



Press Information

For Release: Immediately

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Parker Hannifin Water Retract Actuator (WRA) prevents excessive water spill and helps to alleviate safety concerns



The accompanying images can be downloaded in both high and low resolution by clicking [here](#)

June 2015 – Parker Hannifin, the global leader in motion and control technologies, has recently launched the Water Retract Actuator (WRA) for use in weld tip applications. During routine tip changes there is a risk that water can leak thus affecting manufacturing productivity. The new WRA is designed to prevent excessive water spillage during the tip change of spot welding guns in manufacturing plants worldwide. The innovation is ideal for busy automotive body-in-white shops; for example, as excessive water spillage within a weld cell environment can present a number of hazards, including electrical shock, slip danger, equipment damage and, potentially, the manufactured product being scrapped.

The WRA works by cleverly reducing the water pressure in the closed-off cooling circuit. This has the effect of eliminating the problems of water being expelled under pressure during a tip change.

In a typical application where the WRA is installed, the (automatic) tip changing process will commence with shutting off the water inlet/outlet via the cooling water control panel. Once the cooling water supply is blocked, the pneumatic control valve assembled on the Parker Hannifin water retract actuator will be de-energised. The actuator will then make a retract stroke, resulting in an increase of water volume in the cooling system.

Water cooling pressure will drop through generated 'under' pressure, so that during weld tip removal, cooling water will not enter the weld area. This allows for a dry tip change procedure. Opening the main water shut-off and re-energising the pneumatic control valve on the water retract actuator makes the system operational and ready for next weld tip change operation.

The cost effective system makes use of Parker's proven cylinder, actuation, sealing and fitting technologies to deliver trouble-free operation, while the aluminium construction (with surface treatment to protect against corrosion) ensures compatibility with all cooling water fluids leading to a long and reliable service life.

The WRA can be configured in series or parallel configurations. For series connections, the actuator can be installed on the 'in' or 'out' line of the water manifold – selection determines whether users remove the top or bottom tip first. In parallel configuration, again the actuator is placed on the 'in' or 'out' line of the water manifold, but once engaged the user would be able to remove both tips at the same time.

Regardless of the preferred configuration, the WRA is designed for easy installation and straightforward integration into existing water systems. Parker's water retract solutions are available either as individual components that can be assembled by the OEM or end user, as a retooling kit allowing existing systems to be modified, or as a frame solution designed for floor or robot mounting.

The retooling kit, for example, has been developed according to car manufacturing specifications and the requirement to operate in conjunction with existing water cooling systems. The kit comprises a mounting plate, fitting kit, pneumatic regulator kit, water retract actuator and a control valve to operate the actuator.

Two actuator models are available, with retract volumes of 250 ml (standard) and 125 ml. Customers can also select from two air volume piston diameters (63 and 80 mm), BSPP or NPT ½" water ports, and various pneumatic control options.

Image Caption: Parker Hannifin Water Retract Actuator (WRA) prevents excessive water spill and helps to alleviate safety concerns.

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About Parker Hannifin

With annual sales of \$13 billion in fiscal year 2014, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 57,500 people in 50 countries around the world. Parker has increased its annual dividends paid to shareholders for 58 consecutive fiscal years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's website at www.parker.com, or its investor information website at www.phstock.com.