

**Flow Tables****Criteria for Selection of the proper components for a fluid flow system:**

- Line Pressure (Usually a fixed quantity)
- Flow Rate Required
- Size of Pipe and Valves (Variable which needs to be chosen)

At a given flow, the pressure drop of the components in a pipe system will add up to a sum equal to the line pressure if the components are properly sized.

The tables are designed to offer a quick reference of pressure drop values for a valve and a given length of pipe. Adding the values together will yield an estimated total pressure drop. The tables are not meant for designing pipe systems.

The first column shows the Flow Rate, you can assume readings half-way between the readings shown to have a pressure drop approximately half-way between the pressure drop readings shown.

WATER & OIL* FLOW TABLES:

Due to water's low compressibility, the flow and pressure drop can be shown with a uniform length of pipe of 100 feet. The pressure drops for other lengths of pipe are simple fractions or multiples thereof.

* For light oil up to #3, use the same readings as water.

For medium heavy oil add 70% to the pressure readings shown.

GAS FLOW TABLES:

Natural (heating) gas also has low compressibility, however the flow and pressure drop is shown for two different lengths of pipe as the pressure drop at higher pressures are not proportional.

AIR & STEAM FLOW TABLES:

For compressed air or steam, the ratio between quantity and volume changes continuously as the air or steam flows through the pipes and accessories (valves).

Two tables are presented:

- One calculated using a pressure drop through a valve equal to 10% of inlet pressure
- The other using a pressure drop through a valve equal to 20% of inlet pressure.

Each table shows the pressure drop for two lengths of pipe, enabling the user to estimate the drop for a shorter or greater length of pipe.

NOTE(S):

- All pressure drops shown are for new pipe. Older piping may yield pressure drops several times higher.
- Due to the various components that make up a flow system it is difficult to establish an accurate pressure drop. If the flow rate is critical, an adequate safety margin should be determined.
- If it is necessary to limit flow to a certain maximum value, the FLOW CONTROL option can be added to most Magnatrol valves (provided they are not equipped with any other bottom mounted option).
- If a separate hand operated throttling valve or pressure regulator is used, it is recommended that they be installed downstream of the solenoid valve.

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