

Nippon Becton Dickinson Company, Ltd.

Minato, Tokyo, Japan

Advancing the World of Health



Nippon Becton Dickinson Company was founded in 1971 as a Japanese subsidiary of the US corporation Becton, Dickinson and Company. We provide sophisticated products with safety features supported by advanced technical expertise in medical research, diagnostics, and treatments. Our products you may be familiar with include blood collection tubes and insulin pen needles, of which we hold the greatest market share in the world. One of the key products that our diagnostics division offers is the blood culture system. Blood culture tests involve collecting blood samples in blood culture vials, inoculating the vials, and screening for microorganisms. The blood culture system is a vital piece of diagnostic equipment that enables health care providers to select the optimal antibiotics for the patient.

I am sure many of you are familiar with the term *sepsis*. Sepsis is a life-threatening condition that is caused by infections and results in organ and tissue damage. Sepsis has a much higher mortality rate than heart attacks or strokes, which are cited among the three leading causes of death in Japan. However, the cause of death in such cases is often reported as cancer, heart disease, or something else, so this fact is not well-known.

When large-scale earthquakes such as the Great East Japan Earthquake and the Kumamoto Earthquakes occur, many people become injured, and those who lose their homes experience fatigue, which weakens their immune systems and makes it easier for them to become infected with microorganisms. This means it is especially important that our blood culture systems be operational immediately after an earthquake. We recognized that our vertical instruments were at high risk of falling over during an earthquake, so we searched for a solution. The moment we saw THK's seismic isolation system at their exhibition

booth at a medical conference and exhibition in Hamamatsu, we knew it would work for us because its compact structure lets it be installed beneath existing equipment. During our subsequent meetings, we obtained a plastic model of the seismic isolation system that makes it easy to see how it works. We were amazed by how far this technology has progressed and realized that information could prove useful by enabling us to provide clear explanations



The seismic isolation system safeguards the blood culture system from the risk of falling over during an earthquake



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tions of this technology at hospitals. At later medical exhibitions, when we introduced the blood culture system that comes installed with the seismic isolation system, many customers told us that they already had taken measures for seismic isolation at their facilities. However, when we inquired further, we realized that they were talking about having earthquake-resistant structures, not seismic isolation systems. It is certainly possible to prevent equipment from falling over by securing it tightly to the floor with anchor bolts, but this will not prevent internal damage to the equipment during major tremors. If the blood culture test is stopped longer than a set amount of time, it may not be able to resume. Furthermore, if the instrument is damaged, it cannot be used for some time even after power is restored. With the seismic isolation system, however, you can prevent both toppling and internal damage. We had to conclude that the difference between earthquake-proofing, seismic damping, and seismic isolation is still not widely understood, and that few are familiar with seismic isolation.

Now, we always keep earthquake precautions in mind and recommend THK's seismic isolation system to the customers who purchase our blood culture systems. Our aim is to work with THK to promote seismic isolation systems and deepen everyone's understanding of how important they are for equipment. We believe that developing instruments that will protect the lives of patients even directly after an earthquake will allow us to achieve our corporate philosophy: "Advancing the world of health."