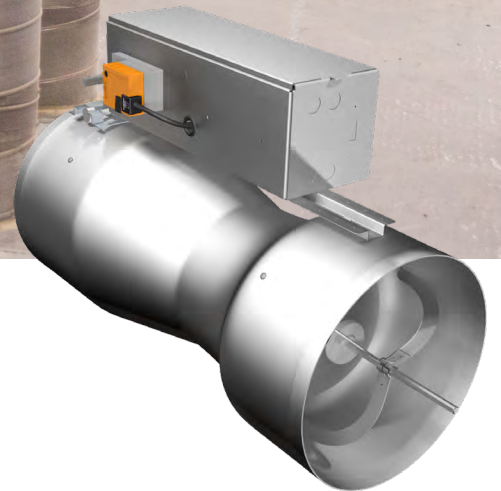




VENTURI VALVE



ANTEC controls
by PRICE

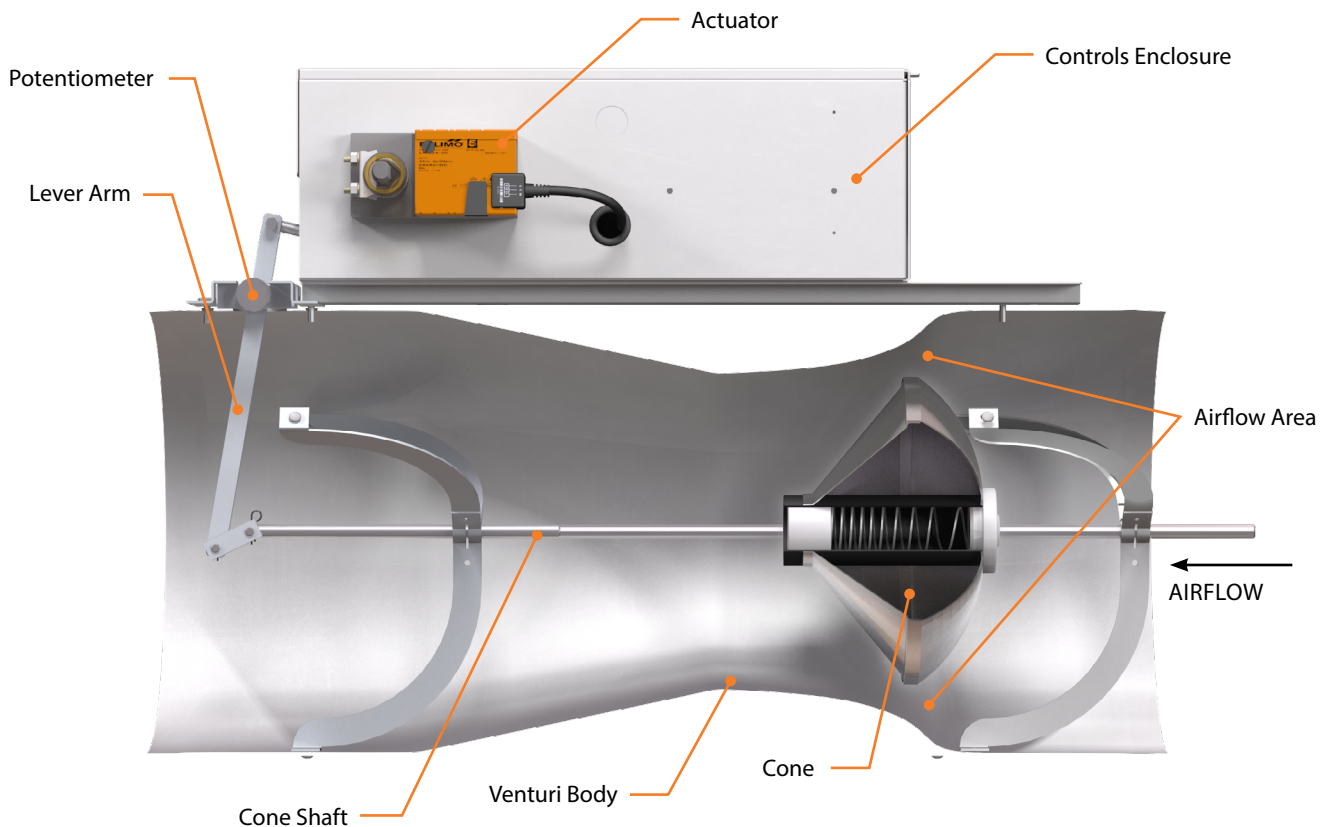
VV

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.

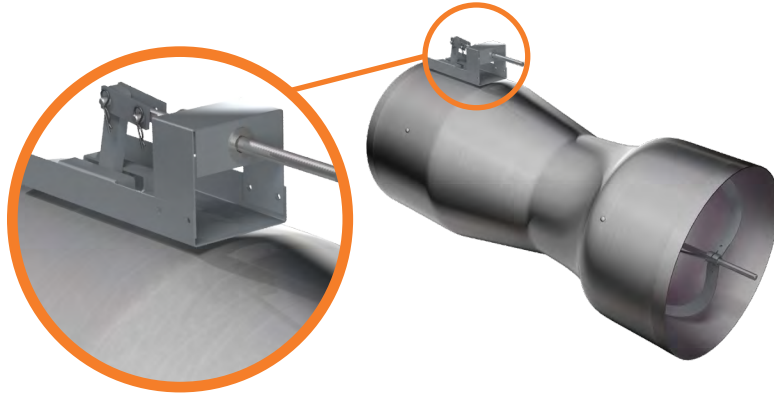
Each valve is factory characterized on NVLAP accredited airflow calibration stations (NVLAP Lab Code 201067-0 complying with ISO/IEC 17025) using N.I.S.T traceable equipment to ensure dependable and repeatable valve accuracy. Antec Controls Venturi Valves are accurate to $\pm 5\%$ of flow when operated 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 plunger assembly. The plunger 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

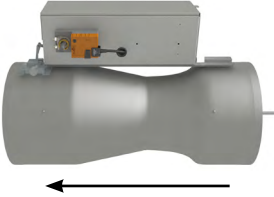
OPTIONS & ACCESSORIES

See Valve & Accessories Section for details

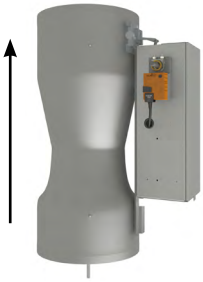
- + Actuator Options
- + Insulation Options
- + Connection Options
 - Slip
 - Flanged
- + Connection Accessories
 - Drawband Clamps
 - Companion Flanges
- + Hot Water Coils
- + Electric Coils
- + Silencers

CONFIGURATIONS

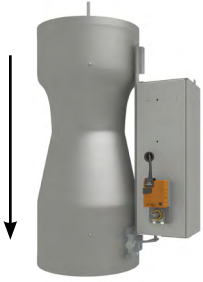
Horizontal Configuration Flow Ranges

| 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 | 26-472 | 50-1000 |
| | 112 | 43-566 | 90-1200 | 43-708 | 90-1500 |
| | 114 | 94-661 | 200-1400 | 94-1180 | 200-2500 |
| | 210 | 47-519 | 100-1100 | 47-944 | 100-2000 |
| | 212 | 85-1133 | 180-2400 | 85-1416 | 180-3000 |
| | 214 | 189-1322 | 400-2800 | 189-2360 | 400-5000 |
| | 312 | 127-1699 | 270-3600 | 127-2124 | 270-4500 |
| | 314 | 283-1982 | 600-4200 | 283-3540 | 600-7500 |
| | 412 | 170-2265 | 360-4800 | 170-2832 | 360-6000 |
| | 414 | 378-2643 | 800-5600 | 378-4720 | 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 | 26-472 | 50-1000 |
| | 112 | 43-566 | 90-1200 | 43-708 | 90-1500 |
| | 114 | 94-661 | 200-1400 | 94-1180 | 200-2500 |
| | 210 | 47-519 | 100-1100 | 47-944 | 100-2000 |
| | 212 | 85-1133 | 180-2400 | 85-1416 | 180-3000 |
| | 214 | 189-1322 | 400-2800 | 189-2360 | 400-5000 |
| | 312 | 127-1699 | 270-3600 | 127-2124 | 270-4500 |
| | 314 | 283-1982 | 600-4200 | 283-3540 | 600-7500 |
| | 412 | 170-2265 | 360-4800 | 170-2832 | 360-6000 |
| | 414 | 378-2643 | 800-5600 | 378-4720 | 800-10000 |

Vertical Down Configuration Flow Ranges

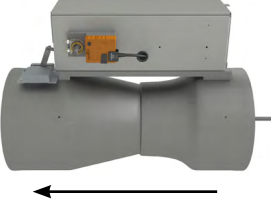
| AIRFLOW DIRECTION | Size | Low Pressure | | Medium Pressure | |
|---|------|--------------|----------|-----------------|-----------|
| | | L/s | CFM | L/s | CFM |
|  | 108 | 17-236 | 35-500 | 17-330 | 35-700 |
| | 110 | 24-260 | 50-550 | 26-472 | 50-1000 |
| | 112 | 43-566 | 90-1200 | 43-708 | 90-1500 |
| | 114 | 94-661 | 200-1400 | 94-1180 | 200-2500 |
| | 210 | 47-519 | 100-1100 | 47-944 | 100-2000 |
| | 212 | 85-1133 | 180-2400 | 85-1416 | 180-3000 |
| | 214 | 189-1322 | 400-2800 | 189-2360 | 400-5000 |
| | 312 | 127-1699 | 270-3600 | 127-2124 | 270-4500 |
| | 412 | 170-2265 | 360-4800 | 170-2832 | 360-6000 |
| | 414 | 378-2643 | 800-5600 | 378-4720 | 800-10000 |

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 Shutoff Configuration (VV-SSO)

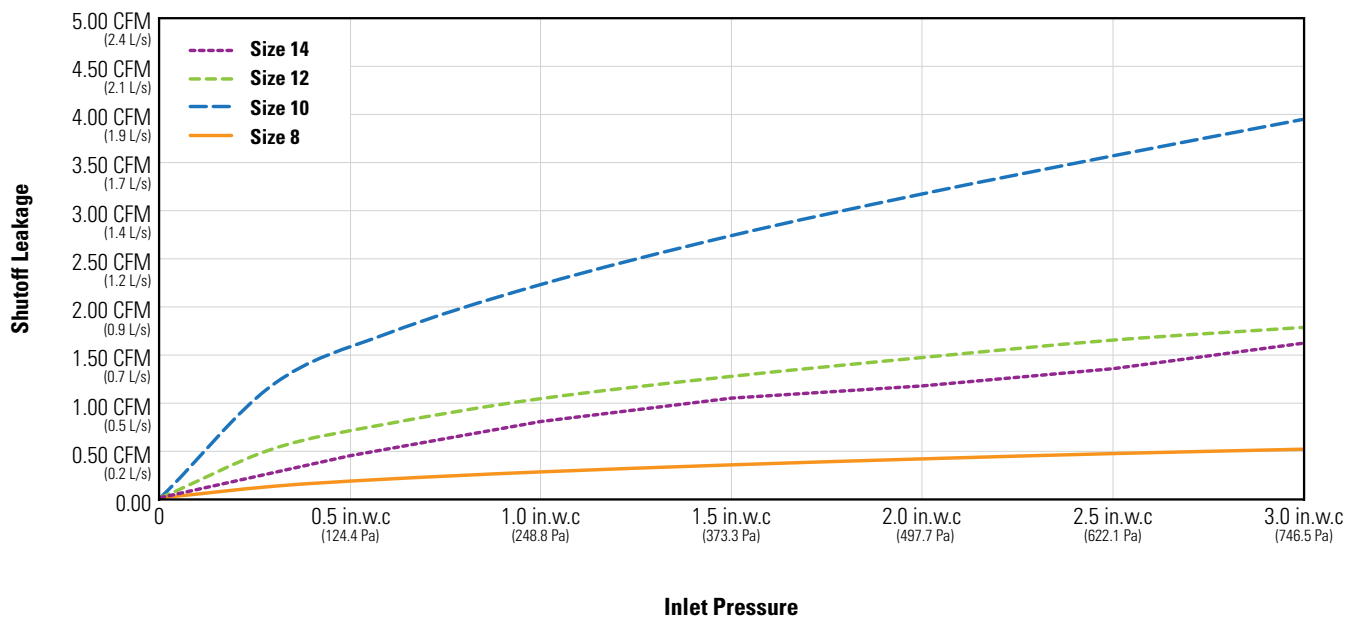
VV-SSO will operate in the same way as an Antec Controls Venturi Valve when used in normal operating conditions. The highly engineered internal plunger assembly ensures the valve will respond to changes in duct static pressure instantaneously. When zero airflow is required, the valve will close to restrict 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 | 17-189 | 35-400 | 17-283 | 35-600 |
| | 110 | 24-260 | 50-550 | 24-401 | 50-850 |
| | 112 | 43-425 | 90-900 | 43-614 | 90-1300 |
| | 114 | - | - | 94-708 | 200-1500 |
| | 210 | 47-519 | 100-1100 | 47-802 | 100-1700 |
| | 212 | 85-850 | 180-1800 | 86-1227 | 180-2600 |
| | 214 | - | - | 189-1416 | 400-3000 |
| | 312 | 127-1274 | 270-2700 | 127-1841 | 270-3900 |
| | 314 | - | - | 283-2124 | 600-4500 |
| | 412 | 170-1699 | 360-3600 | 170-2452 | 360-5200 |
| | 414 | - | - | 378-2832 | 800-6000 |

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

Leakage Rates



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

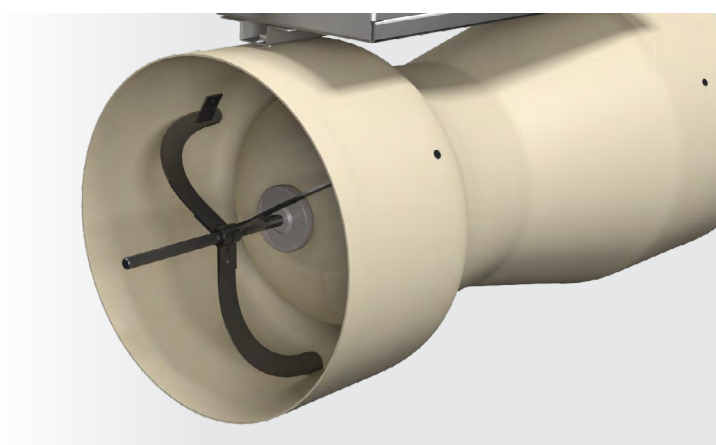
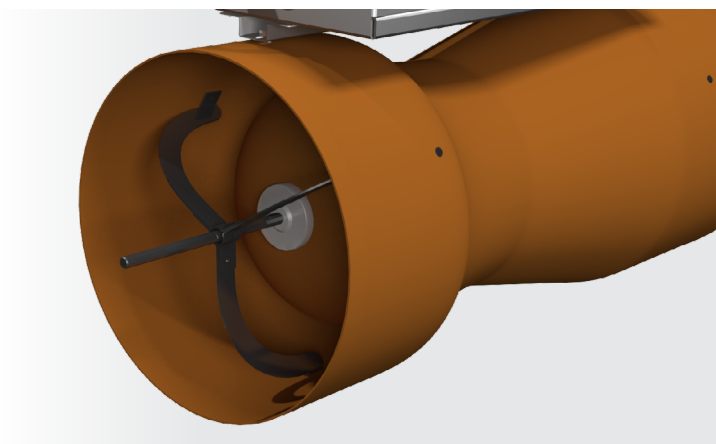
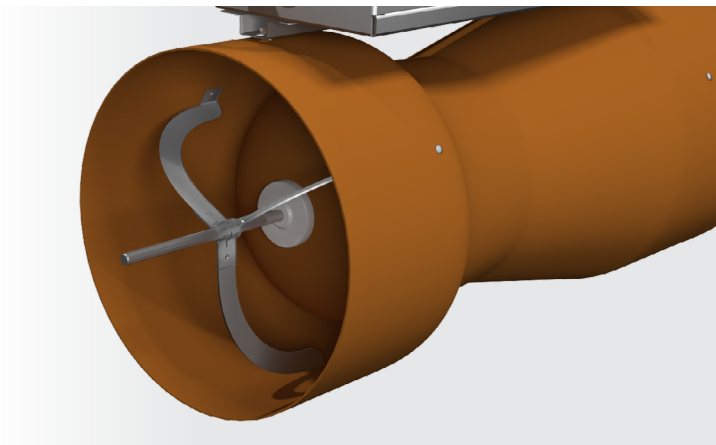
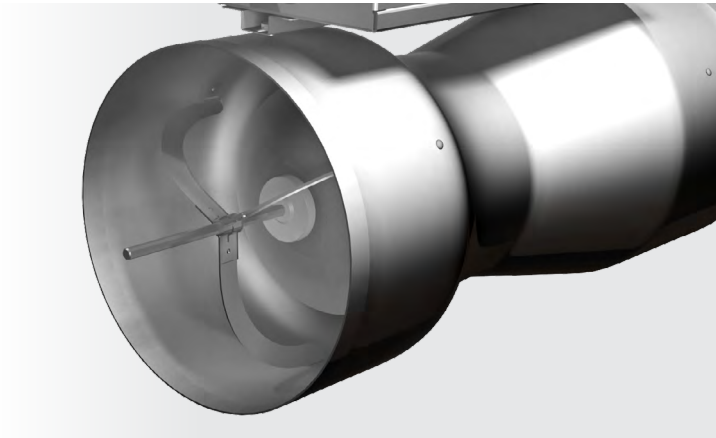
Class 2 phenolic coating is required when the valve is exhausting corrosive gases such as chloric acids, bromine and sodium bisulfate. Features include:

- + 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:

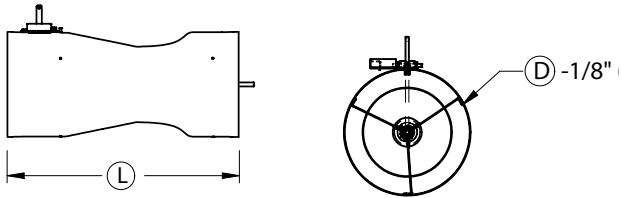
- + Aluminum valve body and cone construction
- + Kynar® coated venturi body, and cone
- + PFA Teflon coated stainless steel internal hardware
- + PFA Teflon coated center shaft and support brackets
- + No exposed metal



DIMENSIONAL DATA

Single Valve

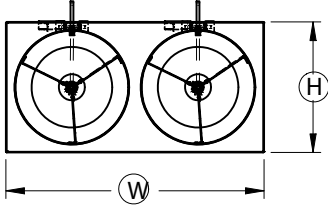
| Unit Size | D | | L | | Weight | |
|-----------|-----|-------|-------|-------|--------|------|
| | in. | mm | in. | mm | lb | kg |
| 108 | 8 | 203.2 | 23.5 | 596.9 | 19 | 8.6 |
| 110 | 10 | 254 | 21.75 | 551.2 | 20 | 9.1 |
| 112 | 12 | 304.8 | 27 | 685.8 | 22 | 10 |
| 114 | 14 | 355.6 | 30 | 762 |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



Technical drawings of a single valve. The left drawing is a side view showing the length dimension **L**. The right drawing is a top view showing the diameter dimension **D** and a note indicating **D** - 1/8".

Dual Valve

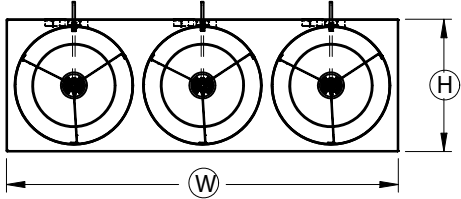
| Unit Size | L* | | H | | W | | Weight | |
|-----------|-------|-------|-------|-------|-------|-------|--------|------|
| | in. | mm | in. | mm | in. | mm | lb | kg |
| 210 | 21.75 | 552.5 | 11.25 | 285.8 | 22.25 | 565.2 | 34 | 15.4 |
| 212 | 27 | 685.8 | 13.25 | 336.6 | 26.25 | 666.8 | 40 | 18.1 |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



Technical drawing of a dual valve showing a top view with width dimension **W** and height dimension **H**.

Triple Valve

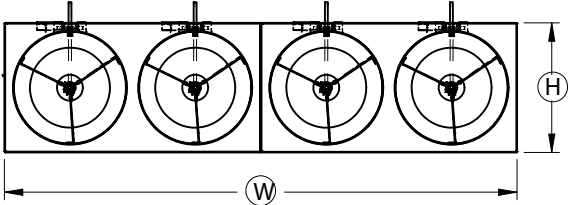
| Unit Size | L* | | H | | W | | Weight | |
|-----------|-----|-------|-------|-------|-------|--------|--------|------|
| | in. | mm | in. | mm | in. | mm | lb | kg |
| 312 | 27 | 685.8 | 13.25 | 336.6 | 39.25 | 997 | 58 | 26.3 |
| 314 | 30 | 762 | 15.25 | 387.4 | 45.25 | 1149.4 | 65 | 29.5 |



Technical drawing of a triple valve showing a top view with width dimension **W** and height dimension **H**.

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 |



Technical drawing of a quad valve showing a top view with width dimension **W** and height dimension **H**.

*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



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