

**MODEL VP**

**Plain Ends**

**DESCRIPTION AND GENERAL PERFORMANCE SPECIFICATIONS**

The V-Cone® flowmeter is a patented, differential pressure type flow measurement device. A cone is positioned in the center of the pipe to increase the velocity of the flowing fluid and create a differential pressure. This pressure difference can be measured and used to accurately interpret flowrate. Two taps are provided on every V-Cone to allow sensing of the high and low pressures. A typical V-Cone application can follow these general performance specifications:

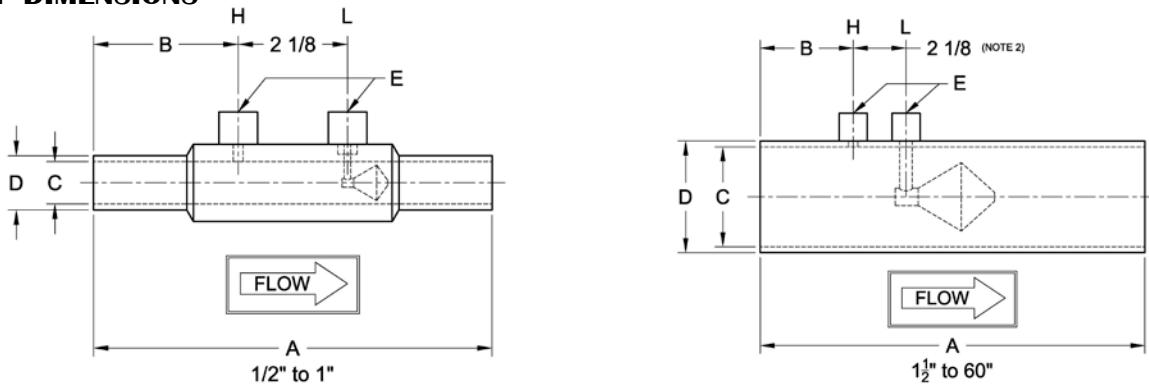
- Accuracy: up to ±0.5% of rate
- Repeatability: ±0.1%
- Turndown: 10:1
- Standard Betas: 0.45 through 0.85
- Headloss: Percentage of differential pressure produced varies with beta ratio.
- Installation: Typically 0-3 diameters upstream and 0-1 diameters downstream.



The V-Cone is manufactured under a quality management system that is certified to ISO 9001:2015.

\* Each V-Cone is sized for the intended application. Specific performance ratings must be obtained through the sizing process.

**MODEL VP DIMENSIONS**



**DIMENSION TABLE**

Size	A (Note 1)		B		C-Stainless (Note 2)		C-Carbon (Note 2)		D		E (Note 2)
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	NPT
½	7.75	197	2.81	71.4	0.622	15.8	-	-	0.84	21.3	¼
¾	7.75	197	2.81	71.4	0.824	20.9	-	-	1.05	26.7	¼
1	7.75	197	2.81	71.4	1.049	26.64	-	-	1.315	33.4	¼
1½	9.75	248	2.88	73.2	1.645	41.78	-	-	1.9	48.3	¼
2	11.63	295	3.31	84.1	2.104	53.44	-	-	2.375	60.3	½
2½	11.50	292	3.25	82.6	2.504	63.60	-	-	2.875	73.0	½
3	13.50	343	3.25	82.6	3.104	78.84	-	-	3.5	88.9	½
4	15.50	394	3.75	95.3	4.090	103.8	-	-	4.5	114	½
6	21.50	546	4.00	102	6.065	154.1	6.065	154.1	6.625	168	½
8	25.25	641	4.63	118	7.981	202.7	7.981	202.7	8.625	219	½
10	27.25	692	4.63	118	10.02	254.5	10.02	254.5	10.75	273	½
12	29.25	743	4.88	124	12.00	304.8	11.94	303.3	12.75	323	½
14	29	737	5.5	140	13.25	336.6	13.13	333.5	14	355	½
16	29	737	5.5	140	15.25	387.4	15.00	381.0	16	406	½
18	31	787	5.5	140	17.25	438.2	17.25	438.2	18	457	½
20	35	889	5.5	140	19.25	489.0	19.25	489.0	20	508	½
24	47	1194	9.5	241	23.25	590.6	23.25	590.6	24	609	½
30	59	1500	9.5	241	29.25	743.0	29.25	743.0	30	762	½
36	59	1500	9.5	241	35.25	895.4	35.25	895.4	36	914	½
48	71	1803	11.5	292	47.25	1200	47.25	1200	48	1219	½
60	83	2108	11.5	292	59.25	1505	59.25	1505	60	1524	½

1. Overall length (A) tolerance varies with line size: ½" to 1", ±0.01" (±0.3mm); 1½" to 4", ±0.06" (±2mm); 6" to 10", ±0.12" (±4mm); 12" to 24", ±0.19" (±6mm); 28" to 60", ±0.25" (±7mm).
2. Typical values shown.
3. Wall pressure ports are required for vertical up flow applications.



# SPECIFICATION SHEET

## MODEL NUMBER CONFIGURATION VP

Type	Size	Materials‡		Pipe Schedule		End Connections		Fittings	
<b>VP</b>									
	0A 1/2"	Q	S304/L	D	Std	00	Plain	N	NPT
	0B 3/4"	A	S316/L	R	30			S	Socket
	01 1"	S	CS Tube S304 Cone, Support, & Couplings Epoxy Coated Blue (excluding cone)	E	40			F	Direct mount assembly
	0C 1 1/2"			Q	60				
	02 2"			F	80				
	0D 2 1/2"	U	CS Tube S304 Cone, Support, & Couplings	J	100				Several types of fittings available.
	03 3"			K	120				
	04 4"	F	CS Tube, Flanges, & Couplings, 316/L Cone & Supports	L	140				
	06 6"			G	160				
	08 8"	W	CS Tube, Flanges, & Couplings, S304/L Cone & Supports	P	XS				
	10 10"			H	XXS				
	12 12"								
	14 14"	G	LTCS Tube, Flanges, & Couplings, S316/L Cone & Supports						
	16 16"	N	S304/L Tube, Cone, Support & Couplings CS Steel Flanges						
	18 18"								
	20 20"								
	24 24"								
	30 30"								
	36 36"								
	48 48"								
	60 60"								

‡Other materials can include:  
 HASTELLOY C-276  
 DUPLEX 2205  
 CHROMEMOLY P22/P11  
 MONEL K400/K500  
 CARBON STEELS  
 A350, A333, API5L, A106B  
 S321H  
 INCONEL 625

Example: VP06QE00N V-Cone 6 inch line size, S304, schedule 40 pipe, plain ends, 1/2" NPT fittings

### STANDARD PIPE SCHEDULES

Stainless Steel		Carbon Steel	
Size	Std.	Size	Std.
1/2" to 10"	E	6" to 16"	E
12" and up	D	18" and up	D

Meters 6" and smaller utilize seamless pipe.  
 Meters 8" and larger utilize welded pipe.

### ABBREVIATIONS

ASME	American Society of Mechanical Engineers
NPT	National pipe taper
SS	Stainless steel
CS	Carbon steel

Technical questions can be answered through a local representative or through our application engineers.

REPRESENTED BY:

### MANUFACTURING STANDARDS

McCrometer's welders and welding procedures are qualified in accordance with ASME Section IX. All meters are visually inspected for weld defects. Specific customer requirements can be complied with upon request.

The welding can be in accordance with:

- ASME Section VIII
- ASME B31.1
- ASME B31.3

Non-destructive testing can include:

- Hydrostatic Pressure Testing
- Penetrant Examination
- Radiographic Examination
- Positive Material Inspection
- Magnetic Particle Examination

