



Hydraulics and pneumatics success stories: R&D Tax refund case studies

Hydraulics

Design and development of a bespoke hydraulic system necessary for controlling a large-scale flume for the purpose of studying the behaviour of fluid motion under different conditions i.e. simulate anything from a trickle to a mountain torrent.

Project claim value: £15K / Overall claim value: £46K

Development of a hydraulic power unit used for controlling the aluminium quenching process as well as a means by which to maintain the temperature of oil used in the hydraulic power unit, thus enabling it to operate under extreme ambient temperatures e.g. 50°C.

Project claim value: £8K / Overall claim value: £30K

Development of a closed loop hydraulic power unit for controlling hydraulic motors used in subsea mass flow dredging operations which occurred at depths of 300m below sea level.

Project claim value: £20K / Overall claim value: £105K

Design and development of a bespoke hydraulic power unit which would control the winch mechanism needed to create and maintain a desired level of tension in the underwater cables supplying an offshore wind farm. *Project claim value: £9K / Overall claim value: £35K*

Development of a bespoke hydraulic test rig capable of delivering a specified level of pressure to enable rigorous testing to be completed and ensure that the complex aircraft wing hydraulics were functioning correctly, and free of contaminants.

Project claim value: £11K / Overall claim value: £42K

Pneumatics

Design and development of a pneumatic system needed to control the mixture of air and oxygen; ensuring it was fed at the correct pressures and flow rates to the patient circuit of a neonatal ventilator. *Project claim value: £8K / Overall claim value: £32K*

Developing an artificial lung capable of replicating the behaviour of an actual lung for testing and training purposes; i.e. one which could simulate a range of physical conditions typically experienced by infants with lung disorders. *Project claim value: £14K / Overall claim value: £46K*

Design and development of a compact pneumatic based gas control module for use inside a mass spectrometer device; with the ability to regulate and control gas flow and pressure in line with a demanding specification. *Project claim value: £12K / Overall claim value: £46K*