



# BATCHING PLANT

**Ready-mix and dry mix  
concrete plant  
and installations**

## ELKAYAM

INDUSTRIES

[www.elkayam.co](http://www.elkayam.co)

**ELKAYAM** systems for the manufacturing of batched concrete comply with all international standards and are recognized world wide for incorporating advanced engineering and human engineering, combined with truly excellent serviceability and longevity.



## **ELKAYAM** **EFFICIENT AND COST EFFECTIVE.** **BUILT ESPECIALLY TO SUIT YOU.**

The **ELKAYAM** modular design system allows optimum integration of requirements for any capacity or demand, and really excels by offering wide ranging formats encompassing flexibility of choice for the type of product, the numbers of delivery cells, varying orientations and loading methods, and different levels of automation and computerization, all produced with peak level engineering and attention to quality.

Each section is individually engineered and can be supplied as part of an entire project or an upgrade or re-work of an existing plant or application.





# ELKAYAM

## INDUSTRIES

**ELKAYAM** plants are environmentally friendly, and are combined with many systems that meet the most stringent standards with regard to dust, the recycling of fresh concrete and water back to the production plant and environmental conservation.

Today **ELKAYAM** produces plant and equipment, for the production among others, of concrete, plaster, bricks and slabs, with full conveying systems to suit, under a credo of high specifications and standards which **ELKAYAM** has set itself to meet.



## ELEMENTS TO CONSIDER

- Dry or wet batching plant
- Capacity per hour or month
- Cycle time
- Number of delivery cells
- Aggregate capacity
- Mixer type and size
- Mixer loading – skip or conveyor
- Cement capacity
- Number of silos and accessories needed
- Humidity control and number of cells needing it
- Aggregate charging – conveyor / elevator/ wagon
- Water tank and capacity
- Chemical dosing systems / number of divisions
- Truck mixer size
- Recycling system
- Recycled water scale

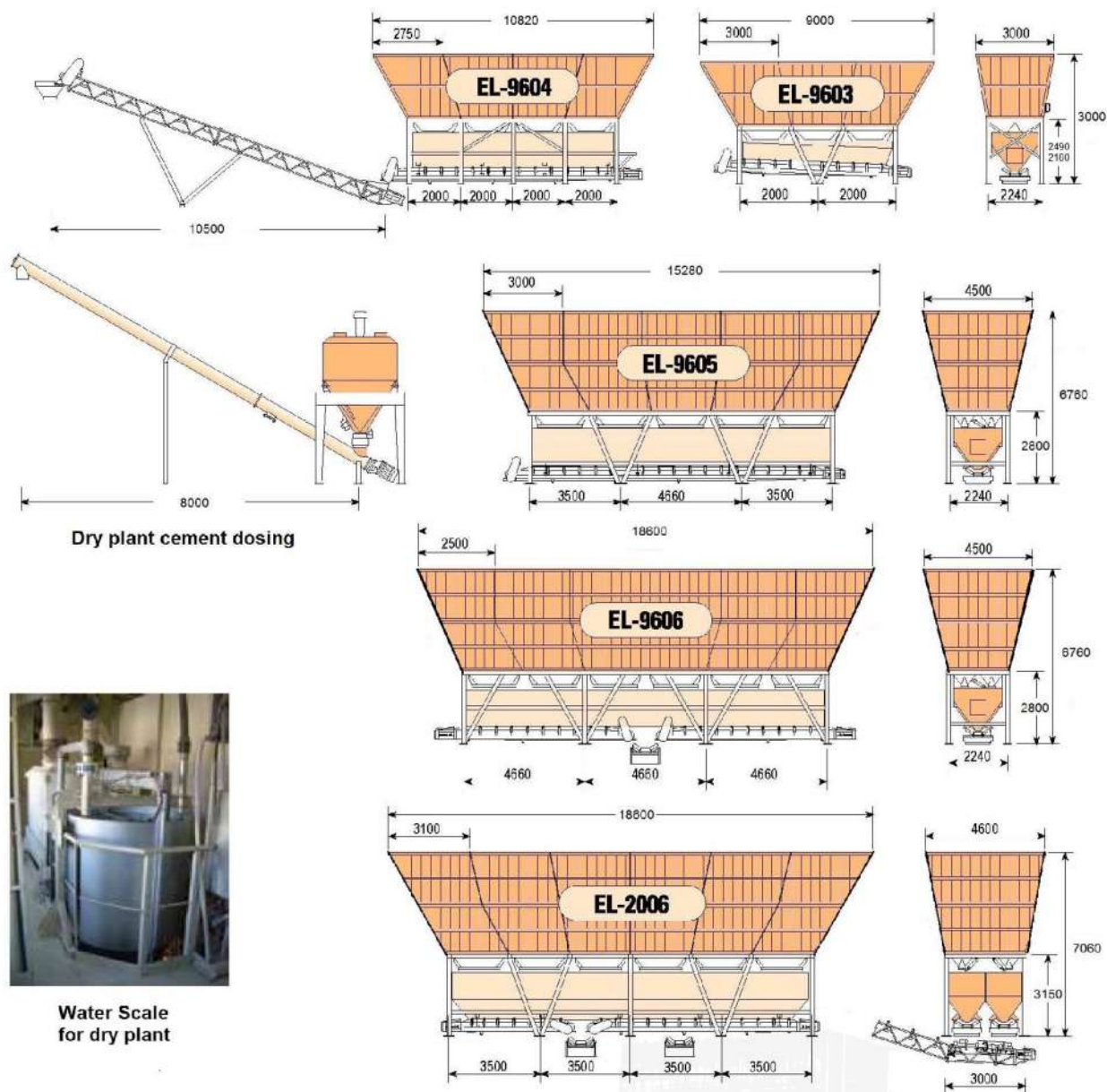
Each part of the plant and its operational parameters can affect the cycle time. **ELKAYAM** offers the fastest cycle times available which means high efficiency and quality at every stage.

### Typical cycle time for pre-mix system

Seconds	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
Inlet of track mixer																	
Draining concrete																	
Outlet of truck mixer																	
Mixing time																	
Cement discharge																	
Aggregate discharge																	
Water discharge																	
Chemicals discharge																	
Cement charging																	
Aggregate loading to the waiting hopper																	
Water to the scale																	
Chemicals to the scale																	
Aggregate weighing																	



# COMPLETE CONCRETE PLANT



System	Unit	ELD2006	EL9606	EL9605	EL9604	EL9603
Aggregate capacity	tonne	420	350	300	100	80
MAX Wet/dry dose volume	m <sup>3</sup>	2x6 / 2x10	6/10	5/9	4/6	3/3
Wet/dry cement dose weight	tonne	2x1.5 / 2x4.5	15/4.5	15/4.5	1/3	1/3
Wet/dry MAX output	m <sup>3</sup> /hour	2x130 / 2x100	130/100	130/90	105/60	50/40
Max. cement delivery	tonne/hour	2x90	80	80	8	80
Wet/dry water scale	liters	2x800 / 2x2,200	800/2,200	600/2,200	600/2,200	600/2,200
Compressor delivery	liters/ min	2,000	1,100	1,000	750	500
Control room size	m <sup>2</sup>	18	9	6	6	6
Wet chemical capacity	Plants/tubes/liters	2x3x10	3x10	3x10	3x10	3x10
Dry chemical capacity	Plants/tubes/liters	2x3x35	3x35	3x35	3x35	3x35
Wet system screw conveyors	No. x mtrs. x D*					

# Component Elements: SILOS



## **Standard construction**

Traditional welded plate construction with bolted assembly designed specifically for each installation. Very strong for aggressive environments.



## **Spiral construction**

Automated patented spiral construction of formed aluminium and steel construction provides a very rigid structure for long life. The folded welts make an excellent seal and the system provides flexibility in design with a relatively light overall mass.



## **Anti-bridging air and mechanical systems**

Silo feed out points are geometrically computer designed and protected from “bridging” using latest technology.

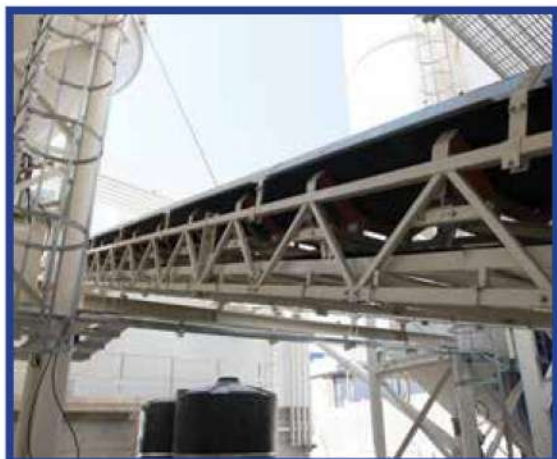


## **Innovative safety and filter / venting features**

Active filter units, anti-explosion safety valves, vent units, pressure monitoring, and every other possible safety feature.



# Component Elements: CONVEYORS



## **Belt Conveyors**

Conveyors are all custom designed and have modular welded frames bolted for assembly giving high strength to weight ratio. Modular roller frames and high specification idlers. All conveyors have full safety covers and stops. Computer aided design ensures that each conveyor meets its output requirements.



## **Screw Conveyors**

Fully featured with sealed gearboxes and motors to withstand rigorous conditions. Easy access for cleaning and bearing maintenance. Each unit is purpose designed to meet the specific specification for its application. Both standard and trough screw conveyors are available.



## **Anti-bridging air and mechanical systems**

Silo feed out points are geometrically computer designed and protected from "bridging" using latest technology.



## **Innovative safety and filter / venting features**

Active filter units, anti-explosion safety valves, vent units, pressure monitoring, and every other possible safety feature.

## Component Elements:

### AGGREGATE STORAGE



#### Site layout and concrete aggregate bunkers

Every customer can have his site layout designed by us to make the best utilization of the area for the receipt, storage and processing of aggregates. Each site is surveyed and detailed layouts are computer generated for optimum efficiency in production .



**ELKAYAM**  
INDUSTRIES

The correct result for well designed aggregate and material storage is a clean site which finds acceptance even in the confines of a modern high-tech industrial area and does not cause pollution to or nuisance to the neighbors or the environs in any way. This is the **ELKAYAM** way.



## Component Elements:

### CEMENT CHEMICAL AND WATER DOSING



#### Complete concrete weighing and dosing system installation

The heart of great concrete is the accuracy of the dosing and together with the **ELKAYAM** Batch Link computer control system, the very best weighing and dosing system is essential. The systems include computerized digital weighing of all additives and carefully planned feed layout and feed tankage to assist with fast and accurate fill and delivery times without delay for ultra reliable results.



## **Component Elements:**

### **CONCRETE PROCESSING**



**Mixers for wet plant**



**Fiber additives**



**Skip hoists**



**Screens for sand  
and aggregate**



## Component Elements:

### AUXILIARY EQUIPMENT



**Valves and gates**



**Distribution wagons**



**Service components**



**Filters and Safety Valves**

**ELKAYAM** selects supplied service components with great care for long problem free life. Specifications are rigorously conformed to and emphasis is placed on ease of replacement on field service for minimum maintenance downtimes and fast turn around.

## Component Elements:

### CONCRETE AND WATER RECYCLING

## ENVIRONMENTALLY FRIENDLY ELKAYAM CONCRETE AND WATER RECYCLING

Invariably trucks returning must discharge and wash down left over mix in some effective way. **ELKAYAM** provides the perfect systems which allows the recycling of valuable aggregates and sands and keeps the site in first rate clean condition at all times. **ELKAYAM** always recommends that customers install one of their concrete recycling units at each installation and over time such a unit is self financing.



CRP plants are designed especially for the recycling of valuable aggregate and sand from discarded material as well as for the improvement of site environment. Strategic positioning of the CRP plant enables all the local surface water on site to be collected. When a truck has unused material for recycling it uses system water from the overhead flushing system pipes to flush clean and fill the mixer. At the same time the operator/driver can clean down the back of the truck using the refilled reserve tank on the truck. The truck is then discharged into the receiving hopper of the Mixed Particle Separator (MPS). Aggregate and sand are conveyed up the MPS which systematically removes cement using a specially designed directional high efficiency contraflow system and can then be transferred to a conveyor belt or discharged into the storage area for re-use. The water is taken off from the sediment for recycling.



## Component Elements:

### CONCRETE AND WATER RECYCLING

## Summary Specifications:

- Total capacity from 7 to 14 m<sup>3</sup> per hour
- Collecting tank 1.5 m<sup>3</sup> with 3hp pump and 1hp agitator
- Optional reserve tank with 5.5hp pump
- MPS - either 600mm or 800mm diameter
- MPS has special patented internal lower bearing system with lifetime guarantee
- Optional belt conveyor
- Overhead flushing pipes with swivel option and two manual regulators
- Manual regulator for the MPS flushing system
- Manual regulator for general cleaning
- Synoptic control panel with sequence timers and one button operation
- Adjustable timers operate the system at least 10 minutes every 3 hours
- Level indicators on each tank



# Component Elements:

## CONTROLLING THE SYSTEM

### ACCURACY IN CONCRETE PRODUCTION THE ELKAYAM WAY

The heart of any good concrete batching system is the accuracy with which materials are measured and supplied for the batch itself. It is not enough to simply pour material into the mixer. The system must be mechanically designed and with such good control and delivery systems that the quantities are delivered to very fine limits.



**ELKAYAM** concrete systems are designed in just such a way so as to provide full compensation for variables during the dosing stages of production and ensure that the quantities delivered to the mixer truck are precise and the loads at destination are of a guaranteed quality and consistency. This makes for higher cost effectiveness and efficiency, and negates rejected loads.

Delivery accuracy figures are as good as 0.2% giving **ELKAYAM** systems the best delivery accuracy level of any system available in the world with the fastest turnaround time. The high level electronic and mechanical integration is at a state of the art level, allowing for efficiency in personnel and staffing. Once the load is delivered to the mixer the integrated billing system option can produce the documentation adding to the high speed turnaround. The system records the batches too for good record keeping and follow up. The system is run using a very simple to use synoptic computer graphic interface, requiring a minimum of training and designed to prevent errors. This interface has been specially developed by **ELKAYAM** over a long period in direct consultation with many customers to reach the present pinnacle of excellence.



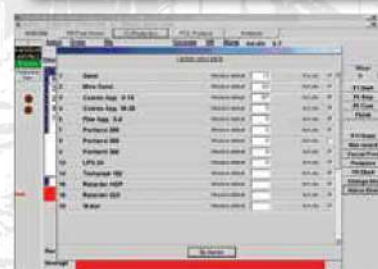
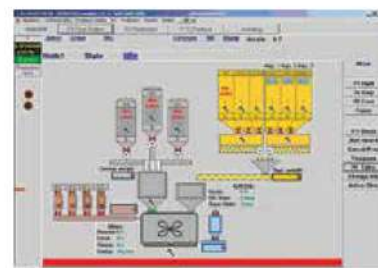
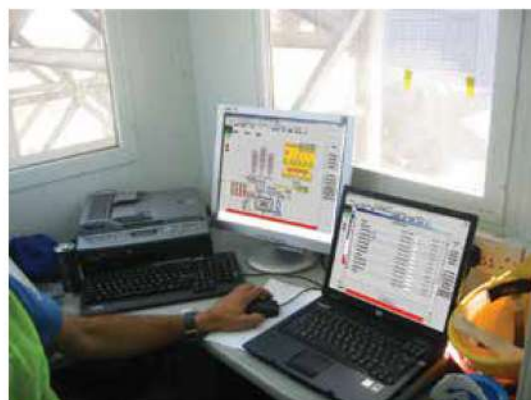
# Component Elements:

## CONTROLLING THE SYSTEM

### BATCH LINK TOTAL CONTROL

#### Advantages of the exclusive ELKAYAM El 7 - Batch Link computerized systems

- Allows maximum speed of loading.
- Total control on rates and quantity for mixer loading.
- Accurate parameter setting for all quantities and all mix ratios for every customer.
- Data available by date, mix or material for every batch and material for every customer.
- Digital weigh stations allowing exact compensation for water content or humidity.
- Integrated with the computer this allows real time material quantities corrections.
- Integrated inductive slump assessment and correction.
- Full integration with site management finance programs for customer billing and consumables.
- Manual control or calibration at any time.
- Specially designed friendly interfaces and screens for panels and computer.
- On line real time readout for process control and management
- International certification for all weighing processed.
- On line customer real time live link support while you work.



**USER FRIENDLY SCREENS**  
**Minimum training time with**  
**great ease of operation**

# INSTALLATIONS WORLDWIDE



**Cyprus**



**Kenya**



# INSTALLATIONS HOME



**Airport Structures**



**Modiin**



**Ramle**

## QUALITY THAT STANDS ALONE

ELKAYAM concrete plant is supplying the concrete for the pre-fabricated tunnel segments for the new Jerusalem raitunnel – this section having a length of 14 kilometers.



There are literally tens of thousands of these tunnel segments to be made and each one has **the concrete tested**. Only the highest accuracy in concrete production plant can make this promise of delivery to ensure all the deadlines are met and keep the quality to this level to comply with all the international safety standards.



# ENVIRONMENT

**ELKAYAM** plant employs all the latest technology to ensure the cleanest possible operation making installation in inter urban areas quite practical, with no effect on the local environment and little noise or disturbance to the environs.



**Cyprus Airport**



Such design consideration makes **ELKAYAM** plant the premiere choice for all types of concrete production and aggregate and materials handling.



# **READY-MIX CONCRETE INSTALLATIONS**

# **ELKAYAM**

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