VV
VENTURI VALVE

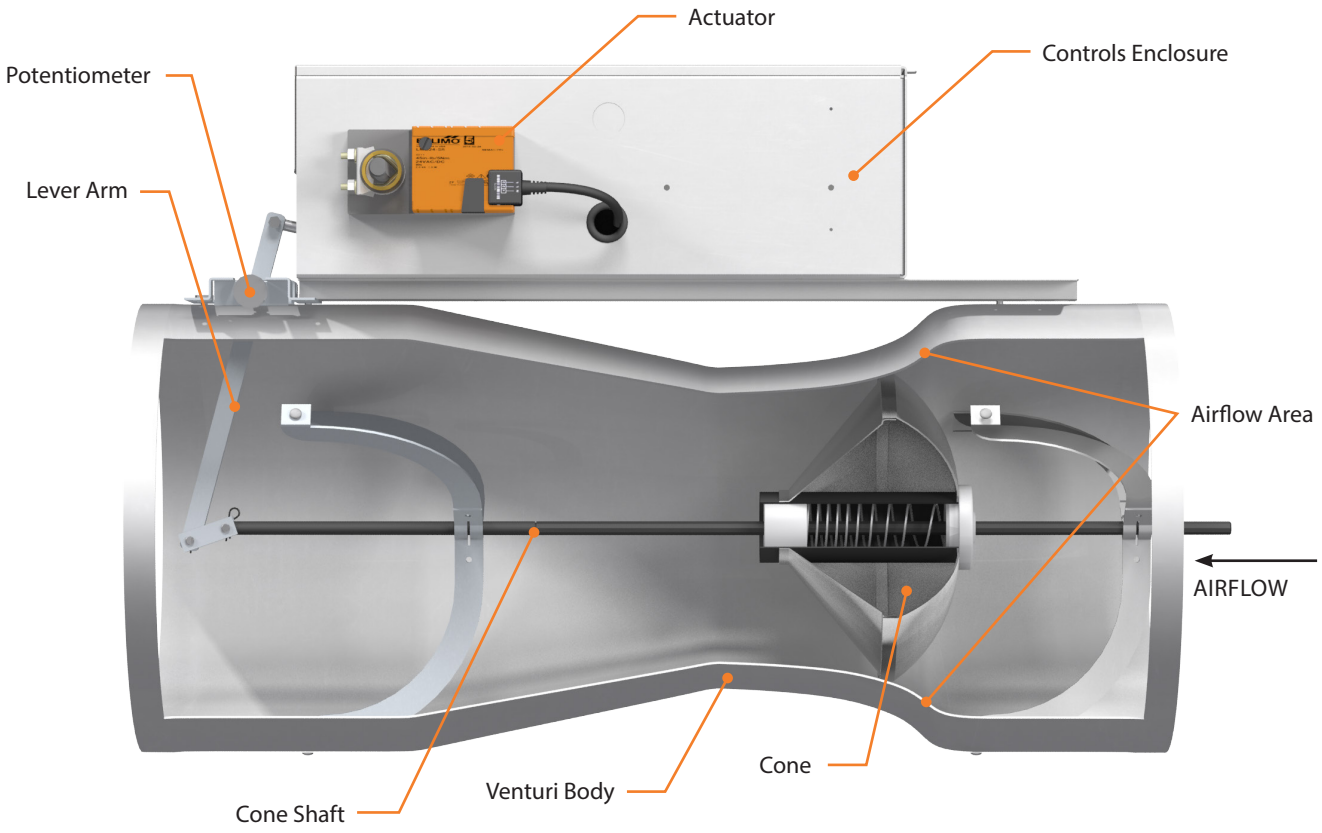
ANTEC controls
by price

VV
Venturi Valve

Available in constant or variable air volume configurations, the Venturi Valve is able to control flow without the need for airflow measuring devices in the airstream. The device eliminates the possibility of lint or other airborne particulates interfering with the control or accuracy of the valve. The valve provides electronic flow feedback using a precision potentiometer to output a signal proportional to airflow.

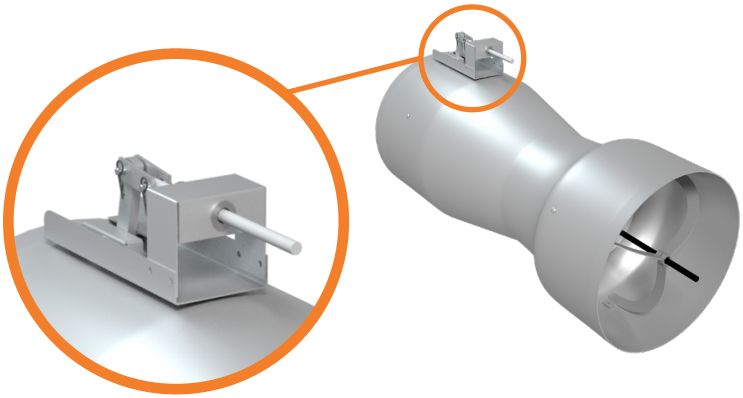
Each valve is factory characterized on NVLAP accredited airflow calibration stations (NVLAP Lab Code 201067-0 complying with ISO/IEC 17025) using N.I.S.T traceable equipment to ensure dependable and repeatable valve accuracy. Antec Controls Venturi Valves are accurate to ±5% of flow when operated within the designed pressure range. Valve accuracy is unaffected by inlet conditions and does not require any minimum distance of straight duct on the inlet or outlet of the valve.

Mechanical pressure independence is achieved through the highly engineered internal cone assembly. The cone assembly ensures the valve responds instantaneously to changes in duct static pressure. Turndown ratios reaching up to 20:1 maximize energy savings when space unoccupied or when at minimum flow set point.



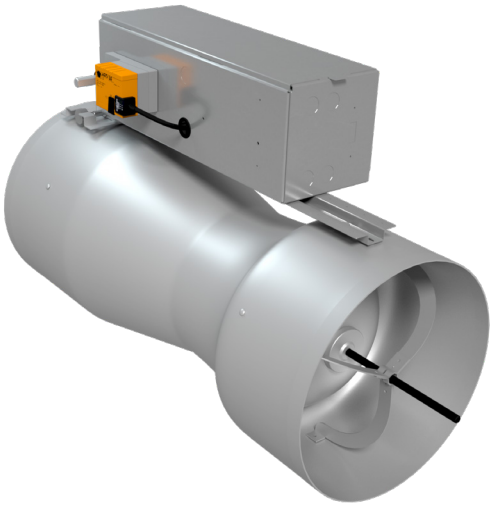
CONSTANT VOLUME

The valves are built to operate within a specified duct pressure range. Constant Volume (CAV) valves are designed with the linkage locked at a specified flow from the factory but can be manually adjusted in the field.



VARIABLE VOLUME

Variable volume (VAV) or 2 position (2P) valves are designed to be controlled using direct digital controls (DDC) based on the electronic flow feedback. All VAV and 2P valves will be shipped with a control enclosure and the actuator mounted and calibrated.



TYPICAL APPLICATIONS

Venturi Valves are mechanically pressure independent control valves designed specifically for room pressure and fume hood control applications.

FEATURES

+ Electronic airflow feedback prevents dust/lint contamination from deteriorating airflow reading
+ Characterized and calibrated using accredited airflow stations
+ Medium or low pressure operation
+ Operating pressure feedback

OPTIONS & ACCESSORIES

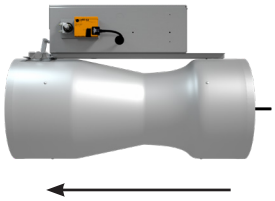
See Valve & Accessories Section for details

+ Actuator Options
+ Insulation Options
+ Connection Options
  - Slip
  - Flanged
+ Connection Accessories
  - Drawband Clamps
  - Companion Flanges
+ Hot Water Coils
+ Electric Coils
+ Silencers

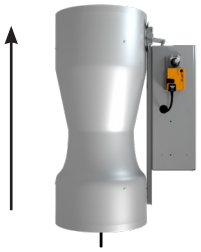
CONFIGURATIONS

NOTE: Casing leaking for VV is <1 CFM (0.5 L/s) up to 3 in.w.c. (746.5 Pa) for all valve sizes and orientations.

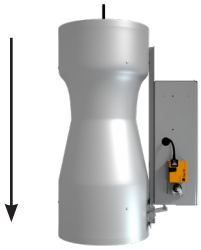
Horizontal Configuration Flow Ranges

AIRFLOW DIRECTION	Size	Low Pressure		Medium Pressure	
		L/s	CFM	L/s	CFM
	108	17-236	35-500	17-330	35-700
	110	24-260	50-550	24-472	50-1000
	112	42-566	90-1200	42-708	90-1500
	114	94-660	200-1400	94-1180	200-2500
	210	48-519	100-1100	48-944	100-2000
	212	84-1132	180-2400	84-1416	180-3000
	214	189-1320	400-2800	188-2360	400-5000
	312	126-1699	270-3600	126-2124	270-4500
	314	282-1980	600-4200	282-3540	600-7500
	412	168-2264	360-4800	168-2832	360-6000
	414	376-2640	800-5600	376-4720	800-10000

Vertical Up Configuration Flow Ranges

AIRFLOW DIRECTION	Size	Low Pressure		Medium Pressure	
		L/s	CFM	L/s	CFM
	108	17-236	35-500	17-330	35-700
	110	24-260	50-550	24-472	50-1000
	112	42-566	90-1200	42-708	90-1500
	114	94-660	200-1400	94-1180	200-2500
	210	48-519	100-1100	48-944	100-2000
	212	84-1132	180-2400	84-1416	180-3000
	214	189-1320	400-2800	188-2360	400-5000
	312	126-1699	270-3600	126-2124	270-4500
	314	282-1980	600-4200	282-3540	600-7500
	412	168-2264	360-4800	168-2832	360-6000
	414	376-2640	800-5600	376-4720	800-10000

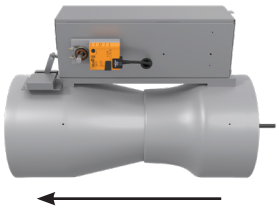
Vertical Down Configuration Flow Ranges

AIRFLOW DIRECTION	Size	Low Pressure		Medium Pressure	
		L/s	CFM	L/s	CFM
	108	17-236	35-500	17-330	35-700
	110	24-260	50-550	24-472	50-1000
	112	42-566	90-1200	42-708	90-1500
	114	94-660	200-1400	94-1180	200-2500
	210	48-519	100-1100	48-944	100-2000
	212	84-1132	180-2400	84-1416	180-3000
	214	189-1320	400-2800	188-2360	400-5000
	312	126-1699	270-3600	126-2124	270-4500
	314	282-1980	600-4200	282-3540	600-7500
	412	168-2264	360-4800	168-2832	360-6000
	414	376-2640	800-5600	376-4720	800-10000

Horizontal Shutoff Configuration (VV-SSO)

VV-SSO will operate in the same way as an Antec Controls Venturi Valve when used in normal operating conditions. The highly engineered internal cone assembly ensures the valve will respond to changes in duct static pressure instantaneously. When zero airflow is required, the valve will close to restrict airflow from passing through. Shutoff valves can be used as an energy saving option in areas with non-critical airflow, such as canopy hoods and snorkels.

The shutoff leakage rate is defined as the maximum amount of airflow that may pass through the valve when in the shutoff position.

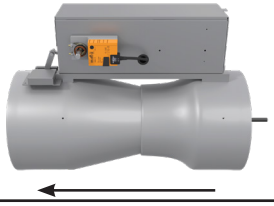
AIRFLOW DIRECTION	Optional Flow Range				
	Size	Low Pressure		Medium Pressure	
		L/s	CFM	L/s	CFM
	108	17-188	35-400	17-283	35-600
	110	24-260	50-550	24-401	50-850
	112	42-424	90-900	42-614	90-1300
	114	-	-	94-708	200-1500
	210	48-519	100-1100	48-802	100-1700
	212	84-840	180-1800	84-1227	180-2600
	214	-	-	188-1415	400-3000
	312	126-1260	270-2700	126-1842	270-3900
	314	-	-	282-2167	600-4500
	412	168-1680	360-3600	168-2454	360-5200
	414	-	-	376-2830	800-6000

Note: All sizes have the ability to shutoff (zero CFM)

Low Leakage Shutoff Configuration (LLSO)

Engineered specifically for areas requiring critical shutoff airflow performance such as biosafety labs, the LLSO utilizes an internal gasket to restrict leakage to almost zero. Under normal operating conditions, the LLSO operates like the Antec Controls Venturi Valve, responding to changes in duct static pressure instantaneoulsy.

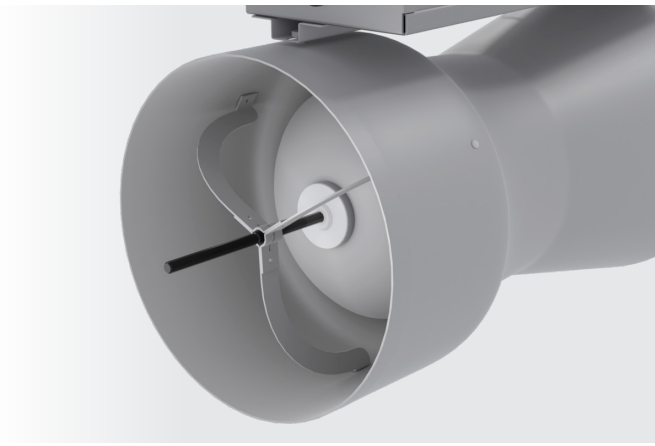
The shutoff leakage rate is defined as the maximum amount of airflow that may pass through the valve when in the shutoff position.

AIRFLOW DIRECTION	Optional Flow Range		
	Size	Medium Pressure	
		L/s	CFM
	108	17-283	35-600
	110	24-401	50-850
	112	42-614	90-1300
	212	84-1227	180-2600
	312	126-1842	270-3900

Note: All sizes have the ability to shutoff (zero CFM)

PROTECTIVE COATINGS

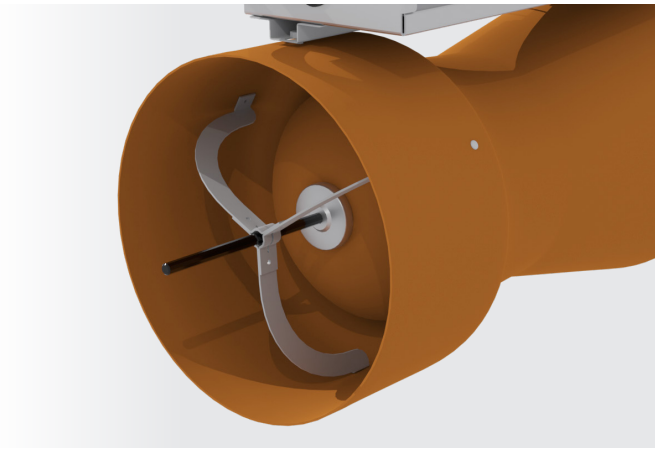
Depending on the application, various coatings can be applied to protect the operation of the valve.



Aluminum

Aluminum valves are used in clean air or non-corrosive applications. Features include:

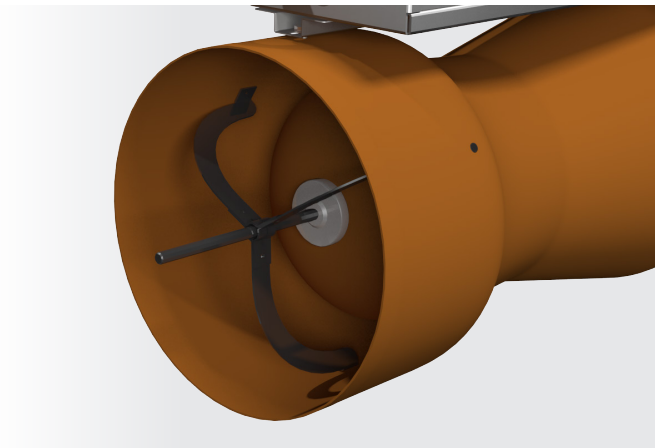
+ Aluminum valve body and cone construction
+ Stainless steel internal hardware and support brackets



Phenolic Coating – Class 1

Most fume hoods require a class 1 phenolic coating. Features include:

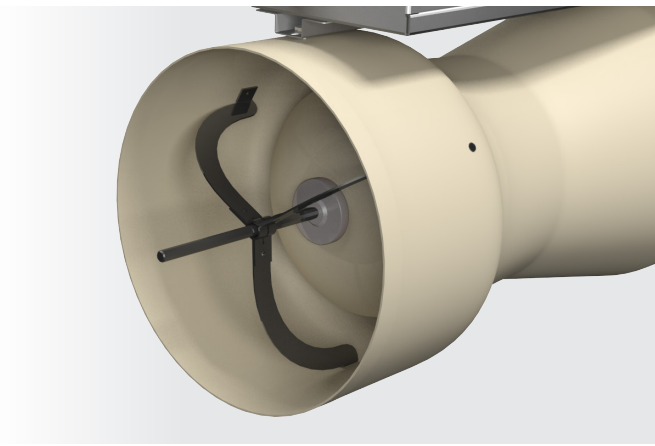
+ Aluminum valve body and cone construction
+ Phenolic coated venturi body and cone
+ Stainless steel internal hardware and support brackets



Phenolic Coating – Class 2

Class 2 phenolic coating is required when the valve is exhausting corrosive gases such as chloric acids, bromine and sodium bisulfate. Features include:

+ Aluminum valve body and cone construction
+ Phenolic coated venturi body, and cone
+ PFA Teflon coated stainless steel internal hardware
+ PFA Teflon coated center shaft and support brackets
+ No exposed metal



PVDF Kynar® Coating

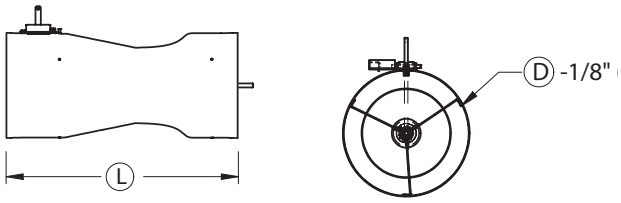
PVDF Kynar® coating is required when the valve is exhausting extremely corrosive gases such as nitric acid, hydrofluoric acid, and sodium hydroxide. Features include:

+ Aluminum valve body and cone construction
+ Kynar® coated venturi body, and cone
+ PFA Teflon coated stainless steel internal hardware
+ PFA Teflon coated center shaft and support brackets
+ No exposed metal

DIMENSIONAL DATA

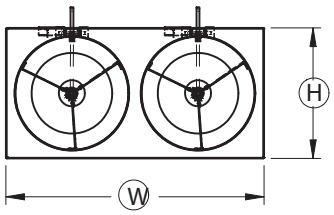
Single Valve

Unit Size	D		L		Weight	
	in.	mm	in.	mm	lb	kg
108	8	203.2	23.5	596.9	19	8.6
110	10	254	21.75	551.2	20	9.1
112	12	304.8	27	685.8	22	10
114	14	355.6	30	762	24	10.9



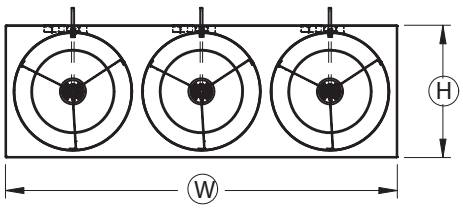
Dual Valve

Unit Size	L*		H		W		Weight	
	in.	mm	in.	mm	in.	mm	lb	kg
210	21.75	552.5	11.25	285.8	22.25	565.2	34	15.4
212	27	685.8	13.25	336.6	26.25	666.8	40	18.1
214	30	762	15.25	387.4	30.25	768.4	45	20.4



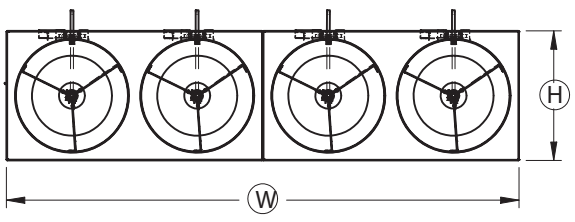
Triple Valve

Unit Size	L*		H		W		Weight	
	in.	mm	in.	mm	in.	mm	lb	kg
312	27	685.8	13.25	336.6	39.25	997	58	26.3
314	30	762	15.25	387.4	45.25	1149.4	65	29.5



Quad Valve

Unit Size	L*		H		W		Weight	
	in.	mm	in.	mm	in.	mm	lb	kg
412	27	685.8	13.25	336.6	52.5	1333.5	80	36.3
414	30	762	15.25	387.4	60.5	1536.7	95	43.1



*Add an extra 1.5 in. (38.1 mm) on each end for slip connection on dual, triple and quad valves.

See current submittals on **www.AntecControls.com** for complete dimensional data.

SPECIFICATIONS

See the latest information located in the product submittal available at www.AntecControls.com

PERFORMANCE DATA

See current information on www.AntecControls.com

Product Improvement is a continuing endeavour at Antec Controls by Price. Therefore, specifications are subject to change without notice. Consult your Sales Representative for current specifications or more detailed information. Not all products may be available in all geographic areas. All goods described in this document are warranted as described in the Limited Warranty. The complete product catalog can be viewed online at **AntecControls**.com