Femtonics company founded in 2005, specializes in manufacturing two-photon laser scanning microscopes. The company provides the most innovative technologies, fitting a wide variety of in vivo and in vitro biological applications. They excel in combining the highest level of technology with a researcher's scientific knowledge, background, experience, and long-term goals in the medical competitive market. Femtonics has won several prestigious grants and prizes and has been validated by groundbreaking scientific results while have resulted in 20 world records.

Challenged by the new epidemic crisis of COVID-19, Femtonics developed three cutting-edge medical solutions that enable a better response to the coronavirus crisis and its current and future impact.

ANTI COVID-19 SOLUTIONS

Mobile Laboratory For COVID-19 Testing and fast population screening

The rapid identification of new coronavirus cases and isolation of the patients is key to curbing the pandemic. Modular and mobile laboratories, where people can be tested for COVID-19 infection on the spot, provide significant aid in rapid population screening. These mobile laboratories are capable of processing up to 1000 samples per day. The mobile laboratory is Independent of urban infrastructure and also movable as it can be installed in almost any terrain like airports, hotels, football matches, concerts, workplaces, schools, universities, parcel delivery, public transport. Its maximum capacity is 1000 samples per day when expanded by additional modular units. Provides easy sterilization of external and internal surfaces while the risk of infection is minimal due to the inactivated viruses. It consists of one sample processing unit (Isolation lab) within an air-conditioned container (CN10) and one sample analyzing unit (PCR unit) within an air-conditioned container (CN10) and a plumbing unit. Running water, sewage disposal and a single-phase network supply is necessary for the operation of the mobile laboratory. The mobile Laboratory can be function by professionals with experience in a BSL-2 level laboratory, while Femtonics can provide special training.

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Ultra-fast Digital Genetic Test for Sars-COV2

Femtonics, aiming to safely increase social mobility, to significantly increase the efficiency of the economy even in pandemic conditions through the collaboration with scientific Hungarian companies & Institutions (Avicor Ltd, ELTE TTK and PPKE Faculty of Science) is now developing a genetic and not antibody-based test, similar to and as

reliable as the PCR method, but much faster. The test will provide a diagnosis within 15 minutes (with an ultimate goal to reach 5-10 minutes), with minimal sample preparation required and with the ability to perform the test anywhere due to its portable digital device (the size of a key chain or mobile phone). The test is expected to be ready by the end of 2020. Read more

Testing Solutions for COVID-19 (RT-PCR based) diagnostic testing kit

Femtonics SARS-COV-2 diagnostic testing kit provides complete solution that enables easy identification of COVID-19 disease. It contains an ATM-1 sampling device, an AviRNA viral RNA extraction kit and a Cov2QuantTM SARS-Cov-2 Quantification kit. The ATM-1 sampling device immediately inactivates viruses hence enables safe handling and transportation of the specimen. The AviRNA extraction kit is designed for rapid and efficient purification of high-quality virus RNA (nucleic acid that includes the genetic information of many viruses). Compared to past PCR methods Real-Time PCR enables fast real-time RNA detection, it is a quantitative and more precise method, while there is no need for post PCR detection methods. It is easy with only 1-step real-time quantitative PCR detection to identify the virus by the quantification kit. All devices and reagents of the test package have been CE/IVD certified and are suitable for diagnostic purposes and the items can be purchased in a package or individually.

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COVID-19 Specific Emergency Ventilator (LUCA)

The LUCA ventilator system is an invasive, fully enclosed ventilator developed for assist control ventilation, that can provide adequate support for patients during a period lasting from days to weeks. The device is compact, robust, standing or rolling on the floor, and can be placed close to the patient's bed. A heat and moisture exchange virus filter is placed between the machine and the patient, and a separate virus filter has been installed between the two limbs of the breathing circuit and the machine. In addition, the exhaled air is discharged through a special high-performance virus filter that effectively protects the medical staff working in its surroundings. All parts in contact with the patient's exhaled air can be sterilized or disposed of. The LUCA ventilator system is capable of operation from the internal battery for a minimum of 8 hours in the event of a power failure, it is as economical as possible in terms of oxygen consumption while the operation of the ventilator can be learned remotely within 5 minutes. Designed and manufactured within in Hungary, from high-quality components produced and quality checked in the EU, while critical medical components are substituted by high-quality mass-produced components from other industries that meet the safety requirements employed in the healthcare industry.

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Femtonics goal is to develop B2B distribution partnerships with Greek Medical companies.