

Batching & Mixing Plants for Concrete

Aquarius Supplying latest technology

Aquarius Engineers Pvt Ltd is a sales and service organisation, supplying world class equipment for production, conveying and placement of concrete in India representing Simem of Italy for concrete batching plants. Simem is a renowned Italian company engaged in the manufacture of concrete batching plants for more than 30 years and is known in India as Simem india (Pvt) Ltd.

Batching

Simem plants use latest technology for operation as well as control. All ingredients of concrete, that is, aggregates, cement, water and admixtures are weighed and batched as per the practice followed internationally. The specially imported load cells used for weighing give batching accuracy of ± 2 percent.

Mixers

Two types of mixers are generally used in modern batching mixing plants.

- Pan mixer: Suitable for smaller capacity plants with 0.5 m^3 batch.
- Twin shaft mixer: Generally used for plants with the batch of 1 m^3 and above up to 9 m^3 . Twin shaft is an efficient mixer for its mixing qualities. The mixing time is as little as 30 seconds.

Recently Aquarius has introduced the concept of mobile batching mixing plant "Mobymix" which can be erected and commissioned in two days time. It does not require any foundations and can be

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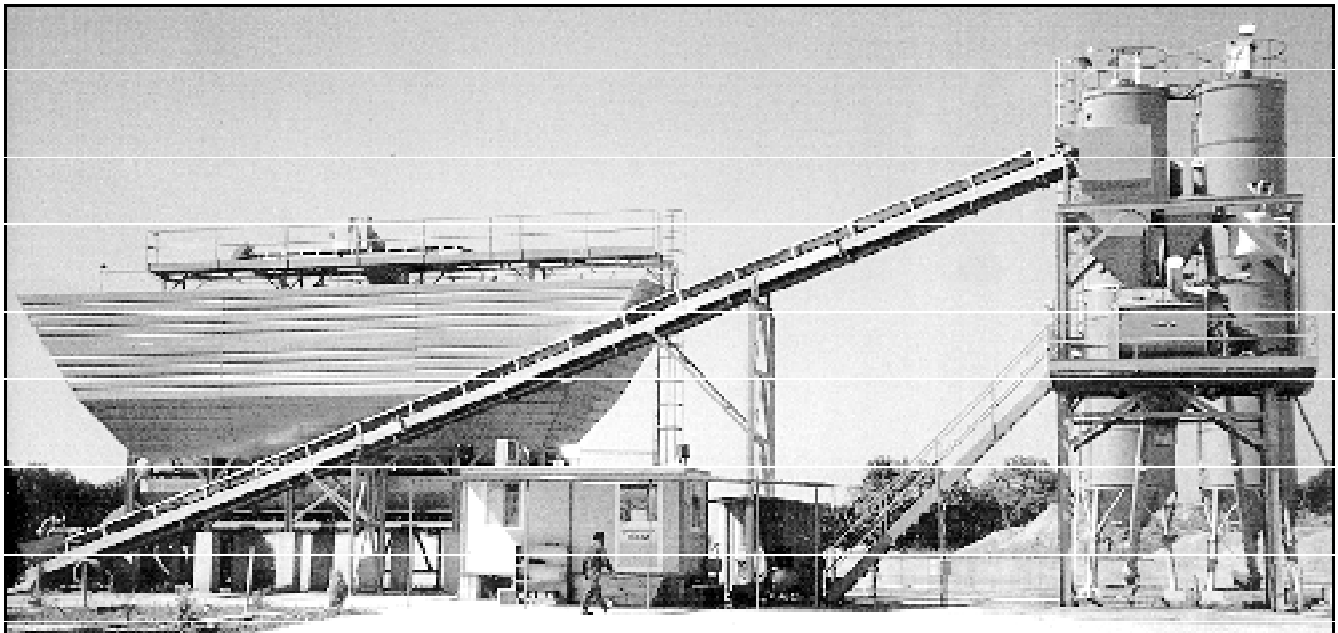
Aquarius batching plants — catering to the RMC industry

transported easily on 2×40 feet trailers. It is best suitable for small concrete jobs at different locations. They also provide recycling system for wet concrete called Betonwash. Using Betonwash, aggregates and cement slurry water is separated from rejected or leftover concrete, which is still wet and can be reused in the batching plant.

Control system

These plants have automatic control-based on PLC (programmable logic controller).

Both these control systems can store mix design formulae. A PLC-based control system can store 100 to 5000 mix design formulae whereas a computer-based one can store an infinite number, depending upon the memory of the computer. There is a provision for use of fly ash, microsilica and ice in the software of control system as per the requirement of the job. The display of actual batching cycle is also available on the computer screen for the operator to monitor.



Batching plant with in-line silos

With each batch of concrete produced, the delivery challan is automatically printed. The delivery challan indicates the quantities of aggregates, cement, water, admixture, water/cement ratio, quantity of concrete, mix design formula, grade of concrete (M 20, M 30, M 40, etc.). It also indicates truck mixer number, name of driver, delivery destination of concrete, etc. depending on the choice of the user.

The batching plant control system, besides storing mix design formulae also

stores data regarding stock of aggregates, cement, admixture and their consumption pattern, fuel consumption and consumables used for truck mixers etc.

Accessories

Aquarius Engineers Pvt Ltd, Pune also supplies silos for storage of cement/ fly ash/ microsilica and silo accessories like level indicators, safety valves, fluidisation system, dust collector filters, and the butterfly valves. They also supply different silo

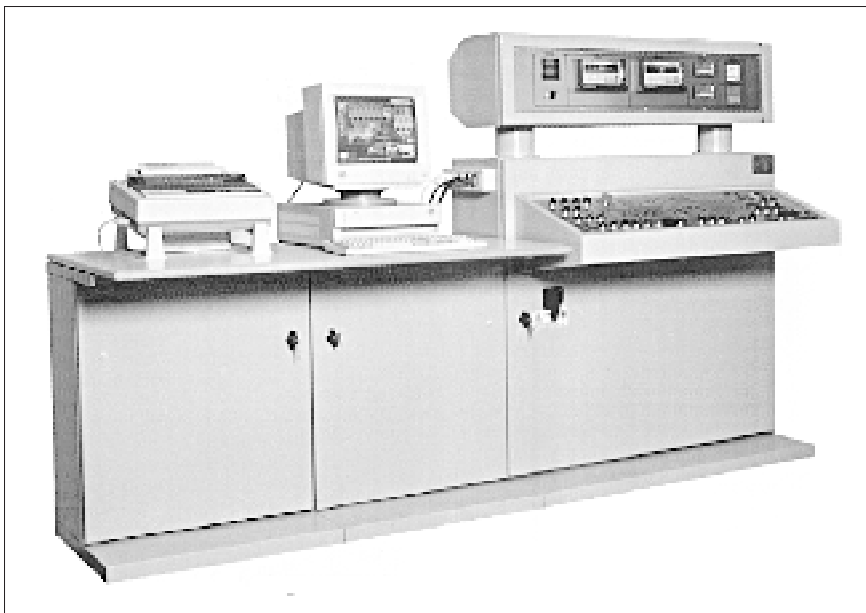
loading systems like dense phase loading system, dilute phase loading system and screw conveyors.

There are, at present, 24 Simem plants working successfully in India having various capacities from 45 m³ to 120 m³. The plants have modular design and bolted structures, which facilitates very easy and fast erection of the plant. Aquarius currently holds the largest market share in RMC operations as well as in large infrastructure projects in India. Majority of the batching plants used for the Mumbai-Pune expressway project have been manufactured by Simem, Italy and supplied by Aquarius. Simem plants are successfully being used by various clients at nuclear power projects, where stringent quality norms are laid down by the nuclear power corporation for concrete design mix and discharge criteria.

Aquarius has well-trained, dedicated service teams for batching plants. Service representatives are posted at key locations all over India for prompt after sales support. They also provide substantial inventory of spares for giving total back up services.

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The control system consisting of power control, manual panel, weighing instruments, PLC and PC with printer