



HAYS

***The Leader In Automatic
Flow Control Valves
For Shipboard Water Systems***





From Subs To Carriers, Superior Control Valves

From submarines prowling the bottom of the ocean to tall aircraft carriers above, Hays Fluid Controls valves are working quietly and dependably to control shipboard water flow, saving money and energy with their unique designs.

Since 1964, Hays has provided its patented flow control valves for use in water-based cooling and supply systems for a wide variety of U.S. Navy ships and other defense equipment.

There are a number of key reasons why Hays heritage products have become the preferred water flow controllers for leading U.S. Navy shipbuilders:

- The valves are “**exquisitely simple**,” in the words of one Navy customer. They have no moving parts except for a rubber-based diaphragm which moves back and forth against a large orifice, constantly maintaining the desired flow rate, even when the differential pressure across the valve ranges from 2 to 150 PSID.
- The valves are **extremely quiet**, especially important for submarine and other stealth operations.
- They are **clog-resistant** and rarely need replacing because they have no wear points.
- In the case of a retrofit or new flow control requirements, old valves can be replaced with new ones quickly and easily, with **minimal downtime**.
- Delivery can be provided in a relatively **short lead time**. Hays’ engineering and production teams are very accommodating of specific design parameters and manifolding, and hold many patents as testimony to their engineering creativity.
- Hays valves are **economically priced**, due in part to their simple design.
- Hays automatic valves **save even more money** by providing the correct flow to protect much more expensive equipment downstream such as chillers and fan coils.
- Hays’ Mesurflo® valves are **Shock Grade A** and acoustically acceptable to U.S. Navy standards.



Mesurflo® Automatic Balancing Valves



Combination Valve/Constant Flow Fitting



Solenoid Valve



Paddle Wheel & Mag Insertion Meters



Many US Navy aircraft carriers and submarines use Hays' quiet and highly reliable Mesurflo® valves



Hays Products Are 100% Tested And Guaranteed

Every Hays product is carefully tested before shipping. Most include piping connections and are sealed onto a blister pack so that installation in the field is quick and easy.

For installations involving multiple assemblies, we can even print the precise location of each component in the ship, so there is no mistake, doubt or waste.

Hays is so confident of its product quality, each comes with a warranty for the lifetime of the system in which it

is installed. There simply is no better automatic flow control product than Hays Fluid Controls.

Custom Engineering And Responsive Service

Our highly experienced engineering staff holds over 35 patents and can custom-design a wide range of products for many different applications.

Reduced weight, smaller or larger physical sizes, even lower lifecycle costs, and closer tolerances are just a few of the variables available to meet your special needs.

Responsive customer service is one of our core values at Hays. You'll find us genuinely interested in helping you, short-term and long-term.

We are dedicated to our customers and our employees, and our low turnover has led to an exceptionally competent staff producing consistent quality.

For details, quotes, or more information, call toll-free 800-354-4297 or email info@haysfluidcontrols.com. Additional information is also available on our website, www.haysfluidcontrols.com.



The “Gold Standard” For Controlling Water Flow In HVAC Systems

Hays’ patented Mesurflo® automatic flow control valves have been called the “Gold Standard” because their unique features and benefits make them the ideal solution for controlling flow in water-based cooling and heating systems. Unlike other control valves which can be noisy and clog easily, Mesurflo® offers you these significant benefits:

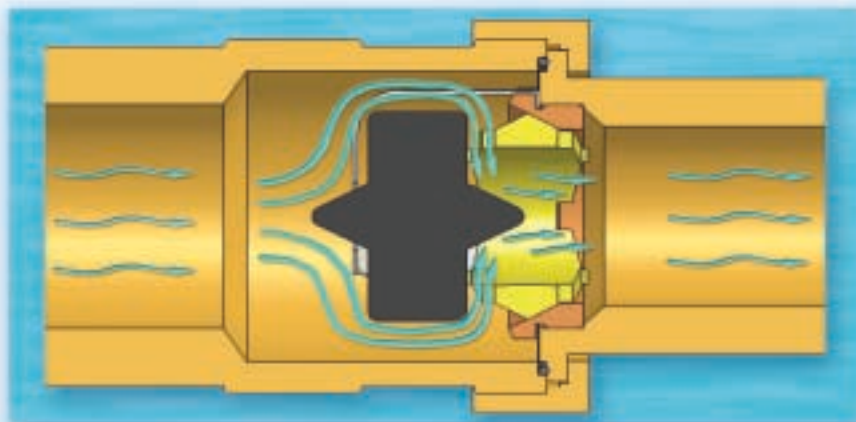
- Eliminates oscillation, vibration, noise and feed-back in the system
- Non-clogging design that can be backwashed for easy cleaning
- Maintains proper flow rate for high efficiency of the coil
- Reduces the number of valves required to balance the system
- Eliminates the high cost of testing and balancing
- Additional devices may be added without affecting the system balance
- Accuracy provides 99.8% heat transfer

Features of Mesurflo® Valves:

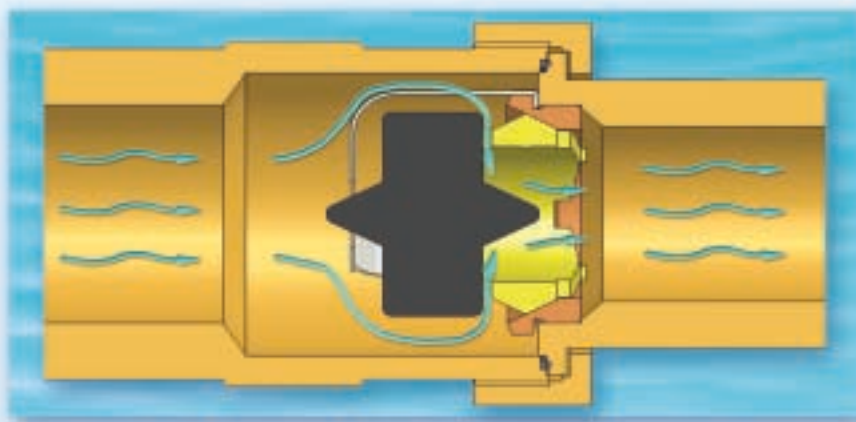
- Maintain constant flow when differential pressure ranges from 2 to 150 PSID
- Field changeable GPM
- 13 models to choose from
- Available from 0.5” to 20”, 0.5 GPM to 7200 GPM
- Sweat or thread connections

Mesurflo® works to limit flow to a predetermined rate, resulting in maximum efficiency of a downstream coil or device. It operates within a 2 to 150 PSID range. The large free-area opening of the orifice yields very little noise during operation.

Cross-sectional illustrations show a typical piping product with a Mesurflo® valve under normal pressure and increased pressure.



Under normal pressure the Mesurflo® valve allows steady flow through the orifice. The rubber-based elastomeric diaphragm presses flexibly against a polyphenyl-sulfone orifice with custom designed openings, allowing small solid particles in the water to pass through. As the pressure subsides, the diaphragm backs away from the orifice, freeing trapped particles.



Under increased pressure the Mesurflo® diaphragm moves more tightly onto the orifice to maintain the pre-selected flow rate. At higher pressures larger particles may be trapped momentarily, but when the pressure subsides, the diaphragm moves back away from the orifice seat, and any trapped particles are released. The large free-area opening of the orifice significantly reduces noise.

The cone-shaped parts on each side of the diaphragm enable a smooth flow of fluid over the diaphragm, then reformation of the flow on the downstream side, to allow non-turbulent flow through the pipe.

Hays Fluid Controls’ Mesurflo® Automatic Balancing Valves are protected by U.S. Patent 6,311,712. Mesurflo® is a Registered Trademark of Hays Fluid Controls.



Hays Fluid Controls began as Hays Manufacturing Company in Erie, Pa., in 1869, producing brass valves for oil, water and beer applications.

During World War II it manufactured many types of brass valves and fittings for military use, including 40 mm shells and bomb tail fuse assemblies.

In 1946 Hays introduced solenoid valves and flow controls for industrial and defense uses.

In 1977 Hays moved to Gastonia, N.C., and in 1986 the company was purchased by Romac Industries, a leading

pipeline products manufacturer in Seattle.

Over the years the product line evolved to more sophisticated defense and commercial off-the-shelf products such as:

- Manual and automatic flow controls
- Hose kits and piping packages, fully assembled for quick installation
- Solenoid valves and ball valves

- Flow meters and flow computers
- Custom-designed products for a wide range of special applications

For more information, please contact:

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