



DEVELOPMENT OF A CONTROL SYSTEM, TO REDUCE EXPENSIVE DOWNTIME WITHIN THE AUTOMOTIVE INDUSTRY

DSC partner Newton Tesla assisted in the development of a control system, which helps to reduce expensive downtime on an automotive industry production line.

The issue

The automotive and plastic moulding industries both experience costly downtime due to leakages and blockages that appear in cooling circuits.

Machine users of automotive press and plastic injection moulding machines must regularly check for hairline cracks and blockages, as well as leaks in the cooling circuits. With no practical way of doing this 'off the machine,' costly down time can result.

The solution

DSC partner Newton Tesla joined forces with Atkin Machine Tool Maintenance Ltd to develop a portable unit that could test plastic injection mould tools and diecasting dies which are used in the production of plastic and aluminium parts.

The dies are water-cooled and must be tested under pressure to identify potential leaks and blockages in the waterways. The bespoke test unit uses a closed circuit flow and return, which is easily connected to the die under test with accurate pressure and flow control.

A variable speed drive (VSD) driven multistage pump provides the test pressure of up to 10Bar, using the inverter built in PID function. The test pressure is held constant at various flow rates.



To test for leaks, the pressure is brought up to the working pressure and the flow and return valves closed off. Any decrease in the cooling circuit pressure reading indicates a leakage, which must then be investigated.

A Mitsubishi Electric GOT GS2107 HMI provided an accurate indication of the pressure and flow in real time, whilst a Mitsubishi Electric FX5UC PLC controlled the processing and I/O for the test unit.

The outcome

Machine users can now regularly conduct die testing, off the machine, to check for hairline cracks, leaks and cooling circuit obstructions and

conduct the necessary maintenance. The results also achieved a considerable time saving compared to other testing methods.

For further information on our energy saving, monitoring and control solutions please contact:

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