

On the move! ***Oxford Danfysik invests in new premises***

In March this year, Oxford Danfysik moved into new premises. Whilst still based in Osney Mead, near the historic centre of Oxford, the new factory features a purpose-built cleanroom for manufacture and assembly, as well as new office suites for our engineering and design staff.



Our new facility

Investment in the new facility follows an expansion last year at the Danfysik facility near Copenhagen. "2001 was a successful first year of trading as Oxford Danfysik" commented the company's Chairman, Bjarne Roger Nielsen, "the decision to invest was straightforward."

"As well as the opportunity to upgrade our facilities", added Managing Director Nigel Boulding, "the move provides a better working environment."

Our new coordinates

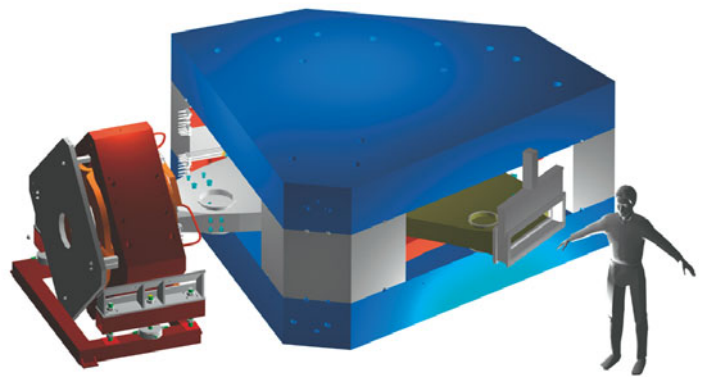
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EXCYTing magnet for "MAGNEX" ***High resolution magnetic spectrometer***

Danfysik is building the magnets for the "MAGNEX" large acceptance high-resolution magnetic spectrometer based at the INFN-LNS facility in Catania, Italy. The main application will be with the radioactive beam facility EXCYT.

The Danfysik project team have completed a comprehensive design including full 2D and 3D magnetic field calculations. The MAGNEX experiment requires detailed mapping of the magnetic fields within the experimental region, which will be characterised at Danfysik prior to shipment of the system.



Danfysik's 3D design model of the spectrometer

The relatively low beam energies (0.5 - 8 MeV/nucleon) and excellent beam quality from the 15 MV tandem accelerator, will provide new opportunities for direct reactions and other studies near the border lines of stability. The design will allow good energy resolution, and particle identification with solid angle larger than 50 msr.

Danfysik's biggest goes to BNL

Funded by NASA

The Booster Applications Facility (BAF) is a new dedicated ion facility at Brookhaven National Laboratory. As a key input to the project, Danfysik has delivered 19 magnet power supplies in the range of 10 kW to 704 kW.

The 704 kW unit is one of the largest power supplies ever built by Danfysik. It uses a 12-pulse SCR controlled device and the famous Danfysik high precision current transducer, ensuring high stability.



The 3200A / 704 kW dipole magnet power supply

The BAF project is funded by NASA, and is intended to produce ion beams in the range of 40 – 3000 MeV/nucleon with beam intensities from 10^{10} to 10^{11} ions per pulse.

The facility will be used by scientists to study the biological effects of cosmic radiation during future long-term deep space flights. BAF is scheduled to be operational in 2002/2003.

NEWSFLASH

Double crystal monochromator for HP-CAT was delivered to the APS in December and is now installed.

more at www.oxford-danfysik.com

MAD at CAMD

Beamline commissioned

The GCPCC¹⁾ MAD²⁾ Beamline at the Centre for Advanced Microstructures & Devices facility has been commissioned. The GCPCC beamline is capable of standard macromolecular MAD phasing experiments over an energy range of 7 - 17.5 keV.



During installation of the GCPCC beamline at CAMD

As supplier of the complete beamline, Oxford Danfysik utilised proven standard components for a cost-effective solution.

The complete beamline was supplied and installed by Oxford Danfysik during 2001. The design called for a channel cut monochromator and two mirror systems, one sited inside the shield wall.

Dr Peter Siddons, staff scientist at Brookhaven's NSLS, is a consultant on the GCPCC beamline and was in charge of the commissioning programme. "The equipment supplied, installed and aligned by Oxford Danfysik worked fine and we had no significant problems during commissioning." The commissioning was completed within one week.

¹⁾ Gulf Coast Protein Crystallography Consortium (GCPCC)

²⁾ Multiwavelength Anomalous Diffraction (MAD)
Centre for Advanced Microstructures & Devices (CAMD)

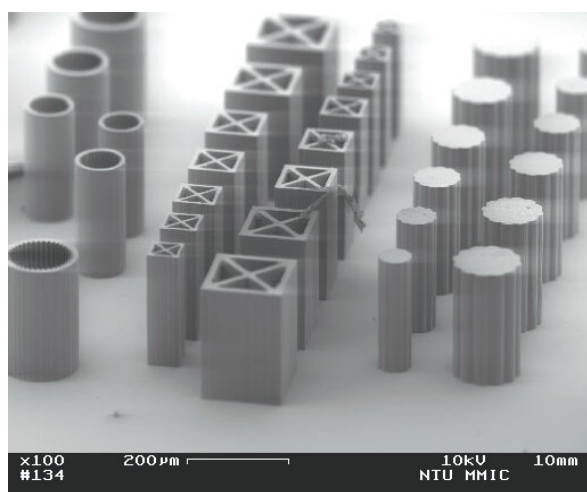
MEMS at NUS Beamline installed

The 3rd international conference, Synchrotron Radiation in Materials Science (SRMS-3) took place in Singapore in January this year. Over 200 people attended and the conference was a great success.

Most visited the Singapore Synchrotron Light Source where they saw the MEMS beamline recently installed by Oxford Danfysik. SRMS-3 conference organiser and Director of the SSLs, Professor Herbert Moser commented, "the installation went smoothly and we are now undertaking the first experiments." The beamline was designed using standard components from the Oxford Danfysik range.



The scanner was custom designed and provides the flexibility required for research-focused MEMS studies



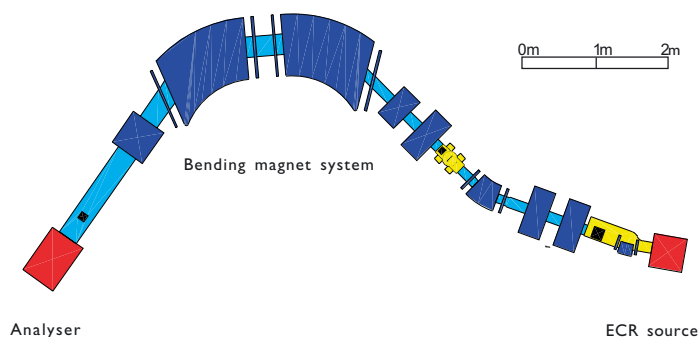
First results from the MEMS facility at NUS

Micro Electro Mechanical Systems (MEMS)
National University of Singapore (NUS)
Singapore Synchrotron Light Source (SSLs)

Mass Analyser of Super Heavy Atoms "MASHA" Danfysik provides turnkey optics solution

In 2001, as part of its research in heavy ion physics, the Flerov Laboratory of Nuclear Reactions, FLNR at Moscow launched a program to develop the on-line Mass Analyser MASHA.

MASHA is designed as a general purpose ion separator, dedicated to separation and mass analysis and will become an important tool in the research around existence of the "island of stability" of super heavy elements.



Initial design concept for MASHA

To ensure an overall short project timeline the ion optics package has been subcontracted to Danfysik as a turnkey project.

"Danfysik was selected as a supplier of the instrument due to their broad experience in the field of ion optics systems and the past positive experience in working with Danfysik as a supplier and partner" says Prof. Oganessian, Scientific Director FLNR.

Danfysik was awarded the contract in January 2002, and delivery will take place by the end of the year.

NEWSFLASH

Monochromators and mirror systems purchased by MAX-lab and BESSY

more at www.oxford-danfysik.com

Magnet System for TIFR LINAC Project

The I4UD Pelletron Accelerator at the Tata Institute of Fundamental Research (TIFR), in Mumbai India, has been operational since 1989. To further enhance its capability, a superconducting LINAC booster is being built. The booster is constructed in two sections - the first section comprises the superbuncher and three accelerating modules; the second section has four accelerating modules.

An isochronous, achromatic and mirror-symmetric bending magnet system was designed to transport the beam from the first to the second half of the LINAC. Danfysik has now delivered all the beam focusing quadrupole doublet magnets configured between the LINAC modules.

"We have found working together with Danfysik very satisfactory" explained Professor Kurup, "the project will provide very good science and allow international co-operation on physics with heavy ion beams."



*Mr S K Sarkar and Professor M B Kurup with
Mr J Filtenborg at Danfysik*

Since the inception of this project, Danfysik have closely co-operated with TIFR scientists and have delivered the entire magnet system comprising 2 dipole magnets, 9 quadrupole doublet magnets, 20 magnet power supplies and beam diagnostic devices.

Conference and meeting schedule

Danfysik

EPAC Paris June 3 - 7
ICHEP Amsterdam July 24 - 31
ESMRMB Cannes August 22 - 25
FEL2002 Argonne September 9 - 13

Oxford Danfysik

CHESS User meeting June 18 - 19
SPIE Seattle July 8 - 11
FEL2002 Argonne September 9 - 13
SRS Daresbury Users September 11
MAX-lab User meeting September

NEWSFLASH

Undulator to be supplied to the Siam Photon Laboratory. Further establishing the company's position as the pre-eminent supplier worldwide of insertion devices, Danfysik has been awarded the contract to build the Spectroscopy beamline PPM Undulator U60 for the National Synchrotron Research Centre, (NSRC), in Nakhon Ratchasima, Thailand.