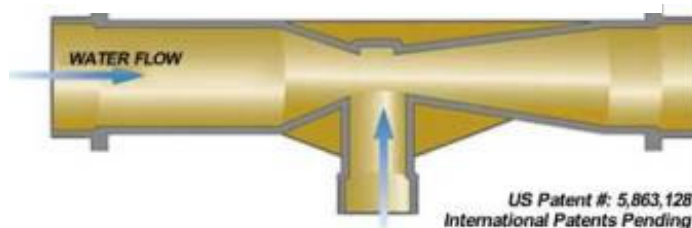


How to read an Injector Chart

Injector charts can be confusing because of the multiple columns and unfamiliar terms. This is a quick lesson on how to interpret injector charts to determine which model will work for your ozone application.

Image of an injector: Water flows from left to right; ozone is introduced into the middle



Below is a chart for a very popular ozone injector. The injector is capable of injecting both liquids and gases. For ozone, we can completely ignore the 3rd and 4th columns because they apply to liquid suction only.

The first column is the injector inlet pressure, which is the pressure provided from a pump. The 2nd column is the injector outlet pressure, which is the pressure exerted on the injector outlet from delivering the water where it needs to go. The next column called MOTIVE FLOW states the flowrate of water going through the injector. The last column called AIR SUCTION lists the amount of air, or ozone, that can be sucked into the water stream. As can be seen from the chart, as injector outlet pressure (2) increases, injector suction decreases (6). This is true even though the motive flow (5) stays relatively constant.

Model 1583-A Injector

| English | | | | | |
|-----------------------|------------------------|-------------------|----------------------|-------------------|--------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Operating Pressure | | Model 1583-A | | Model 1583-A | |
| Injector Inlet (psig) | Injector Outlet (psig) | Motive Flow (gpm) | Liquid Suction (gph) | Motive Flow (gpm) | Air Suction (scfh) |
| 5 | 0 | 14.2 | 140 | 11.2 | 100 |
| | 1 | 12.1 | 85 | 11.1 | 25 |
| | 2 | 11.6 | 68 | 11.1 | 10 |
| | 3 | 10.9 | 55 | 10.9 | 6 |
| | 4 | 10.5 | 41 | 10.7 | 1 |
| psi @ 0 Vacuum | | 10.4 | (4.3) | | |
| 10 | 0 | 19.0 | 180 | 15.1 | 150 |
| | 2 | 16.7 | 120 | 15.1 | 45 |
| | 5 | 15.8 | 87 | 15.0 | 11 |
| | 7 | 15.1 | 50 | 14.8 | 4 |
| | 8 | 14.7 | 11 | 14.6 | 3 |
| psi @ 0 Vacuum | | 14.5 | (8.5) | | |
| 15 | 0 | 21.3 | 180 | 18.2 | 190 |
| | 5 | 19.6 | 127 | 18.0 | 30 |
| | 7 | 19.0 | 110 | 17.9 | 20 |
| | 10 | 18.0 | 70 | 17.9 | 8 |
| | 12 | 17.7 | 55 | 17.8 | 4 |
| psi @ 0 Vacuum | | 17.3 | (12.5) | | |
| 20 | 0 | 23.9 | 180 | 20.7 | 210 |
| | 5 | 22.9 | 170 | 20.4 | 90 |
| | 10 | 21.6 | 120 | 20.4 | 18 |
| | 12 | 21.1 | 95 | 20.4 | 12 |
| | 15 | 20.4 | 45 | 20.3 | 6 |
| psi @ 0 Vacuum | | 20.0 | (16.5) | | |

Example:

A pump delivering 18 GPM @ 15 PSI can inject a maximum of 20 SCFH (10 lpm) of air if 7 PSI of back pressure exists.

If more suction is needed two options exist: Increase the size of the pump, or decrease injector outlet pressure by increasing the diameter of the pipe, reducing the number of elbows or lowering the height the delivered water.

psig = pounds per square inch gauge

gpm = gallons per minute

scfh = standard cubic feet per hour

Fact: The terms "venturi" and "injector" are used synonymously in the ozone industry"