

## ASPINA wins the MedTech Award of Excellence for its innovation in Medical Device Technology

**ASPINA (Shinano Kenshi Co., Ltd.)** received a nomination for the Medtec Innovation Award, which recognizes innovative medical devices from domestic companies. **The Award of Excellence** was presented on April 17, 2024 during Medtec Japan, the largest medical device exhibition in Japan.

Medtec Japan stands out as the sole exhibition and seminar dedicated to the manufacture and design of medical devices in Japan's growing medical device industry, which is garnering significant attention. (Medtec Japan Website)

The winning product, **a compact, high-pressure, and low noise 5kPa blower**, was developed by **ASPINA's ME Business Unit**. Specifically engineered for CPAP devices used in the treatment of sleep apnea syndrome, this product features small dimensions, roughly the size of a fist, yet achieves impressive pressure by rotating the blower at a high speed of 50,000 revolutions per minute.



### **Pursuit of Miniaturization and Silence During Sleep**

In pursuit of miniaturization, weight reduction, and noise reduction of CPAP devices, ASPINA has developed a blower that is smaller (62 mm in diameter and 50.3 mm in height), 35% lighter in mass, and 15% lower in noise level than other products available on the market. Given that CPAP devices are used at the bedside while sleeping, ASPINA took patient comfort into consideration as they sought to improve the harsh sounds that were beyond numerical values by refining harsh frequency bands through repeated feedback from customers and in-house analysis.

## Impact of Sleep Apnea Syndrome on Life

Sleep apnea syndrome is a condition in which breathing temporarily stops during sleep. The resulting lack of oxygen activates a survival reflex that wakes you up just enough to resume breathing. While that reflex keeps you alive, it also interrupts your sleep cycle. Insufficient sleep and breathing caused by sleep apnea can induce daytime sleepiness and difficulty concentrating and cause more serious risks. People who suffer from sleep apnea are 2.43 times more likely to cause a traffic accident\*<sup>1</sup> and approximately 3~4 times more likely to experience hypertension, stroke, or myocardial infarction\*<sup>2</sup> than normal subjects.

## CPAP Devices for Continuous Home Use

Consistent CPAP therapy has demonstrated a 72% \*<sup>1</sup> reduction in crash accidents and mortality rate from myocardial infarction equivalent to that of healthy people \*<sup>2</sup>. Despite the proven effectiveness of CPAP treatment, the continuation rate of therapy in Japan is as low as 65~90% \*<sup>1</sup>. In pursuit of a comfortable CPAP device conducive to continued home use, ASPINA set out to develop the main component, a blower, recognizing the imperative of "silencing" to facilitate uninterrupted sleep and "miniaturization" for bedside convenience. ASPINA's 5kPa blower is currently preferred among several CPAP equipment manufacturers.

\*<sup>1</sup> J-STAGE, Obstructive Sleep Apnea and the Future of the Continuous Positive Airway Pressure (CPAP) Therapy ~Adherence and Patient Awareness~, retrieved March 27<sup>th</sup>, 2024 from [https://www.jstage.jst.go.jp/article/jjbm/23/2/23\\_63/\\_pdf/-char/ja](https://www.jstage.jst.go.jp/article/jjbm/23/2/23_63/_pdf/-char/ja)

\*<sup>2</sup> The Japanese Respiratory Society, Respiratory Diseases, retrieved March 27<sup>th</sup>, 2024 from <https://www.jrs.or.jp/citizen/disease/i/i-05.html>

## ASPINA's Business Development for Medical Devices

The ME Business Unit of ASPINA has been at the forefront of developing and manufacturing blowers, compressors, precision motors, and more primarily for respiratory medical devices. As a trusted medical device manufacturer, the company aims for continued expansion, particularly in Japan, Europe, and the United States. Future endeavors encompass not only standalone blower product development but also the creation and contract manufacturing of modular products that combine blowers and piping into a cohesive unit, thus furthering ASPINA's contribution to respiratory medical device innovation.

## About ASPINA

ASPINA endeavors to enhance its visibility within related industries and among potential customers worldwide as part of its long-term growth strategy for global expansion. Driven by the mission of "giving shape to the concepts of "hope" and "comfort" of people around the world," ASPINA aims to realize new products and businesses through innovative ideas and solutions by collaborating with customers and leveraging our technologies.