



PureForce Provides Superior Protection

As the sophistication of hydraulic systems and components has increased, so has the importance of system maintenance. The easiest and most cost effective way to lower maintenance expense and help insure trouble-free system operation is through proper filtration.

To improve safety and efficiency, equipment designers are using hydraulics to replace belts, chains, cables and other methods of transferring power. Most new hydraulic equipment is designed to be easier to operate and maintain. This often requires closer tolerances, faster cycle times, higher pressures, extended service intervals and more complex systems - all placing more demands on the filtration system.

With these demands on today's hydraulic systems, maintaining system cleanliness through

proper filtration is essential to insure maximum efficiency and reliability.

To improve system cleanliness, Baldwin Filters introduces its PureForce hydraulic filter product line, a new alternative for medium-pressure hydraulic assemblies.

Baldwin's PureForce product line brings many advantages, including the ability to consistently outperform the leading competitor. Baldwin PureForce filters, bases and self-housed indicators all work together to protect hydraulic systems.

The PureForce product line allows users to customize filtration systems to meet their needs by using a combination of bases, indicators and a selection of quality Baldwin hydraulic filters.

PUREFORCE™ The New Force in Hydraulic Protection

Superior Flexibility, Reliability, Durability

Highest Burst- and Fatigue-Rated Filters

Baldwin's PureForce filters are engineered to withstand extreme conditions created by medium-pressure hydraulic systems, with working pressure up to 500 psi and flow rates up to 50 gpm. Advantages of the PureForce structural design include the following:

- **Highest Possible Structural Integrity.** Baldwin's PureForce hydraulic filters feature a die cast aluminum baseplate locked in place by a patent pending L-Lock™ hem – eliminating leaks due to the integrity of the housing seal.
- **Superior Burst Pressure.** Lab and field testing show that PureForce filters have the highest level of burst and fatigue characteristics – with PureForce exceeding the leading competitor's published burst pressure specifications by an average of 65%.
- **Greater Consistency.** PureForce filters test at higher average levels on a more consistent basis – providing the most reliable medium-pressure hydraulic spin-on. This greatly reduces the possibility of unexpected downtime due to a failed filter.



Custom design to meet specific hydraulic system needs.

Stronger Base Construction

PureForce 4" and 5" diameter hydraulic filter bases feature superior construction and strength. To improve durability and enhance system performance, Baldwin designed a two-piece base. The PureForce bases feature die cast aluminum construction with an integral threaded steel stud. The two-piece design offers several advantages over competitive offerings.

- **Improved Strength.** The threaded steel stud is stronger than aluminum studs used by the leading competitor – eliminating any damage caused by cross-threading and extending the life expectancy of the filter base.
- **Increased Durability.** PureForce bases reduce the possibility of galling, which is caused by similar metals fusing together. The PureForce threaded steel stud will not fuse to aluminum filter baseplates in the same way that competitive bases with aluminum threads can.
- **Enhanced System Performance.** The threaded steel stud allows for a 40% increase of the flow area over bases with aluminum studs that require heavier, thicker side walls. The increased flow area results in a lower pressure drop and extended service time.
- **By-Pass Options.** PureForce bases are available with or without 25 and 50 psi integral by-pass valves, which help prevent excessive pressure drops during cold starts.
- **By-Pass Valve Integrity.** The by-pass valves in Baldwin's PureForce bases perform better than competitor offerings. In head-to-head tests, competitor by-pass valves opened prior to the set point allowing unfiltered oil to reach the system. Baldwin's by-pass valves consistently opened at the set point, providing more uniform protection.
- **Indicator Placement Options.** PureForce bases have the unique capability to accommodate indicators on either side to facilitate mounting versatility. The indicator ports can be used for either visual or electrical indicators.

Multiple Indicator Selections

Indicators are essential to maximizing the life of a replaceable hydraulic filter. Baldwin offers a visual indicator and three types of electrical indicators.

Visual Indicators

The PureForce visual indicator is self-housed and features a pop-out button, which is triggered via magnetic force. Once triggered, the PureForce indicator stays activated even when the hydraulic system is shut down.

Electrical Indicators

Baldwin's electrical indicators are available in three styles — single-post, 2-wire and 3-wire. The PureForce electrical indicators are also self-housed units that do not rely on base geometry for proper activation.

- **Single-Post Indicator.** Designed for mobile applications with DC voltage, the single-post indicator is compact in design and can be used when the filter base is grounded. Unlike the other PureForce indicators, the single-post indicator does not utilize magnetic force to activate the switch. Instead, the single-post design utilizes piston travel to ground the post to the switch housing.
- **2-Wire Indicator.** Also intended for DC voltage applications, the 2-wire indicator can be used in applications where the housing is not grounded. The 2-wire indicator utilizes a magnet which interacts with a reed switch through the walls of the indicator housing to provide clean on/off switching.
- **3-Wire Indicator.** For use in AC or DC voltage applications, the 3-wire electrical indicator is the ideal choice where 3-wire logic is being used. This versatile indicator is micro-switch activated and is rated at 2 amps. A threaded female conduit connection allows for the use of conduit to protect the wires.



Assembled Components



Two-Piece Base Design



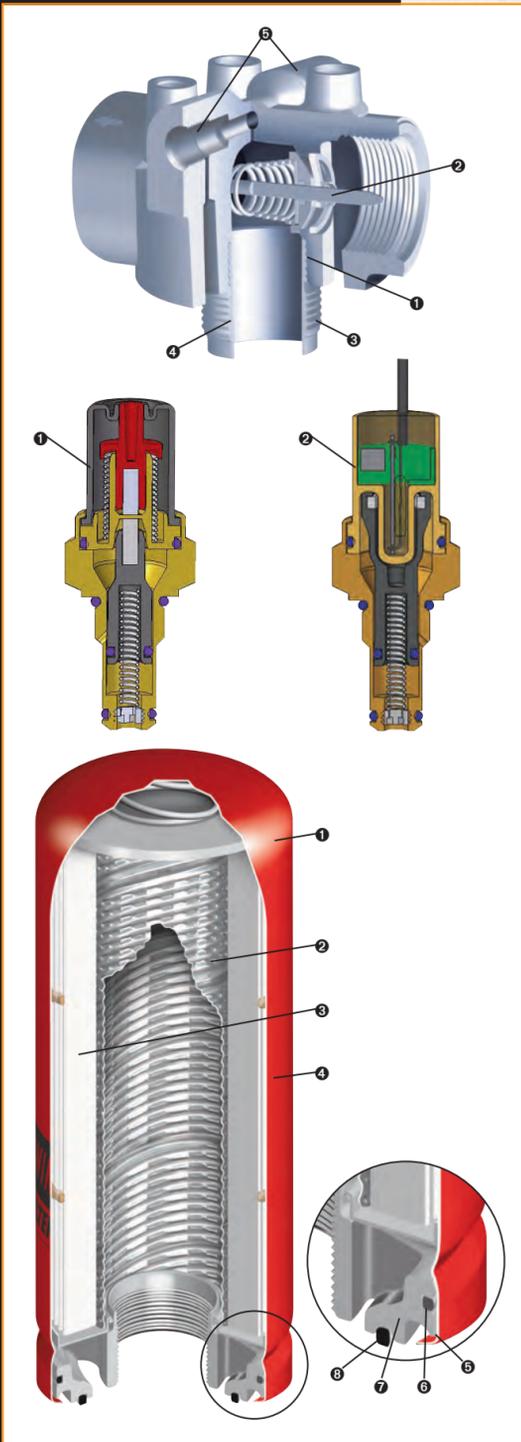
Visual and Electrical Indicators



Medium-Pressure Filters

Taking Hydraulic System Reliability To A Higher Level

The Complete Hydraulic Filtration Product Line



BASES

- Two-Piece Base Design**, combines die cast aluminum construction with an integral threaded steel stud to achieve lightweight functionality and greater durability.
- Optional By-Pass Valve**, available in 25 or 50 psi, protects the filter from pressure surges and catastrophic element collapse.
- Threaded Steel Stud** resists thread damage and reduces the possibility of galling. The integral steel stud will not fuse to aluminum filter baseplates the way other hydraulic filter bases can.
- Threaded Steel Stud** has a thinner wall than machined aluminum threads to provide 40% more flow area – reducing pressure drop and extending filter life.
- Indicator Ports** are available on both sides for flexibility in installation.

INDICATORS

- Visual Indicator** features a self-housed design, which isolates the button from system pressure by communicating via magnetic force. Once triggered, the indicator stays activated until it is reset – even when the hydraulic system is shut down.
- Electrical Indicators** are available in single-post, 2-wire and 3-wire designs. Like the visual indicators, the 2-wire and 3-wire electrical indicators feature self-housed designs that provide clean on/off switching.

FILTERS

- Heavy-Duty, All-Metal Housing** is built to handle the stress and punishment of sophisticated, modern hydraulic systems.
- High Strength Spiral Louvered Centertube** helps prevent collapse caused by a sudden difference between internal and external pressure.
- High Efficiency Media**, either synthetic or cellulose, is designed to meet or exceed the requirements designated by the OEM.
- Seamless Canister Design** provides highest possible integrity.
- L-Lock Hem** joins the canister and baseplate to protect against high-pressure surges.
- Integral Housing Seal** prevents leakage.
- Heavy-Duty Baseplate** is constructed of aluminum, offering the strength and durability necessary for 500 psi hydraulic systems.
- Heavy-Duty O-Ring Seal** requires only 1/2 turn after gasket contact, for easier installation.

PUREFORCE™



How Baldwin Can Help You

Baldwin has been a leader in mobile filtration for over seventy-five years.

Baldwin's manufacturing operation is vertically integrated - meaning we manufacture nearly every component used in our filters.

Baldwin's team of engineers, using the latest technology in 3-D CAD modeling and stereo lithographic prototyping, continue to identify innovative solutions for our customer's filtration needs.

Baldwin's state-of-the-art technical center performs extensive testing in the lab and in the field.

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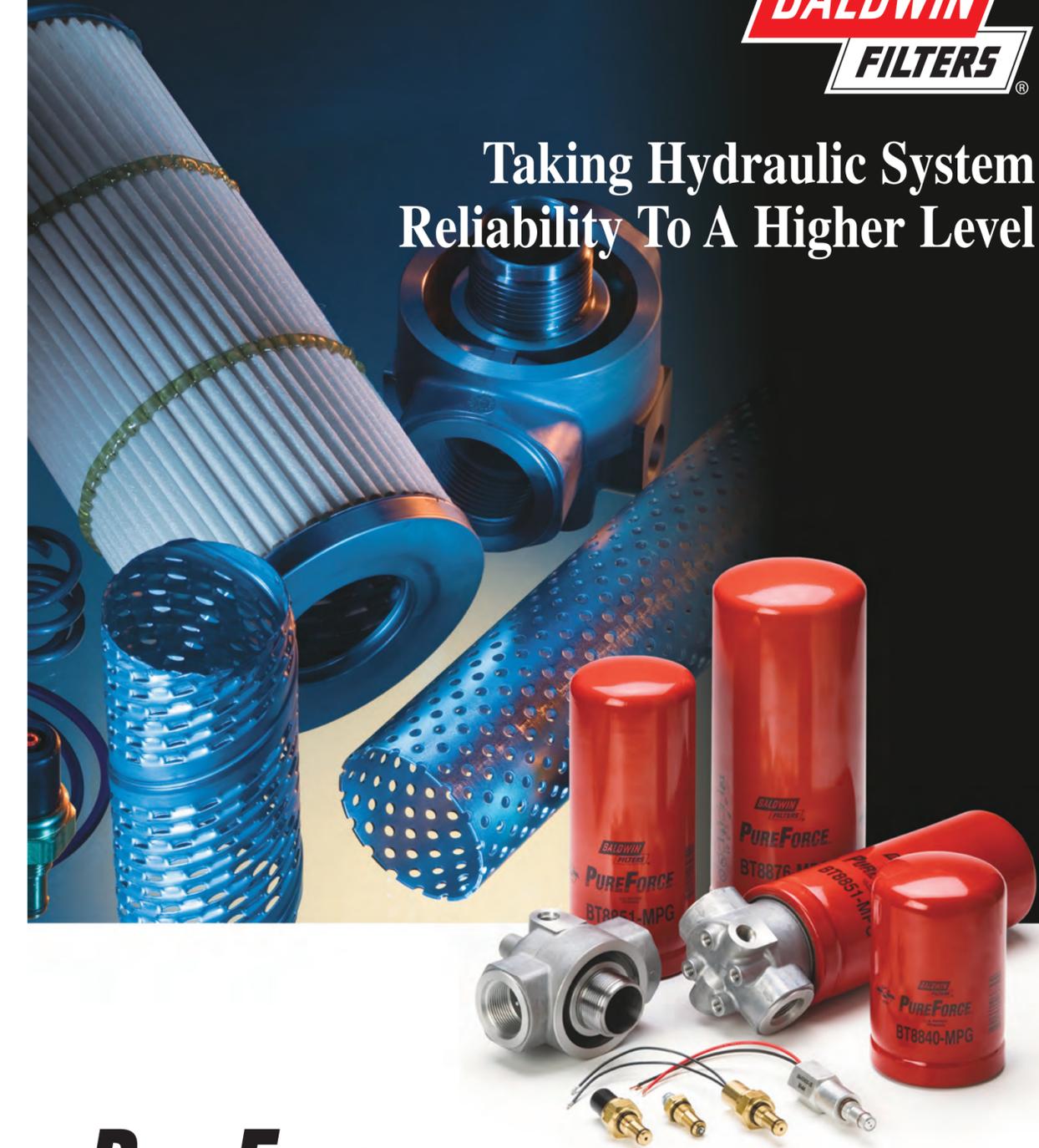
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