

Instrowest was established in 2006 to provide quality instrument and electrical contracting services to the mining and mineral processing industries, with a strong focus upon safety. Instrowest can provide a comprehensive installation, maintenance, calibration, and repair service to all sites within Western Australia. Instrowest can also help in solving any instrument or control related problem that you may be facing.

At Instrowest we are committed to providing reliable, high quality sales and service while maintaining respect, integrity and trust to our clients and those within our organisation. We aim to provide this service by understanding our client's needs, wants and constraints while finding a solution that is fit for purpose.

At Instrowest we will always maintain an innovative approach that sets us apart from others; if a traditional method is not suitable or ineffective, we will endeavor to find an alternative or innovative approach to achieve our client's goals.

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Lithium Processing Plant.

Reagent dosing control upgrade.

Hanbay Actuator and Siemens Coriolis flowmeter

Instrowest was approached by a member of Large Lithium Processing Plant's Electrical and Instrument Engineering Department to provide a solution for measuring and controlling the addition of a new non-conductive reagent into their process. Because this reagent was not electrically conductive along with the low flow rates desired, typically less than 500ml/min meant that a traditional small bore electro-magnetic flow meter and valve could not be utilized to measure and control the flow rate and totalized flow of the product.



Instrowest technician commissioning the new Hanbay actuator and Siemens Coriolis flowmeter

Instrowest proposed the use of a stainless steel Hanbay electric multi-turn valve actuator, coupled to a metering valve that was sized correctly to allow extremely fine control with the low flow coefficients required. To measure these low flow rates we sized up a 4mm Siemens FC300 Coriolis flowmeter and Sitrans MASS 6000 convertor contained in a durable heavy duty stainless steel housing.

This valve, actuator and flow meter combination was sized so it would reach full required max flow rate at about ¾ of its stroke. This deliberate sizing allows the valve to open further to clear any blockages that may occur in the valve, before returning to the desired flow rate.



The neat installation of the Siemens Coriolis flow tube, transmitter and the Hanbay actuator completed by the process plants own E/I department.

Results

After some initial commissioning issues with the flow meter, the whole system has been working really well. This combination is able to accurately dose the non-conductive reagent at rates between 1500ml/min and 15 ml/min.



The Hanbay actuator and valve fitted to the reagent dosing station.

The onsite Metallurgy Department report that since the installation the product recovery has improved and that the dosing rate has been stable and predictable, thus reducing their spend on the reagent. Also with the addition of the totalization function of the flow meter the metallurgist's have been able to monitor their total use per/tonne, allowing them to accurately control and budget their costs for this reagent.

Instrowest have had great success with these actuators and when used in conjunctions with suitably sized and selected valves we have been able to achieve excellent process and flow control on a number of different fluids.

If you have a reagent dosing need that you would like to discuss please don't hesitate to get in touch with us.

If you would like Instrowest to assist with your next project please contact us.

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