

## Solutions@Mecmesin Syringe Pump Calibrator

### Specification

Medical device manufacturers, Cardinal Health, supply a range of syringe pump infusion systems to hospitals. A critical safety feature of the pump is the automatic detection of a blockage, or 'occlusion', which may halt infusion of the drug to the patient. This will present itself as a build-up of excess pressure behind the syringe plunger, detectable by an integrated occlusion-monitoring pressure sensor.

Safe pressure parameters are pre-programmed into the system before use, and an alarm is triggered if these are exceeded. It is therefore vital for the sensor to be precisely accurate in order to ensure early occlusion detection, and guarantee a consistent dosage reaches the patient. Cardinal Health, therefore, required a tool with which to perform regular calibration of the occlusion-monitoring sensor.



### Solution

The company previously supplied their customers with an analogue force gauge to carry out the calibration, however this low-tech solution could not provide the required level of accuracy. Cardinal Health worked closely with Mecmesin in joint development of a custom-engineered 'occlusion tester', comprising the CFG 100N digital force gauge with a special fixture designed to fit comfortably into the syringe seat. This portable and rugged equipment has proven very successful for the company, enabling their customers to improve patient safety assurance.

### System

- Custom engineered 'occlusion tester' based upon the CFG 100N digital force gauge.

### Testimonial

"Pressure sensor calibration is key to the accurate 'occlusion' monitoring performance of Cardinal Health medical infusion devices. A precise, repeatable and reliable 'occlusion' force calibration tool is essential for our customers, service personnel and production use. Mecmesin Ltd. have provided expert design advice, equipment samples and test strategies to ensure Cardinal Health have been able to achieve these aims."

Justin Gyer, Instruments Engineering Manager, Cardinal Health

#### Mecmesin Limited

Newton House, Spring Copse Business Park, Slinfold,  
West Sussex, United Kingdom, RH13 0SZ.

sales@mecmesin.com t: +44 (0) 1403 799979 f: +44 (0) 1403 799975 www.mecmesin.com

medical industry



medical