



SPECIFICATION SHEET

PRECISION TUBE SERIES

MODEL **VR_(H)**

ANSI B16.5 RTJ Weld Neck - Class 600 or 900

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 $\pm 0.5\%$ of rate
- Repeatability: $\pm 0.1\%$
- 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.

Model VR Bulletins

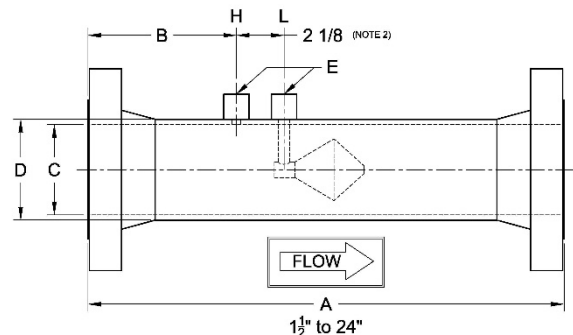
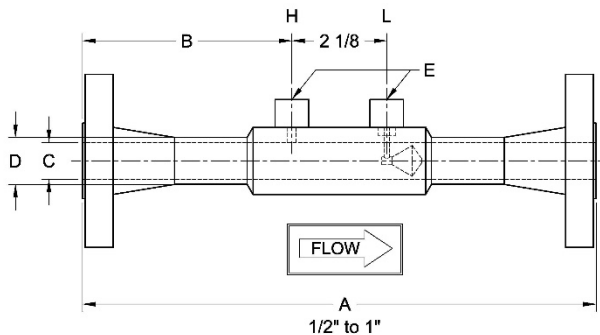
ANSI B16.5 RTJ Weld Neck Flanges
24509-40 Class 150 or 300
24509-41 Class 600 or 900



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 VR_(H) DIMENSIONS



DIMENSION TABLE

Size	RTJ Class 600				RTJ Class 900				Stainless		Carbon		D		E (Note 2)
	A (Note 1)		B		A (Note 1)		B		C (Note 2)		C (Note 2)				
inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	NPT
½	12.19	309.6	5.03	127.8	-	-	-	-	0.622	15.8	-	-	0.84	21.3	¼
¾	12.63	320.8	5.25	133.4	-	-	-	-	0.824	20.9	-	-	1.05	26.7	¼
1	13.00	330.2	5.44	138.2	-	-	-	-	1.049	26.64	-	-	1.315	33.4	¼
1½	15.50	393.7	5.76	146.3	-	-	-	-	1.645	41.78	-	-	1.9	48.3	¼
2	17.75	450.9	6.37	161.8	-	-	-	-	2.104	53.44	-	-	2.375	60.3	½
2½	18.12	460.2	6.56	166.6	-	-	-	-	2.504	63.60	-	-	2.875	73.0	½
3	20.37	517.4	6.69	169.9	21.87	555.5	7.44	189.0	3.104	78.84	-	-	3.5	88.9	½
4	23.87	606.3	7.94	201.7	24.87	631.7	8.44	214.4	4.090	103.8	-	-	4.5	114	½
6	31.12	790.4	8.81	223.8	32.87	834.9	9.69	246.1	6.065	154.1	6.065	154.1	6.625	168	½
8	36.12	917.4	10.07	255.8	38.37	974.6	11.19	284.2	7.981	202.7	7.981	202.7	8.625	219	½
10	39.62	1006	10.82	274.8	42.12	1070	12.07	306.6	10.02	254.5	10.02	254.5	10.75	273	½
12	41.87	1063	11.19	284.2	45.37	1152	12.94	328.7	12.00	304.8	11.94	303.3	12.75	323	½
14	42.37	1076	12.19	309.6	46.12	1171	14.06	357.1	13.25	336.6	13.13	333.5	14	355	½
16	43.37	1102	12.69	322.3	46.37	1178	14.19	360.4	15.25	387.4	15.00	381.0	16	406	½
18	45.87	1165	12.94	328.7	49.37	1254	14.69	373.1	17.25	438.2	17.25	438.2	18	457	½
20	50.50	1283	13.25	336.6	55.00	1397	15.50	393.7	19.25	489.0	19.25	489.0	20	508	½
24	63.63	1616	17.81	452.4	70.63	1794	21.31	541.3	23.25	590.6	23.25	590.6	24	609	½

- Overall length (A) tolerance varies with line size: 1/2" to 1", $\pm 1/8"$ ($\pm 4\text{mm}$); 1 1/2" to 10", $\pm 3/16"$ ($\pm 6\text{mm}$); 12" to 24", $\pm 1/4"$ ($\pm 7\text{mm}$).
- Typical values shown.
- Wall pressure ports are required for vertical up flow applications.

MODEL NUMBER CONFIGURATION VR_(H)



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SPECIFICATION SHEET

Type	Size		Materials		Pipe Schedule		End Connections		Fittings			
VR												
	0A	½"	Q	S304/L	D	Std	21	CL 600 WN RTJ	N	NPT		
	0B	¾"	A	S316/L	R	30	22	CL 900 WN RTJ	S	Socket		
	01	1"	U	CS Pipe	E	40			F	Direct mount assembly		
	0C	1½"		S304 Cone, Support, & Couplings	Q	60						
	02	2"	F	CS Pipe, Flanges, & Couplings, 316/L Cone & Supports	F	80						
	0D	2½"		J	100							
	03	3"	V	CS Pipe	K	120						
	04	4"		L	140							
	06	6"	G	LTCS Pipe, Flanges, & Couplings, S316/L Cone & Supports	G	160	‡Other materials can include: HASTELLOY C-276 DUPLEX 2205 CHROMEMOLY P22/P11 MONEL K400/K500 CARBON STEELS A350, A333, API5L, A106B S321H INCONEL 625					
	08	8"		P	XS							
	10	10"	H	XXS								
	12	12"										
	14	14"										
	16	16"										
	18	18"										
20	20"											
24	24"											

Several types of fittings available.

Several types of fittings available.

Example: VR02QF22N V-Cone 2 inch line size, S304, schedule 80 pipe, ANSI CL 900 WN RTJ flanges, ½" NPT fittings

STANDARD PIPE SCHEDULES

Stainless Steel		Carbon Steel	
Size	Std.	Size	Std.
½" 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	WN	Weld Neck
CS	Carbon steel	RTJ	Ring Type Joint

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

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

REPRESENTED BY:



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