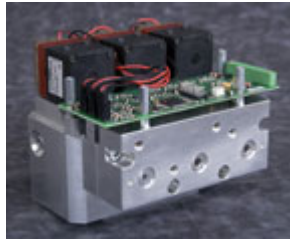


New Proportional Pressure Regulating Unit



ROSS CONTROLS is proud to announce the introduction of a Proportional Pressure Regulating Unit, which will be used in the robotic painting industry.

The ROSS PPRU and the customer's controller, which is called an Integrated Process System (IPS), have to work together to control the flow of air to a paint gun or bell applicator. The PPRU controls the pressure of the air and provides information about the air flow to the IPS. Vital information such as pressure, pressure drop across an internal nozzle, and temperature are communicated to the IPS via a Controller Area Network (CAN).

The PPRU consists of three independent air channels. Two of the channels are used for air flow to the paint gun or bell applicator. The third channel controls the pressure to an air operated paint pressure regulator.

The PPRU also has integrated flow measurement nozzles.

The PPRU uses state-of-the-art electronics, which include a Texas Instruments Digital Signal Processor (DSP) and ten Honeywell pressure sensors to sense output pressure and internal control pressures.

The performance of the PPRU is critical to the quality of the paint finish. Very small changes in response, pressure, and flow rate can affect thickness of the applied paint layer, amount of over-spray, and the general quality of the paint finish.

The PPRU has excellent performance characteristics. The response time, the time it takes to reach a new set pressure (set point), is very quick, and in most conditions the PPRU is several times faster than other competitors' systems. Other critical characteristics of performance are overshoot and undershoot. Overshoot is the amount of pressure above the

desired set pressure when the set pressure is changed from a lower pressure to a higher pressure. Undershoot is the amount of pressure under the set pressure when the set pressure is changed from a higher pressure to a lower pressure. The over- or undershoot of the PPRU is zero in most cases, which means the actual pressure goes directly to the set pressure with no oscillation or hunting back and forth as the PPRU changes the output pressure.

The other big advantages of the PPRU are in its integration of components and compact size. The PPRU includes proportional pilots, boosters, flow measuring device, and electronics in one compact package, and this reduces the number of different components that a purchaser of the system will have to buy and stock. The PPRU also has an overall size which is much smaller than the components previously used in the industry.

For information regarding applications of the PPRU for robotic painting needs, please contact ROSS' Paint Industry Team Members.