

# Electronic Balances Market in India

- an overview

- V.S. Rajan

## History of Balances



Precision weighing always has been a part of life and education for centuries. The traditional two hanging pan balance working on fulcrum of a gate knife edge and resting on a twin beam was there for Jewelers and Physicians or traditional Pharmacists for the period of recorded history. As knowledge advanced, design but it always remained as a mass comparator.

A Multitude of weighing units, like British Metric, regional and provisional, made standardization difficult.

Introduction of the metric system and convergence to OIML standards set the trend for change. With the development of research establishments from 60s and expansion of educational institutions, the laboratory market developed. The Products available were the two pan balances (encased), and the triple beam balances. The main manufacturing centres in India were Varanasi and Calcutta and this was always in the small scale/ cottage industry sector.

The development of the single pan balance abroad prompted development of similar balances here in late sixties. And the advent of electronic balances by mid-seventies lead to exposure of imported balances both in precision range and analytical and micro ranges. The Indian market for laboratory balances was about 1200 units in the late seventies. The first Industrial license for electronic balances was cleared in 1975. While this project did not take off, in 1980 Anamed Instruments launched India's first electronic top loading balances in the precision range with the technical collaboration with Denver Instruments

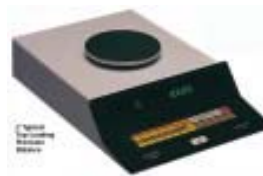
## Market Dynamics in India

- ⇒ The entire analytical range market is dominated by imports.
- ⇒ The present laboratory market is about 18000 units with about 6% market for analytical balances and the remaining for precision top loading balances.
- ⇒ Mettler and Sartorius share more than 60% of the market and the remaining goes to Precisa, Shimadzu, A&D and others.
- ⇒ The market is currently growing at 20%.

Company of USA. Subsequently several manufacturers have come up to fulfill various market needs.

## Technology

Electronic balances in the precision and analytical range uses a magnetic force restoration principle – which guarantees better precision and has smaller capacities and the commercial scale uses a strain gauge load cell with capacities running into tons and relative sensitivities.



The two technologies are exclusive in application. In 30 years some other technologies were tried and were found wanting and magnetic force restoration continues to be the dominant principle used in precision weighing.

## V.S. RAJAN



Rajan obtained his Graduation in Physics in 1964, Diploma in Business Management in 1976 and Master of Materials Management in 1982 from Jammalal Bajaj Institute. The first ten years of his career was with Pfizer and Warner Hindustan Ltd. In 1974, Mr. Rajan established Marsap Services Pvt. Ltd. He was the first to manufacture Electronic Gas Lighters in 1973 and Cigarette Lighters 1974 in India. In 1979 established Anamed Instruments Pvt Ltd., and pioneered India's first Electronic Balance, followed by Computing Integrators, Hydrogen Generators, Nitrogen Generators and HPLC. Launched Minicard – 5 world's smallest pocket cariscope and exclusively exported it from 1981-88. Mr. Rajan is a Life member in BMA and convener of their SSI Committees. Active for more than three decades in Indo American Chamber of Commerce, Indo-German Chamber of Commerce and Bombay Chamber of Commerce & Industry. He is an active member in IMDA and co-founder of IAIA. He is also responsible for forging alliance with Analytica and continues to serve IAIA as advisor.



### Regulatory Requirements

Balances are covered under the Weights & Measures Act of 1976 amended later in 1987. Each model needs specific approval from appropriate laboratories and thereafter each of them have to be verified and stamped by the Departmental Inspectors; such stamping need to be done every year. Educational / Research Institutions are exempt from such stamping under notification 10/97 C.E dated 1.3.1997. Q.C. Labs and other related activities where commercial implication are there, the balances are subject to the Act and Regulations therein. The current laboratory practices and requirements necessitate compliance with GMP /GLP needs.

### Market Trend and Accessibility

The major growth will come from new laboratories and educational institutions who are changing over from mechanical to electronic balances and from newly established institution followed by the replacement markets. Universities, Technical Colleges and Science Colleges form the core market and the chemical / Pharma Industry becomes a supporting segment, followed by the replacement market.

Though a balance, like a pH meter and spectrophotometer, forms the primary and essential instrument for any laboratory, the accessibility to the market and the manufacturers remain highly disorganized. The buyers are spread all over the Land. While the major buyers like universities have an organized purchase section, the several thousands of colleges / schools do not have a system to source products. They depend on the local dealers to recommend and supply the goods and get paid. However most of the dealers are better equipped to supply chemical and labware but when it comes to costlier technical products not all of them can guide the customers. The multiplicity of taxation, inefficiency of logistical set up, make the process of buying and delivery rather cumbersome.

With major international dealers trying to set up distribution centers, and with the introduction of GST , hopefully some of these issues will vanish in the future. The lab market is split into with two groups, the precision balances with sensitivity of 1mg to 100mg and the analytical / micro range, 0.1mg and better. The entire analytical range market is dominated by imports. Mettler and Sartorius share more than 60% of the market and the remaining are shared among Precisa, Shimadzu , A& D and other UK,US & European products. The figures include sales to diamond and gold market.

Precision Balance markets have distinct choice levels. The Pharmaceutical industry prefers Mettler and Sartorius due GLP/GMP needs and rest of the market goes to other imported brands. But the educational market leans towards to domestic and economical models. This market is dominated by indigenous manufactures of SGLC balances and MFC based balances. In this area, imported brands have a share of 40% in units and the rest goes to the domestic suppliers. The demand for the laboratory balances and the jewelry/diamond market is more than 40,000 units per annum; however, the majority of the low end balance market is dominated by domestic

manufactures . Mettler and Sartorius also have a good portion of the metropolitan gold jewelry markets as they look for high performance brand balances.

### The future

The present lab market is about 18000 units with about 6% market for analytical balances and the remaining for precision top loading balances. Often cheaper strain-gauge balances, which are ideal as counter scales, get substituted in the laboratory market, mainly due to lack of awareness both at the dealers and users end. This market currently growing at 20% level and would continue to grow in to foreseeable future. ■