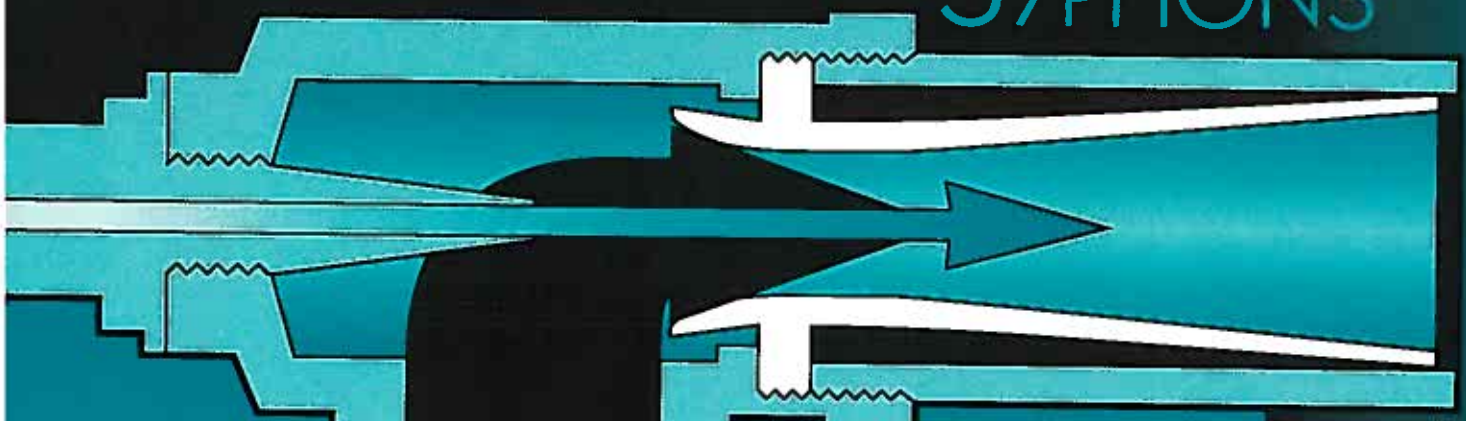
EUREKA

SYPHONS

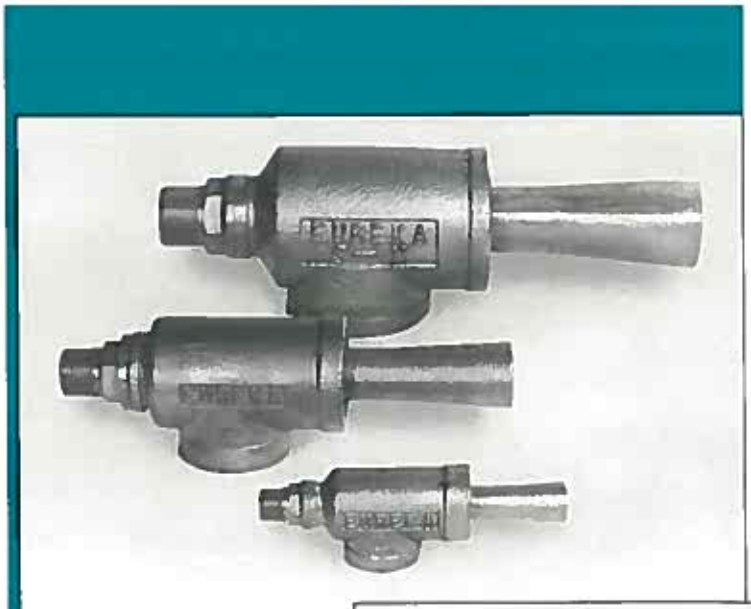


- Time-tested maintenance-free pumping systems
- Self priming jet pump principle
- Available in a wide variety of sizes

EUREKA SYPHONS

In the very early 1900's the Kincaid brothers gained the patent for the Eureka Syphon. The Eureka Syphon technology was purchased in the 1960's by American Metallic and Machine Company and then in 1990 they became a division of Thaxton, part of Hy-Tech Machine. The decision to use Eureka syphons brings with it almost 100 years of jet pumping experience.

Eureka syphons are an excellent choice for most pumping applications. They satisfy many large pumping jobs in their compact design. No electric energy is needed to operate the syphons making them ideal for remote applications when steam pressure is available. Eureka syphons disassemble into three easy pieces for ease of maintenance. Installation is quick because of their standard thread sizes.



Eureka Syphons avaliable in:

- *cast iron*
- *brass*
- *acid resistant bronze*
- *aluminum*
- *monel*

CONSIDERATIONS WHEN INSTALLING A SYPHON

Installation

Eureka syphons can be operated in any position. To limit pipe friction loss they should be installed with minimum piping and as few elbows and valves as possible.

Piping

Inlet piping must be large enough to supply maximum flow. Inlet pressure should be what is specified for the application.

To insure the highest possible vacuum, all suction piping should be air tight. When lifting liquids with the use of suction, locate the syphon as close to the liquid as possible.

All discharge piping should be the same size as the syphon's discharge.

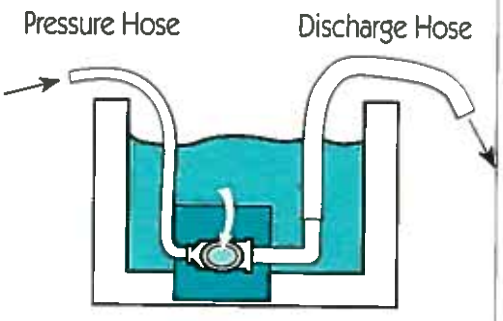
Start-up

The steam valve should be open slowly to insure a smooth start. Once the pump has started, other valves and controls should be adjusted so the unit operates at the prescribed or needed capacity.

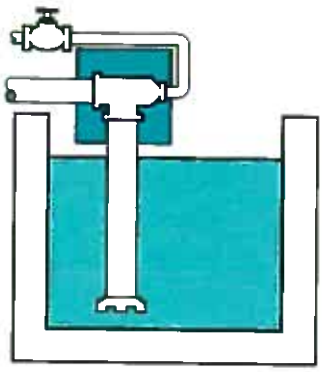
Maintenance

The Eureka syphon, when properly selected is designed to operate for long periods of time. Often times, especially on smaller units, faulty operation or premature maintenance is caused by scale, particles or foreign matter in lines. It is suggested that suitable strainers be installed if this is a likely problem. In the event maintenance is necessary the Eureka syphon comes apart in three sections to make clean up and reinstallation easy.

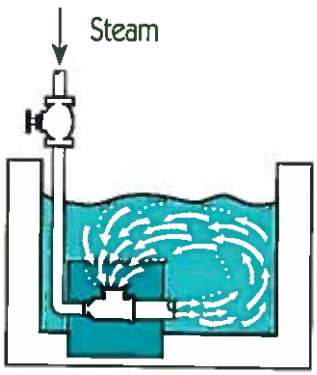
TYPICAL APPLICATIONS . . . EUREKA SYPHONS



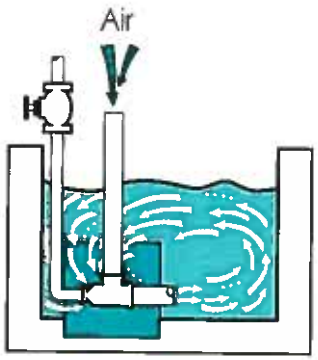
Portable Jet Pump



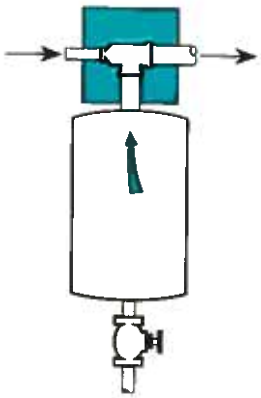
Syphon Removing Acids or Caustics



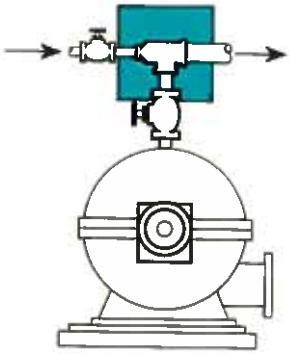
Mixing & Heating



Mixing & Aerating



Pulling a Vacuum or Removing Fumes from a Tank



Priming a Pump

EUREKA

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SELECTION TABLES

CAPACITY IN GPM OF 1 ¼" EUREKA SYPHON
(Pumping Water with Steam)

TABLE 1

SUCTION LIFT IN FT. OF WATER	DISCHARGE HEAD IN FT. OF WATER	STEAM PRESSURE IN PSI			
		30/35*	60	90	150
—	0	(38)	(35)	31	24
10	10	17	(35)	(31)	24
—	40	—	—	(31)	24
—	0	(25)	(21)	16	7
20	10	5	(20)	(16)	7
—	40	—	—	(15)	7
STEAM CONSUMPTION IN LBS. / HR		100	160	217	317

Note: Numbers in brackets ( ) indicate efficient operation
* Capacities for 3" – 6" syphons are at 35 PSI

CAPACITY FACTORS:

PUMPING CAPACITY OF WATER IN GPM

TABLE 2

¾"	1.0"	1 ¼"	1 ½"	2"	2 ½"	3"	4"	6"
.31	.46	.8	1.0	1.8	2.8	4.0	7.2	16

STEAM CONSUMPTION IN LB. / HR.

TABLE 3

¾"	1.0"	1 ¼"	1 ½"	2"	2 ½"	3"	4"	6"
.25	.44	.68	1.0	1.76	2.25	2.83	3.44	6.5

HOW TO SELECT

EXAMPLE: Find the pumping pressure for a 3" syphon:

GIVEN: Operation Pressure .....90 PSI
Suction Lift .....10 Feet
Discharge Head.....40 Feet

1. Find "Capacity in GPM" from Table 1. (31 GPM)
2. Find the "Capacity Factor" for a 3" syphon from Table 2. (4.0)
3. Multiply the capacity by the capacity factor to get the pumping capacity.

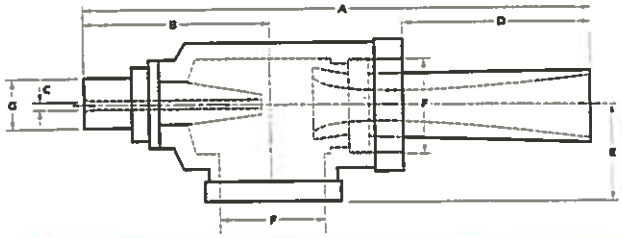
31 x 4.0 = 124 GPM (Water)

Find the steam consumption for the 3" syphon at 90 PSI

1. Find "Steam Consumption" in lb./hr. at 90 PSI in table 1. (217 lb./hr.)
2. Find the "Consumption Factor" in table 3 for a 3" syphon. (2.83)
3. Multiply the steam consumption by the capacity factor:

217 x 2.83 = 614 lb./hr.

DIMENSIONS



SIZE (in.)	DIMENSIONS (in.)							
	A	B	C	D	E	F (NPT)	G (NPT)	Wt. (lbs)
¾	5 ¾	2 ¼	3/16	1 ½	1 ¼	¾	⅜	1 ½
1	7 ⅜	3	¼	2 ⅜	1 ½	1	½	2 ¼
1 ¼	9	3 ⅞	5/16	2 ⅛	1 ¾	1 ¼	¾	4 ¼
1 ½	9 ¼	4	⅜	2 ½	1 ¾	1 ½	¾	5
2	11 ¾	4 ¼	½	4 ½	2 ¼	2	1	7 ¾
2 ½	14 ⅜	5 ¼	9/16	5 ⅞	2 ¾	2 ½	1 ¼	12
3	16 ¼	5 ⅞	⅝	6 ⅜	3	3	1 ½	15
4	20 ¼	6 ⅝	11/16	9	3 ½	4	1 ½	27
6	27 ½	8 ¼	15/16	13 ¼	4 ¾	6	1 ½	53