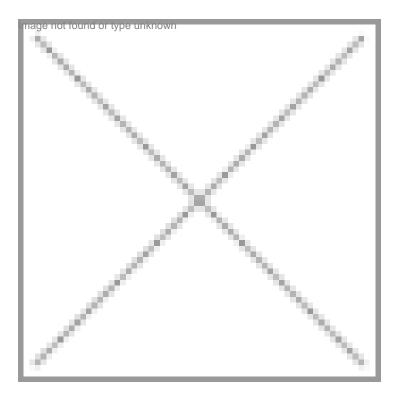


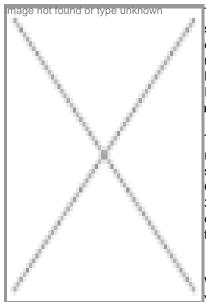
Instrumentation market posts modest growth

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The lab instrumentation market accounted for a reasonable share of the analytical instrumentation market, primarily, due to strong support from government research programs.

Laboratory Instrumentation



The Life Sciences Laboratory Instrumentation market comprises primarily of segments such as Centrifugation, Flow Cytometry, PCR and Spectrophotometer, Electrophoresis equipments. While these segments grab a major share of the total market pie, other minuscule segments include gene and protein sequencing along with imaging. The total Lab Instrumentation market in 2009-2010 stood at Rs 920 crore. Major players in the Lab Instrumentation market include Thermo Fisher Scientific, ABI, Beckman Coulter, Bio-Rad, iko), Roche, ABI, Perkin Elmer, GE, and Agilent.

The total market size for centrifuges in 2009-2010 stood between Rs 100-120 crore and roughly 5,000 units in terms of volume. This segment again can be broken down to various sub-segments that include High Speed Centrifuges, Ultra Centrifuges, Table Top Centrifuges and Industrial Centrifuges. Market size for Ultra Centrifuges stood between Rs 30-32 crore (\$5-7 million) while market size for high speed centrifuges stood at Rs 9.2 crore (\$2 million) in 2009-2010. And if we include uptakes in blood banks then the figure for high speed centrifuges would touch the same mark as Ultra Centrifuges of Rs 30-32

While Ultra and High Speed Centrifuges cater to a very niche market segment (mainly the vaccine manufacturers), the market for Table Top Centrifuges is huge in India and revenue

sales stood at Rs 36.8 crore (\$8-10 million). Both Ultra and High Speed Centrifuges is mainly used for research and vaccine manufacturing processes. Major players in India in the Ultra Centrifuge space include Beckman Coulter with an 80 percent market share followed by Beckman. Major players in the High Speed Centrifugation segment again include Beckman Coulter and Thermo Fisher Scientific with Beckman Coulter having a market share of 55 percent followed by Thermo Fisher Scientific. High speed rotators are mainly available at 1.5 litres, 6 litres, 9 litres and 12 litres in India. While Beckman Coulter markets centrifuges up to 9 litres, Thermo Fisher Scientific has brought out centrifuges of up to 12 litres which is mainly in use for industrial purposes. Thermo Fisher Scientific also looks at, blood centrifuges having a stupendous market share of 70-80 percent.

Table Top Centrifuges can be further sub-divided into mini micro centrifuges and micro centrifuges. Major players in the segment include Eppendorf having 30 percent market share followed by Sigma Aldrich, Thermo Fisher Scientific and Hitachi (operating in India through various distribution channels). These segments apart, there have been up upcoming segments like industrial centrifuges and continuous flow centrifuges. Prominent companies in industrial centrifuges include Alfa Laval and this again is mainly aimed at the emerging vaccine segment. However, this again is a niche segment due to only a handful of prominent vaccine players operating in the country. Eighty percent of the centrifugation instruments are imported while only 20 percent are local products manufactured by Remi and Plastocraft.

Flow Cytometry in India clocked a market size of Rs 115 crore (\$25 million). This segment can further be sub-divided into research flow cytometry, diagnostics flow cytometry and imaging flow cytometry. Major players in this segment include Becton Dickinson and Beckman Coulter. Being a high-end technology, Flow Cytometry is still in its nascent phase in India with just a handful of expertise available to operate on this technology. While in research, Flow Cytometry is used for checking toxicity, proteomics and genomics, in diagnostics, the technology is used right from low-end HIV testing to high-end cancer research.

The other popular segment, PCR market in 2009-2010 witnessed an approximate growth rate of 7-8 per cent, clocking total revenue sales of Rs 55 crore. During the year, around 900-950 PCR units were sold. Including Real Time PCR, the volume reaches 1,100 units. Major players in the real time PCR market include ABI (with a market share of >40 per cent), Eppendorf (market share of 25-30 per cent) followed by BioRad and Roche at 15-20 percent each.

The classical PCR market represented by Eppendorf has 30 percent market share followed by Bio-Rad with 30 percent market share. ABI with 10-15 percent share witnessed a single digit growth of 6-7 percent in 2009. The real time PCR market has, however, grown faster with a growth rate of upto15 percent due to the H1N1 outbreak. Around 150 RT PCR instruments were sold in 2009. Seed testing labs are the top most clients for PCR instruments especially those testing on rice, maize and Bt brinjal. Most of these laboratories, located in the Hyderabad, Aurangabad and Jalna belt opt for high-throughput PCRs. However, demand for most PCRs from the plant sciences industry are seasonal in nature, as it primarily depends on the season of the plant/crop. While a normal laboratory would opt for one PCR, a normal seed testing laboratory would opt for four PCRs which can test 384 samples at one time. In addition to this, there are a number of institutions working on seed genome projects like rice and maize and companies selling PCRs are bullish that this could be a growth area in the coming years. In addition, the demand for PCRs from these institutions will not dry up for a long time. Moreover, the growth of the reagents industry at 20-25 per cent has also accelerated the growth of the PCR segment. Though there is much emphasis on

drug discovery in India, the demand for PCRs is less compared to the plant sciences industry, primarily, because in drug discovery, a PCR is needed only for gene sequencing. In addition to this, PCRs used in molecular diagnostic labs has not yet picked up as there are few labs in the country who opt for offering molecular solutions. On the whole, major part of the business comes from government laboratories not just because they have the funds but also because PCRs have become an absolute necessity.

Other minor segments like Gene sequencing has a market size of Rs 25-30 crore in India. Major players include Roche Applied Biosystems and Illumina. There are around 20 placements, on an average, every year. Globally, 70 percent of market is held by Illumina while in India it is 30 percent. Many companies are now focusing on single molecule sequencing technology which is an upcoming technology. Again major part of this business comes from government research labs. Liquid handling systems is yet another segment which contributed roughly around Rs 100 crore. It mainly comprises products such as automated liquid handlers, dispensers, pipettes, etc. This business was not impacted much during 2009. Eppendorf a dominant player in this segment sold over 20,000 pipettes last year. Other important companies are Gilson, Biohit, Thermo, Tecan, Beckman Coulter and Qiagen.

- The total lab instrumentation market in 2009 stood at Rs 920 crore.
- The total market size for centrifuges stood between Rs 100-120 crore and roughly 5,000 units in terms of volume.
- Flow Cytometry in India clocked a revenue of Rs 115 crore.
- PCR market witnessed a growth of 7-8 percent, clocking total revenue of Rs 55 crore.
- Around 900-950 PCR units were sold. Including Real Time PCR, the volume was 1,100 units.
- While classical PCR market witnessed a single digit growth of 6-7 percent, real time PCR market grew faster at 15 percent due to the H1N1 outbreak.
- Liquid handling systems contributed around Rs 100 crore.