Viper Foam Series

Swivel :
- **NST or NPSH for PVB models**
- **NST only for BYPP models**

Weights:
- **BYPP's: 1.75lbs**
- **PVB1550: 3lbs**
- **PVB3012: 3.5lbs**
- **PVB7515: 3.5lbs**
- **PVB9520: 3.5lbs**
- **CEP1560: 1lb**
- **CEP3012: 2lbs**

Lengths:
- **BYPP1560: 7"**
- **BYPP3012: 6"**
- **BYPP7515: 6"**
- **BYPP9520: 6"**
- **PVB1560: 15.5"**
- **PVB3012: 18.5"**
- **PVB7515: 18.5"**
- **CEP1560: 12"**
- **CEP3012: 16.25"**

BYPP w/ dial Height:
- **All 5.75"**

Made of extruded E-Lite alloy & Hard anodized

All Viper models are individually tested

FOAM EDUCTORS (BYPP)

FOAM NOZZLES (PVB)

FOAM NOZZLES FLOW DATA

STYLE	NOZZLE PRESSURE (psi)	NOZZLE FLOW (gpm)	EXPANSION RATE	EFFECTIVE REACH
PVB1560	75	30	10:1	30
	100	35	10:1	36
PVB3012	75	60	12:1	39
	100	69	12:1	46
PVB7515	75	95	9:1	46
	100	110	9:1	56

FOAM PROPORTIONER FLOW DATA

STYLE	PRESSURE (psi)	FLOW (gpm)	PRESSURE LOSS	
			FOAM	BY-PASS
BYPP1560	100	18	39%	7%
	150	23	39%	7%
BYPP3012	100	46	33%	14%
	150	56	33%	14%
BYPP7515	100	92	30%	15%
	150	113	30%	15%
BYPP9520	100	110	30%	15%
	150	130	30%	15%

FOAM TUBES (CEP)

CEP1560

CEP3012

CEP FOAM TUBES ATTACH TO VIPER NOZZLES

CEP1560 ATTACHES TO VIPER MODELS:
-SG540, SG1560
-BD550, BD1560
CEP3012 ATTACHES TO VIPER MODELS:
-SG3012,SG7515, SG9520
-CG2510,CG5016, CG8020
-FT2510, FT5016, FT8020

C&S SUPPLY

253-C 42nd Street SW Loveland CO 80537
Phone: 970-663-4966 - Sales@cssupplyinc.com - www.CSSupplyinc.com

VB1560 and VB3012 BOM			
REFERENCE	**PART NAME**	**PART #**	**QUANTITY**
1	**1" GASKET**	GASKET_1	1
1a	**1.5" GASKET**	GASKET_15	1
2	**1" SWIVEL**	V-1" SWIVEL	1
2a	**1.5" SWIVEL**	V-1.5" SWIVEL	1
3	**SWIVEL O-RING**	V-ORING-SW-3012	1
4	**BALL**	V-BALL-3012	1
5	**PISTOL GRIP**	V-PG15V	1
6	**BALL LOCATOR (2 PIECES)**	V-BALLLOC-3012	1
7			
8	**PISTOL GRIP SET PIN**	V-SETPIN-3012	1
9	**VALVE BODY**	VLVBDY-3012	1
10	**SEAT RETAINER (3 PIECES)**	V-SEATRTNR-3012	1
11			
12			
13	**BALL ACUATOR (2 PEICES)**	V-BALLACT-3012	1
14			
15	**PAN HEAD COVER**	V-PANHEAD-3012	1
16	**SWIVEL SET PIN**	V-SETPIN-3012	1
17	**BALL BEARINGS**	V-BEARINGS-3012	32
18	**HANDLE (BAIL)**	V-HANDLE-3012	1

VB1560 and VB3012 AVAILABLE KITS		
KIT#	**KIT Name**	**PARTS CONTAINED**
VVRK-3012	**Valve Repair Kit Small**	1,1a,3,4,6,7,10,11,12,13,14,15,16,17,18
VBSC-3012	**Ball & Seat Combo Small**	4,10,11,12
V-HH5-3012	**Handle Hardware Small**	6,7,13,14,15
V-SWKIT3012	**Swivel Kit 1" & 1.5" Small**	1,1a,3,16,17

BALL SHUTOFF USE:

- Open and close the valve slowly to reduce risk of water hammer.
- Pull the bail handle toward the swivel to OPEN the valve.
- Push the bail handle toward the tip of the nozzle to CLOSE the valve.

EDUCTOR USE:

- These work under the "Venturi principle" and need at least 75psi to operate. 200psi at eductor suggested.
- Note: there are separate attachments to meter foam concentrate 3% and 6% come standard 1% and 2% optional. These screw on between the eductor body and the eductor hose, each is marked. 5 setting dial optional.
- There is a bypass switch on the body of the eductor that controls whether water or foam is being flowed.
- Any nozzle used needs to flow at least the rated flow of the eductor. It is suggested to have a nozzle that is capable of 30% more.

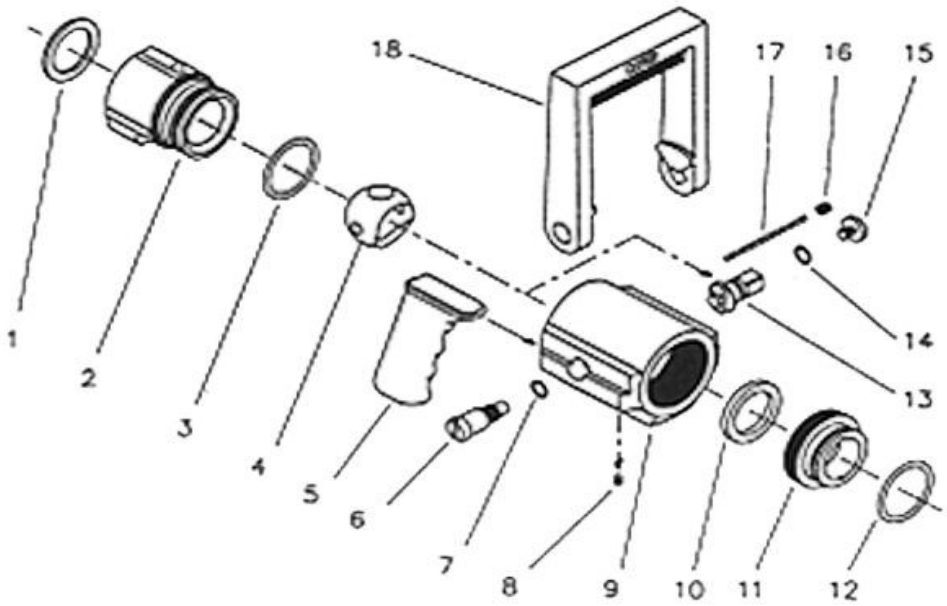
⚠ DANGER

PLEASE BE RESPONSIBLE!
PLEASE BE CAREFUL!

THE USER OF THIS EQUIPMENT IS PERSONALLY RESPONSIBLE FOR THE FOLLOWING:

1. You need to know and understand that Fire-fighting and Emergency response is dangerous and proper training is needed.
2. You need to be physically fit and skillful in the use of any equipment that you may need to use.
3. You need to know that your equipment is in proper working order.
4. You need to know carelessness or negligence may result in injury or death.

PLEASE BE RESPONSIBLE!
PLEASE BE CAREFUL!



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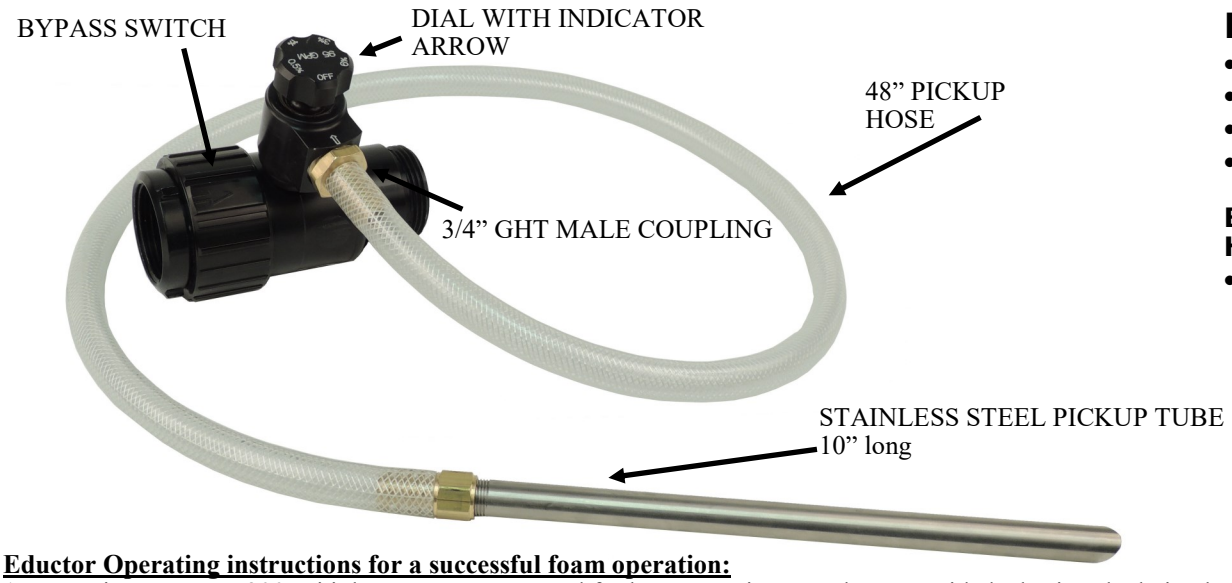
To Order Call: 970-663-4966 or E-mail: Sales@CSSupplyinc.com

VIPER Bypass Eductors
Now have a Metering Dial Option

NEW		PART NUM
BYPP1550-DIAL	1”NST	30GPM BYPASS Eductor with metering dial (OFF, .5%, 1%, 3%, 6%)
BYPP3012-DIAL	1.5” NST	60GPM BYPASS Eductor with metering dial (OFF, .5%, 1%, 3%, 6%)
BYPP7515-DIAL	1.5” NST	95GPM BYPASS Eductor with metering dial (OFF, .5%, 1%, 3%, 6%)
BYPP9520-DIAL	1.5” NST	125GPM BYPASS Eductor with metering dial (OFF, .5%, 1%, 3%, 6%)

VIPER Bypass Foam Eductors can now be equipped with Dial knob for use with Class A or B foam at .5%, 1%, 3% or 6% . There is an off setting for Extra long 48" pickup hose and stainless steel wand. All the moving parts are easy to use with gloved hands. Made of hard coat anodized aluminum for corrosion protection.

REPAIR and USE VIDEOS ONLINE
https://www.cssupplyinc.com/videos



Lengths:

- **BYPP1560: 7"**
- **BYPP3012: 6"**
- **BYPP7515: 6"**
- **BYPP9520: 6"**

BYPP w/ dial Height:

- **ALL: 5.75"**

Eductor Operating instructions for a successful foam operation:

1. Operating pressure: 200 psi inlet pressure suggested for best operation. We have provided a basic calculation below for more exact flow calculations. (average pressure loss through the eductor 30-40%)

2. Bypass Switch arrow pointing toward the FOAM to educt foam concentrate. To flush the system or break the venturi switch the bypass to WATER. (Note: the switch only moves about 3/4")

3. Hose length after the eductor:
   1" hose: no more than 200' past the eductor (30GPM eductor only)
   1-1/2" hose: no more than 150' past the eductor (See example below)
   1-3/4" hose: no more than 200' past the eductor

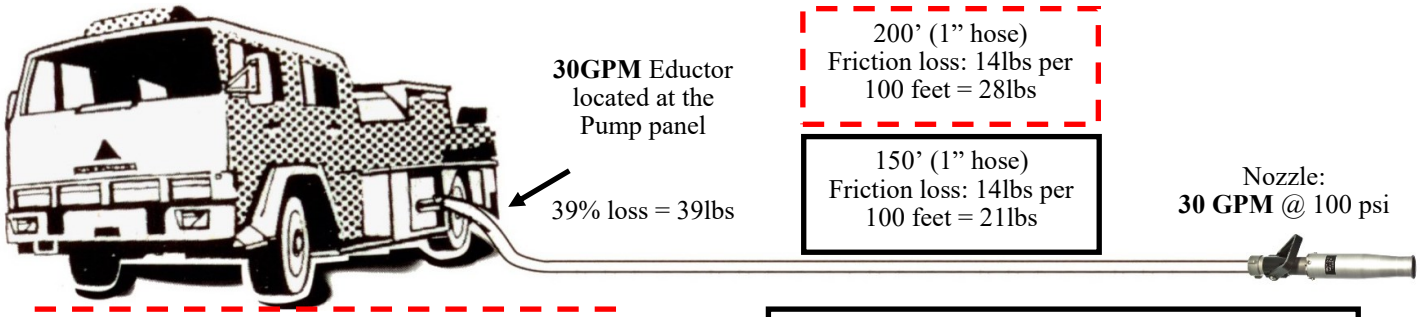
4. Nozzle must flow at least the rated flow of the eductor. If the nozzle flows less than the eductor rating venutri will not be achieved and no foam will be created.

Water Bypass Operation:

Arrow pointing to FOAM the water is forced through the center creating the venturi

Arrow pointing to WATER the water is allowed through the bypass holes breaking the venturi

Example:



30GPM Eductor located at the Pump panel

39% loss = 39lbs

200' (1" hose)
Friction loss: 14lbs per 100 feet = 28lbs

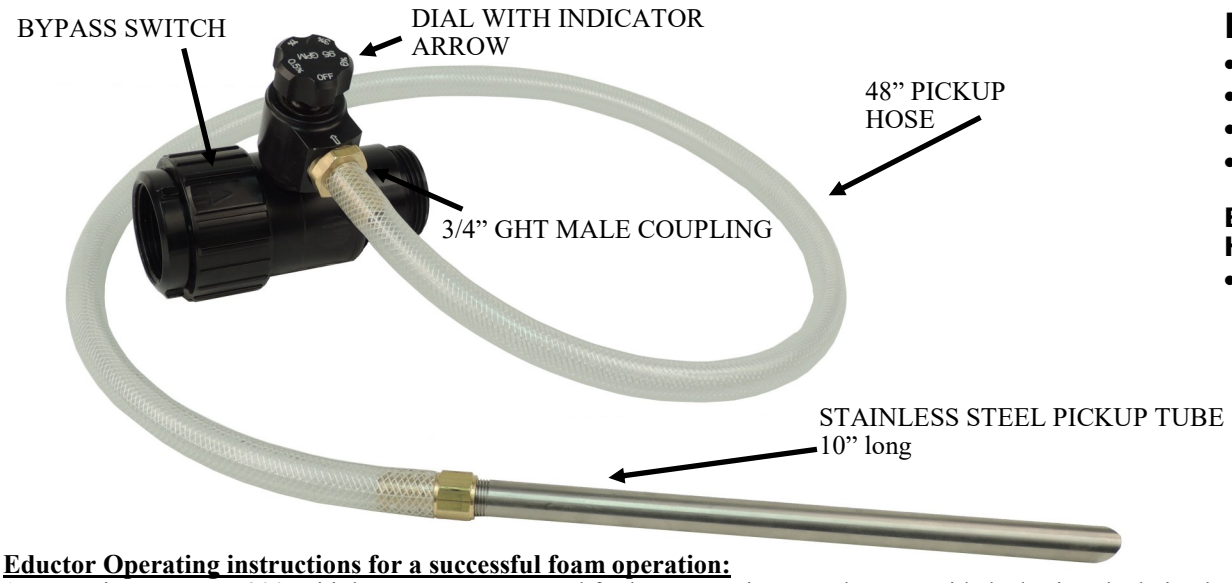
150' (1" hose)
Friction loss: 14lbs per 100 feet = 21lbs

Nozzle:
30 GPM @ 100 psi

Nozzle psi required	100 psi
Hose friction loss (200' of 1")	28 psi
Eductor loss	39 psi
Engine Pump Pressure	167 psi

Nozzle psi required	100 psi
Hose friction loss (150' of 1")	21 psi
Eductor loss	39 psi
Engine Pump Pressure	160 psi

NOTE: Calculations vary by Eductor flow, hose size, hose type, and nozzle operating pressure used. Know your Equipment!



Lengths:

- **BYPP1560: 7"**
- **BYPP3012: 6"**
- **BYPP7515: 6"**
- **BYPP9520: 6"**

BYPP w/ dial Height:

- **ALL: 5.75"**

Eductor Operating instructions for a successful foam operation:

1. Operating pressure: 200 psi inlet pressure suggested for best operation. We have provided a basic calculation below for more exact flow calculations. (average pressure loss through the eductor 30-40%)

2. Bypass Switch arrow pointing toward the FOAM to educt foam concentrate. To flush the system or break the venturi switch the bypass to WATER. (Note: the switch only moves about 3/4")

3. Hose length after the eductor:
   1-1/2" hose: no more than 150' past the eductor (See example below)
   1-3/4" hose: no more than 200' past the eductor

4. Nozzle must flow at least the rated flow of the eductor. If the nozzle flows less than the eductor rating venutri will not be achieved and no foam will be created.

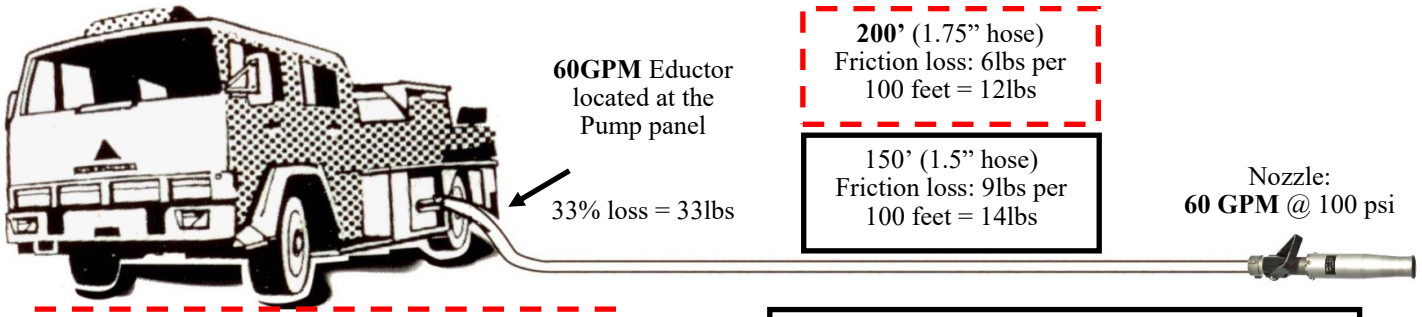
5. Dial percentage that is desired should be pointing at the indicator arrow or at the pickup tube coupling depending on the age of the eductor.

Water Bypass Operation:

Arrow pointing to FOAM the water is forced through the center creating the venturi

Arrow pointing to WATER the water is allowed through the bypass holes breaking the venturi

Example:



60GPM Eductor located at the Pump panel

33% loss = 33lbs

200' (1.75" hose)
Friction loss: 6lbs per 100 feet = 12lbs

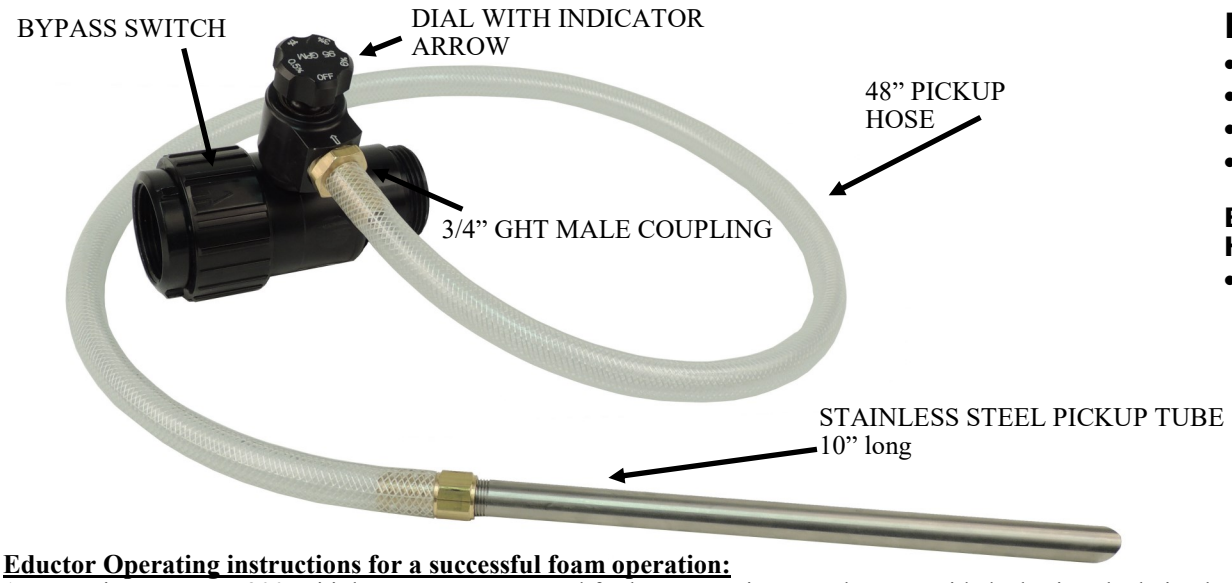
150' (1.5" hose)
Friction loss: 9lbs per 100 feet = 14lbs

Nozzle:
60 GPM @ 100 psi

Nozzle psi required	100 psi
Hose friction loss (**200'** of 1.75")	12 psi
Eductor loss	33 psi
Engine Pump Pressure	145 psi

Nozzle psi required	100 psi
Hose friction loss (150' of 1.5")	14 psi
Eductor loss	33 psi
Engine Pump Pressure	147 psi

NOTE: Calculations vary by Eductor flow, hose size, hose type, and nozzle operating pressure used. Know your Equipment!



Lengths:

- **BYPP1560: 7"**
- **BYPP3012: 6"**
- **BYPP7515: 6"**
- **BYPP9520: 6"**

BYPP w/ dial Height:

- **ALL: 5.75"**

Eductor Operating instructions for a successful foam operation:

1. Operating pressure: 200 psi inlet pressure suggested for best operation. We have provided a basic calculation below for more exact flow calculations. (average pressure loss through the eductor 30-40%)

2. Bypass Switch arrow pointing toward the FOAM to educt foam concentrate. To flush the system or break the venturi switch the bypass to WATER. (Note: the switch only moves about 3/4")

3. Hose length after the eductor:
   1-1/2" hose: no more than 150' past the eductor (See example below)
   1-3/4" hose: no more than 200' past the eductor

4. Nozzle must flow at least the rated flow of the eductor. If the nozzle flows less than the eductor rating venutri will not be achieved and no foam will be created.

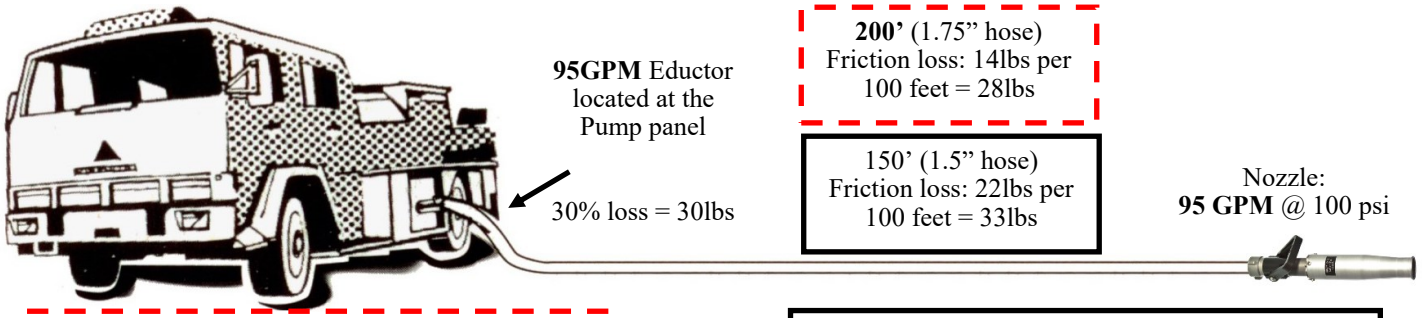
5. Dial percentage that is desired should be pointing at the indicator arrow or at the pickup tube coupling depending on the age of the eductor.

Water Bypass Operation:

Arrow pointing to FOAM the water is forced through the center creating the venturi

Arrow pointing to WATER the water is allowed through the bypass holes breaking the venturi

Example:



95GPM Eductor located at the Pump panel

30% loss = 30lbs

200' (1.75" hose)
Friction loss: 14lbs per 100 feet = 28lbs

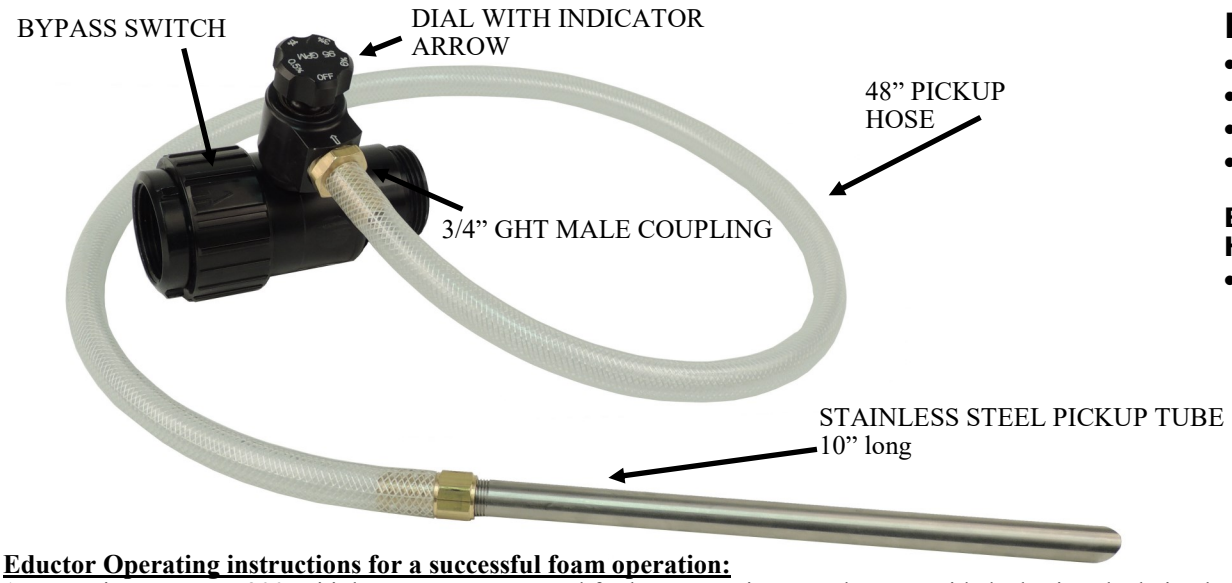
150' (1.5" hose)
Friction loss: 22lbs per 100 feet = 33lbs

Nozzle:
95 GPM @ 100 psi

Nozzle psi required	100 psi
Hose friction loss (**200'** of 1.75")	28 psi
Eductor loss	30 psi
Engine Pump Pressure	158 psi

Nozzle psi required	100 psi
Hose friction loss (150' of 1.5")	33 psi
Eductor loss	30 psi
Engine Pump Pressure	163 psi

NOTE: Calculations vary by Eductor flow, hose size, hose type, and nozzle operating pressure used. Know your Equipment!



Lengths:

- **BYPP1560: 7"**
- **BYPP3012: 6"**
- **BYPP7515: 6"**
- **BYPP9520: 6"**

BYPP w/ dial Height:

- **ALL: 5.75"**

Eductor Operating instructions for a successful foam operation:

1. Operating pressure: 200 psi inlet pressure suggested for best operation. We have provided a basic calculation below for more exact flow calculations. (average pressure loss through the eductor 30-40%)

2. Bypass Switch arrow pointing toward the FOAM to educt foam concentrate. To flush the system or break the venturi switch the bypass to WATER. (Note: the switch only moves about 3/4")

3. Hose length after the eductor:
   1-1/2" hose: no more than 150' past the eductor (See example below)
   1-3/4" hose: no more than 200' past the eductor

4. Nozzle must flow at least the rated flow of the eductor. If the nozzle flows less than the eductor rating venutri will not be achieved and no foam will be created.

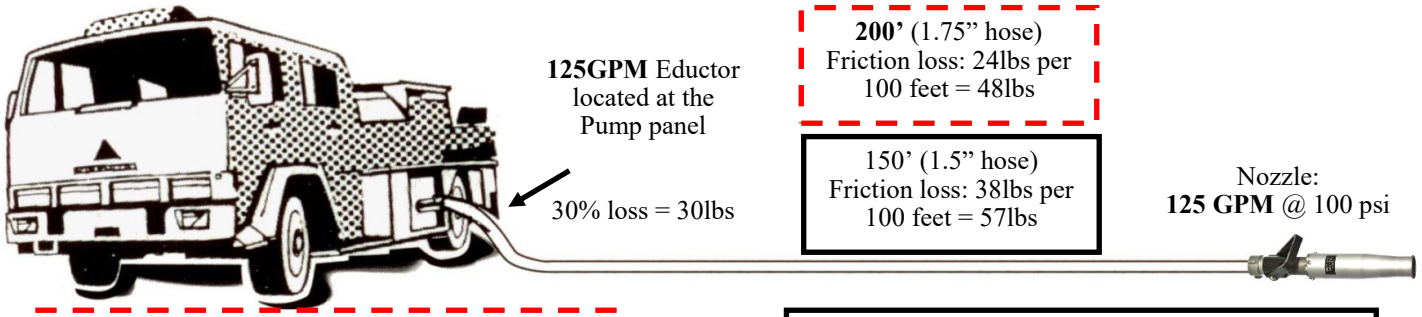
5. Dial percentage that is desired should be pointing at the indicator arrow or at the pickup tube coupling depending on the age of the eductor.

Water Bypass Operation:

Arrow pointing to FOAM the water is forced through the center creating the venturi

Arrow pointing to WATER the water is allowed through the bypass holes breaking the venturi

Example:



125GPM Eductor located at the Pump panel

200' (1.75" hose)
Friction loss: 24lbs per 100 feet = 48lbs

150' (1.5" hose)
Friction loss: 38lbs per 100 feet = 57lbs

30% loss = 30lbs

Nozzle:
125 GPM @ 100 psi

Nozzle psi required	100 psi
Hose friction loss (**200'** of 1.75")	48 psi
Eductor loss	30 psi
Engine Pump Pressure	

Nozzle psi required	100 psi
Hose friction loss (150' of 1.5")	57 psi
Eductor loss	30 psi
Engine Pump Pressure	

NOTE: Calculations vary by Eductor flow, hose size, hose type, and nozzle operating pressure used. Know your Equipment!