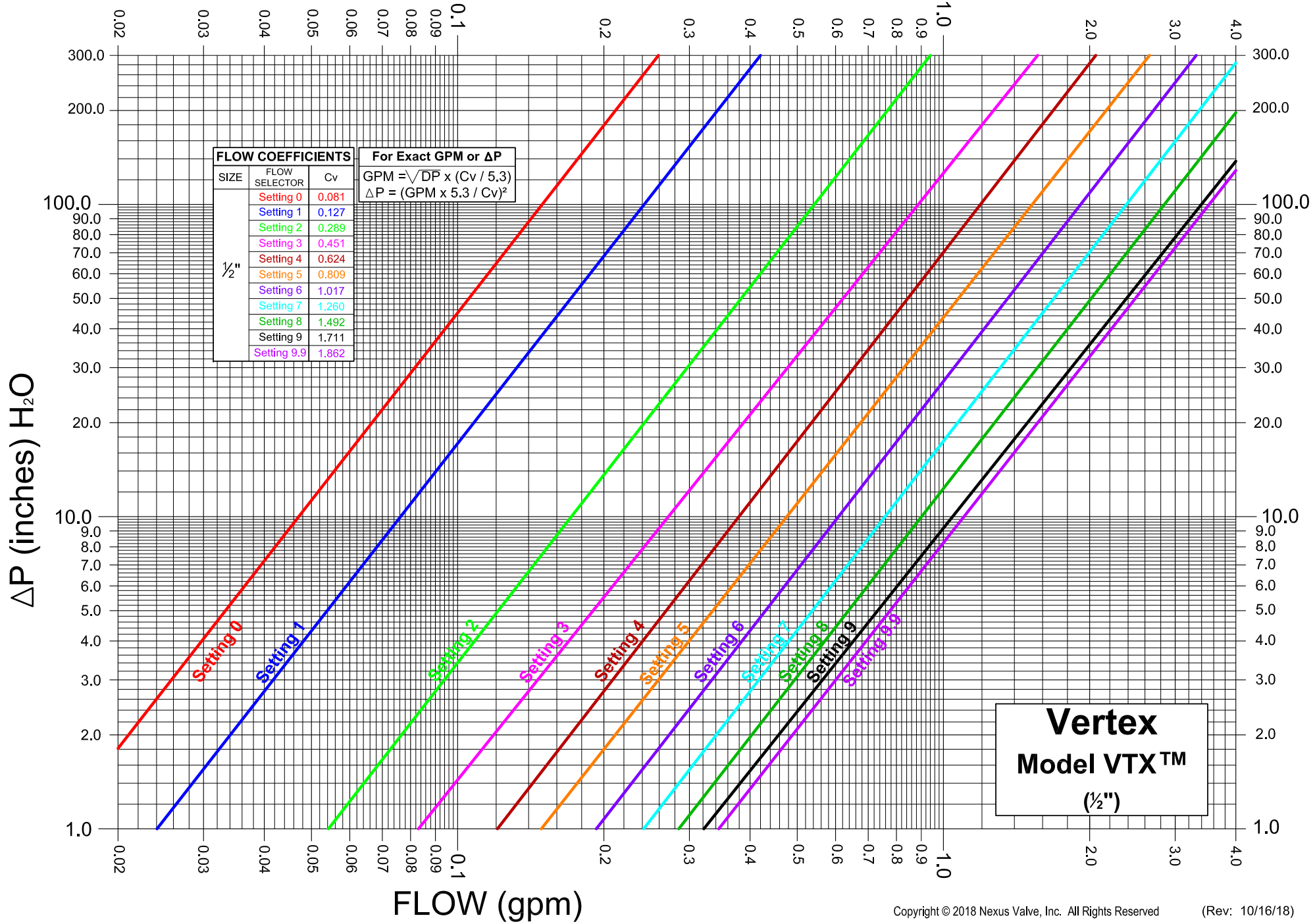
# Vertex Model VTX™ Flow Chart

(½")






(Rev: 10/16/18)

NEXUS VALVE
www.nexusvalve.com

# Vertex Model VTX™ Flow Chart

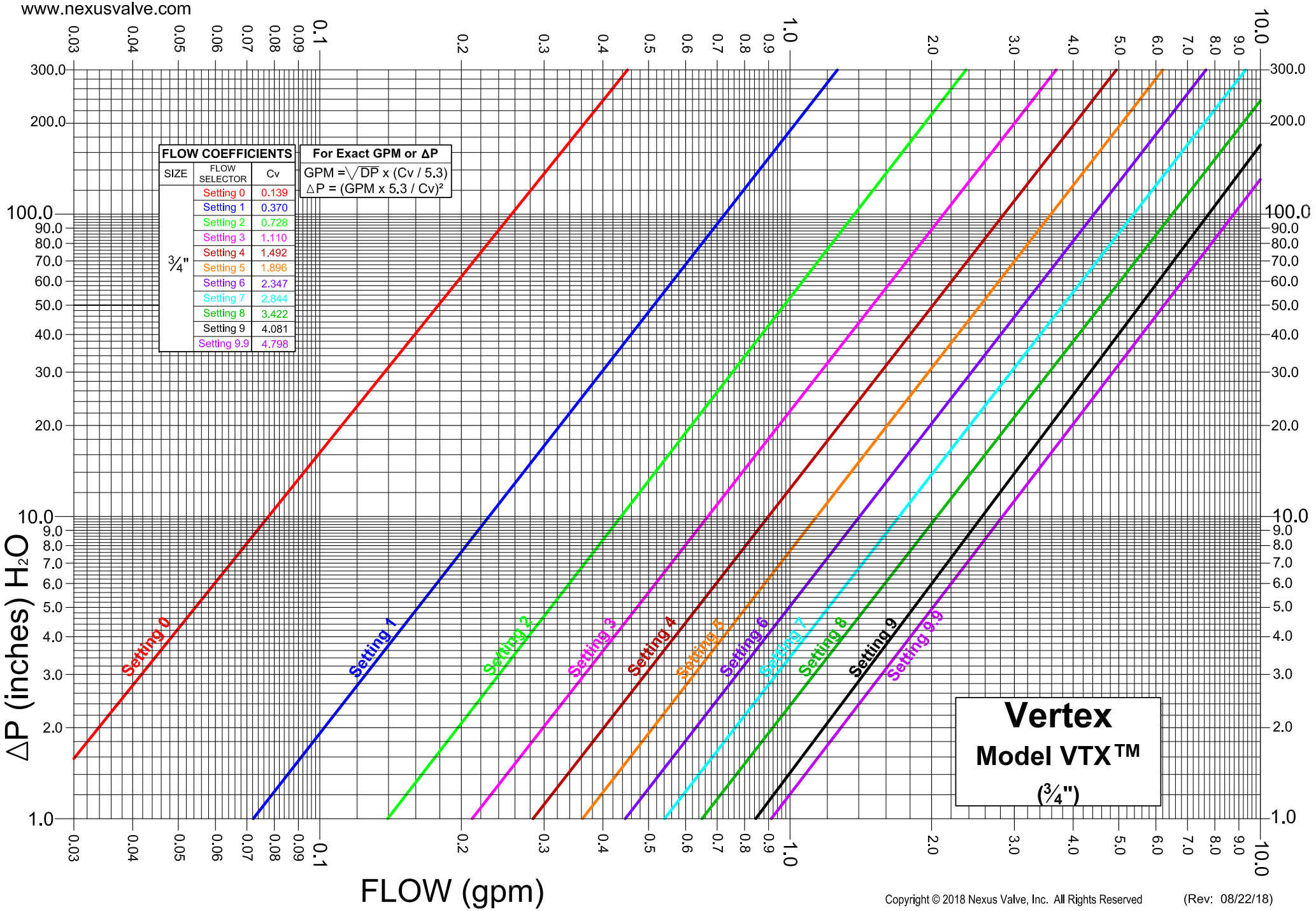
(¾")

| FLOW COEFFICIENTS | | |
|---|---|---|
| SIZE | FLOW SELECTOR | Cv |
| ¾" | Setting 0 | 0.139 |
| | Setting 1 | 0.370 |
| | Setting 2 | 0.728 |
| | Setting 3 | 1.110 |
| | Setting 4 | 1.492 |
| | Setting 5 | 1.896 |
| | Setting 6 | 2.347 |
| | Setting 7 | 2.844 |
| | Setting 8 | 3.422 |
| | Setting 9 | 4.081 |
| | Setting 9.9 | 4.798 |

**For Exact GPM or ΔP**

GPM = $\sqrt{DP}$ x (Cv / 5.3)

ΔP = (GPM x 5.3 / Cv)²






(Rev: 08/22/18)

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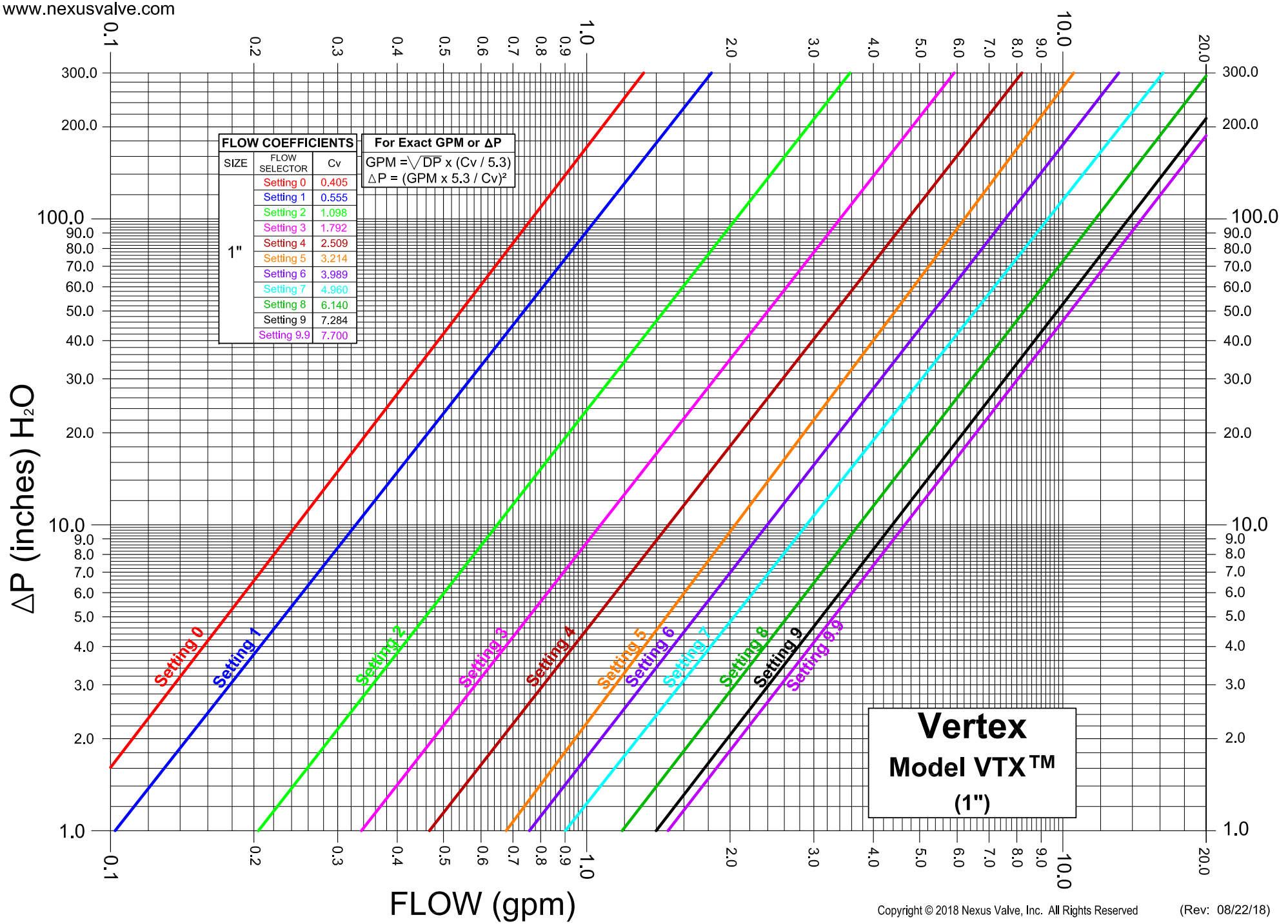
# Vertex Model VTX™ Flow Chart
## (1")






(Rev: 08/22/18)

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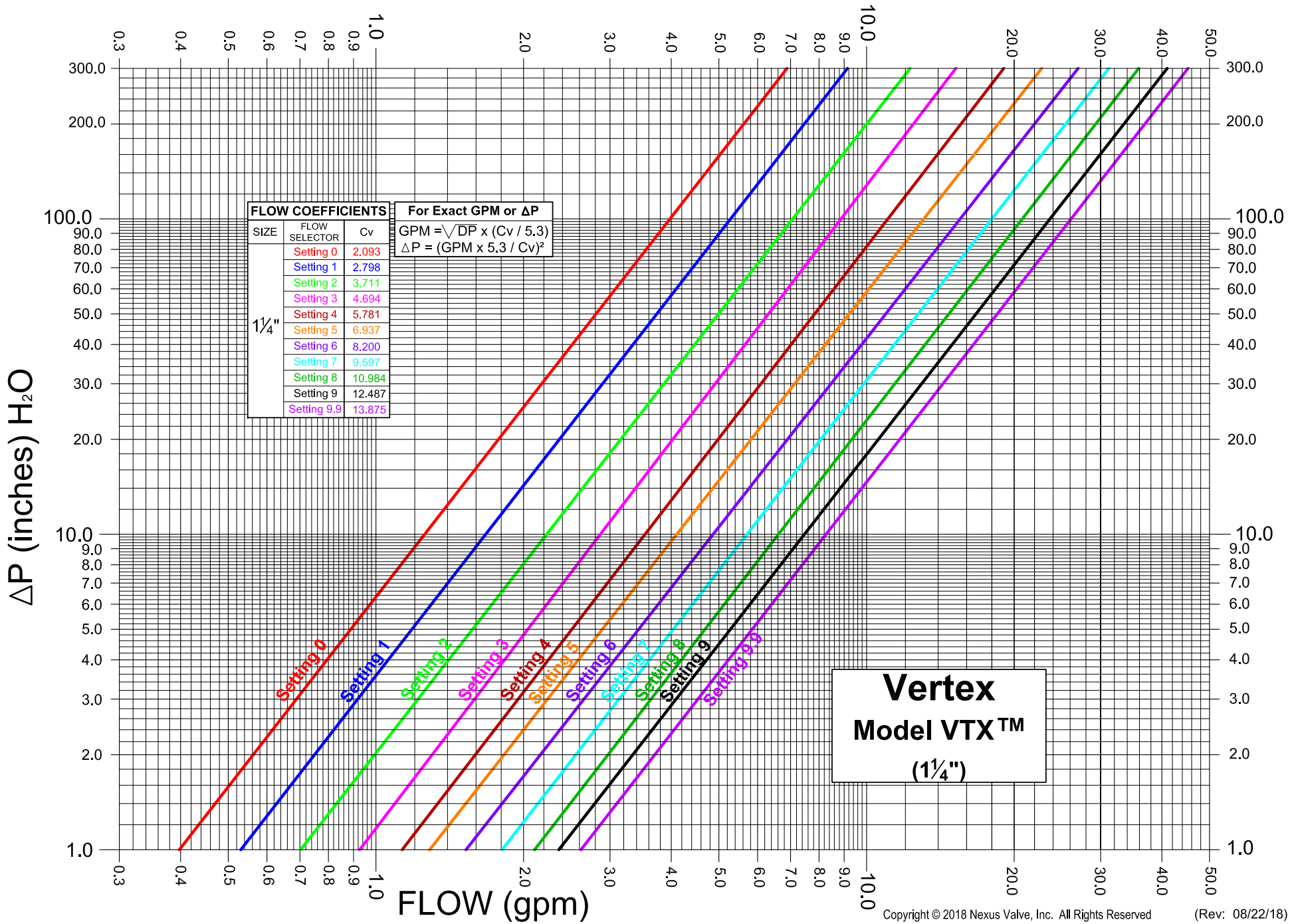
# Vertex Model VTX™ Flow Chart
## (1¼")




| FLOW COEFFICIENTS | | |
|---|---|---|
| SIZE | FLOW SELECTOR | Cv |
| 1¼" | Setting 0 | 2.093 |
| | Setting 1 | 2.798 |
| | Setting 2 | 3.711 |
| | Setting 3 | 4.694 |
| | Setting 4 | 5.781 |
| | Setting 5 | 6.937 |
| | Setting 6 | 8.200 |
| | Setting 7 | 9.597 |
| | Setting 8 | 10.984 |
| | Setting 9 | 12.487 |
| | Setting 9.9 | 13.875 |

**For Exact GPM or ΔP**

$GPM = \sqrt{DP} \times (Cv / 5.3)$

$\Delta P = (GPM \times 5.3 / Cv)^2$



(Rev: 08/22/18)

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# Vertex Model VTX™ Flow Chart
## (1½")

| FLOW COEFFICIENTS | | |
|---|---|---|
| SIZE | FLOW SELECTOR | Cv |
| 1½" | Setting 0 | 3.018 |
| | Setting 1 | 4.047 |
| | Setting 2 | 5.665 |
| | Setting 3 | 7.400 |
| | Setting 4 | 9.250 |
| | Setting 5 | 11.215 |
| | Setting 6 | 13.181 |
| | Setting 7 | 15.378 |
| | Setting 8 | 17.921 |
| | Setting 9 | 20.812 |
| | Setting 9.9 | 23.818 |

**For Exact GPM or ΔP**

GPM = $\sqrt{DP}$ x (Cv / 5.3)

ΔP = (GPM x 5.3 / Cv)²

Δ P (inches) $H_2O$

FLOW (gpm)

**Vertex**
**Model VTX™**
**(1½")**



(Rev: 08/22/18)

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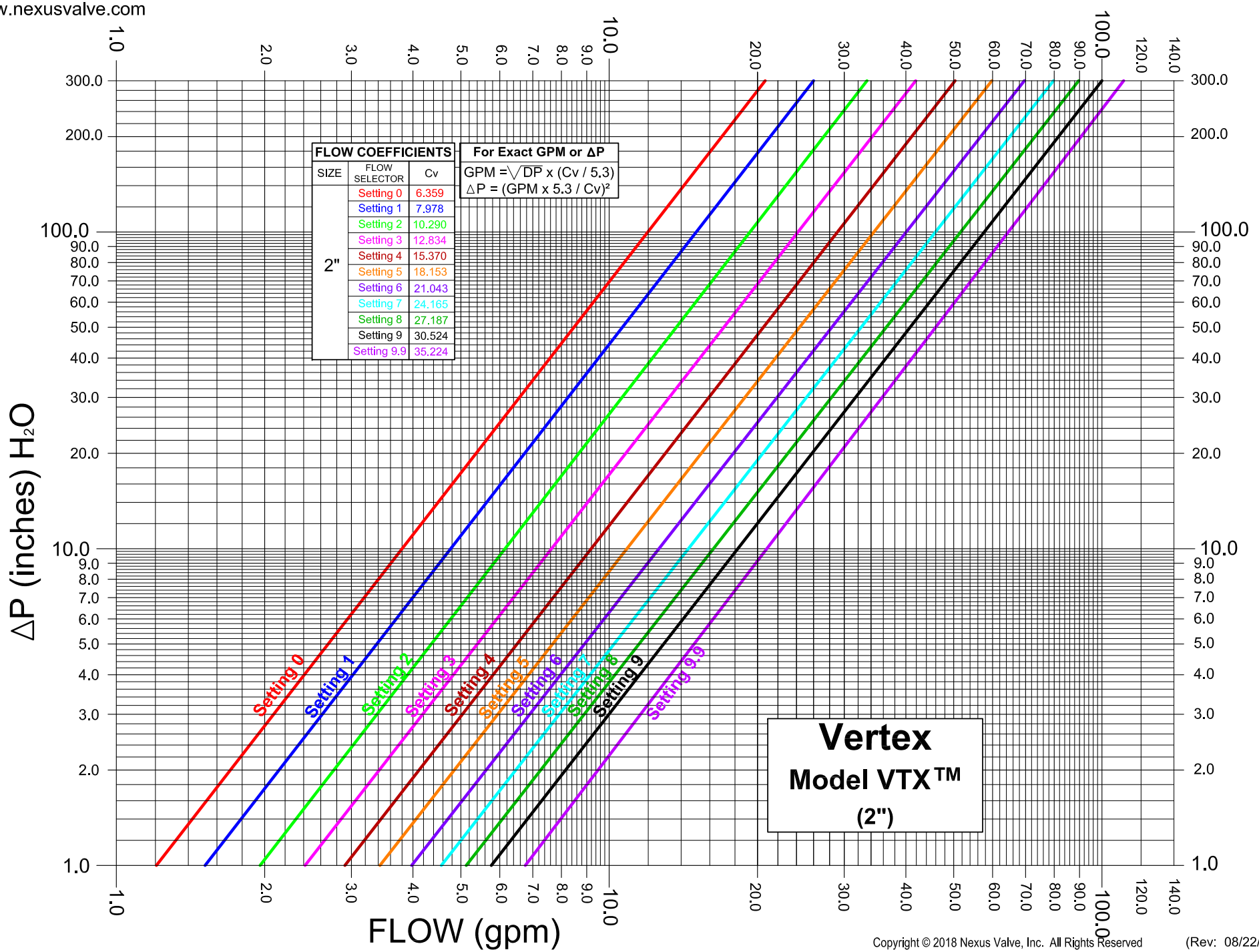
# Vertex Model VTX™ Flow Chart
## (2")






(Rev: 08/22/18)

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# Vertex - Calibrated Balancing Valve
## Calculation Chart
## (½" thru 1")

| ½" | | | ¾" | | | 1" | | |
|---|---|---|---|---|---|---|---|---|
| SETTING | Cv | Cv SIGNAL | SETTING | Cv | Cv SIGNAL | SETTING | Cv | Cv SIGNAL |
| 0 | 0.081 | 0.081 | 0 | 0.139 | 0.139 | 0 | 0.393 | 0.405 |
| 0.1 | 0.081 | 0.081 | 0.1 | 0.150 | 0.150 | 0.1 | 0.393 | 0.393 |
| 0.2 | 0.069 | 0.069 | 0.2 | 0.162 | 0.162 | 0.2 | 0.393 | 0.393 |
| 0.3 | 0.069 | 0.069 | 0.3 | 0.185 | 0.185 | 0.3 | 0.405 | 0.393 |
| 0.4 | 0.081 | 0.081 | 0.4 | 0.197 | 0.208 | 0.4 | 0.405 | 0.405 |
| 0.5 | 0.081 | 0.081 | 0.5 | 0.220 | 0.231 | 0.5 | 0.428 | 0.416 |
| 0.6 | 0.092 | 0.092 | 0.6 | 0.243 | 0.254 | 0.6 | 0.439 | 0.439 |
| 0.7 | 0.092 | 0.092 | 0.7 | 0.277 | 0.277 | 0.7 | 0.462 | 0.462 |
| 0.8 | 0.104 | 0.104 | 0.8 | 0.301 | 0.312 | 0.8 | 0.486 | 0.486 |
| 0.9 | 0.116 | 0.116 | 0.9 | 0.335 | 0.335 | 0.9 | 0.520 | 0.520 |
| 1 | 0.127 | 0.127 | 1 | 0.358 | 0.370 | 1 | 0.555 | 0.555 |
| 1.1 | 0.139 | 0.139 | 1.1 | 0.393 | 0.405 | 1.1 | 0.590 | 0.601 |
| 1.2 | 0.150 | 0.150 | 1.2 | 0.428 | 0.439 | 1.2 | 0.636 | 0.647 |
| 1.3 | 0.173 | 0.173 | 1.3 | 0.462 | 0.474 | 1.3 | 0.682 | 0.694 |
| 1.4 | 0.185 | 0.185 | 1.4 | 0.509 | 0.509 | 1.4 | 0.728 | 0.740 |
| 1.5 | 0.197 | 0.197 | 1.5 | 0.543 | 0.543 | 1.5 | 0.775 | 0.798 |
| 1.6 | 0.220 | 0.220 | 1.6 | 0.578 | 0.578 | 1.6 | 0.832 | 0.844 |
| 1.7 | 0.231 | 0.231 | 1.7 | 0.613 | 0.613 | 1.7 | 0.890 | 0.913 |
| 1.8 | 0.254 | 0.254 | 1.8 | 0.659 | 0.647 | 1.8 | 0.948 | 0.971 |
| 1.9 | 0.266 | 0.266 | 1.9 | 0.694 | 0.694 | 1.9 | 1.006 | 1.029 |
| 2 | 0.289 | 0.289 | 2 | 0.740 | 0.728 | 2 | 1.075 | 1.098 |
| 2.1 | 0.301 | 0.301 | 2.1 | 0.775 | 0.763 | 2.1 | 1.133 | 1.156 |
| 2.2 | 0.324 | 0.324 | 2.2 | 0.809 | 0.809 | 2.2 | 1.202 | 1.226 |
| 2.3 | 0.335 | 0.335 | 2.3 | 0.856 | 0.844 | 2.3 | 1.272 | 1.295 |
| 2.4 | 0.358 | 0.358 | 2.4 | 0.890 | 0.879 | 2.4 | 1.341 | 1.364 |
| 2.5 | 0.370 | 0.370 | 2.5 | 0.937 | 0.913 | 2.5 | 1.422 | 1.434 |
| 2.6 | 0.393 | 0.393 | 2.6 | 0.971 | 0.960 | 2.6 | 1.492 | 1.503 |
| 2.7 | 0.405 | 0.405 | 2.7 | 1.017 | 0.994 | 2.7 | 1.561 | 1.572 |
| 2.8 | 0.428 | 0.428 | 2.8 | 1.052 | 1.029 | 2.8 | 1.642 | 1.642 |
| 2.9 | 0.439 | 0.439 | 2.9 | 1.098 | 1.075 | 2.9 | 1.711 | 1.723 |
| 3 | 0.462 | 0.451 | 3 | 1.133 | 1.110 | 3 | 1.792 | 1.792 |
| 3.1 | 0.474 | 0.474 | 3.1 | 1.179 | 1.145 | 3.1 | 1.873 | 1.862 |
| 3.2 | 0.497 | 0.486 | 3.2 | 1.214 | 1.191 | 3.2 | 1.942 | 1.931 |
| 3.3 | 0.509 | 0.509 | 3.3 | 1.260 | 1.226 | 3.3 | 2.023 | 2.000 |
| 3.4 | 0.532 | 0.520 | 3.4 | 1.295 | 1.260 | 3.4 | 2.093 | 2.081 |
| 3.5 | 0.543 | 0.543 | 3.5 | 1.341 | 1.295 | 3.5 | 2.174 | 2.151 |
| 3.6 | 0.567 | 0.555 | 3.6 | 1.376 | 1.341 | 3.6 | 2.255 | 2.220 |
| 3.7 | 0.578 | 0.578 | 3.7 | 1.422 | 1.376 | 3.7 | 2.324 | 2.289 |
| 3.8 | 0.601 | 0.590 | 3.8 | 1.457 | 1.411 | 3.8 | 2.405 | 2.359 |
| 3.9 | 0.613 | 0.613 | 3.9 | 1.503 | 1.457 | 3.9 | 2.474 | 2.428 |
| 4 | 0.636 | 0.624 | 4 | 1.538 | 1.492 | 4 | 2.555 | 2.509 |
| 4.1 | 0.659 | 0.647 | 4.1 | 1.584 | 1.526 | 4.1 | 2.625 | 2.578 |
| 4.2 | 0.671 | 0.659 | 4.2 | 1.619 | 1.572 | 4.2 | 2.706 | 2.648 |
| 4.3 | 0.694 | 0.682 | 4.3 | 1.665 | 1.607 | 4.3 | 2.775 | 2.717 |
| 4.4 | 0.717 | 0.705 | 4.4 | 1.711 | 1.653 | 4.4 | 2.856 | 2.786 |
| 4.5 | 0.728 | 0.717 | 4.5 | 1.746 | 1.688 | 4.5 | 2.925 | 2.856 |
| 4.6 | 0.752 | 0.740 | 4.6 | 1.792 | 1.734 | 4.6 | 2.995 | 2.925 |
| 4.7 | 0.775 | 0.752 | 4.7 | 1.838 | 1.769 | 4.7 | 3.076 | 2.995 |
| 4.8 | 0.786 | 0.775 | 4.8 | 1.885 | 1.815 | 4.8 | 3.145 | 3.064 |
| 4.9 | 0.809 | 0.798 | 4.9 | 1.919 | 1.850 | 4.9 | 3.214 | 3.133 |
| 5 | 0.832 | 0.809 | 5 | 1.966 | 1.896 | 5 | 3.295 | 3.214 |
| 5.1 | 0.856 | 0.832 | 5.1 | 2.012 | 1.931 | 5.1 | 3.365 | 3.284 |
| 5.2 | 0.879 | 0.856 | 5.2 | 2.058 | 1.977 | 5.2 | 3.434 | 3.353 |
| 5.3 | 0.890 | 0.879 | 5.3 | 2.104 | 2.023 | 5.3 | 3.515 | 3.434 |
| 5.4 | 0.913 | 0.890 | 5.4 | 2.162 | 2.070 | 5.4 | 3.584 | 3.503 |
| 5.5 | 0.937 | 0.913 | 5.5 | 2.208 | 2.116 | 5.5 | 3.665 | 3.584 |
| 5.6 | 0.960 | 0.937 | 5.6 | 2.255 | 2.151 | 5.6 | 3.735 | 3.665 |
| 5.7 | 0.983 | 0.960 | 5.7 | 2.301 | 2.197 | 5.7 | 3.816 | 3.746 |
| 5.8 | 1.006 | 0.983 | 5.8 | 2.359 | 2.243 | 5.8 | 3.896 | 3.827 |
| 5.9 | 1.029 | 1.006 | 5.9 | 2.405 | 2.289 | 5.9 | 3.977 | 3.908 |
| 6 | 1.052 | 1.017 | 6 | 2.463 | 2.347 | 6 | 4.058 | 3.989 |
| 6.1 | 1.075 | 1.041 | 6.1 | 2.521 | 2.393 | 6.1 | 4.139 | 4.081 |
| 6.2 | 1.110 | 1.064 | 6.2 | 2.567 | 2.440 | 6.2 | 4.220 | 4.174 |
| 6.3 | 1.133 | 1.087 | 6.3 | 2.625 | 2.486 | 6.3 | 4.313 | 4.266 |
| 6.4 | 1.156 | 1.110 | 6.4 | 2.682 | 2.532 | 6.4 | 4.394 | 4.359 |
| 6.5 | 1.179 | 1.133 | 6.5 | 2.740 | 2.590 | 6.5 | 4.486 | 4.451 |
| 6.6 | 1.202 | 1.156 | 6.6 | 2.798 | 2.636 | 6.6 | 4.579 | 4.544 |
| 6.7 | 1.226 | 1.191 | 6.7 | 2.856 | 2.694 | 6.7 | 4.671 | 4.648 |
| 6.8 | 1.260 | 1.214 | 6.8 | 2.914 | 2.740 | 6.8 | 4.775 | 4.752 |
| 6.9 | 1.283 | 1.237 | 6.9 | 2.971 | 2.798 | 6.9 | 4.879 | 4.856 |
| 7 | 1.307 | 1.260 | 7 | 3.041 | 2.844 | 7 | 4.983 | 4.960 |
| 7.1 | 1.330 | 1.283 | 7.1 | 3.099 | 2.902 | 7.1 | 5.087 | 5.076 |
| 7.2 | 1.364 | 1.307 | 7.2 | 3.168 | 2.960 | 7.2 | 5.203 | 5.180 |
| 7.3 | 1.387 | 1.330 | 7.3 | 3.226 | 3.018 | 7.3 | 5.307 | 5.295 |
| 7.4 | 1.411 | 1.353 | 7.4 | 3.295 | 3.076 | 7.4 | 5.423 | 5.411 |
| 7.5 | 1.434 | 1.376 | 7.5 | 3.365 | 3.133 | 7.5 | 5.550 | 5.538 |
| 7.6 | 1.468 | 1.399 | 7.6 | 3.422 | 3.191 | 7.6 | 5.665 | 5.654 |
| 7.7 | 1.492 | 1.422 | 7.7 | 3.492 | 3.249 | 7.7 | 5.793 | 5.770 |
| 7.8 | 1.515 | 1.445 | 7.8 | 3.561 | 3.307 | 7.8 | 5.920 | 5.897 |
| 7.9 | 1.538 | 1.468 | 7.9 | 3.631 | 3.365 | 7.9 | 6.059 | 6.024 |
| 8 | 1.561 | 1.492 | 8 | 3.700 | 3.422 | 8 | 6.186 | 6.140 |
| 8.1 | 1.584 | 1.515 | 8.1 | 3.769 | 3.492 | 8.1 | 6.325 | 6.267 |
| 8.2 | 1.619 | 1.538 | 8.2 | 3.839 | 3.550 | 8.2 | 6.463 | 6.382 |
| 8.3 | 1.642 | 1.561 | 8.3 | 3.908 | 3.619 | 8.3 | 6.602 | 6.510 |
| 8.4 | 1.665 | 1.584 | 8.4 | 3.977 | 3.677 | 8.4 | 6.741 | 6.625 |
| 8.5 | 1.688 | 1.607 | 8.5 | 4.047 | 3.746 | 8.5 | 6.891 | 6.752 |
| 8.6 | 1.711 | 1.630 | 8.6 | 4.128 | 3.804 | 8.6 | 7.030 | 6.868 |
| 8.7 | 1.734 | 1.653 | 8.7 | 4.197 | 3.873 | 8.7 | 7.169 | 6.972 |
| 8.8 | 1.757 | 1.665 | 8.8 | 4.266 | 3.943 | 8.8 | 7.319 | 7.088 |
| 8.9 | 1.781 | 1.688 | 8.9 | 4.347 | 4.012 | 8.9 | 7.458 | 7.192 |
| 9 | 1.792 | 1.711 | 9 | 4.417 | 4.081 | 9 | 7.596 | 7.284 |
| 9.1 | 1.815 | 1.723 | 9.1 | 4.486 | 4.162 | 9.1 | 7.735 | 7.377 |
| 9.2 | 1.838 | 1.746 | 9.2 | 4.567 | 4.232 | 9.2 | 7.874 | 7.458 |
| 9.3 | 1.862 | 1.769 | 9.3 | 4.636 | 4.301 | 9.3 | 8.001 | 7.527 |
| 9.4 | 1.885 | 1.781 | 9.4 | 4.717 | 4.382 | 9.4 | 8.128 | 7.596 |
| 9.5 | 1.896 | 1.804 | 9.5 | 4.787 | 4.463 | 9.5 | 8.244 | 7.643 |
| 9.6 | 1.919 | 1.815 | 9.6 | 4.868 | 4.544 | 9.6 | 8.359 | 7.677 |
| 9.7 | 1.942 | 1.827 | 9.7 | 4.937 | 4.625 | 9.7 | 8.464 | 7.700 |
| 9.8 | 1.954 | 1.850 | 9.8 | 5.018 | 4.706 | 9.8 | 8.556 | 7.700 |
| 9.9 | 1.977 | 1.862 | 9.9 | 5.087 | 4.798 | 9.9 | 8.625 | 7.700 |

**How to calculate the Flow through Vertex using Cv Signal values:**

1 Select column "Size" for the valve being used.
2 Read the handle setting on the valve.
3 Scan the "Size" column for your valve and regard the "Cv Signal" value for your Setting.
4 Use the following equations to calculate flow.

a) If PSID is in pounds/square inch

$$GPM = Cv \bullet \sqrt{\Delta P_{PSI}}$$

b) If PSID is in Inches of Water

$$GPM = \sqrt{\Delta P_{inH_20}} \bullet Cv/5.3$$

**How to determine Vertex Handle Settings using GPM and Pressure Differential (ΔP):**

1 If GPM and required pressure drop is known, calculate the required "Cv Signal" using the following equations:

a) If PSID is in pounds/square inch

$$Cv = GPM/\sqrt{\Delta P_{PSI}}$$

b) If PSID is in Inches of Water

$$Cv = GPM \bullet 5.3/\sqrt{\Delta P_{inH_2O}}$$

2 Locate Column for Valve being used
3 Scan down column until cloesest Cv to required is located
4 Read "Setting" number in the first column

| Use: | ***"Cv Signal"*** *for Flow Setting* |
|---|---|
| | ***"Cv"*** *for Head Loss Calculations* |



(Rev: 03/01/19)

NEXUS VALVE®
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# Vertex - Calibrated Balancing Valve
## Calculation Chart
## (1¼" thru 2")

| 1¼" | | | 1½" | | | 2" | | |
|---|---|---|---|---|---|---|---|---|
| SETTING | Cv | Cv SIGNAL | SETTING | Cv | Cv SIGNAL | SETTING | Cv | Cv SIGNAL |
| 0 | 2.139 | 2.093 | 0 | 3.122 | 3.018 | 0 | 6.602 | 6.359 |
| 0.1 | 2.185 | 2.139 | 0.1 | 3.180 | 3.099 | 0.1 | 6.648 | 6.475 |
| 0.2 | 2.243 | 2.197 | 0.2 | 3.261 | 3.180 | 0.2 | 6.729 | 6.590 |
| 0.3 | 2.301 | 2.266 | 0.3 | 3.341 | 3.272 | 0.3 | 6.833 | 6.706 |
| 0.4 | 2.370 | 2.336 | 0.4 | 3.434 | 3.376 | 0.4 | 6.960 | 6.822 |
| 0.5 | 2.440 | 2.405 | 0.5 | 3.526 | 3.480 | 0.5 | 7.111 | 7.053 |
| 0.6 | 2.509 | 2.474 | 0.6 | 3.631 | 3.584 | 0.6 | 7.284 | 7.169 |
| 0.7 | 2.590 | 2.555 | 0.7 | 3.746 | 3.700 | 0.7 | 7.481 | 7.400 |
| 0.8 | 2.671 | 2.636 | 0.8 | 3.862 | 3.827 | 0.8 | 7.689 | 7.631 |
| 0.9 | 2.752 | 2.717 | 0.9 | 3.989 | 3.954 | 0.9 | 7.897 | 7.747 |
| 1 | 2.833 | 2.798 | 1 | 4.128 | 4.047 | 1 | 8.128 | 7.978 |
| 1.1 | 2.925 | 2.879 | 1.1 | 4.266 | 4.162 | 1.1 | 8.359 | 8.209 |
| 1.2 | 3.018 | 2.971 | 1.2 | 4.405 | 4.394 | 1.2 | 8.602 | 8.440 |
| 1.3 | 3.110 | 3.052 | 1.3 | 4.556 | 4.509 | 1.3 | 8.857 | 8.672 |
| 1.4 | 3.203 | 3.145 | 1.4 | 4.717 | 4.625 | 1.4 | 9.111 | 8.903 |
| 1.5 | 3.295 | 3.237 | 1.5 | 4.879 | 4.856 | 1.5 | 9.365 | 9.134 |
| 1.6 | 3.388 | 3.330 | 1.6 | 5.041 | 4.972 | 1.6 | 9.620 | 9.365 |
| 1.7 | 3.492 | 3.422 | 1.7 | 5.215 | 5.087 | 1.7 | 9.886 | 9.597 |
| 1.8 | 3.584 | 3.515 | 1.8 | 5.376 | 5.319 | 1.8 | 10.140 | 9.828 |
| 1.9 | 3.688 | 3.607 | 1.9 | 5.561 | 5.434 | 1.9 | 10.406 | 10.059 |
| 2 | 3.792 | 3.711 | 2 | 5.735 | 5.665 | 2 | 10.660 | 10.290 |
| 2.1 | 3.885 | 3.804 | 2.1 | 5.920 | 5.781 | 2.1 | 10.926 | 10.637 |
| 2.2 | 3.989 | 3.896 | 2.2 | 6.105 | 6.012 | 2.2 | 11.192 | 10.868 |
| 2.3 | 4.093 | 4.001 | 2.3 | 6.290 | 6.128 | 2.3 | 11.447 | 11.100 |
| 2.4 | 4.197 | 4.093 | 2.4 | 6.486 | 6.359 | 2.4 | 11.713 | 11.331 |
| 2.5 | 4.313 | 4.197 | 2.5 | 6.683 | 6.475 | 2.5 | 11.967 | 11.562 |
| 2.6 | 4.417 | 4.290 | 2.6 | 6.880 | 6.706 | 2.6 | 12.233 | 11.793 |
| 2.7 | 4.521 | 4.394 | 2.7 | 7.076 | 6.822 | 2.7 | 12.499 | 12.025 |
| 2.8 | 4.636 | 4.498 | 2.8 | 7.273 | 7.053 | 2.8 | 12.753 | 12.372 |
| 2.9 | 4.741 | 4.590 | 2.9 | 7.469 | 7.169 | 2.9 | 13.019 | 12.603 |
| 3 | 4.856 | 4.694 | 3 | 7.677 | 7.400 | 3 | 13.273 | 12.834 |
| 3.1 | 4.972 | 4.798 | 3.1 | 7.885 | 7.631 | 3.1 | 13.539 | 13.065 |
| 3.2 | 5.087 | 4.902 | 3.2 | 8.082 | 7.747 | 3.2 | 13.805 | 13.297 |
| 3.3 | 5.203 | 5.006 | 3.3 | 8.290 | 7.978 | 3.3 | 14.071 | 13.528 |
| 3.4 | 5.319 | 5.110 | 3.4 | 8.498 | 8.094 | 3.4 | 14.337 | 13.875 |
| 3.5 | 5.434 | 5.215 | 3.5 | 8.706 | 8.325 | 3.5 | 14.615 | 14.106 |
| 3.6 | 5.561 | 5.330 | 3.6 | 8.914 | 8.556 | 3.6 | 14.881 | 14.337 |
| 3.7 | 5.677 | 5.434 | 3.7 | 9.134 | 8.672 | 3.7 | 15.158 | 14.568 |
| 3.8 | 5.804 | 5.538 | 3.8 | 9.342 | 8.903 | 3.8 | 15.447 | 14.915 |
| 3.9 | 5.931 | 5.654 | 3.9 | 9.550 | 9.019 | 3.9 | 15.725 | 15.146 |
| 4 | 6.059 | 5.781 | 4 | 9.770 | 9.250 | 4 | 16.014 | 15.378 |
| 4.1 | 6.186 | 5.897 | 4.1 | 9.978 | 9.481 | 4.1 | 16.303 | 15.609 |
| 4.2 | 6.313 | 6.012 | 4.2 | 10.198 | 9.597 | 4.2 | 16.603 | 15.956 |
| 4.3 | 6.440 | 6.128 | 4.3 | 10.418 | 9.828 | 4.3 | 16.904 | 16.187 |
| 4.4 | 6.579 | 6.244 | 4.4 | 10.637 | 10.059 | 4.4 | 17.216 | 16.418 |
| 4.5 | 6.706 | 6.359 | 4.5 | 10.857 | 10.175 | 4.5 | 17.528 | 16.765 |
| 4.6 | 6.845 | 6.475 | 4.6 | 11.077 | 10.406 | 4.6 | 17.840 | 16.996 |
| 4.7 | 6.984 | 6.590 | 4.7 | 11.296 | 10.637 | 4.7 | 18.164 | 17.228 |
| 4.8 | 7.122 | 6.706 | 4.8 | 11.516 | 10.753 | 4.8 | 18.500 | 17.575 |
| 4.9 | 7.273 | 6.822 | 4.9 | 11.736 | 10.984 | 4.9 | 18.823 | 17.806 |
| 5 | 7.411 | 6.937 | 5 | 11.967 | 11.215 | 5 | 19.170 | 18.153 |
| 5.1 | 7.562 | 7.053 | 5.1 | 12.187 | 11.331 | 5.1 | 19.505 | 18.384 |
| 5.2 | 7.700 | 7.169 | 5.2 | 12.418 | 11.562 | 5.2 | 19.864 | 18.731 |
| 5.3 | 7.851 | 7.284 | 5.3 | 12.649 | 11.793 | 5.3 | 20.211 | 18.962 |
| 5.4 | 8.001 | 7.400 | 5.4 | 12.880 | 11.909 | 5.4 | 20.581 | 19.309 |
| 5.5 | 8.151 | 7.515 | 5.5 | 13.123 | 12.140 | 5.5 | 20.939 | 19.540 |
| 5.6 | 8.302 | 7.747 | 5.6 | 13.354 | 12.372 | 5.6 | 21.309 | 19.887 |
| 5.7 | 8.452 | 7.862 | 5.7 | 13.597 | 12.487 | 5.7 | 21.679 | 20.118 |
| 5.8 | 8.602 | 7.978 | 5.8 | 13.840 | 12.718 | 5.8 | 22.061 | 20.465 |
| 5.9 | 8.764 | 8.094 | 5.9 | 14.083 | 12.950 | 5.9 | 22.442 | 20.696 |
| 6 | 8.914 | 8.209 | 6 | 14.326 | 13.181 | 6 | 22.824 | 21.043 |
| 6.1 | 9.065 | 8.325 | 6.1 | 14.580 | 13.297 | 6.1 | 23.217 | 21.390 |
| 6.2 | 9.227 | 8.440 | 6.2 | 14.834 | 13.528 | 6.2 | 23.610 | 21.621 |
| 6.3 | 9.389 | 8.672 | 6.3 | 15.089 | 13.759 | 6.3 | 24.003 | 21.968 |
| 6.4 | 9.539 | 8.787 | 6.4 | 15.343 | 13.990 | 6.4 | 24.396 | 22.315 |
| 6.5 | 9.701 | 8.903 | 6.5 | 15.609 | 14.222 | 6.5 | 24.801 | 22.546 |
| 6.6 | 9.863 | 9.019 | 6.6 | 15.875 | 14.453 | 6.6 | 25.194 | 22.893 |
| 6.7 | 10.013 | 9.134 | 6.7 | 16.152 | 14.684 | 6.7 | 25.599 | 23.240 |
| 6.8 | 10.175 | 9.250 | 6.8 | 16.430 | 14.915 | 6.8 | 25.992 | 23.471 |
| 6.9 | 10.337 | 9.481 | 6.9 | 16.707 | 15.146 | 6.9 | 26.397 | 23.818 |
| 7 | 10.498 | 9.597 | 7 | 16.996 | 15.378 | 7 | 26.801 | 24.165 |
| 7.1 | 10.649 | 9.712 | 7.1 | 17.285 | 15.609 | 7.1 | 27.194 | 24.512 |
| 7.2 | 10.811 | 9.828 | 7.2 | 17.575 | 15.840 | 7.2 | 27.599 | 24.743 |
| 7.3 | 10.973 | 9.943 | 7.3 | 17.875 | 16.071 | 7.3 | 28.004 | 25.090 |
| 7.4 | 11.134 | 10.175 | 7.4 | 18.176 | 16.303 | 7.4 | 28.397 | 25.437 |
| 7.5 | 11.285 | 10.290 | 7.5 | 18.488 | 16.534 | 7.5 | 28.801 | 25.668 |
| 7.6 | 11.447 | 10.406 | 7.6 | 18.800 | 16.765 | 7.6 | 29.195 | 26.015 |
| 7.7 | 11.608 | 10.522 | 7.7 | 19.124 | 17.112 | 7.7 | 29.588 | 26.362 |
| 7.8 | 11.770 | 10.753 | 7.8 | 19.448 | 17.343 | 7.8 | 29.992 | 26.709 |
| 7.9 | 11.932 | 10.868 | 7.9 | 19.783 | 17.575 | 7.9 | 30.385 | 26.940 |
| 8 | 12.094 | 10.984 | 8 | 20.118 | 17.921 | 8 | 30.779 | 27.287 |
| 8.1 | 12.256 | 11.100 | 8.1 | 20.454 | 18.153 | 8.1 | 31.183 | 27.634 |
| 8.2 | 12.418 | 11.215 | 8.2 | 20.800 | 18.384 | 8.2 | 31.576 | 27.981 |
| 8.3 | 12.580 | 11.447 | 8.3 | 21.159 | 18.731 | 8.3 | 31.981 | 28.212 |
| 8.4 | 12.742 | 11.562 | 8.4 | 21.517 | 18.962 | 8.4 | 32.386 | 28.559 |
| 8.5 | 12.903 | 11.678 | 8.5 | 21.876 | 19.309 | 8.5 | 32.790 | 28.906 |
| 8.6 | 13.077 | 11.793 | 8.6 | 22.246 | 19.656 | 8.6 | 33.207 | 29.252 |
| 8.7 | 13.239 | 12.025 | 8.7 | 22.616 | 19.887 | 8.7 | 33.623 | 29.599 |
| 8.8 | 13.412 | 12.140 | 8.8 | 22.997 | 20.234 | 8.8 | 34.051 | 29.830 |
| 8.9 | 13.586 | 12.256 | 8.9 | 23.379 | 20.581 | 8.9 | 34.490 | 30.177 |
| 9 | 13.771 | 12.487 | 9 | 23.760 | 20.812 | 9 | 34.941 | 30.524 |
| 9.1 | 13.956 | 12.603 | 9.1 | 24.153 | 21.159 | 9.1 | 35.403 | 30.987 |
| 9.2 | 14.141 | 12.718 | 9.2 | 24.558 | 21.506 | 9.2 | 35.889 | 31.334 |
| 9.3 | 14.337 | 12.834 | 9.3 | 24.951 | 21.853 | 9.3 | 36.386 | 31.680 |
| 9.4 | 14.534 | 13.065 | 9.4 | 25.356 | 22.084 | 9.4 | 36.907 | 32.027 |
| 9.5 | 14.742 | 13.181 | 9.5 | 25.761 | 22.431 | 9.5 | 37.462 | 32.490 |
| 9.6 | 14.950 | 13.412 | 9.6 | 26.165 | 22.778 | 9.6 | 38.040 | 32.837 |
| 9.7 | 15.170 | 13.528 | 9.7 | 26.581 | 23.124 | 9.7 | 38.652 | 33.299 |
| 9.8 | 15.412 | 13.759 | 9.8 | 26.986 | 23.471 | 9.8 | 39.311 | 33.762 |

**How to calculate the Flow through Vertex using Cv Signal values:**

1 Select column "Size" for the valve being used.
2 Read the handle setting on the valve.
3 Scan the "Size" column for your valve and regard the "Cv Signal" value for your Setting.
4 Use the following equations to calculate flow.

a) If PSID is in pounds/square inch

$$GPM = Cv \bullet \sqrt{\Delta P_{PSI}}$$

b) If PSID is in Inches of Water

$$GPM = \sqrt{\Delta P_{inH_2O}} \bullet Cv/5.3$$

**How to determine Vertex Handle Settings using GPM and Pressure Differential (ΔP):**

1 If GPM and required pressure drop is known, calculate the required "Cv Signal" using the following equations:

a) If PSID is in pounds/square inch

$$Cv = GPM/\sqrt{\Delta P_{PSI}}$$

b) If PSID is in Inches of Water

$$Cv = GPM \bullet 5.3/\sqrt{\Delta P_{inH_2O}}$$

2 Locate Column for Valve being used
3 Scan down column until cloesest Cv to required is located
4 Read "Setting" number in the first column

| Use: | ***"Cv Signal"*** *for Flow Setting* |
|---|---|
| | ***"Cv"*** *for Head Loss Calculations* |



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