NEXUS VALVE
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# UltraMB™ - Multiturn Balancing Valve
## Calculations
## (2½" thru 6")

### Cv Values for UltraMB Handle Turns

| Turns | MB-0250 | MB-0300 | MB-0400 | MB-0500 | MB-0600 |
|---|---|---|---|---|---|
| | Valve Sizes: | | | | |
| | 2-1/2" | 3" | 4" | 5" | 6" |
| 0.5 | 7.4 | 7.0 | 13.7 | 7.5 | 30.9 |
| 1.0 | 11.1 | 14.9 | 34.1 | 12.0 | 39.7 |
| 1.5 | 20.7 | 33.4 | 66.5 | N/A | N/A |
| 2.0 | 49.2 | 58.7 | 93.0 | 22.5 | 81.7 |
| 2.5 | 68.4 | 77.2 | 117.2 | N/A | N/A |
| 3.0 | 79.9 | 80.3 | 133.5 | 100.6 | 183.1 |
| 3.5 | 88.6 | 87.7 | 144.0 | N/A | N/A |
| 4.0 | 92.7 | 92.8 | 152.3 | 146.0 | 254.9 |
| 4.5 | 96.0 | 101.0 | 159.0 | N/A | N/A |
| 5.0 | 99.1 | 107.6 | 162.3 | 183.9 | 320.6 |
| 5.5 | 104.0 | 113.0 | 167.0 | N/A | N/A |
| 6.0 | 110.0 | 118.1 | 171.5 | 215.3 | 350.8 |
| 6.5 | N/A | 123.0 | 177.0 | N/A | N/A |
| 7.0 | N/A | 129.6 | 179.6 | 234.0 | 379.2 |
| 8.0 | N/A | N/A | N/A | 252.3 | 422.0 |
| 9.0 | N/A | N/A | N/A | 268.7 | 429.4 |
| 10.0 | N/A | N/A | N/A | 287.6 | 450.6 |
| 11.0 | N/A | N/A | N/A | 300.1 | 482.0 |
| 12.0 | N/A | N/A | N/A | 311.0 | 500.0 |
| 13.0 | N/A | N/A | N/A | N/A | 529.0 |
| 14.0 | N/A | N/A | N/A | N/A | 546.0 |
| 15.0 | N/A | N/A | N/A | N/A | 563.1 |

### How to calculate the Flow through UltraMB using: Cv values

1. Select column MB-0250,MB-0300, MB-0400, MB-0500,MB-0600 for the valve being used
2. Read the Handle Turns counter on the valve
3. Scan the MB column for your valve and regard the Cv value for your turns
4. Use the following equations to calculate flow:

If PSID is in pounds/square inch

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

If PSID is in Inches of Water

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

### How to determine UltraMB Handle Turns using: GPM and Pressure Differential (ΔP)

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

If PSID is in pounds/square inch

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

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 Turn number in first column


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