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# Overview and Capabilities



## Over 150 years of expertise in flow control



A division of Romac Industries, Hays Fluid Controls is headquartered in Dallas, NC (a suburb of Charlotte), and is 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<sup>®</sup> technology, Hays is the only company in the industry that can offer balancing valves without the use of a spring-based design.

## From Submarines to Commercial HVAC & beyond



For the past 60 years, Hays has supplied its Flow Control Valves to the U.S. Navy for its submarines and surface vessels. Since the mid-90s, we've also applied this technology for use in hotels, multi-family housing units, K-12 and higher education institutions, hospitals, and office spaces.

Today, thousands of high-profile buildings in North America and throughout the world use Hays valves to enhance the operation of their hydronic systems, and the company is considered an elite leader in the flow control industry.

# EXPERIENCE AND EXPERTISE MATTER

## Reliability

Assembling systems that are failure-free is the top priority. With designs and technology that the military trusts for use on submarines and a team that always strives to support its customers, Hays has spent 150+ years building the case that customers can rely on them for long-lasting results. We're committed to making your experience with us the best, and we will not compromise on the quality of our products.



## Simplicity

From accessible technical information, to intuitive packaging and installation instructions, to the design of the Mesurflo<sup>®</sup>, removing friction makes the customer's experience exquisitely simple. During our tenure, we've learned what's most important and are grounded in what matters to our customers

## Connection

Hays makes stronger connections across their business, starting with the valves themselves and extending to the people they work with. We work hard to deliver the solution that makes the most sense with personalized customer support and the comfortable experience we provide occupants. Hays serves as a thoughtful partner that approaches each project from a place of integrity and understanding.

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



The great majority of Hays valves are made in the U.S.A. and almost all products in the Mesurflo<sup>®</sup> line conform to the Buy America Act. All your support is local to the Hays Fluid Controls factory in North Carolina.





# AUTOMATIC BALANCING VALVES

## SMALL INVESTMENT, HUGE PAYOFF

### Longer HVAC Equipment Life

Overflow conditions in HVAC systems can greatly shorten equipment life. Increased water flow results in higher velocities and magnifies the wear and tear of coils. Balancing improves the lifespan of the units, deferring thousands of dollars in repair costs. The unique design and lifetime warranty of the Mesurflo® helps maintain the unit integrity for years to come.

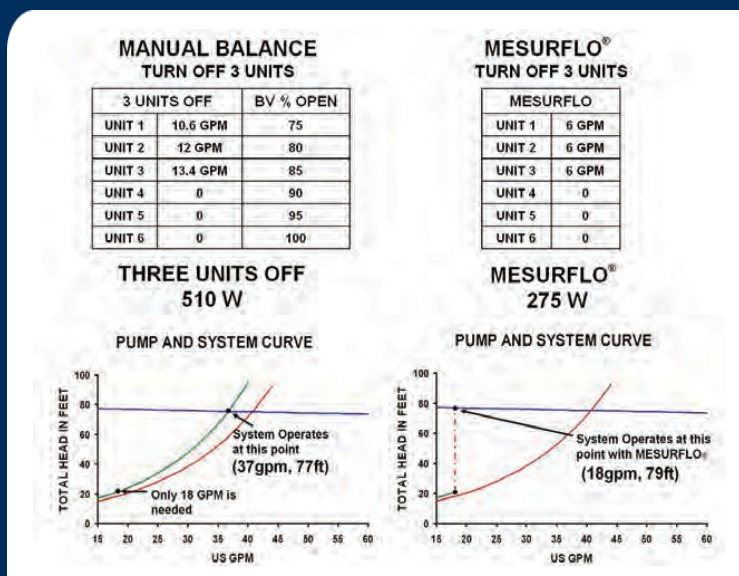
### Significant Energy Savings

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 controlling flow and eliminating overflow conditions, Mesurflo® ensures cooling and heating water is available to all units and assures occupant comfort. Proper distribution of flow also reduces noise stemming from piping receiving too much flow which would negate hours of effort to ensure the units themselves are quiet. With its history of use in submarines, the Mesurflo® is the best choice for noise sensitive environments.

## Energy Savings with Mesurflo®



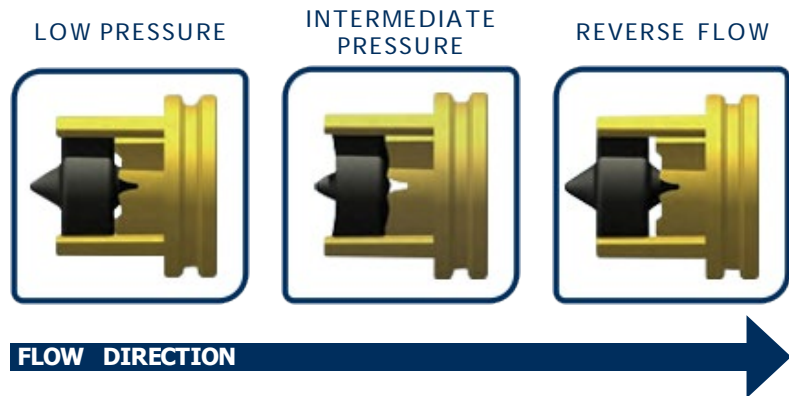
The example compares a manually balanced system with six fan coils to the same system controlled by Mesurflo® valves.

A manually balanced system does not react to changes in water pressure, which result in overflow and higher energy usage as units cycle on and off. Mesurflo® automatically responds to increases in pressure, matching flow to the design amount for each unit and saving pumping energy.

In a large system over time, the energy savings can be significant. Mesurflo® is also an ideal complement to systems with Variable Frequency Drives (VFDs) to optimize performance and maximize energy savings.

# HOW MESURFLO® VALVES WORK

Mesurflo® limits flow to the selected GPM regardless of pressure fluctuations in the hydronic system. Once within the operating range, it maintains constant flow to an accuracy of +/-10% in a range as low as 2-80 PSID depending on model number/flow rate.



There are two components to the Mesurflo® valve: (1) A specially blended rubber diaphragm (the black disc shown in the diagram), and (2) An orifice plate made of Polyphenylsulfone and molded to exact specifications for a given flow rate.

Once the pressure differential across the valve/internal components has increased to within the specified operating range, the diaphragm dynamically reacts to pressure changes by compressing and decompressing against the orifice plate. That action reduces or increases the orifice opening to limit the flow rate to the designed maximum GPM. This results in pressure independent protection for the unit from changes within the system.

When the pressure differential is below the specified operating range, the Mesurflo® valve acts as an open orifice allowing for lower flow than the designed maximum, as seen during modulated control situations.

## Mesurflo® Advantages

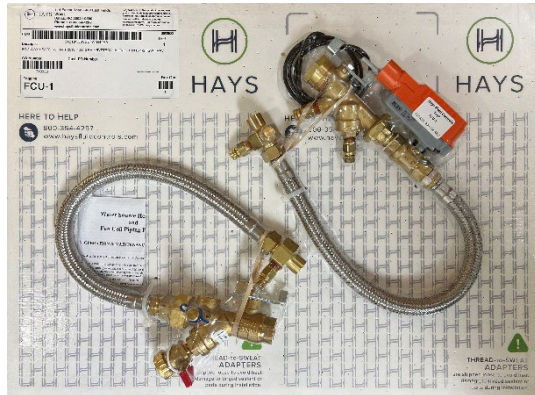
The Gold Standard of Flow Control

- ❑ **Longevity:** By using a diaphragm and orifice plate combination, we achieve dynamic pressure independence, but do not have to worry about spring degradation. With an abrasion resistant construction, 32-225F\* temperature range, and ability to handle up to 70% glycol, the Mesurflo® is backed by a lifetime warranty.
- ❑ **Operating Range:** The Mesurflo® limits flow starting at as low as 2 PSID up to 80 PSID. Spring-based flow controls offer narrow PSID ranges such as 1-18, 2-32, or 2-45. Those options complicate ordering and installation, and may not be able to handle large, high-pressure systems – nullifying their dynamic response.
- ❑ **Quiet:** The Mesurflo® design dampens oscillation, vibration and feedback in the water system. Metal on metal spring-based valves introduce feedback into the system, which can result in noticeable chatter that 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.

\*Low temperature options available



## Mesurflo® 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 labeled 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 Flow Balancing Valves

- Size ranges from 1/2" to 36" in diameter.
- Flow rates from 0.5 GPM to 36,000 GPM.
- All Hays automatic flow control 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 manual balancing valves
- Sizes range from 1/2" and up to 12".

## PurePIC® (PICV) and SimpleSET®

- Elevates the proven Mesurflo® technology with an adjustable orifice plate to change the maximum GPM.
- The PurePic® utilizes a linear stroke modulating actuator to provide the ultimate in pressure independence.
- The SimpleSet® allows for hand adjustment to change to the desired flow rate.
- Available in 1/2" or 3/4" diameter up to 9 GPM.





# HAYS

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