

Injectors



PPG

SERIES: IN
SIZES: 1/2", 3/4" & 1"
O-RING: Nitrile



Technical

Maximum Pressure rating at 80°C (176°F)

- 290 psi (20 bar)

Maximum Temperature

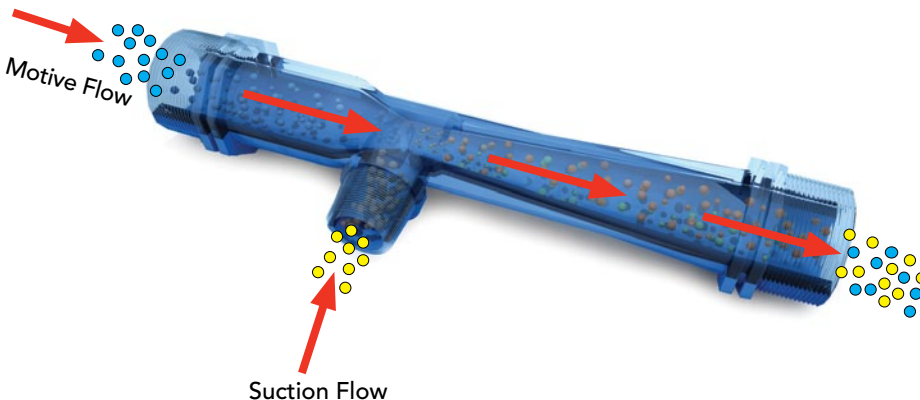
- 80°C (176°F)



**1/2" & 3/4"
Injector with
Suction Kit**



**1" Injector
with Suction Kit**



Suction Flow

¹EPDM or FPM available upon request

How they work

Chemline Injectors have a venturi shape inside. At the center where the diameter is smallest, velocity increases and the static pressure decreases, producing a vacuum. The suction port located there draws in liquid, usually fertilizer solution for fertigation. The performance tables show the motive flow for different inlet pressures and corresponding suction flow rates which are proportional to the pressure drop between inlet and outlet.

Setting up the System

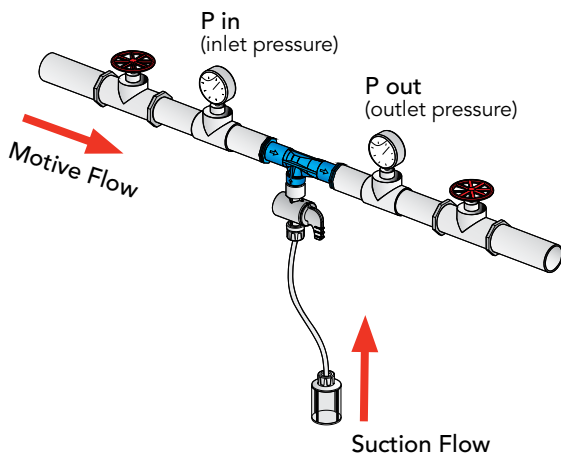
- 1 Use pipe and fittings the same size as the injector.
- 2 Put gauges at the inlet and outlet sides to determine the working conditions using the performance table enclosed.
- 3 Use diaphragm valves only as flow control devices.
- 4 The minimum length of straight pipe assembled to the injector must be 50 cm.
- 5 Install a check valve upstream to prevent any backflow at that point.
- 6 For proper functioning of the injector is that ΔP % is:

$$\Delta P\% = (P_{in} - P_{out}) / P_{in} \times 100 \geq 20\%$$
 Example: $P_{in} = 2 \text{ bar}$ $P_{out} = 1.5 \text{ Bar}$ $\Delta P = 25\%$

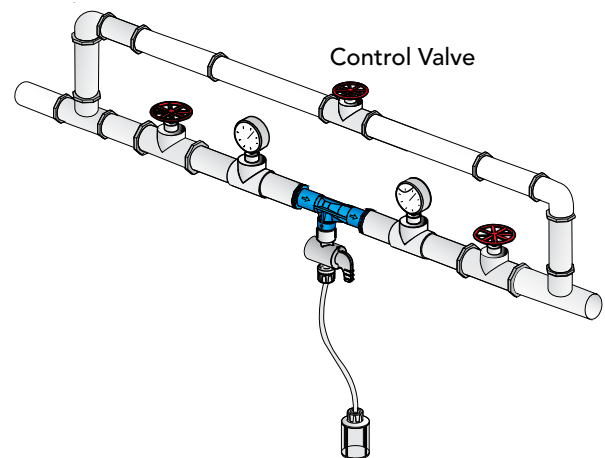
Piping Configurations

- 1 **In Line:** This assembly is recommended when $\Delta P \geq 20\%$ and the fluid flow inside the line is the minimum flow (see tables).
- 2 **In Line with Flow Control Valve:** This assembly is recommended when $\Delta P \geq 20\%$ and the fluid flow inside the line is higher than the recommended flow (see tables).
- 3 **By-Pass:** This assembly is recommended when $\Delta P \geq 20\%$ and the fluid flow inside the line is higher than the recommended flow at low pressure (see tables). The injector must by-pass a valve which causes a rise in pressure in the by-pass line, allowing the injector to function properly.
- 4 **By-Pass with a Booster Pump:** This assembly is recommended when $\Delta P < 20\%$. Use a booster to supply the minimum working pressure to the injector.

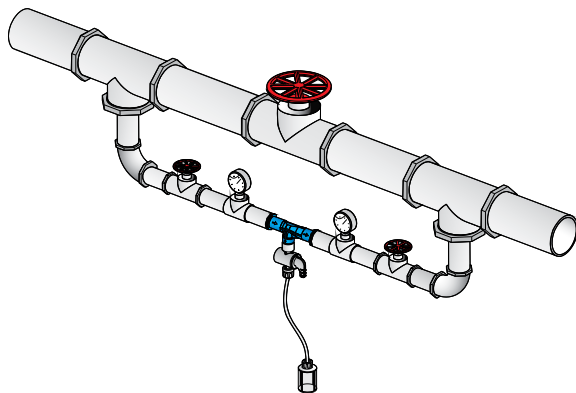
1 In-Line Schematic



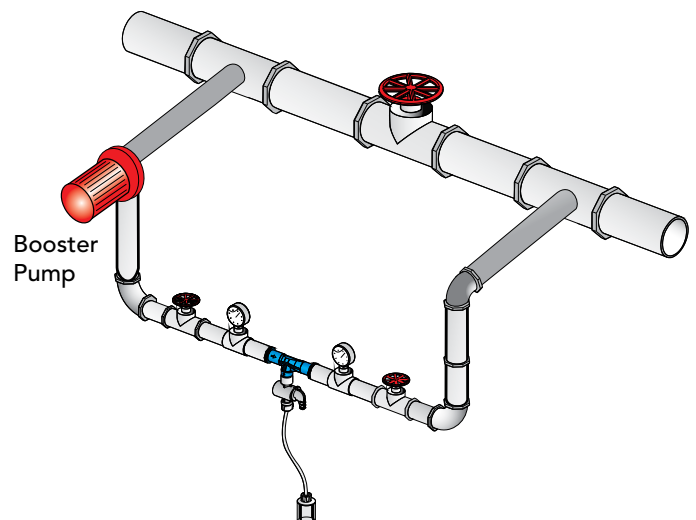
2 In-Line with Control Valve Schematic



3 Bypass Schematic

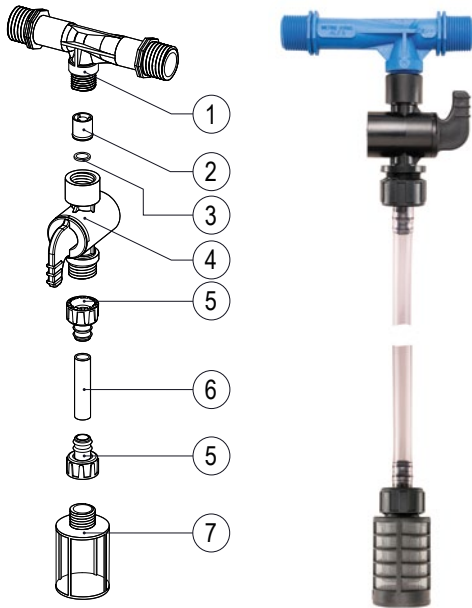


4 Bypass with Booster Pump Schematic



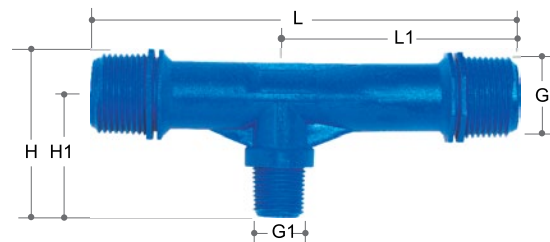
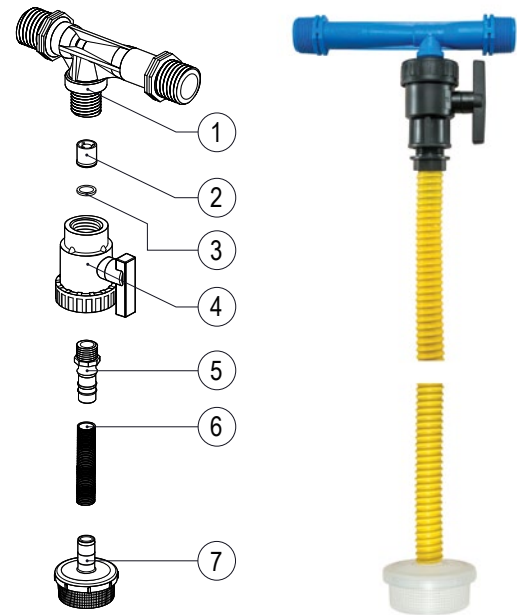
PARTS, 3/4" and 1"

| No. | Part | Pcs. | Materials |
|-----|------------------|------|----------------|
| 1 | Injector | 1 | PPG |
| 2 | Check Valve | 1 | POM |
| 3 | O-Ring | 1 | Nitrile |
| 4 | Cylinder Valve | 1 | PP |
| 5 | Fitting with Nut | 2 | ABS |
| 6 | Suction Tube | 1 | PVC |
| 7 | Filter | 1 | PPG with Nylon |



PARTS, 1-1/4", 1-1/2" and 2"

| No. | Part | Pcs. | Materials |
|-----|----------------|------|----------------|
| 1 | Injector | 1 | PPG |
| 2 | Check Valve | 1 | POM |
| 3 | O-Ring | 1 | Nitrile |
| 4 | Ball Valve | 1 | PP |
| 5 | Barbed Fitting | 1 | PP |
| 6 | Suction Tube | 1 | PVC |
| 7 | Filter | 1 | PPG with Nylon |



DIMENSIONS INCHES

| Inlet/Outlet G | Suction Port G1 | Item No. | L | L1 | H | H1 | Maximum Suction Capacity USGPM |
|-------------------|--------------------|---------------|-------|------|------|------|--------------------------------------|
| 3/4" | 1/2" | ING007G-005NG | 5.47 | 3.50 | 2.48 | 1.89 | 0.85 |
| 1" | 1/2" | ING010G-005NG | 6.61 | 3.70 | 2.60 | 1.89 | 2.42 |
| 1-1/4" | 1/2" | ING012G-005NG | 9.72 | 6.18 | 2.93 | 1.77 | 4.14 |
| 1-1/2" | 3/4" | ING015G-005NG | 10.91 | 6.54 | 2.93 | 1.93 | 5.28 |
| 2" | 1" | ING020G-005NG | 11.81 | 7.09 | 3.74 | 2.36 | 11.62 |

INJECTOR PERFORMANCE TABLES WATER SUCTION CAPACITIES

| Injector Inlet Pressure (psi) | Injector Outlet Pressure (psi) | Ø3/4" | | Ø1" | | Ø1-1/4" | | Ø1-1/2" | | Ø2" | |
|-------------------------------|--------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) |
| 7.25 | 0.0 | 2.6 | 38.3 | 12.7 | 140. | 11.1 | 211. | 16.6 | 211. | 45.4 | 698. |
| 10.9 | 0.0 | 3.4 | 51.0 | 14.5 | 143. | 13.7 | 256. | 21.7 | 264. | 54.2 | 698. |
| 14.5 | 0.0 | 4.0 | 46.0 | 15.6 | 145. | 15.3 | 257. | 25.1 | 317. | 63.4 | 698. |
| | 3.6 | 4.0 | 39.6 | 15.6 | 145. | 15.3 | 257. | 22.7 | 211. | 62.9 | 698. |
| | 7.3 | 4.0 | 36.5 | 14.5 | 99.1 | 13.5 | 122. | 22.7 | 211. | 62.1 | 698. |
| 21.8 | 0.0 | 4.8 | 38.0 | 17.7 | 143. | 18.0 | 248. | 29.3 | 317. | 74.0 | 698. |
| | 7.3 | 4.8 | 38.0 | 17.7 | 143. | 18.0 | 248. | 29.3 | 317. | 73.4 | 698. |
| | 10.9 | 4.8 | 34.3 | 16.4 | 127. | 17.1 | 169. | 28.0 | 250. | 70.0 | 555. |
| | 14.5 | 4.8 | 21.1 | 16.4 | 79.3 | 15.9 | 39.6 | 26.4 | 127. | 66.1 | 280. |
| 29.0 | 0.0 | 5.6 | 34.3 | 19.8 | 140. | 20.6 | 248. | 32.8 | 317. | 83.2 | 698. |
| | 7.3 | 5.6 | 34.3 | 19.8 | 140. | 20.6 | 248. | 32.8 | 317. | 83.2 | 698. |
| | 10.9 | 5.6 | 34.3 | 19.8 | 140. | 20.6 | 248. | 32.8 | 317. | 83.2 | 698. |
| | 14.5 | 5.6 | 33.3 | 19.8 | 140. | 20.3 | 238. | 32.8 | 304. | 81.9 | 698. |
| | 18.1 | 5.6 | 33.3 | 19.0 | 106. | 18.8 | 95.1 | 32.8 | 198. | 79.3 | 555. |
| | 21.8 | - | - | - | - | - | - | - | - | 74.0 | 153. |
| 36.3 | 0.0 | 6.1 | 31.2 | 21.7 | 140. | 23.0 | 243. | 35.9 | 317. | 88.5 | 698. |
| | 7.3 | 6.1 | 31.2 | 21.7 | 140. | 23.0 | 243. | 35.9 | 317. | 88.5 | 698. |
| | 10.9 | 6.1 | 31.2 | 21.7 | 140. | 23.0 | 243. | 35.9 | 304. | 88.5 | 698. |
| | 14.5 | 6.1 | 31.2 | 21.7 | 140. | 23.0 | 243. | 35.9 | 304. | 88.5 | 698. |
| | 18.1 | 6.1 | 31.2 | 21.4 | 127. | 23.0 | 243. | 35.9 | 304. | 87.2 | 698. |
| | 21.8 | 6.1 | 29.6 | 21.4 | 127. | 21.4 | 140. | 34.9 | 233. | 87.2 | 391. |
| | 25.4 | 6.1 | 18.2 | 20.6 | 89.8 | 20.9 | 60.8 | 33.8 | 99.1 | 84.5 | 307. |
| | 29.0 | - | - | 20.3 | 42.3 | - | - | - | - | - | - |
| 43.5 | 0.0 | 6.6 | 29.1 | 23.3 | 137. | 25.1 | 243. | 39.1 | 317. | 99.1 | 698. |
| | 14.5 | 6.6 | 29.1 | 23.3 | 137. | 25.1 | 243. | 39.1 | 317. | 97.8 | 698. |
| | 18.1 | 6.6 | 29.1 | 23.3 | 124. | 25.1 | 243. | 39.1 | 304. | 97.8 | 698. |
| | 21.8 | 6.6 | 29.1 | 23.3 | 124. | 25.1 | 243. | 39.1 | 304. | 97.8 | 698. |
| | 25.4 | 6.6 | 25.9 | 23.3 | 124. | 24.3 | 167. | 38.8 | 291. | 95.1 | 581. |
| | 29.0 | 6.6 | 24.6 | 23.3 | 124. | 23.5 | 114. | 37.0 | 159. | 93.8 | 440. |
| | 32.6 | - | - | 22.7 | 63.4 | 23.3 | 44.9 | 36.5 | 48.9 | 91.1 | 243. |
| | 36.3 | - | - | 21.9 | 36.7 | - | - | - | - | - | - |
| 50.8 | 0.0 | 6.9 | 27.7 | 25.1 | 137. | 26.9 | 243. | 42.0 | 317. | 107. | 698. |
| | 14.5 | 6.9 | 27.7 | 25.1 | 137. | 26.9 | 243. | 42.0 | 317. | 107. | 698. |
| | 21.8 | 6.9 | 27.7 | 25.1 | 137. | 26.9 | 243. | 42.0 | 304. | 107. | 698. |
| | 25.4 | 6.9 | 27.7 | 25.1 | 137. | 26.9 | 243. | 42.0 | 304. | 107. | 698. |
| | 29.0 | 6.9 | 27.7 | 25.1 | 137. | 26.9 | 243. | 42.0 | 304. | 106. | 698. |
| | 32.6 | 6.9 | 26.7 | 24.6 | 114. | 25.9 | 153. | 40.4 | 222. | 103. | 470. |
| | 36.3 | 6.9 | 16.6 | 24.6 | 114. | 25.4 | 71.3 | 39.6 | 97.8 | 99.1 | 264. |
| | 39.9 | - | - | - | - | - | - | - | - | - | - |
| 58.0 | 0.0 | 7.4 | 26.4 | 26.4 | 137. | 28.5 | 243. | 44.4 | 317. | 114. | 698. |
| | 14.5 | 7.4 | 26.4 | 26.4 | 137. | 28.5 | 243. | 44.4 | 317. | 114. | 698. |
| | 29.0 | 7.4 | 26.4 | 26.4 | 137. | 28.5 | 243. | 44.4 | 317. | 111. | 698. |
| | 32.6 | 7.4 | 26.4 | 26.4 | 137. | 28.5 | 243. | 43.9 | 304. | 111. | 679. |
| | 36.3 | 7.4 | 25.9 | 26.4 | 137. | 28.5 | 243. | 43.6 | 291. | 111. | 679. |
| | 39.9 | 7.4 | 24.0 | 26.4 | 132. | 27.5 | 130. | 42.8 | 172. | 108. | 417. |
| | 43.5 | 7.4 | 17.2 | 25.9 | 103. | 27.2 | 63.4 | 42.0 | 67.4 | 106. | 185. |
| | 47.1 | - | - | 25.1 | 49.4 | - | - | - | - | - | - |

Tests carried out at 20C ± 2C using water thermostabilized at 20C ± 2C as suction liquid.



INJECTOR PERFORMANCE TABLES WATER SUCTION CAPACITIES

| Injector Inlet Pressure (psi) | Injector Outlet Pressure (psi) | Ø3/4" | | Ø1" | | Ø1-1/4" | | Ø1-1/2" | | Ø2" | |
|-------------------------------|--------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) |
| 65.3 | 0.0 | 7.7 | 25.4 | 28.0 | 132. | 30.6 | 243. | 47.0 | 317. | 116. | 698. |
| | 14.5 | 7.7 | 25.4 | 28.0 | 132. | 30.6 | 243. | 47.0 | 317. | 116. | 698. |
| | 29.0 | 7.7 | 25.4 | 28.0 | 132. | 30.6 | 243. | 47.0 | 317. | 116. | 698. |
| | 36.3 | 7.7 | 25.4 | 28.0 | 132. | 30.6 | 243. | 47.0 | 317. | 115. | 679. |
| | 39.9 | 7.7 | 25.4 | 28.0 | 132. | 30.6 | 243. | 46.8 | 304. | 115. | 555. |
| | 43.5 | 7.7 | 24.8 | 28.0 | 132. | 29.9 | 182. | 45.4 | 211. | 115. | 211. |
| | 47.1 | 7.7 | 18.2 | 27.7 | 130. | 29.1 | 104. | 44.7 | 106. | - | - |
| | 50.8 | - | - | 27.2 | 91.2 | 28.8 | - | - | - | - | - |
| | 54.4 | - | - | 26.7 | 46.2 | - | - | - | - | - | - |
| 72.5 | 0.0 | 8.2 | 24.3 | 29.1 | 132. | 32.2 | 243. | 49.1 | 317. | 126. | 698. |
| | 14.5 | 8.2 | 24.3 | 29.1 | 132. | 32.2 | 243. | 49.1 | 317. | 124. | 698. |
| | 29.0 | 8.2 | 24.3 | 29.1 | 132. | 32.2 | 243. | 49.1 | 317. | 124. | 698. |
| | 43.5 | 8.2 | 24.3 | 29.1 | 132. | 32.2 | 243. | 49.1 | 304. | 124. | 698. |
| | 47.1 | 8.2 | 24.0 | 29.1 | 132. | 32.2 | 243. | 47.8 | 238. | 123. | 470. |
| | 50.8 | 8.2 | 22.7 | 29.1 | 132. | 31.2 | 153. | 47.3 | 153. | 122. | 211. |
| | 54.4 | 8.2 | 7.9 | 28.5 | 103. | 30.9 | 95.1 | 46.8 | 59.4 | - | - |
| | 58.0 | - | - | - | - | 30.6 | - | - | - | - | - |
| | 61.6 | - | - | - | - | - | - | - | - | - | - |
| 79.8 | 0.0 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.5 | 317. | 132. | 698. |
| | 14.5 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.5 | 317. | 132. | 698. |
| | 29.0 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.5 | 317. | 130. | 698. |
| | 43.5 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.5 | 317. | 130. | 687. |
| | 47.1 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.3 | 304. | 130. | 634. |
| | 50.8 | 8.5 | 23.0 | 30.4 | 132. | 33.8 | 243. | 51.3 | 304. | 124. | 317. |
| | 54.4 | 8.5 | 22.5 | 30.4 | 130. | 33.3 | 221. | 49.9 | 203. | - | - |
| | 58.0 | 8.5 | 19.8 | 30.4 | 130. | 32.5 | 124. | 49.1 | 106. | - | - |
| | 61.6 | - | - | 29.6 | 100. | 32.2 | 70.3 | - | - | - | - |
| | 65.3 | - | - | 29.3 | 52.8 | 32.0 | 25.1 | - | - | - | - |
| | 68.9 | - | - | 29.1 | 27.7 | - | - | - | - | - | - |
| 87.0 | 0.0 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.6 | 317. | 135. | 698. |
| | 14.5 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.6 | 317. | 135. | 698. |
| | 29.0 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.6 | 317. | 135. | 698. |
| | 43.5 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.4 | 304. | 133. | 698. |
| | 50.8 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.4 | 304. | 132. | 528. |
| | 54.4 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 53.4 | 304. | 130. | 330. |
| | 58.0 | 8.7 | 22.7 | 31.7 | 132. | 35.1 | 243. | 52.6 | 254. | 130. | 211. |
| | 61.6 | 8.7 | 21.9 | 31.4 | 127. | 34.3 | 166. | 52.0 | 177. | - | - |
| | 65.3 | 8.7 | 14.5 | 31.4 | 127. | 34.1 | 114. | 51.8 | 87.2 | - | - |
| | 68.9 | - | - | 31.2 | 89.8 | 33.8 | 61.6 | - | - | - | - |
| | 72.5 | - | - | 30.9 | 55.5 | - | - | - | - | - | - |

Tests carried out at 20C ± 2C using water thermostabilized at 20C ± 2C as suction liquid.

INJECTOR PERFORMANCE TABLES WATER SUCTION CAPACITIES

| Injector Inlet Pressure (psi) | Injector Outlet Pressure (psi) | Ø3/4" | | Ø1" | | Ø1-1/4" | | Ø1-1/2" | | Ø2" | |
|-------------------------------|--------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) |
| 94.3 | 0.0 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.5 | 317. | 140. | 698. |
| | 14.5 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.5 | 317. | 140. | 698. |
| | 29.0 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.5 | 317. | 140. | 698. |
| | 43.5 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 304. | 137. | 698. |
| | 47.1 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 304. | 136. | 581. |
| | 50.8 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 304. | 136. | 542. |
| | 54.4 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 304. | 136. | 502. |
| | 58.0 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 304. | 136. | 436. |
| | 61.6 | 9.0 | 21.4 | 32.8 | 132. | 36.5 | 243. | 55.2 | 296. | - | - |
| | 65.6 | 9.0 | 14.5 | 32.8 | 132. | 36.2 | 221. | 54.2 | 219. | - | - |
| | 68.9 | - | - | 32.5 | 116. | 35.7 | 151. | 53.6 | 127. | - | - |
| | 72.5 | - | - | 32.5 | 116. | 35.4 | 92.5 | - | - | - | - |
| | 76.1 | - | - | 32.0 | 84.5 | 35.1 | 44.9 | - | - | - | - |
| 79.8 | - | - | 31.7 | 42.3 | - | - | - | - | - | - | |
| 101.5 | 0.0 | 9.5 | 21.4 | 34.1 | 132. | 37.8 | 243. | 57.3 | 304. | 145. | 698. |
| | 43.5 | 9.5 | 21.4 | 34.1 | 132. | 37.8 | 243. | 57.3 | 304. | 144. | 698. |
| | 58.0 | 9.5 | 21.4 | 34.1 | 132. | 37.8 | 243. | 57.3 | 304. | 144. | 698. |
| | 65.3 | 9.5 | 21.4 | 34.1 | 132. | 37.8 | 243. | 57.3 | 304. | 144. | 698. |
| | 68.9 | 9.5 | 21.1 | 34.1 | 132. | 37.8 | 243. | 56.5 | 256. | 143. | 542. |
| | 72.5 | 9.5 | 20.6 | 34.1 | 132. | 37.3 | 182. | 56.0 | 172. | 140. | 317. |
| | 76.1 | 9.5 | 17.2 | 33.6 | 106. | 36.7 | 127. | 55.5 | 83.2 | - | - |
| | 79.8 | - | - | 33.6 | 106. | 36.7 | 79.3 | - | - | - | - |
| | 83.4 | - | - | 33.3 | 74.0 | 36.5 | 37.0 | - | - | - | - |
| | 87.0 | - | - | 32.8 | 39.6 | - | - | - | - | - | - |
| 108.8 | 0.0 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 59.4 | 304. | 144. | 698. |
| | 43.5 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 59.4 | 304. | 144. | 698. |
| | 58.0 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 59.4 | 304. | 144. | 698. |
| | 65.3 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 59.4 | 304. | 144. | 698. |
| | 68.9 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 59.4 | 304. | 144. | 568. |
| | 72.5 | 9.8 | 21.1 | 35.1 | 132. | 39.1 | 243. | 58.9 | 291. | 144. | 476. |
| | 76.1 | 9.8 | 21.1 | 35.1 | 132. | 38.8 | 233. | 58.1 | 209. | 144. | 344. |
| | 79.8 | 9.8 | 19.8 | 35.1 | 132. | 38.3 | 166. | 57.9 | 139. | 144. | 211. |
| | 83.4 | 9.8 | 14.5 | 35.4 | 106. | 38.0 | 114. | 57.6 | 73.2 | - | - |
| | 87.0 | - | - | 35.4 | 100. | 38.0 | 60.8 | - | - | - | - |
| | 90.6 | - | - | 34.1 | 63.4 | 37.5 | 31.7 | - | - | - | - |
| | 94.3 | - | - | 33.6 | 34.3 | - | - | - | - | - | - |

Tests carried out at 20C ± 2C using water thermostabilized at 20C ± 2C as suction liquid.



INJECTOR PERFORMANCE TABLES WATER SUCTION CAPACITIES

| Injector Inlet Pressure (psi) | Injector Outlet Pressure (psi) | Ø3/4" | | Ø1" | | Ø1-1/4" | | Ø1-1/2" | |
|-------------------------------|--------------------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) | Motive Flow (GPM) | Suction Flow (GPH) |
| 116.0 | 0.0 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 61.0 | 304. |
| | 43.5 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 61.0 | 304. |
| | 58.0 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 61.0 | 304. |
| | 72.5 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 61.0 | 304. |
| | 76.1 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 61.0 | 304. |
| | 79.8 | 10.0 | 20.6 | 36.2 | 132. | 40.4 | 243. | 60.2 | 254. |
| | 83.4 | 10.0 | 19.8 | 36.2 | 132. | 39.9 | 206. | 60.0 | 185. |
| | 87.0 | 10.0 | 17.7 | 36.2 | 132. | 39.6 | 143. | 54.4 | 196. |
| | 90.6 | - | - | 35.7 | 106. | 39.4 | 99.1 | - | - |
| | 94.3 | - | - | 35.7 | 89.8 | 39.1 | 55.5 | - | - |
| 97.9 | - | - | 35.4 | 59.7 | - | - | - | - | |
| 123.3 | 0.0 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 62.9 | 304. |
| | 58.0 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 62.9 | 304. |
| | 72.5 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 62.9 | 304. |
| | 79.8 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 62.9 | 304. |
| | 83.4 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 62.6 | 296. |
| | 87.0 | 10.3 | 20.1 | 37.3 | 130. | 41.5 | 243. | 61.8 | 217. |
| | 90.6 | 10.3 | 18.2 | 34.0 | 127. | 41.0 | 182. | 61.6 | 132. |
| | 94.3 | 10.3 | 13.7 | 34.0 | 127. | 40.7 | 128. | - | - |
| | 97.9 | - | - | 34.0 | 110. | 40.4 | 84.5 | - | - |
| | 101.5 | - | - | 36.7 | 84.5 | 40.2 | 29.1 | - | - |
| 105.2 | - | - | 36.2 | 55.5 | - | - | - | - | |
| 130.5 | 0.0 | 10.6 | 19.8 | 38.3 | 130. | 42.8 | 243. | 64.5 | 304. |
| | 58.0 | 10.6 | 19.8 | 38.3 | 130. | 42.8 | 243. | 64.5 | 304. |
| | 72.5 | 10.6 | 19.8 | 38.3 | 130. | 42.8 | 243. | 64.5 | 304. |
| | 87.0 | 10.6 | 19.8 | 38.3 | 130. | 42.8 | 243. | 64.5 | 304. |
| | 90.6 | 10.6 | 19.8 | 38.3 | 130. | 42.8 | 243. | 63.9 | 250. |
| | 94.6 | 10.6 | 19.0 | 38.3 | 130. | 42.5 | 222. | 63.7 | 182. |
| | 97.9 | 10.6 | 16.9 | 38.0 | 122. | 42.0 | 164. | 63.1 | 116. |
| | 101.5 | 10.6 | 9.8 | 38.0 | 122. | 41.7 | 116. | 62.6 | 55. |
| | 105.2 | - | - | 37.5 | 92.5 | 41.5 | 75.3 | - | - |
| | 108.9 | - | - | 37.5 | 76.6 | 41.2 | 25.1 | - | - |
| 112.4 | - | - | 37.0 | 39.6 | - | - | - | - | |

Tests carried out at 20C ± 2C using water thermostabilized at 20C ± 2C as suction liquid.