
COMPETITORS

The North American market for surface activity measuring instruments is highly fragmented and characterized by fierce competition and pricing pressures. The following is a list and brief description of the competitors Kibron will need to face for entering the North American Market along with some comments:

- **Cahn Instruments:** Cahn Instruments is a manufacturer of thermal analysis and surface science instruments, analytical micro and laboratory balances. The company was acquired by Thermo Electron Corporation and sells its products now under the name ThermoCahn. With this Chan has gained a very large sales force and distributorship; however the sales representatives have a very poor understanding of tensiometers and their applications. Cahn's tensiometers are fairly old in design and the surface tension/CMC software is difficult to install, use and is MS DOS based.

Company Headquarters: United States

North American Distributor: Thermo Electron

Instruments: tensiometers (ring/plate), CMC capabilities, contact angle

Technical Specifications: satisfactory

Price: \$14,000.00 and up

Brand Name Recognition/Reputation: satisfactory

Comments: *Thermo Electron is a large international and publicly traded company that offers thousand of products with the tensiometers making up a minute percentage of sales. The main reason for Thermo Electron's acquisition of Cahn was to enable it the claim of offering a complete surface science solution to their clients. We believe that despite its past successes Cahn is on the border of becoming obsolete without a complete refocus and effort by Thermo Electron Corporation, something that we feel is unlikely.*

- **Camtel Ltd:** Camtel is both a manufacturer of tensiometers and Langmuir troughs, in addition to being a reseller for other companies such as SITA Messe GmbH and First Ten Angstroms. Camtel does sell directly into the North American market from England, however the company has no brand name recognition and its product line-up is weak. From a technical point of view Camtel's tensiometers' are weak with the top of the line instrument having a resolution of only 1 dynes/cm. Not much is known about their more recently developed Langmuir through, though the technical specs look fine. The company claims it is currently developing new products with additional outside funding.

Company Headquarters: Great Britain

North American Distributor: none

Instruments: tensiometers (ring/plate), CMC capabilities, Langmuir trough

Technical Specifications: poor

Price: \$15,000.00 and up

Brand Name Recognition/Reputation: poor

Comments: *Unless substantial changes occur within the companies marketing approach we believe that Camtel faces an impossible task of ever becoming an active player in the North American Market.*

- **Rame-hart Instrument co.:** Rame-hart's main business is focusing on other vacuum stoppering system and hatching machines. Rame-hart is an old American goniometer manufacturer. However, the design of its goniometer was never changed or improved for a very long period of time. Their hardware is very primitive and the unit can only do very simple applications as in the old time although the video capability was recently implemented. This makes Rame-hart loss its market share to the diminishing level and can only sell to less technical demanding and low budget customers.

Company Headquarters: United States

North American Distributor: none

Instruments: goniometer

Technical Specifications: poor

Price: \$14,000.00 and lower

Brand Name Recognition/Reputation: poor

Comments: *Rame-hart needs desperately for substantial changes with their design and technical quality of its instruments. Otherwise, we believe that Rame-hart is facing a diminishing destiny from the market or just maintains a survival by lowering their price continuously.*

- CSC Scientific: CSC is both a manufacturer of tensiometers and a reseller moisture analyzers, sieves and titrators. The only tensiometer is a torsion based old instrument design that comes in a nice carrying case to officially make it the only “portable” static tensiometer unit on the market.

Company Headquarters: United States

North American Distributor: none

Instruments: tensiometers (ring/plate), moisture analyzers, titrators, sieves

Technical Specifications: poor

Price: \$4,000.00

Brand Name Recognition/Reputation: poor

Comments: *Price and portability are the only selling points the company's tensiometer and the only reason company continuous to sell its instruments. CSC Scientific does not have the marketing muscle, financial backing or technical know-how to survive in the tensiometer market.*

- DataPhysics GmbH: DataPhysics has a broad range of sophisticated surface tension and contact angle instruments bundled with powerful and user-friendly software. The company has a solid understanding of surface science and is well represented in the North American Market with a strong clientele and reputation in technical and customer supports. Since its introduction to the North American Market DataPhysics has continuously gained market share mainly at the expense of its main rival Kruss and is currently the leader with about 40 percent or higher of the entire tensiometers market.

Company Headquarters: Germany

North American Distributor: Future Digital Scientific Corporation

Instruments: tensiometers (ring/plate/drop/bubble), CMC capabilities, contact angle, interfacial rheology

Technical Specifications: industry leader

Price: > \$30,000.00

Brand Name Recognition/Reputation: Excellent

Comments: *DataPhysics' Achilles heel is the exorbitant prices of their instruments, the complete absence of instruments for the entry-level market and the fact that they are mainly geared and designed for highly efficient and automated QC operations and for serious research purposes.*

- First Ten Angstroms: First Ten Angstroms has been around for a while now and established themselves as the low cost alternatives in contact angle and pendant drop surface tension analysis instruments. Over the past years they have devoted more and more of their limited resource towards contact angle measuring devices and formed a loose alliance with Camtel Ltd. For their sales of tensiometers in the United States. More recently it has been rumored that for the owners of First Ten Angstroms are looking to be bought out.

Company Headquarters: United States

North American Distributor: First Ten Angstroms in addition to independent sales representatives

Instruments: tensiometers (drop), contact angle.

Technical Specifications: satisfactory

Price: > \$10,000.00

Brand Name Recognition/Reputation: satisfactory

Comments: *First Ten Angstroms is by their own admission happy to occupy the growing niche of the low end contact angle instrument market. Surface tension analysis using the pendant drop method has become more of an added freebie than anything else in large part due to the poor software capabilities for producing accurate and reproducible surface tension values. We know of several First Ten Angstrom customers who discarded the instruments and ended up buying new ones from DataPhysics (Future Digital Scientific Corp.). First Ten Angstroms will continue to do and focus on what they do best, namely offer low cost contact angle instruments.*

- Krüss GmbH: Krüss offers a wide range of tensiometers (ring/plate/drop/bubble), CMC capabilities, contact angle instruments and has strong brand name recognition. The company is family owned and has solid financial backing. At one time Krüss had the market of tensiometers and contact angles to itself and its instruments are found at virtually every company in the world giving it a large customer base along with possible repeat sales.

Company Headquarters: Germany

North American Distributor: fully owned subsidiary Krüss USA

Instruments: tensiometers (ring/plate/drop/bubble), CMC capabilities, contact angle

Technical Specifications: very good

Price: > \$30,000.00

Brand Name Recognition/Reputation: Excellent

Comments: *Krüss has been under strong attack in the North American market by its main competitor DataPhysics and seen its position as the dominant market player completely eroded. A recent management shakeup at its subsidiary in the United States has seen Krüss trying to reverse its fortunes. But the jury is still out whether this will be successful or not. Its instruments are also very expensive and they have lost the technical edge to DataPhysics. Their products are relatively poorly supported while comparing with DataPhysics' user-friendly design and strong local technical support in North America. With the exception of a portable bubble tensiometer their product line for entry-level surface tensiometers is non-existent. Nevertheless, Krüss can be very aggressive and has shown willingness to compete only on price even if that means selling significantly below the cost.*

- KSV Instruments Ltd: KSV manufactures tensiometers, contact angle instruments and Langmuir-Blodgett troughs. The company has established a strong reputation in the North American Langmuir-trough market. Within regards to the surface tension and contact angle markets the company has fared less well and seen heavy competition from the industry leaders such as DataPhysics and from the lower end such as First Ten Angstroms. Company has recently introduced new products and revamped their website. KSV is recognized as the market leader in Langmuir-Blodgett troughs, has traditionally occupied the lower end of the contact angle market, but has yet to find its stride within the tensiometer business.

Company Headquarters: Finland

North American Distributor: fully owned subsidiary KSV Instruments USA

Instruments: tensiometers (ring/plate/drop/bubble), CMC capabilities, contact angle, Langmuir-Blodgett troughs.

Technical Specifications: industry leader in Langmuir-Blodgett troughs.

Price: > \$15,000.00

Brand Name Recognition/Reputation: good

Comments: *The company has been very successful in the Langmuir-Blodgett market and command most of it. Their tensiometers however have fared less well with the instruments looking old and the accompanying software being less than modern. It should also be added that KSV's execution is somewhat lacking since most of the website links and search engine hits direct the user to the old website, which has been dismantled, thus leading to the confusion.*

- Lauda GmbH: Lauda has a broad range of sophisticated surface tension instruments with an impeccable reputation from a technical point of view. The past scientific literature is filled with Lauda instruments though this is slowly changing. The company made a strategic shift some years ago and decided that thermo control equipment would be the future of the company and devoted all of its resource to that field. Lauda's historically leading surface tension products have therefore suffered and seen no improvements for quite some time now. Lauda's marketing with regards to its tensiometer product line has been a disaster in the North American Market. While Brinkman and VWR have the rights to sell Lauda's tensiometers, their sales representatives are technically inept and not actively pushing the products resulting in less and less sales each year.

Company Headquarters: Germany

North American Distributor: Brinkman Instruments, VWR Scientific

Instruments: tensiometers (ring/plate/drop/bubble), CMC capabilities

Technical Specifications: industry leader

Price: \$8,000.00 and up

Brand Name Recognition/Reputation: Excellent

Comments: *Lauda's fortunes in the North American tensiometer market are almost tragic. The company seems to solely rely on its past reputation for technical excellence and leadership to sell its instruments. This strategy has of course completely failed and Lauda's tensiometers are on the verge of becoming extinct. The competition has caught up and is doing a much better job of establishing a brand name. As a matter of fact the only loyalty Lauda seems to still have is with industry veterans and professors, most of whom are and have retired. It seems that Lauda is content with their success in the temperature control business and have in principal abandoned the tensiometer market in the United States.*

- Nima Technology Ltd: Nima makes tensiometers (plate/ring), Langmuir-Blodgett troughs and dip coaters. While their Langmuir troughs are technically advanced and somewhat known in North America, their tensiometer line is a virtual unknown. The company has no representatives in the North American market and all sales are conducted from England.

Company Headquarters: England

North American Distributor: None

Instruments: tensiometers (ring/plate), CMC capabilities, Langmuir-Blodgett, dip coaters.

Technical Specifications: good

Price: \$10,000.00 and up

Brand Name Recognition/Reputation: poor

Comments: *Nima has no name recognition in North America beyond its Langmuir trough line-up, where it is a distant second to the current market leader KSV Instruments. It stands absolutely no chance to gain any significant market share with its current marketing philosophy.*

- SensaDyne Instrument Division: SensaDyne offers various bubble tensiometers with an exclusive focus on dynamic surface tension and inline process measurements. The company was founded at the University of Wisconsin in the 1980's and therefore quickly found acceptance within the academic research community. Over the past decade the company has tried to diversify its sales into industry but has faced stiff competition mainly from SITA. SensaDyne's products are old in design and appearance and their optional software is MS DOS based and difficult to use.

Company Headquarters: United States

North American Distributor: SensaDyne Instruments and independent distributors

Instruments: tensiometers (drop/bubble), CMC capabilities

Technical Specifications: adequate

Price: > \$12,000.00

Brand Name Recognition/Reputation: adequate

Comments: *Sensadyne has had a difficult time in the North American market mainly due to the competition from SITA. It even tried to take SITA to court for patent infringement solely for the purpose of slowing SITA's*

momentum in the bubble tensiometer market. The suit was dismissed as having no merit. Sensdyne's biggest difficulty is old instrument design, lack of new products and very poor marketing.

- Sinterface GmbH: Sinterface manufactures bubble tensiometers, interfacial rheology instruments and foam testers. The company has a strategic partnership with Lauda GmbH and has a very strong technical background and leadership. It is in the process of introducing a myriad of new products and is determined to become a major player in the surface/interfacial tension market.

Company Headquarters: Germany

North American Distributor: None

Instruments: tensiometers (drop/bubble), CMC capabilities, foam tester, interfacial rheology

Technical Specifications: industry leader

Price: > \$16,000.00

Brand Name Recognition/Reputation: Poor

Comments: *Sinterface has no representatives in the North American market as of yet, however they are actively trying to establish an office in the United States. It seems like Sinterface will likely end up competing for the high-end market for tensiometers with a focus on dynamic surface tension. This is mainly due to their cost structure and instrument design philosophy, though this might change sometime in the future.*

- SITA Messtechnik GmbH: SITA manufactures industry leading bubble tensiometers and foam testers. The company has established itself as the leading manufacturer of bubble tensiometers and is financially and technically sound. SITA continues to add new instruments to its product line and shown a lot of flexibility when it comes to customer feedback and improving its instruments in a very quick fashion. Their products are incredibly reliable, user-friendly and very much loved by clients. As DataPhysics, SITA is continuously taking market share from Kruss in the bubble tensiometer business and the trend seems not be stopped soon. SITA is also well represented by the same distributors of DataPhysics in most area of the world.

Company Headquarters: Germany

North American Distributor: Future Digital Scientific Corporation

Instruments: all kinds of bubble tensiometers, auto CMC capabilities, foam tester

Technical Specifications: very strong

Price: > \$8,000.00

Brand Name Recognition/Reputation: Excellent

Comments: *SITA only makes bubble tensiometers and thus aims at the dynamic surface tension segment of the market. It recently introduced an additional low-end bubble tensiometer that has been well received by the market. As long as SITA does not have a static tensiometer in its product line-up, it will remain only an indirect competitor to KIBRON for certain industrial/research applications.*

- Tanteq: Tanteq is headquartered in Denmark and has subsidiaries in Germany and the United States. The company makes various surface science instruments such as contact angle, static control products and tensiometers (plate/ring). Tanteq manufactures only one tensiometers which does not come with any software.

Company Headquarters: Denmark/Germany

North American Distributor: fully owned subsidiary Tanteq USA

Instruments: tensiometers, contact angle, static control

Technical Specifications: satisfactory

Price: \$11,500.00 and up

Brand Name Recognition/Reputation: adequate

Comments: *Tanteq's tries to serve the low end tensiometers market. Their product design is old and instrument interface cumbersome. It is our impression that Tanteq has no serious interest in the tensiometers market and instead is using all its resources to advance the static control product line.*

- Temco Inc: Temco is a manufacturer of fluid testing equipment and mainly caters to the oil and gas industry. The company recently teamed up with Surface Tensiometry Incorporated and now markets and sells their tensiometers exclusively. While in the past their only surface tension instrument was based on the pendant drop method, the company recently introduced a semi-portable new force-balanced based system which it claims is based on proprietary technology and thus patent pending. Temco is an aggressive company known mainly in the oil and gas industry.

Company Headquarters: United States

North American Distributor: Temco Inc.

Instruments: tensiometers (ring/plate/drop).

Technical Specifications: good

Price: \$8,000.00 and up

Brand Name Recognition/Reputation: Adequate

Comments: *Temco up to this point is not well known outside its core constituency, though for surface tension they seem to be aiming at a wider audience with new product. The teaming up/merging with Surface Tensiometer Inc. has allowed both companies to pool their resources and become more aggressive. Surface Tensiometry Inc. was founded by a consortium of Professors (University of Oklahoma and Shinshu University, Japan). Marketing and exposure keeps on being a major weakness of the company.*

In summary it is evident that there are a large number of companies vying for market share in the North American surface activity measuring instrument market. There are some pointed observations to be made though.