

Head to Head Demo Comparison Sheet

"Compare Apples to Apples, Make the Automatic Choice"

Task Force Tips Handline Full Range Automatic Nozzle

The purpose of this document is to encourage you to compare TFT Handline models head to head, apples to apples, with like models from our competitors. The section below explains the key elements we feel you should compare. The following pages explain how to do this in a fair, objective manner. Use the Handline Rating sheet to rate the key elements, available on our web site www.tft.com.

The **TFT Handline** 50-350 GPM should be compared to the **Akron Akromatic® II** 75-375 GPM and the **Elkhart SM30** 75-325 GPM, full range automatic nozzles.

When conducting a head to head comparison, consider the following elements:

Key Element	Comparison Information	What to Compare
Fog Teeth Material and Design	TFT Handline: Molded Rubber, Power Fog Design Akron Akromatic II: Plastic, Spinning Design Elkhart SM30: Plastic, Spinning Design	Will the fog pattern: Protect you? Push fire, heat and smoke away from you? How durable are the fog teeth? Will they need regular maintenance and/or replacement?
Flow Control	TFT Handline: Stainless Steel Slide Valve w/detents Akron Akromatic II: Control Ring/Plastic Valve Ball Elkhart SM30: Plastic Valve Ball	Can flow be controlled by the nozzle operator without causing stream turbulence? Will the valve handle stay in a reduced-flow position? Is the flow control easy to understand and easy to operate at all flows?
Stream Pattern Adjustment	TFT Handline: Less than ½ turn Akron Akromatic II: More than ¾ turn Elkhart SM30: More than ½ turn	How quickly can you change from straight stream to wide fog for protection?
Rubber Bumper	TFT Handline: Bonded to shaper Akron Akromatic II: Pressed onto shaper Elkhart SM30: Pressed onto shaper	Will the bumper turn on the shaper and not allow pattern adjustment after extensive use? Will the bumper last for the life of the nozzle?
Factory Support	TFT Handline: 5 year warranty, 24 hour repair policy Akron Akromatic II: 5 year warranty Elkhart SM30: 1 year warranty	Is the nozzle backed by a long-term warranty? If needed, how quickly will your nozzle be serviced, tested and returned?



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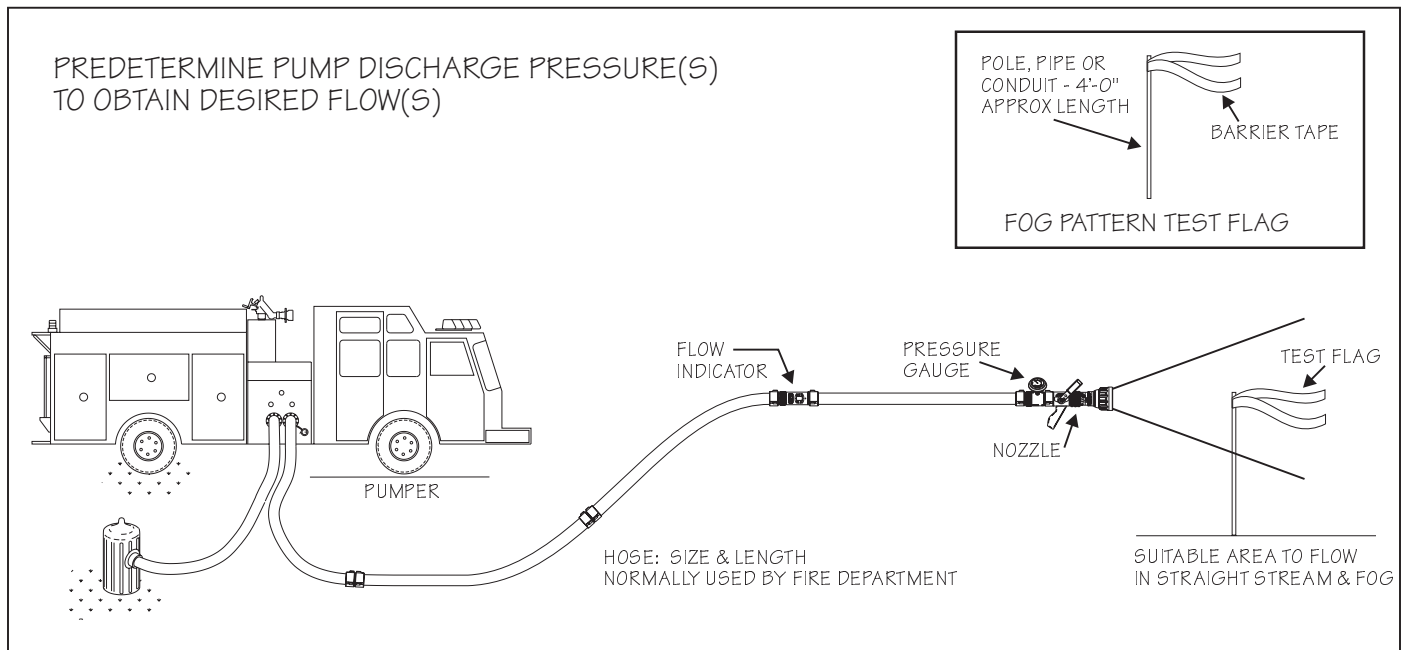


Demonstration and flow evaluation procedures and layout

Comparisons should be repeated under the same conditions, same flows, and same pressures for each nozzle evaluated in order to accurately compare features. Use the attached Handline Rating Score Sheet to record ratings as you make the side by side comparisons, available on our web site www.tft.com.

Preparation for Demonstration

- 1) Always compare TFT Handline nozzles to competitors' like models, Akron Akromatic II ®, Elkhart SM30.
- 2) For each demonstration, assure the evaluation procedures and layouts are identical for each of the nozzles being evaluated. Changing any of the variables will result in unfair, inaccurate and inconclusive results. These items include the hose, pumper, discharge used, pressure gauges, flow indicators or meters, valves, pump discharge pressure, and any appliances used.
- 3) Using length and size of hose normally used by the department, predetermine the pump discharge pressure(s) to obtain the desired flow(s) for the models being evaluated.
- 4) A **fog pattern test "flag"** can be made by tying or taping a few two foot lengths of scene barrier tape (the yellow stuff) to one end of a sturdy pole about four feet long. A piece of ½" or ¾" electrical conduit works well. The test flag may be held into the fog pattern by hand, or the pole stuck into the ground with the flags up. Aim the fog pattern at the flag from about 2-3 feet away, so that the flags are in line with the center of the nozzle discharge.



Equipment Set Up

- 1) Lay out the hose from the pump to an area suitable to show fog pattern and straight stream, and foam application if required.
- 2) Attach a reliable flow indicator or meter anywhere in the hoseline (preferably 50 feet back from the nozzle for easier observation). A properly calibrated apparatus flow meter may be used.
- 3) Attach a reliable pressure gauge to the nozzle end of the hoseline.
- 4) Attach the competitor's nozzle to the gauge making sure nozzle is off.
- 5) Slowly charge hoseline while pump is engaged with minimal pressure.
- 6) Slowly open the nozzle slightly to eliminate any air in the hoseline.
- 7) Close the nozzle and increase pump pressure to predetermined discharge pressure.

Evaluation Procedure

- 1) With adequate personnel holding the hoseline, open the nozzle slowly to the fully open position.
Observe pressure gauge and flow indicator or meter. They should indicate the proper nozzle pressure and flow rate.
- 2) Adjust straight stream by focusing it to achieve maximum reach.
Note the distance that the majority of the water reaches.
Observe the stream, looking at how cohesive the stream is.
- 3) Adjust to wide fog pattern.
Note how many turns and the amount of hand movement required to change from straight stream to wide fog.
Observe when the spinning teeth begin to rotate (if so equipped).
Observe fog pattern for uniformity and width.
Place the test flag into the fog pattern about 2-3 feet from the center of the nozzle. Observe the flags to see if they are pushed away from the nozzle operator or pulled toward the nozzle operator. The flags represent heat, smoke and flames.
- 4) Rotate bumper to the flush position, if provided.
Note the amount of effort and number of turns required to move the shaper *into* the flush position.
- 5) Rotate the shaper out of the flush position using caution as nozzle reaction force (kickback) will increase.
Note the amount of effort required to move the shaper *from* the flush position.
- 6) Partially shut the nozzle to reduce the flow.
Note the amount of effort required to move the valve to a partially closed position.
Observe the flow indicator or meter and note the reduced flow.
Observe the valve handle and how well it stays in the partially closed position.
- 7) Readjust the straight stream to focus it to achieve maximum reach while the nozzle is partially closed.
Observe the stream quality for cohesiveness and lack of pulsation.
- 8) Shut the nozzle slowly and close the discharge.
- 9) Remove the competitor's nozzle and replace with another competitor's nozzle or with TFT Handline nozzle and open the discharge.
- 10) Repeat Evaluation Procedure Steps 1-8 for each of the nozzles using the same pump pressures and hose lays.
- 11) You may perform the debris flush test (outlined below), if so desired.
- 12) After all nozzles are flow tested, look at each of the nozzles closely.
Observe overall fit and finish for quality.

Debris Flush Test



Performing this debris test may clog or cause damage to a competitor's nozzle. Perform this test at your own risk.

- 1) Remove any gauges and in-line flow measuring devices before performing this test.
- 2) Place a Task Force Tips Handline nozzle on the end of the hose line.
- 3) With the pump discharge closed, break the hose line coupling 50 feet back from the nozzle.
- 4) Place a SMALL handful of gravel of various sizes from fine to ½" in size.
- 5) Reconnect the hose line coupling and open the pump discharge. Set the pressure to one of the predetermined discharge pressures.

Debris Flush Test

- 6) With adequate personnel holding the hoseline, open the nozzle slowly to the fully open position.
- 7) Change stream to a medium fog.
Observe the fog pattern for noticeable voids, fingering, or abnormal pattern. This is caused by the debris in the front of the nozzle.
- 8) Rotate bumper to the flush position.
This will remove debris from the front of the nozzle. You may hear the debris as it is flushed out.
- 9) Rotate the shaper out of the flush position to a medium fog pattern, using caution as nozzle reaction force (kickback) will increase.
Observe the fog pattern for voids, fingering, or abnormal pattern. If any of these are still present, repeat Steps 8 and 9 until the nozzle is clear and fog pattern is normal.
- 10) Shut the nozzle slowly and close the discharge. Open the nozzle to relieve pressure.
- 11) Carefully remove the nozzle from the hoseline while holding the nozzle with the bumper pointed down.
- 12) Examine the "Gasket Grabber" inlet screen.
Note that the large debris was stopped by the screen, preventing it from clogging the front of the nozzle, while smaller debris that passed through the screen was flushed from the nozzle in the flush position.
- 13) Turn the nozzle over, with the coupling down over your open hand, and empty the debris from the inlet screen.

Foam Aspirating Attachment Evaluation Procedure

- 1) Set up the foam proportioning system to be used following manufacturer's recommendations. Several types of proportioners are available including: in-line or built-in foam eductors; around-the-pump proportioners; foam injection systems; and batch mixing. Refer to Task Force Tips Technical Bulletin LTT-102, "Using Automatic Nozzles with Foam Eductors", if using a foam eductor as the proportioning device.
- 2) Use a suitable foam concentrate or training foam. Follow manufacturer's recommendations and applicable fire training practices, including safe handling techniques, and environmental concerns. Proper, consistent foam proportioning will allow the ultimate performance and comparison of foam aspirating attachments.
- 3) Assure the foam proportioning system is working properly and flow foam from the nozzle without the aspirating attachment. Observe the consistency and quantity of finished foam without the aspirating attachment.
- 4) Shut the nozzle slowly and attach the appropriate aspirating attachment for the nozzle being evaluated. (*Some aspirating attachments are to be used in the straight stream position only.*) Open the nozzle and observe the consistency and quantity of the finished foam. Observe the reach of the foam stream.
- 5) If the aspirating attachment can be used in other positions other than straight stream, rotate the attachment and stream shaper to a wider pattern and observe the consistency and quantity of the finished foam. Observe the reach of the foam stream. Shut the nozzle off.
- 6) Remove the aspirating attachment or competitor's nozzle and replace with another aspirating attachment or competitor's nozzle or with the TFT Handline nozzle and open the nozzle.
- 7) Repeat Foam Aspirating Attachment Evaluation Procedure Steps 3-6 for each of the nozzles and foam aspirating attachments.
- 8) After evaluating all nozzles and aspirating attachments, flush the foam proportioner or system and the nozzles and attachments with plenty of clear water per manufacturer's instructions.

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Handline Rating Score Sheet

Poor → Best

Poor → Best

Poor → Best

Poor → Best

Poor → Best

Poor → Best

<p>Fog teeth material and design</p> <p>a) Will the fog pattern protect you?</p> <p>b) Will the fog pattern push fire, heat and smoke away from you?</p> <p>c) How durable are the fog teeth?</p> <p>d) Will they need regular maintenance and/or replacement?</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p> <p>d) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p> <p>d) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p> <p>d) 1 2 3 4 5</p>
<p>Flow control</p> <p>a) Can flow be controlled by the nozzle operator without causing stream turbulence?</p> <p>b) Will the valve handle stay in a reduced-flow position?</p> <p>c) Is the flow control easy to understand and easy to operate at all flows?</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p> <p>c) 1 2 3 4 5</p>
<p>Stream pattern adjustment</p> <p>a) How quickly can you change from straight stream to wide fog for protection?</p> <p>b) Compare stream quality and reach.</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>
<p>Rubber bumper</p> <p>a) Will the bumper turn on the shaper and not allow pattern adjustment?</p> <p>b) Will the bumper last for the life of the nozzle?</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>
<p>Overall Fit and Finish</p> <p>a) How would you rate the overall fit and finish of the nozzle?</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p>
<p>Factory Support</p> <p>a) Is the nozzle backed by a long-term warranty?</p> <p>b) If needed, how quickly will your nozzle be serviced, tested and returned?</p>	<p>TFT Handline</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Akron Akromatic II</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>	<p>Elkhart SM30</p> <p>a) 1 2 3 4 5</p> <p>b) 1 2 3 4 5</p>
<p>Score Totals 14 (poor) 70 (best) (add the score in each column for overall rating)</p>	<p>TFT Handline</p>	<p>Akron Akromatic II</p>	<p>Elkhart SM30</p>

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