User Beamline 22
Supply

# V-Cone Application Sizing

| | | | |
|---|---|---|---|
| Serial # | 02-1912 | Fluid State | LIQUID |
| Tag | | Fluid | Water , WATER |
| Model | VP0CQE44N2 | End User | ARGONNE NATIONAL LABORATORY |
| Job Ref. | JB10798 | | |

| | | | |
|---|---|---|---|
| Description | V-CONE 1.5" S304 VICTAULIC ENDS | Mktg. Code | 26 04 159 |
| Note | | | |

| | | |
|---|---|---|
| $C_f$ | 0.8645 | |
| $P_f$ | 150 | psiG |
| $T_f$ | 90 | °F |
| $\rho$ | 62.00 | lb/ft3 |
| $\mu$ | 0.7827 | cP |
| G | | |
| Z | | |
| Y | | |
| k | | |
| $C_P$ | | |
| Mw | 18.015 | |
| $P_b$ | | |
| $T_b$ | | |
| $Z_b$ | | |
| $P_{baro}$ | 14.696 | psiA |
| $P_c$ | 3198.8 | psiA |
| $T_c$ | 1164.8 | °R |
| $F_a$ | 1.000 | |
| aPE | D 9.5e-06 d 9.5e-06 | ⇐ |
| $P_v$ | 0.6991 | psiA |
| $P_{loss}$ | 2.179 | psiA |

⇐ Entered value.

| | | | | |
|---|---|---|---|---|
| q | max. Flowrate | 24 | GPM | |
| Re | max. Reynolds | 6.019e+04 | | |
| V | max. Velocity | 3.830 | fps | |
| $\Delta P$ | max. Dp | 82.368 | inWC | |
| $\Delta P$ | min. Dp | 0.82368 | inWC | |
| D | Meter I.D. | 1.6000 | in | |
| d | Cone O.D. | 1.4260 | in | |
| $\beta$ | Beta Ratio | 0.4535 | | |
| | Turn Down | 10 | | |

| | |
|---|---|
| McCrometer Cal. | |
| Third Party Cal. | |
| Dye. Pen. Exam. | |
| Hydro. Test | |
| X-Ray Exam. | |
| Mag. Part. | |
| PMI | |
| CMTR Copies | |
| McCrometer Eng. | MPG |

| | Re | Velocity fps | Gas. Exp. Y | $\Delta P$ inWC | Flowrate GPM |
|---|---|---|---|---|---|
| 1 | 6.019e+04 | 3.8297 | | 82.368 | 24.000 |
| 2 | 5.417e+04 | 3.4467 | | 66.717 | 21.600 |
| 3 | 4.815e+04 | 3.0637 | | 52.715 | 19.200 |
| 4 | 4.213e+04 | 2.6808 | | 40.360 | 16.800 |
| 5 | 3.611e+04 | 2.2978 | | 29.653 | 14.400 |
| 6 | 3.010e+04 | 1.9148 | | 20.592 | 12.000 |
| 7 | 2.408e+04 | 1.5319 | | 13.179 | 9.6000 |
| 8 | 1.806e+04 | 1.1489 | | 7.4130 | 7.2000 |
| 9 | 1.204e+04 | 0.76593 | | 3.2947 | 4.8000 |
| 10 | 6019 | 0.38297 | | 0.82368 | 2.4000 |

Table based on one flow condition (P, T ,Z , k ...) V40 Version 1.20

| | |
|---|---|
| Record Start Date | 07-30-2002 |
| Print Date | 08-29-2002 |

k1 = 2.0350e-02
k2 =
k3 =

McCROMETER