



# SINORoader

## Asphalt Drum Mix Plant



## D40,D60 Asphalt Drum Mix Plant

The asphalt drum mix plant is a full set of equipment which can mix aggregate, asphalt and mineral filler into mixture in designed proportion to produce asphalt mixtures under specified temperature. The mobile drum mix plant is known as continuous asphalt mix plant. Compared with other kinds of asphalt mixing plant, the difference lies in the mixing modes. The drum mix asphalt plant integrates the drying and mixing into the same drum. The asphalt drum mix plant process is simplified. With its features of simple structure, high intensity, large production capacity, easy operation and maintenance, it is very suitable to the construction sites where they need large volumes of asphalt mixture, such as highways, roads and airports. Asphalt drum mix plant is one type of asphalt plant that produces hot mix asphalt in a continuous process. Continuous asphalt mixing plant is low on running cost, maintenance and high on production. With strong agitation performance and quick installation, it is suitable for projects such as highways that require mobile work. Sinoroader drum mix asphalt plant is composed of portable drum mix unit (with integral aggregate system, drum mix unit, knock-out box and wet scrubber), drag conveyor with hopper, bitumen tank and control house. We offer top quality components to our customers with a proven and trusted design which will give maximum up time of the machine.



Sinoroader offers drum mix asphalt plant for sale in the capacities of 40 tph to 120 tph. These plants are ideal for those contractors who want to go for high volumes of asphalt production without frequently shifting from one place to another. We offer full package to road contractors for complete peace of mind and we want them to concentrate on their core business without worrying about the equipment.

### Successful Cases of Our Asphalt Drum Mix Plants for Sale

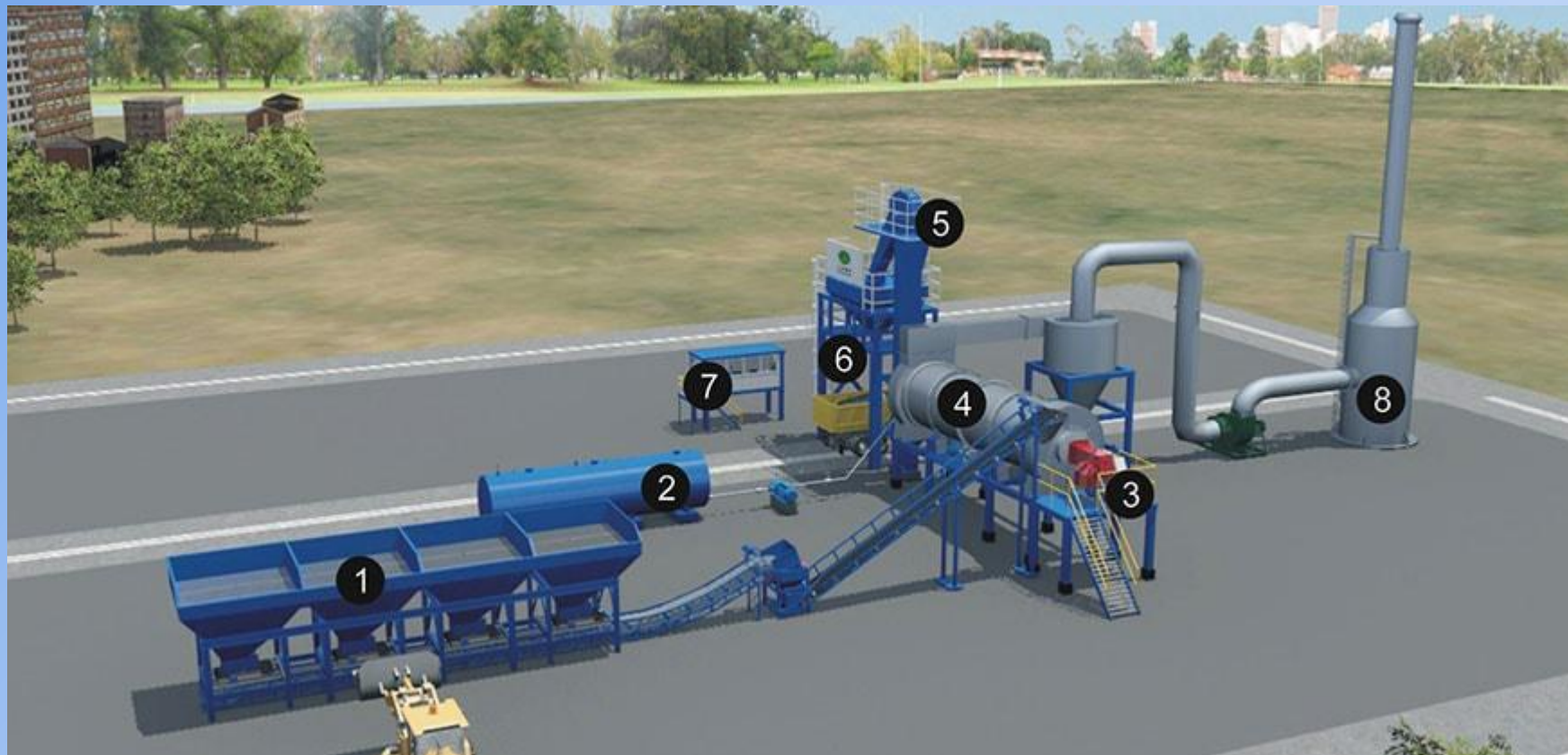
- In 2018, 60t/h drum mix asphalt plant has been exported to Uzbekistan.
- In 2017, 20t and 60t/h asphalt drum mix plants were successfully delivered to Iraq.



- In 2015, our 60t/h asphalt drum plant was transported to Brazil; two sets of mini 40t/h mobile continuous asphalt plants were exported to Albania and Burma; two sets of 20t/h asphalt mobile drum mix plants were shipped to Sri Lanka; one set of 60t/h drum mixing plant transported to Uruguay.



## Main Systems of Asphalt Drum Mix Plant



1. Cold aggregate feeder    2. Bitumen tank    3. Burner    4. Drying & mixing drum  
 5. Hot asphalt elevator    6. Hot asphalt silo    7. Control cabin    8. Water dust filter

**Sinoroad | Aggregate batching system**

Aggregate batching system main includes: batch hopper, feeding belt, collecting belt, vibrating screen and belt conveyor. There are 4 batch hoppers carrying aggregates with different specifications to meet the gradation requirements of asphalt mixture. At the lower part of each batch hopper equipped with adjustable belt feeder, which can realize stepless speed regulation. The collecting belt under the hoppers will collect the aggregates and transfer them to the vibrating screen. Particles with diameter >40mm will be screened out, and the rest will be sent to the belt conveyor. Then the belt conveyor will move the aggregates to the drum dryer (drying drum).

**Sinoroad | Drying & mixing system**

Drying & mixing system consists of drying cylinders, combustion devices, and oil ignition system components, etc. Drying drum contains 4 carrier rollers, 2 rolling rings, 2 blocking wheels, a cylinder and shovel plates. The cylinder was supported by carrier rollers with its rolling rings and driven by the reduction gears stably and evenly. When aggregates get into the drying drum, they will be raised by the shovel plate to the highest point and then poured down, forming a wall where the fire will go through to dehydrate the materials. The cylinder is rolling with inclination of 3.5° to get the aggregates mixed with bitumen and out off the cylinder for elevating in right time.



**Sinoroader | Burner**

The Sinoroader burner uses advanced technology to burn sufficiently and cleanly. Sinoroader Burner provides the best performance and efficiency. The performance and delivery will be guaranteed by pre-testing and wiring. It's available in varieties of fuel firing combinations.



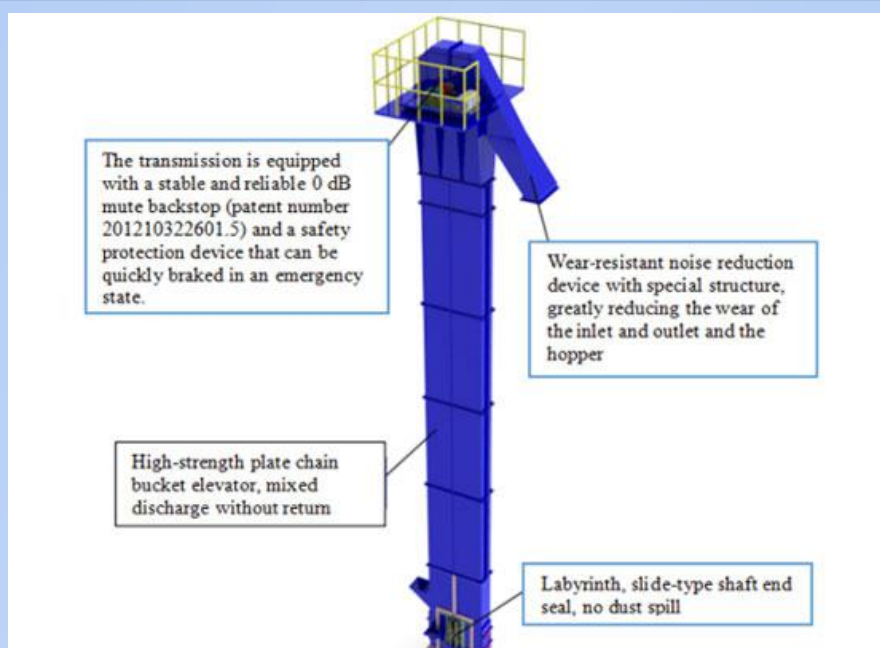
**Sinoroader | Bitumen supply system**

The bitumen supply system is composed of bitumen tank, bitumen gear pump, pipes and bitumen spray tube. The gear pump is driven by the adjustable-speed motor and transfer the bitumen from bitumen tank to the drying drum for mixing process.



**Sinoroader | Dust Collecting System**

The dust collecting system has two collecting levels, cyclone dust filter and water dust collector. The purified air flies up and gets discharged from the chimney, while the dust mud sinks in the sedimentation basin thanks to the gravity.



**Sinoroader | Hot Elevator**

The hot elevator is used for feeding dry aggregate to screens. The housing is fully-enclosed and dust-proof, which can protect the integrity of the dried aggregate. The steel buckets with reinforced edge are set to convey the aggregate. The chain of it is wear-resistant, so it can prolong service life. Meanwhile, the split sprockets can reduce the time and effort spent on maintenance.



**Sinoroaders | Control System**

We adopt fully automatic control system, reliable and convenient to operate. The visual feedback for all mixing processes of the entire batch tower will be displayed on the main batch screen. All plant controls are mounted on a centralized panel inside the control house. All of the plant's motors and switches are pre-wired and factory-tested. Quick-plug connectors aid in rapid plant setup.

**Drum Plant vs Asphalt Batch Plant**

Drum Mix Asphalt Plant	Asphalt Batch Plant
<ul style="list-style-type: none"> <li>● No intermittence during the production.</li> <li>● Drying and mixing in the same dryer mixing drum.</li> <li>● Heating aggregate at the head of dryer drum.</li> <li>● Hot aggregate needn't be weighed twice time.</li> </ul>	<ul style="list-style-type: none"> <li>● Batch mixing way.</li> <li>● Drying in the dryer drum, mixing in asphalt mixer.</li> <li>● Heating aggregate at the bottom of dryer drum.</li> <li>● Hot aggregate will be weighed again in mixing tower.</li> </ul>

**Reasons of Selecting Our Asphalt Drum Mix Plant**

1. Our asphalt drum mix plant has various models with large production capacity ranging 20~80 t/h.
2. The burning area of our dry drum adopts anti-wear and anti-materials to prolong service life. The drying mixer drum has reasonable structure to ensure high thermal efficiency and avoid heat loss.
3. The mineral filler has arch broken device to avoid powder congestion. The old and new powder is weighed with superposition method in proportion. The recycled powder from dust collector can improve material availability and reduce environment pollution.
4. Our drum mix plant has modular design, which has quick installation and convenient transportation.
5. The conduction oil system adopts international famous brand burner to guarantee accurate asphalt

heating temperature.

### The Working Principle of Continuous Asphalt Mixing Plant



Asphalt drum mix plant process starts with the feeding of cold aggregates into feed bins. The equipment is usually equipped with three or four bin feeders (or more) and aggregates are loaded into different bins as per their sizes. This is done so that different sized aggregates can be graded as per the requirement. Each bin is provided with separate adjustable gates for controlling the flow of material. There is a long conveyor belt below the bins which takes the aggregates to the scalping screen.

The next part is the screening process. Here is a single deck vibrating screen which removes the oversized aggregates thus preventing them from entering the drum.

Charging conveyor plays an important role in the asphalt plant process because it not only transfers the cold aggregates from below the screen to the drum but also does the weighing of the aggregates. This conveyor is equipped with a load cell which continuously weighs the aggregates and sends signal to the control panel.

Drying and mixing drum is responsible for two operations first drying and then mixing. This drum is continuously rotating and in the course of the rotation, aggregates are transferred from one end to the other. The aggregates are treated to heat by the burner flame to reduce the moisture content in the aggregates. When we talk about the process in a parallel flow plant, the aggregates move away from the burner flame and in the counter flow plant, the aggregates move towards the burner flame. On the other end of the drum, the heated aggregates are mixed with bitumen and minerals. The drum plays an important role in the drum mix plant process.

Fuel tank for drying drum burner stores and provides fuel to the drum burner. Apart from that, the critical component includes asphalt storage tanks which store, heat and also pump required asphalt to the drying drum for mixing with the hot aggregates. Filler silos are for addition for optional filler / binder material into the mixer.

Pollution control devices play an important part in the process. They help to eliminate the harmful gases that may have escaped the environment. Primary dust collector is a dry dust collector and it works in sync with secondary dust collector which can be a bag filter or a wet dust scrubber.

Load out conveyor collects the ready hot mix asphalt from below the drum and takes it to the waiting truck or into the storage silo. Optional storage silo stores the HMA till the truck arrives.

Control panel with today's machines comes with modern and sophisticated controls. They allow storage of different mix recipes as per customer's demand. Plant can be controlled from a single place from the control panel.

### D40,D60 Continuous Drum Asphalt Mixing Plant Technical Parameters

Model		D40	D60	
Main Parameter	Rated Capacity (t/h)	40	60	
	Installation Power	80kW	120kW	
	Working Noise (dB)	≤70		
	Voltage	220V/380V-50Hz (adjustable)		
Raw Material	Aggregate Size (mm)	≤25		
	Aggregate Gravity (kg/m <sup>3</sup> )	≥1600		
	Aggregate Moisture	≤5%		
Cold Feeder	Cold Bin (m <sup>3</sup> )	3X6	4X6.5	
	Feeding Belt Adjustment Mode	Variable Frequency Drive		
	Weighing System	Method	Belt Weigher	
		Accuracy	±1%	
Drying System	Mixing Type	Continuous		
	Drying & Mixing Drum (mm)	Φ1200X6000	Φ1500X6500	
	Fuel	Diesel, Heavy Oil, Fuel Oil, Natural Gas, Coal		
	Burner consumption	Coal	10~13kg/h	
		Oil	6~7kg/t	
		Gas	6~7kg/t	
	Hot Aggregate Temperature	≤160℃		
Hot Asphalt Temperature	130~165℃ (±5℃)			
Dust Collection System	Avail. Type	Cyclone Collector/Volute Casing Collector, Baghouse Dust Collector/Water Scrubber		
	Air Emissions	≤100mg/Nm <sup>3</sup>		
Bitumen Supply System	Bitumen Tank (m <sup>3</sup> )	1x30	2x30	
	Heating Method	Electrical Heating/Thermal Oil Heating		
	Weighing Method	Flow Weigher		
	Weighing Accuracy	±0.5%		
Control System	Operation Mode	Full Auto/Manual		
Covering Area	L x W (m)	30x16	33x20	





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