V-Cone Application Sizing

RF4 Circ

Serial #	02-0427	Fluid State	LIQUID
Tag		Fluid	Water , WATER
Model	VP0CQE44N2	End User	ARGONNE NATION LABORATORY
Job Ref.	JB10133		

Description	V-CONE 1.5" ALL S304 WITH VICTAILIC GROOVE ENDS, 1/4" NPT 3000# COUPIN	Mktg. Code	03 04 159
Note			

C_f	0.8482	
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}	2.283	psiA

⇐ Entered value.

q	max. Flowrate	24	GPM	McCrometer Cal.	
Re	max. Reynolds	6.000e+04		Third Party Cal.	
V	max. Velocity	3.806	fps	Dye. Pen. Exam.	
ΔP	max. Dp	85.993	inWC	Hydro. Test	
ΔP	min. Dp	0.85993	inWC	X-Ray Exam.	
D	Meter I.D.	1.6050	in	Mag. Part.	
d	Cone O.D.	1.4320	in	PMI	
β	Beta Ratio	0.4516		CMTR Copies	
	Turn Down	10		McCrometer Eng.	MPG

	Re	Velocity fps	Gas. Exp. Y	ΔP inWC	Flowrate GPM
1	6.000e+04	3.8058		85.993	24.000
2	5.400e+04	3.4253		69.653	21.600
3	4.800e+04	3.0447		55.035	19.200
4	4.200e+04	2.6641		42.136	16.800
5	3.600e+04	2.2835		30.957	14.400
6	3.000e+04	1.9029		21.498	12.000
7	2.400e+04	1.5223		13.759	9.6000
8	1.800e+04	1.1418		7.7394	7.2000
9	1.200e+04	0.76117		3.4397	4.8000
10	6000	0.38058		0.85993	2.4000

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

Record Start Date	02-12-2002
Print Date	03-19-2002

k1 = 1.9916e-02
k2 =
k3 =

McCROMETER