BRUKER BIOSCIENCES CORP
Form 10-K
March 14, 2006

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF

THE SECURITIES EXCHANGE ACT OF 1934

For The Fiscal Year Ended December 31, 2005

Commission File Number 000-30833

BRUKER BIOSCIENCES CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware	**04-3110160**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)

40 Manning Road

Billerica, MA 01821

(Address of principal executive offices, including zip code)

(978) 663-3660

(Registrant s telephone number, including area code)

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

None

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

Common Stock $.01 par value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act Yes o No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No x

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Large accelerated filer o Accelerated filer x Non-accelerated filer o .

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

The aggregate market value of the voting and non-voting stock held by non-affiliates of the registrant as of June 30, 2005 (the last business day of the registrant s most recently completed second fiscal quarter) was $149,221,280 million, based on the reported last sale price on the Nasdaq National Market on that date. This amount excludes an aggregate of 52,076,694 million shares of common stock held by officers and directors and each person known by the registrant to own 10% or more of the outstanding common stock of the registrant as of June 30, 2005. Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the direction of management or policies of the registrant, or that such person is controlled by or under common control with the registrant. The number of shares of the registrant s common stock outstanding as of March 10, 2006 was 90,074,303.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this report (Items 10, 11, 12, 13 and 14) is incorporated by reference from Bruker BioSciences Corporation s definitive Proxy Statement for its 2006 Annual Meeting of Shareholders.

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Any statements contained in this Annual Report on Form 10-K that are not statements of historical fact may be deemed to be forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 (the Exchange Act). Without limiting the foregoing, the words believes, anticipates, plans, expects, seeks, estimates, and similar expressions are intended to identify forward-looking statements. forward-looking statements contained herein are based on current expectations, but are subject to a number of risks and uncertainties. The factors that could cause actual future results to differ materially from current expectations include, but are not limited to, risks and uncertainties relating to the Company s integration risks, failure of conditions, technological approaches, product development, market acceptance, cost and pricing of the Company s products, changes in governmental regulations, capital spending and government funding policies, FDA and other regulatory approvals to the extent applicable, competition, the intellectual property of others, patent protection and litigation and other factors, many of which are described in more detail in this Annual Report on Form 10-K under Item 1A. Risk Factors and from time to time in other filings we may make with the

Securities and Exchange Commission. While the Company may elect to update forward-looking statements in the future, it specifically disclaims any obligation to do so, even if the Company s estimates change, and readers should not rely on those forward-looking statements as representing the Company s views as of any date subsequent to the date of the filing of this report.

References to we, us, our, the Company or Bruker BioSciences refer to Bruker BioSciences Corporation and, in some cases, its subsidiaries, well as all predecessor entities.

Our principal executive offices are located at 40 Manning Road, Billerica, MA 01821, and our telephone number is (978) 663-3660. Information about Bruker BioSciences is available at www.bruker-biosciences.com. The information on our website is not incorporated by reference into and does not form a part of this report. All trademarks, trade names or copyrights referred to in this report are the property of their respective owners.

PART I

ITEM 1. *BUSINESS*

Our Business

We design and market products to address the rapidly evolving needs of the life science industry, and we are the publicly traded parent company of both Bruker Daltonics Inc. and Bruker AXS Inc. Bruker Daltonics is a leading developer and provider of innovative life science tools based on mass spectrometry, which includes a broad range of field analytical systems for nuclear, biological and chemical (NBC) detection. Bruker AXS is a leading developer and provider of life science and advanced materials research tools based on X-ray technology.

We were incorporated in Massachusetts as Bruker Federal Systems Corporation. In February 2000, we reincorporated in Delaware as Bruker Daltonics Inc. In July 2003, we merged with Bruker AXS Inc., a company under common control, and we were the surviving corporation in that merger. In connection with the merger, we changed our name to Bruker BioSciences Corporation and formed two operating subsidiaries, Bruker Daltonics and Bruker AXS, into which we transferred substantially all of the assets and liabilities, except cash.

Competitive Strengths and Strategy

We believe our key competitive strengths include our:

- broad product and service offerings in the markets we serve;
- commitment to innovative, reliable and performance leading products and solutions for our customers;
- premier global brand;
- extensive intellectual property portfolio; and
- worldwide global manufacturing, distribution and logistics networks.

Our strategy is to capitalize on our proven ability to innovate and generate rapid revenue growth, both organically and through acquisitions. We believe our commitment to be an even more significant leader within our markets, to maintain above industry-standard growth and to leverage our continued research and development and distribution investments, will enhance our operating margins and improve our earnings.

Business Segments

We report financial results on two reportable operating segments: Bruker Daltonics and Bruker AXS.

The mass spectrometers manufactured and sold by our Bruker Daltonics business are sophisticated scientific devices that measure the mass or weight of a molecule and can provide accurate information on the identity, quantity and primary structure of molecules. Our mass spectrometry-based solutions often combine advanced mass spectrometry instrumentation; automated sampling and sample preparation robots; reagent kits and other consumables used in conducting tests, or assays; and bioinformatics software. We offer mass spectrometry systems and integrated solutions for applications in multiple existing and emerging life-science markets including genomics, expression proteomics, clinical proteomics, metabolic and peptide biomarker profiling, drug discovery and development, molecular diagnostics research and molecular and systems biology, as well as basic molecular medicine research. Our substantial investments in research and development allow us to design, manufacture and market a broad array of products and solutions intended to meet the rapidly growing needs of our diverse customer base. Our

customers include pharmaceutical companies, biotechnology companies, proteomics companies, molecular diagnostics companies, academic institutions and government agencies. In addition, we market some of our life science systems through strategic distribution arrangements with Agilent Technologies, Sequenom and others. We also sell a wide range of portable analytical and bioanalytical detection systems and related products for NBC detection. Our customers use these devices for detection in emergency response, homeland security and defense applications.

The X-ray systems manufactured and sold by our Bruker AXS X-ray business are advanced scientific instruments that use extremely short electromagnetic wavelengths to determine the characteristics and composition of matter as well as the three-dimensional structure of molecules. Depending on the application, our X-ray systems utilize one of four core X-ray analysis methods: single crystal diffraction, known as SCD or X-ray crystallography; polycrystalline X-ray diffraction, known as XRD or X-ray diffraction; X-ray fluorescence, known as XRF; and X-ray microanalysis. Using our modular platforms, we often combine each of these technology applications with sample preparation tools, automation, consumables and data analysis software. Our products, which have particular application in structural proteomics, drug discovery and materials and nanotechnology research fields, provide our customers with the ability to determine the three-dimensional structure of specific molecules, such as proteins, and to characterize and determine the properties and composition of materials. Our customers include biotechnology and pharmaceutical companies, nanotechnology companies, semiconductor companies, raw material manufacturers, chemical companies, academic institutions and other businesses involved in materials and structure analysis.

Products and Solutions

Bruker Daltonics

Bruker Daltonics has developed a suite of mass spectrometry instruments that address a wide range of life sciences applications. Mass spectrometry is the method of choice for primary structure analysis, including the determination of amino acid sequence and post-translational modifications. Mass spectrometry is thus a key enabling technology of the expression proteomics laboratory. Mass spectrometers are also increasingly used for the discovery of peptide, protein or metabolite biomarkers and panels or patterns of biomarkers. These biomarkers can be used for toxicity screening or to assess drug efficacy in pre-clinical trials in pharmaceutical drug development. They are also used in clinical research and validation studies in an effort to develop the emerging field of protein molecular diagnostics.

Mass spectrometers are devices for measuring the mass, or weight, of intact molecules and of fragments of molecules which can provide structural information on the molecule. Mass spectrometry systems employ an ionization source which creates charged molecules and a mass separation/detection component that separates these charged molecules on the basis of mass to detect their presence and quantity. Mass spectrometry has been used in physics and chemistry for over fifty years. Over the past fifteen years, mass spectrometry has emerged as a powerful research tool in the life sciences. For example, mass spectrometers can determine the identity, amount, structure, sequence and other biological properties of small molecules, like drug candidates and metabolites, as well as large biomolecules, like proteins and DNA.

Bruker Daltonics life science solutions are based on the following four core mass spectrometry technology platforms:

- **MALDI-TOF** Matrix-assisted laser desorption ionization time-of-flight mass spectrometry, including tandem time-of-flight systems (MALDI-TOF/TOF);

- **ESI-TOF** Electrospray ionization time-of-flight spectrometry, including tandem mass spectrometry systems based on ESI-quadrupole-TOF mass spectrometry (ESI-Q-q-TOF);

- **FTMS** Fourier transform mass spectrometry, including hybrid systems with a quadrupole front end (Q-q-FTMS); and

- **ITMS** Ion trap mass spectrometry.

Time-of-flight spectrometers measure mass based on the time it takes for charged molecules to travel from the ionization source to the detection component. With the ability to analyze as many as 100,000 samples per day, these mass spectrometers currently have the highest sample throughput and can analyze the broadest range of masses of any mass spectrometer for use in the fields of genomics and proteomics. Our time-of-flight mass spectrometry solutions make full use of this potential for increased speed by automating various steps of the analysis. Our-time-of-flight solutions combine high sensitivity, accuracy and throughput to generate large volumes of accurate raw data for detection of genetic variations such as single nucleotide polymorphisms, or SNPs, as well as for peptide analysis and proteomics in general.

MALDI-TOF mass spectrometers utilize an ionization process to analyze solid samples using a laser that combines high sample throughput with high mass range and sensitivity. Our MALDI-TOF mass spectrometers are particularly useful for: (a) oligonucleotide and synthetic polymer analysis; (b) protein identification; (c) peptide de novo sequencing; (d) determination of post-translational modifications of proteins; (e) interaction proteomics and protein function analysis; (f) drug discovery and development; and (g) fast body fluid and tissue biomarker detection. We currently offer the following MALDI-TOF instruments:

Product	Description
ultraflex II TOF/TOF	High throughput protein identification by MALDI-TOF using peptide mass fingerprinting, followed by more detailed protein characterization via further fragmentation and secondary TOF/TOF detection
ultraflex II	High resolution, high sensitivity and high throughput protein identification by MALDI-TOF for expression proteomics and clinical proteomics
autoflex II TOF/TOF	Vertical and relatively compact system which enables high throughput routine protein identification by MALDI-TOF peptide mass fingerprinting, immediately followed by more detailed protein characterization using MALDI-TOF/TOF tandem mass spectrometry on the same sample
autoflex II	MALDI-TOF instrument designed for industrial biology, used in SNP analysis and proteomics. Incorporates various performance, electronics and software enhancements, and can be optionally upgraded on-site to full TOF/TOF capabilities
microflex LT	Compact benchtop MALDI-TOF mass spectrometer for clinical proteomics and routine analysis of peptides, proteins and other large molecules
microflex	Compact high-performance, research-grade benchtop MALDI-TOF mass spectrometer with gridless design of reflectron and microScout ion source for expression proteomics and clinical proteomics
OEM MALDI-TOF for Sequenom Compact MassArray system	A benchtop, medium throughput linear MALDI-TOF for various DNA analysis methods, designed and manufactured by us for distribution by Sequenom

These products can also utilize our AnchorChip microarrays that prepare samples for analysis. These microarrays employ patented microfluidics technology that improves sensitivity and reduces analysis time per sample by concentrating, or anchoring , the sample in a precisely defined location.

ESI-TOF mass spectrometers utilize an electrospray ionization process to analyze liquid samples. This ionization process, which does not dissociate the molecules, allows for rapid data acquisition and analysis of large biological molecules. ESI-TOF mass spectrometers are particularly useful for: (a) identification, protein analysis and functional complex analysis in proteomics and protein function; (b) molecular identification in metabonomics, natural product and drug metabolite analysis; (c) combinatorial chemistry high throughput screening, or HTS; and (d) fast liquid chromatography mass spectrometry, or LC/MS, in drug discovery and development. We currently offer the following ESI-TOF instruments:

Product	Description
micrOTOF-Q	A compact benchtop system that offers resolution at 15,000 at full sensitivity (i.e. without any W-reflection and the associated ion losses). The microTOF-Q also features 3 ppm mass accuracy in MS/MS scans over a wide dynamic range
micrOTOF	Benchtop system with high resolution of 15,000 across a broad mass range for small molecule accurate mass measurement and molecular formula determination, as well as peptide biomarker discovery from plasma and serum samples
Metabolic Profiler NMR/TOF	Combines the structural and quantitative strengths of nuclear magnetic resonance, or NMR, and the sensitivity and exact mass capabilities of ESI-TOF mass spectrometry in an integrated hardware and processing software platform to create an integrated system for metabolic research and drug development. This system is co-marketed by us and our affiliate, Bruker BioSpin
ultrOTOF-Q	Contains a uniquely designed orthogonal time-of-flight mass spectrometer offering two orders of magnitude improvement in sensitivity enabling mass resolution of greater than 20,000 in normal mode and resolution of greater than 40,000 in MultiPass mode

FTMS systems utilize high-field superconducting magnets to offer the highest resolution, selectivity, and mass accuracy currently achievable in mass spectrometry. Our systems based on this technology often eliminate the need for time-consuming separation techniques in complex mixture analyses. In addition, our systems can fragment molecular ions to perform exact mass analysis on all fragments to determine molecular structure. FTMS systems are particularly useful for: (a) the study of structure and function of biomolecules including proteins, DNA and natural products; (b) complex mixture analysis including body fluids or combinatorial libraries; (c) high throughput proteomics and metabonomics; and (d) top-down proteomics of intact proteins without the need for enzymatic digestion of the proteins prior to analysis. We continue to offer next-generation hybrid FTMS systems which combine a traditional external quadrupole mass selector and hexapole collision cell, with a high-performance FTMS for further ion dissociation, top-down proteomics tools, and ultra-high resolution detection. We currently offer the following FTMS systems:

Product	Description
APEX-Qe	Easy-to-use, compact hybrid Q-q-FTMS proteomics platform with the Apollo II high-sensitivity ion source
APEX-Q	and integrated electron capture dissociation tools for top-down proteomics, in which intact proteins are analyzed, and bottom-up proteomics, which involves enzymatically digesting proteins into peptides and identifying the protein from measurement of the peptides
APEX IV	Compact, ultra-high resolution FTMS system for small molecule analysis. All APEX instruments are customizable with several magnetic fields ranging from 4.7-12 Tesla, and ECD and IRMPD are also available as options

ITMS systems collect all ions simultaneously which improves sensitivity relative to previous quadrupole mass spectrometers. Ion trap mass spectrometers are particularly useful for: (a) sequencing and identification based on peptide structural analysis; (b) quantitative liquid chromatography mass spectrometry; (c) identification of combinatorial libraries; and (d) generally enhancing the speed and efficiency of the drug discovery and development process. We currently offer the following ITMS systems:

Product	Description
PTM Discovery System	The first commercial ion trap system with electron transfer dissociation (ETD) fragmentation for post-translational modifications (PTM) of peptides and protein discovery and characterization, based on our HCTultra
HCTultra	The HCTultra provides optimal ion trap performance in terms of sensitivity, speed and mass accuracy providing enhanced proteomics and metabolomics data quality and gain per unit time for LC-MS(MS) applications
HCTplus	High capacity trap, or HCT, with enhanced ion transmission, storage and detection capabilities and very fast scan speeds
HCT	Combines high ion storage capacity with very fast scan modes for small molecule analysis as well as proteomics
esquire6000	Ion trap system provides standard and high performance MS and MS(n) for liquid chromatography mass spectrometry applications in drug discovery, drug development, academic research and general LC/MS/MS with an m/z range up to 6,000
esquire4000	Ion trap system provides standard and high performance MS and MS(n) for liquid chromatography mass spectrometry applications in drug discovery, drug development, academic research and general LC/MS/MS with an m/z range up to 4,000
LC/MSD Trap (sold by Agilent)	Various OEM ion traps sold by Agilent

Our mass spectrometers can be combined with solutions packages and sample preparation robots designed to enhance throughput of genomics, proteomics and metabonomics analysis. Sales of Bruker Daltonics solutions packages and sample preparation robots are included in combination of sales from our four mass spectrometry platforms, as well as partly in our aftermarket business (see Bruker Daltonics Aftermarket). We currently offer the following solution packages:

Product	Description
ClinProt	Provides a set of tools for the preparation, measurement and visualization of peptide and protein biomarkers for clinical proteomics
Proteineer	Integrates our mass spectrometers with robotics and bioinformatics to deliver maximum productivity in high throughput and high information content expression proteomics, including spot picking from 2-D gels into 96 and 384 micro well plates, automated digestion of proteins, sample preparation for mass spectrometric analysis, and data interpretation
PROTEINEER sp	The PROTEINEER sp robot enables automated spot picking from 2D gels into 96 and 384 micro well plates
PROTEINEER dp	The PROTEINEER dp robot enables automated protein digestion and preparation of AnchorChip targets for MALDI-TOF analysis
ProteinScape	Organizes all relevant data for larger expression proteomics projects including gel data, mass spectra, process parameters, and search results
Proteomics RIMS	Combines and integrates the data, information and knowledge generated in the proteomics research workflow from complementary mass spectrometry, surface plasmon resonance, NMR and X-ray crystallography technologies. This software product is jointly developed, owned and distributed by us and our affiliate Bruker BioSpin

Nuclear, Biological and Chemical (NBC) Detection

We sell a wide range of portable analytical and bioanalytical detection systems and related products for NBC detection. Our customers use these devices for nuclear, biological agent and chemical agent defense applications, anti-terrorism, law enforcement and process and facilities monitoring. Our NBC detection products use many of the same technology platforms as our life science products, as well as additional technologies, such as infrared remote detection, or ion mobility spectrometry for handheld chemical detectors. We also provide integrated, comprehensive detection suites which include our multiple detection systems, consumables, training and simulators. We currently offer the following systems:

Product