

# Overview and Capabilities



## Over 150 years of Expertise in Flow Control



Hays Fluid Controls is headquartered in Dallas, NC (a suburb of Charlotte), a leading manufacturer of flow controls and hydronic balancing solutions. Established in 1869, Hays provides products for naval, commercial HVAC, and plumbing systems. With its patented Mesurflo® technology, Hays is the only company in the industry that offers balancing valves without the use of a spring-based design.

## From Submarines to Commercial HVAC & Beyond



For the past 60 years, Hays has provided flow control valves to the U.S. Navy for both submarines and surface vessels. Since the mid-90s, this technology has also been adapted for use in hotels, multi-family housing units, K-12 and higher education institutions, hospitals, and office spaces.

Today, Hays valves are utilized in thousands of prominent buildings across North America and around the globe to optimize hydronic system performance. The company is recognized as a leading authority in the flow control industry.

# EXPERIENCE AND EXPERTISE MATTER

## Reliability

Ensuring systems are failure-free is our highest priority. With designs and technology trusted by the military for use on submarines and surface vessels, and a dedicated team committed to exceptional customer support, Hays has spent over 150 years establishing a reputation for reliability and durability. We are devoted to delivering the best experience possible and maintaining the highest quality in our products.



## Simplicity

From easily accessible technical information and intuitive packaging to straight forward installation instructions and the simple design of the Mesurflo®, we ensure that every aspect of the customer experience is exquisitely simple. Over time, we've gained a deep understanding of what matters most to our customers' priorities and remain focused on delivering what truly matters.

## Connection

Hays fosters stronger connections throughout their business, starting with the valves themselves and extending to key partners such as building owners, engineers, contractors, manufacturer representatives, and end users. We are committed to providing tailored solutions and exceptional customer support, ensuring a comfortable experience for occupants. Hays is a dedicated partner that approaches each project with integrity and a deep understanding of our clients' needs.



Hays takes the stress away with **military-grade** products and a **connection to their customers** that make any project feel **exquisitely simple**.



The vast majority of Hays valves are manufactured in the U.S.A., with nearly all products in the Mesurflo® line meeting the Buy America Act requirements. Additionally, all support services are provided locally from our Hays factory in North Carolina.



# AUTOMATIC BALANCING VALVES

## SMALL INVESTMENT, HUGE PAYOFF

### Longer HVAC Equipment Life

Overflow conditions in HVAC systems can significantly reduce equipment lifespan. Increased water flow leads to higher velocities, accelerating wear and tear on coils. Proper balancing enhances the longevity of the units, potentially saving thousands in repair costs. The distinctive design and lifetime warranty of the Mesurflo® ensure that unit integrity is maintained for years.

### Significant Energy Savings

Automatic balancing valves are one of the most cost-effective energy saving choices for commercial buildings. A small added investment per terminal unit greatly improves pump output and efficiency, providing annual cost savings for the building owner.

### Greater Comfort

By regulating flow and preventing overflow conditions, the Mesurflo® guarantees that cooling and heating water is consistently available to all units, enhancing occupant comfort. Effective flow distribution also minimizes noise caused by excessive flow in the piping, ensuring that the units remain quiet and preserving the effort put into their quiet operation. With its proven performance in submarines, the Mesurflo® is the optimal choice for noise-sensitive environments.

## Mesurflo® Advantages

**Longevity:** By employing a combination of a diaphragm and orifice plate, Hays achieves dynamic pressure independence without the concern of spring degradation. The Mesurflo® features abrasion-resistant construction, operates within a temperature range of 32-225°F, and can handle up to 70% glycol. It is also supported by a lifetime warranty.

**Operating Range:** The Mesurflo® regulates flow from as low as 2 PSID up to 80 PSID. In contrast, spring-based flow controls typically provide limited PSID ranges, such as 1-18, 2-32, or 2-45. These restricted ranges can complicate ordering and installation and may not be suitable for large, high-pressure systems, compromising their dynamic response.

**Quiet:** The Mesurflo® design reduces oscillation, vibration, and feedback in the water system. In contrast, metal-on-metal spring-based valves can introduce feedback that may cause noticeable chatter and disturb occupants.

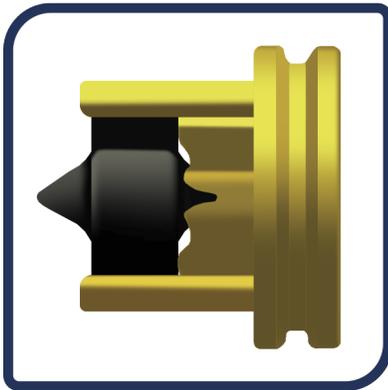
**Non-clogging:** The Mesurflo® is designed without tight fitting components and has a natural self-flushing design to prevent particulates from building up and minimizes the chance of clogging. Spring based designs are notorious for seizing in place due to tight fitting components.

# HOW MESURFLO® VALVES WORK

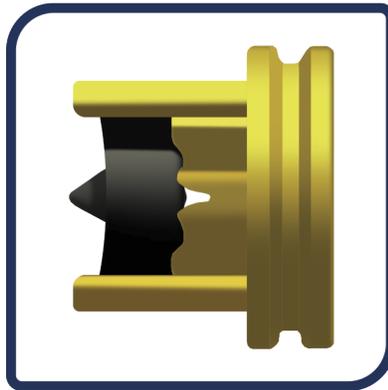
The Mesurflo® limits flow to the selected gallons per minute (GPM) regardless of pressure fluctuations in the hydronic system. Once operating within the

specified range, it maintains a consistent flow rate with an accuracy of  $\pm 10\%$  across a range of 2-80 PSID, depending on the model and flow rate.

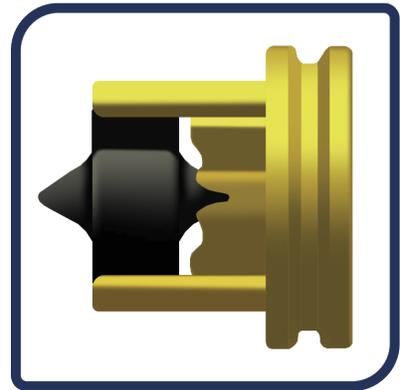
## LOW PRESSURE



## INTERMEDIATE PRESSURE



## REVERSE FLOW ALLOWED



## FUNCTIONAL FLOW DIRECTION

The Mesurflo® valve consists of two main components: (1) a specially blended EPDM rubber diaphragm (the black disc shown in the diagram) and (2) an orifice plate made of Polyphenylsulfone, molded to precise specifications for a specific flow rate. When the pressure differential across the valve reaches the specified operating range, the diaphragm dynamically adjusts by compressing and decompressing against the orifice plate.

This mechanism regulates the flow rate by adjusting the orifice opening, ensuring it does not exceed the designed maximum GPM. This provides pressure-independent protection for the unit against system fluctuations. When the pressure differential falls below the operating range, the Mesurflo® valve operates as an open orifice, allowing for lower flow than the maximum designed rate, which is useful in modulated control scenarios.



# HAYS PRODUCT LINE

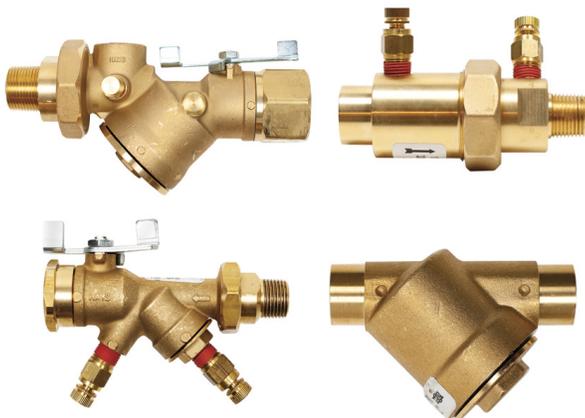


## Piping Packages

- Used with FCUs, VAVs, FPBs, UHs, BCUs, AHUs, etc.
- Includes all major components needed for supply and return side (options available).
- Hard pipe or flex hose (shown) available.
- Optional temperature control valve can be purchased, or Hays can mount a customer supplied valve.
- Completely assembled to save time and money on installation in the field.
- All connections are leak tested in factory.
- Parts shrink wrapped on board and tagged by unit and area at no added cost before shipment.

## Hose Kits

- Used with WSHPs and chilled beams.
- Includes all major components needed for supply and return side (options available).
- Standard hose lengths of 12", 18", 24", 36", and 48" (custom lengths available).
- Completely assembled to save time and money on installation in the field.
- All connections are leak tested in factory.
- Supply/Return sides zip tied together and tagged at no added cost.



## Automatic Balancing Valves

- Size ranges from 1/2" to 36" in diameter.
- Flow rates from 0.5 GPM to 36,000 GPM.
- All Hays automatic balancing valves feature Mesurflo® technology.
- Wide variety of designs to match the system design.
- Suitable for new installations or renovations.

## Actuator Valves, Accessory Products and Custom-Fabricated Packages

- Actuated temperature control valves for use on terminal HVAC equipment.
- Wide choice of actuated valves available with various actuation types, voltages, and enclosures.
- Full line of accessory items include strainers, drain valves, PTs, MAVs, ProPress fittings, and many others.
- Custom packages available for larger installations.

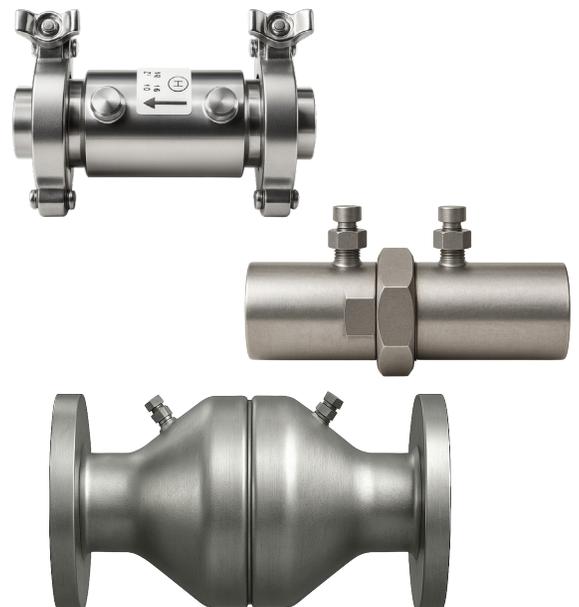


## Manual Balancing Valves

- Full line of Venturi manual balancing valves.
- Sizes range from 1/2" and up to 12".

## Stainless Steel Mission Critical

- Engineered from premium 316 stainless steel for clean, corrosion-resistant performance in demanding environments.
- Navy-proven for 60 years, delivering precision flow control in hotels, multi-family housing units, K-12 and higher education, hospitals, office spaces, and mission critical data centers.
- Designed for uncompromised performance and simplicity, supporting precision hydronic balancing while resisting clogging and maintaining system integrity.
- Available from 1/2" to 18" diameter and 0.5 to 1,000 GPM.





# HAYS

Delivering Trusted Solutions

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