Presently, there is a large and ongoing requirement for respiratory devices to recruit and stabilize the alveoli (air sacs) in the undeveloped lungs of premature babies. If left untreated, premature babies have a high risk of developing Respiratory Disease Syndrome, which can progress to chronic lung disease; or worse, it can be fatal.

Continuous Positive Airway Pressure (CPAP) therapy can be used for babies with limited Respiratory Distress. However, babies with moderate-severe respiratory distress require additional, dual level pressure therapy. For example in Nasal Intermittent Positive Pressure Ventilation (NIPPV) therapy, a steady baseline with intermittent peaks is delivered to recruit and stabilize additional alveoli.

A major problem for less developed regions of the world is the high price of NIPPV devices and their requirement for a constant electrical supply. Energy from the pressurized air is utilized to power oscillation between the bi-level pressures, forgoing the need for electrical power. Adjustment of the bi-level air pressures is similar to controlling the pressure level for bubble CPAP.

Health care facilities can expand their noninvasive respiratory treatment options by simply and inexpensively deploying the “bubble NIPPV” device as a stand-alone system, or they can replace one component of their bubble CPAP mechanism to create a “bubble NIPPV” device.

(continued on next page)
Potential Benefits

- Inexpensive to manufacture
- Requires no electrical supply, only pressurized air
- Simple and inexpensive to deploy
- Reliable and inexpensive to maintain
- Easy to adjust to different bi-level pressures
- Upgrades current bubble CPAP machines