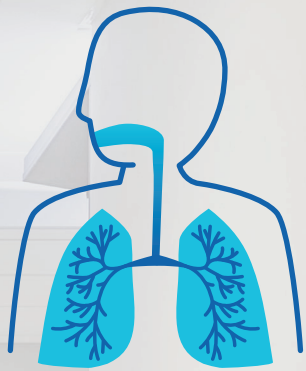
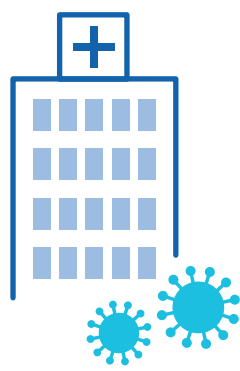


# INFECTION PREVENTION & CONTROL FOR AIRWAY MANAGEMENT



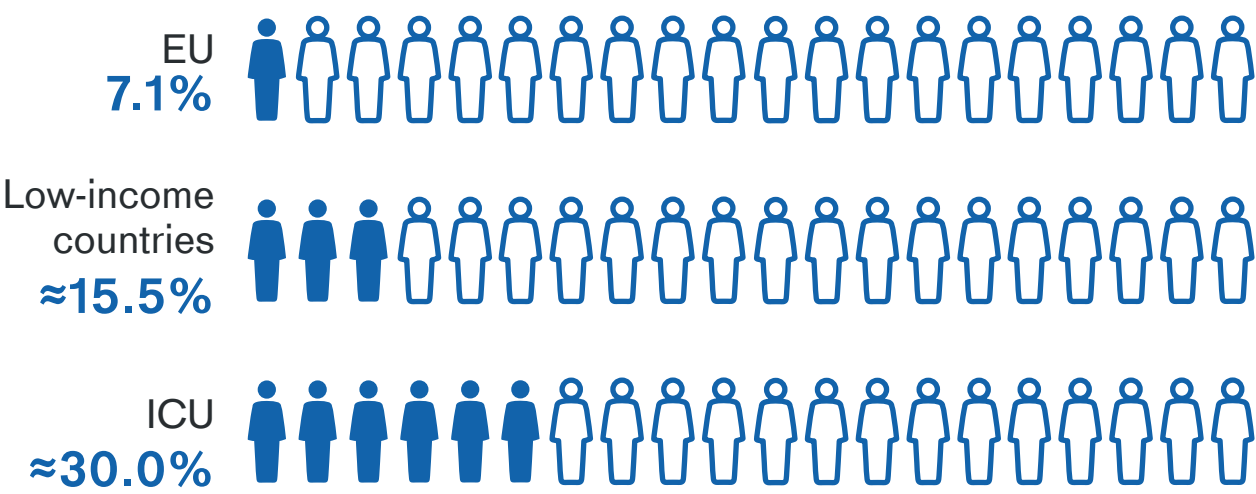
According to the World Health Organization (WHO), 16 million days of hospital stay and large amounts of spending are caused by Healthcare Associated Infections (HAI).<sup>1</sup>



### THE PROBLEM

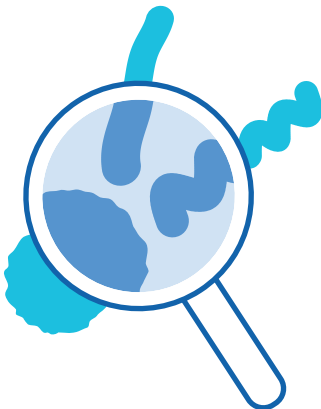
Healthcare Associated Infections (HAI) can appear after 48 or more hours of hospitalization within 30 days after having received health care. Strains such as methicillin-resistant *Staphylococcus aureus* (MRSA) present an increasingly hard challenge to hospital hygiene because their spread cannot be reliably prevented by antibiotics.<sup>2</sup>

### HAI INFECTION RATE<sup>1</sup>



### THE CAUSES

The most frequent route of transmission is indirect contact. The infected patient touches and contaminates an object, an instrument, or a surface. Subsequent contact between that item and another patient is likely to contaminate the second individual who may then develop an infection.<sup>3</sup>

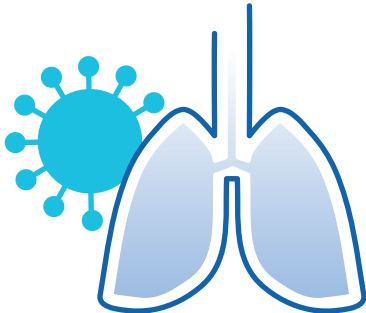


In the clinical environment where patient safety is your first priority, breathing filter can support the airway management in the prevention of potential cross contamination.

Ventilator-associated pneumonia (VAP) is the most frequent life-threatening HAI in intensive care units.<sup>4</sup>

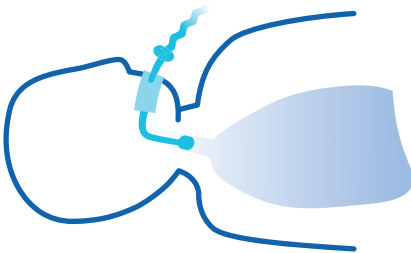
### THE PROBLEM

Ventilator-associated pneumonia (VAP) results from the microbial invasion of the normally sterile lower respiratory tract, which subsequently can overwhelm the host's defense and establish infection.<sup>4</sup>



VAP leads to an attributable mortality rate of up to 71%.<sup>4</sup>

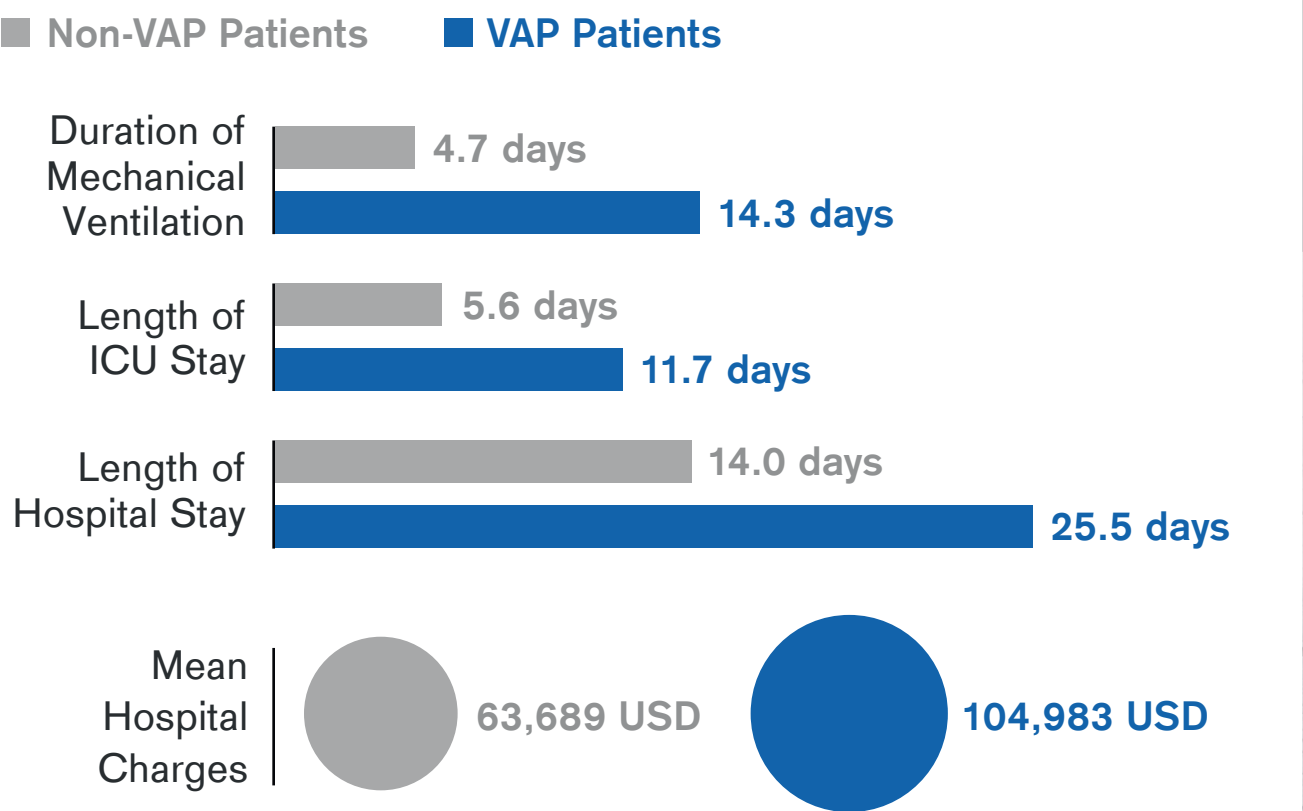
### THE CAUSES



The key risk factor to the development of VAP is a cuffed endotracheal tube or tracheostomy, both of which interfere with the normal anatomy and physiology of the respiratory tract.<sup>5</sup>

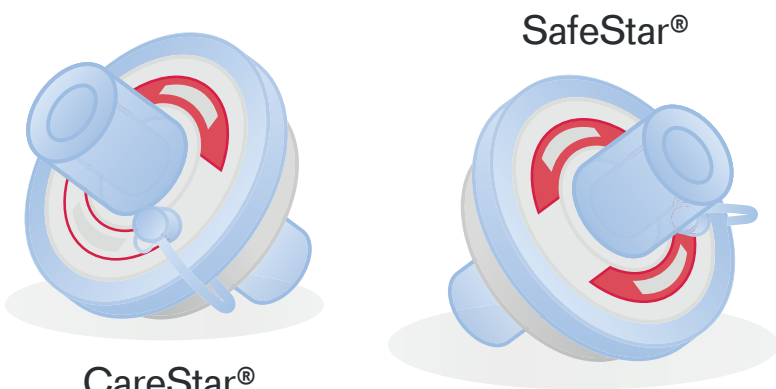
VAP increases the duration of hospitalization by 7 days and health-care costs by approximately up to \$40,000 USD.<sup>4</sup>

VAP impact on healthcare costs and resource utilization<sup>6</sup>



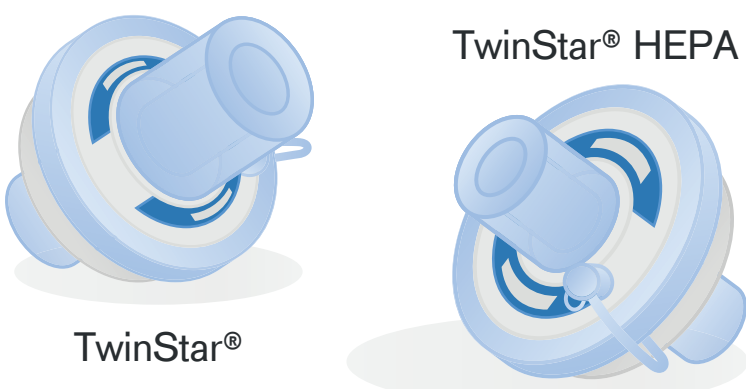
Based on therapy, Filters can protect patients according to hospital guideline by being a barrier for airborne bacterias and therefore avoid cross contamination either on patient and device side. In addition, HME can support the humidification of breathing gas by absorption of the patient's humidified expiratory air in the foam and moistening of the air during the next inspirations. **For additional information, please do not hesitate to contact us.**

### ELECTROSTATIC AND MECHANICAL FILTER



Humidification only by additional active humidifier or HME on the patient side. Filter shall be used on the device side.

### COMBINATION OF ELECTROSTATIC OR MECHANICAL FILTER AND HME



Placed on the patient side. No further humidification needed.

### HEAT-AND-MOISTURE-EXCHANGER (HME)



Placed on the patient side for passive humidification. For bacterial filtration, a filter must be used on the device side.

1 World Health Organization (2011). Health care-associated infections Fact Sheet  
2 Haque, M., Sartelli, M., McKimm, J., & Abu Bakar, M. (2018). Health care-associated infections - an overview. Infection and drug resistance, 11, 2321–2333. doi:10.2147/IDR.S177247  
3 World Health Organization, Hospital hygiene and infection control  
4 Timsit, J. F., Esaiad, W., Neuville, M., Bouadma, L., & Mourylier, B. (2017). Update on ventilator-associated pneumonia. F1000Research, 6, 2061. doi:10.12688/f1000research.12222.1  
5 Miller, F. (2018). Ventilator-Associated Pneumonia. Anaesthesia Tutorial of the week, Tutorial 382.  
6 Rello, J., et al. Epidemiology and Outcomes of Ventilator Associated Pneumonia in a Large U.S. Database. Chest 2002 122: 2115-2121.