

We give below a table of the areas of pump cylinders from two to five inches in diameter.

DIAMETER.	AREA.	DIAMETER.	AREA.	DIAMETER.	AREA.
2 inches	3.1416	3 inches	8.2657	4½ inches	15.904
2½ "	3.9761	3½ "	9.6211	4¾ "	17.729
3 "	4.9987	4 "	11.041	5 "	17.665
3½ "	5.9395	4½ "	12.566		
4 "	7.0686	5 "	11.186		

A WORD ABOUT THE PIPES. The suction pipe is the pipe below the lower valves, whether the valves are in the pump itself or in a cylinder a number of feet below the pump, but above the surface of the water.

The suction pipe should be fully half the diameter of the cylinder of the pump; and when the suction pipe is long in vertical height it should be a little larger than this.

The size of discharge pipe can be a fraction smaller than the suction pipe in a single-acting pump, but in a double-acting pump should be the same size. Great care should be taken to have the suction pipe absolutely air tight.

"Suction pipe may extend horizontally to almost any length if air tight, but in this case, as in that of long vertical pipe, it is well to use a foot or cheek valve, provided the pipe is protected from the frost. A large diameter of pipe should be employed in this case also. Turns or elbows should be avoided in both suction and discharge pipes as far as possible."

For much of the above information we are indebted to the catalogue of **The Gould Manufacturing Company.**

SPECIAL NOTICE. If you are in want of a pump of greater capacity than the Alert, please give us the following facts:

- 1st. The number of feet from top of well to average top of the water.
- 2nd. The number of feet from top of well where pump will stand to top of cistern or tank.
- 3rd. The distance from pump to cistern or tank.
- 4th. Is pipe to run on a level or a rise? If on a rise, how much?
- 5th. The amount of water necessary to be raised per hour.
- 6th. Make a rough diagram showing location of well, and the proposed location of pump, engine and tank, and send it to us.

With this information we can give you very satisfactory reply to all questions.

JOHN GILLIES & CO.,
Carleton Place, Ont.