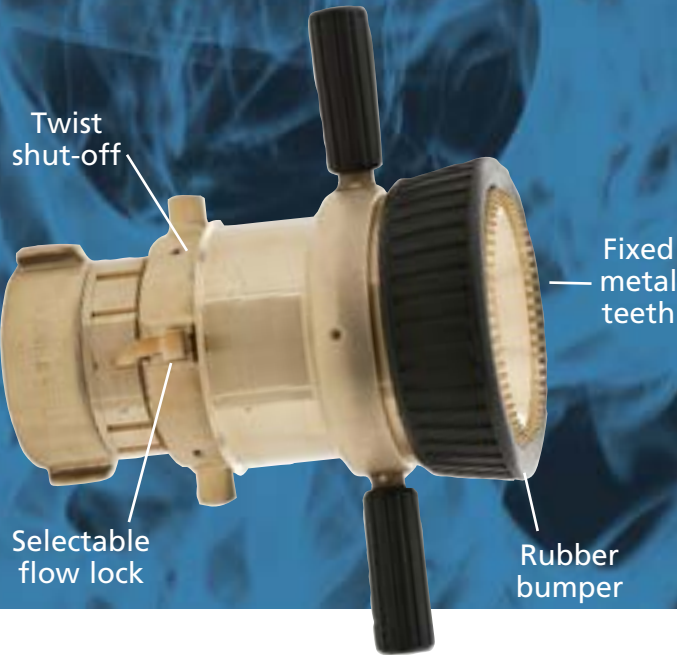
# MASTER STREAM



SELECT-O-FLOW®

MASTER STREAM

## Select-O-Flow®

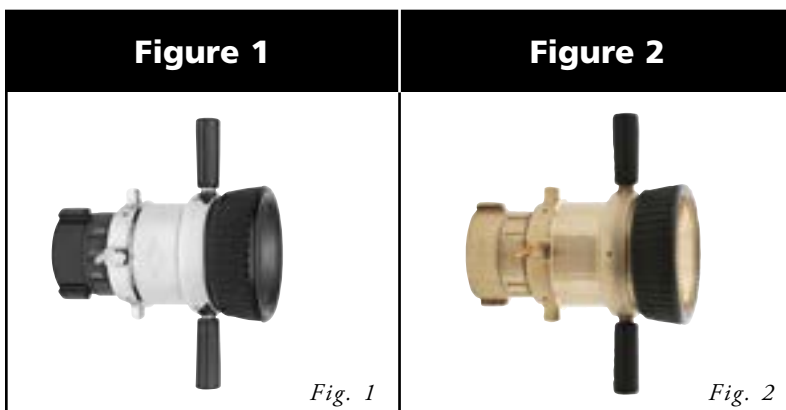


- Selectable flow rate, changeable even during flowing conditions
- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Construction:
  - Elk-O-Lite® nozzles are hard anodized with chrome-plated trim and rubber bumper
  - Corrosion resistant brass nozzles have a heavy-duty protective rubber bumper
- Low maintenance components
- AFFF compatible

6-13

Base Size	FLOW RATES	PRESSURE	MATERIAL		Effective Reach (feet) @ Highest Flow	Weight (Lbs.)	MODEL	FIGURE
			Brass	Elk-O-Lite®				
2.5"	GPM (LPM)	100 (6.89)						
	300/550/750 (1136/2082/2839)		•	221	7.6	CSW	1	
	350/500/750/1000/1250 (1325/1893/2839/3785/4732)		•	350	10.0	CSW-L	1	
			•	350	21.4	CSW-LB	2	

### SELECT-O-FLOW® CONFIGURATIONS



OPTIONS
THREADS
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>



# Mystery®



- Original Master Stream fog nozzle, created for industrial applications
- Combination nozzle — straight stream, narrow fog (30°), or wide fog (90°)
  - The J and JN nozzles feature variable flow from shut-off to wide fog
  - The CJK nozzle is a constant flow nozzle
- Low maintenance components and convenient grease zerks

**MASTER STREAM**

6-14

Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)							Twist Shut-off	Effective Reach (Ft.)	Weight (Lbs.)	MODEL	FIG.
	350 (1325)	500 (1893)	1000 (3785)	1250 (4732)	1500 (5678)	1750 (6624)	2000 (7571)					
	PSI (BAR) 100 (6.89)											
2.5"	•	•						•	135	8.5	J	2
			•					•	170	9.3	JN	2
3.5"				•	•	•	•		325	22.3	CJK	1

## MYSTERY® CONFIGURATIONS

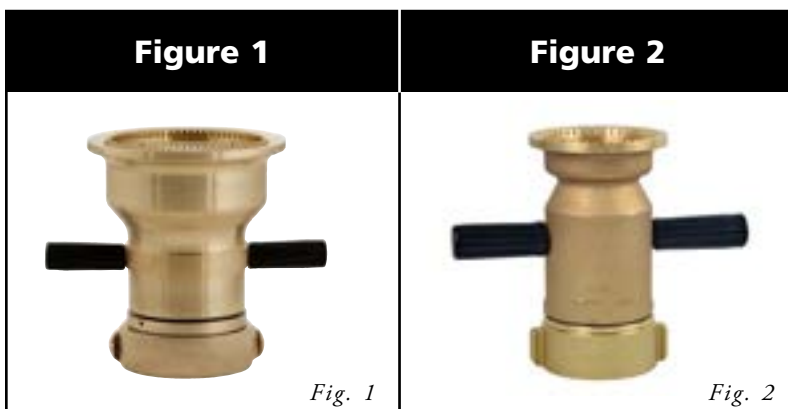


Fig. 1

Fig. 2

OPTIONS
THREADS
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>

Figures depict general product types only and are not intended to be inclusive of all product features.





SELF-EDUCTING

MASTER STREAM

## Self-Educting

Self-Educting master stream nozzles turn any monitor into a foam station without the use of additional equipment and have been part of Elkhart's fire suppression arsenal for over 20 years. Elkhart is proud to have been one of the pioneers in the development of the Hydro-Foam® line of self-educating nozzles.

Some of the features of self-educating nozzles include:

- Designed specifically for use with Class A and B foam, including AFFF and fluoroprotein
- Field-adjustable foam proportioning with pre-set options
- Combination nozzle — include straight stream, narrow fog (30°), or wide fog (90°)

Since introduction, Elkhart has expanded the self-educating Master Stream nozzle line to include:

- Easy to use, original Hydro-Foam® nozzles of brass or Elk-O-Lite® construction
- X-Stream® nozzles that combine self-educating ability with the convenience of automatic metering

6-15

Foam pick-up hose attachment inlet



Large handles allow for easy pattern management



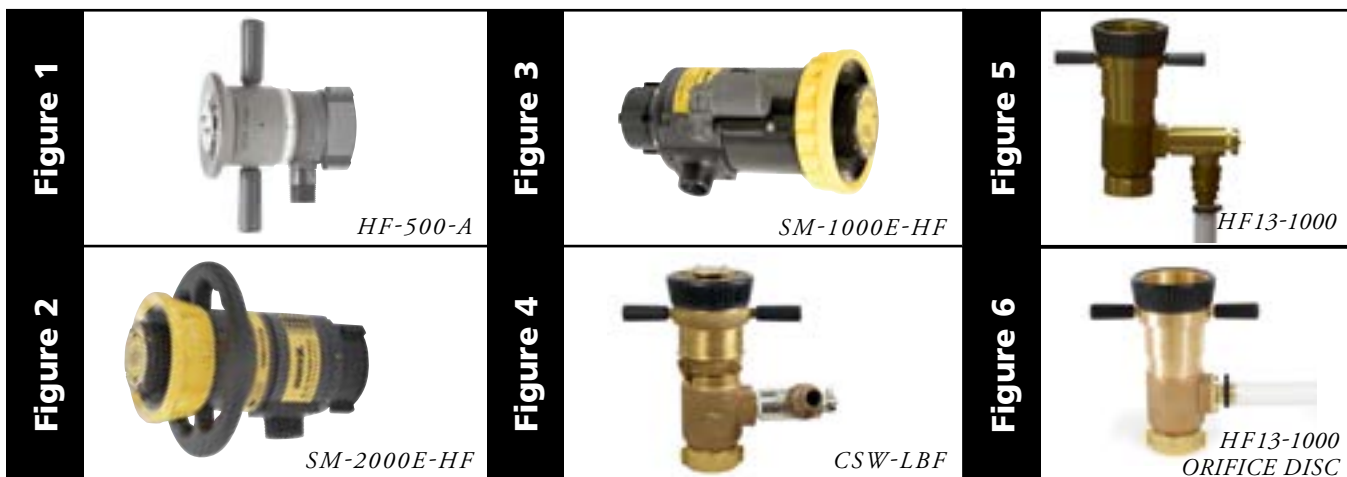
	NOZZLE FAMILY	
	X-Stream®	Hydro-Foam®
Flow Type	Automatic	Fixed
Description	High flow automatic nozzle	Original self-educating nozzle
Benefit	Optimizes use of concentrate and produces effective foam under a variety of conditions	Simple to use and flows well. Elk-O-Lite® version is lightweight and excellent for portable monitor use.
Foam Proportioning	Dual range, field selectable (SM-1000-HF and SM-1000E-HF) or fixed metering (SM-2000-HF and SM-2000E-HF)	Fixed metering via orifice insert

OPTIONS
<ul style="list-style-type: none"> <li>SM-1000E-HF features an 8' pick-up tube</li> <li>SM-2000E-HF features an 8' pick-up tube</li> </ul>
THREADS
All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.

Base Size	FAMILY / FLOW RATE					FOAM PROPORTIONING						Certifications	MATERIAL / FINISH				Effective Reach (ft.)	Weight (Lbs.)	MODEL	FIGURE
	X-STREAM®/AUTOMATIC		HYDRO-FOAM®/FIXED			CONFIGURABLE			SELECTABLE				BRASS	Composite	Elk-O-Lite®					
	GPM (LPM)								1/2%	1%	3%					6%				
	350-1000 (1325-3785)	750-2000 (2839-7571)	350 (1325)	500 (1893)	750 (2839)	1000 (3785)														
2.5"			•				•	•	•	•		•	s	o			145	13.2	HF-350	1
			•				•	•	•	•		•	s	o		s	145	4.2	HF-350-A	1
					•		•	•	•			•	s	o			162	13.2	HF-500	1
					•		•	•	•			•	s			s	162	4.2	HF-500-A	1
	•														s		250	20.7	SM-1000-HF	2
	•												•		s		250	20.7	SM-1000E-HF	3
			Selectable: 500 / 750 / 1000							•				s			212	22	CSW-LBF	4
					•									s			200	22	HF13-750	5,6
3.5"													s			212	22	HF13-1000	5,6	
	•													s		295	21.6	SM-2000-HF	2	
	•											•			s	295	21.6	SM-2000E-HF	3	

KEY s = standard o = option  
\*Fog pattern is 80°

## SELF-EDUCTING FOAM CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.



## SELF-EDUCTING NOZZLE ACCESSORIES



### QUICK-CONNECT COUPLING

- The brass Quick-Connect Coupling is a convenient way of attaching/detaching pick-up hose
- Specify brass or chrome finish
- Length: 3.4"
- Weight: 1.2 lbs.

### SHUT-OFF VALVE

- Quarter turn ball valve for positive shut-off of foam supply
- Attaches to foam inlet of nozzle
- Specify chrome or brass finish



### METERING VALVE

- The quarter turn ball valve for instant proportioning change
- Available in 1% / 3% or 3% / 6% configurations
- Attached to foam inlet of nozzle
- Specify chrome or brass finish
- Length: 3"
- Weight: 1.3 lbs.



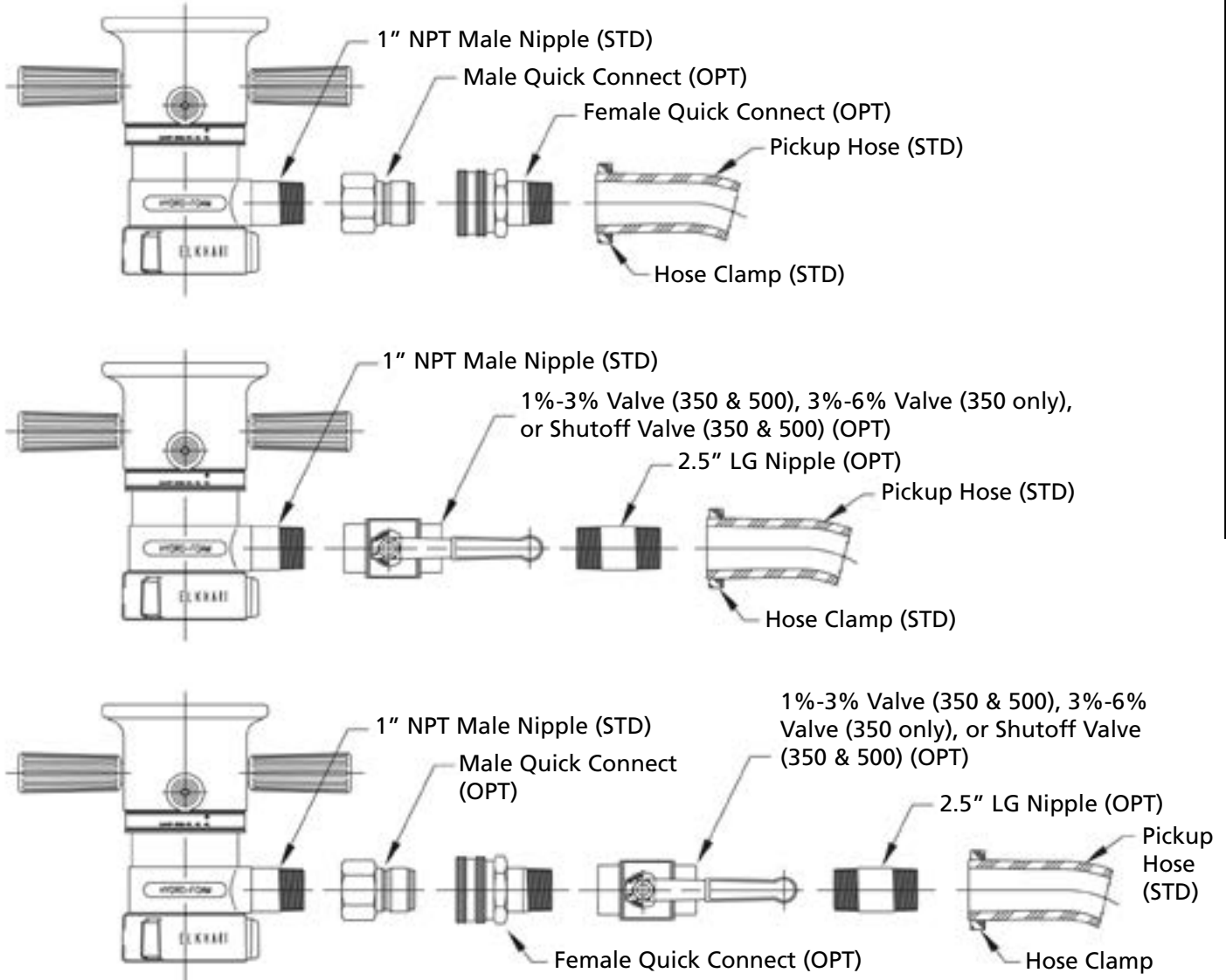
### DRUM PICK-UP KIT

- Allows foam inlet of nozzle to be pre-connected to a 55 gallon drum of concentrate
- Kit 1 includes PVC pick-up tube with shut-off valve, brass vacuum breaker, and clear reinforced vinyl pick-up hose (8 feet)
- Kit 3 or Kit 4 includes PVC pick-up tube with shut-off valve only. Replaces non-valve pick-up tube that comes with nozzle.

#### COMPATIBLE ACCESSORIES

ITEM	FOAM NOZZLE			
	X-Stream®		Hydro-Foam®	
	SM-1000 HF	SM-2000 HF	350/A	500/A
Quick-connect			•	•
Shut-off Value with Quick-connect			•	•
1% / 3% Metering Valve with Quick-connect			•	•
3% / 6% Metering Valve with Quick-connect			•	•
Shut-off Valve			•	•
1% / 3% Metering Valve			•	•
3% / 6% Metering Valve			•	•
Drum Pick-up Kit 1			•	•
Drum Pick-up Kit 3	•			
Drum Pick-up Kit 4		•		

### OPTIONAL HARDWARE FOR FOAM INLET LINE



**NOTE:** These illustrations show typical combinations of valves and fittings. Other combinations can be provided to satisfy customer needs.





FIXED SYSTEM

## Fixed System

Designed for use in fixed system applications. Adjustable nozzles can be pre-set at the factory or set in the field at time of installation. The fog pattern, which can be set up to 120°, can easily be set or adjusted at the job site.



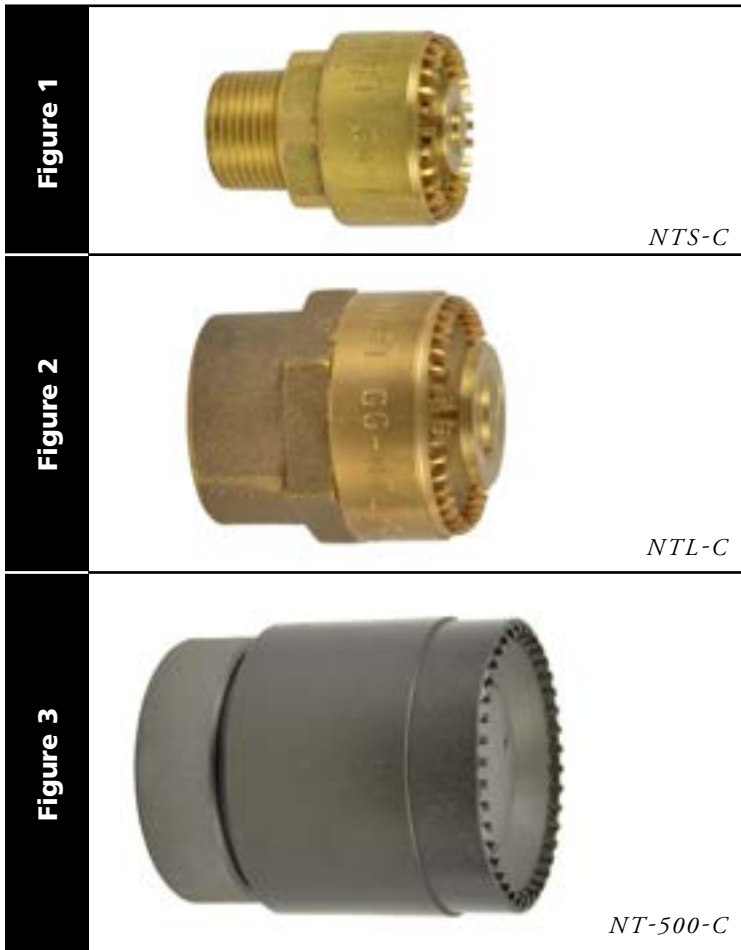
MASTER STREAM

6-19

Base Size	ADJUSTABLE FLOW RATES GPM (LPM)			STANDARD FLOW RATES GPM (LPM)			INLET OPTIONS		MATERIAL		MODEL	FIGURE
	5-40 (20-150)	40-100 (150-380)	100-250 (380-850)	350 (1325)	500 (1890)	1000 (3780)	Male	Female	Brass	Elk-o-Lite®		
	PSI (BAR) 100 (6.89)											
0.75"	•						s	o	•		NTS-C*	1
1.0"		•					s	o	•		NTL-C*	2
1.5"			•				s		•		NT-C*	2
2.5"				•				s		•	NT-350-C	3
					•			s		•	NT-500-C	3
						•		s		•	NT-1000-C	3

KEY    s = standard    o = option  
 \*NOTE: Fog pattern can be set up to 120°

### FIXED SYSTEM CONFIGURATIONS



OPTIONS
THREADS
All nozzles are rigid NPT connections unless otherwise specified. See index T-13 for optional base threads.

Figures depict general product types only and are not intended to be inclusive of all product features.

























# MASTER STREAM
























## SELECTOR GUIDE

# MASTER STREAM

6-1

	AVAILABLE BASE	PRODUCT	DESCRIPTION	MATERIAL			"QUICK-KEY"
				Brass	Composite	Elk-O-Lite®	
<b>FIXED</b>	<b>5000E</b> Available GPM (LPM) 15-475 (57-1798)	 Page 6-3	<ul style="list-style-type: none"> <li>Combination nozzle</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>AUTOMATIC</b>	<b>SIM-10FE</b> Available GPM (LPM) 20-120 (76-454)	 Page 6-3	<ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>12 or 24 VDC enclosed and sealed motor</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>FIXED/SELECTABLE</b>	<b>R.A.N.</b> Available GPM (LPM) 250-500 (946-1893)	 Page 6-5	<ul style="list-style-type: none"> <li>Designed for use with R.A.M.</li> <li>Integral stream shaper</li> <li>1/4 turn stream adjustment</li> <li>Optional oscillating configuration available</li> </ul>	Brass Composite Elk-O-Lite®	  		
						1.5 2.5 3.5	
<b>AUTOMATIC</b>	<b>X-STREAM®</b> Available GPM (LPM) 300-2000 (1136-7571)	 Page 6-6	<ul style="list-style-type: none"> <li>Simplifies fireground hydraulics</li> <li>Maintains effective flow stream</li> <li>Calibrated at lower pressures - 75 &amp; 80 PSI</li> </ul>	Brass Composite Elk-O-Lite®	      		
						1.5 2.5 3.5	
<b>SELECTABLE</b>	<b>6000</b> Available GPM (LPM) 15-700 (60-2700)	 Page 6-9	<ul style="list-style-type: none"> <li>Designed for use with Sidewinder EXM</li> <li>Maintains effective flow stream</li> <li>Motor enclosed and sealed</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	
<b>FOAM EXPANSION TUBES</b>	Available GPM (LPM)	 Page 6-10	<ul style="list-style-type: none"> <li>Quick-snap connection</li> <li>Composite or metal construction</li> </ul>	Brass Composite Elk-O-Lite®	 		
						1.5 2.5 3.5	

	AVAILABLE BASE			PRODUCT	DESCRIPTION	MATERIAL			"QUICK-KEY"	
	1.5	2.5	3.5			Brass	Composite	Elk-O-Lite®	Hand	Electrical
<b>FIXED</b>	<b>SELECT-O-STREAM®</b>			 <p>Page 6-11</p>	<ul style="list-style-type: none"> <li>Fully machined waterway for excellent stream quality</li> <li>Large handles for easy stream pattern management</li> <li>Constant Flow Nozzle</li> </ul>	•	•	•	 	
	Available GPM (LPM) 350-1000 (1325-3785)									 
<b>SELECTABLE</b>	<b>SELECT-O-FLOW®</b>			 <p>Page 6-13</p>	<ul style="list-style-type: none"> <li>Large handles for easy stream pattern management</li> <li>Operator set flow and stream</li> <li>Selectable Flow Nozzle</li> </ul>	•	•	•	  	
	Available GPM (LPM) 300-1250 (1136-4732)									
<b>FIXED</b>	<b>MYSTERY</b>			 <p>Page 6-14</p>	<ul style="list-style-type: none"> <li>Created for Industrial applications</li> <li>Large handles for easy stream pattern management</li> <li>Low maintenance</li> </ul>	•	•	•	  	
	Available GPM (LPM) 350-2000 (1325-7571)									
<b>AUTOMATIC/FIXED</b>	<b>SELF-EDUCTING</b>			 <p>Page 6-15</p>	<ul style="list-style-type: none"> <li>Self-educating Class A and B foam</li> <li>1/2%, 1%, 3%, or 6% proportioning</li> <li>Field-adjustable foam proportioning</li> </ul>	•	•	•	   	
	Available GPM (LPM) 350-2000 (1325-7571)									
<b>ADJUSTABLE/FIXED</b>	<b>FIXED SYSTEM</b>			 <p>Page 6-19</p>	<ul style="list-style-type: none"> <li>Designed for use in fixed system applications</li> <li>Field-adjustable flow rate and fog pattern up to 120°</li> </ul>	•	•	•	 	
	Available GPM (LPM) 5-1000 (20-3780)									

**KEY:**

											
Electrical Operation	Manual Operation	Remote Control Operation	Hydraulic Operation	Hazardous Location	Self-Educting Foam	Foam Compatible	Underwriters Laboratories	Twist Shut-off Available	Low Pressure Available	Conformity European	Factory Mutual





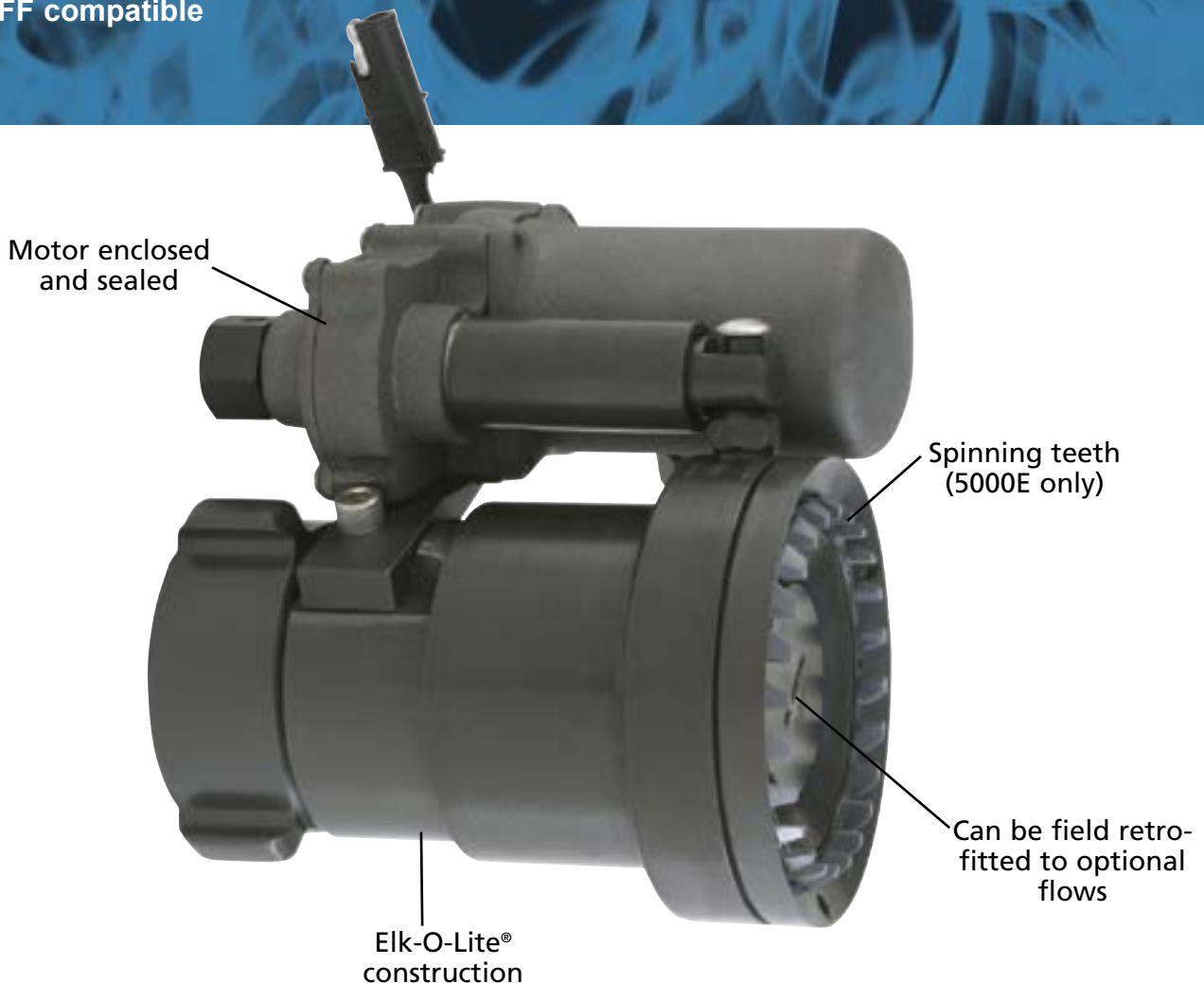
5000E & SM-10FE

MASTER STREAM

## 5000E & SM-10FE

- Created for the specific challenges, such as water flow limitations and protection needs, of wildland firefighting, dust abatement, de-icing, etc.
- Used in conjunction with smaller monitors such as the Sidewinder®
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with spinning teeth
- Either automatic or fixed flow nozzle type available
- Motor (12V or 24V DC available) totally enclosed and sealed
- Manual override standard
- Lightweight Elk-O-Lite® construction with hard anodized finish
- AFFF compatible

6-3





# MASTER STREAM



R.A.N.™ – RAPID ATTACK NOZZLE

MASTER STREAM

## R.A.N.™

- Designed to operate in conjunction with the R.A.M. at high flows with lower pressure (rated for 500 gpm at 75 psi)
- Integral stream shaper reduces weight and bulk
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Quick turn from straight stream to full fog
- Compatible with foam concentrate



Elk-O-Lite® construction



Integral stream shaper

6-5

Base Size	AVAILABLE STANDARD FLOW RATES	PRESSURE	FLOW TYPE		Oscillation	Effective Reach (Feet) @ 500 GPM	Weight (Lbs.)	MODEL	FIGURE
			Fixed	Selectable					
2.5"	GPM (LPM)	PSI (BAR)							
	500 (1893)	75 (5.17)	•			180	3.2	3896	1
	250/350/500 (946/1325/1893)			•			180	3.6	3895
500 (1893)			•		•	180	10.75	3890	3

### OPTIONS

#### THREADS

All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.

Figure 1



Figure 2



Figure 3





## X-Stream®

- Automatically adjusts to maintain effective stream and maximum reach at variable or reduced flows
- Calibrated at lower pressures — 70 and 85 psi — for better suitability to real world conditions
- Constant flow — straight stream, narrow fog (30°), or wide fog (90°) — with hydrodynamic vanes and hub for increased flow efficiency
- Excellent with AFFF or Class A foam applications
- Models available for use in hazardous locations and for gas mitigation
- Gas mitigation nozzle features wider (120°) fog pattern and smooth face tip (no teeth) for optimized water flow characteristics
- Electric motors and connectors are completely sealed, with manual overrides while manual models have large handles for easy stream pattern management
- Corrosion-resistant brass nozzles, for industrial applications, have satin brass finish while Elk-O-Lite® nozzles have a hard anodized finish



\* Not available on gas mitigation model



# MASTER STREAM







X-STREAM®

MASTER STREAM

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Base Size	FLOW RANGES GPM (LPM)	PRESSURE PSI (BAR)	PATTERN CONTROL				MATERIAL	Effective Reach (Ft.)	Weight (Lbs.)	MODEL	FIGURE	FM APPROVED			
			Manual	ELECTRIC		HYDRAULIC							Brass	Elk-O-Lite®	
				STANDARD UNCLASSIFIED	CLASS 1 DIV 2										
					Hazardous Location 120V AC										Gas Mitigation 120V AC
2.5"	350-1000 (1325-3785)	100 (6.89)		•			•	-	9.0	SM-500E-HP	2				
				•			•	-	9.0	SM-500E	2				
			•				•	255	7.5	SM-1000	1				
				•			•	255	9.2	SM-1000E	2				
							•	255	8.3	SM-1000H	3				
							•	271	7.5	SM-1250	1				
	350-1250 (1325-4732)	75 (5.17)	•				•	271	7.5	SM-1250B	1	•			
			•				•	271	22.5	SM-1250BE	2				
				•			•	271	9.2	SM-1250E	2				
							•	271	8.3	SM-1250H	3				
							•	271	19.8	SM-1250HB	3				
							•	241	7.5	SM-1000	1				
3.5"	350-1000 (1325-3785)	80 (5.51)	•				•	241	9.2	SM-1000E	2				
				•			•	241	8.3	SM-1000H	3				
						•	•	241	27.6	SM-1000BE-HL	4				
							•	229	7.5	SM-1250	1				
	350-1250 (1325-4732)	75 (5.17)	•				•	229	20.6	SM-1250B	1	•			
			•				•	229	22.5	SM-1250BE	2				
				•		•	•	270	27.6	SM-1250BE-HL	4	•			
						•	•	270	27.6	SM-1250BE-HLGM	5	•			
				•			•	229	9.2	SM-1250E	2				
							•	229	8.3	SM-1250H	3				
	500-2000 (1893-7571)	500-1500 (1893-5678)	70 (4.83)		•			•	240	10.5	SM-1500E	2			
				•				•	300	9.2	SM-2000	1			
•							•	300	24.7	SM-2000B	1	•			
				•			•	300	26.6	SM-2000BE	2				
80 (5.51)					•		•	320	32.0	SM-2000BE-HL	4	•			
					•	•	•	180	32.0	SM-2000BE-HLGM	5	•			
			•			•	•	300	10.5	SM-2000E	2				
						•	•	300	10.0	SM-2000H	3				
				•	•	•	300	24.8	SM-2000HB	3					

## X-STREAM® CONFIGURATIONS

<b>Figure 1</b>	<p><b>MANUAL</b></p>  <p style="text-align: right;"><i>Fig. 1</i></p>
<b>Figure 2</b>	<p><b>ELECTRIC</b></p>  <p style="text-align: right;"><i>Fig. 2</i></p>
<b>Figure 3</b>	<p><b>HYDRAULIC</b></p>  <p style="text-align: right;"><i>Fig. 3</i></p>
<b>Figure 4</b>	<p><b>HAZARDOUS LOCATION</b></p>  <p style="text-align: right;"><i>Fig. 4</i></p>

Figures depict general product types only and are not intended to be inclusive of all product features.

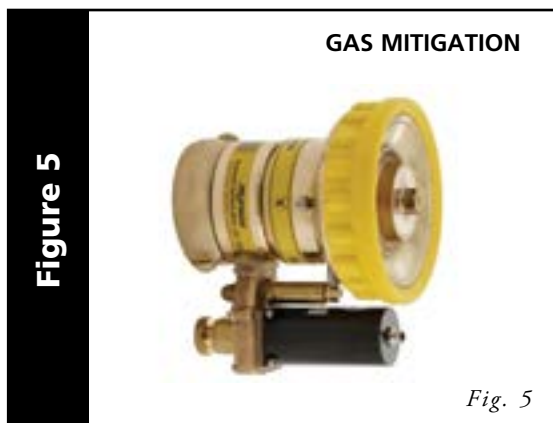
### PRODUCT HIGHLIGHTS

- Gas Mitigation nozzles are designed for use in Class 1, Division 2 fire suppression and protection applications — the nozzles have a specially designed face and wide fog pattern to support the containment of gas vapors. Most commonly, the nozzles are used in areas with hydrofluoric acid vapors.
- The smooth face of the nozzle has been specifically designed to create an unbroken fog pattern.
- The fog pattern has been enhanced to a full 120° to allow for better coverage.

### OPTIONS

#### THREADS

*All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.*



# MASTER STREAM



6000 SERIES

MASTER STREAM

## 6000

- Designed for optimal performance when used with the Sidewinder EXM
- Features electric actuators for precise pattern control from straight stream to wide fog
- 2.5" constant flow nozzle – straight stream, narrow fog (30°), or wide fog (90°)
- Offers ultra-wide flow range with quick-turn, locking, flow selector ring
- Compatible with foam concentrate



BASE SIZE	FLOW RATES GPM (LPM)	PRESSURE PSI (BAR)	Effective Reach (Feet) @ Highest Flow	Weight (Lbs.)	MODEL	FIGURE
1.5"	15/30/45/60/95/125/150/200/FLUSH (60/120/170/250/360/500/550/750/FLUSH)	100 (6.89)	124	4.7	6000-200E	3
2.5"	15/30/45/60/95/125/150/200/FLUSH (60/120/170/250/360/500/550/750/FLUSH)	100 (6.89)	124	4.7	6000-200E	1
	250/350/500/700/FLUSH (1000/1350/2000/2700/FLUSH)		190	5.8	6000-700E	2



# Foam Expansion Tubes

Lightweight composite foam tubes are corrosion resistant and easy to handle with bases that snap securely onto the nozzle in seconds. The foam tubes are specifically designed to require no alteration of the nozzle itself for use. The base of the tube includes large air intakes; expansion rates are easily varied with nozzle pattern.



Compatible Nozzle Model	FOAM TUBE MODELS		
	251-6	252-8	253-9
R.A.N.™	•		
6000 Series	•		
HF – 350/350A/500/500A	•		
IMS – 350/500	•		
CJ – B/RC/B-RC	•		
SM – 1000/E/H		•	
SM – 1250/E/B/BE/H/HB		•	
SM – 1500E			•
SM – 2000/E/B/BE/H/HB			•
SM – 1000-HF / E-HF			•
SM – 2000-HF / E-HF			•
Foam Tube Details			
Length (Inches)	14.75	16.688	16.136
Weight (Lbs.)	3.0	6.3	7.15
Tube Base	Composite	Metal	Metal





SELECT-O-STREAM®

## Select-O-Stream®

- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Elk-O-Lite® nozzles are hard anodized with chrome-plated trim
- Corrosion resistant brass nozzles have a satin brass finish
- Large handles allow for easy stream pattern management
- Grease zerk for easy lubrication of tip threads
- Heavy-duty protective rubber bumper
- AFFF compatible
- Available FM rated

MASTER STREAM

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Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)				PATTERN CONTROL		TEETH	MATERIAL		CERT.	EFFECTIVE REACH (Ft.)		Weight (Lbs.)	MODEL	FIGURE
	350 (1325)	500 (1893)	750 (2839)	1000 (3785)	Direct Manual	Remote Control	Cut Metal	Brass	Elk-O-Lite®	FM Approved	At Lowest Flow	At Highest Flow			
	PSI (BAR) 100 (6.89)														
2.5"	•	•			•		•		•		150	173	5.5	CJ	1
	•	•			•		•	•		•	150	173	12.4	CJ-B	1
	•	•				•	•		•		150	173	7.3	CJ-RC	2
	•	•				•	•	•		•	150	173	14.5	CJ-B-RC	2
			•	•	•		•		•		238	248	6.5	CJN	1
			•	•	•		•	•		•	238	263	15.6	CJN-B	1
			•	•		•	•		•		238	263	8.5	CJN-RC	2
			•	•		•	•	•		•	238	263	17.8	CJN-B-RC	2
	•				•			•				150	10.8	IMS-350*	3
		•			•			•		•		173	10.8	IMS-500*	3
			•		•			•		•		238	13.1	IMS-750	4
				•	•			•		•		263	13.1	IMS-1000	4

\* Wide Fog is 140°

## SELECT-O-STREAM® CONFIGURATIONS

<b>Figure 1</b>	<b>Figure 2</b>
	
MANUAL <span style="float: right;"><i>Fig. 1</i></span>	REMOTE <span style="float: right;"><i>Fig. 2</i></span>
<b>Figure 3</b>	<b>Figure 4</b>
	
IMS-350 <span style="float: right;"><i>Fig. 3</i></span>	IMS-1000 <span style="float: right;"><i>Fig. 3</i></span>

<b>OPTIONS</b>
<b>THREADS</b>
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>

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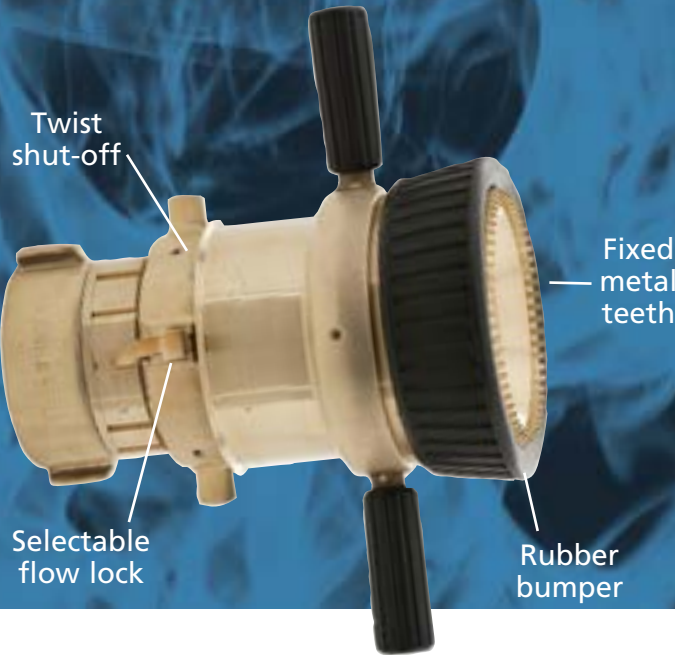
# MASTER STREAM



SELECT-O-FLOW®

MASTER STREAM

## Select-O-Flow®

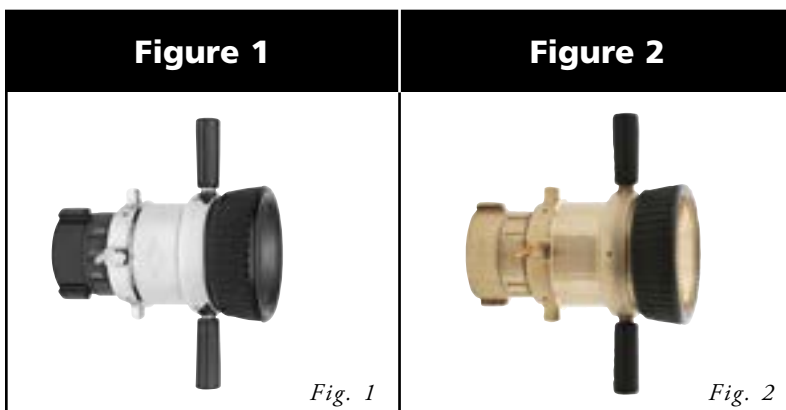


- Selectable flow rate, changeable even during flowing conditions
- Constant flow nozzle — straight stream, narrow fog (30°), or wide fog (90°)
- Flow efficient with a fully machined waterway for excellent stream quality
- Construction:
  - Elk-O-Lite® nozzles are hard anodized with chrome-plated trim and rubber bumper
  - Corrosion resistant brass nozzles have a heavy-duty protective rubber bumper
- Low maintenance components
- AFFF compatible

6-13

Base Size	FLOW RATES	PRESSURE	MATERIAL		Effective Reach (feet) @ Highest Flow	Weight (Lbs.)	MODEL	FIGURE
			Brass	Elk-O-Lite®				
2.5"	GPM (LPM)	100 (6.89)						
	300/550/750 (1136/2082/2839)		•	•	221	7.6	CSW	1
	350/500/750/1000/1250 (1325/1893/2839/3785/4732)		•	•	350	10.0	CSW-L	1
			•	•	350	21.4	CSW-LB	2

### SELECT-O-FLOW® CONFIGURATIONS



OPTIONS
THREADS
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>



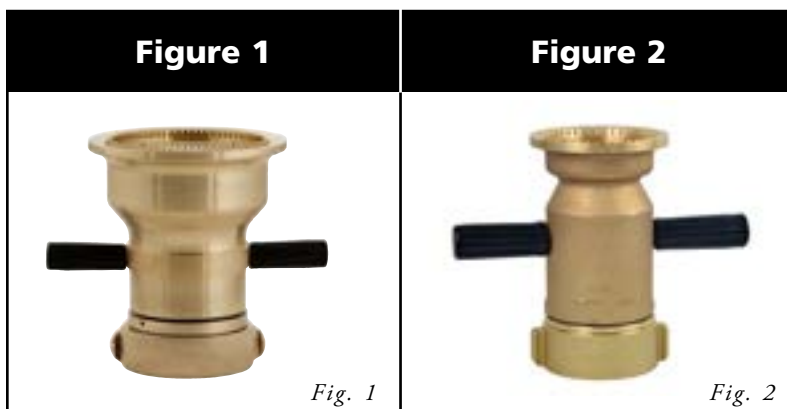
## Mystery®



- Original Master Stream fog nozzle, created for industrial applications
- Combination nozzle — straight stream, narrow fog (30°), or wide fog (90°)
  - The J and JN nozzles feature variable flow from shut-off to wide fog
  - The CJK nozzle is a constant flow nozzle
- Low maintenance components and convenient grease zerks

Base Size	AVAILABLE STANDARD FLOW RATES GPM (LPM)							Twist Shut-off	Effective Reach (Ft.)	Weight (Lbs.)	MODEL	FIG.
	350 (1325)	500 (1893)	1000 (3785)	1250 (4732)	1500 (5678)	1750 (6624)	2000 (7571)					
	PSI (BAR) 100 (6.89)											
2.5"	•	•						•	135	8.5	J	2
			•					•	170	9.3	JN	2
3.5"				•	•	•	•		325	22.3	CJK	1

### MYSTERY® CONFIGURATIONS



OPTIONS
THREADS
<i>All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.</i>

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SELF-EDUCTING

MASTER STREAM

## Self-Educting

Self-Educting master stream nozzles turn any monitor into a foam station without the use of additional equipment and have been part of Elkhart's fire suppression arsenal for over 20 years. Elkhart is proud to have been one of the pioneers in the development of the Hydro-Foam® line of self-educating nozzles.

Some of the features of self-educating nozzles include:

- Designed specifically for use with Class A and B foam, including AFFF and fluoroprotein
- Field-adjustable foam proportioning with pre-set options
- Combination nozzle — include straight stream, narrow fog (30°), or wide fog (90°)

Since introduction, Elkhart has expanded the self-educating Master Stream nozzle line to include:

- Easy to use, original Hydro-Foam® nozzles of brass or Elk-O-Lite® construction
- X-Stream® nozzles that combine self-educating ability with the convenience of automatic metering

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Foam pick-up hose attachment inlet



Large handles allow for easy pattern management



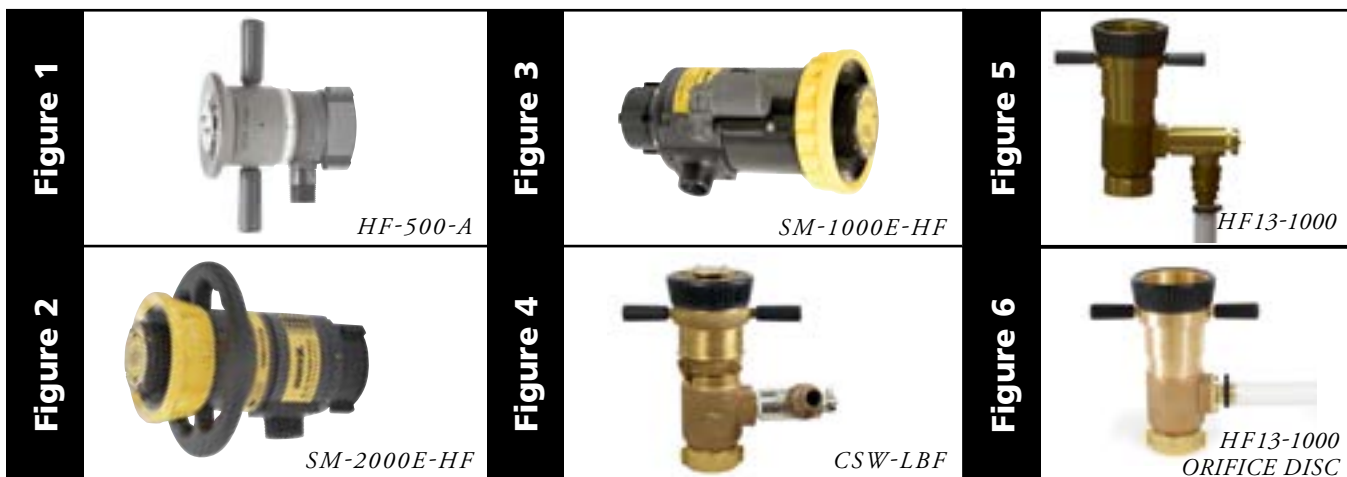
	NOZZLE FAMILY	
	X-Stream®	Hydro-Foam®
Flow Type	Automatic	Fixed
Description	High flow automatic nozzle	Original self-educating nozzle
Benefit	Optimizes use of concentrate and produces effective foam under a variety of conditions	Simple to use and flows well. Elk-O-Lite® version is lightweight and excellent for portable monitor use.
Foam Proportioning	Dual range, field selectable (SM-1000-HF and SM-1000E-HF) or fixed metering (SM-2000-HF and SM-2000E-HF)	Fixed metering via orifice insert

OPTIONS
<ul style="list-style-type: none"> <li>SM-1000E-HF features an 8' pick-up tube</li> <li>SM-2000E-HF features an 8' pick-up tube</li> </ul>
THREADS
All nozzles are NHT unless otherwise specified. See index T-13 for optional base threads.

Base Size	FAMILY / FLOW RATE					FOAM PROPORTIONING						Certifications	MATERIAL / FINISH				Effective Reach (Ft.)	Weight (Lbs.)	MODEL	FIGURE	
	X-STREAM®/AUTOMATIC		HYDRO-FOAM®/FIXED			CONFIGURABLE			SELECTABLE				BRASS	Composite	Elk-O-Lite®						
	GPM (LPM)								1/2%	1%	3%					6%					1/2% / 1%
	350-1000 (1325-3785)	750-2000 (2839-7571)	350 (1325)	500 (1893)	750 (2839)	1000 (3785)															
2.5"			•				•	•	•	•			•	s	o			145	13.2	HF-350	1
			•				•	•	•	•							s	145	4.2	HF-350-A	1
					•		•	•	•				•	s	o			162	13.2	HF-500	1
					•		•	•	•								s	162	4.2	HF-500-A	1
	•																s	250	20.7	SM-1000-HF	2
	•													•			s	250	20.7	SM-1000E-HF	3
									•						s			212	22	CSW-LBF	4
															s			200	22	HF13-750	5,6
3.5"																	s	212	22	HF13-1000	5,6
		•															s	295	21.6	SM-2000-HF	2
		•											•				s	295	21.6	SM-2000E-HF	3

KEY s = standard o = option  
\*Fog pattern is 80°

## SELF-EDUCTING FOAM CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.



## SELF-EDUCTING NOZZLE ACCESSORIES



### QUICK-CONNECT COUPLING

- The brass Quick-Connect Coupling is a convenient way of attaching/detaching pick-up hose
- Specify brass or chrome finish
- Length: 3.4"
- Weight: 1.2 lbs.

### SHUT-OFF VALVE

- Quarter turn ball valve for positive shut-off of foam supply
- Attaches to foam inlet of nozzle
- Specify chrome or brass finish



### METERING VALVE

- The quarter turn ball valve for instant proportioning change
- Available in 1% / 3% or 3% / 6% configurations
- Attached to foam inlet of nozzle
- Specify chrome or brass finish
- Length: 3"
- Weight: 1.3 lbs.

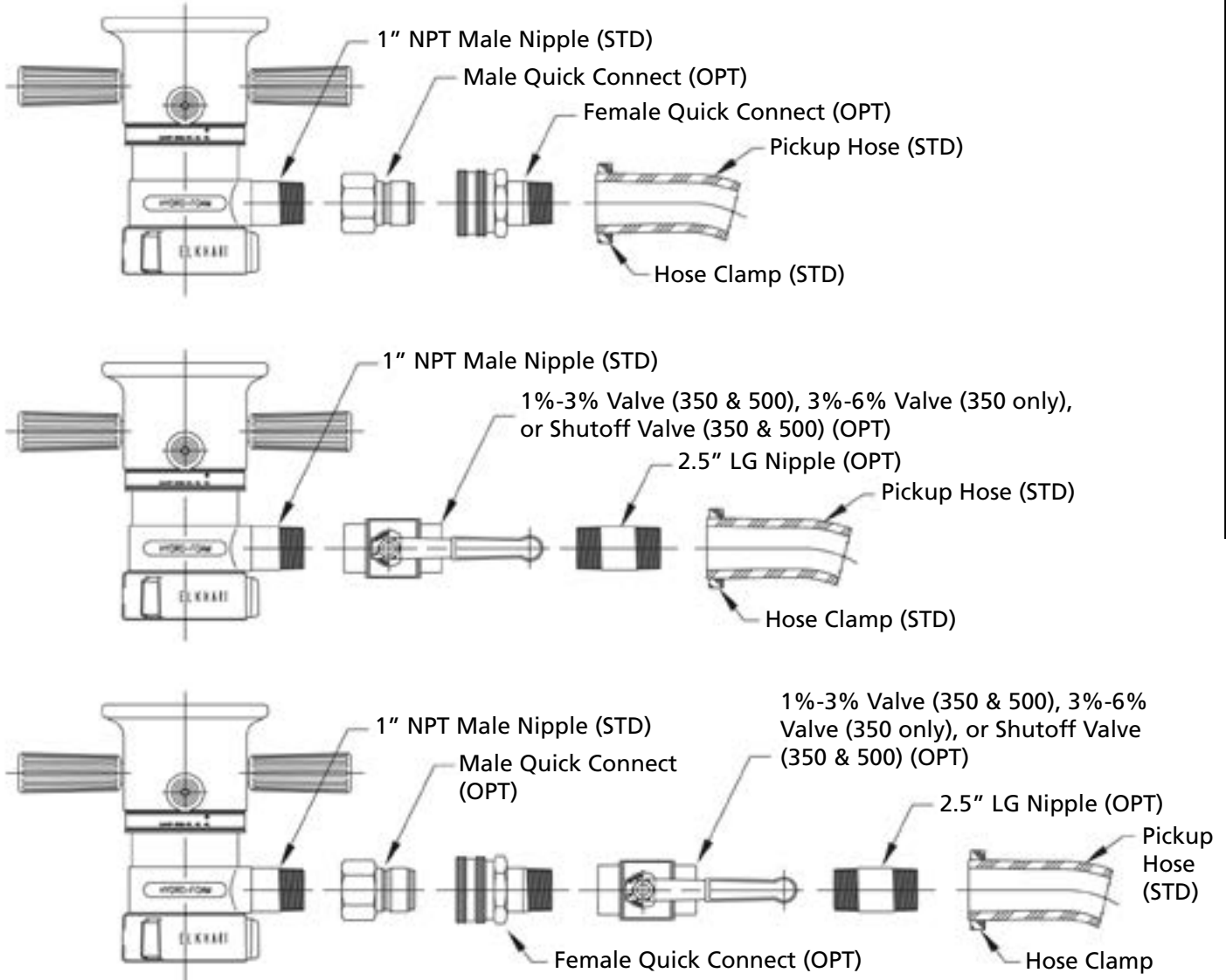


### DRUM PICK-UP KIT

- Allows foam inlet of nozzle to be pre-connected to a 55 gallon drum of concentrate
- Kit 1 includes PVC pick-up tube with shut-off valve, brass vacuum breaker, and clear reinforced vinyl pick-up hose (8 feet)
- Kit 3 or Kit 4 includes PVC pick-up tube with shut-off valve only. Replaces non-valve pick-up tube that comes with nozzle.

COMPATIBLE ACCESSORIES				
ITEM	FOAM NOZZLE			
	X-Stream®		Hydro-Foam®	
	SM-1000 HF	SM-2000 HF	350/A	500/A
Quick-connect			•	•
Shut-off Valve with Quick-connect			•	•
1% / 3% Metering Valve with Quick-connect			•	•
3% / 6% Metering Valve with Quick-connect			•	•
Shut-off Valve			•	•
1% / 3% Metering Valve			•	•
3% / 6% Metering Valve			•	•
Drum Pick-up Kit 1			•	•
Drum Pick-up Kit 3	•			
Drum Pick-up Kit 4		•		

### OPTIONAL HARDWARE FOR FOAM INLET LINE



**NOTE:** These illustrations show typical combinations of valves and fittings. Other combinations can be provided to satisfy customer needs.





FIXED SYSTEM

## Fixed System

Designed for use in fixed system applications. Adjustable nozzles can be pre-set at the factory or set in the field at time of installation. The fog pattern, which can be set up to 120°, can easily be set or adjusted at the job site.



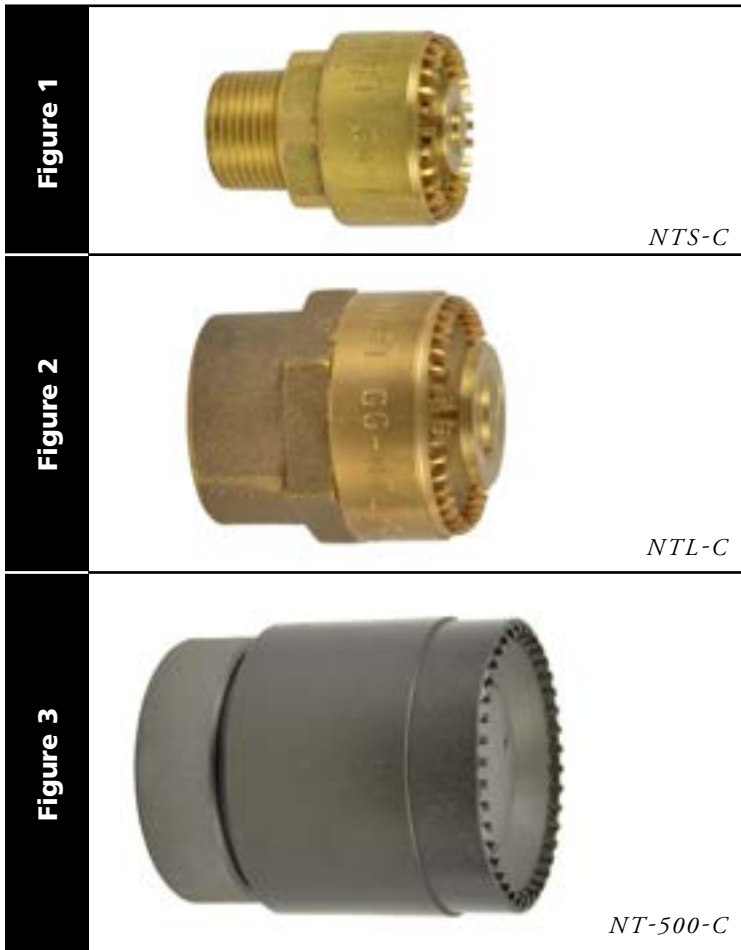
MASTER STREAM

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Base Size	ADJUSTABLE FLOW RATES GPM (LPM)			STANDARD FLOW RATES GPM (LPM)			INLET OPTIONS		MATERIAL		MODEL	FIGURE
	5-40 (20-150)	40-100 (150-380)	100-250 (380-850)	350 (1325)	500 (1890)	1000 (3780)	Male	Female	Brass	Elk-o-Lite®		
	PSI (BAR) 100 (6.89)											
0.75"	•						s	o	•		NTS-C*	1
1.0"		•					s	o	•		NTL-C*	2
1.5"			•				s		•		NT-C*	2
2.5"				•				s		•	NT-350-C	3
					•			s		•	NT-500-C	3
						•		s		•	NT-1000-C	3

KEY s = standard o = option  
 \*NOTE: Fog pattern can be set up to 120°

### FIXED SYSTEM CONFIGURATIONS



OPTIONS
THREADS
All nozzles are rigid NPT connections unless otherwise specified. See index T-13 for optional base threads.

Figures depict general product types only and are not intended to be inclusive of all product features.



# Industrial Systems

Combining modern technology with years of experience, Elkhart's industrial systems are designed for use in many different types of industrial settings, including: refineries, chemical plants, loading docks, tanker berthings, railroad yards, offshore platforms, mining operations, etc.

A complete Elkhart Brass industrial fire suppression system is composed of hardware (water cannon / monitor, nozzle, valve, etc.), electrical capabilities (control system, wiring, etc.), programming, and integration of the hardware and software within the facility.

The instant the monitor is needed for fire protection or actual firefighting, it can be activated from a remote location where the operator can turn on the water supply; direct the monitor vertically or horizontally; and change the stream pattern of the nozzles; all from a safe distance. There is also an option that allows the monitor to oscillate automatically and start an auxiliary device such as foam or booster pump, thus freeing the operator to attend to other duties.

Elkhart's industrial systems are available as a pre-engineered solution or a custom created installation that offer multiple options that accommodate any installation:

- **Single Monitor or Multi-Monitor system**
- **Environment Conditions: Class I, Division 1 or Division/Zone 2 ; Marine (Saltwater) ; Caustic Gas Environments**
- **Material: Brass ASTM B-62/85-5-5-5 (Marine spec) or ASTM 584/81-3-7-9 ; Stainless Steel (299-20 Only)**
- **Actuation: Electric ; Hydraulic**
- **Communication: Electric (Discrete Cable) ; Electronic (Digital Network) ; Wireless (Digital Network)**
- **Operator Controls: Push Button ; Joystick (Electrical) ; Touch Screen / Digital Panel ; Plant Interface ; Portable RF**
- **Voltage: 120, 240, 480 VAC STD (380 VAC Optional)**
- **Common Elective Features: System status and warning notification, panic button discharge and oscillation, plant supervisory control integration, multiple control**



### ECHO (ERCM):

Electric Remote Controlled Monitor systems are pre-engineered systems specifically designed for hazardous location Class I, Division or Zone 2 environments.

Each ERCM includes: monitor / water cannon (85 brass), master stream nozzle (brass\*), monitor junction box (stainless steel), monitor motor control panel (stainless steel), and an operator control panel (stainless steel).

### HRCM:

Hydraulic Remote Controlled Monitor systems are pre-engineered systems specifically designed for hazardous location Class I, Division 1 environments.

Each HRCM includes: monitor / water cannon (85 brass or SS), master stream nozzle (brass), valve & pump box (NEMA 7/4 cast aluminum) with spool assembly (welded steel riser pipe), and operator control panel (NEMA 7/4 or NEMA 4X).

### Custom:

Custom systems are designed and engineered for your specific hazardous location application. This could include anything from gas mitigation to mining operations to marine & saltwater applications.

Custom systems allow the user to specify how many monitors per system, the environmental rating, material, actuation type, communication type, etc.

Contact your Elkhart Brass representative to start designing your next installation.



\*Available with Electroless Nickel for increased corrosion resistance.





ERCM

## ECHO

### Hazardous Location: Class I, Division or Zone 2

When a fire strikes, seconds count. Prompt response can mean the difference between a minor inconvenience and a six-month plant shut-down. Instantaneous control needs to be in reach, but well out of harm's way. At Elkhart Brass, our advanced electronic controls provide prompt and dependable control of potential crisis situations. That's just one reason why many of the biggest names in the industry protect their physical investments with our electronic remote controlled monitor (ERCM) ECHO systems. They also know we have the experience and capabilities to do the entire job right - right from the start and all the way through final installation and service.

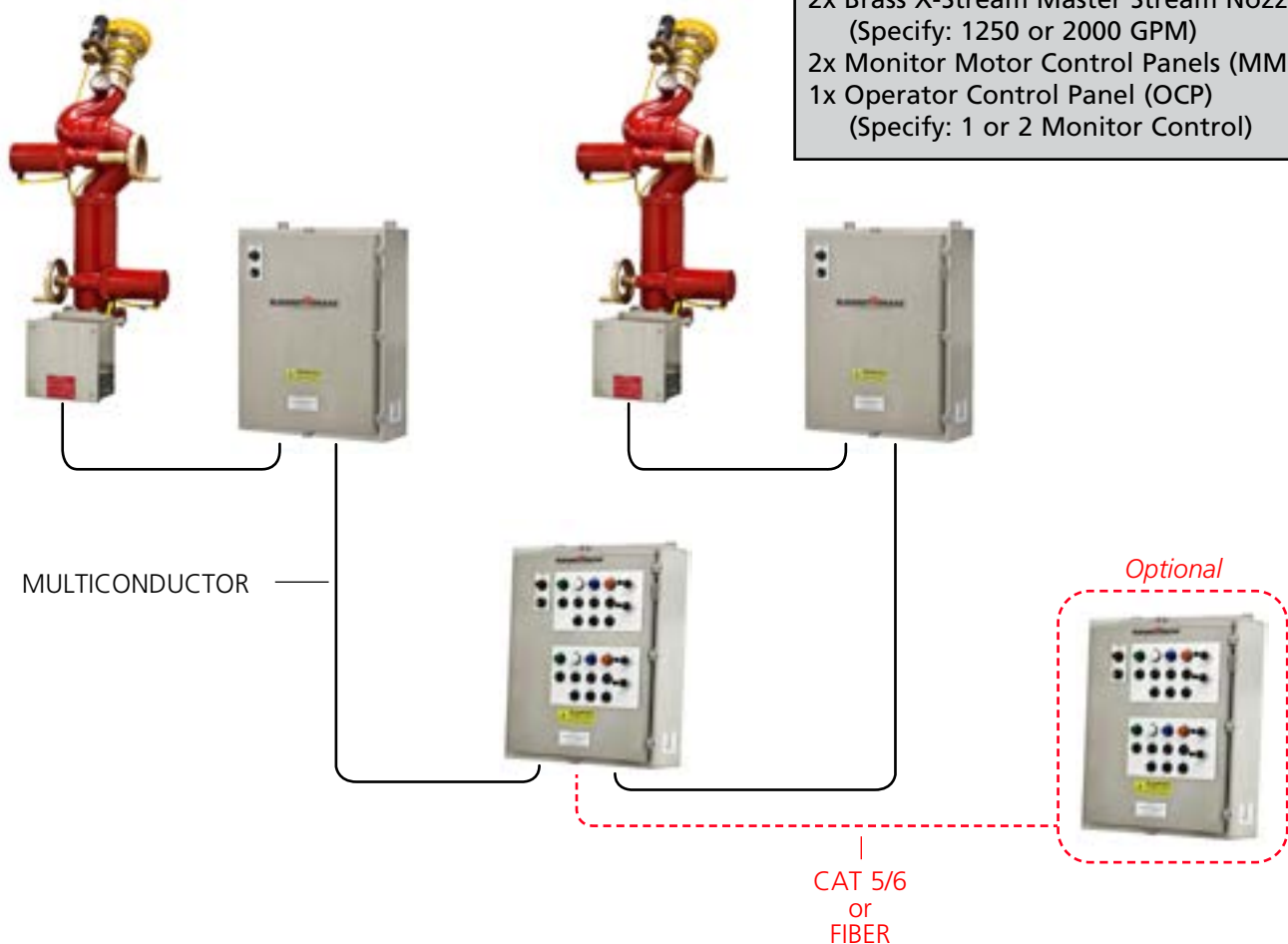
Pre-engineered ECHO systems are designed for remote firefighting and gas mitigation applications and support two to sixteen monitors thanks to systems expandability.

### Spit-Fire 8394053 Features:

- 2000 GPM (7570 LPM) max flow @ 200 PSI (13.8 BAR) max working pressure
- Rugged, corrosion-resistant cast brass
- 4"-150# ANSI flange base inlet
- 3.5" NHT male discharge outlet
- Double-race, SS bearings on brass vertical and horizontal swivels
- Junction Box is stainless steel, NEMA 4X (IP 66) water tight, corrosion resistant ATEX certified & UL listed
- 346° horizontal travel (L173°/R173°) & 135° vertical travel (+90° to -45°)
- Motors are UL recognized for Class I, Division or Zone 2 use and provide constant torque and speed, capable of continuous operation in all modes including stall conditions all at the same low current draw
- Monitor meets NEC (NFPA 70) Article 501 requirements for use in Class I, Groups A, B, C, & D, Division or Zone 2 & Article 505 – Class I, Zone 2, A Ex nA IIC T4 hazardous location areas
- System (Monitor, Cables, & Junction Box) is FM approved for Class I, Division or Zone 2, Groups A, B, C, D & T4
- FM approved: Includes whole monitor assembly (motors, cables, junction box, etc.)
  - FM approved for Class I, Division or Zone 2 use, Groups A, B, C & D, T4
  - Motors and cables FM rated to IP67, Junction Box FM rated to IP66









## ECHO Base System:



- 2x Spit-Fire Monitors
- 2x Brass X-Stream Master Stream Nozzles  
(Specify: 1250 or 2000 GPM)
- 2x Monitor Motor Control Panels (MMCP)
- 1x Operator Control Panel (OCP)  
(Specify: 1 or 2 Monitor Control)

## Components & Options:

X-Stream Nozzle	Industrial Valve	Motor Controls	Operator Controls	HMI Touchscreen	Portable RF Control
(1) 	(2) 	(3) 	(4) 	(5) 	(6) 

COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
X-Stream Series Nozzle	Automatic	1250 GPM (4731 LPM)	1	SM-1250BE
		2000 GPM (7570 LPM)	1	SM-2000BE
Industrial Valve	Butterfly	4" (1300 in/lbs torque)	2	70117000
		8" (2500 in/lbs torque)	2	70133000
Control Panels	Stainless Steel	Monitor Motor Control Panel (MMCP)	3	81471068
		Operator Control Panel (OCP)	4	24359000
	Touchscreen	HMI Control Room Consolette	5	24352078
	Portable RF Control	Wireless transmitter and receiver options	6	



HRCM

## HRCM

### Hazardous Location: Class I, Division 1

The Hydraulic Remote Controlled Monitor (HRCM) system includes a monitor with nozzle, a valve box complete with hydraulic pump motor tank unit, and a control box with a complete panel of function controls. Both the valve box and the control panel are available in either stainless steel NEMA #4X for Class I, Division or Zone 2, or unclassified areas; or cast aluminum NEMA #7/4 for Class I, Groups B, C & D, Divisions 1 & 2 hazardous area classifications. Several monitors may be operated from one control station with the option of a secondary control station at another remote location.



#### 294-11XBHC Features:

- 1100 GPM (4164 LPM) max flow
- Rugged, corrosion-resistant cast brass
- 4"-150# ANSI flange base inlet
- 2.5" NHT male discharge outlet
- Double-race, ball bearings on vertical and horizontal swivels



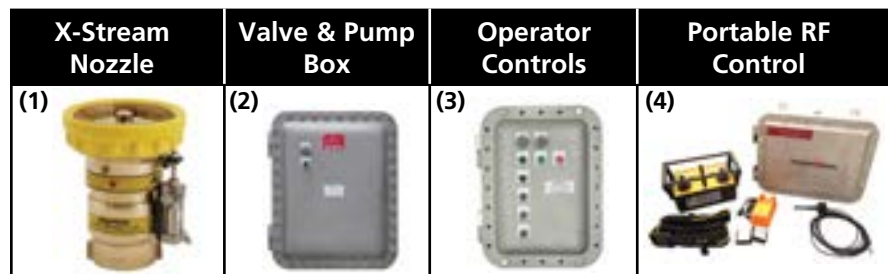
#### 299-20XHC Features:

- 2000 GPM (7570 LPM) max flow
- Seamless, 304 stainless steel tubing (3.5" I.D.) with cast stainless steel swivel joints
- 4"-150# ANSI flange base inlet
- 3.5" NHT male discharge outlet
- Double-race, stainless steel bearings on vertical and horizontal swivels
- Safety covers on both vertical and horizontal spur gears

## Common Monitor Features:

- Powerful hydraulic actuators with sufficient torque to move the monitor even under the most adverse conditions.
- These actuators have built-in, hydraulic flow controlling, adjustable needle valves and are constructed of materials suitable for salt water environments.
- The vertical actuator allows movement of 150° (+90/-60).
- The horizontal rotation of 180° is standard; 270° and 360° are optional (please specify).
- Automatic horizontal oscillation is available upon request:
  - NEMA #4X - 20°-180° (requires NEMA #4X valve box)
  - NEMA #4X - 20°-360° (requires NEMA #4X valve box)
  - NEMA #7/4 - 20°-180° (requires NEMA #7/4 valve box)
  - NEMA #7/4 - 20°-360° (requires NEMA #7/4 valve box)
- Nozzle pattern is infinitely adjustable from straight stream to wide fog by means of two hydraulic pistons with a flow control, needle valve.
- Monitors are shipped mounted on top of a 38" long pipe spool (44" for monitors with optional horizontal oscillation) with all hydraulic lines attached and the valve box mounted to the spool.
- The entire assembly can be installed at ground level or in an elevated location.
- The monitors can also be utilized on fire boats or work boats.
- A red urethane enamel finish is standard on all monitors.

## Components & Options:



COMPONENTS & OPTIONS			ILLUSTRATION	MODEL
X-Stream Series Nozzle	Automatic	1250 GPM (4731 LPM)	1	SM-1250HB
		2000 GPM (7570 LPM)	1	SM-2000HB
Control Panels	Valve & Pump Box with Spool (riser pipe) Assembly	NEMA 4X (stainless steel) for unclassified areas		81250001
		NEMA 7/4 (cast aluminum) for hazardous locations	2	81249001
	Operator Control Panel (OCP)	1 Monitor ; NEMA 4X (stainless steel)		24230000
		2 Monitor ; NEMA 4X (stainless steel)		24231000
		4 Monitor ; NEMA 4X (stainless steel)		24233000
		1 Monitor ; NEMA 7/4 (cast aluminum)	3	24224000
		2 Monitor ; NEMA 7/4 (cast aluminum)	3	24225000
		4 Monitor ; NEMA 7/4 (cast aluminum)	3	24227000
Portable RF Control	Wireless transmitter and receiver options	4		



# APPARATUS VALVES



## SELECTOR GUIDE

The table below includes information for both Apparatus Valves and Industrial Valves.

TYPES			SIZES (Inches)		STYLES		PRIMARY APPLICATION			ACTUATORS		CERT.		VALVE SERIES	PAGE
Ball	Butterfly	Other	Minimum	Maximum	Angle	Inline	Fire Apparatus	Pressure Reducing / Restricting	Commercial / Industrial Installations	Manual	Electric	FM Approved	UL Listed		
•			1	1 ½		•	•			•				Single Body Valve	8-6
•	•		1 ½	8		•	•			•	•			Unibody Valve	8-7
		•	3 ½	6			•			•				Piston Intake Valve	4-10
		•	2 ½	3	•		•							Relief	8-28
	•		4 ½	6		•	•			•				Suction Intakes	8-2
		•	2 ½	2 ½		•	•							Tank-Fill Check	8-28
•			2 ½	3		•	•			•				2925A	8-19
•			3	3		•	•			•				W-893	8-19
		•	1 ½	2.5		•	•							Hydrant	8-4
		•	2 ½	2 ½	•	•		•					•	Field Adjustable Pressure Reducing (URFA)	10-1
		•	1 ½	2 ½	•	•		•					•	Pressure Reducing (Pressure-Matic)	10-3
		•	1 ½	2 ½	•			•				•	•	Pressure Restricting	10-5
		•	1 ½	2 ½	•				•			•	•	Angle	10-7
	•		3	4		•			•					84 Butterfly Valve	5-53

APPARATUS VALVES

8-1

# Suction Intake

Elkhart Brass offers a special cast iron, butterfly valve with Elk-O-Lite® end caps for use as a suction intake in apparatus applications. The valve features:

- Aluminum/bronze disc
- Re-inforced EPDM seat (bi-directional)
- Two piece stainless steel stem
- Rated to 200 psi
- Finished in red urethane enamel with polished chrome hand-wheel and hard anodized end caps
- Gear operated version complies with NFPA 1901



Gearbox can be rotated to assist with positioning without interference

Shown with Female #16

Shown with Male #36

# APPARATUS VALVES



## SUCTION INTAKE

MODELS		2850	2860
Waterway Size (Inches)		5"	6"
Operation Style	Gear	s	s
	Lever/Trigger	o	o
Weight (Lbs.)*		35.8	42.4
Available Adapters/End Caps	Type	Size	
	Rigid NPT Female	5"	•
		6"	•
	Rigid NHT Female	4.5"	•
		5"	•
		6"	•
	Storz F/S	4"	•
		5"	•
	NHT Swivel Female	4"	•
		4.5"	•
		5"	•
		6"	•
	NHT Male	4"	•
		4.5"	•
		5"	•
		6"	•

### HOW TO ORDER

- Select suction intake model (2850 or 2860).
- Select intake adapter from available options.
- Select discharge adapter from available options.
- Specify operation style (gear or lever/trigger).

KEY s = standard o = option  
 \* Intakes only, excludes adapter options

### ADDITIONAL INFORMATION

#### OPTIONS

- NHT swivel female adapters available with long handle or rocker lug.
- Optional strainer available on some male adapters.
- Optional air bleeder valve on male adapters.

#### THREADS

Valve information is NHT unless otherwise specified. See index T-13 for alternative thread options.

## Hydrant

Available in sizes ranging from 1½" to LDH for portable use (in either aluminum or brass) or permanent mount utilizing the NPT inlet.



X-86A



X-86



# APPARATUS VALVES



## HYDRANT

# APPARATUS VALVES

8-5

INLET SIZES					OUTLET SIZES					VALVE TYPE		HANDLE STYLE			MATERIAL/TRIM				DIMENSIONS		MODEL	FIGURE
Female (NPT)		Female (NHT)			Female (NHT)		Male (NHT)			Storz		Ball	Gated	Crank	Hand-wheel	Twist-Lock	Brass					
1.5"	2.5"	2.5"	4.5"	5.0"	3.5"	4.0"	4.5"	1.5"	2.5"	3.5"	4.0"						4.5"	4.0"	5.0"	Cast	Satin	Chrome (cast)
		s							s									s	12.5	5.5	X-86A	3
		s							s									s	6.25	6.4	B-96A	5
s								s							s		o		5.75	4.5	88-1.5	1
	s								s						s		o		8.5	9.1	88-2.5	1
		s							s							s	o		12.5	13.75	X-86	2
		s							s							s	o		8.0	19.75	B-94	4

Figure 1



### 88

- Non-rising stem design
- Metal to metal seat
- Pressure rated to 300 psi (20.68 bar)

Fig. 1

Figure 4



### B-94

- Adjustable, teflon impregnated, neoprene seat
- Pressure rated to 250 psi (17.2 bar)
- Red urethane finish with satin brass or chrome trim (specify)

Fig. 4

Figure 2



### X-86

- Non-rising stem design
- Metal to metal seat
- Pressure rated at 175 psi (12.07 bar)
- Red urethane finish with satin brass or chrome trim (specify)

Fig. 2

Figure 5



### B-96A

- Adjustable, teflon impregnated, neoprene seat
- Pressure rated to 200 psi (13.79 bar)

Fig. 5

Figure 3



### X-86A

- Non-rising stem
- Metal to metal seat
- Pressure rated to 175 psi (12.07 bar)

Fig. 3

## ADDITIONAL INFORMATION

### OTHER PRODUCTS

Cap and chain are Elkhart model #310 and may be found on page 11-1.

### THREADS

Valve information is NHT unless otherwise specified. See index T-13 for alternative thread options.

# Single Body Apparatus

Single Body Apparatus Valves come with an integral actuator of your choice - direct or remote. Designed specially for reliability, ease of installation and ease of use. The Single Body ball valve is designed to the industry standard dimensions. Features the option to select one of eight handle positions with removal of a single bolt. It's that simple. Pair Single Body valves with Unibody Apparatus line for a total apparatus valve solution.

- 1" & 1.5" body sizes
- Dual self-adjusting seats provide bi-directional sealing
- Corrosion resistant brass body with stainless steel valve ball
- Eight position handle adjustment in 45° increments

Remote Handle (R1)



Direct Handle (TS)

Size	ACTUATOR				MATERIALS			BALL TYPE	WORKING PRESSURE (psi)	C <sub>v</sub> VALUE	ELKHART MODEL	Akron Model
	R1	TS	Travel	Locking	Body	Ball	Seat					
1"	•		90°		Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	81	SB10/R1	8810/R-1
1½"	•		90°		Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	206	SB15/R1	8815/R-1
1"		•	105°	•	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	81	SB10/TS	8810/TS
1½"		•	105°	•	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	206	SB15/TS	8815/TS

NOTE: See 8-15 for Single Body Adapters.



# Unibody Apparatus

The answer to all your apparatus valve needs — the Unibody Apparatus Valve. The Unibody ball valve has been designed to be dimensionally identical to the Akron Brass heavy-duty apparatus valves for cross compatibility. Additionally, Elkhart's Unibody ball valve has a single body design to simplify both configuration and installation.

A unique aspect of the Unibody valve actuator is the ability to be easily interchanged among the various Unibody valve sizes to simplify selecting or changing actuators. Just remove 4 bolts, and you can change the actuator on any Unibody Valve without breaking the waterway or internal plumbing.

- All valve materials are designed for endurance. (See chart on page 8-9 for specifics)
- Ball valves have dual self-adjusting seats, which provide bi-directional sealing and do not require O-rings that might cut and tear during servicing
- Ball valves feature swing-out construction, which allows for easy access to internal waterway without removing the valve from the truck plumbing
- Butterfly valves are bi-directional
- Adapters (end caps) and pump flanges are constructed of either brass or stainless steel
- Actuators are interchangeable — a valve may be easily converted to different actuation type without the need to break the waterway
- Durable handles and handle stops ensure dependability
- Manual handles may be easily changed to different positions by removing a single bolt
- The electric valve utilizes a three-inch extreme duty motor and gearbox for ultimate reliability
- Maximum working pressure rated to 250 psi (SB10, SB15, & EB15-EB35). EB40 rated to 250 psi if flow is in the direction of the arrow and 150 psi if in the opposite direction.
- Static pressure tested to 600 psi (SB10, SB15, & EB15-EB35) closed or open. EB40 is static pressure tested to 150/500 psi depending on which side pressure is applied when valve is closed, and 500 psi when valve is open.
- The Unibody valves meet or exceed NFPA 1901 standards







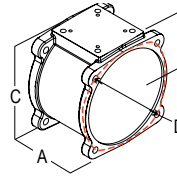
# APPARATUS VALVES



## UNIBODY APPARATUS

### BODIES

#### BALL VALVE BODY

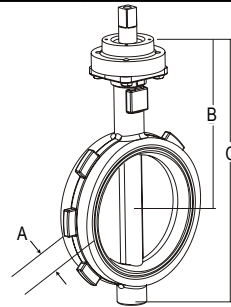


#### MODEL AND DIMENSION KEY

Size	DIMENSIONS				MATERIALS			BALL TYPE	WORKING PRESSURE (psi)	C <sub>v</sub> VALUE	ELKHART MODEL	Akron Model
	A	B	C	D*	Body	Ball	Seat					
1½"	3"	2¾"	4¾"	4½"	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	139	EB15	7615/7815
2"	3"	2¾"	4¾"	4½"	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	139	EB20	8620/8820
2½"	3½"	2¾"	5½"	5½"	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	277	EB25	8625/8825
3"	4"	3"	5½"	6½"	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	510	EB30	8630/8830
3½"	4"	3"	5½"	6½"	Brass Alloy 844	316 Stainless Steel	Hytrel	Round	250	510	EB35	8635/8835
4"	4"	4½"	8½"	7½"	Brass Alloy 844	Manganese Bronze	Hytrel	Flat	250/150	694	EB40	N/A

\* Bolt center diameter

#### BUTTERFLY VALVE



Butterfly Valve fits between 150# ANSI flanges. Butterfly Valves do not utilize adapters.

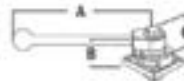
Size	DIMENSIONS			MATERIALS				WORKING PRESSURE (psi)	C <sub>v</sub> VALUE	ELKHART MODEL	Akron Model			
	A	B	C	Body	Wafer	Shaft	Seat							
3"	1 <sup>13</sup> / <sub>16</sub> "	7 <sup>57</sup> / <sub>64</sub> "	11 <sup>29</sup> / <sub>32</sub> "	Cast Iron	316 Stainless Steel	416 Stainless Steel	EPDM	250	262	EB3B				
4"	2 <sup>1</sup> / <sub>16</sub> "	8 <sup>45</sup> / <sub>64</sub> "	13 <sup>3</sup> / <sub>4</sub> "	Cast Iron	316 Stainless Steel	416 Stainless Steel	EPDM	250	647	EB4B				
				Carbon Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					285	400	EB4J
5"	2 <sup>1</sup> / <sub>4</sub> "	9 <sup>17</sup> / <sub>64</sub> "	14 <sup>23</sup> / <sub>32</sub> "	Cast Iron	316 Stainless Steel	416 Stainless Steel	EPDM	250	1141	EB5B				
				Carbon Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					285	650	EB5J
				316 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					275	650	EB5S
6"	2 <sup>6</sup> / <sub>25</sub> "	8 <sup>23</sup> / <sub>50</sub> "	13 <sup>43</sup> / <sub>100</sub> "	Cast Iron	316 Stainless Steel	416 Stainless Steel	EPDM	250	1580	EB6B				
				Ductile Iron	Aluminum/Bronze	416 Stainless Steel	EPDM					250	1950	EB6D
				Carbon Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					285	1050	EB6J
				316 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					275	1050	EB6S
8"	2 <sup>7</sup> / <sub>8</sub> "	11 <sup>5</sup> / <sub>64</sub> "	18 <sup>7</sup> / <sub>32</sub> "	Cast Iron	316 Stainless Steel	416 Stainless Steel	EPDM	250	2892	EB8B				
				Carbon Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					285	2200	EB8J
				316 Stainless Steel	316 Stainless Steel	17-4 PH Stainless Steel	PTFE					275	2200	EB8S

### ACTUATORS

#### DIRECT HANDLE



DIMENSIONS	INCHES	DESCRIPTION	ELKHART MODEL	Akron Model
Handle Length A (short)	5"	Short	D3F	TS
Handle Length A (long)	9 <sup>9</sup> / <sub>16</sub> "	Long	D1F	TS
Handle Height B $\perp$	1 <sup>7</sup> / <sub>8</sub> "	Short with slow close	D3S	TS
Overall Height C	2 <sup>1</sup> / <sub>4</sub> "	Long with slow close	D1S	TS
Overall Height C (with slow close)	3 <sup>5</sup> / <sub>8</sub> "	Short with chrome cover	D4F	TSC
		Long with chrome cover	D2F	TSC



# APPARATUS VALVES

## UNIBODY APPARATUS

### REMOTE HANDLE



DIMENSIONS	INCHES		DESCRIPTION	ELKHART MODEL		Akron Model
				Self-Locking	Non-Locking	
Handle Length A (short)	4½"		Short	R1F	R3F	R-1
Handle Length A (long)	7"		Long	R2F	R4F	R-2
Handle Height B $\perp$	1⅞"		Short with slow close	R1S	R3S	R-1
Overall Height C	2¼"			R2S	R4S	R-2
Overall Height C (with slow close)	3⅞"		Long with slow close			

### RACK & SECTOR



DIMENSIONS	INCHES		DESCRIPTION	ELKHART MODEL	Akron Model
Handle Offset A	4⅞"		Standard	S1F	R/S
Handle Height B $\perp$	1⅞"				
Overall Height C	1⅞"		Standard with slow close	S1S	R/S
Overall Height C (with slow close)	3⅞"				

### TWIST LOCK



DIMENSIONS	INCHES		DESCRIPTION	ELKHART MODEL	Akron Model
Handle Length A	8 <sup>15</sup> / <sub>16</sub> "		Standard	T1F	SZ
Handle Height B $\perp$	1⅞"				
Overall Height C	3"				

### GEAR



DIMENSIONS	INCHES		DESCRIPTION	ELKHART MODEL	Akron Model
Handle Offset A	2⅞"		Standard	G1F	G
Handle Height B $\perp$	1⅞"				
Overall Height C	3⅞"		High Pressure	G2F*	

Hand-wheels are ordered separately

\* For use on the EB6D only.

### ELECTRIC



E14X  
\*E16X

DIMENSIONS	INCHES		DESCRIPTION	ELKHART MODEL	Akron Model
Manual Offset A	2⅞"		Standard	E14X *E16X	E
Motor Length B	10¼"				
Overall Height C	3¾"				

Controllers are ordered separately

\* For use on the EB6D only.

### SLOW CLOSE



			<p><i>Slow close may be bolted to remote, direct, and rack &amp; sector actuators.</i></p>
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# APPARATUS VALVES



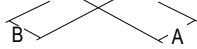
## UNIBODY APPARATUS

APPARATUS VALVES

8-11

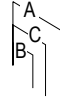
### ADAPTER DIMENSION KEY

#### PUMP ELBOW ADAPTERS



A = Valve Flange to Centerline of Elbow  
 B = Pump Flange to Centerline of Elbow

#### DISCHARGE & INTAKE ADAPTERS




















A = Overall Length  
 B = Length to Centerline of Drain Hole  
 C = Length to Edge of Drain Boss

		ADAPTERS													MODEL						
Style	Valve Size	Bolt Center Diameter (Inches)							Drain (°)	Flow Port	4 Degree	26 Degree	90 Degree	94 Degree	Offset	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akon #
		4 3/4"	4 1 1/2"	5 1/2"	5 3/4"	6 3/4"	7 1/16"	7 25/32"													
4 BOLT PUMP FLANGE (HALE)		2.5" 4 3/4"								4					2 3/4"	—	—		P427B		
		3.0" 4 3/4"								4					2 3/4"	—	—		P427B		
		3.5" 4 3/4"								4					2 3/4"	—	—		P427B		
		2.5" 4 3/4"												5d20m	6 1/4"	—	—		P401B	HD1-S	
		2.5" 4 3/4"												5d20m	6 3/4"	—	—		P403B	HD3-S	
		2.5" 4 3/4"												14d5m	5 1/2"	—	—		P404B	HD4-S	
		2.5" 4 3/4"								4					10 1/4"	—	—		P405B	HD5-S	
		3.0" 4 3/4"													7d	5 3/4"	—	—	P401B	HD1-S	
		3.5" 4 3/4"													7d	5 3/4"	—	—	P401B	HD1-S	
		2.5" 4 3/4"								F					5d20m	6 3/4"	3 3/8"	—	P409F	HD21-SF	
		2.5" 4 3/4"										90			3 1/4"	5 1/4"	—	—	P411B	SE1-S	
		2.5" 4 3/4"										90			5 1/4"	5 1/4"	—	—	P412B	SE2-S	
		3.0" 4 3/4"										90			3 3/4"	6"	—	—	P411B	SE1-S	
		3.0" 4 3/4"										90			4 3/4"	6"	—	—	P412B	SE2-S	
	3.5" 4 3/4"										90			3 3/4"	6"	—	—	P411B	SE1-S		
	3.5" 4 3/4"										90			4 3/4"	6"	—	—	P412B	SE2-S		
	2.5" 4 3/4"										90			2 1/2"	7 3/4"	—	—	P413B	SE3-S		
8 BOLT PUMP FLANGE (HALE)		3.0"			5 3/4"										2 3/4"	—	—		P851B	B1-SE	
		3.0"			5 3/4"					4					2 3/4"	—	—		P853B	B3-SE	
		3.5"			5 3/4"										2 3/4"	—	—		P851B	B1-SE	
		3.5"			5 3/4"						4				2 3/4"	—	—		P853B	B3-SE	
		4.0"			5 3/4"						4				4"	—	—		P853B	B3-SE	
		4.0"			5 3/4"						4				4"	—	—	Octagonal Flange	P858B	B8-SH	
		3.0"			5 3/4"						4				6 3/8"	—	—		P856B	B6-SE	
		3.5"			5 3/4"						4				6 3/8"	—	—		P856B	B6-SE	
		4.0"			5 3/4"						F				5 1/16"	2 1/16"	—	—	P850F	B20-SHF	
		3.0"			5 3/4"							90			4 3/16"	4 3/16"	—	—	P861B	HDE1-S	
		3.5"			5 3/4"							90			4 3/16"	4 3/16"	—	—	P861B	HDE1-S	
		4.0"			5 3/4"							90			9 1/2"	5"	—	—	P861B	HDE1-S	
	4.0"			5 3/4"								94		9 1/2"	5"	—	—	P869B	HDE94-S		

# APPARATUS VALVES

## UNIBODY APPARATUS

		ADAPTERS														MODEL					
Style	Valve Size	BoltCenter Diameter (Inches)							Drain (1/4")	FlowPort	4 Degree	26 Degree	90 Degree	94 Degree	Offset	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akron #
		4 3/8	4 1/2	5 1/2	5 3/4	6 1/2	7 1/8	7 1/2													
4 BOLT PUMPLANCE (WATEROUS)		1.5"	4 3/8													2 3/8	—	—	slots	P429B	B1-SX
		2.0"	4 3/8													2 3/8	—	—	slots	P429B	B1-SX
		2.5"	4 3/8													2 3/8	—	—	slots	P429B	B1-SX
		3.0"	4 3/8													2 3/8	—	—	slots	P429B	B1-SX
		3.5"	4 3/8													2 3/8	—	—	slots	P429B	B1-SX
		3.0"	4 3/8													4 1/2	—	—	slots	P425B	B5-S
		3.5"	4 3/8													4 1/2	—	—	slots	P425B	B5-S
		2.5"	4 3/8													2 3/8	—	—		P423B	B3-S
		2.5"	4 3/8													1 1/8	—	—		P418B	B2-SH
		3.0"									4					1 3/8	—	—		P493B	B3-SH
		3.5"									4					1 3/8	—	—		P493B	B3-SH
		4.0"				6 3/8					4					2	—	—	2 piece	P473B	B3-SH
		2.5"	4 3/8													1 3/8	—	—	clamp	P419B	B1-SW
		3.0"	4 3/8													1 3/8	—	—	clamp	P419B	B1-SW
		3.5"	4 3/8													1 3/8	—	—	clamp	P419B	B1-SW
		2.5"	4 3/8							F						3 1/2	1 3/16	—		P410F	B10-SF
	3.0"	4 3/8							F						3 3/16	1 3/8	—		P410F	B10-SF	
	3.5"	4 3/8							F						3 3/16	1 3/8	—		P410F	B10-SF	
8 BOLT PUMPLANCE (WATEROUS)		2.5"	4 3/8																	P814B	B4-S
		2.5"	4 3/8													4 1/2	—	—	4 holes & 4 slots	P815B	B5-S
		2.5"	4 3/8													6	—	—		P816B	B6-S
		3.0"	4 3/8													2 3/8	—	—		P814B	B4-S
		3.5"	4 3/8													2 3/8	—	—		P814B	B4-S
		2.5"					6 3/8				4					7/8	—	—		P871B	B1-SH
		4.0"					6 3/8				4					2	—	—	2 piece	P871B	B1-SH
		3.0"			5 1/2							26				2 3/8	—	—		P842B	B2-SW
		3.0"			5 1/2						4					3 3/8	—	—		P843B	B3-SW
		3.0"			5 1/2											2 3/8	—	—	slots	P841B	B1-SEW
		3.5"			5 1/2							26				2 3/8	—	—		P842B	B2-SW
		3.5"			5 1/2						4					3 3/8	—	—		P843B	B3-SW
		3.5"			5 1/2											2 3/8	—	—	slots	P841B	B1-SEW
		4.0"			5 1/2											4	—	—		P848B	B8-SW
		4.0"			5 1/2					F						5 1/16	2 11/16	—		P840F	B20-SFW
		3.0"			5 1/2							90				4 3/16	4 3/16	—		P845B	WDE1S
	3.5"			5 1/2							90				4 3/16	4 3/16	—		P845B	WDE1-S	
	4.0"			5 1/2							90				9 1/2	5	—		P845B	WDE1-S	
	4.0"			5 1/2								94			9 1/2	5	—		P849B	WDE94-S	
	1.5"	4 3/8									90				3 3/4	4 13/16	—		P817B	DE1-S	
GENERAL		1.5"	4 3/8								90				3 3/4	5 1/2	—		P818B	DE2-S	
		2.0"	4 3/8								90				3 3/4	4 13/16	—		P817B	DE1-S	
		2.0"	4 3/8								90				3 3/4	5 1/2	—		P818B	DE2-S	
		2.5"	4 3/8												2 3/8	—	—		P432B	B2-S	
4 BOLT PUMP FLANGE (DARLEY)		3.0"	4 1/2												2 3/8	—	—		P432B	B2-S	
		3.5"	4 1/2												2 3/8	—	—		P432B	B2-S	
		2.5"	4 1/2											6d	6 3/4	—	—		P431B	DD1-S	

APPARATUS VALVES



# APPARATUS VALVES



## UNIBODY APPARATUS


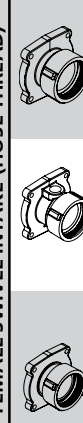
# APPARATUS VALVES

8-13

		ADAPTERS																MODEL					
Style	Valve Size	Pipe Size (Inches)								Drain(1/4")	Pressure Tap(1/4")	Flow Port	Check Valve	4 Degree Offset	30 Degree Droop	90 Degree Droop	Strainer	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akon #
		1	1 1/2	2	2 1/2	3	3 1/2	4	5														
RIGID NPT MALE		1.5"	1 1/2															1 1/8	—	—		NM01B	M1-S
		2.0"		2														1 1/8	—	—		NM01B	M1-S
		2.5"			2 1/2													2	—	—		NM01B	M1-S
		3.0"				3												2 1/16	—	—		NM01B	M1-S
		3.5"					3 1/2											2 1/16	—	—		NM01B	M1-S
		4.0"						4										2 1/16	—	—		NM01B	M1-S
		2.5"			2 1/2				D	P								3 3/16	1 1/8	1 1/8		NM03D	M3-S
		3.0"				3			D	P								3 3/16	1 1/8	2 1/8		NM03D	M3-S
		4.0"					4		D	P								4 1/4	1 1/8	2 3/8		NM03D	M3-S
RIGID NPT FEMALE		2.0"		2 1/2														1 15/16	—	—		NM12B	M12-S
		3.0"				4												3 3/4	—	—		NM12B	M12-S
		1.5"	1 1/2															1 1/4	—	—		NF01B	P1-S
		2.0"		2														1 1/4	—	—		NF01B	P1-S
		2.5"			2 1/2													1 1/8	—	—		NF01B	P1-S
		3.0"				3												1 1/8	—	—		NF01B	P1-S
		3.5"					3 1/2											2	—	—		NF01B	P1-S
		4.0"						4										2	—	—		NF01B	P1-S
		1.5"	1 1/2						D	P								3 3/4	1 3/8	2 3/8		NF02D	P2-S
RIGID NPT FEMALE		2.0"		2				D	P									3 3/4	1 3/8	2 3/8		NF02D	P2-S
		2.5"			2 1/2			D	P									3 3/8	1 3/8	2 3/8		NF02D	P2-S
		2.5"			2 1/2				D	P								4 3/16	1 3/4	2 1/2		NF22D	P2-SE
		3.0"				3			D	P								3 3/16	1 3/8	2 3/8		NF02D	P2-S
		3.5"					3 1/2		D	P								4	1 3/8	2 3/8		NF02D	P2-S
		4.0"						4	D	P								4 13/16	1 13/16	2 3/16		NF02D	P2-S
		1.5"		2														2 1/16	—	—		NF10B	P10-S
		2.0"			2 1/2													2 1/16	—	—		NF10B	P10-S
		2.5"				3												3 3/16	—	—		NF10B	P10-S
		3.0"					4		D	P								3 3/4	1 3/8	2 3/8		NF12D	P12-S
		2.0"		2	2 1/2						F							4 7/16	—	—	2" F NPT & 2.5" Vic	NF20F	P20-SF
		2.5"			2 1/2	3					F							4 7/16	—	—	2.5" F NPT & 3" Vic	NF20F	P20-SF
	3.0"				3					F							4 3/8	—	—		NF20F	P20-SF	
	4.0"					4				F							4 7/16	—	—		NF20F	P20-SF	
	1.5"	1 1/2	2					D			C						6	3 3/8	4 3/4	1.5" F NPT & 2" Vic	NF30C	P30-SCV	
	2.0"		2					D			C						5 1/8	3 3/8	4 3/8		NF30C	P30-SCV	
	2.5"			2 1/2				D			C						6 1/2	4 3/16	5 1/16		NF30C	P30-SCV	
	3.0"				3		4				C						6 1/16	—	—	3" F NPT & 4" Vic	NF40C	P40-SCV	
	3.0"				3		4										2 3/16	—	—	3" F NPT & 4" Vic	NF71B	VT1-S	
	3.0"				3		4	D	P								3 3/16	—	—	3" F NPT & 4" Vic	NF72D	VT3-S	
	4.0"					4	5										2 3/8	—	—	4" F NPT & 5" Vic	NF71B	VT1-S	

# APPARATUS VALVES

## UNIBODY APPARATUS

ADAPTERS															MODEL								
Style	Valve Size	Pipe Size (Inches)								Drain (1/4")	Pressure Tap (1/4")	Flow Port	Check Valve	4 Degree Offset	30 Degree Droop	90 Degree Droop	Strainer	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akon #
		1	1 1/2	2	2 1/2	3	3 1/2	4	5														
	1.5"		1 1/2														1 3/8	—	—		HM01B	M1-S	
	2.0"			2													1 3/8	—	—		HM01B	M1-S	
	2.0"				2 1/2												1 15/16	—	—		HM02B	M2-S	
	2.5"				2 1/2												2	—	—		HM01B	M1-S	
	3.0"					3											2 1/16	—	—		HM01B	M1-S	
	3.5"						3 1/2										2 1/4	—	—		HM01B	M1-S	
	4.0"							4									2 1/16	—	—		HM01B	M1-S	
	2.0"				2 1/2				D	P							3 3/8	1 3/8	2 1/2		HM10D	M10-S	
	2.5"				2 1/2				D	P							3 3/8	1 3/8	2 1/2		HM03D	M3-S	
	3.0"					3			D	P							3 3/8	1 3/8	2 1/2		HM03D	M3-S	
	4.0"						4		D	P							4	1 1/8	2 3/8		HM03D	M3-S	
	2.5"				2 1/2				D	P							5	1 3/8	1 1/8		HM04D	M4-S	
	3.0"					3			D	P							5	1 3/8	1 1/8		HM04D	M4-S	
	4.0"						4		D	P							8 3/4	1 13/16	2 1/2		HM04D	M4-S	
	2.5"				2 1/2				D	P							6 1/2	1 3/8	2 1/2		HM07D	M7-S	
	2.5"				2 1/2				D	P							10	1 3/8	2 1/2		HM06D	M6-S	
	2.5"				2 1/2				D	P						30	7 1/16	1 3/8	2 1/2		HM21D	ME1-S	
	3.0"					3			D	P					30	7	1 3/8	2 1/2			HM21D	ME1-S	
	3.5"						3 1/2		D	P					30	7 1/16	1 3/8	2 1/2			HM21D	ME1-S	
	4.0"							4	D	P					30	9 3/4	1 3/8	2 3/16			HM21D	ME1-S	
2.5"				2 1/2				D	P					30	10 3/16	1 3/8	2 1/2			HM23D	ME3-S		
2.5"				2 1/2				D	P					30	12 3/16	1 3/8	2 1/2			HM24D	ME4-S		
3.0"					3			D	P					30	10 3/8	1 3/8	2 1/2			HM23D	ME3-S		
3.0"				2 1/2				D	P					30	6	1 3/8	2 1/2			HM25D	ME5-S		
	1.5"		1 1/2													90	3 3/4	—	—		HM31B	MES1-S	
	2.0"			2												90	3 3/4	—	—		HM31B	MES1-S	
	2.5"				2 1/2											90	4 7/8	—	—		HM31B	MES1-S	
	1.5"		1 1/2														1 3/4	—	—		HF51B	F1-S	
	2.5"				2 1/2												2 1/16	—	—		HF51B	F1-S	
	3.0"					3											2 1/16	—	—		HF51B	F1-S	
	3.5"						3 1/2										2	—	—		HF51B	F1-S	
	4.0"							4									3 3/8	—	—		HF51B	F1-S	
	2.5"				2 1/2				D	P							3 1/2	1 3/8	2 1/2		HF52D	F2-S	
	2.5"				2 1/2				D	P							5 1/2	1 3/8	2 1/2		HF53D	F3-S	
	3.0"					3			D	P							3 3/4	1 3/8	2 1/2		HF52D	F2-S	
	3.0"					3			D	P							5 1/2	1 3/8	2 1/2		HF53D	F3-S	
	4.0"						4		D	P							5 1/2	1 13/16	2 3/16		HF52D	F2-S	
	1.5"		1 1/2														S	1 3/4	—	—		HF01B	F1-SS
	2.5"				2 1/2												S	2 1/16	—	—		HF01B	F1-SS
	3.0"					3											S	2 1/16	—	—		HF01B	F1-SS
3.5"						3 1/2										S	2 3/8	—	—		HF01B	F1-SS	
4.0"							4									S	3 3/8	—	—		HF01B	F1-SS	

APPARATUS VALVES

# APPARATUS VALVES



## UNIBODY APPARATUS

# APPARATUS VALVES

8-15



		ADAPTERS															MODEL						
Style	Valve Size	Pipe Size (Inches)								Drain (3/4")	Pressure Tap (1/4")	Flow Port	Check Valve	4 Degree Offset	30 Degree Droop	90 Degree Droop	Strainer	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akron #
		1	1 1/2	2	2 1/2	3	3 1/2	4	5														
	2.0"				2 1/2					D							S	4 3/8	1 3/8	2 1/2		HF12D	F12-SS
	2.5"				2 1/2					D	P						S	3 1/2	1 3/8	2 1/2		HF02D	F2-SS
	2.5"				2 1/2					D	P						S	5 1/2	1 3/8	2 1/2		HF03D	F3-SS
	3.0"				2 1/2					D	P						S	3 13/16	1 3/8	2 1/2		HF04D	F4-SS
	3.0"				2 1/2					D	P						S	5 1/2	1 3/8	2 1/2		HF05D	F5-SS
	3.0"					3				D	P						S	3 3/4	1 3/8	2 1/2		HF02D	F2-SS
	3.0"					3				D	P						S	5 1/2	1 3/8	2 1/2		HF03D	F3-SS
	4.0"						4			D	P						S	5 1/2	1 13/16	2 7/16		HF02D	F2-SS
	2.5"				2 1/2					D	P				30		S	7 7/8	1 3/8	2 1/2		HF23D	FE3-SS
	3.0"					3				D	P			30			S	7 3/4	1 3/8	2 1/2		HF23D	FE3-SS
	2.5"				2 1/2													1 7/8	—	—		FM01B	P1-SH
	3.0"					3												1 15/16	—	—		FM01B	P1-SH
	3.0"					3												2 1/4	—	—		FM51B	PA-SH
	3.0"					3							4					2 1/4	—	—		FM61B	PO-SH
	3.0"						4											1 15/16	—	—		FM12B	P12-SH

		SINGLE BODY ADAPTERS															MODEL						
Style	Valve Size	Pipe Size (Inches)								Drain (3/4")	Pressure Tap (1/4")	Flow Port	Check Valve	4 Degree Offset	30 Degree Droop	90 Degree Droop	Strainer	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akron #
		1	1 1/2	2	2 1/2	3	3 1/2	4	5														
HOSE	1.5"		1 1/2														S	1 3/16			Female	HF01B	F1-SS
	1.0"	1																1 11/16			Male	HM01B	M1-S
	1.5"		1 1/2															1 5/16			Male	HM01B	M1-S
RIGID	1.0"	1																1 1/8		1	Female	NF01B	P1-S
	1.5"		1 1/2															1 1/8		1	Female	NF01B	P1-S
	1.5"		1 1/2							D	P							3 3/8	1 3/8	2 1/16	Female	NF02D	P2-S
	1.0"	1																1 21/32			Male	NM01B	M1-S
	1.5"		1 1/2															1 5/16			Male	NM01B	M1-S
VICT.	1.0"	1																1 11/16				VA01B	V1-S
	1.5"		1 1/2															1 3/4				VA01B	V1-S
	1.5"		1 1/2							D								3 5/16	1 3/8	2 1/16		VA03D	V3-S

Single Body Adapters are for use with SB10 & SB15 valves. See 8-6 for Single Body Valves.

# APPARATUS VALVES

## UNIBODY APPARATUS

		ADAPTERS																	MODEL				
Style	Valve Size	Pipe Size (Inches)								Drain (3/4")	Pressure Tap (1/4")	Flow Port	Check Valve	4 Degree Offset	30 Degree Droop	90 Degree Droop	Stainer	Dimension A	Dimension B	Dimension C	Note	Elkhart #	Akron #
		1	1 1/2	2	2 1/2	3	3 1/2	4	5														
	1.5"		1 1/2															1 1/16	—	—		VA01B	V1-S
	2.0"			2														1 1/16	—	—		VA01B	V1-S
	2.5"				2 1/2													1 1/16	—	—		VA01B	V1-S
	3.0"					3												2 1/8	—	—		VA01B	V1-S
	3.5"						3 1/2											2 3/8	—	—		VA01B	V1-S
	4.0"							4										2 1/4	—	—		VA01B	V1-S
	1.5"		1 1/2							D	P							3 1/4	1 3/8	2 3/8		VA03D	V3-S
	2.0"			2						D	P							3 1/4	1 3/8	2 3/8		VA03D	V3-S
	2.5"				2 1/2					D	P							3 3/16	1 3/8	2 3/8		VA03D	V3-S
	2.5"					3				D	P							3 1/2	1 3/8	2 3/8		VA04D	V4-S
	3.0"						3			D	P							3 3/16	1 3/8	2 3/8		VA03D	V3-S
	4.0"							4		D	P							4	1 1/16	2 1/16		VA03D	V3-S
	2.0"			2	2 1/2							F						4 3/16	—	—	2" F NPT & 2.5" Vic	NF20F	P20-SF
	2.5"				2 1/2	3						F						4 3/16	—	—	2.5" F NPT & 3" Vic	NF20F	P20-SF
	1.5"		1 1/2	2						D			C					6	3 3/8	4 3/8	1.5" F NPT & 2" Vic	NF30C	P30-SCV
	3.0"					3		4					C					6 1/16	—	—	3" F NPT & 4" Vic	NF40C	P40-SCV
	3.0"						3	4										2 3/16	—	—	3" F NPT & 4" Vic	NF71B	VT1-S
	3.0"						3	4		D	P							3 7/16	—	—	3" F NPT & 4" Vic	NF72D	VT3-S
	4.0"							4	5									2 3/8	—	—	4" F NPT & 5" Vic	NF71B	VT1-S
	1.5"		1 1/2							D								90	3 3/4	3	—		VA21D
2.0"			2						D	P							90	3 3/4	3	—		VA21D	VE1-S
2.0"			2						D	P							90	5 3/4	3	—		VA22D	VE2-S
2.0"			2								F						3 3/16	1 1/4	—		VA20F	V20-SF	
2.5"				2 1/2							F						3 3/16	1 1/4	—		VA20F	V20-SF	
3.0"					3						F						4 1/4	1 3/8	—		VA20F	V20-SF	
2.0"			2						D			C					5 7/8	3 3/8	4 3/8		VA30C	V30-SCV	
2.5"				2 1/2					D			C					6 1/4	4 3/16	5 1/16		VA30C	V30-SCV	
	2.0"			2														2 1/4	—	—		WA01B	
	2.5"				2 1/2													2 1/4	—	—		WA01B	
	3.0"					3												2 1/4	—	—		WA01B	
	3.5"						3 1/2											2 1/4	—	—		WA01B	
	4.0"							4										2 1/4	—	—		WA01B	
	2.0"			2						D	P							4 3/8	1 3/8	2 3/16		WA03D	
	2.5"				2 1/2					D	P							4 3/8	1 3/8	2 3/16		WA03D	
	3.0"					3				D	P							4 3/8	1 3/8	2 3/16		WA03D	
	3.5"						3 1/2			D	P							4 3/8	1 3/8	2 3/16		WA03D	
	4.0"							4		D	P							4 3/8	1 3/8	2 3/16		WA03D	

APPARATUS VALVES





APEX ELECTRIC CONTROLLER

APPARATUS VALVES

## APEX™ VALVE CONTROLLER

Combine the customization capabilities with the space saving design, the tactile keypad buttons and large, easy-to-read graphics and the result is an innovative new valve controller that provides benefits to the OEM as well as the end-user. The design and versatility of the APEX allows the OEM to save valuable pump panel space and adapt the controller to any application, while offering only one version of actuator takes the guesswork out of the ordering process. End-users will appreciate the large screen on the APEX with high resolution graphics, while additional features including the adjustable “Target Pressure” indicator and daytime/nighttime screen modes offer benefits to the end-user never seen before in a valve controller. The APEX-S utilizes 10 LED segments for crystal clear valve position recognition and control.

8-17

**APEX 100**



Valve Control

**APEX 200**



Valve Control with Pressure

**APEX 300**



Valve Control with Pressure and Flow

**UICS 2**



CAF

**UBEC 1AT**



Tank Fill

### Controller Selector Chart

Open/Close	10 LED Position	Pressure	Flow	CAF Mode	Model
•	•				APEX 100
•	•	•			APEX 200
•	•	•	•		APEX 300
•	•	•		•	UICS 2
•					UBEC 1AT*

Controllers may be networked for primary-secondary operations with remote display

\*Available in two tank fill % levels: 50/95.

### Visor Color Options



Black



Orange



Red



Purple



Yellow



White



Blue



Brown



Green



Gray

### SENSORS

(3)



(4)



(5)



### ADDITIONAL INFORMATION

- Controller has manual override capability.
- Unibody Valve information may be found on page 8-7.

# APPARATUS VALVES



## APEX ELECTRIC CONTROLLER

APPARATUS VALVES

8-19

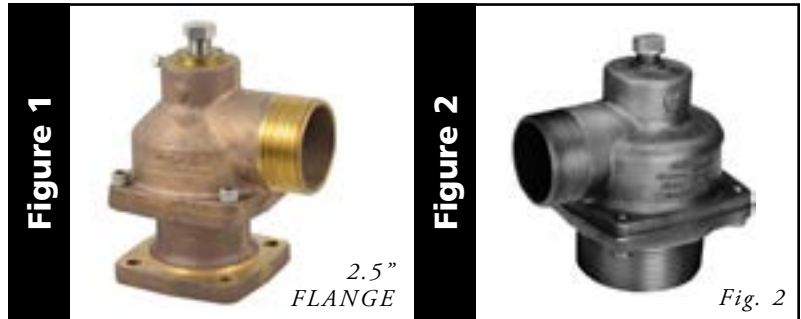
OPTIONS & COMPONENTS			ILLUSTRATION	
APEX 100 Valve Control Only	Visor color options:	Choose Black, Orange, Red, Purple , Yellow, White, Blue, Brown, Green or Grey		
	Harness controller to valve actuator	Choose 2', 10', 15', 20', 30' or 40'		
APEX 200 Valve Control and Pressure	Visor color options:	Choose Black, Orange, Red, Purple , Yellow, White, Blue, Brown, Green or Grey		
	Harness controller to valve actuator	Choose 2', 10', 15', 20', 30' or 40'		
	Pressure sensor		3	
	Harness Pressure sensor to valve actuator	Choose 2', 10', 15', 20' or 40'		
APEX 300 Valve Control, Pressure and Flow	Visor color options:	Choose Black, Orange, Red, Purple , Yellow, White, Blue, Brown, Green or Grey		
	Harness controller to valve actuator	Choose 2', 10', 15', 20', 30' or 40'		
	Pressure sensor		3	
	Flow sensor	End cap mount style flow sensor		
		Saddle clamp style flow sensor	Choose pipe diameter 2.0", 2.5", 3.0", 3.5" or 4.0"	5
		Weldmount style flow sensor	Choose a pipe material Steel, Stainless steel or Aluminum	4
		Choose a pipe diameter 2.0", 2.5", 3.0", 3.5", 4.0", 5.0", 6.0" or 8.0"		
Harness connect pressure and flow sensor to valve actuator	Choose 2', 10', 15', 20' or 40'			

INLET SIZES							2.5" OUTLET OPTIONS			MATERIAL		DIMENSIONS		MODEL	FIGURE
Female	Male		2.5" Flange				Male NPT	Vic-taulic	NHT	Cast Brass	Elk-O Lite®	Length (Inches)	Weight (Lbs.)		
2.5"	2.5"	3"	Ameri-can	Darley	Hale	Water-ous									
•							s			•		6.3	11.1	40-10	1
			•		•	•	s	o	o	•		6.8	11.2	40-20	1
				•			o	s		•		6.1	11.1	40-22	1
	™						s			•		6.8	10.9	40-32	2
	•						s	o		•		6.5	10.6	40-40	2
		•					s	o		•		6.1	10.9	40-41	2
•							s				•	6.3	3.5	40A	

KEY s = standard o = option ™ = NHT

### 40 RELIEF VALVE

- For use on the suction side of the pump or on a designated LDH discharge outlet
- Material: Choice of cast brass or Elk-O-Lite® with stainless steel mechanism
- Rubber seat to ensure positive vacuum seal
- Adjustable psi of 75-250 (pre-set to 125 psi)



Figures depict general product types only and are not intended to be inclusive of all product features.

### PUSH/PULL DRAIN VALVE



110



115

Product Information	MODELS	
	110	115
Mounting	Direct	Panel
Inlet	0.75" NPT Female	
Outlet	.75" NPT Female	Male shank outlet for .75" ID drain hose
Handle length	2.25"	
Optional handle lengths	4.375", 3.0", or 1.5" (specify)	
Material	Cast brass valve body with stainless steel handle rod	
Additional features		Body pre-drilled for mounting

### 116 QUARTER TURN DRAIN VALVE

- Panel mounted
- Body pre-drilled for mounting to pump panel
- Material: Cast brass valve body with stainless steel handle rod
- Inlet: 0.75" NPT
- Outlet: 0.75" NPT
- Machined brass ball
- Optional adapter with .125" NPT tap for gauge





# APPARATUS FITTINGS



## INTRODUCTION

ELKHART BRASS ALSO OFFERS A VARIETY OF REMOTE VALVE CONTROLS TO COMPLEMENT OUR APPARATUS VALVES AND APPARATUS ACCESSORIES THAT MAKE YOUR JOB EASIER.

APPARATUS FITTINGS

9-1

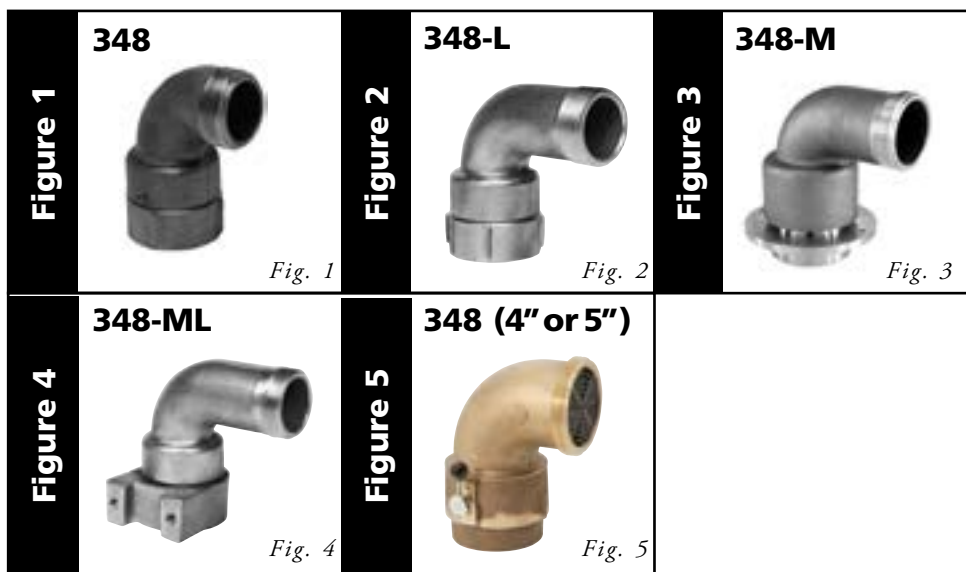
# APPARATUS FITTINGS

## 90° DISCHARGE & SUCTION SWIVEL ELBOWS

FEMALE INLET SIZE / TYPE			MALE OUTLET			MOUNT OPTIONS		MOUNTING SPACE		TWIST LOCK	BUILT-IN STRAINER	BALL RACE		MATERIAL	Weight (Lbs.)	MODEL	FIGURE	
(Inches)	SWIVEL			(Inches)			Stud	Flange	(Inches)			Single	Double					
	NPT	NPSH	NHT	NHT	NPSH	NPT			A									B
1.5	•			1.5					2.5	3.8			•	•	2.9	348	1	
	•					1.5			2.5	3.8			•	•	2.9	348	1	
	•			1.5					4.0	3.8			•		3.5	348L	2	
		•			1.5					4.0	3.8			•	•	3.5	348L	
2.0	•			1.5					2.5	4.0			•	•	3.0	348	1	
	•			1.5					4.0	4.0			•	•	3.7	348L	2	
	•				1.5				4.0	4.0			•	•	3.7	348L	2	
	•			1.5			•		2.5	4.0			•	•	3.3	348M		
	•			1.5			•		4.0	4.0			•	•	3.4	348ML	4	
	•				1.5		•		4.0	4.0			•	•	3.4	348ML	4	
2.5	•			2.5			•	•	5.0	6.2			•	•	11.8	348	1	
	•			2.5			•	•	5.0	6.3			•	•	11.8	348M	3	
4.0	•					4.0			6.0	8.0	s		•	•	30.3	348	5	
5.0	•			5.0					6.8	9.5	s	s	•	•	45.0	348	5	
	•			6.0					6.4	9.5	s	s	•	•	48.5	348	5	

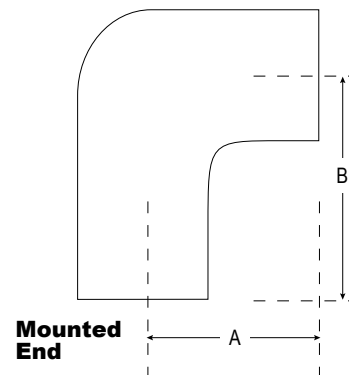
KEY s = standard o = option

### ELBOW CONFIGURATIONS



Figures depict general product types only and are not intended to be inclusive of all product features.

### MOUNTING SPACE DIAGRAM



### MOUNT OPTIONS

#### SIDE



#### FLANGE



### OPTIONS

Polished and rough chrome finish are available on some brass models. Please inquire with our sales staff.

### THREADS

All hose threads are NHT unless otherwise specified. See index T-13 for optional base threads.



## APPARATUS ACCESSORIES

(Front)



(Back)

### 471 – UNDERWRITERS TEST PLUG ADAPTER

- For testing pressure and vacuum on pumps
- Aluminum body with black face and aluminum lettering
- Length: 4"
- Weight: 0.3 lbs.



### S-320 – RUNNING BOARD HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Available in sizes from 1.5" & 2.5"
- Male NH hose thread only
- Material: Cast brass with chrome-plated finish
- Weight: varies by size

### 653 – TRI-LOC NOZZLE HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Positive grip
- One hand release
- Fits 2.5" hose thread (except NPSH)
- Material: Brass with chrome-plated finish
- Diameter: 5"
- Height: 1.25"
- Weight: 1.5 lbs.



### L653 – TRI-LOC NOZZLE HOLDER

- For mounting nozzles and accessories on running board or in compartment
- Positive grip
- One hand release
- Fits 1.5" hose thread (except NPSH)
- Material: Brass with chrome-plated finish
- Diameter: 5"
- Height: 1.25"
- Weight: 1.5 lbs.

### 315 – BARREL SUCTION STRAINER

- Complies with NFPA 1901
- Conforms to MIL-S-12165B, Type 1
- Rocker lugs or pin lugs (Specify)
- Available bases: 2.5" thru 6" female base, 2.5" or 3" male base (Specify)
- Material: Brass with chrome-plated finish
- Dimensions vary by base selection



### 315FN – BARREL STRAINER WITH FOOT VALVE

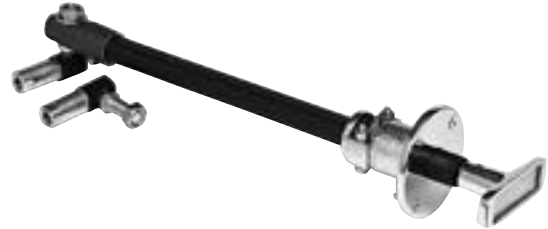
- Foot valve for holding water in suction hose during pump priming
- 3" female base
- Material: Cast brass
- Length: 14.5"
- Weight: 16 lbs.



### TEE HANDLE REMOTE CONTROL UNITS

Push-pull control for the operation of in-line, quarter turn ball valves or built-in eductors.  
Handle configuration allows identification/location label to be inserted.

PRODUCT INFORMATION	MODELS	
	RC-1	RC-7
Handle	Locking	Non-locking
Installation Diameter	1.9" (Pump panel)	1" (Pump panel)
Furnished with	2 ball joint swivel connectors	
Travel	11"	7.3", 9.8" or 11.3" <i>(specify)</i>
Material	Chrome-plated cast brass handle with anodized aluminum extrusion rod	
Weight	4 lbs.	1.5 lbs.



RC-1





## REMOTE VALVE CONTROLS



### RC-10 – SLOW CLOSING VALVE CONTROL

- Remote actuation of any ball valve
- Linear output screw-type actuator compliant with NFPA 1901 (as it pertains to slow-closing valves)
- Actuator and push-rod constructed of extruded aluminum alloys
- Precision needle thrust bearing and hardened thrust washers
- 5" cast alloy hand-wheel with collet-type connection allows for easy compact thru-panel installation (either new or retro-fit)
- Furnished with threaded ball swivel joint at end of drive rod
- Installation diameter: 1.03" (pump panel)
- Length: 16.4" (retracted) and 21.4" (extended)
- Weight: 3.2 lbs.
- Valve Status Indicator (optional)



### VALVE STATUS INDICATOR

- Requires minimal pump panel space
- Tri-color indicators: red (closed), yellow (gated) and green (open)
- Feature 100,000 hour ultra bright LEDs mounted within an optical filter to maximize visibility in bright sunlight
- NEMA 4 rated
- Chrome bezel included

## RC Accessories



### 775-5 – HANDLE

- For remote control screw type gate valve or gear driven valve
- Bored for .375" rod
- Material: Cast brass with chrome-plated finish
- Diameter: 4"
- Weight: 1.0 lbs.



### 775-11 – ROD GUIDE

- For centering and guiding remote control rod
- Nylon sleeve for 0.5" rod
- Material: Cast brass with chrome-plated finish
- Diameter: 1.5"
- Weight: 0.2 lbs.



### 775-15 – TEE HANDLE

- For use with push-pull rods to remotely operate in-line, quarter turn ball valves or built-in eductors
- Bored for 0.5" rod
- Can be threaded to .500" — 13 or .500" — 20 (specify)
- Handle configuration allows identification/location label to be inserted
- Material: Cast brass with chrome-plated finish
- Height: 1.1"
- Weight: 0.5 lbs.

### UNIBODY HAND-WHEEL

#### POSITION INDICATING

PRODUCT INFORMATION	MODELS	
	GWP-4	GWP-6
Hand-wheel diameter	4"	6"
Material	Stainless Steel	
Finish	Stainless Steel	
Type	Position Indicating	
Installation diameter	1.312"	
Weight	3.6 lbs.	4.1 lbs.



GWP-4



GWP-6

#### PANEL MOUNT



PRODUCT INFORMATION	MODELS	
	GWR-5	GWR-6.5
Hand-wheel diameter	5"	6.5"
Material	Brass	
Finish ( <i>specify</i> )	Chrome	
Type	Panel Mount	
Installation diameter	1.125"	
Furnished with	Panel bushing and two universal swivel joints with protective rubber boots	
Weight	6.0 lbs.	7.0 lbs.

#### DIRECT MOUNT

PRODUCT INFORMATION	MODELS	
	GWD-5	GWD-6.5
Hand-wheel diameter	5"	6.5"
Material	Brass	
Finish ( <i>specify</i> )	Chrome	
Type	Direct Mount	
Installation diameter	-	
Furnished with	-	
Weight	6.0 lbs.	7.0 lbs.



FIELD ADJUSTABLE PRESSURE REDUCING

## Field Adjustable Pressure Reducing (URFA)

Elkhart's URFA valve is a true pressure reducing valve, operated automatically by inner hydraulic controls. While the valves are preset at the factory, they are field adjustable — allowing you to tailor the pressure to your needs. They feature manual valve open and close, as well as pressure adjustment — all of which require extremely low torque to change due to the patent pending design. Inlet pressure up to 400 psi (27.58 bar) is controlled under all flow and no-flow conditions.

Valve size and weight permit installation in significantly tighter areas and smaller hose cabinets (those used for 1 1/2" or 2 1/2" valves) — allowing savings of both space and money. The URFA also functions as a floor control valve in automatic sprinkler systems as well as a standpipe valve or hose valve for Class I and Class III systems.



**URFA Series valves  
not intended for  
use in salt water  
applications.**



INLET SIZE	OUTLET SIZES		TYPE		CERT.	DIMENSIONS (INCHES)								Integral Superv. Switch	FINISH			Wt. (Lbs.)	MODEL	FIGURE
						Closed		Open		C	D	E	F		Brass		Chrome			
						A	B	A	B						Cast	Pol	Pol			
2½" F NPT*	2½" F(NPT)*	M(NHT)	Angled	Straight	UL Listed	13 <sup>7</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>4</sub>	5	5½	o	s	o	o	28	URFA-20	1
•	•	•	•	•	•	13 <sup>7</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>8</sub>	5	-	o	s	o	o	27	URFA-25	2
•	•	•	•	•	•	14 <sup>7</sup> / <sub>16</sub>	12 <sup>7</sup> / <sub>16</sub>	15 <sup>7</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>16</sub>	3½	4	5	5½	o	s	o	o	32	URFA-20S	3

KEY s = standard o = option

\* Grooved connection available for inlet or outlet use — add 1.44" per connection.

Figure 1

### URFA-20

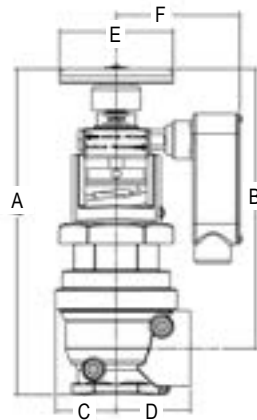


Fig. 1

Figure 2

### URFA-25

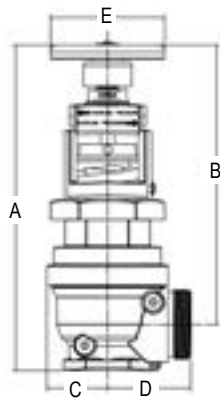


Fig. 2

Figure 3

### URFA-20S

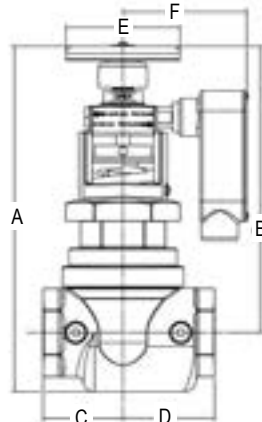


Fig. 3

## PRODUCT HIGHLIGHTS

URFA features include:

- Manual open-close requires less than 15 lbs. of torque
- Pressure rated up to 400 psi (27.58 bar)
- Flow rated up to 500 gpm (1893 lpm)
- Open-Close indication from 2 view directions
- Color-coded pressure reduction label
- Tapped for pressure gauge on both inlet and outlet side of valve
- Tamper-resistant protection
- UL Listed as a check valve for use in dual riser systems
- Optional integral supervisory switch (alarm) mounts directly to valve with no bracket required
- Optional integral supervisory switch (alarm) is available either "OPEN TO SIGNAL" or "CLOSE TO SIGNAL"
  - With the URFA valve in the full open position the supervisory switch contacts are CLOSED. When the valve hand wheel is turned in the closed direction the supervisory switch contacts OPEN. This is defined as "OPEN TO SIGNAL".
  - With the URFA valve in the full open position the supervisory switch contacts are OPEN. When the valve hand wheel is turned in the closed direction the supervisory switch contacts CLOSE. This is defined as "CLOSE TO SIGNAL".

## ADDITIONAL INFORMATION

Includes adjustment rod.

## THREADS

- Valve inlet information is NPT unless otherwise specified. Special threads available through adapter use.
- See index T-13 for alternative outlet thread options.





PRESSURE REDUCING

## Pressure Reducing (Pressure-Matic)

Elkhart's Pressure-Matic is a true pressure reducing valve, operated automatically by inner hydraulic controls. No diaphragms, springs or outside controls are involved with the unit, the action being completely dependent upon conditions at the nozzle or sprinkler system.

Elkhart Brass offers 18 different valve pressure types/ranges for building systems. Inlet pressure up to 400 psi (27.58 bar) is controlled under all flow and no-flow conditions. The UR valve series may be used as a standard shut-off. The valves are completely tamper-proof. They fit all existing cabinets where 1 1/2" or 2 1/2" valves are currently in use.

Pressure-Matic valves can be used for/in:

- Floor Control Valve
- Standpipe System
- Automatic Sprinkler Systems
- UL Listed as a check valve for use in dual riser systems

INDUSTRIAL VALVES

10-3

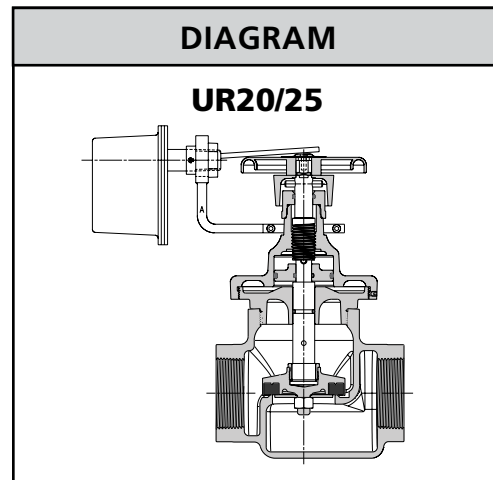
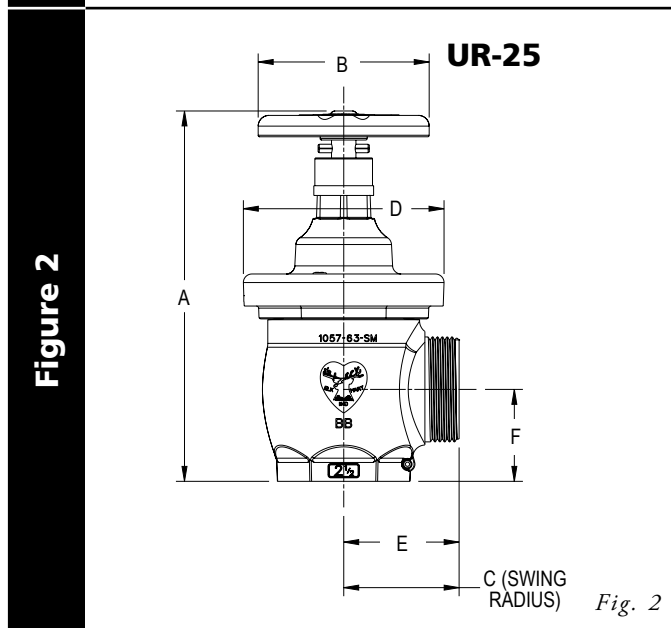
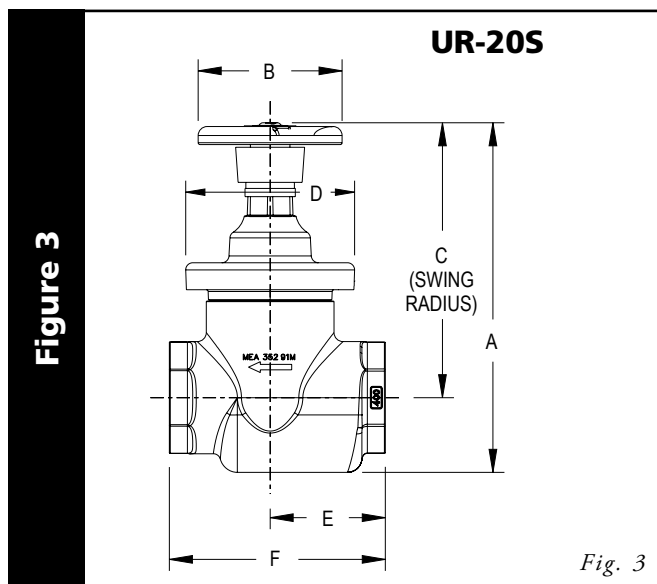
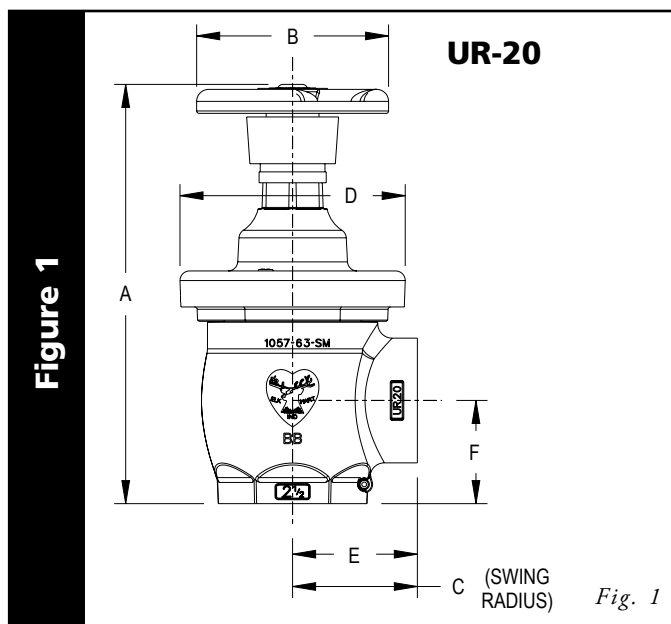


**UR Series valves  
not intended for  
use in salt water  
applications.**



INLET SIZES		OUTLET SIZES				TYPE		CERT.	DIMENSIONS (Inches)						BRASS FINISH			Weight (Lbs.)	MODEL	FIGURE	
Female (NPT)		Female (NPT)		Male (NHT)		Ang	Str	UL Listed	A		B	C	D	E	F	Cast	Polished*				Chrome*
1½"	2½"	1½"	2½"	1½"	2½"				Min	Max											
•		•				•		•	7¾	8¾	4	2½	3½	2¾	1⅞	s	o	o	7½	UR-20-1.5	1
•				•		•		•	7¾	8¾	4	2⅞	3½	2¾	1⅞	s	o	o	7½	UR-25-1.5	2
	•	•				•		•	11	11⅞	5	2⅞	5⅞	3¼	2⅞	s	o	o	18½	UR-20-2.5	1
	•			•		•		•	10⅞	11⅞	5	2⅞	5⅞	3⅞	2⅞	s	o	o	18½	UR-25-2.5	2
	•	•				•		•	12¾	12⅞	5	10 to 10½	5⅞	4	7½	s	o	o	26½	UR-20S-2.5	3

KEY s = standard o = option \*Partial polished



### ADDITIONAL INFORMATION

- Customer must fill out valve data sheet on page G-8, factory setting required.
- Calculator for determining valve pressure range is available from Elkhart Brass. Please inquire with our sales staff or see our website.

### THREADS

Valve inlet information is NPT unless otherwise specified. See index T-13 for alternative outlet thread options.



PRESSURE RESTRICTING

## Pressure Restricting

Elkhart's pressure restricting valves all feature rugged cast brass construction in your choice of finishes. The pressure restricting valves feature rubber seats and are rated for use at 175 psi (12.15 bar). Although factory setting is recommended, all the pressure restricting valves are field-settable.

Pressure restricting valves:

- Reduce pressure under flowing conditions
- Allow fire departments to override settings in emergency conditions

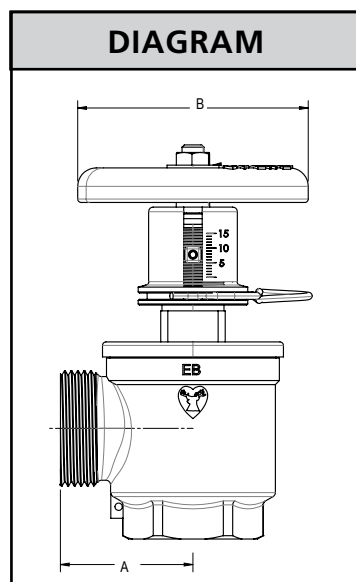
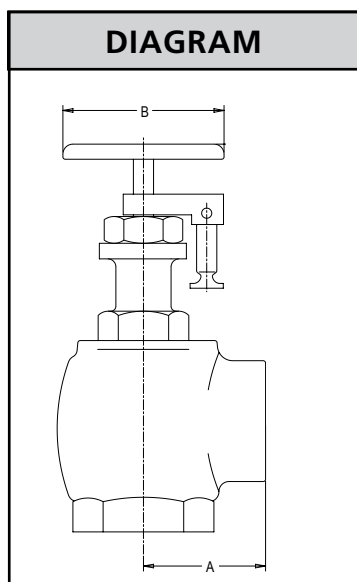
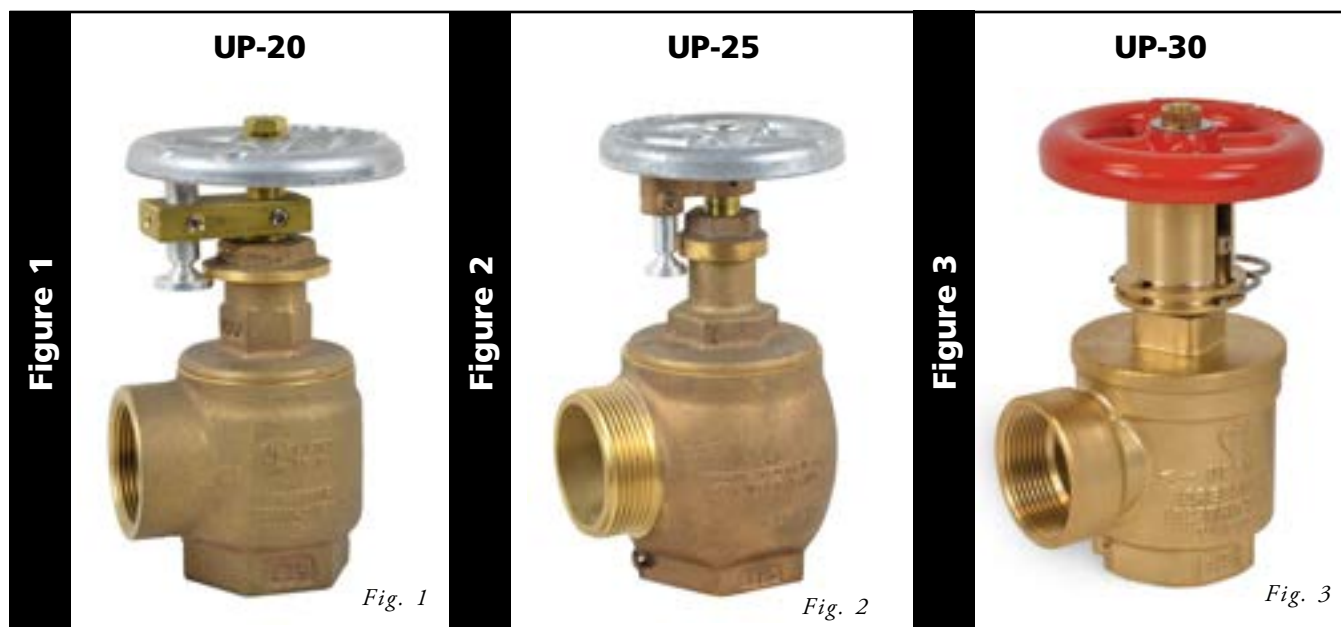


**UP Series valves  
not intended for  
use in salt water  
applications.**



INLET SIZES		OUTLET SIZES				CERTIFICATIONS	BRASS FINISH			DIMENSIONS (Inches)					Weight (Lbs.)	MODEL	FIGURE	
Female		Female		Male			UL Listed	Cast	Polished	Chrome Polished	Swing Radius	A	B	Height				
1½"	2½"	1½"	2½"	1½"	2½"									Open				Closed
•		•				•	s	o	o	2½	2 <sup>7</sup> / <sub>16</sub>	4	7 <sup>7</sup> / <sub>8</sub>	6 <sup>7</sup> / <sub>8</sub>	6	UP-20-1.5	1	
	•		•			•	s	o	o	3 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	5	11	9 <sup>3</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>	UP-20-2.5	1	
•				•		•	s	o	o	2½	2 <sup>1</sup> / <sub>8</sub>	4	7 <sup>7</sup> / <sub>8</sub>	6 <sup>7</sup> / <sub>8</sub>	6	UP-25-1.5	2	
	•				•	•	s	o	o	3 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	5	11	9 <sup>3</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>	UP-25-2.5	2	
•				•		•	s			2 <sup>7</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	6 <sup>47</sup> / <sub>64</sub>	7 <sup>19</sup> / <sub>32</sub>	4 <sup>7</sup> / <sub>10</sub>	UP-30-1.5	3	
	•				•	•	s			3 <sup>3</sup> / <sub>4</sub>	3 <sup>17</sup> / <sub>64</sub>	5	10 <sup>49</sup> / <sub>64</sub>	9 <sup>7</sup> / <sub>64</sub>	9 <sup>3</sup> / <sub>10</sub>	UP-35-2.5	3	

KEY s = standard o = option



### ADDITIONAL INFORMATION

All valves can be factory set. To order any of the valves listed here factory set, customer must provide residual inlet pressure, desired residual outlet pressure, and flow rate. Please see ordering form on page G-8.

### OTHER PRODUCTS

For valves that reduce pressure in no-flow situations please see our Pressure-Matic (page 10-3) or URFA (page 10-1) valves.

### THREADS

Female inlet and outlet information is in NPT unless otherwise specified. Male outlet standard is NHT. Contact Elkhart Brass for alternative outlet thread options.



# INDUSTRIAL VALVES



ANGLE

## Angle

Elkhart's angle valves all feature rugged cast brass construction in your choice of finishes. Additionally, all feature rubber seats and are rated at 300 psi (20.68 bar).

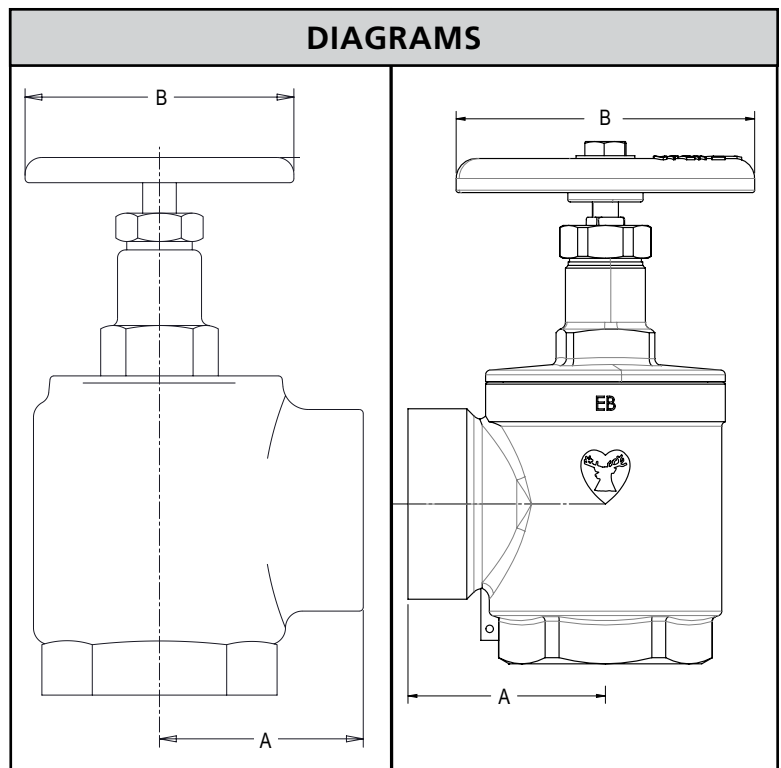


**U Series valves  
not intended for  
use in salt water  
applications.**



INLET SIZES		OUTLET SIZES				CERTIFICATIONS	BRASS FINISH			DIMENSIONS (Inches)					Weight (Lbs.)	MODEL	FIGURE	
Female		Female		Male			UL Listed	Cast	Polished	Chrome Polished	Swing Radius	A	B	Height				
1½"	2½"	1½"	2½"	1½"	2½"									Open				Closed
•		•				•	s	o	o	2½/2	2³/16	4	7⁷/8	6⁷/8	6	U-20-1.5	1	
	•		•			•	s	o	o	3⁵/8	3¼	5	11	9³/8	11³/4	U-20-2.5	1	
•				•		•	s	o	o	2½/2	2³/16	4	7⁷/8	6⁷/8	6	U-25-1.5	2	
	•				•	•	s	o	o	3⁵/8	3¼	5	11	9³/8	11³/4	U-25-2.5	2	
•		•		•		•	s			2⁷/8	2¹/16	4	7⁷/8	6⁷/8	4.1	U-30-1.5	3	
	•		•		•	•	s			3¾/4	3¹⁷/64	5	10³/5	8⁸/10	8.3	U-30-2.5	3	

KEY s = standard o = option



**ADDITIONAL INFORMATION**

**THREADS**

Valve inlet information is in NPT unless otherwise specified. See index T-13 for alternative outlet thread options.

# ADAPTERS, CAPS & PLUGS



## CAPS & PLUGS


# ADAPTERS, CAPS & PLUGS

11-1

Cap/Plug	Size (Inches)	TYPE				MATERIAL/FINISH			CHAIN		DIMENSION		MODEL	FIGURE
		Long Handle	Pin	Rocker	Storz	Brass		Elk-O-Lite®	9"	16"	Length (Inches)	Weight (Lbs.)		
						Cast brass	Chrome-plated							
Cap	1.0			•		s	o		s	o	1.125	0.4	310	1
				•				s	s	o	1.125	0.2	310A	1
	1.5		•			s	o		s		1.125	0.7	310	1
				•		s	o		s	o	1.125	0.5	310	1
	2.5			•				s	s	o	1.5	0.4	310A	1
		•				s	o		s		1.5	2.5	310LH	3
			•			s	o		s		1.5	1.8	310	1
	3.0			•		s	o		s	o	1.5	1.3	310	1
				•		s	o		s	o	1.625	1.8	310	1
	3.5			•		s	o		s	o	1.75	3.3	310	1
				•	•				*		2.75	2.4	310 Storz	2
	4.0			•		s	o		s	o	1.875	4.1	310	1
		•					s				1.75	4.5	310LH	3
	4.5			•			s		s	o	2.125	5.5	310	1
•					s	o				2.125	8.0	310LH	3	
5.0			•	•					*	2.625	3.5	310 Storz	2	
	•					s				1.5	6.8	310LH	3	
6.0			•			s				1.625	7.5	310LH	3	
	•					s				1.75	1.1	311	4	
Plug	1.5		•			s	o				1.75	1.1	311	4
				•		s	o				2.0	1.1	311	4
	2.5			•		s	o				2.125	2.2	311	4
			•					s			2.25	0.8	311A	4
	3.0			•				s			0.875	0.3	313	5
		•				s	o				2.125	2.5	311	4

KEY s = standard o = option  
 \* Storz option comes with an 16" stainless steel cable.

Figure 1




**CAP**

- Available with 9" or 16" chain
- 175 PSI max rated pressure

*Fig. 1*

---

Figure 2




**STORZ CAP**

- 16" stainless steel cable

*Fig. 2*

---

Figure 3




**LONG HANDLE CAP**

- Conforms to NFPA 1901 for 500 psi service
- No chain

*Fig. 3*

Figure 4




**PLUG**

- Available with 9" chain

*Fig. 4*

---

Figure 5



**SPANNER LUG PLUG**

- "Easy-off" swivel cap
- No chain
- U.L. Listed

*Fig. 5*

---

**OPTIONS**

**THREADS**

*Where noted as hose thread, NHT is standard. See index T-13 for optional base threads.*

Figures depict general product types only and are not intended to be inclusive of all product features.

# Adapters

In the over 100 years Elkhart has been a fire service manufacturer, we have created a wide assortment of standardized adapters to meet the varied needs of the fire industry. This extensive selection includes thread adapters to suit any need — whether for a male to female; a suction adapter with built-in strainer, NHT, NPT or custom order; or even for a universal adapter — you can find the perfect fit here.

- A selection of rocker lug and pin lug options
- Aluminum, Brass, and Chrome finishes available

Adapter  
Mo. M-327



High Rise Elbow  
Mo. 105A



Several material options — lightweight Elk-O-Lite®  
or durable cast brass (including some with chrome-plated finish)



# ADAPTERS, CAPS & PLUGS



## HOSE TO HOSE ADAPTERS

# ADAPTERS, CAPS & PLUGS

11-3

What kind of adapter do you need?																						
Step 1: Select Material	Step 2: Choose Connection Type  (Inlet to Outlet)	Step 3: Determine Gender  (Inlet to Outlet)	Step 4: Select from available options														Step 5: Pick Model  Model	Figure				
			Size (Inches)											Construction		Type						
			Inlet	1	1.5	2	2.5	3	3.5	4	4.5	5	6	Solid	Swivel	Hex			Internal Lug	Long Handle	Rocker	
Brass	Hose Thread to Hose Thread	NHT (M) to NHT (F)	1		•											•				s	A-327	9
			1.5				•									•				s	D-327	8
			1.5		•		•										•			s	A-327*	9
			1.5				•										•			s	S-327	11
			2				•										•			s	A-327	9
			2.5		•		•	•									•			s	S-327	11
			2.5				•	•									•			s	105	3
			2.5				•	•									•			s	A-327	9
			3				•	•									•			s	S-327	11
			3				•	•									•			s	105	3
			3				•	•									•			s	A-327	9
			3				•	•									•			s	S-327	11
		3				•	•									•			s	105	3	
		3.5								•						•			s			
		1.5		•		•										•			s	A-327	9	
		2.5		•		•										•			s	D-327	8	
		2.5		•	•	•	•									•			s	A-327*	9	
		2.5		•		•	•									•			s	S-327	11	
		2.5		•		•	•									•			s	105	3	
		3				•	•									•			s	A-327	9	
		3				•	•									•			s	S-327	11	
		3				•	•									•			s	105	3	
		3.5								•						•			s			
		NHT (M) to NHT (M)		1.5		•										•			s	M-327	6	
		2.5		•		•								•			s					
NHT (F) to NHT (F)		1.5		•										•			s	F-327	1			
		2.5				•								•			s	F-327	1			
		3						•						•			s	S-319	3			
		4.5								•	•	•			•		s					
Aluminum	Hose Thread to Hose Thread	NHT (M) to NHT (F)	1.5				•							•			s	D-327A	7			
			1.5		•		•								•			s	A-327A	10		
		2.5				•									•			s				
		NHT (F) to NHT (M)	1.5		•										•			s	A-327A	10		
			2.5		•		•								•			s	D-327A	7		
		NHT (M) to NHT (M)	1.5		•										•			s	M-327A	4		
			2.5				•								•			s	M-327ABI	5		
		NHT (F) to NHT (F)	1.5		•										•			s	F-327A	2		
			2.5				•								•			s				

Key s = standard o = option

\* A327 has optional pin lug and chrome finish in the 2.5F by 1.5M/1.5M by 2.5F size.

### OPTIONS

#### THREADS

NHT can also be called NST. See T-13 for optional threads.

#### MEASUREMENTS

Length measurements shown on page T-15.

### UNIVERSAL ADAPTER



435

- Cast brass construction with chrome-plated finish
- Adapts any 2.5" hose thread to 2.5" NHT
- Positive ratchet lock with thumb release
- Weight: 6.42 lbs.

	FEMALE/FEMALE	MALE/MALE	MIXED
<b>Figure 1</b>	 <p><b>F-327</b></p> <ul style="list-style-type: none"> <li>• Double swivel female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 1</i></p>	 <p><b>M-327A</b></p> <ul style="list-style-type: none"> <li>• Double male</li> </ul> <p><i>Fig. 4</i></p>	 <p><b>D-327A</b></p> <ul style="list-style-type: none"> <li>• Direct connect adapter</li> </ul> <p><i>Fig. 7</i></p>
<b>Figure 2</b>	 <p><b>F-327A</b></p> <ul style="list-style-type: none"> <li>• Double swivel female</li> </ul> <p><i>Fig. 2</i></p>	 <p><b>M-327ABI</b></p> <ul style="list-style-type: none"> <li>• Double male British Instantaneous</li> </ul> <p><i>Fig. 5</i></p>	 <p><b>D-327</b></p> <ul style="list-style-type: none"> <li>• Direct connect adapter</li> <li>• Chrome finish (cast brass optional)</li> </ul> <p><i>Fig. 8</i></p>
<b>Figure 3</b>	 <p><b>105</b></p> <ul style="list-style-type: none"> <li>• 45° discharge elbow</li> <li>• Female rocker lug</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 3</i></p>	 <p><b>M-327</b></p> <ul style="list-style-type: none"> <li>• Double male</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 6</i></p>	 <p><b>A-327</b></p> <ul style="list-style-type: none"> <li>• Female rocker lug</li> </ul> <p><i>Fig. 9</i></p>
<p><b>ADDITIONAL INFORMATION</b></p> <p><i>When ordering, specify: model number; inlet size, gender, and thread; outlet size, gender, and thread; as well as any optional type or finish information.</i></p>			
<p><b>105A High Rise Elbow</b></p> <ul style="list-style-type: none"> <li>• 45° drain elbow</li> <li>• 2.5" Female free swivel</li> <li>• 2.5" Male discharge</li> <li>• Integrated Model 114 drain valve</li> <li>• 250 GPM flow</li> <li>• 200 PSI operating pressure</li> <li>• 1 lb. 3 oz.</li> </ul> 			
<b>Figure 10</b>			 <p><b>A-327A</b></p> <ul style="list-style-type: none"> <li>• Female rocker lug</li> </ul> <p><i>Fig. 10</i></p>
<b>Figure 11</b>			 <p><b>S-327</b></p> <ul style="list-style-type: none"> <li>• Internal lug body</li> <li>• External female rocker lug</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 11</i></p>

# ADAPTERS, CAPS & PLUGS



## HOSE TO PIPE / PIPE TO HOSE ADAPTERS

# ADAPTERS, CAPS & PLUGS

11-5

What kind of adapter do you need?																														
Step 1: Select Material	Step 2: Choose Connection Type  (Inlet to Outlet)	Step 3: Determine Gender  (Inlet to Outlet)	Step 4: Select from available options													Step 5: Pick Model														
			Inlet	Size (Inches)										Construc- tion		Type				Model	Figure									
				1	1.5	2	2.5	3	3.5	4	4.5	5	6	Solid	Swivel	Hex	Internal Lug	Long Handle	Pin			Rocker								
Brass	Hose Thread to Pipe Thread	NHT (M) to NPT (M)	1	•											•			s							306	17				
			1.5		•											•			s											
			2.5			•	•									•			s											
			4.5													•			s											
		NHT (M) to NPT (F)	1.5		•	•										•			s								307	18		
			1.5		•											•			s								418-S	21		
			2.5			•	•	•								•			s								307	18		
			2.5				•	•								•			s								418	19		
			2.5					•								•			s								418-L	20		
			2.5													•			s								418-S	21		
			3													•			s											
			3.5													•			s											
		NHT (F) to NPT (M)	1.5			•										•			s									307	18	
			2.5			•	•	•	•							•			s											
			3					•								•			s											
			3													•			s											
		NHT (F) to NPT (F)	1.5			•										•			s									3060	15	
			2.5					•	•							•			s									160	14	
			2.5						•	•						•			s		s							419	16	
			2.5							•	•					•			s			s						160	14	
	3									•	•				•			s			s						160	14		
	3										•	•			•			s			s						419	16		
	3														•			s			s									
	3														•			s			s									
	Pipe Thread to Hose Thread	NPT (M) to NHT (M)	1	•												•			s									306	17	
			1.5		•											•			s											
			2.5				•									•			s											
			4.5													•			s											
		NPT (M) to NHT (F)	1.5			•										•			s										307	18
			2				•									•			s											
			2.5					•	•							•			s											
			3						•							•			s											
		NPT (F) to NHT (M)	1.5			•										•			s										307	18
			2				•									•			s										418-S	21
			2				•									•			s		s								307	18
			2.5					•								•			s										418-L	20
			2.5						•							•			s										418-S	21
			2.5							•						•			s										307	18
			3							•	•					•			s											
			3.5									•				•			s											
NPT (F) to NHT (F)		1.5			•										•			s										3060	15	
		2.5					•	•							•			s										160	14	
		2.5						•	•						•			s		s								419	16	
		3							•	•					•			s			s							160	14	
Aluminum	Hose Thread to Pipe Thread	NHT (M) to NPT (F)	2.5				•							•													418-SA	22		
			2.5					•							•													418-SA	22	
	Pipe Thread to Hose Thread	NPT (F) to NHT (M)	2.5					•						•																
			2.5						•						•															










Key s = standard o = option

OPTIONS
THREADS
<i>NHT can also be called NST. See T-13 for optional threads.</i>
MEASUREMENTS
<i>Length measurements shown on page T-15.</i>

UNIVERSAL ADAPTER	
<p>435</p>	<ul style="list-style-type: none"> <li>• Cast brass construction with chrome-plated finish</li> <li>• Adapts any 2.5" hose thread to 2.5" NHT</li> <li>• Positive ratchet lock with thumb release</li> <li>• Weight: 6.42 lbs.</li> </ul>

# ADAPTERS, CAPS & PLUGS

## HOSE TO PIPE / PIPE TO HOSE ADAPTERS

	FEMALE/FEMALE	MALE/MALE	MIXED
<b>Figure 14</b>	 <p><b>160</b></p> <ul style="list-style-type: none"> <li>• Swivel female to female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 14</i></p>	 <p><b>306</b></p> <ul style="list-style-type: none"> <li>• Double male</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 17</i></p>	 <p><b>307</b></p> <ul style="list-style-type: none"> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 18</i></p>
<b>Figure 15</b>	 <p><b>3060</b></p> <ul style="list-style-type: none"> <li>• Double female</li> <li>• Cast brass finish (chrome optional)</li> </ul> <p><i>Fig. 15</i></p>		 <p><b>418</b></p> <ul style="list-style-type: none"> <li>• Suction adapter</li> <li>• Removable strainer</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 19</i></p>
<b>Figure 16</b>	 <p><b>419</b></p> <ul style="list-style-type: none"> <li>• Swivel female to female suction adapter</li> <li>• Built-in strainer</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 16</i></p>		 <p><b>418-L</b></p> <ul style="list-style-type: none"> <li>• Long discharge adapter</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 20</i></p>
			 <p><b>418-S</b></p> <ul style="list-style-type: none"> <li>• Short discharge adapter</li> <li>• Chrome finish</li> </ul> <p><i>Fig. 21</i></p>
			 <p><b>418-SA</b></p> <ul style="list-style-type: none"> <li>• Short discharge adapter</li> <li>• Female rocker lug</li> </ul> <p><i>Fig. 22</i></p>

### ADDITIONAL INFORMATION

*When ordering, specify: model number; inlet size, gender and thread; outlet size, gender and thread; as well as any optional type or finish information.*





## INTRODUCTION

**ELKHART PROVIDES A VARIETY OF BUILDING CONNECTIONS INCLUDING FREE STANDING, EXPOSED AND FLUSH; ALL WITH INLETS AND/OR OUTLETS. ALL BUILDING CONNECTIONS ARE CAST BRASS CONSTRUCTION.**



## Free Standing

Elkhart's 90° free standing inlet connections are cast brass construction, as are the sleeves and escutcheons, and come furnished with plugs, chains and an 18" polished brass or chrome sleeve for standpipe cover.

Elkhart's 90° free standing hydrants and pump test connections are cast brass construction, as are the sleeves and escutcheons, and come furnished with caps and chains.





## FREE STANDING INLET

NPT OUTLET SIZE (Inches)	NUMBER OF 2.5" F NHT INLETS			CLAPPER TYPE		CERTI- FICATIONS		MEASUREMENTS (Inches)						AVAILABLE ESCUTCHEONS			FINISH		Weight (Lbs.)	MODEL	FIGURE
	2	3	4	Body (Drop)	Snoot	FM Approved	U.L. Listed	A	B	C	D	E	F	Auto-Spkr	Standpipe	Standpipe and Auto-Spkr	Polished Brass	Polished Chrome			
4.0	•			•		•	•	9 <sup>1</sup> / <sub>4</sub>	8 <sup>7</sup> / <sub>16</sub>	1/2	18 <sup>1</sup> / <sub>4</sub>	23 <sup>11</sup> / <sub>16</sub>	23 <sup>11</sup> / <sub>16</sub>	•	•	•	s	o	30	15-2W 4"*	1

Key    s = standard    o = option  
 \* Can order parts (sleeve or body with clapper) separately.

### ADDITIONAL INFORMATION

- Each 2 1/2" NHT inlet has a rated flow of 250 gpm (946 lpm).
- Elkhart's sidewalk bodies are rated for 175 psi (12.1 bar).
- Supplied with plugs (#311) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

**FIGURE 1**

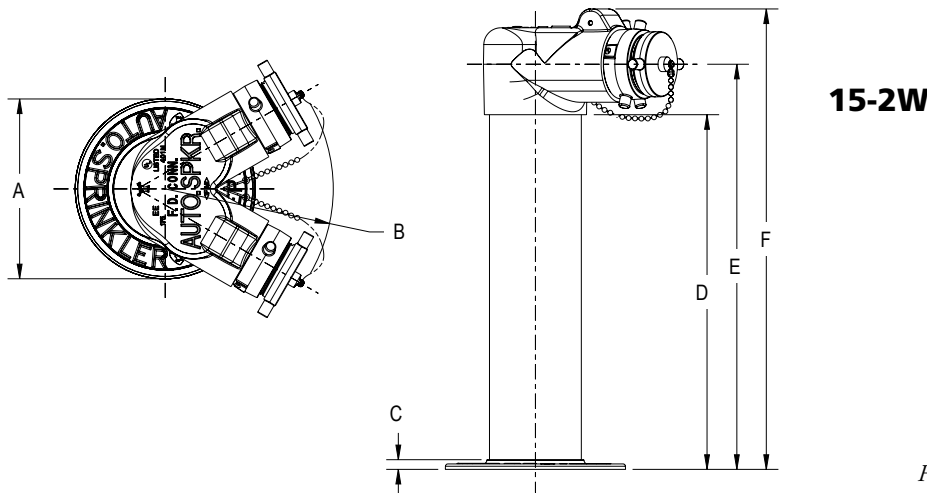
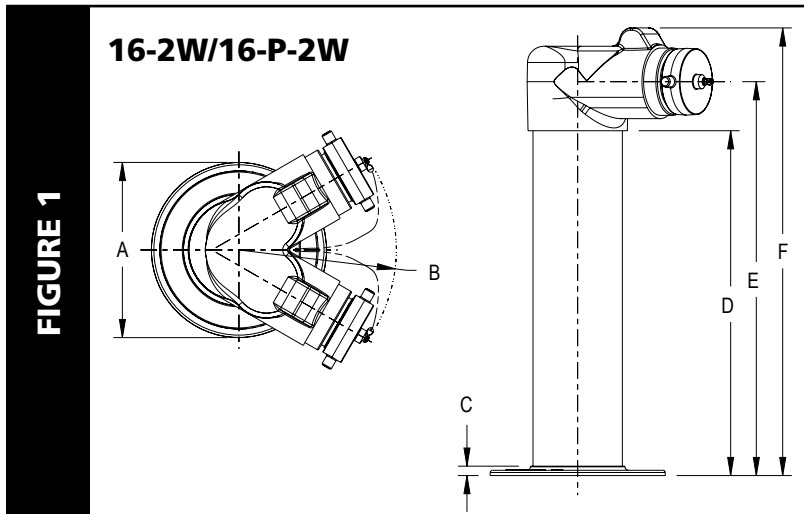


Fig. 1

Type	NPT INLET SIZE (Inches)	NUMBER OF 2.5" M NHT OUTLETS			CERTIFICATION	MEASUREMENTS (Inches)						AVAILABLE ESCUTCHEONS		FINISH		Weight (Lbs.)	MODEL	FIGURE
		2	3	4		FM Approved	A	B	C	D	E	F	Hydrant	Pump Test Conn.	Polished Brass			
Hydrants	4.0	•			•	9 <sup>7</sup> / <sub>4</sub>	8 <sup>7</sup> / <sub>16</sub>	1/2	18 <sup>1</sup> / <sub>4</sub>	20 <sup>7</sup> / <sub>8</sub>	23 <sup>2</sup> / <sub>3</sub>	•		s	o	30	16-2W 4"*	1
Pump Test Connections	4.0	•				9 <sup>7</sup> / <sub>4</sub>	8 <sup>7</sup> / <sub>16</sub>	1/2	18 <sup>1</sup> / <sub>4</sub>	20 <sup>7</sup> / <sub>8</sub>	23 <sup>3</sup> / <sub>4</sub>		•	s	o	30	16-P 2W 4"	1

Key s = standard o = option  
 \* Can order parts (sleeve or body) separately.



**FIGURE 1**

### ADDITIONAL INFORMATION

- Each outlet has a rated flow of 250 gpm (946 lpm).
- Elkhart's sidewalk bodies are rated for 175 psi (12.1 bar).
- Supplied with caps (#310) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- 154-S** – A cast brass valve control for actuating underground mounted valve, used with Elkhart's model #16 (a sidewalk type hydrant), is available. The 154-S comes with a 7/8" square steel extension rod that is 24" long and has a special coupling for attaching to stem of gate valve. Additionally, a cap, chain and sleeve are included. Please specify polished brass or polished chrome-plated sleeve.
- Note: a 2<sup>1</sup>/<sub>2</sub>" hole is required in the concrete slab, as well as a 1<sup>1</sup>/<sub>2</sub>" nipple and locknut which are not included.
  - This product is similar, in function, to the 164 seen on page 13-18.
- Use of a X-86 gate valve is suggested on Pump Test Connections. Gate valve may be found on page 8-5.





## TERMINOLOGY

### **FREE STANDING**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “free standing” under “sidewalk siamese” or “sidewalk hydrants”.

The industry standard terminology is more inclusive of different connection options.

### **EXPOSED**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “exposed” under “exposed siamese” or “exposed wall hydrants”.

The industry standard terminology is more inclusive of different connection options.

### **FLUSH**

To better serve our customers, for this edition and future editions of the catalog, Elkhart Brass has adopted industry standard terminology for our products. In previous versions of our catalog, you may have found the items now listed as “flush” under “flush siamese” or “flush wall hydrants” or “flush pump test”.

The industry standard terminology is more inclusive of different connection options.

## Exposed

Elkhart offers a variety of exposed fire department connection options, including standpipe and 90° for post or wall mounting. All Elkhart's exposed fire department connections are cast brass construction; all inlets swivel and feature female threads.





## EXPOSED INLET

NPT OUTLET SIZE (Inches)	NUMBER OF 2.5" F NHT INLETS		CLAPPER		MEASUREMENTS (Inches)					AVAILABLE LETTERING			CERTI- FICATIONS		FINISH			Weight (Lbs.)	MODEL	FIGURE
	2	3	Individual Drop	Swinging	A	B	C	D	Swing Radius	Auto-Spkr	Standpipe	Standpipe and Auto-Spkr	FM Approved	U.L. Listed	Cast Brass	Polished Brass	Polished Chrome			
4.0	•			•	5 <sup>15</sup> / <sub>16</sub>	9 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>16</sub>	4		s			•	•	s			9	11	1
	•		•		7 <sup>9</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>			s	o		•	•	s	o	o	16	12 4"	3
	•		•		8 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>16</sub>		s	o	o	•	•		s	o	24 <sup>1</sup> / <sub>2</sub>	156 4"	6
	•		•		9 <sup>3</sup> / <sub>16</sub>	11 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	s	o		•	•	s	o	o	20 <sup>1</sup> / <sub>2</sub>	10 4"	4
6.0		•	•		8 <sup>7</sup> / <sub>8</sub>	13 <sup>15</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>4</sub>	4							s	o	o	25 <sup>1</sup> / <sub>2</sub>	18 6" *	2
	•		•		10	11 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>			s	o		•		s	o	o	25	12 6"	3
	•		•		10 <sup>15</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>16</sub>		s	o	o	•		s	o	o	33 <sup>3</sup> / <sub>4</sub>	156 6"	6
	•		•		11 <sup>9</sup> / <sub>16</sub>	11 <sup>3</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	5 <sup>9</sup> / <sub>16</sub>	8 <sup>9</sup> / <sub>16</sub>	s	o		•		s	o	o	23 <sup>3</sup> / <sub>4</sub>	10 6"	4
		•	•		11 <sup>1</sup> / <sub>8</sub>	11 <sup>7</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>8</sub>		7 <sup>13</sup> / <sub>16</sub>						s	o	o	25	29	5

Key s = standard o = option  
 \* Escutcheons available separately.

### ADDITIONAL INFORMATION

- Elkhart's intake connections bodies are rated for 175 psi (12.1 bar).
- Each 2<sup>1</sup>/<sub>2</sub>" NHT inlet has a rated flow of 250 gpm (946 lpm).
- Model 156 supplied with plug (#311) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

See page 11-1 for available chains and plugs.

FIGURE 1

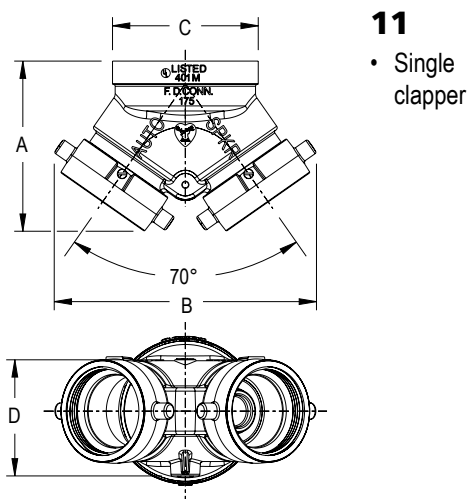


Fig. 1

FIGURE 4

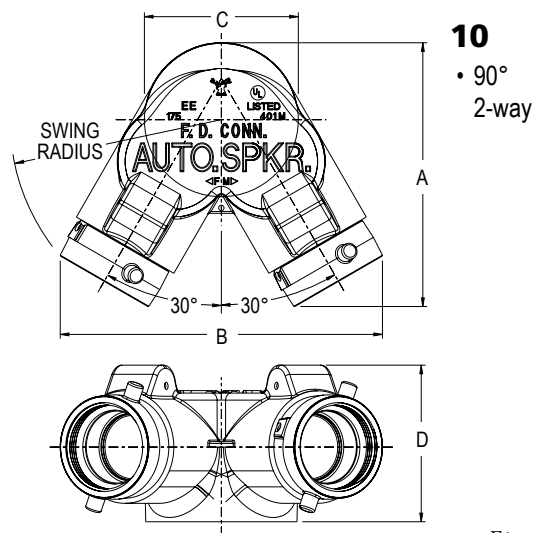


Fig. 4

FIGURE 2

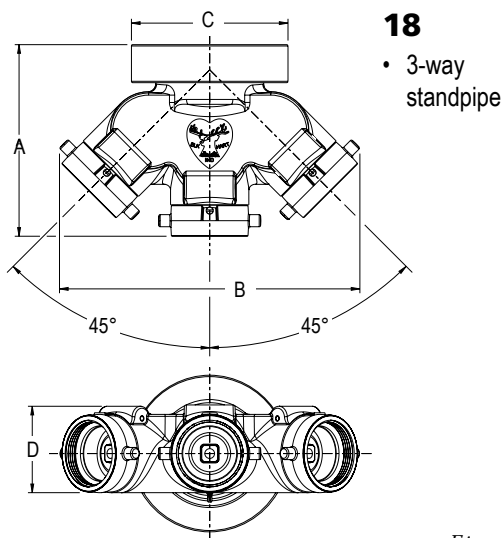


Fig. 2

FIGURE 5

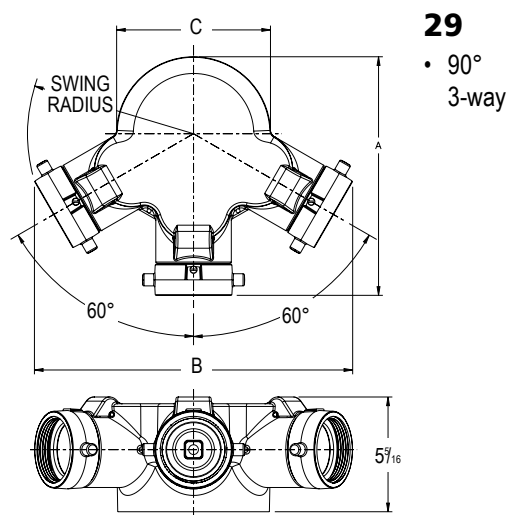


Fig. 5

FIGURE 3

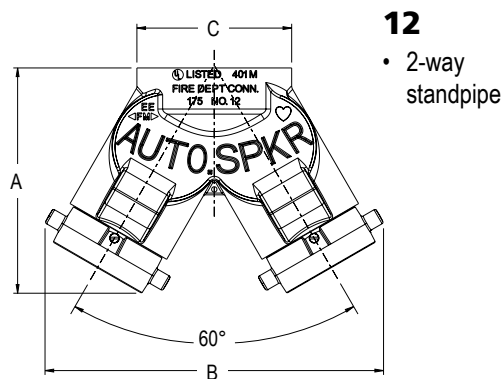


Fig. 3

FIGURE 6

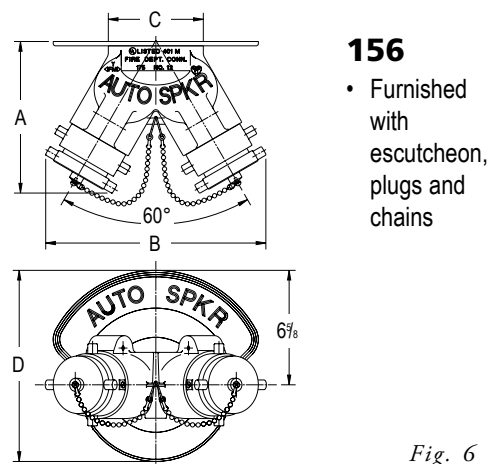


Fig. 6





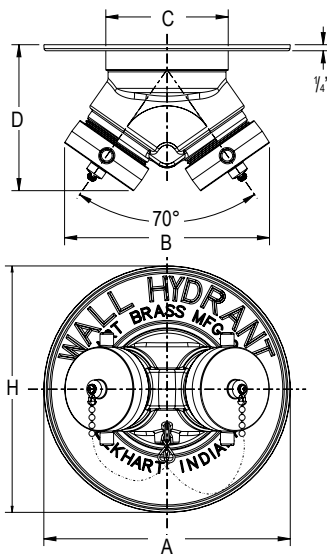
## EXPOSED OUTLET

NPT INLET SIZE (Inches)	OUTLET SIZE	MEASUREMENTS (Inches)					AVAILABLE ESCUTCHEON LETTERING	FM Approved	FINISH			Weight (Lbs.)	MODEL	FIGURE
		A	B	C	D	H	Wall Hydrant		Cast Brass	Polished Brass	Polished Chrome			
4	2½	10 <sup>3</sup> / <sub>16</sub>	8½	5½	6 <sup>1</sup> / <sub>16</sub>	10 <sup>3</sup> / <sub>16</sub>	s		s			13	143*	1
6	2½	11 <sup>7</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	7½	11 <sup>13</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>16</sub>	s	•		s	o	24	153	2

Key s = standard o = option

\* Can order body separately.

FIGURE 1

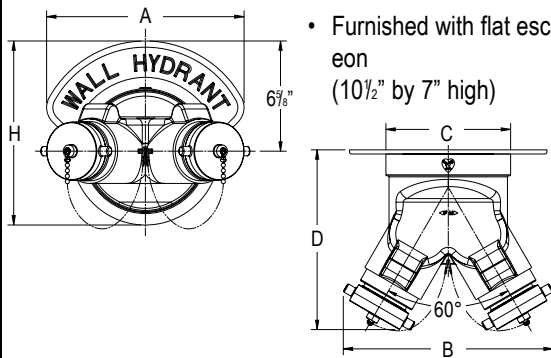


### 143

- Furnished with aluminum escutcheon with red painted letters

Fig. 1

FIGURE 2



### 153

- Furnished with flat escutcheon (10½" by 7" high)

Fig. 2

### ADDITIONAL INFORMATION

- Bodies rated for 175 psi (12.1 bar).
- Each 2½" M NHT outlet has a rated flow of 250 gpm (946 lpm).
- Supplied with caps (#310) and chains.

### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

## Flush

Elkhart offers a wide array of flush and 4-way connections. All connections are cast brass construction.

Wall-mounted options include:

- Inlet models furnished with plugs, chains and an escutcheon.
- Outlet models furnished with caps, chains and an escutcheon.

Four-way connections feature a 6" NPT connection, and come furnished with escutcheons.

- All 4-way inlet connection models feature snoots on each of the four 2½" outlets and are furnished with plug and chain assemblies.
- All 4-way outlet connection models have cap and chain assemblies plus a hex adapter.

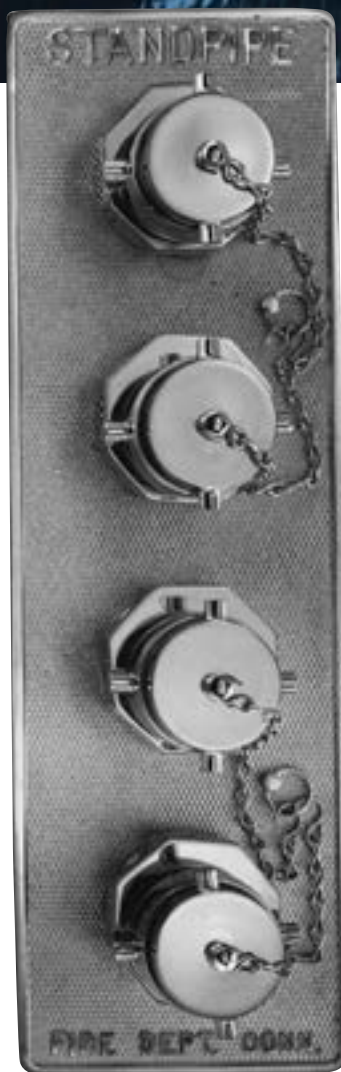




FIGURE 1

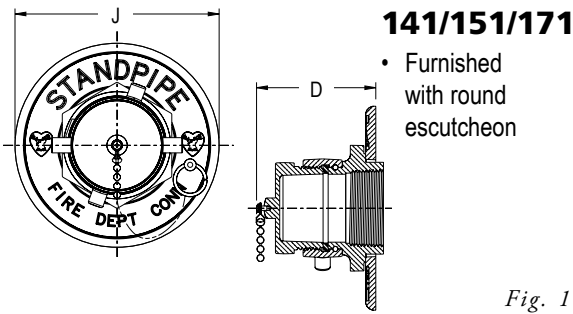


FIGURE 2

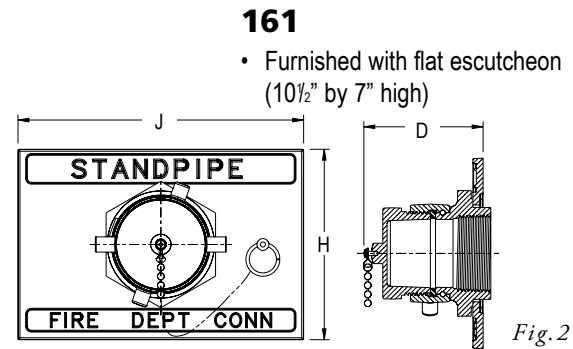


FIGURE 3

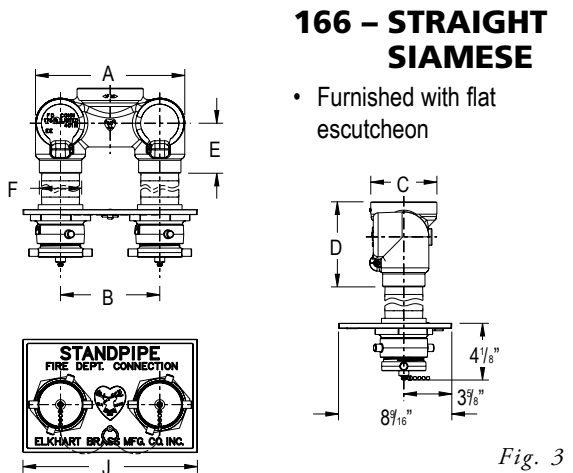


FIGURE 4

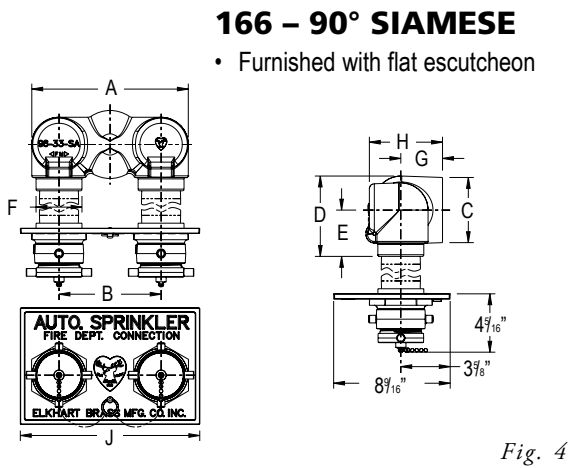


FIGURE 5

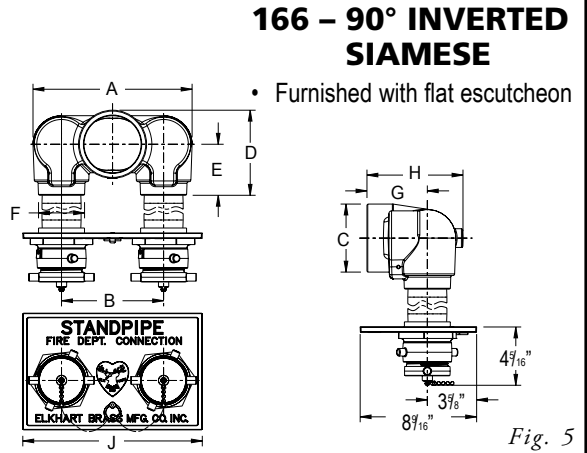


FIGURE 6

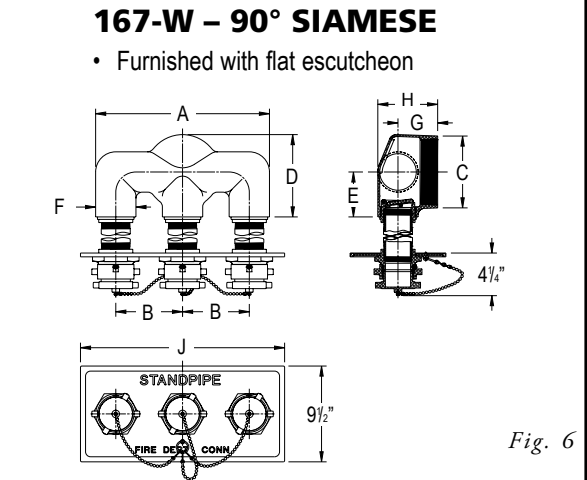


FIGURE 7

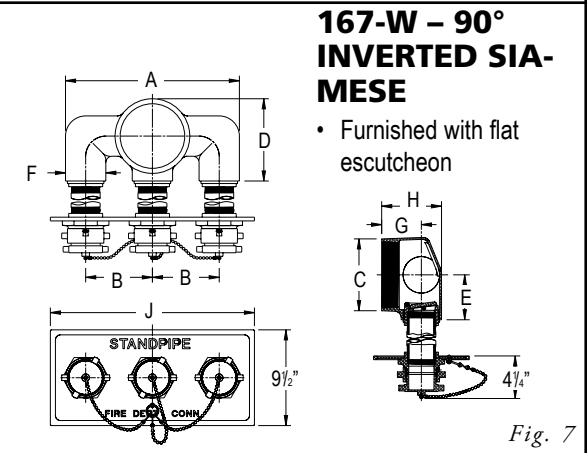
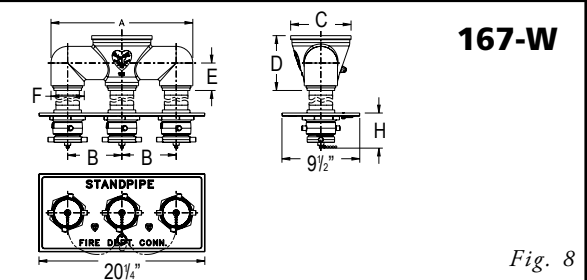


FIGURE 8





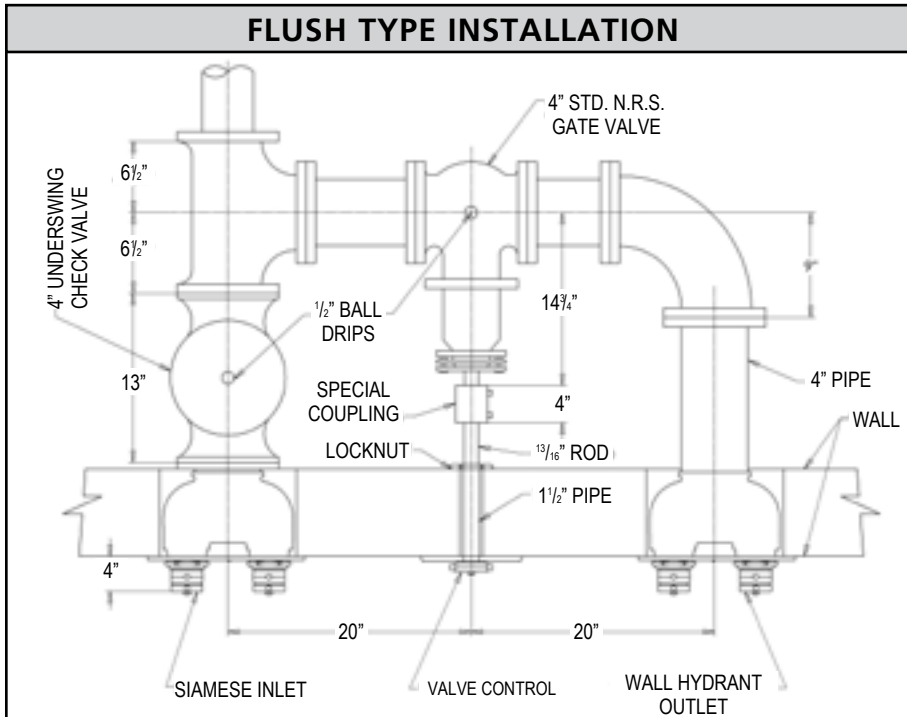


## FLUSH 4-WAY INLET

INSTALLATION DIRECTION			BODY TYPE		SNOOT TYPE		MEASUREMENTS (Inches)		PSI (BAR)	CERTIFICATION	AVAILABLE ESCUTCHEON LETTERING				FINISH		Weight (Lbs.)	MODEL	FIGURE
Vertical	Horizontal	Square	Straight	90°	Clapper	Spring Check	A	B	175 (12.1)	U.L. Listed	Auto-Sprkr	Dry Standpipe	Standpipe	Standpipe and Auto-Sprkr	Polished Brass	Polished Chrome			
•				•	•		8	3 <sup>9</sup> / <sub>16</sub>	•	•	o	o	s	o	s	o	96	780	2
	•			•	•		8	3 <sup>9</sup> / <sub>16</sub>	•	•	o	o	s	o	s	o	96	781	3
•			•		•		5 <sup>7</sup> / <sub>8</sub>	3 <sup>9</sup> / <sub>16</sub>	•	•	o	o	s	o	s	o	96	782	4
	•		•		•		5 <sup>7</sup> / <sub>8</sub>	3 <sup>9</sup> / <sub>16</sub>	•	•	o	o	s	o	s	o	96	783	5
		•		•		•		3 <sup>3</sup> / <sub>4</sub>	•		o	o	s	o	s	o	107 <sup>7</sup> / <sub>8</sub>	739*	1

Key    s = standard    o = option  
 \* Can order body separately.

### FLUSH TYPE INSTALLATION



### ADDITIONAL INFORMATION

- Each 2 1/2" F NHT inlet has a rated flow of 250 gpm (946 lpm).
- 6" outlet connection.
- Supplied with plugs and chains.

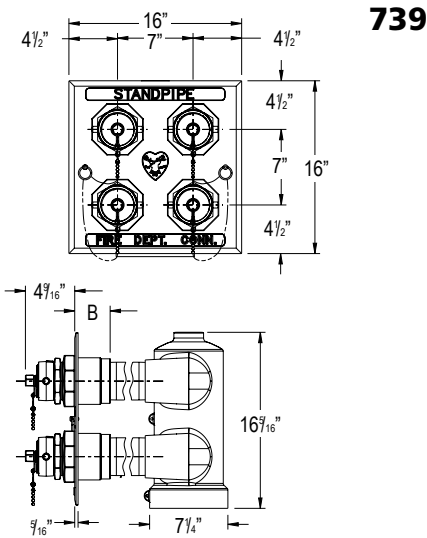
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

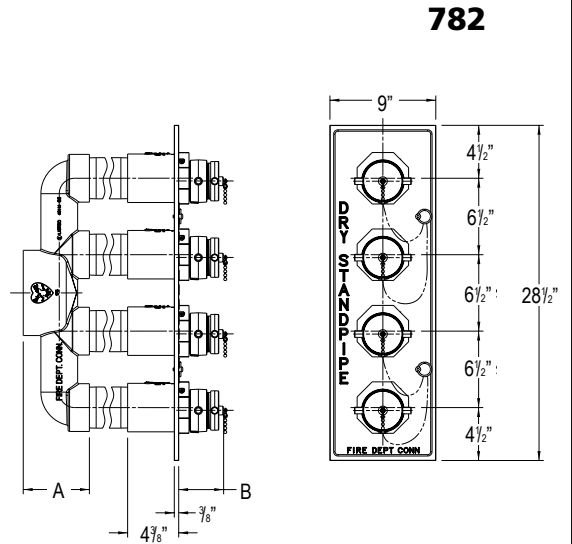
- See page 13-14 for Flush Inlet Connections.
- For 780 and 788 sub-components specifications, see page 13-22.
- 3" NPT nipples required. Elkhart Brass does not supply.

**FIGURE 1**



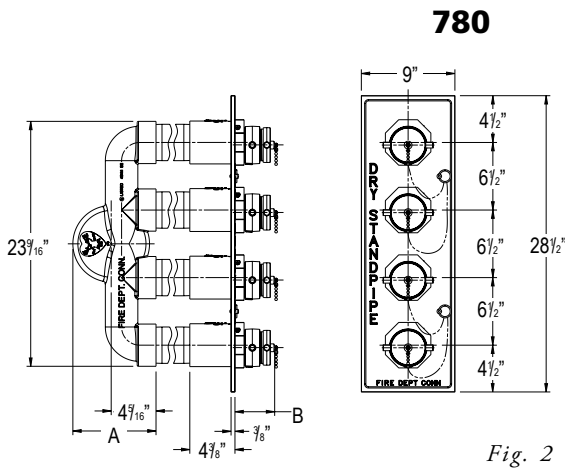
*Fig. 1*

**FIGURE 4**



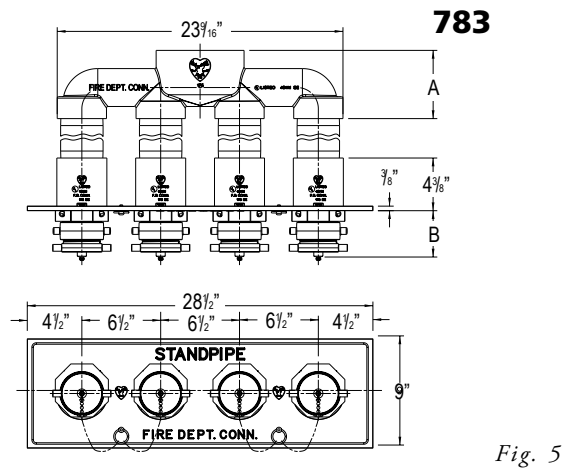
*Fig. 4*

**FIGURE 2**



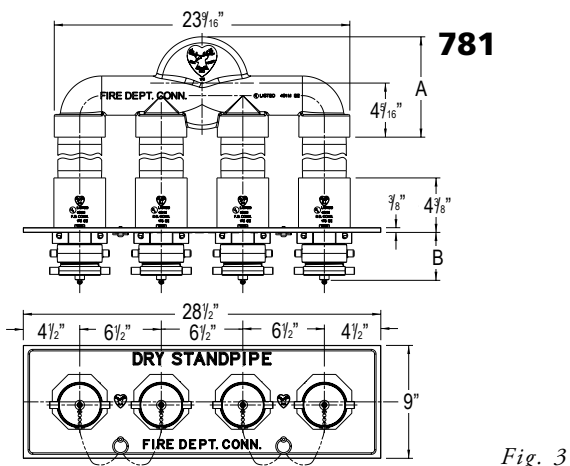
*Fig. 2*

**FIGURE 5**



*Fig. 5*

**FIGURE 3**



*Fig. 3*



## FLUSH OUTLET

Type	NPT INLET SIZE (Inches)	OUTLETS			BODY TYPE	MEASUREMENTS (Inches)										AVAILABLE ESCUTCHEON LETTERING		FINISH		Weight (lbs.)	MODEL	FIGURE	FM APPROVED	
		Number of 2.5" M NHT Outlets				Straight	90°	A	B	C	D	E	F	G	H	J	Pump Test	Wall Hydrant	Polished Brass					Polished Chrome
		1	2	3																				
Hydrant	2½	•					7½			¾							s	s	o	6¾	152 2.5"	1		
		•					10½			¾				7			s	s	o	9¾	162 2.5"	2		
	3	•					7½			¾							s	s	o	5¾	152 3"	1		
		•					10½			¾				7			s	s	o	8¾	162 3"	2		
	4	•			s		13¾	7½				5	6½	8½	11¼		s	s	o	31	163 4" ST*	3	•	
		•			o		13¾	7½	¾	¾	6¾	5	6½	5½	11½		s	s	o	28¾	163 4" 90*	4	•	
6	•			s		13¾	7½				7½	8	8½	11½		s	s	o	35¾	163 6" ST*	3	•		
	•			s		12	7½	4¾	¾	4	7½	7¾	6¾			s	s	o	32¾	163 6" 90*	4	•		
Pump Test Connections	4	•		s		13¾	7½				5	6½	8½	11¼	s		s	o	31	163P 4" ST	3	•		
		•		s		13¾	7½	¾	¾	6¾	5	6½	5½	11½	s		s	o	28¾	163P 4" 90	4	•		
	6	•		s		13¾	7½				7½	8	8½	11½	s		s	o	35¾	163P 6" ST	3	•		
		•		s		13¾	7½	¾	¾	4	7½	7¾	¾	12	s		s	o	32¾	163P 6" 90	4	•		
	6	•		s		20½	6½				7½	6½	9½	17½	s		s	o	68	167-WP	5	•		
		•		s		20¾	6½				7½	8½	9½	17¼	s		s	o	70½	167-WP 90	6	•		

Key s = standard o = option  
\* Can order body separately.

### ADDITIONAL INFORMATION

- Bodies rated for 175 psi (12.1 bar).
- Each 2½" NHT outlet has a rated flow of 250 gpm (946 lpm).
- Supplied with cap(s) (#310) and chain(s).

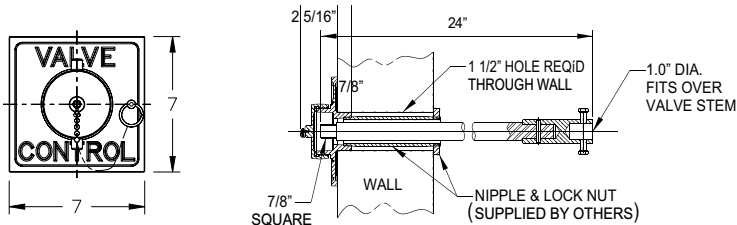
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- See page 13-20 for Flush 4-Way Outlet Connections.
- 2½" NPT nipple required for all 163, 163P and 167 WP models. Elkhart Brass does not supply.
- On the 163 and 163P, the body is roughed in during construction; escutcheon and nipple assemblies are installed after construction. Elkhart Brass personnel can help with construction installation information.

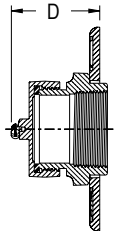
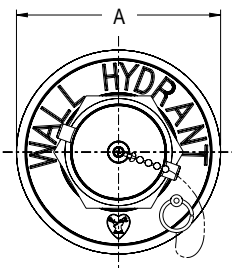
### OPTIONS



**164**

- **164** – A cast brass valve control for use with Elkhart's model 163 is available. The 164 comes with a 7/8" square steel extension rod that is 24" long and has a special coupling for attaching to stem of gate valve. Additionally, a cap, chain and 7" square escutcheon are included. Please specify polished brass or polished chrome-plated. (Note: a 2½" hole is required in the installation wall.)
- **480** – Tee handle used with 164 control valve.

**FIGURE 1**

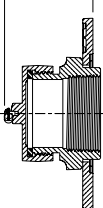
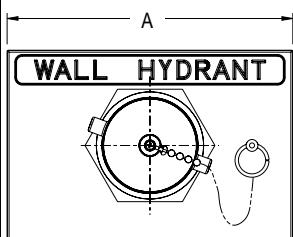


**152**

- Furnished with 7 1/2" round escutcheon

*Fig. 1*

**FIGURE 2**

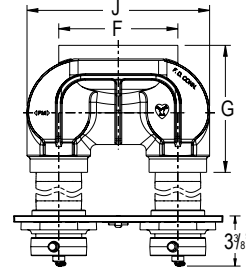
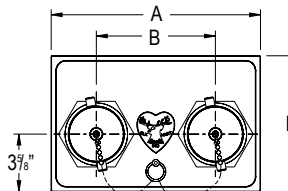


**162**

- Furnished with flat escutcheon (10 1/2" by 7" high)

*Fig. 2*

**FIGURE 3**

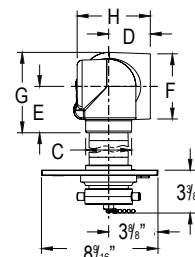
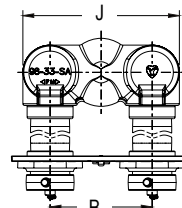


**163/163P STRAIGHT**

- Furnished with flat escutcheon

*Fig. 3*

**FIGURE 4**

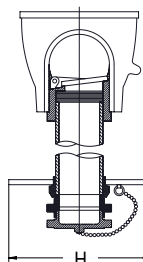
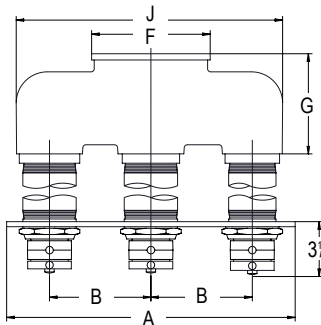


**163/163P 90°**

- Furnished with flat escutcheon

*Fig. 4*

**FIGURE 5**

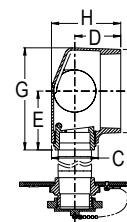
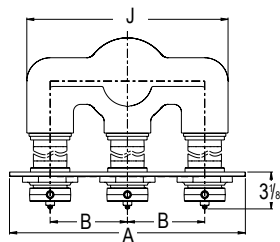


**167 WP STRAIGHT**

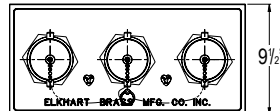
- Furnished with flat escutcheon

*Fig. 5*

**FIGURE 6**



**167-WP 90**



*Fig. 6*



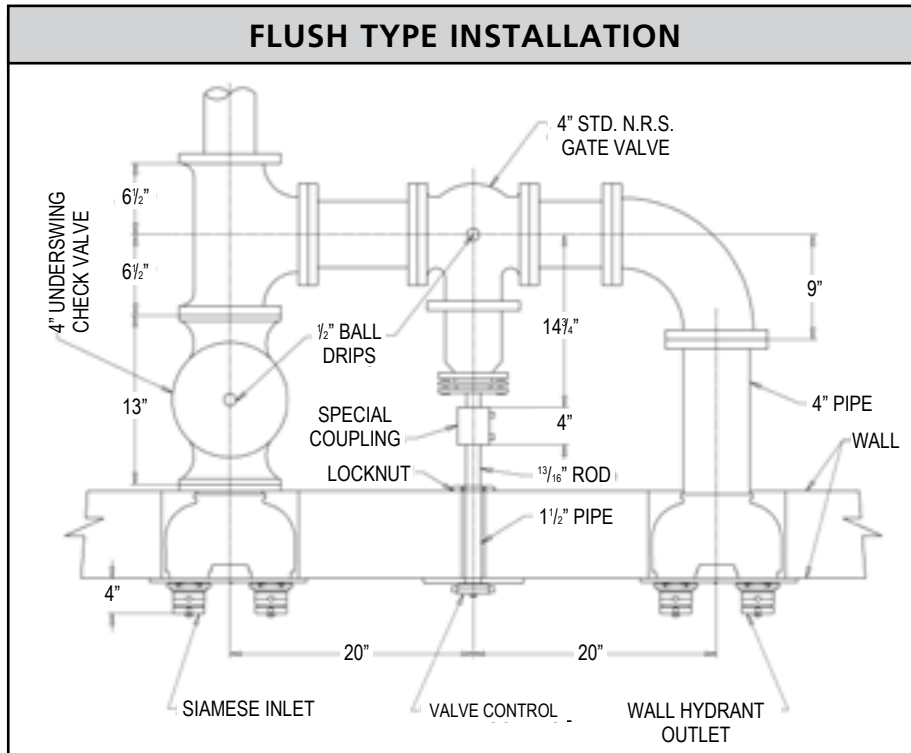


## FLUSH 4-WAY OUTLET

INSTALLATION DIRECTION			BODY TYPE		AVAILABLE ESCUTCHEON LETTERING		FINISH		Weight (Lbs.)	MODEL	FIGURE
Vertical	Horizontal	Square	Straight	90°	Hydrant	Pump Test Conn.	Polished Brass	Polished Chrome			
•			•		s		s	o	92	784	2
	•		•		s		s	o	92	785	3
	•			•	s		s	o	92	787	4
		•		•	s		s	o	109 <sup>1</sup> / <sub>4</sub>	743	1
•			•			s	s	o	92	784-P	2
	•		•			s	s	o	92	785-P	3

Key s = standard o = option

### FLUSH TYPE INSTALLATION



### ADDITIONAL INFORMATION

- Each 2<sup>1</sup>/<sub>2</sub>" M NHT outlet has a rated flow of 250 gpm (946 lpm).
- Inlet connection is a 6" NPT.
- Supplied with caps (#310) and chains.
- Bodies rated for 175 psi (12.1 bar).

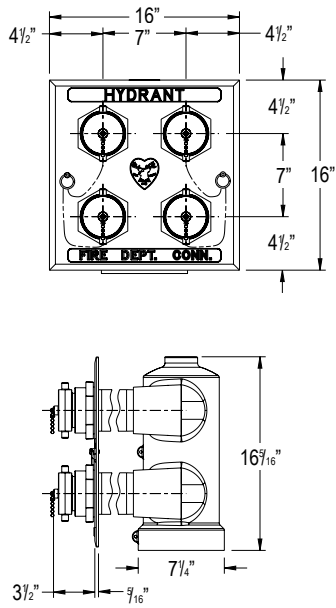
### THREADS

Unless otherwise noted, all hose threads are NHT. See index T-13 for available optional threads.

### OTHER PRODUCTS

- See page 13-18 for Flush Outlet Connections.
- 3" NPT nipple required. Elkhart Brass does not supply.

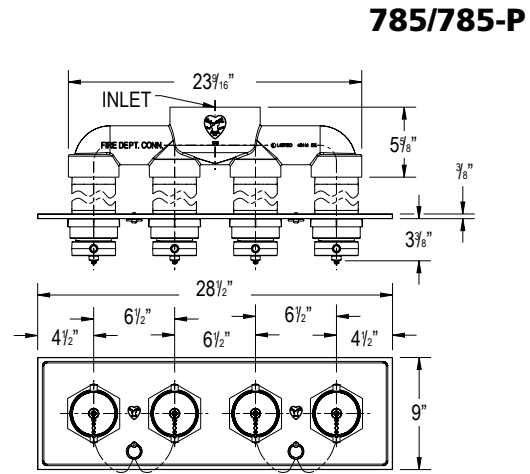
**FIGURE 1**



**743**

*Fig. 1*

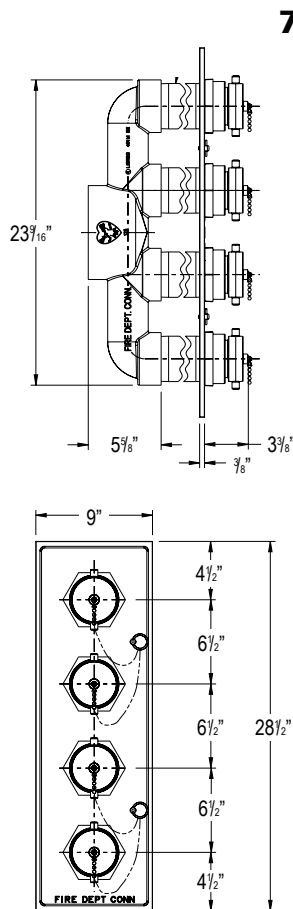
**FIGURE 3**



**785/785-P**

*Fig. 3*

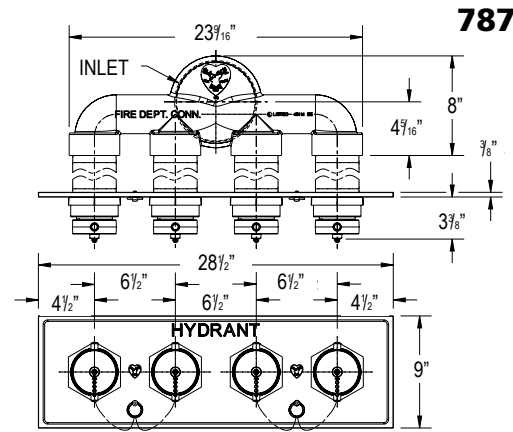
**FIGURE 2**



**784/784-P**

*Fig. 2*

**FIGURE 4**



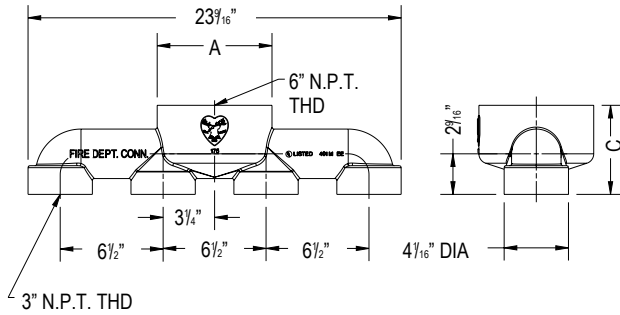
**787**

*Fig. 4*



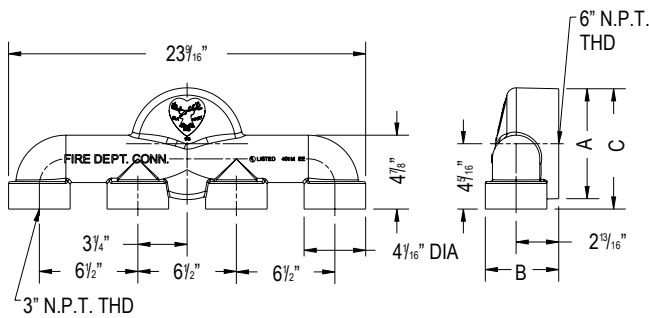
## BODY SUB-ASSEMBLIES

### 4-WAY STRAIGHT MANIFOLD



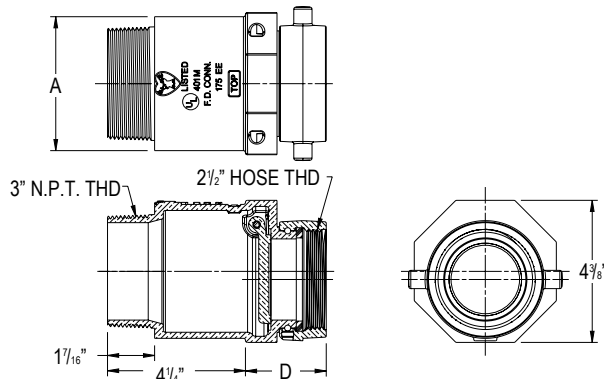
PRODUCT INFORMATION	MODELS
	710
Size (Inches)	6" x (4) 3"
Escutcheon opening size (Inches)	4 1/4"
Dimension A (Inches)	7 1/4"
Dimension C (Inches)	5 5/8"
Material	Cast Brass
Elkhart products used in	782, 783, 784, 785
Additional uses	With Elkhart's 720 Clapper Snoot (without nipples) as an exposed inlet connection
Weight (Lbs.)	28 1/2"
PSI (BAR)	175 (12.1)
Certifications	U.L. Listed

### 4-WAY 90° MANIFOLD



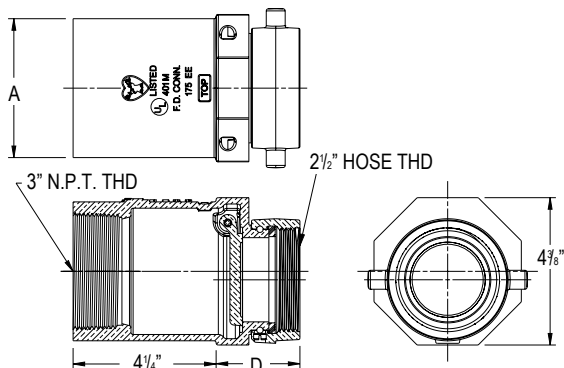
PRODUCT INFORMATION	MODELS
	711
Size (Inches)	6" x (4) 3"
Escutcheon opening size (Inches)	4 1/4"
Dimension A (Inches)	7 1/4"
Dimension B (Inches)	4 13/16"
Dimension C (Inches)	7 15/16"
Material	Cast Brass
Elkhart products used in	780, 781, 786, 787
Additional uses	With Elkhart's 720 Clapper Snoot (without nipples) as either a side walk intake connection or an exposed dry standpipe inlet connection
Weight (Lbs.)	28"
PSI (BAR)	175 (12.1)
Certifications	U.L. Listed

### MALE CLAPPER SNOOT



PRODUCT INFORMATION	MODELS
	720
Openings (Inches)	3" M x 2.5" F
Dimension A (Inches)	4 1/4"
Dimension D (Inches)	2 1/2"
Material/Finish	Cast brass with polished brass exposed parts (optional chrome plated available)
Additional uses	Single fire department connection (plug and chain available separately)
Weight (Lbs.)	9 1/2"
PSI (BAR)	175 (12.1)
Certifications	U.L. Listed

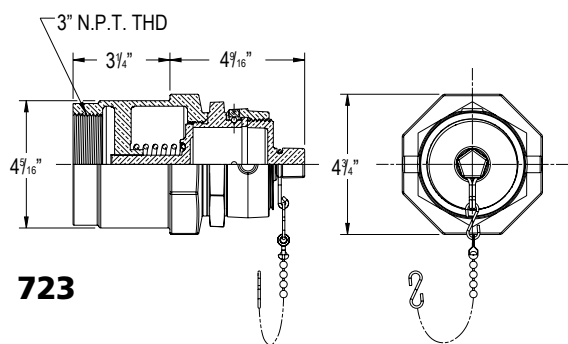
### FEMALE CLAPPER SNOOT



**721**

PRODUCT INFORMATION	MODELS
	721
Size (Inches)	3" F x 2.5" F
Dimension A (Inches)	4 1/8"
Dimension D (Inches)	2 1/2"
Material/Finish	Cast brass with polished brass exposed parts (optional chrome plated available)
Elkhart products used in	780, 781, 782, 783
Additional uses	Single fire department connection (plug and chain available separately)
Weight (Lbs.)	9 1/2"
PSI (BAR)	175 (12.1)
Certifications	U.L. Listed

### FEMALE SPRING CHECK SNOOT



**723**

Sizes (Inches)	3" F x 2 1/2" or 3" F x 3"
Material/Finish	Cast brass with polished brass exposed parts (optional chrome plating available)
Available with	Plug
Spring check action	Open @ 10 psi (0.69 bar) Flows 250 GPM (946 lpm) @ 12 psi (0.83 bar) Flows 500 GPM (1893 lpm) @ 24 psi (1.65 bar)
Weight (Lbs.)	12 1/4 or 11 3/5

### ADDITIONAL INFORMATION

*Components rated for 175 psi (12.1 bar), unless otherwise specified.*

#### THREADS

- 710 and 711 are NPT on all connections.
- 720, 721, and 723 feature NPT Inlets, while the outlets are hose thread (NHT). See index T-13 for available optional hose threads.

#### OTHER PRODUCTS

- Flush Siamese (utilizing the components) are available on page 13-16.
- Caps and plugs are available on page 11-1.
- Escutcheons available on page 13-27.





ROOF MANIFOLDS & CONNECTIONS

## Roof Manifolds & Connections

Elkhart provides several choices in roof manifolds and connections. Roof manifolds provide water control (on mounted building or adjacent buildings) when used with angle hose valves while the roof connections can be used to disperse water to adjacent buildings. All options offer cast brass construction and 2½" outlets rated at 250 gpm (946 lpm) per outlet.



BUILDING CONNECTIONS

12-21



INLET SIZE (Inches)	OUTLET				CERT.	MEASUREMENTS (Inches)						Weight (Lbs.)	MODEL	FIGURE
	NUMBER		STYLE			U.L. LISTED	A	B	C	D	E			
	2	3	MALE	FEMALE										
4	•		•		•	5 <sup>5</sup> / <sub>8</sub>	3 <sup>11</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	4 <sup>15</sup> / <sub>16</sub>	8	168	1
	•			•	•	5	7 <sup>1</sup> / <sub>2</sub>	11	6 <sup>7</sup> / <sub>16</sub>			26 <sup>1</sup> / <sub>4</sub>	158	3
	•			•	•	5	6 <sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>			16 <sup>1</sup> / <sub>4</sub>	159	4
	•		•		•	5 <sup>1</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>			9 <sup>3</sup> / <sub>4</sub>	751	6
		•	•		•	4 <sup>1</sup> / <sub>5</sub>	5 <sup>1</sup> / <sub>4</sub>	4 <sup>13</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>2</sub>		4 <sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>4</sub>	168	2
		•		•	•	5	6 <sup>5</sup> / <sub>8</sub>	19	5 <sup>7</sup> / <sub>8</sub>			27 <sup>1</sup> / <sub>4</sub>	159	4
6	•		•		•	5 <sup>5</sup> / <sub>8</sub>	4 <sup>11</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>4</sub>	5 <sup>11</sup> / <sub>16</sub>	14 <sup>1</sup> / <sub>4</sub>	168	1
	•			•	•	7 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	8			26 <sup>1</sup> / <sub>4</sub>	158	3
	•			•	•	7 <sup>1</sup> / <sub>4</sub>	6 <sup>5</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>8</sub>	7 <sup>15</sup> / <sub>16</sub>			31 <sup>1</sup> / <sub>4</sub>	159	4
	•		•		•	7 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	10 <sup>11</sup> / <sub>16</sub>	8			20 <sup>1</sup> / <sub>4</sub>	755	7
		•	•		•	5 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>4</sub>	4 <sup>15</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>		5 <sup>3</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>4</sub>	168	2
		•		•	•	7 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	17 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>8</sub>			24 <sup>3</sup> / <sub>8</sub>	158	3
		•		•	•	7 <sup>1</sup> / <sub>4</sub>	6 <sup>5</sup> / <sub>8</sub>	19	7 <sup>15</sup> / <sub>16</sub>			42 <sup>3</sup> / <sub>4</sub>	159	4
	•	•		•	7 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>4</sub>	10 <sup>11</sup> / <sub>16</sub>	10 <sup>1</sup> / <sub>2</sub>			20 <sup>3</sup> / <sub>8</sub>	761	5	

### ADDITIONAL INFORMATION

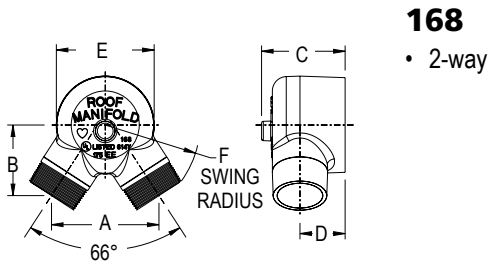
- When ordering, specify model number, inlet size and number of outlets.
- Each outlet has a rated flow of 250 gpm (946 lpm).
- Roof manifolds can be used in alternate applications and/or to test fire pump systems.

### THREADS

All threads are NPT unless otherwise specified.



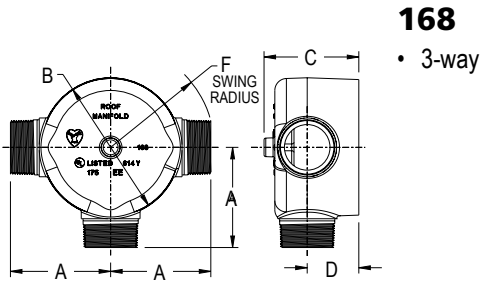
**FIGURE 1**



**168**  
• 2-way

*Fig. 1*

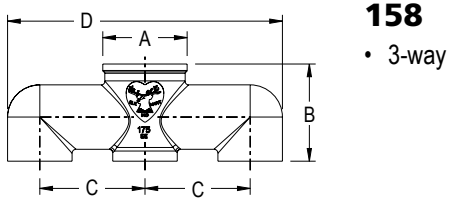
**FIGURE 2**



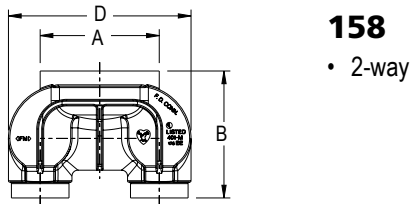
**168**  
• 3-way

*Fig. 2*

**FIGURE 3**



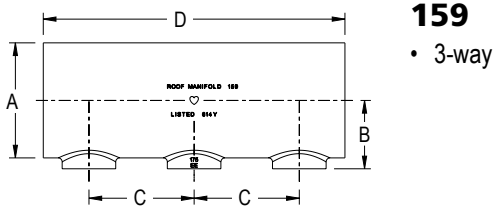
**158**  
• 3-way



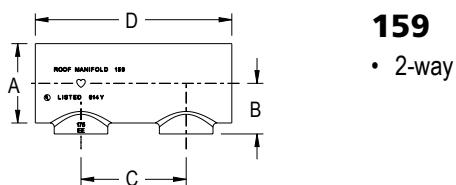
**158**  
• 2-way

*Fig. 3*

**FIGURE 4**



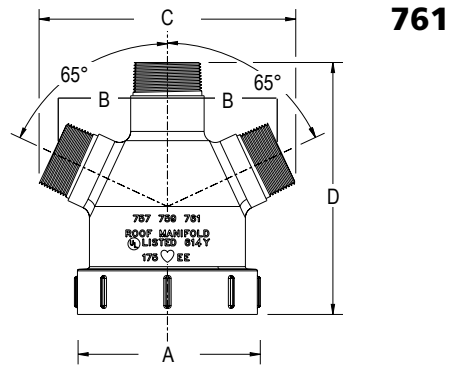
**159**  
• 3-way



**159**  
• 2-way

*Fig. 4*

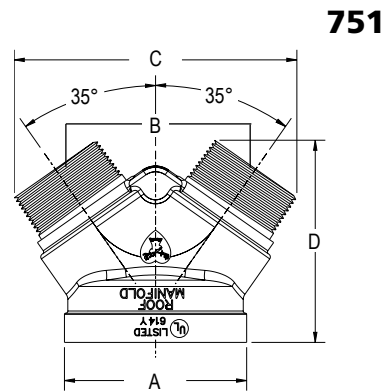
**FIGURE 5**



**761**

*Fig. 5*

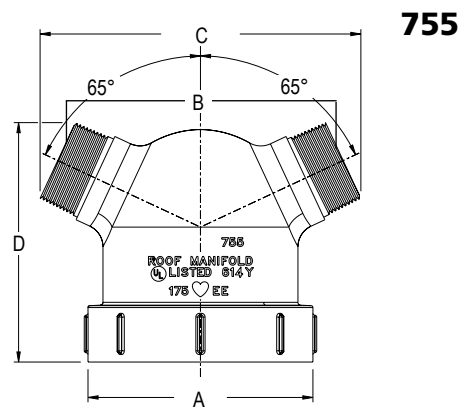
**FIGURE 6**



**751**

*Fig. 6*

**FIGURE 7**



**755**

*Fig. 7*

### ROUND ESCUTCHEON PLATE



MEASUREMENTS				AVAILABLE LETTERING OPTIONS							MATERIAL/FINISH					Weight (Lbs.)	MODEL
Pipe size (Inches)	Inside diameter	Outside diameter	Thickness	Automatic Sprinkler	Dry Standpipe	Hydrant	Pump Test Conn.	Standpipe	Standpipe & Automatic Sprinkler	Wall Hydrants	Brass			Aluminum			
											Polished	Rough	Satin	Chrome-plated	Red urethane		
1 1/2	1 15/16	3	15/32											s		1/8	589-1.5
2 1/2	2 59/64	4 13/32	3/16											s		5/16	589-2.5
4	4 3/16	10 3/16	1/4	•	•	•	•	•	•	•					s	1	590-4-A
	4 3/16	10 3/16	1/4	•	•	•	•	•	•	•	o		s	o		3 1/8	590-4-B
6	6 11/16	12	3/8	•	•	•	•	•	•	•				s		2 1/8	590-6-A
	6 11/16	12	3/8	•	•	•	•	•	•	•	o		s	o		6 7/8	590-6-B

Key s = standard o = option

### RECTANGULAR ESCUTCHEON PLATE



MEASUREMENTS (Inches)		AVAILABLE LETTERING OPTIONS							MATERIAL				Weight (Lbs.)	MODEL
Length	Width	Auto-Sprinkler	Auto-Sprk/Stdp	Dry Standpipe	Pump Test	Sprinkler	Standpipe	Wall Hydrant	Cast Aluminum	Cast Brass	Polished Brass	Polished Chrome		
11 1/2	4 1/2						•		s				3/4	591-A
11 1/2	4 1/2						•			s			2 5/8	591-B
11 1/2	4 1/2					•			s				3/4	592-A
11 1/2	4 1/2					•				s			2 5/8	592-B

Key s = standard o = option

#### ADDITIONAL INFORMATION

Caps and plugs are available on page 11-1.





## NOZZLE KITS

## NOZZLE REPAIR KITS

### P/N 80800001 Field Service Kit

For all 1.0" and 1.5" nozzles and ball shut-offs (1.0" ID Ball) • Kit contains the following parts:

- |                                    |                          |
|------------------------------------|--------------------------|
| 1 Adjustable Seat                  | 1 Actuator Shaft Screw   |
| 1 O-Ring for Adjustable Seat       | 1 Handle Pivot Screw     |
| 1 Actuator Shaft O/S               | 1 O-Ring for Pivot Screw |
| 1 Drive Pin for O/S Actuator Shaft | 1 O-Ring for Body Base   |
| 1 Actuator Shaft N/S               | 1 Repair Instructions    |
| 1 O-Ring for Actuator Shaft        |                          |

This kit can be used on the following nozzles and ball shut-offs:

- |                  |                   |                     |                    |
|------------------|-------------------|---------------------|--------------------|
| L-O (N/S)(O/S)   | SFL-BG            | SM-10FB (N/S)(O/S)  | 4000-02 (N/S)(O/S) |
| L-OE (N/S)(O/S)  | SFL-OG (N/S)(O/S) | LB-275 (N/S)(O/S)   | 4000-03 (N/S)(O/S) |
| L-OG (N/S)(O/S)  | SFS-O (N/S)(O/S)  | LB-275A (N/S)(O/S)  | 4000-10 (N/S)(O/S) |
| NSL              | SFS-OG (N/S)(O/S) | LB-275GA (N/S)(O/S) | 4000-11 (N/S)(O/S) |
| S-O (N/S)(O/S)   | SM-3F (N/S)(O/S)  | SB-275 (N/S)(O/S)   | 4000-12 (N/S)(O/S) |
| S-OE (N/S)(O/S)  | SM-3FG (N/S)(O/S) | SB-275A (N/S)(O/S)  | 4000-13 (N/S)(O/S) |
| SFL-O (N/S)(O/S) | SM-10F (N/S)(O/S) | 4000-01 (N/S)(O/S)  | OH-174             |
| SFL-B            | SM10FG (N/S)(O/S) |                     |                    |

(Optional ball is P/N 15076000)

### P/N 81464001 Field Service Kit

For 1.5" SFM HP/LP • Kit contains the following parts:

- |                               |                                 |
|-------------------------------|---------------------------------|
| 2 O-Rings for Adjustable Seat | 2 Self-Adjusting Seats (UHMWPE) |
| 2 O-Rings for Actuator        | 2 Actuator Shaft Square Drive   |
| 2 O-Rings for Body Adapters   | 1 Repair Instructions           |

(Optional ball is P/N 17328001)

### P/N 81165001 Field Service Kit

For SFL-O-DI (De-icing) • Kit contains the following parts:

- |                              |                               |
|------------------------------|-------------------------------|
| 1 O-Ring for Adjustable Seat | 1 Actuator Shaft Screws       |
| 1 Drive Pin for Handle       | 1 Adjustable Seal             |
| 1 O-Ring for Actuator        | 1 Actuator Shaft              |
| 1 O-Ring for Pivot Screw     | 1 Handle Pivot Screw          |
| 2 O-Rings for Center Barrel  | 1 Actuator Shaft Square Drive |
| 1 O-Ring for Base Adapter    | 1 Repair Instructions         |

(Optional ball is P/N 15076)

### P/N 81825001 XD Field Service Kit

Kit contains the following parts:

- |                                      |                               |
|--------------------------------------|-------------------------------|
| 2 Actuator Shafts                    | 2 Self-Adjusting Seats UHMWPE |
| 2 O-Rings for Actuator Shafts        | 2 O-Rings for Valve Seats     |
| 2 Screws for Actuator Shafts (Inner) | 1 Screw for Body Adapter      |
| 2 Screws for Actuator Shafts (Outer) | 1 O-Ring for Body Adapter     |
| 2 O-Rings for Actuator Shaft Covers  | 1 Exploded Parts Drawing      |

This kit can be used on the following nozzles and ball shut-offs:

- |                  |                                 |
|------------------|---------------------------------|
| 1.5" XD Shutoff  | 1.5" Mid-Range Chief XD Nozzle  |
| 2.5" XD Shutoff  | 1.5" High-Range Chief XD Nozzle |
| 2.5" XD Playpipe | 2.5" High-Range Chief XD Nozzle |

(Optional 1.375" full round ball is P/N 17341000)

### P/N 80902001 Field Service Kit

For all 1.75", 2.0", and 2.5" nozzles and ball shut-offs (1.375" ID Ball) • Kit contains the following parts:

- |                                    |                          |
|------------------------------------|--------------------------|
| 1 Adjustable Seat                  | 1 Actuator Shaft Screw   |
| 1 O-Ring for Adjustable Seat       | 1 Handle Pivot Screw     |
| 1 Actuator Shaft O/S               | 1 O-Ring for Pivot Screw |
| 1 Drive Pin for O/S Actuator Shaft | 1 O-Ring for Body Base   |
| 1 Actuator Shaft N/S               | 1 Repair Instructions    |
| 1 O-Ring for Actuator Shaft        |                          |

This kit can be used on the following nozzles and ball shut-offs:

- |                    |                     |                    |
|--------------------|---------------------|--------------------|
| A                  | SM-20FG (N/S)(O/S)  | DB-275 (N/S)(O/S)  |
| D (N/S)(O/S)       | SM-30F (N/S)(O/S)   | DB-275A (N/S)(O/S) |
| DSF (N/S)(O/S)     | SM-30FLP            | DB-275AT           |
| DSM-30F (N/S)(O/S) | SM-30FG (N/S)(O/S)  | DB-275-GAT         |
| DSM-30FLP          | SM-30FGLP           | B-278              |
| DSF-30FG           | SOS                 | B-278L             |
| DSM-30FGLP         | B-275 (N/S)(O/S)    | 4000-16            |
| SF                 | B-275A (N/S)(O/S)   | 4000-17            |
| SFM                | B-275AT             | 4000-20 (N/S)(O/S) |
| SFM-G              | B-275-GA (N/S)(O/S) | 4000-23 (N/S)(O/S) |
| SM-20F (N/S)(O/S)  | B-275-GAT           | 4000-26 (N/S)(O/S) |

(Optional ball is P/N 17304000)

### P/N 81277001 Field Service Kit

This 1 3/8" double drive kit can be used on the following nozzle types: B-375-A, B-375-AT, B-375-GA, B-375-GAT, DB-375-A, DB-375-AT, DB-375-GA, DB-375-GAT

• Kit contains the following parts:

- |                                 |                                |
|---------------------------------|--------------------------------|
| 2 O-Rings for Adjustable Seat   | 1 O-Ring for F/S Base          |
| 2 O-Rings for Actuator Shafts   | 2 Actuator Shaft Square Drives |
| 3 O-Rings for Body Adapters     | 1 Repair Instructions          |
| 2 Self-Adjusting Seats (UHMWPE) |                                |

(Optional 1.375" single cut-away ball is P/N 17326001)  
 (Optional 1.375" double cut-away ball is P/N 17323000)  
 (Optional 1.375" full round ball is P/N 17328001)

### P/N 81463001 Field Service Kit

For PSFS-HP, PSFS-HPG • Kit contains the following parts:

- |                               |                               |
|-------------------------------|-------------------------------|
| 2 O-Rings for Adjustable Seat | 2 Seats                       |
| 2 O-Rings for Actuator        | 2 Actuator Shaft Square Drive |
| 2 O-Rings for Body Adapters   | 1 Repair Instructions         |

(Optional ball is P/N 17333001)

### P/N 81151001 Field Service Kit

For SFL-GN (MIL-N-24408B Rev. D or MIL-N-24408B Rev. E) • Kit contains the following parts:

- |                                    |                              |
|------------------------------------|------------------------------|
| 2 Pins                             | 2 O-Rings for Upstream Seat  |
| 2 O-Rings for Actuator Shafts      | 1 O-Ring for Downstream Seat |
| 2 Actuator Shaft Screws            | 2 Actuator Shafts            |
| 1 O-Ring for F/S Base              | 1 Repair Instructions        |
| 2 Self-Adjusting Seats (UHMWPE)    |                              |
| 1 O-Ring for inside Center Barrel  |                              |
| 1 O-Ring for outside Center Barrel |                              |
| 1 O-Ring for Pistol Grip to Body   |                              |

### VALVE REPAIR KITS

#### Field Service Kits for 800 and 2800 Series Apparatus Valves

For all **800** and **2800** series apparatus valves • Kit contains the following parts:

- 1 Seat
- 1 O-Ring for Seat
- 1 Seat Retainer
- 1 O-Ring for Seat Retainer
- 1 O-Ring for Actuator Shaft
- 1 O-Ring for Pivot Bolt
- 3 O-Rings for Body

Kits available for:

- 890** 1.0" Valve ..... Kit P/N 80426001
- 891** 1.5" Valve ..... Kit P/N 80427001
- 892** 2.0" Valve ..... Kit P/N 80428001
- 893** 3.0" Valve ..... Kit P/N 80421001
- 896** 2.5" Valve ..... Kit P/N 80326001
- 2891** 1.5" Valve ..... Kit P/N 80427001
- 2892** 2.0" Valve ..... Kit P/N 80428001
- 2893** 3.0" Valve ..... Kit P/N 80421001
- 2896** 2.5" Valve ..... Kit P/N 80326001

\*Kit for W-893 is same kit as 893: 80421001.

Balls available for: 800 and 2800 Series Apparatus Valves

- 1" ..... P/N 15076000
- 1.5" ..... P/N 15077000
- 2" ..... P/N 17305000
- 2.5" ..... P/N 15079000
- 3" ..... P/N 15080000

P/N 11736001.....zinc anode for a 9786 valve

#### Single Body Seal Kits

Includes: Valve Ball, O-Rings, & 2x Valve Seat

- SB10** with ball ..... P/N 65982000 (less ball ..... P/N 65499000)
- SB15** with ball ..... P/N 65984000 (less ball ..... P/N 65983000)

#### Field Service Kits for 2900 Series Apparatus Valves

For all **2900** series apparatus valves • All kits (except for 2940) contain the following parts:

- 1 Valve Ball\*
- 2 Seats\*
- 3 O-Rings for Seat\*
- 3 O-Rings for Body
- 3 O-Rings for Seat Retainer

Kits available for:

- 2915** 1.5" Valve ..... Kit P/N 81105001
- 2920** 2.0" Valve ..... Kit P/N 81106001
- 2925** 2.5" Valve ..... Kit P/N 81107001
- 2930** 3.0" Valve ..... Kit P/N 81108001
- 2940** 4.0" Valve (O/S) ..... Kit P/N 81109001\*
- 2940** 4.0" Valve (N/S) ..... Kit P/N 81140001\*

\*Kits for 2940 valve (P/N 81140001) have only 1 seat, 1 O-Ring seat, and no valve ball. (Optional ball is P/N 17317001)

**Note:** New style (N/S) 2940 has 95 or 96 embossed on body casting above or below the heart.

#### Seal Kits for use with the Elkhart Brass Unibody Apparatus Valves.

Kits contain the following parts:

- |                           |                            |
|---------------------------|----------------------------|
| <b>1.5" – 3.5" valves</b> | <b>4" Valves</b>           |
| 2 Valve Seats             | 1 Valve Seat               |
| 1 Trunnion O-ring         | 1 Gear Case Adapter O-ring |
| 3 Actuator Shaft O-rings  | 2 Actuator Shaft O-rings   |
|                           | 2 Seat Retainer O-rings    |
|                           | 2 Face Seals               |

	<b>Kit</b>	<b>Kit with Ball</b>
<b>EB15/EB20</b>	P/N 65476000	P/N 65477000
<b>EB25</b>	P/N 65478000	P/N 65479000
<b>EB30/EB35</b>	P/N 65480000	P/N 65481000
<b>EB40</b>	P/N 65482000	
<b>EB40 (2015)</b>	P/N 65986000	

### APPLIANCE REPAIR KITS

#### P/N 80671001 Field Service Kit for B-90 Series

One Kit required for each 2.5" Inlet/Outlet on a:

- |              |              |              |
|--------------|--------------|--------------|
| <b>B-95</b>  | <b>B-97</b>  | <b>B-99</b>  |
| <b>B-95A</b> | <b>B-97A</b> | <b>B-99A</b> |
| <b>B-96</b>  | <b>B-98</b>  |              |
| <b>B-96A</b> | <b>B-98A</b> |              |

Kits contains the following parts:

- 1 Seat
- 1 O-Ring for Seat
- 1 O-Ring for Actuator Shaft
- 1 O-Ring for Pivot Bolt
- 1 Swivel Gasket (2.5")

(Optional ball is P/N 17303000)

Optional handles: P/N 8012104 (knob), P/N 36313100 (aluminum long), P/N 36313001 (molded urethane), P/N 80664001 (positive twist-lock), \*P/N 36319001 (short) and P/N 36749001 (long)

\*Additional parts may be required.

#### P/N 80947001 Field Service Kit for B-100, B-100A, or B-100-LA

For **B-100A (N/S)** gated wye • Kit contains the following parts:

- 2 Self-Adjusting Seats (UHMWPE)
- 2 O-Rings for Self-Adjusting Seat
- 2 O-Rings for Outlet Adapter
- 2 O-Rings for Actuator Shaft
- 2 O-Rings for Pivot Screw

(Optional ball is P/N 17304000)  
N/S has smooth plastic seats

# TECHNICAL DATA



## EDUCTOR/NOZZLE FLOW

This chart is designed to help you better understand the performance of portable foam eductors at various operating pressures. It will also assist you in selecting a nozzle that will be compatible with your new eductor.

As you can see, all of these eductors achieve their rated flow with an inlet pressure of 200 psi. At lower pressures the water flow is less, but the flow of foam concentrate will remain the same. Consequently, the foam solution will be a richer mixture than the metering valve indicates.

You will also note that at lower pressures (flows) the effective reach of the nozzles decreases. Take this into consideration when making your initial attack.

Eductor Model	Recommended Nozzles For Use With Eductor	Hose Size	Inlet Pressure	Flow Rate <sup>^</sup>		Maximum Hose Lay*	Nozzle Pressure	Effective Reach**	
				GPM	L/Min.				
241-30	SFS-O or SFS-OG (Set @ 30), 4000-02 (30) PSFS-HP, PSFS-HPG & TPSFS-HP (Set @ 30)	1.0"	200 PSI	30	114	100'	100 PSI	74'	
			150 PSI	26	98	100'	75 PSI	63'	
			100 PSI	21	79	100'	49 PSI	57'	
	SM-3F, SM-3FG	1.0"	200 PSI	30	114	100'	95PSI	65'	
—			—	—	—	—	—		
—			—	—	—	—	—		
241-60 or 240-60	SFL-O or SFL-OG (Set @ 60), 4000-10 (60), 4000-13 (60)	1.5"	200 PSI	60	227	300'	100 PSI	87'	
			150 PSI	52	197	300'	75 PSI	77'	
			100 PSI	42	159	300'	49 PSI	65'	
	SM-10F, SM-10FG, SM-10FB	1.5"	200 PSI	60	227	300'	92 PSI	82'	
—			—	—	—	—	—		
—			—	—	—	—	—		
242-95 or 241-95 or 240-95	SFL-O or SFL-OG (Set @ 95), SFL-B or SFL-BG (Set @ 95), SFL-N (95), SFL-GN (95), SFM-HP or SFM-HPG (Set @ 95) SFM-LP or SFM-LPG (Set @ 95) 4000-10 (95), 4000-13 (95)	1.5"	200 PSI	95	360	150'	100 PSI	99'	
			150 PSI	82	310	150'	75 PSI	92'	
			100 PSI	67	254	150'	50 PSI	77'	
		1.75"	200 PSI	95	360	250'	100 PSI	99'	
			150 PSI	82	310	250'	75 PSI	92'	
			100 PSI	67	254	250'	50 PSI	77'	
	SM-10F, SM-10FG, SM-10FB	1.5"	200 PSI	95	360	150'	99 PSI	86'	
			—	—	—	—	—	—	
			—	—	—	—	—	—	
		1.75"	200 PSI	95	360	250'	99 PSI	86'	
			—	—	—	—	—	—	
			—	—	—	—	—	—	
SM-20F, SM-20FG^^	1.5"	200 PSI	95	360	200'	81 PSI	97'		
		—	—	—	—	—	—		
		—	—	—	—	—	—		
	1.75"	200 PSI	95	360	400'	81 PSI	97'		
		—	—	—	—	—	—		
		—	—	—	—	—	—		
241-125 or 240-125	SFL-O or SFL-OG (Set @ 125), SFL-B or SFL-BG (Set @ 125), SFL-N (125), SFL-GN (125), SFM-HP or SFM-HPG (Set @ 125) SFM-LP or SFM-LPG (Set @ 125) 4000-10 (125), 4000-13 (125)	1.75"	200 PSI	125	473	150'	100 PSI	101'	
			150 PSI	108	409	150'	75 PSI	92'	
			100 PSI	88	333	150'	50 PSI	76'	
		2.0"	200 PSI	125	473	300'	100 PSI	101'	
			150 PSI	108	409	300'	75 PSI	92'	
			100 PSI	88	333	300'	50 PSI	76'	
	SM-20F, SM-20FG^^	1.75"	200 PSI	125	473	200'	87 PSI	96'	
			—	—	—	—	—	—	
		2.0"	200 PSI	125	473	400'	87 PSI	96'	
			—	—	—	—	—	—	
241-150	4000-14 } (150@75) 4000-16 } 4000-17 }	1.75"	200 PSI	150	568	150'	75 PSI	110'	
			150 PSI	130	492	150'	56 PSI	92'	
			100 PSI	106	401	150'	37 PSI	76'	
		SFM-LP or SFM-LPG (Set @ 150)	2.0"	200 PSI	150	568	300'	75 PSI	110'
				150 PSI	130	492	300'	56 PSI	92'
				100 PSI	106	401	300'	37 PSI	76'
	SM-20-FLP SM-20-FGLP^^	1.75"	200 PSI	150	568	150'	75 PSI	110'	
			—	—	—	—	—	—	
		2.0"	200 PSI	150	568	300'	75 PSI	110'	
			—	—	—	—	—	—	
241-250	Any SF Series (Set @ 250) or any 4000-20 Series (250)	2.5"	200 PSI	250	946	200'	100 PSI	120'	
			150 PSI	217	821	200'	75 PSI	105'	
			100 PSI	177	670	150'	50 PSI	83'	
	Any SM-30 Series	2.5"	200 PSI	250	946	200'	91 PSI	124'	
			—	—	—	—	—	—	

\* Maximum hose lay from eductor discharge to nozzle. We recommend that you test your hose to see if this is applicable.

\*\* These figures are with foam solution flowing (rather than plain water) and the nozzle set on straight stream.

<sup>^</sup> Total flow when picking-up 6% foam concentrate through metering valve.

<sup>^^</sup> SM-30F and SM-30FG can also be utilized with these eductors. Flow and reach data will differ.

The flow and effective reach data found on the following pages is compiled and updated by our engineering staff in the testing area of our assembly department. The flow is determined by an electronic flowmeter while a piezometer gauge at the base/inlet of the nozzle establishes the "nozzle pressure."

The effective reach is determined by elevating the nozzle to 32 degrees above horizontal and at a height of 4' above ground level. The reach of Straight Stream, Narrow Fog (30 degrees) and Wide Fog (90 degrees) are then established by measuring where the last water droplets are falling at ground level. These tests are conducted in "still air" conditions, so the actual results will vary depending upon conditions.

Elkhart Brass Hard Facts Calculator app available now! Quick flow and pressure calculations for every situation at your fingertips!



Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet								
			Nozzle Pressure PSI								Nozzle Pressure PSI								
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200	
4000-02 4000-03 4000-04	15	SS	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		Narrow Fog	9	11	12	15	17	18	20	22	—	20	22	24	26	28	31	32	
		Wide Fog	—	—	—	—	—	—	—	—	—	—	11	14	15	17	19	21	22
	30	SS	—	—	—	—	—	—	—	—	—	65	70	81	85	90	91	92	
		Narrow Fog	20	22	26	30	34	37	39	41	—	30	35	41	44	47	48	49	
		Wide Fog	—	—	—	—	—	—	—	—	—	—	15	16	19	21	23	25	26
	45	SS	—	—	—	—	—	—	—	—	—	69	75	85	91	96	98	101	
		Narrow Fog	32	35	40	45	49	52	56	58	—	32	37	44	46	48	50	51	
		Wide Fog	—	—	—	—	—	—	—	—	—	—	17	18	21	23	25	26	28
	4000-10 4000-12 4000-13 4000-14 4000-19	60	SS	69	76	89	96	104	110	115	124	—	—	—	—	—	—	—	—
			Narrow Fog	38	43	51	60	68	76	—	—	38	41	44	49	55	61	66	71
			Wide Fog	—	—	—	—	—	—	—	—	—	31	33	35	41	43	47	51
75		SS	73	81	94	103	111	118	—	—	73	81	94	103	111	118	—	—	
		Narrow Fog	53	58	65	75	84	92	—	—	39	41	45	52	57	62	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	29	30	31	33	37	40	—	—
95		SS	77	86	101	111	118	118	—	—	77	86	101	111	118	126	130	138	
		Narrow Fog	63	68	83	95	107	115	—	—	40	41	46	55	59	64	67	70	
		Wide Fog	—	—	—	—	—	—	—	—	—	29	30	33	36	40	44	47	51
125		SS	78	86	103	113	121	128	138	146	78	86	103	113	121	128	138	146	
		Narrow Fog	82	91	110	125	140	153	—	—	44	48	55	62	67	71	77	84	
		Wide Fog	—	—	—	—	—	—	—	—	—	32	36	39	44	49	52	56	59
150	SS	80	89	108	124	138	148	156	162	80	89	108	124	138	148	156	162		
	Narrow Fog	97	107	132	150	169	182	—	—	46	51	53	56	58	60	62	64		
	Wide Fog	—	—	—	—	—	—	—	—	—	34	37	43	46	48	51	52	55	
4014-HR	175 @ 50	SS	91	101	117	132	148	—	—	91	101	117	132	148	—	—	—		
		Narrow Fog	157	175	214	247	277	—	—	51	54	61	73	78	—	—	—		
		Wide Fog	—	—	—	—	—	—	—	—	—	34	36	40	44	48	—	—	—
	175	SS	88	98	114	126	141	152	—	—	88	98	114	126	141	152	—	—	
		Narrow Fog	111	124	150	175	192	210	—	—	47	51	59	69	76	81	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	32	34	36	39	44	48	—	—
	200	SS	88	91	101	117	132	148	—	—	88	91	101	117	132	148	—	—	
		Narrow Fog	127	141	173	200	224	245	—	—	49	51	54	61	73	78	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	33	34	36	40	44	48	—	—
	250	SS	91	102	118	136	152	164	—	—	91	102	118	136	152	164	—	—	
		Narrow Fog	172	192	230	256	290	320	—	—	53	56	62	70	79	83	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	35	40	43	47	51	54	—	—
325	SS	97	108	126	142	160	173	—	—	97	108	126	142	160	173	—	—		
	Narrow Fog	220	240	289	325	362	398	—	—	57	61	67	75	86	89	—	—		
	Wide Fog	—	—	—	—	—	—	—	—	—	39	43	47	52	55	59	—	—	
350	SS	97	108	126	142	154	—	—	97	108	126	142	154	—	—	—			
	Narrow Fog	221	247	303	350	391	—	—	57	61	67	77	84	—	—	—			
	Wide Fog	—	—	—	—	—	—	—	—	—	39	43	47	52	56	—	—	—	
4000-14 4000-16 4000-17 4000-18 4000-19	*125 @ 75 PSI	SS	79	88	106	122	135	145	—	—	79	88	106	122	135	145	—	—	
		Narrow Fog	91	102	125	144	161	176	—	—	45	50	52	55	57	59	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	34	37	43	46	48	51	—	—
	*150 @ 75 PSI	SS	82	91	110	126	140	150	—	—	82	91	110	126	140	150	—	—	
		Narrow Fog	110	122	150	173	194	212	—	—	47	52	54	57	59	61	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	34	37	43	46	48	51	—	—
	175 @ 75 PSI	SS	85	94	113	130	—	—	—	—	85	94	113	130	—	—	—	—	
		Narrow Fog	128	143	175	202	—	—	—	—	49	54	56	59	—	—	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	35	38	44	47	—	—	—	—
	150 @ 50 PSI	SS	87	96	115	133	—	—	—	—	87	96	115	133	—	—	—	—	
		Narrow Fog	134	150	184	212	—	—	—	—	50	55	57	60	—	—	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	—	35	38	44	47	—	—	—	—



# TECHNICAL DATA



## NOZZLE FLOW

TECHNICAL DATA

T-3

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet										
			Nozzle Pressure PSI								Nozzle Pressure PSI										
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200			
CHIEF® 4000-20 4000-22 4000-23 4000-24 4000-26 4000-28	185 @ 75 PSI	SS																			
		Narrow Fog	135	151	185	214	239	262	—	—	89	100	115	130	145	155	—	—			
		Wide Fog									33	35	39	43	47	51	—	—			
	200 @ 75 PSI	SS																			
		Narrow Fog	146	163	200	231	258	283	—	—	91	101	117	132	148	159	—	—			
		Wide Fog									51	54	61	73	78	83	—	—			
	250 @ 75 PSI	SS																			
		Narrow Fog	183	204	250	289	323	353	—	—	93	103	118	137	154	165	—	—			
		Wide Fog									54	57	64	75	80	84	—	—			
	275 @ 75 PSI	SS																			
		Narrow Fog	201	225	275	318	355	—	—	—	95	105	122	139	156	—	—	—	—	—	—
		Wide Fog									55	58	64	76	82	—	—	—	—	—	—
300 @ 75 PSI	SS																				
	Narrow Fog	219	245	300	346	—	—	—	—	97	108	126	142	—	—	—	—	—	—	—	
	Wide Fog									57	61	67	77	—	—	—	—	—	—	—	
200 @ 50 PSI	SS																				
	Narrow Fog	179	200	245	283	316	346	—	—	91	102	118	142	160	173	—	—				
	Wide Fog									53	56	62	70	86	89	—	—				
250 @ 50 PSI	SS																				
	Narrow Fog	224	250	306	353	—	—	—	—	98	109	127	144	—	—	—	—	—	—	—	
	Wide Fog									57	61	67	77	—	—	—	—	—	—	—	

Catalog No.	Stream Setting	Discharge in U.S. GPM											Effective Reach in Feet										
		Nozzle Pressure PSI											Nozzle Pressure PSI										
		50	60	70	75	80	85	90	95	100	105	110	50	60	70	75	80	85	90	95	100	105	110
SM-3F Series TSM-3F	SS																						
	Narrow Fog	5	7	9	11	14	17	22	30	35	47	56	—	—	—	52	53	55	64	72	77	94	98
	Wide Fog												—	—	—	22	25	27	33	36	39	46	48
SM-10-FE	SS																						
	Narrow Fog	20	22	24	25	26	27	28	32	51	81	120	60	62	64	66	68	70	74	79	85	93	110
	Wide Fog												15	15	16	16	17	17	18	18	21	24	30
SM-10F Series TSM-10F	SS																						
	Narrow Fog	40	43	46	48	50	52	57	65	100	130	148	—	—	—	78	80	82	84	88	98	104	112
	Wide Fog												—	—	—	42	43	46	48	52	65	69	72
SM-20F Series TSM-20F	SS																						
	Narrow Fog	50	55	64	73	87	105	130	170	212	234	245	—	—	—	88	96	103	114	120	124	126	—
	Wide Fog												—	—	—	50	52	55	58	60	62	63	—
SM-20-FLP Series TSM-20FLP	SS																						
	Narrow Fog	50	67	156	204	—	—	—	—	—	—	—	69	75	108	115	—	—	—	—	—	—	—
	Wide Fog												38	40	55	60	—	—	—	—	—	—	—
SM-30F Series TSM-30F	SS																						
	Narrow Fog	50	69	88	112	150	190	226	264	300	324	342	—	—	—	105	120	133	137	141	145	148	—
	Wide Fog												—	—	—	69	75	75	75	76	76	76	—
SM-30-FLP Series TSM-30FLP	SS																						
	Narrow Fog	50	100	225	325	—	—	—	—	—	—	—	—	—	—	135	140	145	—	—	—	—	—
	Wide Fog												—	—	—	70	75	75	—	—	—	—	—

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet												
			Nozzle Pressure PSI								Nozzle Pressure PSI												
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200					
PHANTOM® PSFS-HP PSFS-HPG TPSFS-HP TPSFS-HP1 SFM-LP SFM-LPG TSM-LP TSM-LPT	15	SS																					
		Narrow Fog	9	11	12	15	17	18	20	22	45	48	56	58	61	63	65	66					
		Wide Fog									19	20	22	24	26	28	31	32					
	30	SS																					
		Narrow Fog	20	22	26	30	34	37	39	41	10	11	14	15	17	19	21	22					
		Wide Fog									63	65	70	81	85	90	91	92					
	45	SS																					
		Narrow Fog	32	35	40	45	49	52	56	58	28	30	35	41	44	47	48	49					
		Wide Fog									14	15	16	19	21	23	25	26					
	60	SS																					
		Narrow Fog	39	43	52	60	66	72	78	84	67	69	75	85	91	96	98	101					
		Wide Fog									30	32	37	44	46	48	50	51					
30	SS																						
	Narrow Fog	22	24	30	35	39	NA	—	—	16	17	18	21	23	25	26	28						
	Wide Fog									69	74	85	94	100	104	109	113						
95	SS																						
	Narrow Fog	69	78	95	110	123	NA	—	—	37	39	41	45	50	54	58	62						
	Wide Fog									27	28	30	36	40	42	47	55						
125	SS																						
	Narrow Fog	91	102	125	144	161	NA	—	—	60	62	67	78	82	—	—	—						
	Wide Fog									26	28	33	39	42	—	—	—						
150	SS																						
	Narrow Fog	110	122	150	173	194	NA	—	—	14	15	16	19	21	—	—	—						
	Wide Fog									75	84	99	109	116	—	—	—						
200	SS																						
	Narrow Fog	146	163	200	231	258	NA	—	—	39	40	45	54	58	—	—	—						
	Wide Fog									29	30	33	36	40	—	—	—						

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet							
			Nozzle Pressure PSI								Nozzle Pressure PSI							
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200
PHANTOM® SFM-HP SFM-HPG TSFM-HP TSFM-HPT	30	SS																
		Narrow Fog	20	22	26	30	34	37	—	—	28	30	35	41	44	47	—	—
		Wide Fog	14	15	16	19	21	23	—	—	14	15	16	19	21	23	—	—
	95	SS																
		Narrow Fog	63	68	83	95	107	115	—	—	40	41	46	55	59	64	—	—
		Wide Fog	29	30	33	38	40	44	—	—	29	30	33	38	40	44	—	—
	125	SS																
		Narrow Fog	82	91	110	125	140	153	—	—	43	45	51	60	66	70	—	—
		Wide Fog	31	33	36	41	43	47	—	—	31	33	36	41	43	47	—	—
	150	SS																
		Narrow Fog	97	107	132	150	169	182	—	—	46	49	55	64	70	74	—	—
		Wide Fog	33	35	38	43	45	49	—	—	33	35	38	43	45	49	—	—
200	SS																	
	Narrow Fog	126	141	173	200	224	245	—	—	52	54	63	72	78	82	—	—	
	Wide Fog	36	39	42	47	49	53	—	—	36	39	42	47	49	53	—	—	
MYSTERY® L-200 L-205-B L-205-BA L-205-BA D-200* 205-EB** 205-B* D-205-B* 205-BA D-205-BA	60	SS																
		Narrow Fog	39	43	41	60	68	75	81	86	68	75	92	103	110	115	120	123
		Wide Fog	27	28	32	35	38	42	48	54	27	28	32	35	38	42	48	54
	95	SS																
		Narrow Fog	65	73	88	101	112	122	130	136	76	83	100	107	115	120	125	130
		Wide Fog	28	30	36	43	49	55	60	65	28	30	36	43	49	55	60	65
	125	SS																
		Narrow Fog	81	89	111	126	141	157	172	187	91	100	118	130	140	150	155	157
		Wide Fog	46	50	60	68	75	83	90	95	46	50	60	68	75	83	90	95
	125 @ 75 PSI	SS																
		Narrow Fog	91	102	125	144	161	176	—	—	92	101	119	130	141	150	—	—
		Wide Fog	29	31	36	41	46	51	—	—	29	31	36	41	46	51	—	—
170	SS																	
	Narrow Fog	115	126	148	170	190	—	—	—	84	92	95	96	102	105	108	115	
	Wide Fog	31	32	34	35	38	42	44	47	31	32	34	35	38	42	44	47	
250	SS																	
	Narrow Fog	165	188	222	245	286	—	—	—	87	94	99	103	107	110	112	120	
	Wide Fog	56	60	64	68	71	73	75	80	56	60	64	68	71	73	75	80	
125 @ 75 PSI	SS																	
	Narrow Fog	91	102	125	144	161	176	—	—	81	89	92	95	99	104	—	—	
	Wide Fog	43	50	54	57	61	63	—	—	43	50	54	57	61	63	—	—	
200 @ 75 PSI	SS																	
	Narrow Fog	146	163	200	231	258	283	—	—	29	30	32	34	36	38	—	—	
	Wide Fog	85	93	96	98	104	108	—	—	85	93	96	98	104	108	—	—	
200 @ 50 PSI	SS																	
	Narrow Fog	179	200	245	245	316	—	—	—	52	56	62	65	69	71	—	—	
	Wide Fog	32	34	35	37	40	43	—	—	32	34	35	37	40	43	—	—	
200 @ 50 PSI	SS																	
	Narrow Fog	179	200	245	245	316	—	—	—	89	96	102	106	110	—	—	—	
	Wide Fog	58	61	65	70	73	—	—	—	58	61	65	70	73	—	—	—	
200 @ 50 PSI	SS																	
	Narrow Fog	179	200	245	245	316	—	—	—	35	37	39	40	42	—	—	—	
	Wide Fog	35	37	39	40	42	—	—	—	35	37	39	40	42	—	—	—	

\* 170 or 250 only      ^ This nozzle does not produce a straight stream

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet							
			Nozzle Pressure PSI								Nozzle Pressure PSI							
			50	75	100	150	200	300	400	500	50	75	100	150	200	300	400	500
SELECT-O-FLOW® SFS-O Series	10	SS																
		Narrow Fog	5	7	10	11	12	15	18	20	45	50	53	57	60	61	62	63
		Wide Fog	11	12	13	15	16	17	19	21	20	21	23	28	31	33	35	37
	20	SS																
		Narrow Fog	15	18	20	24	28	35	41	46	50	62	64	68	70	73	75	77
		Wide Fog	22	24	26	28	32	36	45	51	22	24	26	28	32	36	45	51
	30	SS																
		Narrow Fog	21	27	30	36	40	50	58	64	15	17	19	23	25	27	30	33
		Wide Fog	65	70	62	90	92	105	110	115	30	35	40	46	48	50	55	59
30	SS																	
	Narrow Fog	21	27	30	36	40	50	58	64	15	16	18	22	25	30	35	40	
	Wide Fog	15	16	18	22	25	30	35	40	15	16	18	22	25	30	35	40	

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet							
			Nozzle Pressure PSI								Nozzle Pressure PSI							
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200
SELECT-O-FLOW® SFL-O Series SFL-B SFL-N TSFLO L-205-EB NSL (95 GPM only)	40	SS																
		Narrow Fog	25	29	34	40	44	48	52	56	59	65	77	83	86	90	93	96
		Wide Fog	29	34	36	37	39	40	41	43	35	38	41	44	47	50	53	56
	60	SS																
		Narrow Fog	39	44	54	60	70	77	85	92	69	75	90	97	103	110	116	123
		Wide Fog	31	32	35	40	44	48	52	57	38	40	45	50	55	60	65	70
	95	SS																
		Narrow Fog	59	67	82	95	105	114	123	132	77	85	102	110	117	124	131	183
		Wide Fog	39	41	47	54	60	63	66	69	28	30	34	38	41	45	49	52
	125	SS																
		Narrow Fog	79	88	105	125	140	154	168	182	77	85	102	112	120	129	138	146
		Wide Fog	45	48	55	61	66	72	78	83	43	45	40	45	48	52	56	59
60	Narrow Fog	39	43	51	60	68	75	81	86	36	38	45	50	55	60	70	75	
	Wide Fog	27	28	32	35	38	42	48	54	27	28	32	35	38	42	48	54	
	Narrow Fog	41	45	55	65	70	75	85	95	41	45	55	65	70	75	85	95	
95	Wide Fog	65	73	86	101	112	122	130	136	28	30	36	43	49	55	60	65	
	Narrow Fog	46	50	60	68	75	83	90	95	46	50	60	68	75	83	90	95	
	Wide Fog	28	30	35	40	45	50	55	60	28	30	35	40	45	50	55	60	

# TECHNICAL DATA



## NOZZLE FLOW

TECHNICAL DATA

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SELECT-O-FLOW®	Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM						Effective Reach in Feet										
				Nozzle Pressure PSI						Nozzle Pressure PSI										
				40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200	
SF	125	SS	83	90	110	125	141	153	167	179	70	80	103	122	136	—	—	—		
			Narrow Fog	33	35	40	45	50	—	—	—	33	35	40	45	50	—	—	—	
			Wide Fog	18	20	25	30	35	—	—	—	18	20	25	30	35	—	—	—	
	TSF	175	SS	108	120	139	175	194	211	227	244	86	98	113	127	140	—	—	—	
				Narrow Fog	46	50	60	70	75	—	—	—	46	50	60	70	75	—	—	—
				Wide Fog	31	32	35	40	45	—	—	—	31	32	35	40	45	—	—	—
DSF	250	SS	160	180	218	250	280	304	327	351	81	92	116	133	149	—	—	—		
			Narrow Fog	43	46	54	61	68	—	—	—	43	46	54	61	68	—	—	—	
			Wide Fog	28	30	36	40	45	—	—	—	28	30	36	40	45	—	—	—	

SELECT-O-STREAM®	Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM						Effective Reach in Feet									
				Nozzle Pressure PSI						Nozzle Pressure PSI									
				40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200
L-O Series	40	SS	26	28	35	41	47	51	55	58	53	60	73	61	85	86	86.5	87	
			Narrow Fog	37	40	42	43	44	45	48	50	37	40	42	43	44	45	48	50
			Wide Fog	26	28	30	31	32	33	34	35	26	28	30	31	32	33	34	35
	60	SS	39	43	41	60	68	75	81	86	68	75	92	103	110	115	120	123	
			Narrow Fog	36	38	45	50	55	60	70	75	36	38	45	50	55	60	70	75
			Wide Fog	27	28	32	35	38	42	48	54	27	28	32	35	38	42	48	54
	95	SS	65	73	88	101	112	122	130	136	76	83	100	107	115	120	125	130	
			Narrow Fog	41	45	55	65	70	75	85	95	41	45	55	65	70	75	85	95
			Wide Fog	28	30	36	43	49	55	60	65	28	30	36	43	49	55	60	65
	125	SS	81	89	111	126	141	157	172	187	91	100	118	130	140	150	155	157	
			Narrow Fog	46	50	60	68	75	83	90	95	46	50	60	68	75	83	90	95
			Wide Fog	28	30	35	40	45	50	55	60	28	30	35	40	45	50	55	60
D	170	SS	85	100	122	142	163	—	—	—	84	92	100	108	115	—	—	—	
			Narrow Fog	103	114	139	162	178	—	—	—	49	55	65	70	75	—	—	—
			Wide Fog	139	154	185	213	234	—	—	—	31	32	37	44	47	—	—	—
	250	SS	98	108	127	145	160	—	—	—	87	94	105	112	120	—	—	—	
			Narrow Fog	156	173	210	245	278	—	—	—	56	60	70	75	80	—	—	—
			Wide Fog	203	225	278	323	368	—	—	—	33	35	40	45	50	—	—	—

SPECIAL USE NOZZLES	Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM						Effective Reach in Feet									
				Nozzle Pressure PSI						Nozzle Pressure PSI									
				50	75	100	150	200	300	400	500	50	75	100	150	200	300	400	500
S-205-B	12	SS	46	55	59	64	68	-	-	-	46	55	59	64	68	-	-	-	
			Narrow Fog	11	12	14	17	18	-	-	-	25	32	34	36	38	-	-	-
			Wide Fog	15	18	20	23	25	-	-	-	15	18	20	23	25	-	-	-
S-205-BAF	23	SS	53	65	75	81	83	-	-	-	53	65	75	81	83	-	-	-	
			Narrow Fog	20	25	27	32	37	-	-	-	40	43	45	55	60	-	-	-
			Wide Fog	24	26	30	37	39	-	-	-	24	26	30	37	39	-	-	-

CELLAR/BRESNAN	Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM						Effective Reach in Feet									
				Nozzle Pressure PSI						Nozzle Pressure PSI									
				40	50	60	70	80	90	100	125	40	50	60	70	80	90	100	125
LR	—	—	—	99	114	124	133	144	154	160	179	—	—	—	—	—	—	—	—
R	—	—	—	227	253	276	296	317	335	353	395	—	—	—	—	—	—	—	—
193-6(1.5)	—	—	—	91	101	110	117	125	133	140	157	—	—	—	—	—	—	—	—
193-6(2.5)	—	—	—	262	287	312	335	356	375	394	441	—	—	—	—	—	—	—	—
193-9(2.5)	—	—	—	325	360	390	419	446	471	495	553	—	—	—	—	—	—	—	—

CHIEF XD	Size	Flow & Pressure	Stream Setting	Discharge in GPM					Effective Reach in Feet				
				Nozzle Pressure PSI					Nozzle Pressure PSI				
				40	50	75	100	125	40	50	75	100	125
Mid - Range	1.5"	95 @ 100	SS	60	67	82	95	106	95	103	108	119	129
		125 @ 75	SS	91	102	125	144	161	105	114	141	154	172
		125 @ 100	SS	79	88	108	125	140	102	111	134	140	145
		150 @ 50	SS	134	150	184	212	237	111	127	150	167	178
		150 @ 75	SS	110	122	150	173	194	113	128	154	169	175
		150 @ 100	SS	95	106	130	150	168	118	132	156	169	182
		175 @ 75	SS	128	143	175	202	226	126	140	167	187	203
		175 @ 100	SS	111	124	152	175	196	120	132	159	175	184
		160 @ 50	SS	143	160	196	226	253	128	142	170	191	205
		175 @ 50	SS	157	175	214	247	277	122	131	151	166	181
		185 @ 75	SS	135	151	185	214	239	126	144	170	186	206
		200 @ 75	SS	146	163	200	231	258	131	146	171	188	203
High - Range (2.5")	2"	185 @ 50	SS	165	185	227	262	293	126	144	162	170	183
		210 @ 50	SS	188	210	257	297	332	128	142	168	184	205
		250 @ 50	SS	224	250	306	354	395	126	145	168	179	183
		250 @ 75	SS	183	204	250	289	323	118	135	163	179	204
		250 @ 100	SS	158	177	217	250	280	117	133	155	184	202
		265 @ 50	SS	237	265	325	375	419	114	126	144	155	163
300 @ 75	SS	219	245	300	346	387	121	132	157	174	186		

For more info on the Chief XD, engine company education, and fact based equipment selection visit [BrassTacksHardFacts.com](http://BrassTacksHardFacts.com)

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM								Effective Reach in Feet								
			Nozzle Pressure PSI								Nozzle Pressure PSI								
			40	50	75	100	125	150	175	200	40	50	75	100	125	150	175	200	
5000-04E	15	SS	—	—	—	—	—	—	—	—	—	48	56	58	61	63	65	66	
		Narrow Fog	9	11	12	15	17	18	20	22	—	20	22	24	26	28	31	32	
		Wide Fog	—	—	—	—	—	—	—	—	—	11	14	15	17	19	21	22	
	30	SS	—	—	—	—	—	—	—	—	—	65	70	81	85	90	91	92	
		Narrow Fog	20	22	26	30	34	37	39	41	—	30	35	41	44	47	48	49	
		Wide Fog	—	—	—	—	—	—	—	—	—	15	16	19	21	23	25	26	
	45	SS	—	—	—	—	—	—	—	—	—	69	75	85	91	96	98	101	
		Narrow Fog	32	35	40	45	49	52	56	58	—	32	37	44	46	48	50	51	
		Wide Fog	—	—	—	—	—	—	—	—	—	17	18	21	23	25	26	28	
	5000-14E	60	SS	69	76	89	96	104	110	115	124	38	41	44	49	55	61	66	71
			Narrow Fog	38	43	51	60	68	76	—	—	31	33	35	41	43	47	51	58
			Wide Fog	—	—	—	—	—	—	—	—	73	81	94	103	111	118	—	—
75		SS	73	81	94	103	111	118	—	—	39	41	45	52	57	62	—	—	
		Narrow Fog	53	58	65	75	84	92	—	—	29	30	31	33	37	40	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	77	86	101	111	118	126	130	138	
95		SS	40	41	46	55	59	64	67	70	40	41	46	55	59	64	67	70	
		Narrow Fog	63	68	83	95	107	115	—	—	29	30	33	36	40	44	47	51	
		Wide Fog	—	—	—	—	—	—	—	—	78	86	103	113	121	128	138	146	
125		SS	44	48	55	62	67	71	77	84	44	48	55	62	67	71	77	84	
		Narrow Fog	82	91	110	125	140	153	—	—	32	36	39	44	49	52	56	59	
		Wide Fog	—	—	—	—	—	—	—	—	80	89	108	124	138	148	156	162	
150	SS	46	51	53	56	58	60	62	64	46	51	53	56	58	60	62	64		
	Narrow Fog	97	107	132	150	169	182	—	—	34	37	43	46	48	51	52	55		
	Wide Fog	—	—	—	—	—	—	—	—	88	98	114	126	141	152	—	—		
5000-24E	175	SS	47	51	59	69	76	81	—	—	47	51	59	69	76	81	—	—	
		Narrow Fog	111	124	150	175	192	210	—	—	32	34	36	39	44	48	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	88	91	101	117	132	148	—	—	
	200	SS	49	51	54	61	73	78	—	—	49	51	54	61	73	78	—	—	
		Narrow Fog	127	141	173	200	224	245	—	—	33	34	36	40	44	48	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	91	102	118	136	152	164	—	—	
	250	SS	53	56	62	70	79	83	—	—	53	56	62	70	79	83	—	—	
		Narrow Fog	172	192	230	256	290	320	—	—	35	40	43	47	51	54	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	97	108	126	142	160	173	—	—	
	325	SS	57	61	67	75	86	89	—	—	57	61	67	75	86	89	—	—	
		Narrow Fog	220	240	289	325	362	398	—	—	39	43	47	52	55	59	—	—	
		Wide Fog	—	—	—	—	—	—	—	—	97	108	126	142	154	—	—	—	
350	SS	57	61	67	77	84	—	—	—	57	61	67	77	84	—	—	—		
	Narrow Fog	221	247	303	350	391	—	—	—	39	43	47	52	56	—	—	—		
	Wide Fog	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM							Effective Reach in Feet								
			Nozzle Pressure PSI							Nozzle Pressure PSI								
			40	50	60	70	80	90	100	125	40	50	60	70	80	90	100	125
3896 R.A.N <sup>®</sup>	500	SS	358	400	443	477	509	540	570	—	135	149	162	172	181	188	194	—
		Narrow Fog	—	—	—	—	—	—	—	—	92	101	109	117	125	133	140	—
		Wide Fog	—	—	—	—	—	—	—	—	48	52	56	60	63	67	71	—

Catalog No.	Inlet Size	Stream Setting	Discharge in U.S. GPM					Effective Reach in Feet						
			Nozzle Pressure PSI					Nozzle Pressure PSI						
			50	60	65	70	75	80	50	60	65	70	75	80
SM-1000 Series	2.5	SS	108	134	165	198	255	—	108	134	165	198	255	—
		Narrow Fog	113	244	350	500	1000	—	89	94	98	107	124	—
		Wide Fog	—	—	—	—	—	—	47	61	65	68	81	—
	3.5	SS	123	142	176	210	221	241	123	142	176	210	221	241
		Narrow Fog	130	297	405	530	675	1000	88	90	93	100	115	125
		Wide Fog	—	—	—	—	—	—	55	66	77	90	97	103
SM-1250 Series	2.5	SS	139	182	220	257	271	—	139	182	220	257	271	—
		Narrow Fog	315	525	630	925	1250	—	105	110	116	119	130	—
		Wide Fog	—	—	—	—	—	—	57	62	69	77	92	—
	3.5	SS	110	140	172	220	229	—	110	140	172	220	229	—
		Narrow Fog	385	655	875	1100	1250	—	100	129	132	136	140	—
		Wide Fog	—	—	—	—	—	—	56	62	68	72	82	—



# TECHNICAL DATA



## NOZZLE FLOW

TECHNICAL DATA

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X-STREAM®	Catalog No.	Stream Setting	Discharge in U.S. GPM									Effective Reach in Feet												
			Nozzle Pressure PSI									Nozzle Pressure PSI												
			50	60	70	75	80	85	90	95	100	105	110	50	60	70	75	80	85	90	95	100	105	110
SM-1500 Series SM-2000 Series		SS																						
		Narrow Fog	500	850	1250	1500	2000	—	—	—	—	—	—	—	—	—	240	300	—	—	—	—	—	—
		Wide Fog															90	100	—	—	—	—	—	—

SELECT-O-STREAM® MASTER STREAM	Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM									Effective Reach in Feet										
				Nozzle Pressure PSI									Nozzle Pressure PSI										
				40	50	60	70	80	90	100	125	40	50	60	70	80	90	100	125				
CJ Series IMS IMS-N	350		SS																				
			Narrow Fog	222	250	270	290	310	330	350	390	109	125	131	137	142	146	150	155				
			Wide Fog									61	65	69	73	77	82	87	100				
	500		SS																				
			Narrow Fog	322	360	396	432	464	490	516	580	119	134	142	150	158	165	173	190				
			Wide Fog									68	72	77	82	87	92	97	110				
CJN CJN-BN CJN-RC CJN-B CJN-B-RC IMS	750		SS																				
			Narrow Fog	496	550	596	640	680	716	750	840	148	170	184	198	212	226	238	248				
			Wide Fog									80	89	98	107	117	126	135	159				
	1000		SS																				
			Narrow Fog	676	725	800	853	945	962	1000	1153	159	180	204	225	242	252	263	289				
			Wide Fog									104	115	125	135	144	152	160	180				
SELECT-O-FLOW® MASTER STREAM	CSW	300		SS																			
				Narrow Fog	190	210	230	250	270	285	300	330	107	121	130	137	142	147	150	159			
				Wide Fog									76	87	97	104	110	115	120	128			
		550		SS																			
				Narrow Fog	350	390	425	460	490	520	550	615	49	54	58	62	65	68	71	78			
				Wide Fog									135	149	162	172	181	188	194	208			
	750		SS																				
			Narrow Fog	480	535	580	625	670	715	750	830	48	52	56	60	63	67	71	81				
			Wide Fog									140	165	180	191	202	213	221	252				
	CSWL CSWL-B	350		SS																			
				Narrow Fog	222	250	270	290	310	330	350	390	109	125	131	137	142	146	150	155			
				Wide Fog									61	65	69	73	77	82	87	100			
500			SS																				
			Narrow Fog	322	360	396	432	464	490	516	580	41	45	49	53	56	58	60	65				
			Wide Fog									119	134	142	150	158	165	173	190				
750		SS																					
		Narrow Fog	490	540	595	640	680	720	750	845	68	72	77	82	87	92	97	110					
		Wide Fog									36	40	44	48	52	56	60	70					
	1000		SS																				
			Narrow Fog	645	725	785	845	900	955	1000	—	150	178	191	202	211	222	235	264				
			Wide Fog									91	105	117	129	140	150	158	175				
1250		SS																					
		Narrow Fog	790	880	960	1035	1100	1160	1250	—	60	64	71	82	90	101	107	112					
		Wide Fog									168	192	215	236	251	266	278	291					
MYSTERY® MASTER STREAM	J	350		SS	226	251	275	295	314	333	350	390	81	95	105	114	122	129	135	150			
				Narrow Fog	330	366	400	433	463	488	515	574	38	40	42	44	46	48	50	55			
				Wide Fog	396	442	481	515	550	585	615	688	28	30	32	34	36	38	40	45			
		500		SS	316	360	398	426	454	480	502	558	106	118	124	129	133	137	141	150			
				Narrow Fog	422	471	516	557	591	625	656	730	69	75	80	83	86	88	90	95			
				Wide Fog	552	614	671	720	765	811	854	956	50	54	57	61	64	68	71	80			
	JN	1000		SS	448	498	550	590	630	663	696	—	120	134	142	152	160	165	170	—			
				Narrow Fog	585	652	714	764	813	863	910	—	78	92	100	110	120	128	135	—			
				Wide Fog	740	824	900	971	1039	—	—	—	40	45	55	60	65	—	—	—			
		1250		SS																			
				Narrow Fog	791	884	968	1046	1118	1186	1250	1398	130	150	172	191	209	230	266	292			
				Wide Fog									63	72	83	92	100	110	128	140			
	CJK CJK-HP	1500		SS																			
				Narrow Fog	949	1061	1162	1255	1342	1423	1500	1677	140	166	190	212	233	255	276	320			
				Wide Fog									67	80	91	102	112	122	132	150			
		1750		SS																			
				Narrow Fog	1107	1237	1356	1464	1565	1660	1750	1957	53	63	72	81	89	97	105	122			
				Wide Fog									150	176	200	224	248	272	296	354			
	2000		SS																				
			Narrow Fog	1265	1414	1549	1673	1789	1897	2000	2236	72	84	96	107	119	131	142	170				
			Wide Fog									57	67	76	85	94	103	112	135				
	IND & ELE FOG	L-206-T		SS	36	41	50	56	63	68	60	68	75	85	95	105							
				Narrow Fog	38	44	53	60	68	73	35	37	44	49	54	59							
				Wide Fog	62	71	86	98	110	119	26	28	34	41	47	53							

Catalog No.	GPM	Stream Setting	Discharge in U.S. GPM						
			Nozzle Pressure PSI						
			40	50	75	100	125	150	175
6000-200E	15	SS							
		Narrow Fog	9	11	13	15	17	18	-
		Wide Fog							
	30	SS							
		Narrow Fog	19	21	26	30	34	37	-
		Wide Fog							
	45	SS							
		Narrow Fog	28	32	39	45	50	55	-
		Wide Fog							
	60	SS							
		Narrow Fog	38	42	52	60	67	73	-
		Wide Fog							
95	SS								
	Narrow Fog	60	67	82	92	106	116	-	
	Wide Fog								
125	SS								
	Narrow Fog	79	88	108	125	140	153	-	
	Wide Fog								
150	SS								
	Narrow Fog	95	106	130	150	168	184	-	
	Wide Fog								
200	SS								
	Narrow Fog	126	141	173	200	224	245	-	
	Wide Fog								
6000-700E	250	SS							
		Narrow Fog	158	177	217	250	280	306	-
		Wide Fog							
	350	SS							
		Narrow Fog	221	247	303	350	391	429	-
		Wide Fog							
	500	SS							
		Narrow Fog	316	354	433	500	559		-
		Wide Fog							
	700	SS							
		Narrow Fog	443	495	606	700			-
		Wide Fog							

### NOZZLE REACTION FORMULA

#### STRAIGHT BORE NOZZLES

$NR = 1.5 d^2 NP$   
 Where NR = Nozzle Reaction (Pounds)  
 d = Nozzle Diameter (Inches)  
 NP = Nozzle Pressure (psi)  
 1.5 is a constant

#### COMBINATION FOG NOZZLES

$NR = 0.0505 Q \sqrt{P}$   
 Where NR = Nozzle Reaction (Pounds)  
 Q = Flow (GPM)  
 P = Nozzle Pressure (psi at base of nozzle)  
 0.0505 is a constant  
 This formula is with nozzle set on straight stream.  
 Reaction will decrease as pattern is widened to fog.



## SMOOTH BORE DISCHARGE

### DISCHARGE OF SMOOTH BORE NOZZLES/TIPS

Nozzle Pressure in psi*	Nozzle Diameter In Inches																					
	1/4"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	15/16"	1"	1 1/16"	1 1/8"	1 3/16"	1 1/4"	1 3/8"	1 1/2"	1 5/8"	1 3/4"	1 7/8"	2"	2 1/4"	2 1/2"	3"
	Gallons Per Minute																					
20	8	19	25	33	52	75	102	117	133	150	168	187	208	251	299	351	407	467	531	672	830	1195
22	9	20	27	35	54	78	107	122	139	157	176	196	218	263	313	368	427	490	557	705	871	1254
24	9	20	28	36	57	82	111	128	145	164	184	205	227	275	327	384	446	512	582	737	909	1309
26	9	21	29	38	59	85	116	133	151	171	192	214	237	286	341	400	464	532	606	767	947	1363
28	10	22	30	39	61	88	120	138	157	177	199	222	246	297	354	415	481	553	629	796	982	1414
30	10	23	31	41	64	92	125	143	163	184	206	229	254	308	366	430	498	572	651	824	1017	1464
32	11	24	32	42	66	95	129	148	168	190	213	237	263	318	378	444	515	591	672	851	1050	1512
34	11	24	33	43	68	97	133	152	173	196	219	244	271	327	390	457	530	609	693	877	1082	1559
36	11	25	34	45	70	100	136	157	178	201	226	251	278	337	401	471	546	626	713	902	1114	1604
38	11	26	35	46	72	103	140	161	183	207	232	258	286	346	412	483	561	644	732	927	1144	1648
40	12	26	36	47	73	106	144	165	188	212	238	265	293	355	423	496	575	660	751	951	1174	1691
42	12	27	37	48	75	108	147	169	192	217	244	271	301	364	433	508	589	677	770	974	1203	1732
44	12	28	38	49	77	111	151	173	197	222	249	278	308	372	443	520	603	693	788	997	1231	1773
46	13	28	39	50	79	113	154	177	201	227	255	284	315	381	453	532	617	708	806	1020	1259	1813
48	13	29	39	51	80	116	158	181	206	232	260	290	322	389	463	543	630	723	823	1042	1286	1852
50	13	30	40	53	82	118	161	185	210	237	266	296	328	397	473	555	643	738	840	1063	1313	1890
52	13	30	41	54	84	120	164	188	214	242	271	302	335	405	482	566	656	753	857	1084	1339	1928
54	14	31	42	55	85	123	167	192	218	246	276	308	341	413	491	576	668	767	873	1105	1364	1964
56	14	31	43	56	87	125	170	195	222	251	281	313	347	420	500	587	681	781	889	1125	1389	2000
58	14	32	43	57	88	127	173	199	226	255	286	319	353	428	509	597	693	795	905	1145	1414	2036
60	14	32	44	58	90	129	176	202	230	260	291	324	359	435	518	607	705	809	920	1165	1438	2070
62	15	33	45	58	91	132	179	206	234	264	296	330	365	442	526	618	716	822	935	1184	1462	2105
64	15	33	45	59	93	134	182	209	238	268	301	335	371	449	535	627	728	835	950	1203	1485	2138
66	15	34	46	60	94	136	185	212	241	272	305	340	377	456	543	637	739	848	965	1221	1508	2172
68	15	34	47	61	96	138	188	215	245	276	310	345	383	463	551	647	750	861	980	1240	1531	2204
70	16	35	48	62	97	140	190	218	248	281	314	350	388	470	559	656	761	874	994	1258	1553	2236
72	16	35	48	63	98	142	193	221	252	284	319	355	394	476	567	665	772	886	1008	1276	1575	2268
74	16	36	49	64	100	144	196	225	255	288	323	360	399	483	575	675	782	898	1022	1293	1597	2299
76	16	36	50	65	101	146	198	228	259	292	328	365	405	490	583	684	793	910	1036	1311	1618	2330
78	16	37	50	66	102	148	201	231	262	296	332	370	410	496	590	693	803	922	1049	1328	1639	2361
80	17	37	51	66	104	149	203	233	266	300	336	375	415	502	598	701	814	934	1063	1345	1660	2391
82	17	38	51	67	105	151	206	236	269	304	340	379	420	508	605	710	824	946	1076	1362	1681	2421
84	17	38	52	68	106	153	208	239	272	307	345	384	425	515	612	719	834	957	1089	1378	1701	2450
86	17	39	53	69	108	155	211	242	275	311	349	388	430	521	620	727	843	968	1102	1394	1721	2479
88	17	39	53	70	109	157	213	245	279	315	353	393	435	527	627	736	853	979	1114	1410	1741	2507
90	18	40	54	70	110	158	216	248	282	318	357	397	440	533	634	744	863	991	1127	1426	1761	2536
92	18	40	55	71	111	160	218	250	285	322	361	402	445	539	641	752	872	1002	1139	1442	1780	2564
94	18	40	55	72	112	162	220	253	288	325	364	406	450	544	648	760	882	1012	1152	1458	1800	2592
96	18	41	56	73	114	164	223	256	291	329	368	410	455	550	655	768	891	1023	1164	1473	1819	2619
98	18	41	56	74	115	165	225	258	294	332	372	415	459	556	662	776	900	1034	1176	1488	1838	2646
100	19	42	57	74	116	167	227	261	297	335	376	419	464	562	668	784	910	1044	1188	1504	1856	2673
105	19	43	58	76	119	171	233	267	304	344	385	429	476	575	685	804	932	1070	1217	1541	1902	2739
110	19	44	60	78	122	175	238	274	311	352	394	439	487	589	701	823	954	1095	1246	1577	1947	2803
115	20	45	61	80	124	179	244	280	318	360	403	449	498	602	717	841	975	1120	1274	1612	1991	2866
120	20	46	62	81	127	183	249	286	325	367	412	459	508	615	732	859	996	1144	1301	1647	2033	2928
125	21	47	64	83	130	187	254	292	332	375	420	468	519	628	747	877	1017	1167	1328	1681	2075	2989
130	21	48	65	85	132	190	259	298	339	382	429	478	529	640	762	894	1037	1191	1355	1714	2116	3048
135	22	49	66	86	135	194	264	303	345	390	437	487	539	652	776	911	1057	1213	1380	1747	2157	3106
140	22	49	67	88	137	198	269	309	351	397	445	496	549	664	791	928	1076	1235	1406	1779	2196	3163
145	22	50	68	89	140	201	274	314	358	404	453	504	559	676	805	944	1095	1257	1431	1811	2235	3219
150	23	51	70	91	142	205	278	320	364	411	460	513	568	688	818	961	1114	1279	1455	1841	2273	3274
175	25	55	75	98	153	221	301	345	393	444	497	554	614	743	884	1037	1203	1381	1572	1989	2456	3536
200	26	59	80	105	164	236	322	369	420	474	532	592	656	794	945	1109	1286	1477	1680	2126	2625	3780

\* Nozzle pressure measured by pitot tube and gauge.

### FORMULA FOR DISCHARGE OF SMOOTH BORE NOZZLES:

$$GPM = 29.71 d^2 \sqrt{NP}$$

GPM = Gallons per minute

29.71 = Constant

d = Diameter of nozzle orifice (inches)

NP = Nozzle pressure (psi) measured by pitot tube and gauge

### FRICTION LOSS IN RUBBER OR VINYL LINED FIRE HOSE

Flow In U.S. GPM	Pressure Loss in PSI per 100' Hose											Equal Length Siamesed Lines		
	.75"	1.0"	1.5"	1.75"	2.0"	2.5"	3.0"	3.5"	4.0"	5.0"	6.0"	2-2.5"	3-2.5"	2-3.0"
10	13.5	3.5												
20	50	12.5												
30	105	26												
40		44	4.5	3	1									
60		92	10	5	2.5									
95			22	11	5									
100			25	12	6	3	1							
125			37	21	10	4	1							
150			54	26	13.5	6	2							
175				34	18	8	3							
200				45	24	10	4	2						
225				57	30	12	4.5	2						
250				70	37.5	15	6	2.5						
275				82	45	17.5	7	3						
300				95	54	21	8	3.5	2			6	3	2
325					65	24.5	9.5	4	2.5			6.5	3	2.5
350					78	28	11	5	2.5			8	3.5	3
400					96	36	14	6	3	1		10	4.5	4
450						45	17.5	8	4	1.5		12.5	6	5
500						55	21	9.5	5	2		15.5	7	6
550							25.5	11.5	6	2		18.5	8.5	7
600							30	13.5	7	2.5		23	10	8.5
650							35	15.5	8.5	3		25.5	12	10
700							40.5	18	9.5	3.5	1	29.5	13.5	11.5
750							46	20	11.5	4	1	33.5	15.5	13
800							53	23	12.5	4.5	1.5	38	17.5	14.5
850								25.5	14.5	5	1.5	43	20	16.5
900								28	16	5.5	2	48	22.5	18.5
950								31	17.5	6	2		25	20.5
1000								34	19	6.5	2.5		28	22.5
1100								41	23	8	3		33	27
1200								49	27.5	9.5	4		39	32
1300								57	32.5	11	4.5		45	38
1400								66.5	38	13	5		52	44
1500								76.5	43	15	6		60	50
1750									59	20	8			
2000									77	26.5	10.5			
2500										41.5	16.5			

NOTE: These friction loss figures will vary accordingly with age and manufacturer of hose.





## MONITOR PRESSURE DROP

### PRESSURE DROP (PV) DUE TO CHANGE IN VELOCITY OF WATER FLOWING THROUGH CONDUIT WITH REDUCED AREA

Inlet Dia (in) =>	2.0	2.5	3.0	4.0	4.0	4.5	6.0	6.0	2 x 2.5	3 x 2.5
Outlet Dia (in) =>	1.5	1.5	2.5	2.5	3.5	2.5	2.5	3.5	2.5	3.5
100	1.5	1.9	0.1	0.2	0.0	0.3	0.3	0.1	0.2	0.0
200	6.1	7.8	0.6	1.0	0.1	1.0	1.1	0.3	0.9	0.2
300	13.7	17.5	1.3	2.2	0.3	2.4	2.5	0.6	2.0	0.4
400	24.4	31.1	2.4	3.9	0.5	4.2	4.5	1.1	3.5	0.7
500	38.1	48.6	3.7	6.1	0.8	6.5	7.0	1.7	5.4	1.1
600			5.4	8.8	1.1	9.4	10.1	2.4	7.8	1.6
700			7.3	12.0	1.5	12.8	13.7	3.3	10.6	2.1
800			9.6	15.7	2.0	16.8	18.0	4.3	13.9	2.8
900			12.1	19.9	2.5	21.2	22.7	5.4	17.6	3.5
1000			15.0	24.5	3.1	26.2	28.1	6.7	21.7	4.3
1100			18.1	29.7	3.8	31.7	33.9	8.1	26.3	5.2
1200			21.6	35.3	4.5	37.7	40.4	9.6	31.3	6.2
1300			25.3	41.4	5.3	44.2	47.4	11.3	36.7	7.3
1400			29.4	48.0	6.1	51.3	55.0	13.1	42.6	8.5
1500			33.7	55.2	7.0	58.9	63.1	15.0	48.9	9.7
1600					8.0		71.8	17.0		
1700					9.0		81.1	19.2		
1800					10.1		90.9	21.6		
1900					11.2		101.3	24.0		
2000					12.5		112.2	26.6		

### Bernoulli's Equation = > Total Static Pressure Drop (TSPD) = Pressure Drop due to change in water velocity (Pv) + Friction Loss (F.L.)

When the Total Static Pressure Drop of a system is known (line pressure at inlet less line pressure at outlet), the associated Friction Loss of the system can be calculated by subtracting the appropriate value in the table above from the measured Total Static Pressure Drop.

NOTE: For all systems which have an outlet area smaller than the inlet area, the reported Friction Loss will always be less than the measured total static pressure drop due to the effect of the change in velocity related pressure drop.

$$F.L. = TSPD - Pv$$

### HYDRANT DISCHARGE FORMULA

To obtain the flow from hydrant outlets use the same formula as given for smooth bore nozzles but use the factor "C" equal to 0.90. Every Fire Department should check the flow from their hydrants. This can be done simply and easily using only a cap with a pressure gauge attached. Merely place the gauge on one outlet, open the hydrant and read the gauge. Remove another cap, open the hydrant and read the gauge again and obtain the gallons per minute using the above method or from the discharge table for hydrant outlets. Obtain the maximum amount of water available from the discharge table for hydrant outlets. Then to obtain the maximum amount of water available from the hydrant in gallons per minute with a residual of 10 lbs. (which is the lowest you should draw down the pressure on the hydrant) use the following formula.

$$A = \frac{Bx \sqrt{P1-10}}{\sqrt{P1-P2}}$$

Where A = Gallons per minute available at 10 lbs. residual.

B = Gallons per minute obtained.

P1 = Static pressure on hydrant with no water flowing.

P2 = Residual pressure on hydrant with water flowing.

### DEFINITIONS

**Static Pressure** – The word "static" means at rest or without motion. Pressure on water may be produced by an elevated water supply, by atmospheric pressure, or by a force pump. If the water is not moving, the pressure exerted is static. In water distribution systems there is always some flow in the pipes because of normal domestic or industrial needs. A true static pressure is, therefore, seldom found in municipal water systems. From a practical viewpoint, however, the pressure normally found in a water system before water flows from a hydrant, is considered to be static pressure. A water flow definition of static pressure could be as follows: "Static pressure is stored potential energy that is available to force water through pipe, fittings, fire hose, and adapters."

**Residual Pressure** – The word "residual" means a remainder, or that which is left. As an example, during a fire flow test, the term residual represents the pressure which is left in a distribution system within the vicinity of one or more flowing hydrants. Residual pressure in a water distribution system will vary depending upon the amount of water that may be flowing from one or more hydrants and upon water consumption demands. One point that must be remembered is that residual pressure must be identified at the location where the reading is taken. A water flow definition of residual pressure could be as follows: "Residual pressure is that part of the total available pressure that is not used to overcome friction or gravity while forcing water through pipe, fittings, fire hose, and adapters."

**Flow Pressure** – The rate of flow or velocity of the water coming from a discharge opening produces a force which is called flow pressure or velocity pressure. Since a stream of water emerging from a discharge opening is not encased within a tube, it exerts pressure in a forward direction but does not exert a sideways pressure. The forward velocity or flow pressure can be measured by using a Pitot tube and gauge. If the size of opening is known, the flow pressure can be used to calculate the quantity of water flowing in gallons per minute (gpm). A water definition of flow

### DISCHARGE TABLE FOR HYDRANT OUTLETS

Outlet Pressure (lbs.)	Outlet Diameter (inches)				Outlet Pressure (lbs.)	Outlet Diameter (inches)			
	2.5	3	4	4.5		2.5	3	4	4.5
	U.S. Gallons per Minute					U.S. Gallons per Minute			
1	170	240	430	540	16	670	970	1720	2180
2	240	340	610	770	17	690	1000	1770	2240
3	290	420	740	940	18	710	1030	1820	2310
4	340	480	860	1090	19	730	1050	1870	2370
5	380	540	960	1220	20	750	1080	1920	2430
6	410	590	1050	1340	22	790	1130	2020	2550
7	440	640	1140	1440	24	820	1180	2110	2660
8	480	680	1220	1540	26	860	1230	2190	2770
9	500	730	1290	1640	28	890	1280	2280	2880
10	530	760	1360	1730	30	920	1320	2350	2980
11	560	800	1430	1810	32	950	1370	2430	3080
12	580	840	1490	1890	34	980	1410	2510	3170
13	610	870	1550	1960	36	1010	1450	2580	3260
14	630	900	1610	2040	38	1040	1490	2650	3350
15	650	940	1660	2110	40	1060	1530	2720	3440

pressure can be as follows: "Flow pressure is the forward velocity pressure at a discharge opening while water is flowing." An example of flow pressure is one in which the forward velocity of a water stream exerts a pressure that can be read on a gauge.

**Normal Operating Pressure** – Normal operating pressure is that pressure which flowing water exerts against the wall of a conduit; i.e. pipe, fire hose, appliances, valves, fittings, etc. The difference between static and normal operating pressure is the friction loss caused by the water flowing through these conduits. As soon as water starts to flow, static pressure no longer exists. The demands for water sometimes change during fireground operations, so therefore, normal operating pressures will change also. A piezometer gauge is used to determine this type of pressure. A water flow definition of it would be as follows: "Normal operating pressure is that pressure which flowing water exerts against the wall of the conduit through which it flows in a distribution system."

**Friction Loss** – If an opening is made in a closed system of piping or fire hose, a difference in pressure will exist between the internal pressure and the atmospheric pressure outside the pipe or hose. This difference in pressure causes the water to flow toward the lesser pressure. Water flowing through pipe or fire hose meets certain resistances or friction which must be overcome by pressure. This loss of pressure is usually called friction loss or loss because of friction. The only pressure available to overcome this resistance is the total pressure. A fire stream definition of friction loss could be as follows: "Friction loss is that part of total pressure that is lost while forcing water through pipe, fittings, fire hose, and appliances." The differences in pressure on a hose line between a nozzle and a pumper is a good example of friction loss.



## THREAD INFORMATION

### STANDARD FIRE HOSE THREADS

Size	ODM	TPI	Size	ODM	TPI	Size	ODM	TPI	Size	ODM	TPI
Nat'l. Hose Thread (NHT)			Eastern Hose Thread			Underwriter Tip Thread			Quebec Standard Thread (QST)		
.75	1.3750	8	.75	1.0781	11	1.5	2.1875	12	2.5	3.031	7
1	1.3750	8	1	1.4219	11						
1.25	1.6718	9	1.25	1.6875	11.5				Alberta Mutual Aid Thread (AMA)		
1.5	1.9900	9	1.5	2.1250	11	Chicago FD Thread			2.5	2.990	8
2	2.5156	8	2	2.6719	7.5	1	1.375	8	British Columbia (BCT)		
2.5	3.0686	7.5	2.5	3.0000	8	1.5	1.933	11.5	2.5	3.000	8
.3	3.6239	6	Pacific Coast Thread			2.5	2.990	7.5	Western Canada Fire Underwriters Thread		
3.5	4.2439	6	.75	1.0625	11	3.5	4.052	8	2.5	3.250	6
4	5.000	4	1	1.3125	11.5	4	5.000	4	Buffalo, NY Thread		
4.5	5.7609	4	1.25	1.8600	11	4.5	5.7609	4	Chicago Hose Thread		
5	6.260	4	1.5	2.1000	11	5	6.260	4	2.5	3.065	8
6	7.025	4	2	2.5500	10	Chicago Pipe Thread			Cincinnati, OH Thread		
Nat'l. Pipe Straight Hose Thread (NPSH)			2.5	3.0350	7.5	.75	1.0810	11.5	2.5	3.058	6
			NYCFD Thread			1	1.2951	11.5	Cleveland, OH & Omaha, NE Thread		
.75	1.0353	14	1	1.660	8	1.25	1.7050	11.5	2.5	3.0781	8
1	1.2951	11.5	1.5	2.100	8	1.5	1.9460	11.5	Detroit, MI Thread		
1.25	1.6399	11.5	2	2.530	8	2	2.5220	8	2.5	3.125	7.5
1.5	1.8788	11.5	2.5	3.030	8	2.5	3.0430	7	Pittsburgh, PA Thread		
2	2.3528	11.5	3	3.630	8	Standard Chemical Thread			2.5	3.0625	6
2.5	2.843	8	3.5	4.070	8	.75	1.375	8	Toledo, OH Thread		
3	3.4700	8	4	4.610	8	Canadian Standard Assoc. Thread (CSA)			2.5	3.000	8
3.5	3.9700	8	4.5	5.800	4	1.5	1.8788	11.5			
4	4.4700	8	5	6.300	4	2.5	3.1250	5			
4.5	4.9700	8									

### FLANGE SPECIFICATIONS

ANSI Flange Size	2.5"-150#	3.0"-150#	3.0"-300#	4.0"-150#	4.00"-300#	6.0"-150#	6.0"-300#
Diam. of flange	7.00"	7.50"	8.25"	9.00"	10.00"	11.00"	12.50"
Bolt circle diam.	5.50"	6.00"	6.625"	7.50"	7.875"	9.50"	10.625"
Bolt hole diam.	.750"	.750"	.875"	.750"	.875"	.875"	.875"
No. bolt holes	4	4	8	8	8	8	12
Bolt diameter	.625"	.625"	.750"	.625"	.750"	.750"	.750"

### METHODS FOR DETERMINING THREAD DIMENSIONS



If Leaf Thread Gauge and Thread Caliper are not available; or sample cannot be sent, the following method may be used to obtain the needed information about threads.

1. Cut a strip of paper about 1" wide and long enough to completely encircle the male thread.
2. Wrap this paper snugly around the male thread making sure it is against the shoulder all the way around.
3. Pierce the paper with a pin at some point where the paper overlaps.
4. Press firmly against the threads with finger. This impression in the paper is used to determine the threads per inch.
5. Remove strip and circle pin holes with pencil.
6. The distance between the pin holes divided by 3.1416 equals the ODM (outside diameter of the male).

Both the ODM and the threads per inch are needed for ordering purposes. Sharp "V" thread form supplied unless otherwise specified.

### SUCTION HOSE THREADS

Size	ODM	TPI	Size	ODM	TPI
American LaFrance Thread		Seagrave Thread			
4.0	5.085	4	4.0	5.000	4
4.5	5.750	4	4.5	5.750	4
5	6.150	4	5	6.250	4
6	7.000	4	6	7.000	4
Mack Thread		Hale Fire Pump Thread			
4.0	4.999	4	4.0	5.000	4
4.5	5.7609	4	4.5	5.7609	4
5	6.230	4	5	6.250	4
6	6.955	4	6	7.250	4
Maxim Thread		Ward LaFrance Thread			
4.0	5.000	4	4.0	5.000	4
4.5	5.750	4	4.5	5.750	4
5	6.250	4	5	6.250	4
6	7.000	4	6	7.000	4
Pirsch Thread		Waterous Fire Pump Thread			
4.0	5.000	4	4.0	5.0109	4
4.5	5.750	4	4.5	5.7609	4
5	6.250	4	5	6.260	4
6	7.000	4	6	7.261	4

### ABBREVIATION DEFINITIONS

- ODM – outside diameter of male
- TPI – threads per inch

### THREAD DESIGNATIONS

- National Hose – NH or NHT; also called National Standard Thread (NST)
  - National Pipe Straight Hose – NPSH; also called Straight Iron Pipe Thread (SIPT)
  - National Pipe Thread – NPT; also called Tapered Iron Pipe Thread (TIPT)
  - British Standard Parallel Pipe – BSPP
  - British Standard Pipe Taper – BSPT
- Please inquire with our sales staff as to availability of a specific thread on your product.

Model	Size	Size	Length	Model	Size	Size	Length
318	2.5" F	4.0" M	3	A-327A	1.5" F	1.5" M	1 <sup>1</sup> / <sub>5</sub>
	3.0" F	3.5" M	2 <sup>7</sup> / <sub>16</sub>		2.5" F	1.5" M	1 <sup>7</sup> / <sub>8</sub>
	3.0" F	4.0" M	3		2.5" F	2.5" M	2 <sup>7</sup> / <sub>16</sub>
	3.0" F	5.0" M	4	A-327	1.5" F	1.0" M	1 <sup>7</sup> / <sub>8</sub>
	3.5" F	2.5" M	2 <sup>7</sup> / <sub>16</sub>		1.5" F	1.5" M	1 <sup>7</sup> / <sub>8</sub>
	3.5" F	3.0" M	2 <sup>7</sup> / <sub>16</sub>		1.5" F	2.5" M	1 <sup>11</sup> / <sub>16</sub>
	3.5" F	3.5" M	2 <sup>7</sup> / <sub>16</sub>		2.0" F	1.5" M	1 <sup>7</sup> / <sub>8</sub>
	3.5" F	4.0" M	2 <sup>7</sup> / <sub>8</sub>		2.0" F	2.0" M	1 <sup>23</sup> / <sub>32</sub>
	4.0" F	1.5" M	3 <sup>3</sup> / <sub>4</sub>		2.0" F	2.5" M	2 <sup>7</sup> / <sub>16</sub>
	4.0" F	2.5" M	2 <sup>7</sup> / <sub>8</sub>		2.5" F	<sup>3</sup> / <sub>4</sub> G.H.	1 <sup>3</sup> / <sub>4</sub>
	4.0" F	3.0" M	3 <sup>3</sup> / <sub>4</sub>		2.5" F	1.5" M	1 <sup>7</sup> / <sub>8</sub>
	4.0" F	3.5" F	2 <sup>7</sup> / <sub>16</sub>		2.5" F	2.0" M	1 <sup>15</sup> / <sub>16</sub>
	4.0" F	4.0" M	2 <sup>7</sup> / <sub>8</sub>		2.5" F	2.5" M	2 <sup>7</sup> / <sub>16</sub>
	4.0" F	4.5" M	2 <sup>7</sup> / <sub>8</sub>		2.5" F	3.0" M	2 <sup>7</sup> / <sub>16</sub>
	4.0" F	4.5" M	2 <sup>7</sup> / <sub>8</sub>		3.0" F	2.0" M	2 <sup>7</sup> / <sub>16</sub>
	4.0" F	5.0" M	2 <sup>3</sup> / <sub>4</sub>		3.0" F	2.5" M	2 <sup>7</sup> / <sub>16</sub>
	4.0" F	6.0" M	3		3.0" F	3.0" M	2 <sup>7</sup> / <sub>8</sub>
	4.5" F	2.5" M	3 <sup>9</sup> / <sub>16</sub>	F-327A	1.5" F	1.5" F	2 <sup>7</sup> / <sub>16</sub>
	4.5" F	4.0" M	2 <sup>23</sup> / <sub>32</sub>		1.5" F	2.5" F	2 <sup>7</sup> / <sub>8</sub>
	4.5" F	4.5" M	2 <sup>11</sup> / <sub>16</sub>		1.5" F	2.5" M	2 <sup>1</sup> / <sub>4</sub>
	5.0" F	2.5" M	4 <sup>13</sup> / <sub>16</sub>		2.5" F	2.5" F	3 <sup>9</sup> / <sub>16</sub>
	5.0" F	4.0" M	2 <sup>13</sup> / <sub>16</sub>	3.0" F	2.5" F	3 <sup>7</sup> / <sub>8</sub>	
	5.0" F	6.0" M	3	F-327	1.5" F	1.5" F	2 <sup>7</sup> / <sub>16</sub>
	6.0" F	2.5" M	3 <sup>13</sup> / <sub>16</sub>		2.5" F	2.5" F	3 <sup>9</sup> / <sub>16</sub>
	6.0" F	3.5" M	4		3.0" F	3.0" F	3 <sup>9</sup> / <sub>16</sub>
	6.0" F	4.0" M	3 <sup>7</sup> / <sub>8</sub>	M-327A	1.5" M	1.5" M	2 <sup>7</sup> / <sub>8</sub>
6.0" F	4.5" M	3 <sup>7</sup> / <sub>8</sub>	2.5" M		2.5" M	2 <sup>7</sup> / <sub>8</sub>	
6.0" F	5.0" M	3 <sup>11</sup> / <sub>16</sub>	M-327ABI	2.5" M	2.5" M	2 <sup>7</sup> / <sub>8</sub>	
6.0" F	6.0" M	6 <sup>11</sup> / <sub>16</sub>	M-327	1.5" M	1.5" M	2 <sup>7</sup> / <sub>8</sub>	
				2.5" M	2.5" M	2 <sup>7</sup> / <sub>8</sub>	
S-319	3.0" F	3.0" F	4 <sup>7</sup> / <sub>8</sub>	S-327	1.5" F	1.5" M	2 <sup>1</sup> / <sub>2</sub>
	3.5" F	2.5" F	4 <sup>7</sup> / <sub>16</sub>		2.0" F	2.0" F	2 <sup>7</sup> / <sub>8</sub>
	4.0" F	4.0" F	4 <sup>9</sup> / <sub>16</sub>		2.5" F	1.5" M	2 <sup>13</sup> / <sub>16</sub>
	4.5" F	2.5" F	4 <sup>1</sup> / <sub>2</sub>		2.5" F	2.0" M	2 <sup>15</sup> / <sub>16</sub>
	4.5" F	3.0" F	5 <sup>1</sup> / <sub>16</sub>		2.5" F	2.5" M	3
	4.5" F	3.5" F	5 <sup>1</sup> / <sub>16</sub>		2.5" F	3.0" M	3 <sup>9</sup> / <sub>16</sub>
	4.5" F	4.0" F	5 <sup>1</sup> / <sub>2</sub>		3.0" F	2.5" M	3 <sup>9</sup> / <sub>16</sub>
	4.5" F	4.5" F	4 <sup>3</sup> / <sub>4</sub>		4.0" F	4.0" M	3 <sup>7</sup> / <sub>8</sub>
	5.0" F	2.5" F	5 <sup>1</sup> / <sub>16</sub>	435	2.5" Hose Thd	2.5" NHT	2 <sup>1</sup> / <sub>4</sub>
	5.0" F	3.0" F	5 <sup>9</sup> / <sub>16</sub>				
	5.0" F	3.5" F	5 <sup>1</sup> / <sub>2</sub>				
	5.0" F	4.0" F	5 <sup>7</sup> / <sub>8</sub>				
	5.0" F	4.5" F	5 <sup>9</sup> / <sub>16</sub>				
	6.0" F	2.5" F	4 <sup>1</sup> / <sub>2</sub>				
	6.0" F	4.5" F	4 <sup>9</sup> / <sub>16</sub>				



# TECHNICAL DATA



## METRIC CONVERSION

LIQUID VOLUME		
To Convert	Into	Multiply by
Ounces (oz)	Milliliters (ml)	29.57
Pints (pt)	Liters (l)	.4732
Quarts (qt)	Liters (l)	.9464
Gallons (gal)	Liters (l)	3.785
Milliliters (ml)	Ounces (oz)	.0338
Liters (l)	Pints (pt)	2.113
Liters (l)	Quarts (qt)	1.057
Liters (l)	Gallons (gal)	.2642
PRESSURE		
To Convert	Into	Multiply by
Pounds per square inch (psi)	Kilopascals (kPa)	6.895
Pounds per square inch (psi)	bar	.06895
Kilopascals (kPa)	Lbs per square inch (psi)	.145
Kilopascals (kPa)	bar	.01
bar	Lbs per square inch (psi)	14.503
bar	Kilopascals (kPa)	100.00
LENGTH		
To Convert	Into	Multiply by
Inches (in)	Millimeters (mm)	25.4
Inches (in)	Centimeters (cm)	2.54
Feet (ft)	Centimeters (cm)	30.48
Feet (ft)	Meters (m)	.3048
Yards (yd)	Meters (m)	.914
Miles (mi)	Kilometers (km)	1.609
Millimeters (mm)	Inches (in)	.039
Centimeters (cm)	Inches (in)	.394
Meters (m)	Feet (ft)	3.282
Kilometers (km)	Miles (mi)	.6214
AREA		
To Convert	Into	Multiply by
Square Inches (in <sup>2</sup> )	Square Centimeters (cm <sup>2</sup> )	6.452
Square Feet (ft <sup>2</sup> )	Square Meters (m <sup>2</sup> )	.093
Square Yards (yds <sup>2</sup> )	Square Meters (m <sup>2</sup> )	.836
Square Miles (mi <sup>2</sup> )	Square Kilometers (km <sup>2</sup> )	2.59
Square Centimeters (cm <sup>2</sup> )	Square Inches (in <sup>2</sup> )	.155
Square Meters (m <sup>2</sup> )	Square Yards (yds <sup>2</sup> )	1.196
Square Kilometers (km <sup>2</sup> )	Square Miles (mi <sup>2</sup> )	.386
HOSE SIZES		
1" Hose = 25.4 mm	4" Storz = 100.00 mm	
1½" Hose = 38.1 mm	4" Hose = 101.60 mm	
1¾" Hose = 44.5 mm	4½" Hose = 114.30 mm	
2" Hose = 50.8 mm	5" Storz = 125.00 mm	
2½" Hose = 63.5 mm	5" Hose = 127.00 mm	
3" Hose = 76.2 mm	6" Hose = 152.40 mm	
3½" Hose = 88.9 mm		
TIP SIZES		
¾" Tip = 19.1 mm	1 ½" Tip = 38.1 mm	
⅞" Tip = 22.2 mm	1 ¾" Tip = 44.5 mm	
1" Tip = 25.4 mm	2" Tip = 50.8 mm	
1⅛" Tip = 28.6 mm	2 ¼" Tip = 57.2 mm	
1¼" Tip = 31.8 mm	2 ½" Tip = 63.5 mm	
1⅝" Tip = 34.9 mm	3" Tip = 76.2 mm	

SOLID VOLUME		
To Convert	Into	Multiply by
Ounces (oz)	Grams (g)	28.3495
Pounds (lb)	Kilograms (kg)	.4536
Grams (g)	Ounces (oz)	.035
Kilograms (kg)	Pounds (lb)	2.205
PRESSURES GUIDELINES*		
50 psi = 345 kPa = 3.45 bar		
60 psi = 414 kPa = 4.14 bar		
70 psi = 488 kPa = 4.88 bar		
75 psi = 517 kPa = 5.17 bar		
80 psi = 552 kPa = 5.52 bar		
90 psi = 621 kPa = 6.21 bar		
100 psi = 690 kPa = 6.89 bar		
150 psi = 1034 kPa = 10.34 bar		
200 psi = 1379 kPa = 13.79 bar		
250 psi = 1723 kPa = 17.23 bar		
300 psi = 2069 kPa = 20.69 bar		
350 psi = 2413 kPa = 24.13 bar		
580 psi = 3999 kPa = 39.99 bar		
700 psi = 4827 kPa = 48.27 bar		
FLOW		
FLOW RATE	EXACT LPM	
12 gpm = 45.42 lpm		
13 gpm = 49.20 lpm		
15 gpm = 56.78 lpm		
20 gpm = 75.70 lpm		
23 gpm = 87.06 lpm		
25 gpm = 94.62 lpm		
30 gpm = 113.55 lpm		
40 gpm = 151.40 lpm		
50 gpm = 189.25 lpm		
60 gpm = 227.10 lpm		
70 gpm = 264.95 lpm		
75 gpm = 283.88 lpm		
85 gpm = 321.73 lpm		
95 gpm = 359.58 lpm		
100 gpm = 378.50 lpm		
120 gpm = 454.20 lpm		
125 gpm = 473.13 lpm		
150 gpm = 567.75 lpm		
175 gpm = 662.38 lpm		
200 gpm = 757.00 lpm		
250 gpm = 946.25 lpm		
300 gpm = 1135.50 lpm		
350 gpm = 1324.75 lpm		
375 gpm = 1419.38 lpm		
400 gpm = 1514.00 lpm		
450 gpm = 1703.25 lpm		
500 gpm = 1892.50 lpm		
550 gpm = 2081.75 lpm		
700 gpm = 2649.50 lpm		
750 gpm = 2838.75 lpm		
800 gpm = 3028.00 lpm		
1000 gpm = 3785.00 lpm		
1200 gpm = 4542.00 lpm		
1250 gpm = 4731.25 lpm		
1500 gpm = 5677.50 lpm		
2000 gpm = 7570.00 lpm		

\* The above are general guidelines. Elkhart Brass provides more precise figures as applicable.

### Legacy to XD Handline Nozzle Cross Reference Guide

Legacy Model	XD Model
4000-14 / 4000-14HR	Mid Range Chief XD Tip
4000-24	High Range Chief XD Tip
4000-16	Mid Range Chief XD Nozzle
4000-17	Mid Range Chief XD Nozzle with Pistol Grip
4000-20	High Range Chief XD Nozzle (1.5")
4000-23	High Range Chief XD Nozzle (1.5") with Pistol Grip
4000-26	High Range Chief XD Nozzle (2.5")
4000-28	High Range Chief XD Nozzle (2.5") with Pistol Grip
B-375-A	1.5" XD Shutoff
B-375-GA	1.5" XD Shutoff with Pistol Grip
B-375-AT	1.5" Shutoff with Integrated Smooth Bore
B-375-GAT	1.5" XD Shutoff with Pistol Grip and Integrated Smooth Bore
DB-375-A	2.5" XD Shutoff
DB-375-GA	2.5" XD Shutoff with Pistol Grip
DB-375-AT	2.5" Shutoff with Integrated Smooth Bore
DB-375-GAT	2.5" XD Shutoff with Pistol Grip
B-278	2.5" XD Playpipe
B-278-L	2.5" XD Playpipe with Ladder Hook
185-A	185-XD Smooth Bore Tip
187-A	187-XD Smooth Bore Tip
188-A	188-XD Smooth Bore Tip
ST-185-A	ST-185-XD "FDNY Stack"
ST-185-AIFD	ST-185-XD-IFD "Indy Stack"
ST-190-BA	ST-190-XD "Triple Stack"



## NATIONAL STOCK NUMBER LISTING

NATIONAL STOCK #	MODEL #	PAGE
<b>NOZZLES</b>		
4210-00-200-0346	279-L CP	1-30
4210-00-289-1032	4000-02	1-8
4210-01-212-9408	4000-03	1-13
4210-01-464-6883	4000-13	1-12
4210-01-518-2585	B-278-L	1-30
4210-01-475-9715	CJ-B - 350	6-10
4210-01-200-5801	DSF	1-20
4210-00-465-1904	DSF-N	1-28
4210-01-200-1612	DSM-30F	1-15
4210-01-323-3207	HF-500	6-16
4210-00-004-8316	L-205-B - NST	1-25
4820-01-236-7153	LB-275	1-30
4210-01-320-9513	L-OG	1-26
4210-00-269-8970	NTL-C	6-20
4210-01-484-7004	NTS-C FEM	6-20
4210-01-314-2189	SB-275	1-30
4210-01-199-6832	SF-800	1-20
4210-01-202-2155	SFL-OG	1-20
4210-01-108-2717	SFL-OG MOD.	1-20
4210-01-408-6992	SFL-GN	1-28
4210-00-601-0986	SFL-GN-125	1-28
4210-00-465-1906	SFL-GN-95	1-28
4210-01-042-0408	SFL-GN-95	1-20
4210-01-199-6829	SFL-O	1-28
4210-01-199-6830	SFL-OG	1-28
4210-01-315-1092	SM-10F	1-15
4210-01-212-8329	SM-10FG	1-15
4210-01-199-6844	SM-30PL	1-15
4210-01-441-9798	ST-190BA	1-33
4210-01-202-2160	STDSF	1-20
4210-01-201-1377	STDMSM-30F	1-7
4210-01-204-1710	STSF8-800-A	1-12
4210-01-202-2159	STSF8-O	1-12
4210-01-200-3247	STSM-10F	1-6
4210-01-230-1447	STSM-30BPA	1-6
4210-01-200-3248	STSM-30F	1-6
4210-01-202-2164	TSF	1-20
4210-01-199-6838	TSF	1-20
4210-01-202-2163	TSFL-O	1-20
4210-01-199-6845	TSM-10F	1-36
4210-01-199-6835	TSM-30F	1-36
<b>MONITORS</b>		
4210-00-289-1031	8287	5-45
4210-01-327-7775	8294-021	5-22

<b>FOAM EDUCTORS</b>		
4210-01-197-9106	240-95	3-3
4210-01-198-3903	241-125	3-3
4210-00-466-5430	241-60	3-3
4210-01-197-9108	241-60	3-3
4210-01-197-9109	241-95	3-3
4210-01-197-9110	241-95	3-3
4320-01-530-5448	241-N3	3-3
4210-01-112-3081	241-N6	3-3

<b>WYES AND WATER THIEFS</b>		
4730-00-322-9636	1	4-9
4210-01-198-7817	1	4-9
4210-01-198-7818	1	4-9
4210-01-263-0920	1	4-9
4210-00-096-9468	B-100	4-9
4210-00-288-7861	B-100	4-9
4210-00-959-3233	B-100	4-9
4210-01-125-9822	B-100	4-9
4210-00-255-0235	B-97	4-9
4810-01-261-7936	B-97-A	4-9
4210-01-196-4579	B-95-A	4-9
4210-01-196-4580	B-95-A	4-9
4210-01-196-4581	B-95-A	4-9
4210-01-196-4564	B-97	4-9
4210-01-196-4576	B-97-A	4-9
4210-01-196-4577	B-97-A	4-9
4210-01-196-4578	B-97-A	4-9
4210-01-198-9813	B-97-A	4-9
4210-01-198-9814	B-97-A	4-9
4210-01-198-9815	B-97-A	4-9
4210-01-198-8347	1A	4-9
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## NOTES

Lined area for notes with horizontal ruling lines.



# WARRANTY



## UNIBODY WARRANTY

### UNIBODY VALVE LIMITED WARRANTY

Elkhart Brass Manufacturing Company, Inc., 1302 West Beardsley Avenue, Elkhart, Indiana 46514

("Warrantor"), warrants to the original purchaser of the new Unibody Valve series equipment manufactured by Warrantor and to any person to whom such equipment is transferred, that such equipment shall be free from defects in materials and workmanship during the ten (10) year period commencing upon the receipt of such equipment by the original purchaser thereof ("warranty period"). This Limited Warranty does not cover the Unibody valve ball and seat (wear items).

Warrantor's obligation under this warranty is specifically limited to replacing or repairing its equipment or parts thereof which are shown by Warrantor's examination to be in a defective condition attributable hereunder to Warrantor. To qualify for this warranty, alleged defective equipment MUST be returned to Warrantor at its above address, transportation charges prepaid, within a reasonable time after discovery of an alleged defect, and in no event later than thirty (30) days beyond the expiration of the warranty period. In no case will labor associated with removal and replacement/repair of defective components be reimbursed without prior written approval, from a Director or Officer representative, of Elkhart Brass. If, as a result of Warrantor's examination of the returned equipment, Warrantor concludes that a product defect attributable hereunder to Warrantor exists, Warrantor shall cure such defect within a reasonable time, not to exceed forty-five (45) days after such examination. Workmanship related to non-warranty repairs shall be warranted for a ninety day period.

In the event that a defect in such equipment is found to be attributable hereunder to Warrantor and Warrantor is unable to provide replacement and repair is not commercially practicable or cannot be timely made, Warrantor may elect to refund to claimant the purchase price of such equipment actually received by warrantor, less reasonable depreciation, in complete discharge of its obligations hereunder. If Warrantor elects to comply with this warranty by means of such refund, as a condition precedent to such compliance, the claimant shall return such equipment to Warrantor free and clear of liens and other encumbrances.

THE ORIGINAL PURCHASER OF SUCH EQUIPMENT, ANY PERSON TO WHOM SUCH EQUIPMENT IS TRANSFERRED, AND ANY PERSON WHO IS AN INTENDED OR UNINTENDED BENEFICIARY OF SUCH EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER FROM WARRANTOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR INJURY TO PERSON AND/OR PROPERTY RESULTING FROM ANY DEFECTIVE EQUIPMENT MANUFACTURED BY WARRANTOR.

Misuse or neglect (including failure to provide reasonable maintenance) of, or accident or unauthorized repairs or alterations to, such equipment, shall release and discharge Warrantor from any obligation under this warranty or otherwise.

WARRANTOR EXPRESSLY LIMITS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE TO THE WARRANTY PERIOD. AFTER EXPIRATION OF THE WARRANTY PERIOD, WARRANTOR EXPRESSLY DISCLAIMS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY WARRANTOR BEYOND THAT WHICH IS CONTAINED HEREIN.

Should Warrantor fail to meet its obligations under this warranty, a claimant may sue Warrantor to secure its compliance with this warranty. No action to enforce this warranty or to otherwise secure recovery from Warrantor for any damages arising out of the equipment manufactured by Warrantor shall be commenced later than eleven (11) years from and after the date of the receipt of such equipment by the original purchaser thereof.

NO PERSON HAS AUTHORITY TO ENLARGE, AMEND, OR MODIFY THIS WARRANTY.

Warrantor reserves the right to change the parts or design of its products from time to time without notice, and with no obligation to maintain spare parts or to make corresponding changes in the products previously manufactured.

**LIMITED WARRANTY**

Elkhart Brass Manufacturing Company, Inc., 1302 West Beardsley Avenue, Elkhart, Indiana 46514 ("Warrantor"), warrants to the original purchaser of the new equipment manufactured by Warrantor and to any person to whom such equipment is transferred, that such equipment shall be free from defects in materials and workmanship during five (5) year period (electrical components two [2] years) commencing upon receipt of such equipment by the original purchaser thereof ("warranty period"). This Limited Warranty does not cover wear items (such as):

- Nozzles: Ball and seat, bumper, teeth
- Valves: Ball and seat

Warrantor's obligation under this warranty is specifically limited to replacing or repairing its equipment or parts thereof which are shown by Warrantor's examination to be in a defective condition attributable hereunder to Warrantor. To qualify for this warranty, alleged defective equipment MUST be returned to Warrantor at its above address, transportation charges prepaid, within a reasonable time after discovery of alleged defect, and in no event later than thirty days beyond the expiration of the warranty period. In no case will labor associated with removal and replacement/repair of defective components be reimbursed without prior written approval, from a Director or Officer level representative, of Elkhart Brass. If, as a result of Warrantor's examination of the returned equipment, Warrantor concludes that a product defect attributable hereunder to Warrantor exists, Warrantor shall cure such defect within a reasonable time, not to exceed forty-five (45) days after such examination. Workmanship related to non-warranty repairs shall be warranted for a ninety day period.

In the event that a defect in such equipment is found to be attributable hereunder to Warrantor and Warrantor is unable to provide replacement and repair is not commercially practicable or cannot be timely made, Warrantor may elect to refund to claimant the purchase price of such equipment actually received by Warrantor, less reasonable depreciation, in complete discharge of its obligations hereunder. If Warrantor elects to comply with this warranty by means of such refund, as a condition precedent to such compliance, the claimant shall return such equipment to Warrantor free and clear of liens and other encumbrances.

THE ORIGINAL PURCHASER OF SUCH EQUIPMENT, ANY PERSON TO WHOM SUCH EQUIPMENT IS TRANSFERRED, AND ANY PERSON WHO IS AN INTENDED OR UNINTENDED BENEFICIARY OF SUCH EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER FROM WARRANTOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR INJURY TO PERSON AND/OR PROPERTY RESULTING FROM ANY DEFECTIVE EQUIPMENT MANUFACTURED BY WARRANTOR.

Misuse or neglect (including failure to provide reasonable maintenance) of, or accident or unauthorized repairs or alterations to, such equipment, shall release and discharge Warrantor from any obligation under this warranty or otherwise.

WARRANTOR EXPRESSLY LIMITS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE TO THE WARRANTY PERIOD. AFTER EXPIRATION OF THE WARRANTY PERIOD, WARRANTOR EXPRESSLY DISCLAIMS WITH RESPECT TO SUCH EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY WARRANTOR BEYOND THAT WHICH IS CONTAINED HEREIN.

Should Warrantor fail to meet its obligation under this warranty, a claimant may sue Warrantor to secure its compliance with this warranty. No action to enforce this warranty or to otherwise secure recovery from Warrantor for any damages arising out of the equipment manufactured by Warrantor shall be commenced later than six (6) years (electrical components three [3] years) from and after the date of the receipt of such equipment by the original purchaser thereof.

NO PERSON HAS AUTHORITY TO ENLARGE, AMEND, OR MODIFY THIS WARRANTY.

Warrantor reserves the right to change the parts or design of its products from time to time without notice, and with no obligation to maintain spare parts or to make corresponding changes in the products previously manufactured.



Elkhart Brass is proud to be ISO 9001 registered with internationally recognized NDQ Certification. Our registration refers to certificate #12063 which is on file in our office. This certification is just one way of showing our commitment to excellence.





**The Most Experienced Manufacturer of  
Fire Fighting Equipment**

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