USER Beamline 23

V-Cone Application Sizing

Serial #	03-2180	Fluid State	LIQUID
Tag		Fluid	Water , WATER
Model	VP0C-04	End User	ARGONNE NATION LABORATORY
Job Ref.	SO66753		

Description	V-CONE 1.5" ALL S304 WITH VICTAILIC GROOVE ENDS, 1/4" NPT 3000# COUPIN	Mktg. Code	03 04 18
Note	STRONGER VERTICAL SUPPORT, O.D.=.312 & I.D.=.141 (support stress=855)		

C_f	0.8447	
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}	2.352	psiA

⇐ Entered value.

q	max. Flowrate	24	GPM	McCrometer Cal.	
Re	max. Reynolds	6.030e+04		Third Party Cal.	
V	max. Velocity	3.844	fps	Dye. Pen. Exam.	
ΔP	max. Dp	88.596	inWC	Hydro. Test	
ΔP	min. Dp	0.88596	inWC	X-Ray Exam.	
D	Meter I.D.	1.5970	in	Mag. Part.	
d	Cone O.D.	1.4250	in	PMI	
β	Beta Ratio	0.4515		CMTR Copies	
	Turn Down	10		McCrometer Eng.	MBB

	Re	Velocity fps	Gas. Exp. Y	ΔP inWC	Flowrate GPM
1	6.030e+04	3.8441		88.596	24.000
2	5.427e+04	3.4597		71.764	21.600
3	4.824e+04	3.0753		56.702	19.200
4	4.221e+04	2.6908		43.412	16.800
5	3.618e+04	2.3064		31.894	14.400
6	3.015e+04	1.9220		22.148	12.000
7	2.412e+04	1.5376		14.175	9.6000
8	1.809e+04	1.1532		7.9737	7.2000
9	1.206e+04	0.76881		3.5438	4.8000
10	6030	0.38441		0.88596	2.4000

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

Record Start Date	07-08-2003
Print Date	08-26-2003

k1 = 1.9622e-02
k2 =
k3 =

McCROMETER