

# Emerson and Consonic Pty. fast-track Branson™ ultrasonics and support to help Australia meet medical mask emergency

## RESULTS

- Rapid response to emergency order for Emerson's Branson ultrasonic welders
- Support integration of Branson ultrasonics into medical mask-production equipment
- Provide local Branson technical support, including sonotrode fabrication
- Assure ultrasonic weld training for mask-production equipment operators



## APPLICATION

Supply 34 Branson ultrasonic welding units, backed by local sales, service and technical support, to enable fast-track production of new mask-making machinery essential to meet Australia's COVID-19 emergency.

## CUSTOMER

Located near Melbourne, MedCon is a major supplier of medical apparel and supplies and is Australia's only domestic producer of Level 3 surgical face masks. MedCon masks are fabricated on automated, roll-fed machines that utilize four ultrasonic welding units each. Two welders work continuously to bond multilayer nonwoven fabrics into laminate mask panels. The other perform spot welds to apply tie strings and emboss product logos and product identifying information.

## CHALLENGE

Faced with the COVID-19 emergency in March 2020, Australia's Department of Defence (DoD) offered MedCon a contract to produce 58 million Level 3 surgical masks by November. MedCon execs told DoD officials that meeting the goal — a 29-fold increase over its annual production of just 2 million masks — required revamping three old mask-making machines and building five new ones, all without the benefit of original blueprints. Citing national urgency, DoD officials offered to help the company fast-track procurement of the essential new equipment and assigned a team of 27 military engineers to provide any necessary assistance.

***Helped by Emerson's prompt delivery of the critical ultrasonic welders, Foodmach completed all mask-making machines on or ahead of the tight, 18-week schedule. Following delivery of mask-making machines to MedCon, Consonic's Branson specialists completed welder training for machine operators, putting MedCon on track to meet its ambitious mask-production goal of 58 million by November 2020.***

## MEDICAL PRODUCTION

Soon, one of Australia's premier machine builders, Foodmach, was contracted to lead the machine-modernization and -building project, which required delivery of three modernized machines in eight weeks, with reverse engineering, building and testing of five new machines to be completed just six weeks later. Normally, the job to build a single new machine would take 16 to 20 weeks with drawings, but Foodmach had to complete the entire job in 18 weeks or less, from start to finish.

For ultrasonic welding equipment, project managers requested Branson technology and contacted Emerson through its regional representative, Consonic Pty. They sought 34 Branson welding units, enough to outfit the eight mask-making machines (four welding stations each), plus two spares. Each unit would require a 20 Hertz Branson DCX power supply, a matched converter and booster, plus an application-specific sonotrode, locally developed and fabricated by Consonic.

At the time the emergency welder order was being developed, Australia DoD and project leaders feared that the global surge in demand for medical and personal protective equipment (PPE) — and a secondary demand spike for nonwovens production equipment like ultrasonic welders — could delay welder procurement and delay machinery production. Nevertheless, they proceeded with the order, pressing Emerson and Consonic for the fastest possible delivery.

### SOLUTION

Emerson responded quickly to the Australian request, ensuring that an initial installment of the welders would be available to ship in 14 days. In response to three orders by Australia DoD officials, Emerson's U.S.-based manufacturing facility assembled, tested and completed 34 units, with each of the orders staged and ready to ship in about 10 days.

Then, following each overnight shipment to Australia, the Consonic team stepped in, providing Branson technical support for the Foodmach machine builders, who had to integrate the Branson equipment into four welding stations on each of the mask-making machines. When the machines are in operation, two Branson welders continuously "stitch weld" multiple layers of nonwoven fabric into mask laminates trimmed with fabric tape. The third welder bonds nonwoven tie straps to each side, while the fourth embosses a MedCon logo. Each welding unit relies on a custom-built sonotrode from Consonic.



*Experts work on one of the eight machines needed to produce 58 million surgical masks.*



*Thanks to a large team providing quick response and technical support, MedCon is on track to meet its mask production goal.*

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