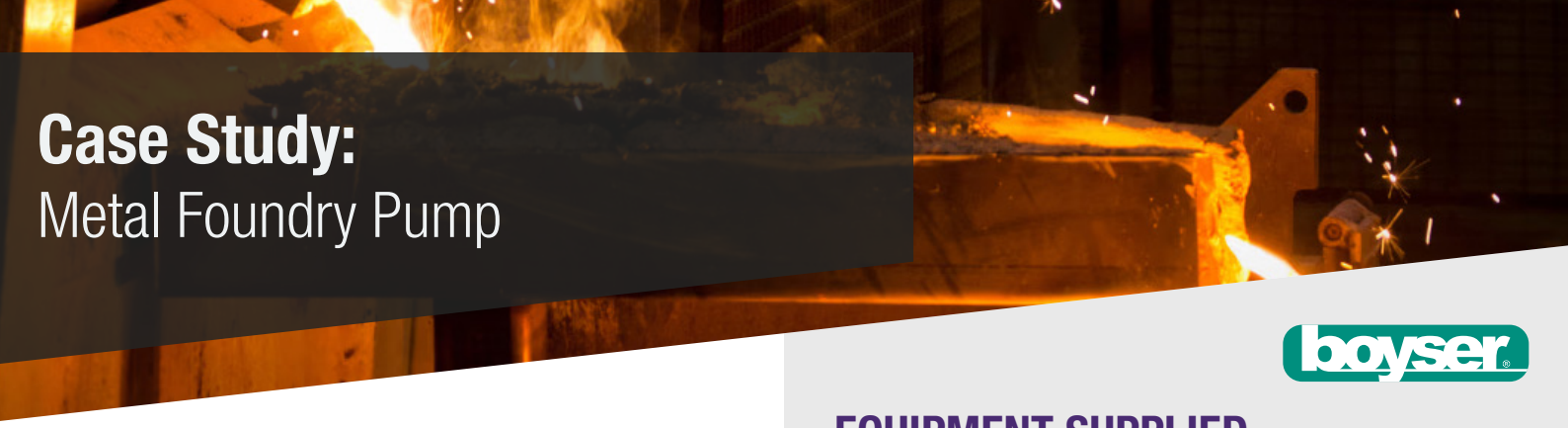

Case Study:
Metal Foundry Pump

ENQUIRY

Castle Pumps received an enquiry from a metal foundry in America. They were looking to pump water containing up to 2 ¼ lb of foundry dust per gallon of water, making the fluid quite an abrasive one. This was to replace an existing pump on site that had come to its end of life and they wanted something lower maintenance. However, it also meant that ideally it would fit into the 2 ½" pipework already installed.

The process in question required the pump to be continuously run on a loop five days a week, 24 hours a day. This loop is then drawn off by another metering pump that supplies the wider process with the water.

KEY CHALLENGES

1. Abrasive nature of the fluid

2. Continuous running requirements

3. Meet current pipework size

CASTLE PUMPS LTD

EQUIPMENT SUPPLIED

Boyser FMP-70 Peristaltic Pump

Max Flow	128lpm
Max Head	80M
Fluid	Water containing dust
Orientation	Horizontal Monoblock
Motor	Gear reducer
Voltage	400v - 3 Phase
Hose	NBR
Suction	2 1/2" BSP Stainless Steel
Discharge	2 1/2" BSP Stainless Steel
Extras	Supplied with PTC Sensors

SOLUTION

Upon learning more about this extremely heavy duty application, we immediately began considering our peristaltic pump range, a pump design that excels in difficult conditions. Firstly, the beauty of peristaltic pumps are that the inner hose is the only component to pass the fluid, which is ideal for the abrasive dust laden water as clogging and wear of components is avoided.

The second point is that peristaltic pumps are constructed for long service life in industrial environments, with low maintenance requirements, again thanks to there only being one part to maintain. Given the flow, pressure and connection size already on site, we specified the Boyser FMP-70 model which could handle the requirements of the process.

Due to the continuous running requirements of this peristaltic pump being 24 hours a day, five days a week, we supplied it complete with PTC sensors. These will ensure that in the event of the pump getting too hot, it will shut it down to prevent damage or the motor from burning out.