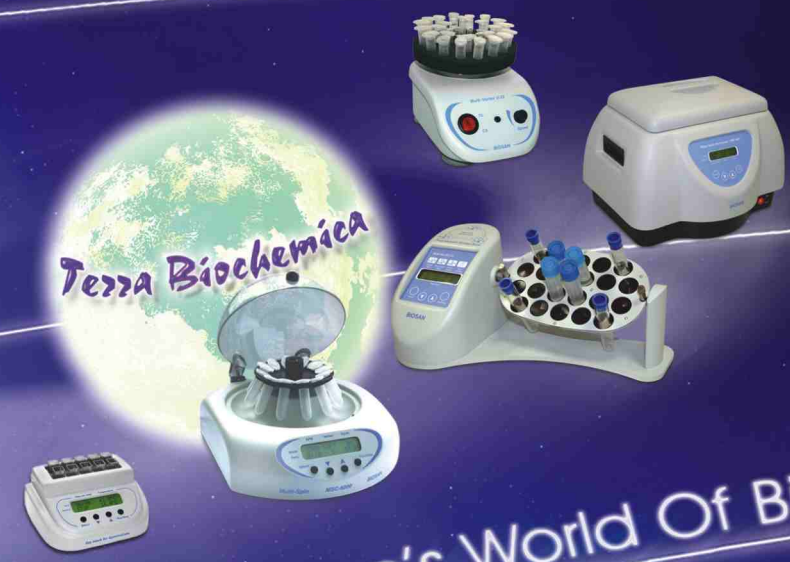
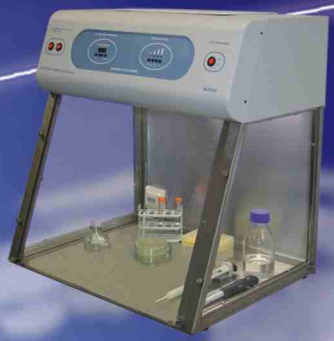
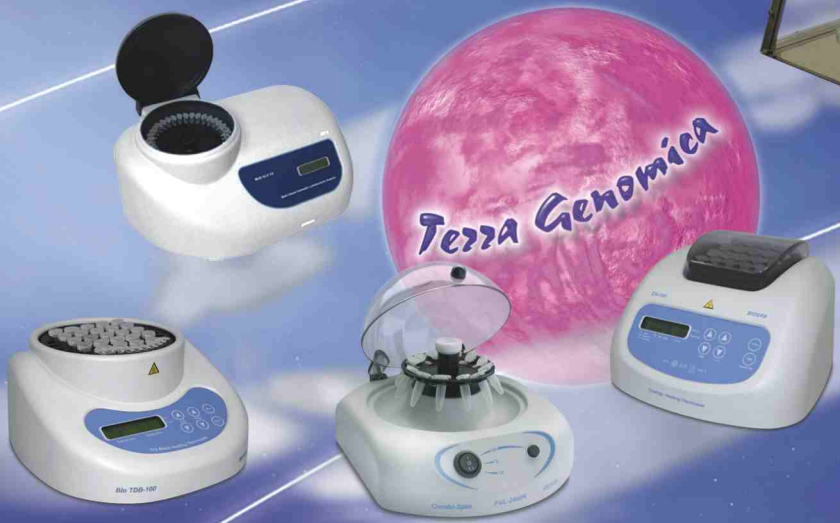
BIOSAN

Medical - Biological
Research and Technologies



Biosan's World Of Biotechnomica





terra innovatica

Catalogue

2008

Biosan Ltd.
Ratsupites 7/2, Riga, LV-1067, Latvia
Phone: +371 67 42 61 37
Fax: +371 67 42 81 01
E-mail: marketing@biosan.lv, service@biosan.lv
http://www.biosan.lv

Welcome to Biosan's world

"In the act of creation, man steps beyond himself as a creature and rises above passivity and the coincidence of his existence into the realm of freedom and meaning. In this need to transcend can be found one of the roots not only of love, but of art, religion and material production."

- Erich Fromm

The Biosan catalogue cover reveals the concept of development for Biosan called "THE WORLD of Biotechnomica". Four planetary systems with satellites - devices revolve around Terra Innovatica (biomaterial under research). We have marked out four planets - 4 contemporary diagnostics levels:

1. Terra Genomica - diagnostics at the level of genes (DNA-analysis, oligonucleotide and mononucleotide polymorphism - ONP, SNP);
2. Terra Immunologica - diagnostics at the level of immunology (detection of polymorphism of antibodies and immune response);
3. Terra Biochemica (metabolomics) - diagnostics of metabolism products and ferment activity;
4 .Terra Cellomica - diagnostics at the level of cellular morphogenesis (cellular polymorphism).

The distance from the planet orbitals to Terra Innovatica corresponds to the time of disease detection at each level (from one week, as in the case of DNA-analysis, to several years, when the changes can be traced at the cellular level). By virtue of genetic nature of the majority of diseases of human beings, animals and plants - further affecting the immune response (defense reaction) and changes in biochemical status, and finally cellular morphogenesis as well - we believe that simultaneous multilevel diagnostics is reasonable. Since polymorphism at the level of genes leads to the manifestation of polymorphism at all higher levels, it results in the ambiguity (if not more) of any decision made on the basis of the obtained data. The definition comprising the polymorphism of norm and abnormality (disease) is not yet available; hence, the multidiagnostic technology, though expensive, is the only solution as of today.

Although the classic determinism in diagnostics has finally yielded its position to the stochastic one, there are still no instrumental solutions allowing to channel our new knowledge into informed and unambiguous decisions. This is the real situation; these are the temporary consequences of progress. Biosan is the only company in the World of Biotechnomica, which develops, produces and distributes instrument lines for all 4 levels of diagnostics. These satellites of 4 planets are specialised devices providing the instrumental basis for multilevel diagnostics, whereas the reagent sets make these satellites move. On this account, the term "Biotechnomica" in our understanding means the branch of biotechnology responsible for the development of multilevel laboratory diagnostics sets (instrument lines). In the future perspective, multidiagnostic chips may appear with the development of chip technologies, allowing to unify all the aforesaid technologies in one chip. Biosan plans to be active in this field in the next few years.

I am pleased to point out that many of our ideas and products have been developed as a result of long-standing cooperation of scientists from the Institute of Microbiology of the Latvian Academy of Science (where our company was founded 15 years ago and where it is presently located) with universities, as well as with academic institutes and institutes of applied sciences and our company customers worldwide.

All our inventions resulted from joint efforts, and today we are still open for collaboration. We will be delighted if the result of our work – which has already received wide recognition of the Western scientific community – would be also of interest for you, particularly if it would serve as yet another starting point for the development of innovative biotechnologies and appearance of new planets and their satellites in the sky of the World of Biotechnomica.

Sincerely,
Vasily Bankovsky, PhD (Biol.)
Head of R&D Department
Biosan, Chairman of the Board

Dear partners, friends, and future customers,

Our company celebrated its 15th anniversary last year.

We would like to express our gratitude to all our permanent clients from our dealers to end customers. Without you, your enquiries, demands, and trust, we would not have achieved such potential in the field of laboratory instrument engineering that we have in our possession today.

Our achievements:

- Substantial reduction of delivery time – 95 % of orders being shipped within 5 days .
- Product design update and new color scheme.
- New website version which offers complete information on all products (including a number of customized solutions) in three languages, news subscription and direct enquiry submission.
- Recognition of Biosan as the best innovative company of Latvia in 2006 (Riga City Council contest).

Within the framework for development of the "World of Biotechnomica" concept (see page 2 and the catalogue cover) the company annually invests funds (approximately 15% of the turnover) in development of innovation.

A number of patented solutions applied in new developments were registered in 2007, including:

- Differentiated heating that ensures precise distribution of temperature inside the process chamber (thermoshakers).
- New principle of fluid distribution which expands the functionality of rinsing devices (washer).
- Principle of fast reading of sample optical density (reader-photometer).
- Special sensor block increasing the sensitivity of fluorimeter which registers PCR products.

Biosan successfully continues development of the personal mini-laboratories concept for sample preparation and diagnostics used in genomics, cellomics and metabolomics. Much attention is paid to sample preparation since the absence of strict regulations on sample preparation causes the biggest number of errors for majority of techniques. The errors accumulate dramatically due to smaller reactant volumes used, lack of intermediate temperature logistics during mixing, and lack of systems for air deactivation in laboratories during operation.

The catalogue includes instruments for sample mixing, centrifugation, thermostating, cell cultivation, boxes for work with DNA, as well as analytical equipment: densitometer, fluorimeter.

Innovation, design, and focus on the individual consumer proved popular in the global biotechnological market and in recent years our idea of Personal Laboratories has become well-known all over the world under our own brand and under different international brands (Grant-bio, Boeco, Kisker Biotech, etc).

We will always be pleased if you show interest in our products.
Thank you for effective cooperation!

ISO 9001
BUREAU VERITAS
Certification

Sincerely,
Biosan team

terra innovatica

Contents