



# Global demand for valves to reach \$75 billion by 2017

**With** the expected growth in the oil and gas, power, pipeline, steel, infrastructure, petrochemicals and pharmaceutical industries, the demand for valves in India is also expected to gather momentum, writes **Ramchandra D. Mahind**, Associate Vice President & Head (Valves), Kirloskar Brothers Ltd.



**T**he valve industry is seizing new opportunities. The statistics are overwhelming. World valve market size is \$62 billion with North America and West Europe as the largest markets. The global demand for valves is expected to grow and reach \$75 billion by 2017. China, Africa, Middle East and India will be the fastest growing markets while oil and gas, chemicals, power, metal, pharmaceuticals, marine and water resources will be the fastest growing segments. India constitutes around 2 per cent of Asia's valve demand with Rs. 10,000-crore market size.

The industry is experiencing an upsurge in the demand for valves. The credit of invention of valves goes to the Romans, but since then, the valves have practically found place in every sector. All core sectors of industry, namely power, oil and gas, water, infrastructure projects, metal and mining, chemicals, drugs, pharmaceuticals, and food and beverages, require various types of valves for expansion of capacities, debottlenecking or routine maintenance and repair of factories. Valve is a small but critical support device that is omnipresent because it is a must for operation and control of all big devices and processes.

Over the period, manufacturing technologies are improving and new technologies are emerging in the valve industry. Valve manufacturers are adopting high precision and pleasing surface finish generating machines. The least count of the valve test rig has reduced. There is shift in the material of the valve seat from rubber to metal. Zero leakage has become a standard feature and Cast Steel standard material of construction. More and more valve manufacturers are adhering to stringent specifications. Today, reputed valve manufacturers offer structural analysis (stress and deflection), seismic analysis, thermal analysis, lifecycle tests and Computational Fluid Dynamics analysis as standard offering. With the advancements in electronics, like all others products, valves are also becoming smart



in its operations. Aply designed, smart and energy efficient valves are the need of an hour.

**Key challenge:** Material cost accounts to around 60 per cent of the total cost of valve. Carbon steel, stainless steel, ductile iron or other materials in cast/forged form are needed to manufacture valves. Valve supply prices are fixed by the competition prevailing in the market, so it is imperative to improve on raw material and conversion costs. Higher operational efficiencies help add directly to the bottom line. Today, the key challenge to deliver valve on time to the market is the availability of quality castings. The foundry capacity in India is adequate but the closure of foundries in the West has surged export demand.

The valve industry, being an intermediate industry, is completely dependent on the growth of the core sectors in the Indian economy. Therefore, with an expected growth in the oil and gas, power, pipeline, steel, infrastructure, petrochemicals and

average total cost of all valves is approximately 2 per cent of total factory and machinery cost.

The Indian companies are exporting their products and have found market abroad because of their quality. There is replacement market in the mature economies and large untapped market exists in the developing economies of Africa, West Asia, South America and the undeveloped East Europe. Exports for Indian valve industry will grow at 10-12 per cent owing to the competitive edge with India like technically qualified manpower and low manufacturing costs.

The Indian valve industry is categorised in two sectors: domestic application valves and industrial valves. There is stiff competition in the domestic valves segment as a majority of the players are in the unorganised sector. Also, valves from China and other countries are easily available in the market. Industrial valves segment is quite stringent. Hence, there are a few major valve manufacturers who are actively playing a role in the sector. The sector again faces stiff competition from companies in the unorganised sector who are supplying substandard

products at a lower price.

The unorganised sector is fragmented with more than 1,500 companies manufacturing valves.

Valve industry is transforming from low technology valves to a range of high and medium technology products. The growth in nuclear industry is spurring the development of high technology valves. Valve manufacturers with N, NPT and MO certifications will be at an advantageous position to cater the demand arising from nuclear industry. The certification also serves as an assurance of the capability to address the critical applications. Power generation shift from low efficiency conventional thermal power plants to high efficiency ultra-mega power plants with super critical coal fired boiler technology will create the demand for high technology valves. Europeans are often surprised to discover the number of centers of excellence in India and have started valuing Indian valve manufacturers. The Indian valve industry needs to collaborate and work closely with the end users to rise to the global challenges, demands and opportunities and grow together. 