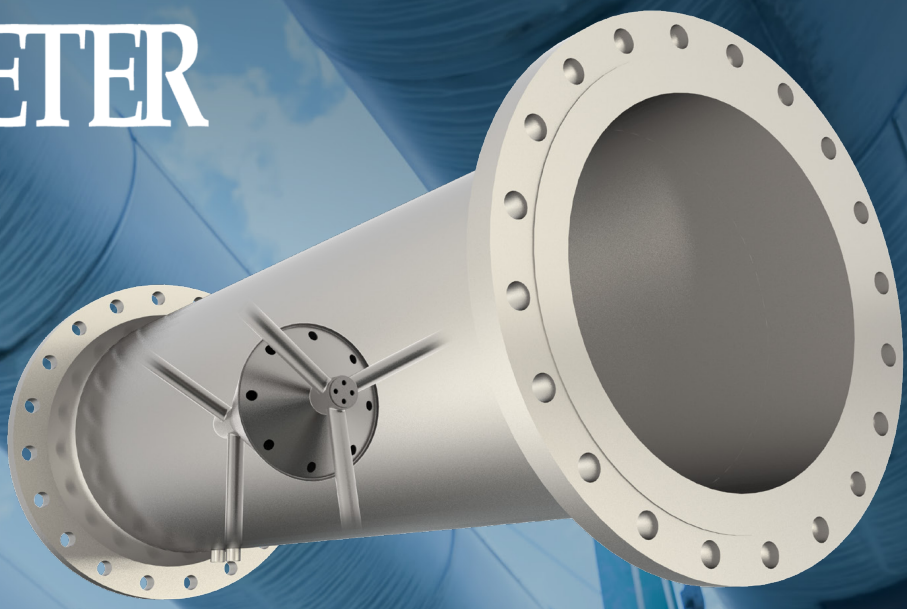
McCROMETER

V-Cone®

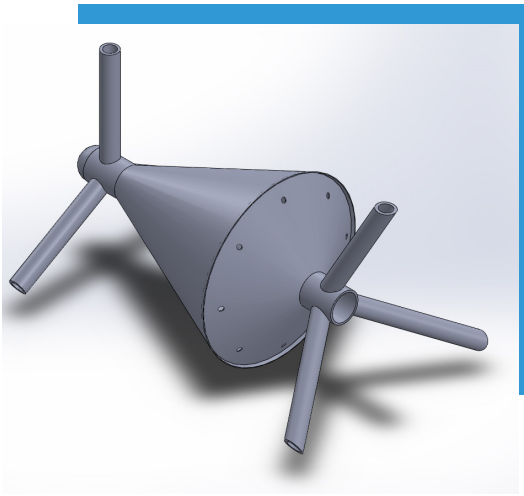
3-Gusset Design



Robust Flow Measurement for Large Line Size Applications

V-Cone 3-Gusset Design

The V-Cone flow meter has always assured long-term performance, and the reimagined, robust design for line sizes above 18 inches is no different. Like the standard V-Cone, it offers no moving parts to replace or maintain, and provides gusseted cone support contributing to a 25+ year lifespan. McCrometer's engineering team conducted extensive testing and Finite Element Analysis (FEA) modeling to produce the durable 3-gusset innovation. This reimagined, gusseted design accounts for many "real world" demanding applications.



Reinforced Cone

Designed for harsh operating environments and resistant to corrosive fluids, the V-Cone for large line sizes consistently outperforms other flow technologies. The patented 3-gusset support system improves durability and extends the product life even in extreme applications.

This meter features a design that is fully supported with pipe gussets that affix both upstream and downstream of the primary element, adding rigidity to the construction. This particular design mitigates hazards in various flow applications prone to pressure surges, velocity spikes, and vibrational resonance.

Compatible in a Variety of Conditions

Venting and Flaring

Depressurization

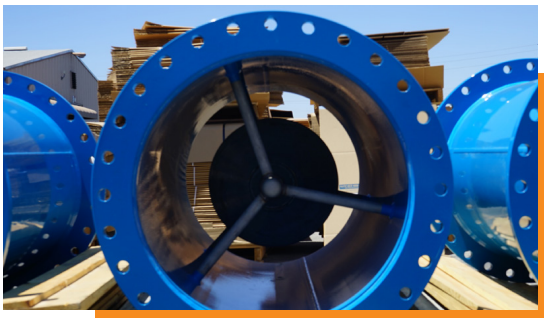
Reverse Flow

Compressors

Vibration Resistant

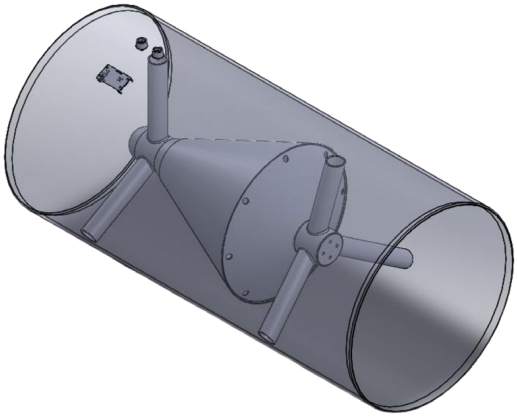
The new V-Cone design for larger line sizes eliminates worry around vibrational frequencies caused by vortex shedding of flow or nearby plant operational equipment. The 3-gusset design provides direct support for the cone structure, eliminating stresses due to unsupported, cantilevered weight, and creating unparalleled durability in a wide range of applications.

Superior Performance



The V-Cone provides repeatable accuracy of up to ±0.5% of rate, and can handle turndowns of 10:1 and greater. In addition, the V-Cone flow meter has an unprecedented long life of 25 years or more, making it the smart choice for large line sizes.

Low Installed Cost



When retrofitting existing applications, the V-Cone flow meter fits right in place without having to re-engineer the piping layout. This installation flexibility saves cost and space and minimizes weight penalty problems without compromising the accuracy of the measurements. Future changes to upstream or downstream piping configurations will not affect the performance of the V-Cone flow meter.

Customer Success Story

An oil and gas customer in Asia was searching for a differential pressure meter solution to measure nitrogen gas in an air separator application. The customer's large air separation units required several meters at 40" pipe diameter that could tolerate a highly pressurized flow and vibrational resonance from surrounding generators, air compression pumps, and other industrial machinery. The V-Cone's pressure tolerance of up to 15,000 PSI, customized material construction, and 3-gusset design allowed McCrometer to provide the customer with a flow meter solution that would mitigate surrounding hazards and stand up to the stringent environment.

Product Specifications

Standard Accuracy:	From ± 0.5% of actual flow (certain fluids and Reynolds number applications require special calibrations to achieve this value)
Design Pressure:	Up to 10,000 psi
Temperature Range:	Up to 150°C (302°F)
Repeatability:	±0.1% or better
Flow Ranges:	10:1 and greater
Standard Beta Ratios:	0.45 through 0.80, special betas available
Head Loss:	Varies with beta ratio and DP
Installation Piping Requirements:	Typically 0-3 diameters upstream and 0-1 diameters downstream of the cone are required, depending on fittings or valves in the adjacent pipeline
Materials of Construction Include:	Duplex, 304, or 316 stainless steel, Hastelloy C-276, 6MO, carbon steels. Other materials on request
Meter Line Size:	18 inches and up
End Fittings:	ANSI, API compact flange, hub connectors. Others on request
Configurations:	Precision flow tube and wafer-type Calibrated for customer application ASME B31.3 construction standard ASME 31.1, B31.4, B31.8, API 6A Other standards available on request
Approvals for the V-Cone Flow Meter:	Canadian custody transfer approved Meters in compliance with PED2014/68/EU Annex III, Module H are available upon request ISO 9001:2015 certified quality management system

For more information or to receive a quote, visit:

www.mccrometer.com/og

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