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BRASS COMPANY

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Fire Stream / Friction Loss Slide Rule

Fire Stream Slide Rule

- The Fire Stream Slide Rule is a tool used for basic fire hydraulic calculations.
- It consists of two sides:
 1. Fire Stream Calculator
 2. Friction Loss Calculator

Fire Stream Calculator Side

Stream Calculator

Set nozzle pressure at arrow.
Read discharge at straight bore nozzle size OR fog nozzle rating. (Bold face numbers represent constant orifice Akron Brass Nozzles.)

PSURE 20 30 50 75 100 200 300 500

1/2" 5/8" 3/4" 7/8" 1" 1 1/4" 1 1/2" 1 3/4" 2" 2 1/2"

50 60 80 100 150 200 250 300 400 500 600 800 1000 1500 2000 2500

40 50 60 70 80 95 100 125 150 175 200 250 300 350 400 500 600 700 750 800 1000 1500 2000

40 50 60 70 80 95 100 125 150 175 200 250 300 400 500 600 800 1000 1500 2000

40 50 60 70 80 95 100 125 150 175 200 250 300 400 500 600 800 1000 1500 2000

Set the nozzle inlet pressure in the top window

Read flow directly in the window below for smooth bore tips.

Or for Fog nozzles rated at 100 psi inlet pressure.

Smooth Bore Size

Actual Flow

100 Psi Fog Nozzle Rated Flow

Actual Flow

75 Psi Fog Nozzle Rated Flow

Actual Flow

Or for Fog nozzles rated at 75 psi inlet pressure.

Summary

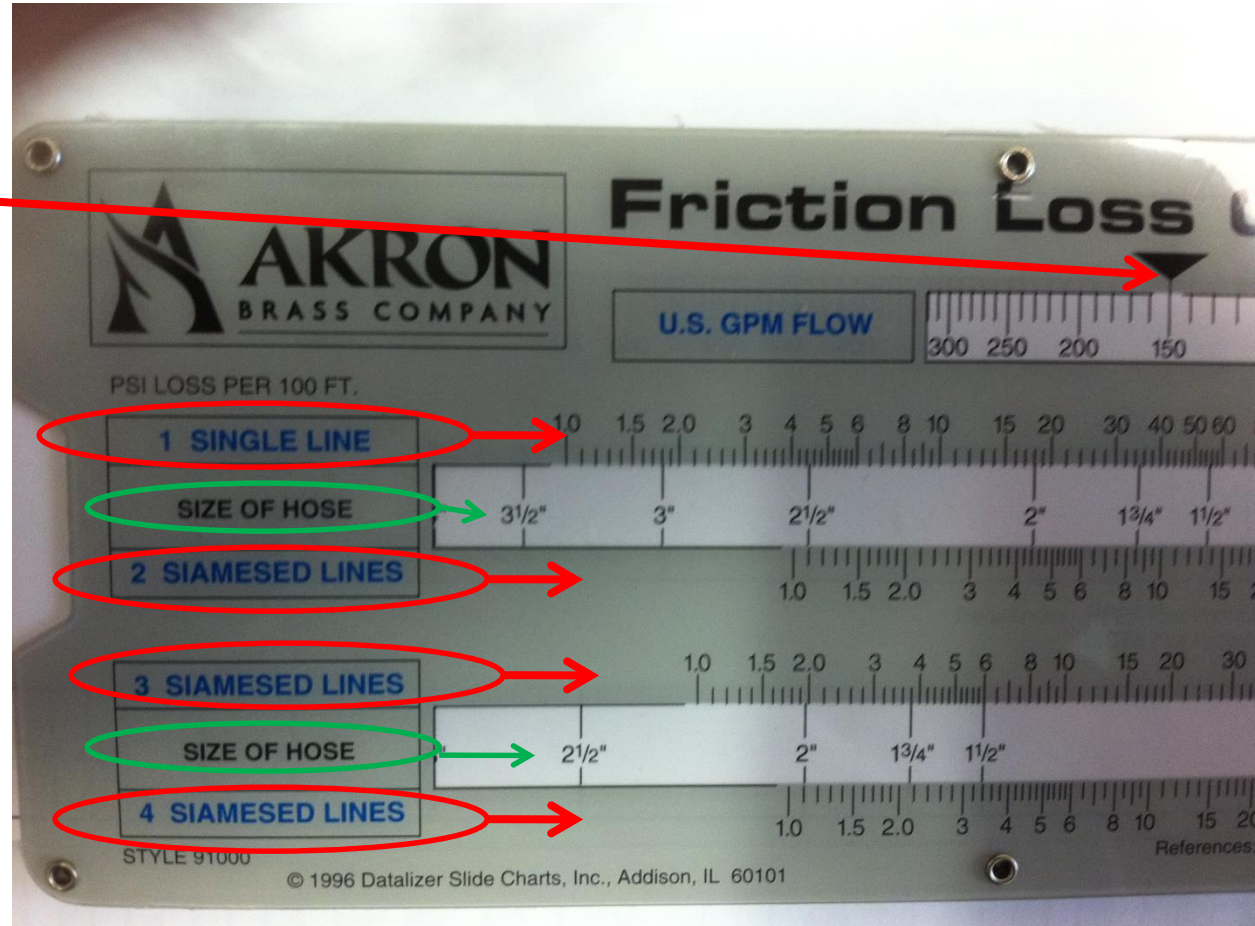
You can vary the pressure setting in the top window to see what effect it has on actual flows for any given smooth bore size or fog nozzle flow rating. Conversely, you can dial up a desired flow and determine what pressure is needed to achieve it. Once the required nozzle pressure and flows are known, you can flip to the other side to determine the friction losses in the hose.

Friction Loss Calculator Side

Set the flow in the top window

Read friction loss directly in the windows below for hose size and number of lines.

Remember that the friction loss is expressed in psi per 100ft. of hose length



Summary

The friction loss is needed in conjunction with the nozzle operating pressure and elevation loss (or gain) to determine the proper pump discharge pressure ($PDP = NP + FL \pm EL$)

PDP – Pump Discharge Pressure

NP – Nozzle Pressure

FL – Friction Loss

EL – Elevation Loss (or gain)

You've just completed training on the Akron Brass Fire Stream Slide Rule .



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For more information or hands on training contact you local Akron Brass district sales manager or customer service at 330-264-5678.

www.akronbrass.com