

Siphon Quantity Chart

The Siphon Quantity Chart is a graphical display of the relationship between pond size and the number of siphons required for one foot of drawdown in 24 hours. The graph was created in a manner as to allow use across a variety of siphon sizes, pond sizes, drawdown volumes, and drawdown times.

The primary use of the chart is for the user to decide how many specified size siphons they would need to deploy to a pond. The user would simply determine which graphical line to follow based on the siphon size available to them. Next, they would find the size of the pond in question on the horizontal axis and visually record where the siphon size and pool area intersect, which returns the number of siphons of the given size to drawdown the pond one vertical foot in 24 hours.

Despite ignoring the change in pool area with depth, this chart information can be extrapolated for many applications. The user may, for example, determine they need to drawdown two vertical feet of water for their pond. They can take their normal number of siphons and double it, to determine how many siphons they need for this specific scenario. In contrast, the user may have

the need to drawdown one foot of water in 48 hours as opposed to 24 hours. In this case, they may divide the initial number of siphons required by two to achieve this solution. In short, the user can vary the chart linearly to manipulate any of the five main variables: number of siphons, siphon size, pool area, drawdown height, and drawdown time. In the event that the user has trouble extrapolating all of these possibilities from the chart, they can reference the table on the chart that describes the typical discharge of several siphon sizes.

The chart represents typical conditions and performance may vary based on driving head, siphon parts, or change in pond area as drawn down occurs. The driving head used to create the chart was 18 feet, calculated as the difference in elevation between the water surface and the outlet. Less driving head results in longer drawdown times. Additionally, the chart does not account for any conveyance other than through siphons, thus ignoring any spillways, overtopping, voids, or additional removal of water.

Typical Temporary Siphon Installation Detail

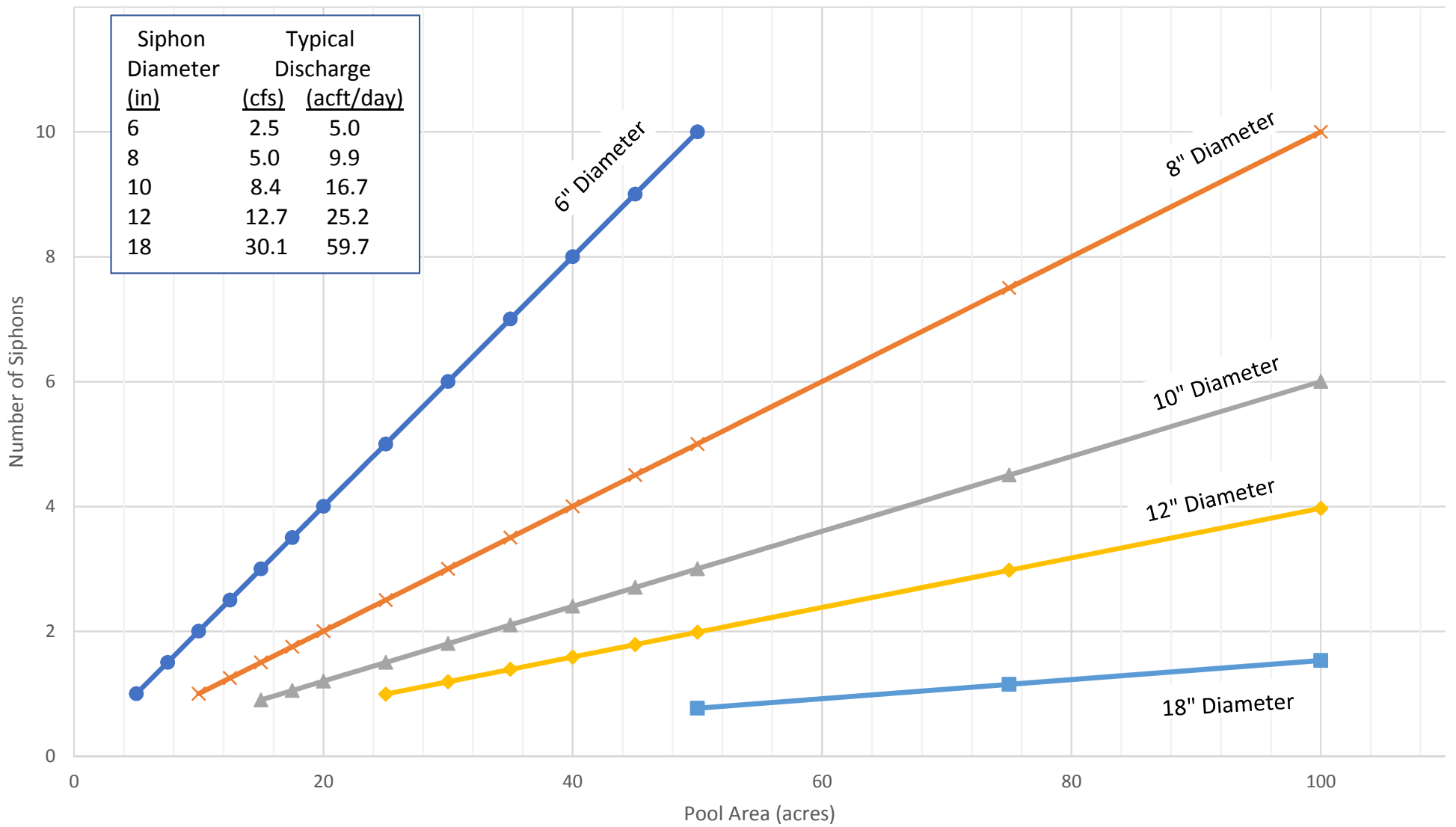
The Typical Temporary Siphon Installation Detail provides a standard installation set up for a temporary siphon. The siphon can be assembled as shown in the detail when all of the criteria are met or considered. The strainer detail and tee detail represent the best practice, as they provide information and equipment necessary for the success of the siphon.

The maximum lift a siphon can provide is 20 feet for most applications at sea level. If required, siphons may be secured with stakes or ropes (larger pipe diameters require more robust restraints). In most slope scenarios, 22.5-degree elbows should be used, however, 45-degree elbows may be used as needed. A 6-inch strainer requires 54 holes evenly spaced over the top half of the strainer.

Larger holes should be provided for larger strainers: 1.5-inch, 2.0-inch, 2.5-inch and 3.5-inch for 8-, 10-, 12-, and 18-inch strainers, respectively. All siphon joints should be solvent welded. The siphon can be primed by closing the downstream valve/cap, filling the pipe with water, then closing the valve at the tee, and finally, opening the downstream valve/cap. For expedience, a 1.5-inch to 2-inch diameter pump may be used to prime a siphon. Please visit <https://youtu.be/EkPNI5ZKsow> for additional information.

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Number of Siphons Required for 1 Foot Drawdown in 24 Hours



*Chart represents typical conditions described in DSG 101 document, Use of Siphon Quantity Chart. Performance may vary based on driving head, siphon parts, or change in pond area as water is drawn down.

TYPICAL TEMPORARY SIPHON INSTALLATION DETAIL

- NOTES:**
- IF REQUIRED, USE STAKES OR ROPES TO SECURE PIPE.
 - FOR EXPEDIENCE, USE 1.5" TO 2.0" DIAMETER PUMP TO PRIME SIPHON.
 - DOWNSTREAM LEG SHALL NOT EXCEED 20 VERTICAL FEET.
 - THE MAXIMUM LIFT IS 20' FOR MOST SCENARIOS NEAR SEA LEVEL.
 - ALL JOINTS TO BE SOLVENT WELDED
 - PRIME SIPHON BY CLOSING DOWNSTREAM VALVE, OPEN 3-INCH BALL VALVE AT TEE (ON TOP OF DAM) AND FILL PIPE WITH WATER, CLOSE THE BALL VALVE (CREATING AN AIRTIGHT PIPE) AND OPEN DOWNSTREAM VALVE.
 - 22.5-DEGREE ELBOWS APPLICABLE FOR MOST SLOPE SCENARIOS, 45-DEGREE ELBOWS MAY BE USED AS NEEDED FOR STEEPER SLOPES
 - 6-INCH DIAMETER STRAINER REQUIRES 54 HOLES EVENLY SPACED OVER TOP HALF OF STRAINER

ITEM	DESCRIPTION
A	___ FT OF PIPE
B	22.5-DEGREE ELBOW
C	___ FT OF PIPE
D	22.5-DEGREE ELBOW
E	___ FT OF PIPE
F	___ FT OF PIPE
G	22.5-DEGREE ELBOW
H	___ FT OF PIPE
I	22.5-DEGREE ELBOW
J	___ FT OF PIPE

ALL PIPE AND FITTINGS ARE SHOWN AS 6-INCH DIAMETER SCHEDULE 40 PVC (OTHER PIPE DIAMETERS SIMILAR).

