Emerson designs quiet solenoid valve for portable breast pump machine

RESULTS
• Redesigned quiet version of valve
• Established customer’s porting requirements
• Exceeded 1 million cycle requirement
• Met challenging specifications for quiet operation, compact size, and flow with vacuum
• Provided samples in two days and custom product in three weeks

APPLICATION
Vacuum and flow control

CUSTOMER
Medical device manufacturer

CHALLENGE
A startup healthcare products company designed a new portable breast pump that fits under a mother’s clothing. The machine required extremely quiet operation, due to the discrete nature of its operation. The company searched for a noiseless valve that would provide vacuum for the system and control its flow, as well as perform reliably for at least 1 million cycles. The company also needed technical assistance on the vacuum flow and port set up required for pumping. Rapid sample delivery was essential since the company was on an accelerated product development schedule.

SOLUTION
Emerson’s technical team responded with engineering support and quickly designed an exceptionally quiet version of its ASCO™ Series RB solenoid valve. The new valve solution met the customer’s specifications for silent operation, compact size, and flow with vacuum. It was also tested over one million cycles which exceeded the customer’s expectations. Product samples were provided within two days, and the customized version was available in just three weeks. The customer valued Emerson’s responsive technical support and placed a 400-unit order for the valve.

The customer was pleased with how quiet the redesigned ASCO™ valve operated and was impressed by all its capabilities.