

# Case Study:

## Water Treatment Dosing Pump



### ENQUIRY

Castle Pumps received an enquiry from a waste management company who deal with the collection and treatment of both domestic sewage systems and industrial waste. They were looking for a water treatment dosing pump for metering 5-10 litres of ferrous sulphate and caustic soda at a time from an IBC into the water being treated.

Ferrous Sulphate is commonly used as a coagulant in water treatment to bind particles in wastewater together to make them easier to remove, and then caustic soda raises the pH levels after the coagulants lower it.

### KEY CHALLENGES

1. Accurate dosing at low flow rates
2. Compatible with the treatment chemicals
3. Automation of operation required



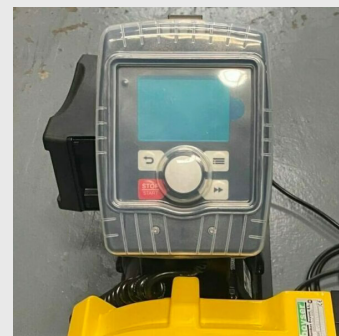
### EQUIPMENT SUPPLIED

#### Boyser AMP-CONTROL

Flow	5/5-410 l/h
Pressure	0.5 bar
Fluid	Caustic soda and ferrous sulphate
Orientation	Horizontal
Inner Hose	Natural Rubber
Power	100-230v, 50/60Hz
Drive	Integrated inverter
Extras	Batch control
Suction/Discharge	3/4" BSP

### SOLUTION

With previous experience in the specification of chemical pumps for water treatment, we immediately knew it was a peristaltic pump likely to be best suited to this. Firstly, they are able to dose specific quantities really accurately even at the lowest of flow rates, and thanks to applying low shear as they pump the fluid, they are able to maintain the structure of the coagulants that are sensitive to force.



When it came to the model selection, the Boyser AMP-Control was an obvious choice thanks to its dosing features. It comes with an integrated control panel to allow batching to be set either by volume or by time period as well as a calendar for operation automation. This peristaltic dosing pump also comes with configurable inputs and outputs that can be used as signal relays or for connection to external business management or process control systems e.g. Profibus.

The beauty of the peristaltic pump design is that it has a single wetted part; the inner hose. With no seals to wear or valves to block, it makes it ideal for handling chemicals as there is less chance of leaking out the fluid. As a fail safe, the Boyser AMP-Control chemical dosing pump also comes with a hose replacement alert for preventive maintenance after a set interval and a hose leakage sensor to allow quick action should maintenance be required.