User Beamline 33

V-Cone Application Sizing

Serial #	03-1700	Fluid State	LIQUID
Tag		Fluid	Water , WATER
Model	VP0CQE44N2	End User	ARGONNE NATION LABORATORY
Job Ref.	SO65208		

Description	V-CONE 1.5" ALL S304 WITH VICTAILIC GROOVE ENDS, 1/4" NPT 3000# COUPIN	Mktg. Code	03 04 18
Note			

C_f	0.8251	
P_f	150	psiG
T_f	90	°F
ρ	62.00	lb/ft3
μ	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}	2.402	psiA

⇐ Entered value.

q	max. Flowrate	24	GPM	
Re	max. Reynolds	6.034e+04		
V	max. Velocity	3.849	fps	
ΔP	max. Dp	90.882	inWC	
ΔP	min. Dp	0.90882	inWC	
D	Meter I.D.	1.5960	in	
d	Cone O.D.	1.4220	in	
β	Beta Ratio	0.4541		
	Turn Down	10		

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

	Re	Velocity fps	Gas. Exp. Y	ΔP inWC	Flowrate GPM
1	6.034e+04	3.8489		90.882	24.000
2	5.431e+04	3.4640		73.615	21.600
3	4.827e+04	3.0791		58.164	19.200
4	4.224e+04	2.6942		44.532	16.800
5	3.620e+04	2.3093		32.718	14.400
6	3.017e+04	1.9244		22.720	12.000
7	2.414e+04	1.5396		14.541	9.6000
8	1.810e+04	1.1547		8.1794	7.2000
9	1.207e+04	0.76978		3.6352	4.8000
10	6034	0.38489		0.90882	2.4000

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

Record Start Date	06-02-2003
Print Date	07-03-2003

k1 = 1.9373e-02
k2 =
k3 =

McCROMETER