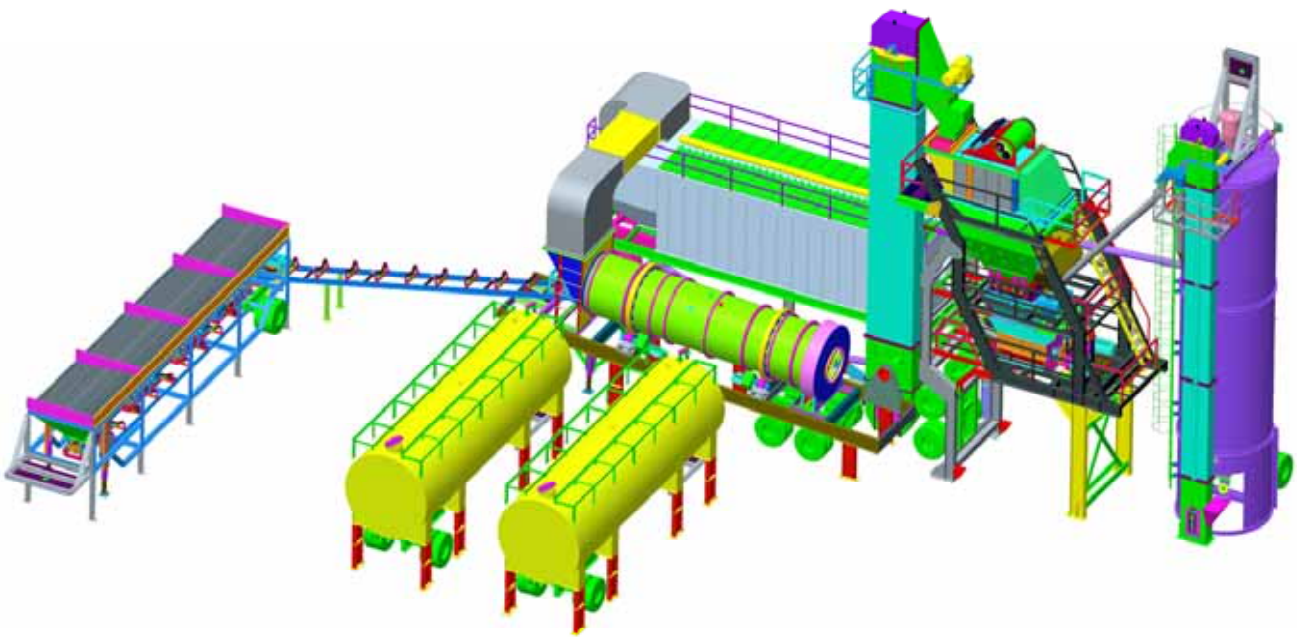


# TECHNICAL SPECIFICATION

## HM ASPHALT MIXING PLANT

### MODEL: HMAP - MB1000



## 1. GENERAL

1) MODEL: HMAP – MB1000

2) CAPACITY: 80T/H (80 B/H) BASED ON 3% AGG. H<sub>2</sub>O CONTENT,  
STANDARD AGG SIZE (STANDARD MIXING RATIO)

- 3) MIXER CAPACITY: 1000 KG/ BATCH
- 4) TYPE: MOBILE & AUTOMATIC BATCH MIXING TYPE
- 5) SERVICE VOLTAGE: 380V/50HZ (DRIVING) OR 220V/50HZ(CONTROL).
- 6) OPERATION: AUTOMATIC / MANUAL COMPUTERIZED OPERATION
- 7) DUST COLLECTION TYPE: BAG FILTER DUST COLLECTOR
- 8) THE SPEC. ARE SUBJECT TO CHANGE WITH OR WITHOUT PRIOR NOTICE FOR IMPROVEMENT

## 2. MAIN EQUIPMENT

NO.	MAIN EQUIPMENT COMPOSITION	
1	AGG SUPPLYING & COLD BIN (TRAILER 1)	COLD BIN /BELT FEEDER /#1ST BELT CONVEYOR
2	AGG HEATING UNIT (TRAILER2)	#2 <sup>ND</sup> BELT CONVEYOR / DRYER / BUNNER /BLOWER/ HOT ELEVATOR
3	MAIN FRAME (TRAILER 3)	SCREEN / HOT BIN / WEIGHING UNIT / MIXER ASPHALT SPRAY PUMP
4	DUST COLLECTING UNIT (TRAILER 4)	DUST CHAMBER / EXHAUST FAN / BAG FILTER / CHIMNEY DUST RECYCLING SCREW CONVEYOR / AIR COMPRESSOR & PIPING
5	FILLER&DUST SUPPLING UNIT(TRAILER 5)	FILLER & DUST SILO/ SCREW CONVEYOR / FILLER ELE'V
6	ASPHALT TANK (TRAILER 6)	AP TANK/ AP FEDDING PUMP & PIPING/HOT OIL HETER/ HOT OILCIRCULATION PUMP & PIPING
	BUNKER-C/DIESEL TANK/HEATING UNIT (TRAILER 7)	BUNKER-C/DIESEL TANK/BUNKER-C & DEISEL PIPING
7	CONTROL SYSTEM (TRAILER 8)	OPERATION ROOM/CONTROL PANEL/PRINTER/C.C TV/ POWER PANEL/ELECTRIC WIRING

## 3. DETAILED SPECIFICATION

### 1. AGGREGATE SUPPLYING & STORAGE BIN (TRAILER 1)

#### 1-1. COLD BIN

- A. TYPE: STEEL PLATE WELDED STRUCTURES
- B. CAPACITY: 5M(3) x 4SETS
- C. VIBRATING MOTOR: 0.15 KW x 2P x 2 SETS (ATTACHED ON THE COLD BIN FOR SAND)

#### 1-2. BELT FEEDER

- A. CAPACITY:5~ 60 Ton/Hr
- B. SIZE: (W) 400 MM
- C. POWER: 2.2 KW x 4P x 4 SETS (INVERTER A.C. MOTOR)

#### 1-3. #1<sup>st</sup> BELT CONVEYOR

- A. CAPACITY: 80Ton/Hr
- B. SIZE: (W) 400 MM
- C. POWER: 3 KW x 4P

## 2. AGGREGATE HEATING UNIT (TRAILER 2)

### 2-1. #2<sup>ND</sup> BELT CONVEYOR

- A. CAPACITY: 80Ton/Hr
- B. SIZE: (W) 400 MM
- C. POWER: 3 KW x 4P

### 2-2. DRYER

- A. TYPE: CYLINDRICAL INCLINED TUMBLE DRYING TYPE
- B. CAPACITY: 80 Ton/Hr (AGG. MOISTURE 3%)
- C. POWER: 5.5KW x 4P x4SETS
- D. ATTACHMENT: TEMP SENSOR
- E. INSULATION: OUTSIDE STAINLESS STEEL SHEET WITH CERAMIC WOOLS FILLING

### 2-3. DRYER BURNER

- A. TYPE: LOW NOISE, LOW- PRESSURE AIR(STEAM) ATOMIZATION TYPE
- B. CAPACITY: 120 ~ 600 L/H
- C. POWER: 2.2 KW x4P
- D. FIRING & FUEL OIL: LPG AND DIESEL
- E. ATTACHMENTS: OIL PRESSURE GAUGE, OIL STRAINER, AIR REGULATOR
- F. OPEN-CLOSE GATE: MODULE CONTROL MOTOR CONTROLLED BY P & ID.

### 2-4. TURBO BLOWER

- A. TYPE: TURBO FAN
- B. POWER: 22 KW x 4 P

### 2-5. AIR COMPRESSOR

- A. TYPE: TWO STAGE PISTON, AIR COOLING TYPE
- B. CAPACITY: 1765 L/MIN. x 7Kg/cm<sup>2</sup>
- C. POWER: 11 KW x 4P X 1 SET

### 2-6. HOT ELEVATOR

- A. TYPE: INDUCED DISCHARGING TYPE
- B. CAPACITY: 80 T/H
- C. POWER: 5.5 KW x 4 P

## 3. MAIN FRAME (TRAILER 3)

### 3-1 VIBRATING SCREEN

- A. TYPE: 4 DECKS AND TOP VIBRATORY HEAD, HORIZONTAL TYPE WITH OVERSIZE CHUTE
- B. CAPACITY: 80 Ton/Hr
- C. MESH: 44 / 21 / 15 / 6 MM, OTHER SIZES ARE AVAILABLE
- D. POWER: 11 KW X 4P

### 3-2 HOT BIN

- A. TYPE: 4 SECTIONS WITH OVER FLOW EXIT
- B. CAPACITY: 8M<sup>3</sup>
- C. ATTACHMENT: LEVEL GAUGE 8EA, TEMP SENSOR
- D. GATE: OPEN/CLOSE TYPE BY AIR CYLINDER

### 3-3 GRAVEL WEIGHING HOPPER

- A. TYPE: 3 POINTS SUSPENDED ELECTRIC LOAD CELL
- B. CAPACITY: 1000 KG (MAX.)
- C. MIN CALIBRATION: 1 KG
- D. GATE: OPEN/CLOSE TYPE BY AIR CYLINDER

#### **3-4 FILLER WEIGHING HOPPER**

- A. TYPE: 3 POINTS SUSPENDED ELECTRIC LOAD CELL
- B. WEIGHING CAPACITY: 150 KG (MAX)
- C. MIN CALIBRATION: 0.5 KG
- D. GATE: BUTTERFLY VALVE

#### **3-5 ASPHALT WEIGHING HOPPER**

- A. TYPE: 3 POINTS SUSPENDED ELECTRIC LOAD CELL
- B. WEIGHING CAPACITY: 100 KG (MAX.)
- C. MIN CALIBRATION: 0.5 KG
- D. GATE: SUCKING PUMP DISCHARGING TYPE

#### **3-6 ASPHALT SPRAY PUMP**

- A. TYPE: JACKET TYPE & GEARED PUMP
- B. CAPACITY: 300L/Min x 5Kg/cm<sup>2</sup>
- C. POWER: 5.5 KW x 4P

#### **3-7 MIXER**

- A. TYPE: TWIN SHAFT PUGMILL TYPE
- B. CAPACITY: 1000 KG/BATCH
- C. POWER: 15 KW x 4 P x 2 SETS
- D. GATE: OPEN/CLOSE TYPE BY AIR CYLINDER

### **4. DUST COLLECTING UNIT & AIR SUPPLYING UNIT (TRAILER 4)**

#### **4-1. DUST COLLECT CHAMBER**

- A. TYPE: GRAVITY DROP TYPE
- B. ATTACHMENT: WEIGHT DAMPER

#### **4-2. DUST RECYCLING SCREW CONVEYOR**

- A. CAPACITY: 15 Ton/Hr
- B. POWER: 2.2 KW X 4P X 2SETS

#### **4-3. BAG FILTER**

- A. TYPE: JET AIR PULSE TYPE
- B. FILTERING AREA: 285M<sup>2</sup>
- C. BAG MATERIAL: NOMEX (DUPON)
- D. EFFICIENCY: 99.83 %
- E. INNER SCREW CON'V & ROTARY FEEDER POWER: 3.7 KW x 4 P
- F. ATTACHMENT: THERMOMETER FOR EXHAUST GAS, MANOMETER & COOLING DAMPER.

#### **4-4. EXHAUST FAN**

- A. TYPE: CENTRIFUGAL DISCHARGING TYPE
- B. AIR VOLUME: 480M<sup>3</sup>/Min X 380mmAq
- C. POWER: 55 KW X 4P X 1SET
- D. AIR CONTROL DAMPER: 0.75 KW (POWER ACUATOR)

#### **4-5. CHIMNEY & STACK**

- A. DUCT: FROM DRYER TO BAG FILTER
- B. STACK: EXHAUST FAN (DISCHARGEING TO ATMOSPHERE)

#### **4-6. AIR COMPRESSOR**

- D. TYPE: TWO STAGE PISTON, AIR COOLING TYPE
- E. CAPACITY: 1765 L/MIN. x 7Kg/cm<sup>2</sup>
- F. POWER: 11 KW x 4P X 3 SETS

#### **4-7. AIR PIPING**

- A. PIPE SIZE: 25A & 15A
- B. ATTACHMENTS: AIR UNITS (OIL, REGULATOR, FILTER) BALL VALVE & SOLENOID VALVE

### **5. FILLER & DUST SUPPLYING UNIT (TRAILER 5)**

#### **5-1. FILLER & DUST SILO**

- A. TYPE: CYLINDRICAL AND HORIZONTAL
- B. CAPACITY: 30TON + 10TON
- C. ROTARY FEEDER: 2.2 KW X 4P
- D. SCREW CONVEYOR: 2.2KW X 4P X 1/20i
- E. FILLER ELEVATOR: 2.2KW X 4P X 1/20i
- F. FILLER SCALE CHUTE
- G. DUST SCALE FEEDER: 3.7KW X 4P X 1/20i
- H. PNEUMATIC CONVEYOR: 5.4M3 X 4000mmAq
- I. ROOTS BLOWER: 7.5KW X 4P
- J. ATTACHMENT: LEVEL GAUGE, SLIDE GATE, BAG FILTER

### **6. ASPHALT TANK (TRAILER 6)**

#### **6-1. ASPHALT FEEDING PUMP**

- A. TYPE: JACKET TYPE GEARED PUMP
- B. CAPACITY: 300 L/MIN X 5 KG/CM(2)
- C. POWER: 5.5 KW x 4 P
- D. ATTACHMENT: JACKET STRAINER, GATE VALVE, TEMP SENSOR, THERMOMETER

#### **6-2. ASPHALT PIPING**

- A. PIPE SIZE: 2" X 3" (JACKET PIPE)
- B. INSULATION: GLASS WOOL, GALVANIZED STEEL PLATE

#### **6-3. ASPHALT TANK**

- A. TYPE: CYLINDRICAL & HORIZONTAL TYPE
- B. CAPACITY: 50,000L x 1 SET
- C. ATTACHMENT: THERMOMETER, LEVEL GAUGE, GATE VALVE INSULATION: GLASS WOOL, GALVANIZED STEEL PLATE

### **7. DIESEL TANK & BUNKER-C TANK & HEATING UNIT (TRAILER 7)**

#### **7-1. DIESEL TANK**

- A. TYPE: CYLINDRICAL & HORIZONTAL
- B. CAPACITY: 10,000L
- C. PIPING SIZE: 25A
- D. ATTACHMENT: GATE VALVE, LEVEL GAUGE

#### **7-2. BUNKER-C TANK**

- A. TYPE: CYLINDRICAL AND HORIZONTAL
- B. CAPACITY: 30,000 L
- C. HEATING: HEATED OIL CIRCULATION PIPE, INDIRECT HEATING TYPE

- D. ATTACHMENT: THERMOMETER, LEVEL GAUGE, GATE VALVE
- E. PIPE SIZE: 50 X 80A (DOUBLE PIPING)
- F. INSULATION: GLASS WOOL, GALVANIZED STEEL PLATE

### **7-3. HOT OIL HEATER**

- A. TYPE: CYLINDRICAL & HORIZONTAL TYPE
- B. CAPACITY: 600,000 KCAL/H
- C. BUNNER: 20~70 L/Hr
- D. BUNNER POWER: 0.45 KW X 4P
- E. CONTROL PANEL AND AUTO. TEMP. REGULATOR WITH FULL-AUTO 24 HR TIMER

### **7-4. HOT OIL CIRCULATION PUMP**

- A. TYPE: AIR COOLING TYPE
- B. CAPACITY: 1000 L/Min
- C. POWER: 15 KW x 2P

### **7-5. HOT OIL CIRCULATION PIPING**

- A. PIPE SIZE: 80A
- B. INSULATION: GLASS WOOL, GALVANIZED STEEL PLATE
- C. ATTACHMENT: GATE VALVE

## **8. CONTROL SYSTEM (TRAILER 8)**

### **8-1. OPERATION ROOM**

- A. TYPE: CONTAINER TYPE
- B. SIZE: 2400 MM (w) x 5200 MM (L) x 2800 MM (H)

### **8-2. FULLY AUTOMATIC CONTROL PANEL**

- A. PANEL TYPE: ANTI-VIBRATION & TABLE TYPE
- B. RANGE OF OPERATING TEMPERATURE: 0 ~ 55
- C. RANGE OF OPERATING HUMIDITY: 30% ~ 85%
- D. CONTROL SYSTEM: CONTROLLED INPUT/OUTPUT DATA BY WINDOWS COMPUTER
- E. MAIN FUNCTIONS:
  - \* INPUT MAX. 999 KINDS OF MIXING RATIO WITH TENKEY
  - \* BATCH COUNTING & DISCHARGE SIGNALING
  - \* WEIGHING ERROR, JOGGING, CUT OFF CONTROL
  - \* DIGITAL INDICATING & BAR GRAPHING OF CRT SCREEN FOR WEIGHING & DISCHARGING CONDITION
  - \* RESERVING EACH BATCH DATA (MATERIALS, TEMP. PER DAY / WEEK / MONTH / YEAR)
  - \* PRESERVING ITS INPUT DATA WHEN POWER SUPPLY IS CUT OFF.

### **8-3. PRINTER**

- A. RANGE OF OPERATING TEMP : 0 ~ 55
- B. RANGE OF OPERATING HUMIDITY: 30% ~ 85%
- C. MAIN FUNCTIONS: PRINTING SERIAL NUMBER, DATE, MONTH, YEAR, TIME (HOUR, MINUTE, T/BATCH) AND IT'S TOTAL WEIGHING VALUE OF EACH MATERIAL. (AGGREGATE, FILLER, ASPHALT)
- D. INPUT POWER: AC 220 V +/-5%
- E. OPERATION POWER: DC + 5 SINGLE POWER

### **8-4. C T V**

- A. MONITER: 17" COLOR X 2SETS
- B. LOCATION: UNDER THE MIXER, BELT CONVEYOR.

### **8-5. POWER PANEL**

- A. TYPE: OUTDOORS DISTRIBUTING BOARD TYPE. PRE-WIRED ALL EACH TRAILER.

- B. POWER: AC 380V/3P/50Hz AND AC 220V/1P/50Hz
- C. MAIN PARTS: AMMETER, CIRCUIT BREAKER FOR ELETRIC POWER DISTRIBUTION
- D. ELECTRIC CONTACTOR, ELECTRON THERMAL RELAY, TIMER, BUZZER & INDICATION LAMP.

#### 8-6.ELECTRIC WIRING

\* KIND OF WIRE:

- E.V CABLES FOR DRIVING PARTS
- C.V.V.-S CABLES FOR WEIGHING PARTS
- C.V.V CABLES FOR CONTROL PARTS
- E.V OR C.V.V CABLES FOR LIGHTING PARTS
- SHIELD CABLE FOR LOAD CELL.

### SCOPE OF SUPPLY

#### SELLER'S SUPPLY SCOPE:

1. CONFIRMED & CONTRACTED HMI PLANT, ASPHALT BATCH MIX PLANT AND/OR CONCRETE BATCHING PLANT
2. OPERATION & MAINTENANCE MANUAL FOR PLANT & CONTROL SYSTEM
3. FOUNDATION DIMENSION LAY-OUT DRAWING FOR THE PLANT
4. SUPERVISORS FOR ERECTION, OPERATION & MAINTENANCE SUPERVISION UNDER THE CONTRACT CONDITION

#### BUYER'S SUPPLY SCOPE:

1. SITE ARRANGEMENT & FOUNDATION FOR THE PLANT ACCORDING TO SELLER'S FOUNDATION LAYOUT DRAWING
2. ALL APPLICATION TO THE GOVERNMENT AND/OR OFFICE FOR THE PLANT AND ITS RELATED PERMISSION
3. CUSTOMS CLEARANCE AND LOCAL TRANSPORTATION FOR THE IMPORTED PLANT TO THE SITE
4. ELECTRIC POWER SUPPLY CABLE TO THE OPERATION CABIN POWER IN-LET CABINET
5. ELECTRIC POWER FLUCTUATION SHOULD BE WITHIN 5%
6. MECHANICALS AND OPERATORS FOR ERECTION & OPERATION THE PLANT
7. ERECTION TOOLS & CONSUMABLE ITEMS FOR PLANT INSTALLATION
8. LIGHTENING ROD, GROUNDING WORKS AND MATERIAL.
9. ALL MATERIALS FOR TEST OPERATION OF THE PLANT, AGGREGATES, BITUMEN, CEMENT, WATER, A.D, FUEL, ETC.
10. ALL CONSUMABLE ITEMS FOR OPERATION, LUBRICATOR, THERMAL OIL FOR HOT OIL HEATER
11. ALL LOCAL EXPENSES FOR SELLER'S SUPERVISOR AND ENGINEERS (AIRFIRE, LOCAL TRANSPORTATION, HOTEL, FOOD ETC.)
12. ANY MODIFICATION, CHANGING WORKS AND COST AGAINST THE ORIGIN AGREED PLANT DESIGN & SPECIFICATION.

## 4. POWER LIST

NO	DESCRIPTION	MOTOR	Q'TY	E/POWER(KW)	REMARK
1	VIBRATOR FOR COLD BIN	0.15KW	2	0.3	
2	BELT FEEDER	2.2KW	4	8.8	
3	#1 <sup>ST</sup> BELT CONVEYOR	3KW	1	3	

4	#2 <sup>ND</sup> BELT CONVEYOR	3KW	1	3	
5	DRYER	5.5KW	4	22	
6	DRYER BURNER	2.2KW	1	2.2	
7	TURBO BLOWER	22KW	1	22	
8	VIBRATING SCREEN	11KW	1	11	
9	ASPHALT SPRAY PUMP	5.5KW	1	5.5	
10	MIXER	15KW	2	30	
12	DUST RECYCLING SCREW CONVEYOR	2.2KW	2	4.4	
13	INNER SCREW & ROTARY FOR BAG FILTER	4KW	1	4	
15	EXHAUST FAN	55KW	1	55	
16	AIR CONTROLLED DAMPER	0.75KW	1	0.75	
17	ASPHALT FEEDING PUMP	5.5KW	1	5.5	
18	HOT OIL HEATER BURNER	0.45KW	1	0.45	
19	HOT OIL CIRCULATION PUMP	15KW	1	15	
20	AIR COMPRESSOR	11KW	3	33	
21	HOT ELEVATOR	5.5KW	1	5.5	
22	FILLER SILO ROTARY FEEDER	2.2KW	1	2.2	
23	SCREW CONVEYOR FOR SILO	2.2KW	1	2.2	
24	FILLER ELEVATOR	2.2KW	1	2.2	
25	DUST SCALE FEEDER	4KW	1	4	
26	SCREW CONVEYOR FOR SILO	2.2KW	1	2.2	
27	ROOTS BLOWER	7.5KW	1	7.5	
28	CONTROL & LIGHTING	5KW	1	5	
<b>TOTAL</b>				<b>256.7</b>	