

Unwavering Commitment to QUALITY & INNOVATION



Gem Equipments Pvt. Ltd. based in Coimbatore and founded by the technocrat colleagues, Mr. K.P. Manoharan, Mr. G. Ravichandran and Mr. C. Raviselvan way back in 1984, has carved its niche in process cooling and drying. In a little over three decades, Gem has established itself as the largest manufacturer of compressed air dryers in the country, making over 6,000 dryers in a year, a large chunk of which goes to OEMs. These dryers are used in core sectors like petroleum, chemicals, fertilizers, gas processing and co-generation electrical utilities. GEM has an ongoing tie-up with Orion of Japan for manufacturing Desiccant Dryers in India. Gem is also a renowned name in cooling towers and chillers. The first Indian cooling tower company to replace aluminium alloy sprinkler with nylon 66, the first Indian company to develop combo cooling systems to conserve industrial water, and the first South Indian company to develop modular cell FRP cooling towers for higher flow applications and as alternative to RCC towers, Gem has been treading a path of innovations all through these years. Mr. P.K. Balasubramanian speaks to Mr. K.P. Manoharan, Managing Director, Gem Equipments to get more insights into his company's technological innovations, future thrusts and growth strategies in a highly challenging business environment. Excerpts:



Mr. K.P. Manoharan,
Managing Director
Gem Equipments Pvt. Ltd.



GEM is a dominant name in cooling towers. As of now it has 10,000 plus installations in the country.



GEM has its modern, well equipped manufacturing facility in Coimbatore. Seen here is its Testing & QC Section.

Q. You are known for your capabilities in designing customized systems. What's the latest in your compressed air dryers?

Our Nexgen Refrigerated Air Dryer is an embodiment of engineering excellence, innovation and reliability. The heat exchangers are designed to provide highly efficient heat transfer. It features honeycomb construction of aluminium fins giving true cross-flow for greater effective temperature differences, non-clogging larger cross-sectional area for air flow, integral air-air and air-refrigerant exchanges, with stainless steel demister moisture separator, robust non-corrosive grade aluminium, and larger heat transfer area for higher efficiency. The rugged electronic panel displays inlet, ambient and dew point temperatures in single display on demand. The tripper module gives alarm for compressed high discharge pressure, compressed low suction pressure, expansion valve malfunction, auto drain valve function and fan motor cycling. The VFD compressor with speed control proposed to manufacture in future is one of the major developments towards optimization of refrigeration systems based on average load under R&D now. For periods of high cooling demand, the compressor speed can be increased, and vice versa for low cooling demand. In short, it is PLC based, operating on conventional gas, using optimized power, and demonstrates better dew point capacity and reliability.

Q. What are your innovations in cooling towers?

Our bottle type FRP cooling towers with a capacity range 100 to 4500 lpm are really innovative. They require no sprinklers to be maintained, and operate for lower pressure return water. They are ideal for multiple inlets and outlets. These FRP towers also come in square type with stationary non-clog nozzle for easy maintenance, and PVC fills for larger



Nexgen Refrigerated Air Dryer – an engineering marvel

contact surface area. In evaporative cooling, we offer both coil type and modular type. In the coil type, the cooling water moves in a closed loop; hence no contamination. In the modular type, aerodynamically designed FRP fan blades are used for better efficiency and walkway is provided for access and service.

Our Dry Cooling Towers are in a class apart. The DCT type has a capacity range of 120 to 3,000 kVA generator ideal for 1-10 MW power plants. The DGAS type comes in horizontal configuration, suitable for gas generators and adaptable for heat recovery. The capacity range is 500 to 3000 kVA Power generator. Our Aqua Saver (GAS) is designed to suit 100 to 5000 kW induction furnaces and 30 to 1000 HP air compressors. All these models reduce water consumption and conserve water. Moreover, in the absence of scaling, they hardly require any maintenance. We have recently executed an order from Jordon (through ISGEC) for a dry



Gem's Smart Chiller

cooling system valued at Rs.1.8 crore. Similarly we have also executed an order valued at Rs.2.3 crores for a dry cooling system from Suzuki for their Gujarat Plant. We have also supplied larger cooling towers to Renault Nissan and Saint Gobain in Chennai.

Q. Your Bottle type FRP Cooling Tower is said to be a revolutionary product. What are its special features?

Our Nexgen Bottle type FRP Cooling Tower features superior extended shaft flange mounted frame, waterproof with aluminium body, S.S. shaft and EPDM sealing. The body is UV protected with a glossy finish. The FRP louver profile reduces water spillage. It has a high efficiency aerodynamic fan with axial flow and low noise. It is made of corrosion-free aluminium which is computerized balanced and wind tunnel tested in Germany. The spiral fills made of rigid PVC are clog-free resulting in long life.

This revolutionary product manufactured using the RTM (Reverse Transfer Mould) technology goes with a 5-year warranty for FRP body and structure.

Q. Anything new in your chillers?

Well, we offer Industrial Chillers up to 100TR capacity. These factory assembled packaged units go with a 2-year warranty which is industry's first. The Mini series Industrial chiller uses a coaxial type heat exchanger. The design maximizes exchanger efficiency by using copper tubes in a coiled tube-in-tube arrangement. It promotes turbulence break-up boundary and maximizes the heat transfer rate with minimum pressure drop. A counter flow pattern is used to achieve maximum temperature difference.

A series of Nexgen Chillers from 5 to 15 tr capacity under development has a high power efficiency and low footprint.

Q. So what's your expanded portfolio today?

We are primarily into Refrigerated Air Dryers, Cooling Towers and Industrial Cooling Systems – all utility products essential for every industry. You can add to these the compressed air accessories we make like the After Coolers, Moisture Separators, Compressed Air Dryers, Air Filters and other contamination removing equipment, you get a complete picture of our product spectrum.

Q. Could you throw some light on your manufacturing facilities?

We have a sprawling, well equipped manufacturing facility in a 5-acre verdant land. We have a workforce comprising 200 dedicated employees. A good number of them are professionally qualified managers and engineers involved in Engineering, Planning, Procurement, Production, Quality Assurance and other allied functions. They are assisted by a select few consultants and specialists in specific domains. We are following the state-of-the-art manufacturing process and the Japanese methodology for chiseling out products of impeccable quality and enduring value. We have a technology tie-up with Orion, Japan for manufacturing Desiccant dryers as per their design in India and for marketing them under Gem brand in India and abroad. We have vast experience in designing, manufac-

turing and supplying Air Cooled Heat Exchangers for various process applications.

Q. What's your R & D set-up?

With an unwavering commitment to quality and excellence, we have set up and nurtured our in-house R & D with the best of talents and in-depth knowledge of international codes which facilitate designing products to ISO standards. We have ISO-2001-2008 accreditation from DNV. We are also a member of C'TI. We work in close co-ordination with research institutes and the user industries which help in developing new products and improving existing ones to meet the exacting requirements of our customers spread across the world.

Q. What's your customer base?

Just as our basket is full of varied products, our customers also represent diverse industry segments like automobiles, cement, food processing, pharma, glass, plastics, power, textile PET bottle, chemical & fertilizer, etc. Some of the prominent names are: L & T, Gujarat Cement, Ultra Tech Cement, Zuari Cement, Hindustan Newsprint, TNPL, West Coast Paper Mills, ITC Bhadrachalam, Neyveli Lignite, Ennore Thermal Power Station, Karnataka Power Corporation, Areva, Vizag Steel, Jindal Steel, Bhilai Steel, Tata Steel, Bhokaro Steel, Powerica, Hindustan Lever, Saint Gobain, ELGI Equipments, Atlas Copco, Chicago Pneumatics, PSG Group and so on.

Q. Why do they come to you again & again?

Almost 80% of the orders we receive are repeat orders. Product quality, excellent service back-up, and ability to provide cost-effective & optimum solutions are our attributes that make these discerning customers come back to us again and again. We do value engineering, save costs and keep a constant check on input costs so that the benefit can be passed on to the customer.

Q. What is your service set-up?

We have a strong team of 22 service engineers who are responsible for erection, commission and upkeep of our systems. They work in tandem with our channel partners spread across all major cities in India. This ensures that all service calls are attended within the shortest time.



GEM's bottle type FRP Cooling Tower with attractive features and end-user benefits



A view of GEM's cooling tower warehouse

Q. What are your growth strategies?

We have opened a Warehouse-cum-Assembly Unit at Bhiwandi, near Mumbai recently. The unit stocks all our standard products and accessories. The end product is assembled here and supplied to the customer. We have a dedicated team attached to the unit. We work in tandem with our channel partner to make this business model a success. This ensures availability of our products and services to the local customers at a short notice. Once this is a success, we shall replicate the model and set up such warehouses-cum-assembly units in key industrial hubs like Delhi, Ahmedabad, Hyderabad, Kolkata, etc.

Our OEM business for cooling systems is expected to grow steadily. The off-take of compressor manufacturers like ELGI, Atlas Copco, etc. will increase substantially. This would help our business to grow at least at 15%. The business with Powerica is expected to double next year. We can also expect increased business from St. Gobain, Nissan and Maruti Suzuki. Our order booking for radiator cooling for gensets in marine containers is also growing at a fast pace. Last year we sold approx. 10 units, this year 110 units and next year it should touch 200 sets. At our plant we have introduced the bin system for all fast moving items. At any given time we shall maintain sufficient numbers in stock. This stock model would improve our delivery time and enhance the delivery rating with our esteemed OEM's.

Q. Where will you be five years hence?

Our target is to touch a sales turnover of Rs.100 crores by 2020. With our innovative products, ever-growing customer base and our planned growth strategies, it would not be difficult for us to achieve this target. ■