

Weinmann apnoea-respirator
with Micronel-blower



Swiss fans aid restorative sleep

– Anyone who cannot sleep, suffers. Lack of sleep can even lead to physical or mental illness. However, many people are able to get a good night's sleep again, thanks to devices containing products made by Micronel, the Swiss micro-fan specialists.

Pressure for a good sleep



— Around three to four percent of all people over forty suffer from sleep apnoea. It is a health condition in which many of those affected are woken up from their sleep time and again when their breathing comes to a brief stop (an apnoea). The impact of such sleep disorders can be devastating. Only by getting enough sleep at night and letting the body have a deserved rest, can people perform to their full capacity in everyday life and at work.

— An intelligent respirator can provide the longed-for remedy to such sleep apnoea. Via an ingenious sensory system such a device can register in milliseconds every brief interruption in a sufferer's breathing. It then activates a blower that provides a pressurised supply of air via a breathing tube and mask worn by at night. The process is quiet and imperceptible and runs continuously as users sleep. They therefore have no more breathing emergencies and can sleep in peace. Next morning they wake up relaxed.

— Sleep apnoea therapy and diagnosis devices made by the German manufacturer Weinmann are globally regarded as high-end appliances in this field. They are used and highly valued by thousands of patients. As market leaders, Weinmann are very aware of their responsibility to their customers, so when it comes to suppliers of technical components they rely only on the best. One of their main suppliers is the renowned Swiss company Micronel. They manufacture the radial

blower for Weinmann that is built into the apnoea devices and takes on a key function in the system. To help achieve the high standards required, Micronel was closely involved with Weinmann on the development work, from the start of the project in 1998 right through until the devices were ready for mass production in 2001. For Micronel, working on this development was a totally new challenge. Its U50 radial blowers had to fulfil conditions that had never previously been set in such a way. So that no vibrations or noise would be produced that might disturb the user's sleep, Micronel had the blower, complete with motor (from a collaboration with electro-motor specialists Maxon Motor AG), finely balanced until it ran as truly as possible. Depending on the patients' own individual sleep patterns, which were analysed in a sleep research laboratory in advance and then programmed into the device, the blower had to increase speeds from 12,000 to 37,000 rpm within 250 milliseconds. The volume of air fed could not exceed 140 litres per minute and the pressure had to be maintained at 25 millibar. Heat from the fan had to be fed away, as no hot air could be allowed into the patient's airways and, last but not least, all of the materials used had to be harmless to the respiratory system and certified to that effect.

— This was another project that showed the merits of successful collaboration between two partners, who mutually count on competence and trust in quality. The way it has always been at Micronel.

Technical information:

Fan model:	U50 radial blower	Pressure:	2000 Pa (20 mbar)
Dimensions:	Ø 48 x 59 mm	Air capacity:	100 L/min
Voltage:	24 VDC	Noise level:	ca. 25 dB(A) at 10 mbar