|  |  |
| --- | --- |
| Heights VS Flowrate | Equation fits and R² based on the Polynomial curve |
| h1 VS flowrate | y = -0.0897x2 + 2.2764x + 0.3461  R² = 0.9959 |
| h2 VS flowrate | y = -0.0952x2 + 2.3473x + 0.3152  R² = 0.9964 |
| h3 VS flowrate | y = -0.5051x2 + 5.8064x - 0.6598  R² = 0.9843 |
| h4 VS flowrate | y = -0.1809x2 + 3.2268x + 0.3911  R² = 0.9943 |
| H5 VS flowrate | y = -0.1749x2 + 3.1861x + 0.2814  R² = 0.9946 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Flow rate (ml/s) | h1 | h2 | h3 | h4 | h5 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 3.773584906 | 1.652 | 1.645 | 1.007 | 1.139 | 1.219 |
| 3.731343284 | 1.695 | 1.642 | 1.033 | 1.245 | 1.325 |
| 5.405405405 | 2.216 | 2.146 | 1.06 | 1.484 | 1.563 |
| 6.174745292 | 2.597 | 2.571 | 1.272 | 1.803 | 1.854 |
| 12.20256254 | 7.79 | 7.498 | 2.782 | 5.406 | 5.458 |
| 14.28571429 | 10.48 | 10.282 | 3.71 | 7.636 | 7.846 |
| 14.93651979 | 13.04 | 12.802 | 4.586 | 9.491 | 9.698 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Flow rate (ml/s) | ∆P1 = 𝜌𝑔(h1 – h2) Pa | ∆P2 = 𝜌𝑔(h1 – h3) Pa | ∆P3 = 𝜌𝑔(h1 – h4)  Pa | ∆P4 = 𝜌𝑔(h1 – h5)  Pa |
| 0 | 0 | 0 | 0 | 0 |
| 3.773584906 | 0.6867 | 63.2745 | 50.3253 | 42.4773 |
| 3.731343284 | 5.1993 | 64.9422 | 44.145 | 36.297 |
| 5.405405405 | 6.867 | 113.4036 | 71.8092 | 64.0593 |
| 6.174745292 | 2.5506 | 129.9825 | 77.8914 | 72.8883 |
| 12.20256254 | 28.6452 | 491.2848 | 233.8704 | 228.7692 |
| 14.28571429 | 19.4238 | 664.137 | 278.9964 | 258.3954 |
| 14.93651979 | 23.3478 | 829.3374 | 348.1569 | 327.8502 |