BSS
intern. trading Magistrale 9-11 16244 Schorfheide-Finowfurt

SUPER ROADMIX 60

TECHNICAL SPECIFICATION

60 TPH MOBILE ASPHALT PLANT

PLANT CAPACITY

60 TPH based on a temperature of 150 degrees C from mixer. Average moisture content of 3%, including 3% filler and 5% bitumen in the mix. Mixer capacity of 750 Kg per batch and a 45 second weigh/mix cycle.

Assuming the following conditions : -

1) 100% Plant utilisation

2) Ambient temperature 15^{o}C

3) Altitude up to 150 metres above sea level

4) Average moisture content is for surface moisture only

5) Free-flowing filler, density 1120 Kg/m^3

6) Single sized aggregate (max. lump 40mm), density 1600 Kg/m^3

7) Mix recipe with no excessive proportion of one size

8) Feed to contain a maximum of 35% 0 - 3mm fines

9) Fuel oil calorific value of 45.2 MJ/Kg

10) Gas calorific value of 34.9 MJ/m^3

11) Capacities include filler and bitumen

12) Aggregate is non-porous and not excessively flaky

1 COMBINED MOBILE COLD FEED UNIT & DRYING/MIXING SECTION

1.1 HOPPERS

Split hopper	-	One two (2) compartment
Total capacity	-	2.5 m^3 trimmed/3.5 m^3 heaped (each hopper)
Loading width	-	2.5 m
Loading height	-	3.5 m approx
Material	-	6mm thick mild steel plate

1.2 BELT FEEDER/DRYER FEED CONVEYOR

Feeder	-	Variable speed
Size	-	500mm wide x 2500mm centres
Feeder body	-	Flanged for bolting to feed hopper
Discharge doors	-	For manual calibration. One for each hopper
Head drum	-	Shaft mounted running in plummer block bearings
Tail drum	-	Shaft mounted running in slide bearings for belt adjustment
Belt	-	500mm wide 2 ply with vulcanised joint
Idlers	-	Flat, bolted to steel section support frame
Drive	-	4 kw gear motor unit direct on tail shaft
Turndown ratio	-	20:1
Feeder control	-	From remote operator’s console. Variable speed is via AC inverter with gang control on console to vary feeder output

1.3 DRYER

Diameter	-	1.4 m
Length	-	5.5 m
Thickness	-	8mm welded steel plate
Lifters	-	Replaceable folded steel plate
Roller paths	-	Machined on all faces on heat expansion Z brackets

Support rollers	-	Nylon, running on shafts mounted in plummer block bearings supported on dryer chassis
Thrust rollers	-	Nylon, running on shafts mounted in plummer block bearings supported on dryer chassis
Feed end box	-	Fabricated in 5mm mild steel plate with flanged connection for dust collection
Discharge end box	-	Fabricated in 8mm mild steel plate with chute to elevator and housing discharge paddle ring
Drive	-	15 kw via assisted start and gear motor unit to chain drive

1.4 DRYER PYROMETER

Temperature sensor - Pyrometer mounted in dryer discharge chute to record aggregate discharge temperature with indicating temperature on VDU and computer batch print out.

1.5 BURNER

Type	-	PB1A gas oil fired with flame failure detection and radial blade control. Suitable for light and pre-heated heavy oil
Capacity	-	727 Litres max per hour
Turn down ratio	-	3:1
Control	-	Remote control from operators console
Ignition	-	Spark ignition electrodes

Fuel piping - Between fuel pump and burner and including pressure relief valve and filter

Fuel pump motor	-	4.0 kw
Blower motor	-	11 kw

1.6 PRIMARY DUST

Primary dust	-	Multi cyclone box at discharge end of dryer with eight (8) cast manganese steel cyclones enclosed in a mild steel plate housing mounted over dust hopper
Dust transfer	-	Collected dust is discharged via a gravity flap valve to the hot stone elevator

1.7 HOT STONE ELEVATOR

Elevator	-	Totally enclosed. Pivots down for transportation
Capacity	-	70 tph
Bucket width	-	250mm replaceable steel buckets
Chain	-	7.4 m centres approx
Drive	-	5.5 kw gear motor unit direct on head shaft with backstop
Casing	-	Fabricated in 3mm and 6mm mild steel plate with inspection doors at head and tail
Discharge	-	Chute to screen
Tensioning	-	Spring tensioning on tail shaft

1.8 SCREEN

Capacity	-	70 tph
Size	-	1.2 m wide x 3 m long 2 deck to give four (4) sizes plus rejects
Drive	-	5.5 kw high torque motor
Dust sealing	-	Totally enclosed in a fabricated steel enclosure with removable panels
Screen meshes	-	Access gained via hinged discharge chutes and doors in dust enclosure to access clamping bolts

1.9 STORAGE HOPPER

Hot stone bins	-	Four (4) compartment, 6.4 tonne capacity
Plate thickness	-	6mm steel plate
Outlet doors	-	Pneumatically operated radial type
Overflow/rejects	-	Chutes provided down to ground level

1.10 AGGREGATE WEIGH HOPPER

Capacity	-	750 Kg from any one storage hopper mounted on load cells
Load cells	-	Four (4)
Plate thickness	-	6mm steel plate
Discharge door	-	Semi-rotary, pneumatically operated
Dust sealing	-	Enclosed within a dust sealed weigh hopper housing above the mixer

1.11 FILLER WEIGH HOPPER

Capacity	-	150 Kg load cell mounted
Load cells	-	Three (3)
Plate thickness	-	3mm steel plate
Discharge door	-	Pneumatically operated butterfly valve
Dust sealing	-	Via high temperature resistant rubber

1.12 BITUMEN WEIGH HOPPER

Capacity	-	120 Kg load cell mounted
Load cells	-	Three (3)
Plate thickness	-	3mm steel plate
Heating	-	Hopper fully insulated and electrically heated
Discharge	-	Gravity discharge through a pneumatically operated discharge valve

1.13 PADDLE MIXER

Mixer body	-	Fabricated from 10mm thick steel plate
Paddle shafts	-	Twin contra-rotating shafts in plummer block bearings
Capacity	-	800 Kg
Body liners	-	Abrasive resistant segmented for ease of replacement and full utilisation
Discharge door	-	Semi rotary, pneumatically operated by two heavy-duty cylinders, wear resistant liners bolted to door
Paddle arms	-	Manufactured from cast steel with replaceable paddle tips made from alloy steel

Drive	-	Two (2) x 7.5 kw shaft mounted gear motor units with timing shaft

1.14 EXHAUST FAN

Fan unit	-	Paddle type, mounted on chassis
Drive	-	22 kw motor via vee ropes
Ducting	-	3mm straight, 5mm bends

1.15 AIR VOLUME CONTROL

Inverter	-	Adjusting air volume from plant, controlled by a transducer monitoring dryer pressure.
Indication	-	Inverter speed indicator mounted on remote operator's panel.

1.16 EXHAUST STACK

Exhaust stack	-	Fabricated in 3mm and 6mm mild steel plate, mounted on exhaust fan to a height of 6 m

1.17 UNDERFRAME

Under frame	-	Fabricated steel chassis constructed from box/channel cross beams
Loading height	-	2.3 metre clearance under mixer

1.18 PLATFORMS

Platforms	-	Maintenance platforms at mixer, screen and hot material elevator head levels, with hand railing and access ladders

1.19 PNEUMATICS

Compressor	-	5.5 kw to give 6.5 bar
Pneumatics	-	Solenoid valves, nylon pipework and fittings

1.20 RUNNING GEAR

Running gear	-	Tandem axle, pneumatic tyred running gear, air brakes, fifth wheel attachment and operational

support legs provided

All mounted on a one piece fully mobile fabricated rolled steel section chassis.

2 PLANT CONTROL SYSTEM (Located On SRM Chassis)

2.1 MOTOR PANEL - With mains-in isolator switch with door interlock, control transformer and essential services mounted on the Super RoadMix chassis

Contactors - Combination circuit breakers/contactors

2.2 CONTROL PANEL - Containing computer mimic diagram, key switch for manual/auto control, manual start/stop buttons, cold feed control, burner control and PLC weigh/mix control system

2.3 WEIGH/MIX - Model RTS2008 weighing and mixing control system comprising of: -

Operator interface terminal with Sunlight Visible Colour TFT Touch Screen Display.

Super Bright 850 cd/M^3 display ensures maximum readability with a clear keyboard design and eight multifunction soft keys.

Automatic control of the batching process via a multi-language interface with unlimited recipe storage.

Printer supplied for production logging of essential data from each batch. Production data stored on non-volatile Compact Flash, accessible by USB cable.

Network port to allow remote viewing and control of the batching process on customers PC.

3 WIRING

Each section of the plant is pre-wired for quick electrical installation on site.

4 SUPERVISORY INSTALLATION AND COMMISSIONING

We include for the services of a skilled mechanical/electrical engineer to supervise installation and commissioning for a maximum two (2) weeks stay, including return airfare.

Customer to provide all skilled and unskilled site labour, cranage and hand tools together with accommodation and meals for our engineer.

Customer to provide employer liability insurance for labour they supply.

GUARDS

Safety guards are provided over all V rope drives, chain drives and spur gears.

STEELWORK

All welds to be cleaned as necessary, steelwork to be wire brushed and generally cleaned of all mill scale etc before painting.

PAINTING

All external surfaces are painted with one-coat single pack zinc phosphate primer, followed by a high build semi-gloss topcoat enamel finish.

All ducting, stack and parts subject to heat are painted with heat resistant paint

Any plastic coated PVC will be self-coloured.

VOLTAGE

400 Volt, 3 phase, 50 Hz

MANUALS

We include for two complete sets of operators and maintenance instruction manuals and illustrated spare parts manuals with electrical circuit drawings.

Super RoadMix 60 Asphalt Plant Motor List

Item	*Quantity*	*Motor*	*Starter*	*kW*	*Total kW*
1.	1	Feeder motor	Inverter	4	4
2.	1	Dryer	Soft start	15	15
3.	1	Fuel pump	DOL	4	4
4.	1	Burner blower	DOL	11	11
5.	1	Hot elevator	Soft start	5.5	5.5
6.	1	Screen	DOL	5.5	5.5
7.	2	Mixer	Soft start	7.5	15
8.	1	Compressor	DOL	5.5	5.5
9.	1	Exhaust fan	Inverter	22	22

Total 87.5 kW

HEATING/OTHER SUPPLIES

10.	1	Bitumen weigh scale	1 ph + N	1	1

Total 1 kW