

# Helping in the fight against COVID-19

When someone contracts the COVID-19 virus, it mainly targets the respiratory system and it is vital that oxygen levels are maintained and airways are kept clear if the patient is to make a full recovery.

M.G. Electric is a family-owned British engineering company that has designed and manufactured equipment for over 75 years. From its origins as an installer and repairer of electrical equipment, the company is focused on four principal engineering areas - ancillary print and press equipment, converting and rewinding equipment, machine/coolant pumps and perhaps most significantly over this last year, medical suction equipment.

At the start of 2020, MGE already had plans to bring medical vacuum pump manufacture in-house, where production could be controlled more closely; however, the COVID-19 pandemic was about to significantly accelerate this process.

Alongside a massive global requirement for new ventilators, there was also an urgent need for suction equipment to help clear the airways of patients on ventilation. Clearing airways reduces the risk of bacterial ventilator associated pneumonia (VAP), which is a common hospital acquired infection that can occur in up to a third of mechanically ventilated patients.



As one of the key medical suction equipment manufacturers in the UK, MGE was naturally asked to help. However, there was an issue; to feed such a massive and instantaneous rise in demand, many of their outsourced suppliers were unable to deliver sufficient quantities of key components. The decision was made to accelerate the company's plans to bring production in-house and for a redesign of their pumps.

Parvalux motors have been meeting MGE's vacuum pump performance requirements for many years, so MGE had no problem trusting Parvalux drive system technology to power their new models. Several custom development motor versions were supplied with adaptations to the mounting plates of the motor, as well as changes to the rotor shafts that connected the motor to the newly-designed pump heads. A Parvalux IP44 totally enclosed fan cooled (TEFC) permanent capacitor motor with long-life sealed bearings and thermal protection was selected.

Final samples were provided to MGE and testing was carried out throughout the first UK lockdown, during which time MGE continued to manufacture their existing pump designs. Within three months, the company launched the new single-ended MG30 and double-ended MG50 vacuum pumps, which were seamlessly phased into their production schedule. First to receive the new pumps were the UK's newly built Nightingale hospitals, before backfilling NHS hospitals and then medical facilities in Scandinavia, Africa and Asia.

In practice, the two pumps service many different applications beyond their COVID-19 capabilities. The single-ended MG30 pump is used in MGE's smaller suction units, which cater for a variety of procedures including airway clearance, body cavity drainage, baby birthing/extraction, gynaecological inter-uterine procedures and even microsuction for ear wax removal. The MG50 is used in MGE's more powerful aspirator, the SAM 35 theatre suction unit. This is a top quality surgical suction unit that provides high flow, high vacuum performance and is used in operating theatres and major surgery applications.



**Simon Martin, Technical Director of MG Electric said;**

"In March 2020, as COVID-19 took hold and the UK went into full lockdown, MGE had to massively ramp up production whilst also designing a new vacuum pump, which is the heart of our units. As one of our key suppliers, it was great that Parvalux were able to step up to the plate with us and quickly customise their standard units, ensuring that we were able to meet our commitments and that vital medical equipment continued to go out the door to where it was needed most."



If you'd like to find out more about MG Electric or the Parvalux product range, please visit the links below:

[www.mgeworldwide.com](http://www.mgeworldwide.com) // [www.parvalux.com](http://www.parvalux.com)

