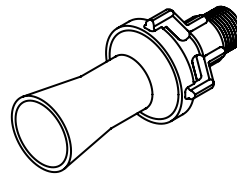
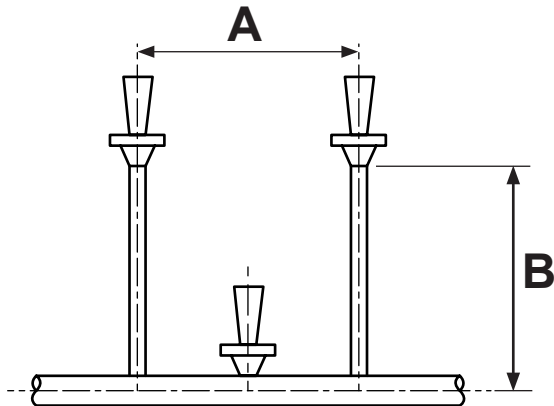
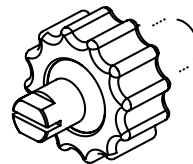
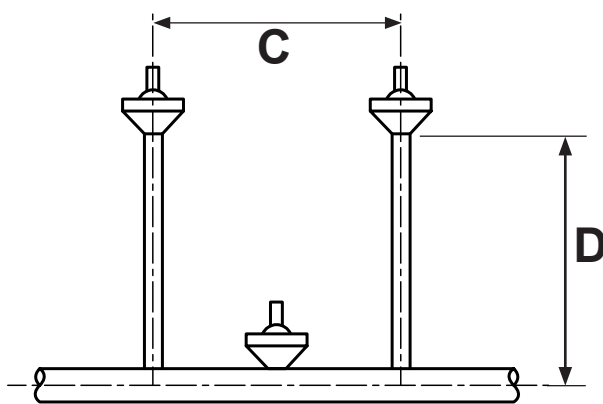


EDUCTOR & SPRAY NOZZLE INSTALLATION



Eductors

	A		B	
	Min.	Max.	Min.	Max.
E-5	9"	12"	18"	24"
E-10	12"	18"	24"	30"
E-20	18"	24"	30"	36"
E-50	24"	36"	36"	48"

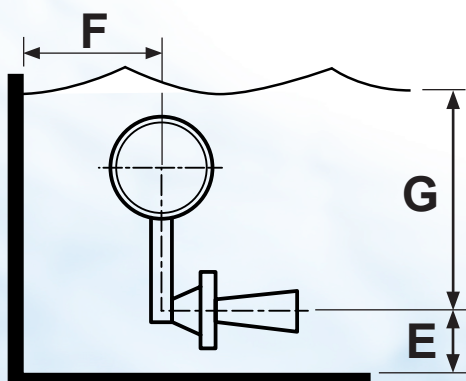


3 GPM Spray Nozzles

	C		D	
	Min.	Max.	Min.	Max.
SN-3	9"	12"	18"	24"

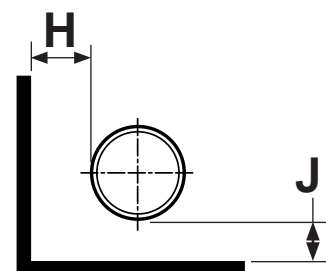
Eductor Profile

	E		F		G
	Min.	Max.	Min.	Max.	Min.
E-5	1.5"	2"	1"	2"	2"
E-10	2"	3"	2"	3"	3"
E-20	3"	4"	3"	4"	6"
E-50	4"	6"	4"	6"	18"



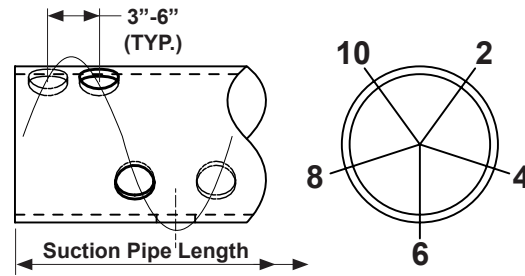
Suction Pipe Profile

Pipe Size	H		J	
	Min.	Max.	Min.	Max.
2"	2"	4"	2"	4"
2.5"	2.5"	5"	2.5"	5"
3"	3"	5"	3"	5"
4"	4"	6"	4"	6"
5"	4"	6"	4"	6"
6"	4"	6"	4"	6"
8"	6"	8"	4"	6"



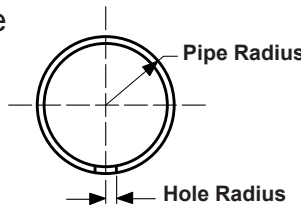
SIZE & NUMBER OF HOLES FOR SUCTION PIPE

The goal is to keep the holes apart in a spiral dimension between 3”-6”. Rotate holes to approximately 2 o’clock, 4, 6, 8, and 10 o’clock. **Never drill holes on top.** (Graphic shown out of scale for clarity)



To determine the size and spacing of the holes you must know three things:

1. Suction Pipe Surface Area
2. Suction Pipe Length
3. Suction Hole Surface Area



Suction Pipe Surface Area=
Pipe Radius ² x 3.142
Suction Hole Surface Area=
Hole Radius ² x 3.142

	SUCTION HOLE SURFACE AREA													
DIAMETER	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-3/8"	1-1/2"	1-5/8"	1-3/4"	1-7/8"	2"
SURFACE AREA	.11in ²	.20in ²	.31in ²	.44in ²	.60in ²	.79in ²	.99in ²	1.23in ²	1.48in ²	1.77in ²	2.07in ²	2.41in ²	2.76in ²	3.14in ²

STEPS TO DETERMINE HOLE QUANTITY, SIZE AND SPACING:

STEP 1: Keep the holes between 3” -6” apart. Choose a mid-range number of 4-1/2”. Take the Suction Pipe Length and divide it by the 4-1/2”. Round that number up to the next whole number. This will be the number of holes drilled on the Suction Pipe.

STEP 2: The size of the holes will be determined by the following formula:

$$\frac{\text{SUCTION PIPE SURFACE AREA}}{\text{QUANTITY OF HOLES}} = \text{SUCTION HOLE SURFACE AREA}$$

STEP 3: Using the Table above, find the Hole Diameter by choosing the closest corresponding number to the Suction Hole Surface Area.

EXAMPLE: 2-1/2” Dia. Suction Pipe x 48” Long.

STEP 1: $\frac{48'' \text{ SUCTION PIPE LENGTH}}{4-1/2'' \text{ DISTANCE BETWEEN HOLES}} = 10.666 \text{ HOLES (ROUNDED UP TO 11 FOR SIMPLICITY)}$

STEP 2: $\frac{4.91\text{in}^2 \text{ (Suction Pipe Surface Area)}}{11 \text{ (Quantity of Holes)}} = .44636\text{in}^2 \text{ (Suction Hole Surface Area)}$

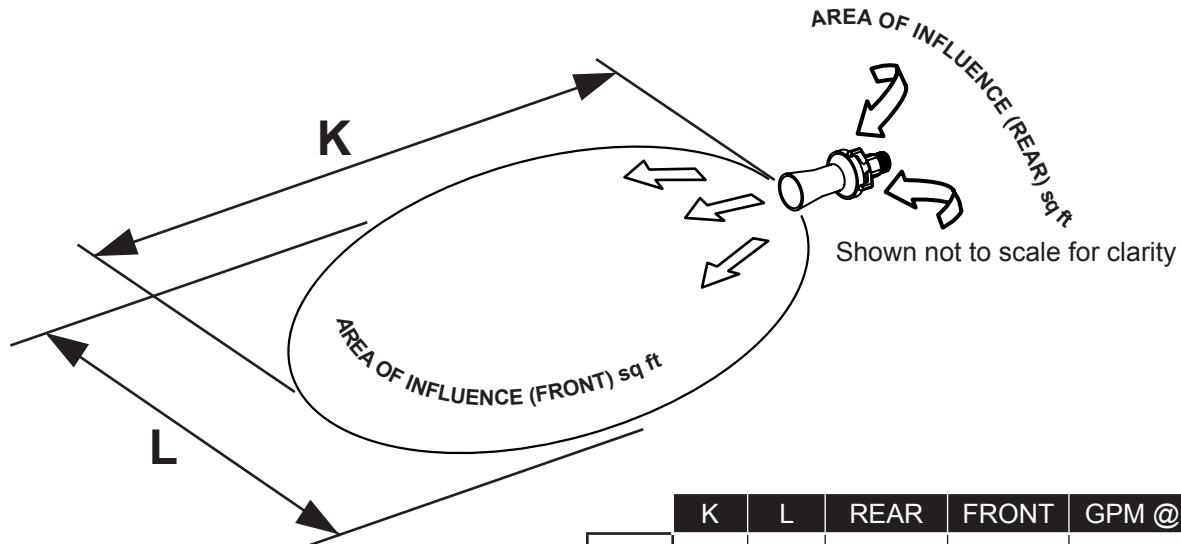
STEP 3: Using the Table above, the closest surface area to .44636 in² would be a 3/4” hole.

SUMMARY: Eleven(11) 3/4” Dia. holes at 4-1/2” apart on a 48” long 2-1/2” Dia pipe will be drilled with a spiraled spacing located at 2 o’clock, 4,6,8, and 10 o’clock. No holes are to be drilled on the top surface.

ADDITIONAL NOTES:

- | | |
|---|---|
| <p>1. Maintain 5-7ft/s Suction Velocity</p> <p>a. Too High Velocity will increase entrance loss.</p> <p>b. Too Low Velocity will allow Solids to settle</p> | <p>2. Maintain 7-12ft/s Discharge Velocity</p> <p>a. Too High Velocity will cause pipe vibration</p> <p>b. Too Low Velocity will not move the Solids.</p> |
|---|---|

FLOW PATTERN



	K	L	REAR	FRONT	GPM @ 20 PSI
E-5	24"	12"	.75 sq/ft	2 sq/ft	5
E-10	30"	18"	1.5 sq/ft	5 sq/ft	10
E-20	36"	24"	3 sq/ft	10 sq/ft	20
E-50	48"	36"	5 sq/ft	15 sq/ft	30
SN-3	18"	30"	.25 sq/ft	5 sq/ft	3

