



**ROAD EQUIPMENTS (INDIA) PVT. LTD.**  
AN ISO 9001:2015 COMPANY

MANUFACTURING  
OF  
**ROAD**  
CONSTRUCTION  
MACHINERY

ASPHALT BATCH MIX TYPE  
HOT MIX PLANT

**LET'S UNITE AND BUILD  
QUALITY ROADS**



**KESAR**

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WAY OF LONG  
**JOURNEY**

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# 25 EXPERIENCE YEARS

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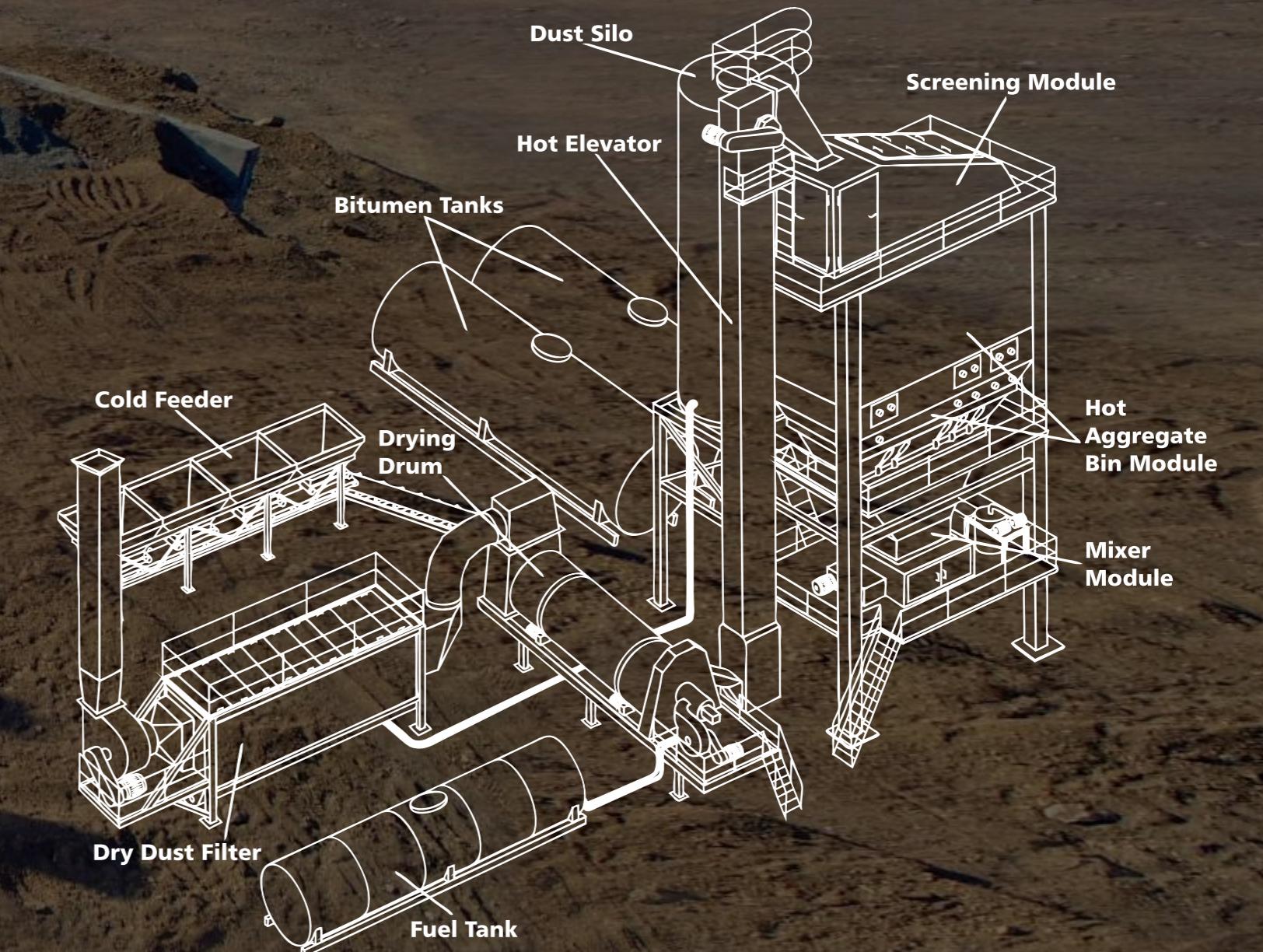


# ASPHALT BATCH MIX TYPE HOT MIX PLANT



MODEL	KBP 1250	KBP 1500	KBP 2000	KBP 2500	KBP 3000
CAPACITY	100 TPH	120 TPH	160 TPH	200 TPH	240 TPH

WE INTRODUCE  
ASPHALT BATCH MIXING  
PLANTS SPECIALLY  
DESIGNED TO SUIT  
COUNTRY - SPECIFIC  
NORMS AND  
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**KESAR** Offer above capacities of batch plants at an average 3% initial moisture content in cold aggregate at 45 seconds batch cycle time: We, Kesar Road Equipments India Pvt. Ltd. are one of the leading manufacturers / suppliers of major road construction equipments in India like: Asphalt Drum-Mix Plants, Wet-mix Plants, Asphalt cum wet-mix Paver Finisher & Bitumen Pressure Distributor etc. since last 10-years in Indian road industry. Kesar Asphalt Batch Mixing Plants are specially designed to suit India's normal aggregate conditions, input dust levels, average moisture content, government's environmental pollution control standards, fuel availability and asphalt hot-mix production variables for every road project around the country.

## SCOPE OF SUPPLY

- Cold Aggregate Feeder
- Over Size Removal Screen
- Inclined Feeding Conveyor
- Dryer Drum & Burner Unit
- Bucket Elevator of Hot Aggregate
- Screening Unit

- Hot Bins Discharge Section
- Weighing System & Mixing Unit
- Bitumen Heating & Storage Tanks
- Thermic Hot Oil Heater
- Fuel Storage Tank
- Filler Silo

- Bag House Filter Unit
- Exhaust Fan
- Control Panel with Control Cabin
- Incline Storage Silo

Therefore, our customers have absolutely no surprises to see a full capacity range of batch plants. Kesar batch plants reflect one of the most exhaustive plant systems available in Indian market. Standard configuration of our systems is perfectly matched to the plant capacity, production demands and site requirements of each plant model.

Kesar Asphalt batch plant produces high quality asphalt mix and its popularity lies in the fact that we guarantee rated production of final mix with minimum maintenance, fast plant delivery & the best after sales services to our valued customers.

The Standard configuration of the plants comprise of the following units :



# ASPHALT BATCH MIX TYPE HOT MIX PLANT

Kesar has always been proactive in rising to customer demands and expectations by providing quality engineered products & services. Reliability, consistency, efficiency, lower maintenance & operating costs are the hallmark of Kesar products, which add value for money. Continuous improvement in quality and up- gradation of technology has been the key to Kesar's success & an enviable customer base.



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- Hot elevator is inbuilt part of tower
- Twin vibro motor gives good amplitude for efficient screening
- Larger hot bin to stop early over flow of hot material
- Gravity feed bitumen weighing hopper
- Insulated dryer drum
- Special design insulating flights which gives sufficient space to develop healthy flame
- Energy efficient modulating mono block burner
- Elliptical bags occupy less space hence compact bag filter with large surface area
- Short duct line which help to maintain temperature to avoid water formation in bag filter
- Folding Platforms
- All ladder outside tower for easy access of plant
- Large knock out box
- Modular design for easy erection & commissioning
- Heavy beam structures
- All unit including tower are skid mounted (Steel Foundation) hence no need of costly RCC work
- Prefabricated & insulated pipe line of Bitumen
- Compact design for easy transportation on Trailer / Container



## COLD AGGREGATE FEEDER (FOUR BINS)

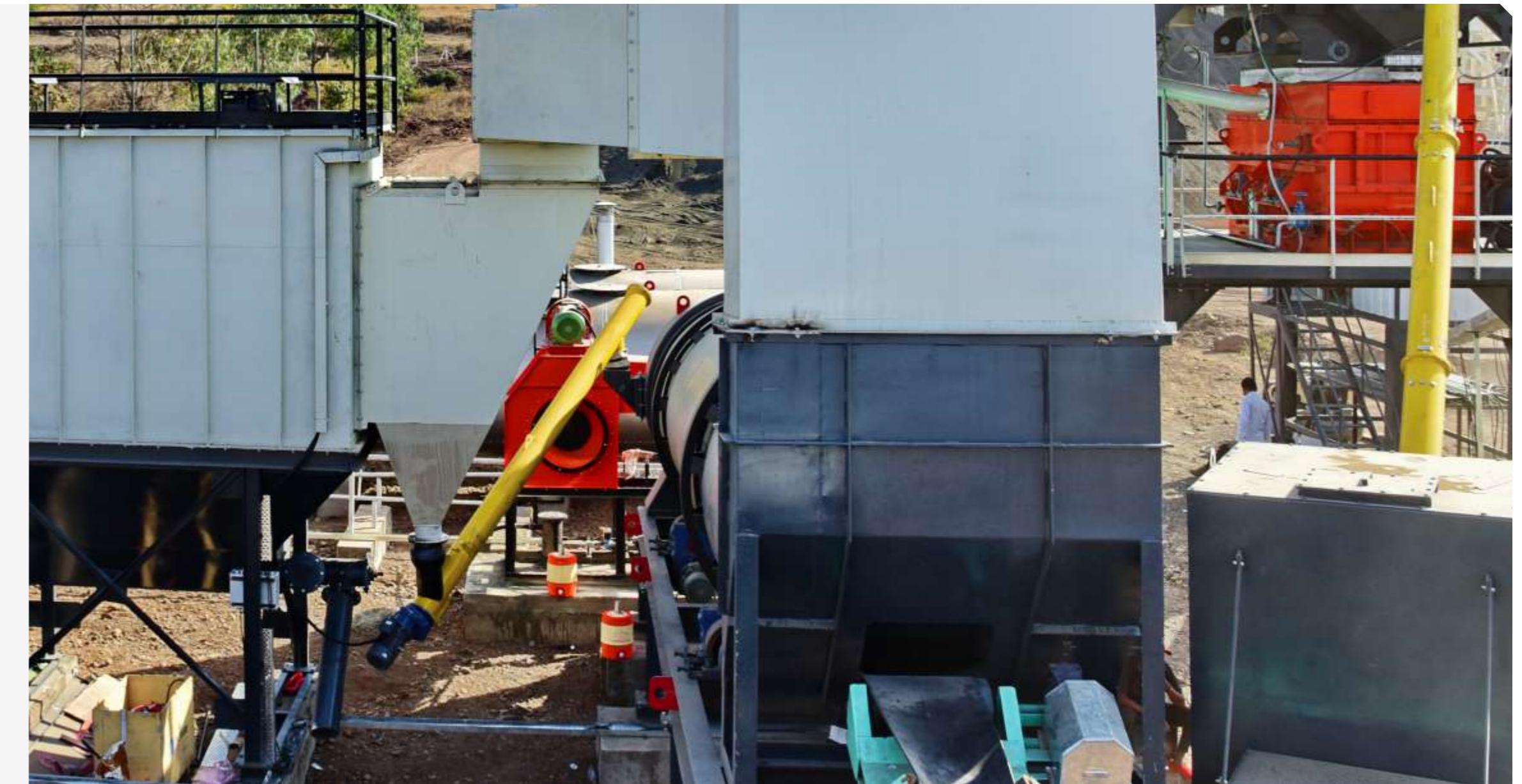
Each bin having independent belt conveying system is driven by AC variable speed motors for accurate & best weighing (to minimize overflow from hot bin) of aggregates and is supplied to Gathering Conveyor as per job mix. At the discharge end of gathering conveyor a single deck vibrating screen is provided for oversize removal of aggregates. This arrangement saves fuel & also eliminates overhead chute for disposal of oversize metal. One bin has vibratory motor. The bin shall be supported on sturdy steel structure and loading mouth of 2.76m x 2.20m. The bin shall be loaded by tipper width of 2.44m.



## DRYER DRUM UNIT

The Dryer drum is counter flow type dryer with four wheel friction drives, it is fully insulated to prevent heat loss. Thermo Drum is maintenance free, having universal joint friction drive arrangement with extra heavy bearing block. Wide trunnion type for positive drive Proven flight design ensures a perfect distribution of material to be dried. Replaceable internal lifting flights are designed to ensure optimum heat transfer for drying of aggregates and suitable capacity separate service fuel tank is provided for dryer burner.





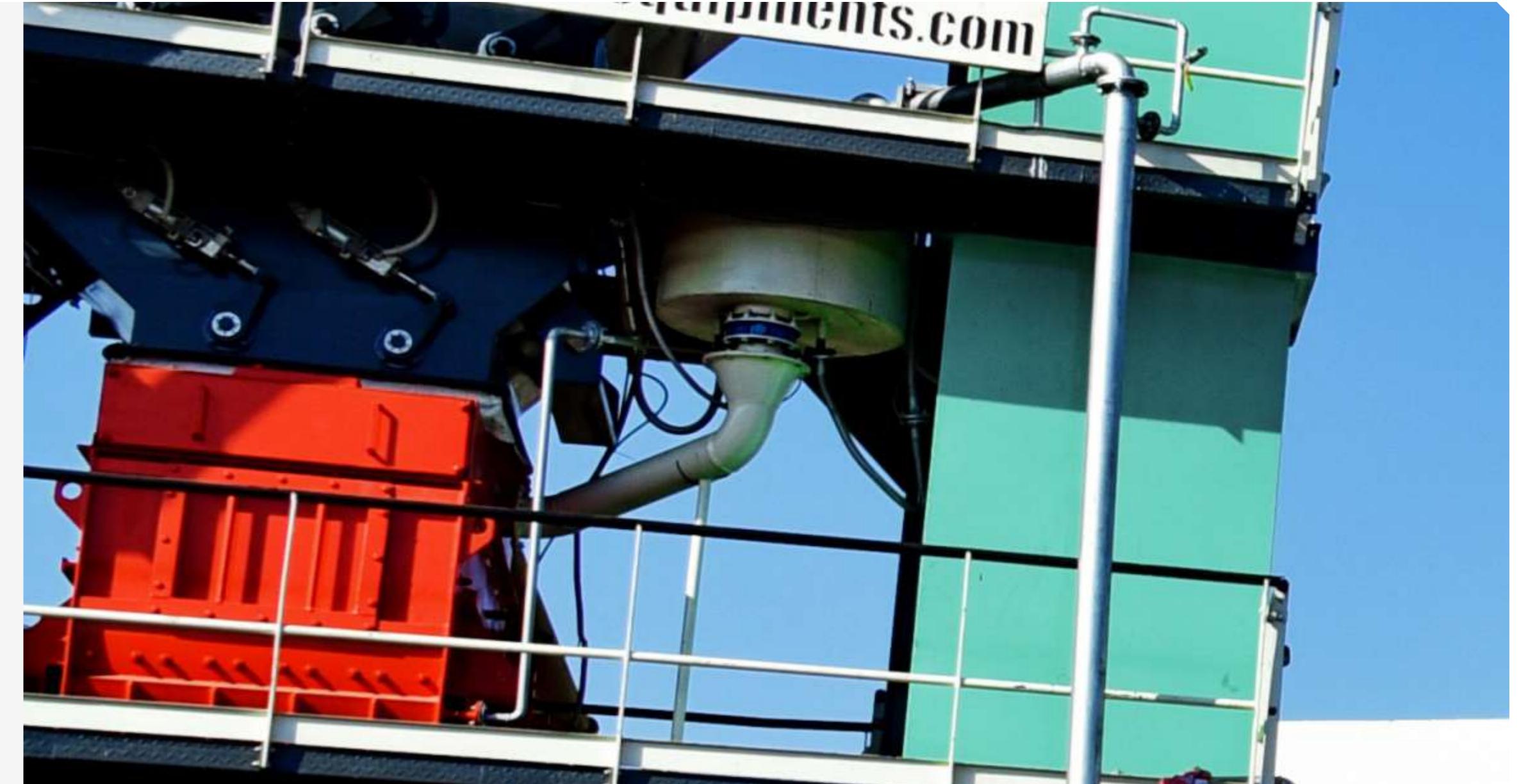
## DRYER BURNER

The burner for heating aggregate shall be turbojet proportioning pressure atomized fully endorsed capable of burning F.O. / Diesel or L.D.O. Burner equipped with flame failure detection & sequentially auto controlled drum, blower & exhaust function before ignition is on or flame is produced. Suitable capacities of pump and motor provided for feeding fuel. Gas burner shall provided on customer's requirement.

Modulating type burner with simple operating mechanism maintains perfect air / fuel ratio resulting perfect combustion of fuel there by saving fuel and environment. Burner giving high energy output with low fuel consumption is positioned in such a way that the flame direction makes a counter flow situation with heat control in any climatic condition.

## BAG HOUSE FILTER UNIT

Fine dust is absorbed by filter bag type air pollution control unit to meet the most stringent emission levels specify inlet current worldwide environmental standards with Reverse air flow cleaning system, Dust re-feeding to filler pneumatically or by bucket elevator through screw conveyor. It operates forward reverse mode as per the requirement of dust to the mix with coarse dust or without coarse dust. It is fitted with safety devices for temperature controller. Elliptical Bags are provided for more cleaning area.



## BUCKET ELEVATOR OF HOT AGGREGATE

Twinlane chain & toothed sprocket at drive for bucket elevator ensures smooth balance operations of entire elevator system. Eliminating unbalancing of buckets during heavy loads when plant is operated at full capacity. Double sprocket chain drive with four piece type fully covered box for easy installation on tower container frame. The hot aggregate bucket elevator is a totally enclosed chain driven system. Bucket tips are double reinforced for maximum durability. The elevator unit is electrically driven from the head shaft via a chain system Kesar bucket elevators are designed for long service life and easy maintenance access. Super tough wear materials & a special entry chute design make bucket elevators superior performance.

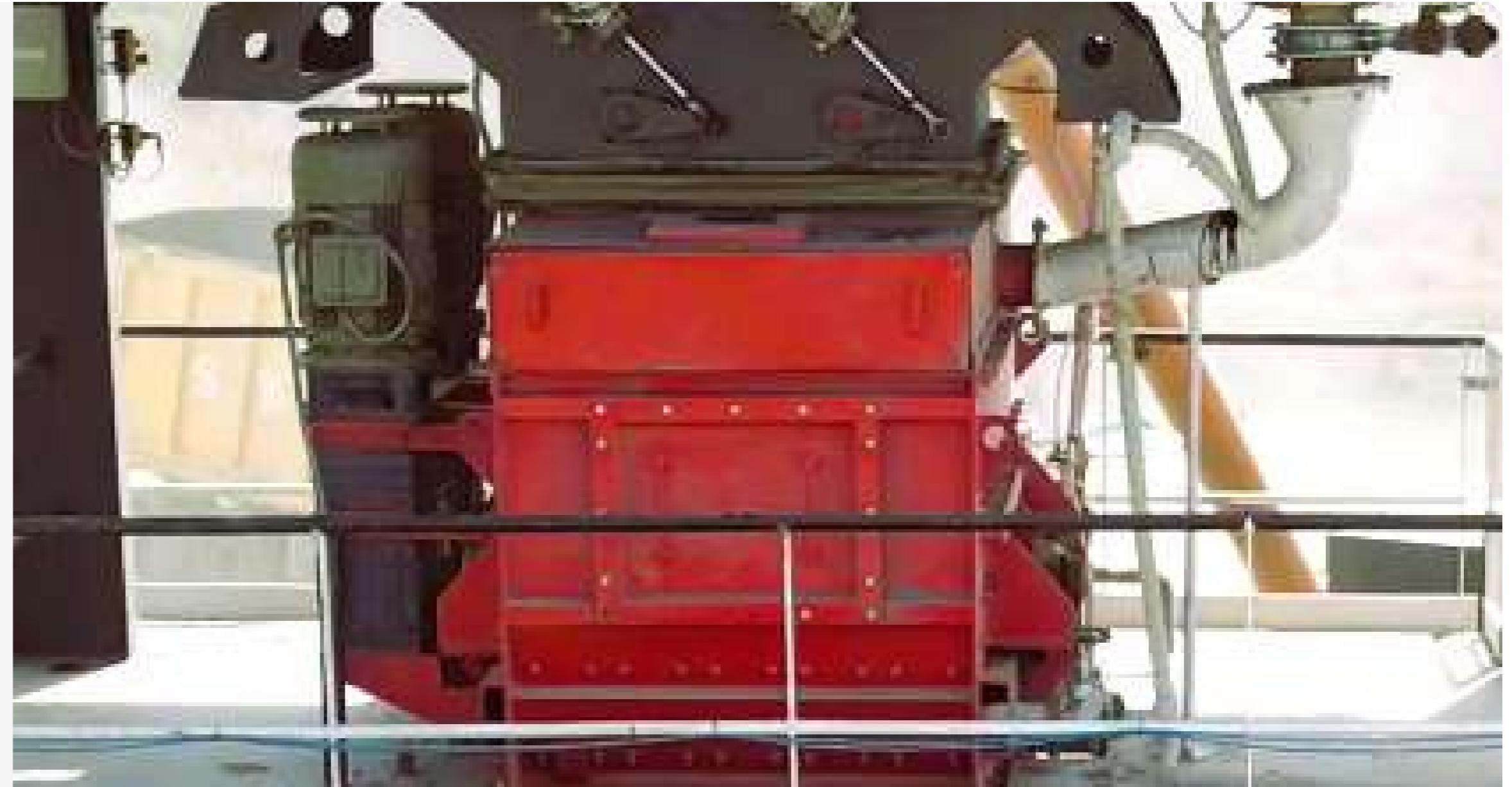
## BITUMEN WEIGHING SYSTEM

Bitumen is feed by Gravity force hence no need of spray Pump and motor. 2" glass wool insulation on Bitumen hopper and provision of hot oil circulation on hopper for keeping it hot. Teflon coated pneumatic butterfly actuator for quick discharge. There is a Spray bar for uniform spraying of liquid Bitumen in Pug mill chamber.



## FOUR DECK VIBRATORY SCREENING UNIT

Totally enclosed dust sealed housing, 4nos. discharge chute with removable rails & access for maintenance and mesh changing. The screen vibrates with a Linear motion with two vibratory motor provided on its beam and this prevents the screen from becoming clogged by aggregate particles. Vibration amplitude of the screen can easily be adjusted by increasing or decreasing the weight of the fly wheel on each end of the vibratory motor and high sieving efficiency for each type of aggregate is guaranteed. Due to simple and easy replacement of the screen the unit is trouble free.



## PUG-MILL MIXER UNIT

The mixer is twin shaft pug mill type. Both Shafts is driven by individual gearbox powered by motor by synchronized with universal joint. Which reduces maintenance. Suitable arms are attached on the shaft and wear resistance cast steel paddle tips are fixed on the end of arms with special grade bolts. The paddle tips on the arm end of both shafts rotate in opposite directions to each other so that the materials are lifted up from the centre, & move from top to bottom and sides. In this way, materials are mixed evenly. Liners and arm tips of the mixer are made of nickel hard ensuring reliability & durability. The liners are easily replaceable. The radial gate allows smooth discharge of mixture from the full width of the mixer.





## **THERMIC HOT OIL HEATER**

Thermic oil heaters (boiler) of suitable capacity Kcal./ Hr. circulated with auto temperature controls to maintain precise asphalt temperature. Hot oil circulation arrangement in asphalt pump, asphalt pipeline, asphalt weighing hopper and mixing unit is with suitable capacity and separate fuel tank for burner.



## **BITUMEN HEATING & STORAGE TANKS**

Asphalt storage tank fully insulated with efficient heating system through thermic fluid boiler & with jacketed asphalt pump station, insulated jacketed asphalt pipeline supply to asphalt weighing buckets. The asphalt in asphalt tank is maintained at a constant temperature by the hot oil heater, in which thermo oil is heated by the oil burner & circulated by the pump. An automatic temperature control regulates the combustion rate of the oil burner automatically. The asphalt in this cylindrical tank of indirect heating type is heated by hot oil circulation, Asphalt heated uniformly & thoroughly keep the constant temperature at all times.





## CONTROL PANEL WITH CONTROL CABIN

A fully automatic world class SCADA based computerized control panel with hi-resolution screen of 15" LCD color graphic IPC (industrial PC) for live operation on screen with safety signal indicators, which indicates perfect time for required service & maintenance of plant, world class AC Drive for cold bin feeder & job mix parameter setup by numeric key, which is very easy to set in PLC & SCADA keyboard. Centralized operation measuring for batch Kg/per cycle of with homogeneous mix of aggregate, asphalt & mineral with synchronize. Manual operation system in control panel for test, trial or for maintenance service. Mixing process selection for job mix quality with aggregate, asphalt & filler as required per batch. Unlimited memory data of job mix recipe is stored in PLC & SCADA index list. Select job mix from PLC & SCADA index list, as you require. Job mix production data printout per trip with total batch details. (Aggregate, Asphalt & Filler data are shown separately). Date, Month & Year wise Job mix data can be saved in PLC & SCADA memory.





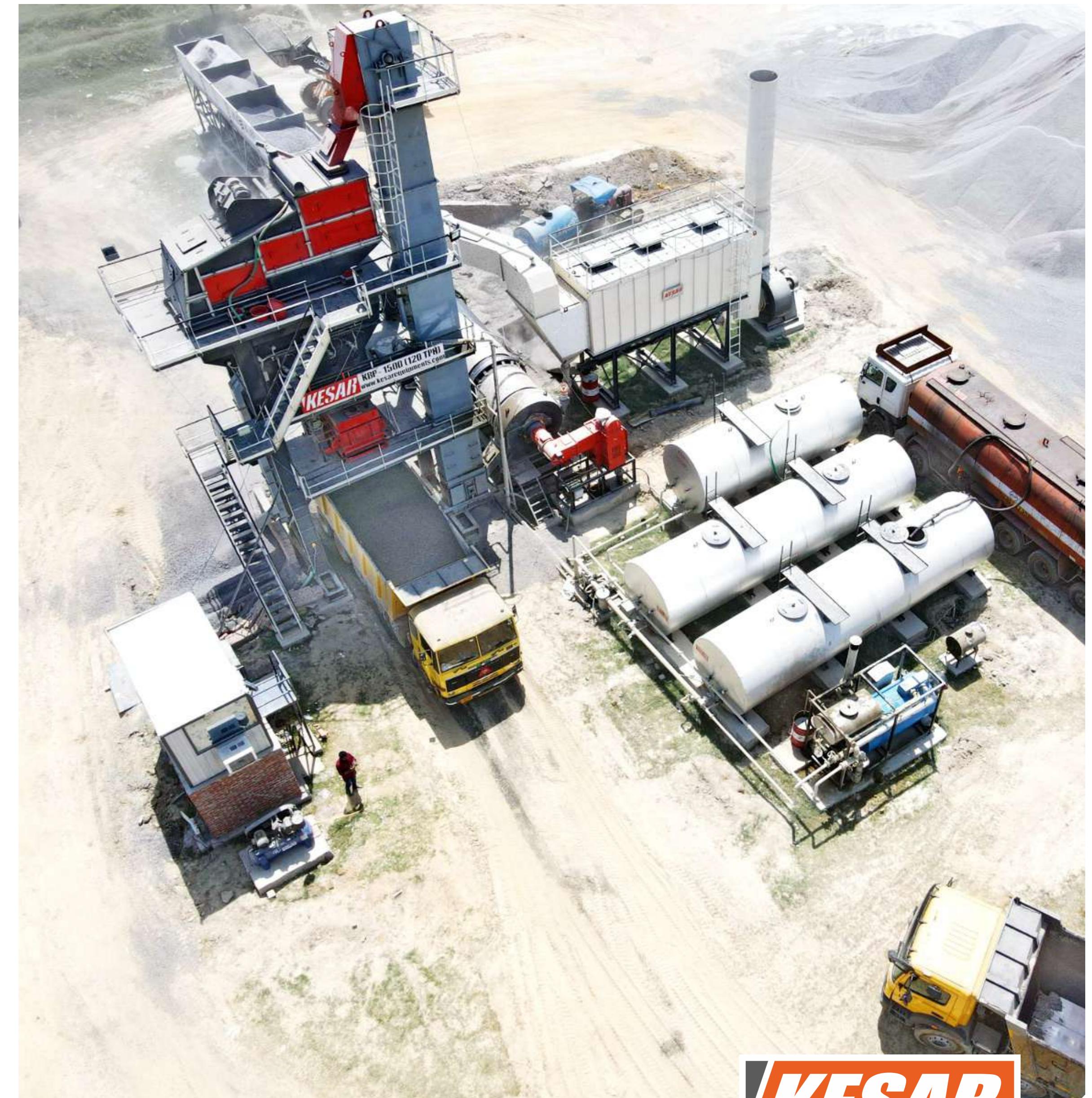
## INCLINE STORAGE SILO

Fully insulated in line storage silo of 20 tons. Pneumatically operated radial gate for material discharge.



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## **COLD AGGREGATE 4-BIN FEEDERS**

4-Bins of cold aggregate feeders are all-welded and modular in construction, permitting easy addition of bins to meet growing needs. Steep bin walls and valley angles allow free flow of aggregates from the feeders minimizing hold-up of materials in the corners and bridging with sticky aggregates. There is bin vibrator mounted on walls of dust bin. The bins supplied with adjustable calibrated gate openings and variable speed feeder drives together offer a total proportional control, greater flexibility and accuracy of operations. Belt scrapper perfectly cleans wet dust stick on return belt of gathering conveyor.

## **DRYER DRUM**

KESAR's field proven Dryer drum with high aggregates drying efficiency at low maintenance cost has gained top reputation among present day's asphalt batch plant manufacturers in India.

The drum is equipped with 4-wheel drive by gear motors. The dryer also features an unique air preheat system, which improves drying efficiency, aid power saving, reducing the thermal stresses on the drying drum and noise emissions from the burner. Two heavy trunnion tyres & 4-trunnion rollers with

pressure fitted shafts have long working life which are special design features of Kesar dryer. The dryer burner is of high pressure jet type suitable for LDO / F.O. fuels, with automatic controls, and of proportionate (modulating) type with a wide turn down ratio.

## **HOT ELEVATOR**

The continuous flow of dried hot aggregates discharged from dryer is lifted onto a vibrating screen on top of batch tower by a totally enclosed bucket elevator. The elevator top wheel has a split design and elevator chain with a numbers of buckets rides on this wheel. Elevator bottom wheel works as an idler to keep chain in alignment to top wheel. The bottom shaft is spring loaded to keep chain always in tension.

## **BATCHING TOWER**

Complete Batch Tower consists of a vibrating screen, hot-bins, weighing section and a mixer section.

## VIBRATING SCREEN

The inclined circular motion 4-deck vibrating screen is run by two electro vibrators. The vibrating screen has special design feature to keep each screen cloth always in tight position by a numbers of springs. This gives the screen cloth a longer life and no dead zone found on it to yield the best screening efficiency. Entire screen basket is enclosed in a fixed casing. The free-floating screen design (supported on heavy action springs) prevents from any vibration being transferred to the weighing scales to give accurate weighing efficiency. A wider platform with easy access eases the maintenance of the screens.

## HOT BINS

Four partitioned hot aggregate bins below vibrating screen has ample storage capacity and each bin has clamshell type discharge gate at it's bottom. Level switches helps to control a smooth flow of each size aggregates in required quantity without any over flow/short fall of hot aggregates.

## WEIGH BINS

There are three weigh bins: for aggregates, for filler material and for bitumen, each suspended by a S-type load cell. Highly reliable weighing system requires no maintenance and their an easy calibration system makes Kesar Plant highly popular to site engineers and plant operators. Weigh hoppers for aggregates and for filler have clam shell type discharge gates at bottom. Bitumen weigh hopper is hot-oil jacketed.

## MIXER SECTION

The three dimensioned twin shaft type pug-mill mixer with a large live zone is the heart of 'KESAR'-Plant, realizing a quick mixing of asphalt. A high capacity bitumen spray pump sucks weighed batch of bitumen from weigh-hopper and sprays into mixer within few seconds to yield a longer mixing time and produces a perfectly homogeneous mix.

The pug-mill mixer also is hot oil jacketed and has low-maintenance oil-bath type chain drive. The paddle arms mounted on pug mill shafts, mixing tips and all body liners are made of hardened for wear resistance, high nickel cast alloy steel. The reversible design of the mixing tips ensures a lower operating cost. Pneumatically operated, sliding type discharge gate at mixer bottom also has same type liners.

## POLLUTION CONTROL SYSTEM

## PRIMARY DRY DUST COLLECTORS

Twin cyclone type dust collectors separate and collect coarse dust particles (larger than 75microns) from main flow of dust laden exhaust flue gases. The collected dust is again feed into main flow of aggregates going onto vibrating screen.



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# TECHNICAL SPECIFICATION

PLANT MODEL			KBP 1250	KBP 1500	KBP 2000	KBP 2500	KBP 3000	
	Plant Capacity @ 3% Moisture Content	tph	100	120	160	200	240	
	Batch Size	kg	1250	1500	2000	2500	3000	
	Cycle Time	sec	45	45	45	45	45	
<b>Units</b>								
Cold Feed Bins	No. of Bins* / Capacity	nos/m <sup>3</sup>	4 / 28	4 / 29.2	4 / 37.2	5 / 46.5	5 / 46.5	
Charging Conveyor	Capacity	tph	120	140	180	220	260	
Thermo Drum	Dryer(LxD)	mtrs	7 x 1.6	8 x 2.1	8 x 2.1	9 x 2.3	9 x 2.3	
	Drive Type			4W Friction Drive				
Burner	Type			High Pressure, Fully Automatic, Modulating				
	Fuel			Diesel / Furnace Oil				
	Capacity	MW/hr	10	14.1	14.1	17.3	17.3	
Hot Elevator	Capacity	tph	120	140	180	220	260	
<b>Tower Unit</b>								
Filler Elevator	Capacity	tph	15	21	21	21	21	
Screening Unit	Screening Method			Inclined Circular Vibration				
	No. of Deck		2	4	4	5	5	
	Screening Capacity	tph	120	140	180	220	260	
Hot Aggregate Bin Unit		No. of Bins	4	4	4	5	5	
Weighing Unit	Aggregate Hopper Capacity	kg	1400	1600	2000	2500	3000	
	Filler Hopper Capacity	kg	200	300	300	400	400	
	Bitumen Hopper Capacity	kg	200	225	225	300	300	
Mixer Unit	Type			Twin shaft hot oil jacketed				
	Mixer Capacity	kg	1250	1500	2000	2500	3000	
	Bitumen Pump	lpm	450	450	800	1000	1000	
<b>Pollution Control Unit</b>								
Primary	Type			Centrifugal Double Cyclone			Knock Out Box	
Secondary	Type			Bag House Filter				
	Bag House Filter			Reverse Airflow*				
	Filter Area	m <sup>2</sup>	250	330	330	590	590	
Control Panel	Type			Fully Computerized with manual over - ride				



## TECHNICAL SPECIFICATION

ACCESSORIES			
Filler Silo	Capacity Range	m <sup>3</sup>	3 / 7 / 11 / 18 / 28
Bitumen Tanks	Capacity Range	m <sup>3</sup>	15 / 25 / 30 / 50
	Heating System		Direct heating / Thermic oil heating
Thermic Oil Heater	Hot Oil Heater Capacity	kcal / hr	300000 / 400000 / 500000 / 600000
Hot Mix Storage Silo	Capacity Range	m <sup>3</sup>	12 - 200

(Note : Specifications / Descriptions / Dimensions are indicative and subject to change without notice due to modification alteration or custom engineering)











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