



MARINI
FAYAT GROUP

UltiMAP

Performance and tradition



MIXING PLANTS

Asphalt production requires know-how, experience, precision and, more than anything else, a tried and trusted plant. UltiMAP plants are used worldwide by road builders who produce complex mixes at a good price, getting the best from Marini's 60-year experience in the asphalt sector.



Reliability, quality and flexibility

Asphalt quality is fundamental to the design of UltiMAP plants, which have to satisfy highly complex rhythms of production and site conditions.

■ Reliability and experience

Over 3000 plants sold worldwide bear witness to UltiMAP quality

■ Flexibility

Multiple choice arrangement of standard modules mean all types of targets can be met. Studies can also be made of more complex arrangements

■ Quality and traceability

Well-tested mixer design plus reliable, constant bitumen metering are the guarantee of asphalt quality. Computer management and control systems guarantee the traceability of production parameters

■ Recycling

All recycling solutions can be achieved

■ Special mixes

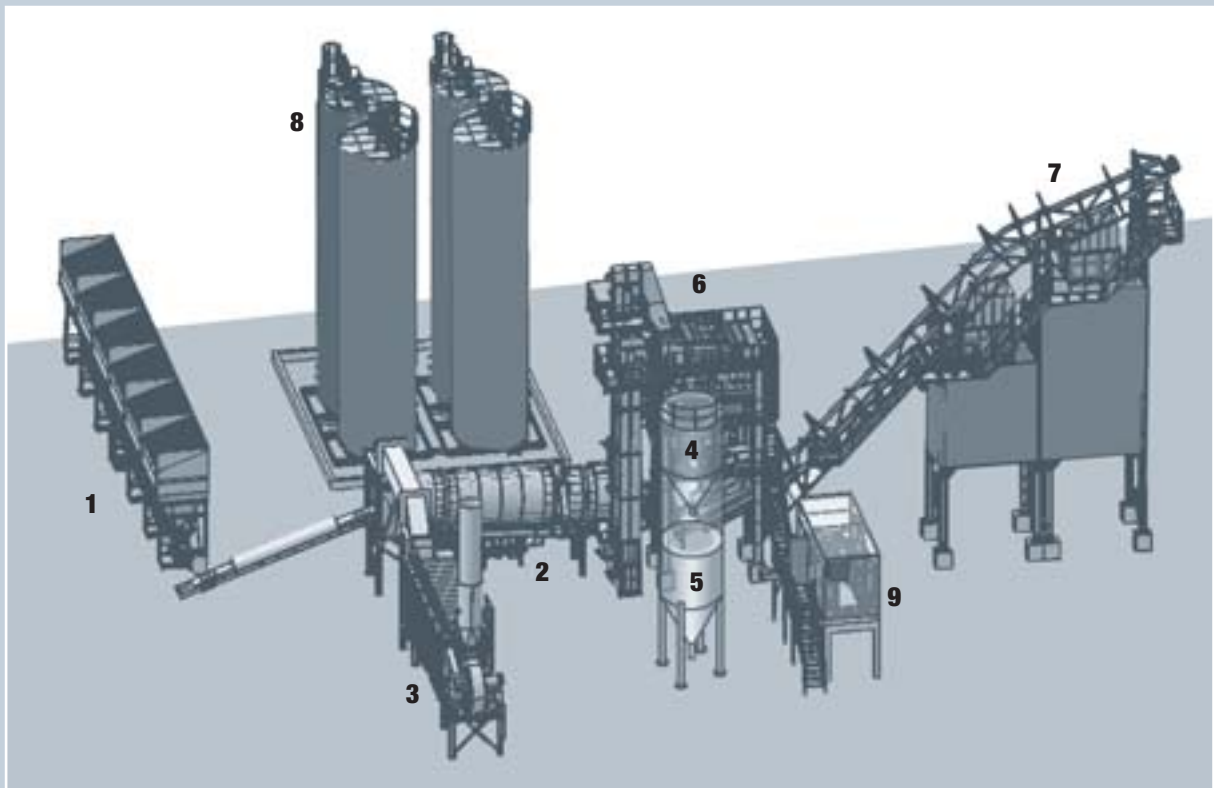
All today's formulas can be produced: warm asphalt, foam bitumen, coloured asphalt, using modified bitumen, additives, etc.

■ Ergonomics

Easy, comfortable access to all plant maintenance points, even on the smallest plants in the range.



General plant operation



- 1** Virgin aggregate storage and metering
- 2** Dryer drum and recycling ring
- 3** Filter
- 4** Imported filler storage
- 5** Hot fines storage

- 6** Mixing tower
 - Hot elevator
 - Fines elevator
 - Screen
 - Storage under screen
 - Component metering
 - Mixer
- 7** Hot mix storage
- 8** Binder storage
- 9** Control cabin

Aggregate cold feeders

Material storage and recomposition of gradation curve

Hoppers

- Basic capacity : 11 m³
- Loading width : 3.5 m
- Extension up to a 18 m³
- Metering units from 1 to 15 hoppers

Alternatives

- 10,20 and 30 m³ hoppers

Cold feeder

- Volumetric metering ($\pm 5\%$ accuracy)
- Output from 6 to 150 t/h

Options

- Weighing extractor ($\pm 2,5\%$ accuracy)
- Antiadhesive coating
- Protective grids
- Steel foundations
- Galvanized sheet metal hoppers

Features

- Presetting of extractor production, setting and control of extractor output.
- LED indicators for extractor operation and need to reload hopper
- Reduced loading height



Drying

The counter-flow dryer drum, coupled with a reliable, high-quality burner, makes the most of heat exchange and cuts down on energy consumption and costs.



Highly-efficient dryer drum

Design

- the dryer drum is in special steel, robotically arc-welded
- the drum length, reduced gas speed, the shape and layout of flights are all factors which optimize heat exchange and reduce energy consumption
- temperature probe for continuous monitoring of the aggregates at the drum outlet
- the aggregate discharge chute is designed with a special wear plate
- the highly-resistant steel flights are bolted for easy maintenance

Optionals

- Reversible conveyor belt for easy calibration of aggregate feeders
- Vibrating scalping screen installed on feeding belt
- RAP feed ring for recycling up to 35% (and more in specific cases)

Burner

The burner/dryer unit has been designed with maximum thermal efficiency in mind – for optimum fuel consumption and lower CO₂ emissions

Design

- closed-burner, simple design, reliable and efficient
- automatic start-up of burner and power adjustment depending on aggregate discharge temperature

Versatility

- suitable for all types of fuel on the market: diesel, fuel oil, natural gas, LPG and brown coal powder
- mechanical or electronic adjustment of air/fuel ratio.

Filtering and fines treatment

Consideration for the environment and its associated regulations together with the quality standards required of the finished product are factors which have made it vital to use efficient filtering and fines recovery.

Gas filtering

Combustion gases containing fine particles are fed into the filter connected to the drum. The gases pass through bag filters which withhold the fines and exhaust the clean gases. Cleaning the bags with air means the fines are recovered through gravity.

Preseparator

The preseparator (optional) which can be integrated onto the filter recovers the bigger fines which are then refed into the system at the bottom of the hot elevator.

Recovered fines circuit

The recovered fines are fed into the surge hopper by the elevator, then they are transferred by auger to the weigh hopper. The fines are therefore hot when they are added to the final mix.

Imported filler

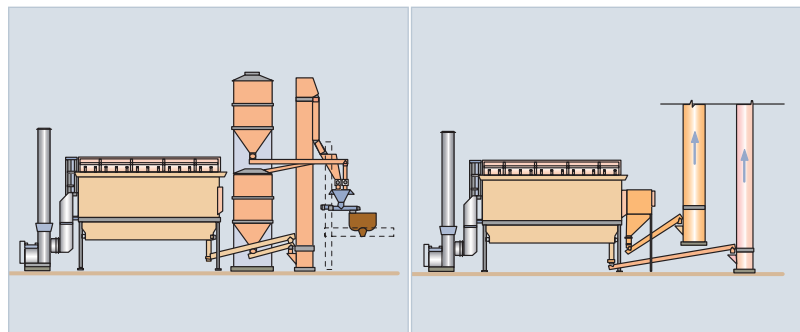
The weigh hopper is fed by an auger which directly connects to the overhead storage bin.

Safety

A dual safety and control system of the fumes temperature at the filter entrance blocks the burner should the temperature be excessive. The system is also fitted with an ambient air injection system.

Options

- Stainless steel chimney
- Frequency variator on exhaust fan motor



Mixing Tower

Precise screening and metering of materials are important steps in the production process of asphalt. The tower modules have comfortable access points to make servicing easier.



Hot aggregate elevator

- For transporting hot aggregates from the dryer drum to the screen
- Self-adjusting chain tension using a counterweight system
- Easy adjustment at foot of elevator
- Totally sealed internal chain tensioning system
- Easily to maintain marine-type, double chain drive (optional single roller chain)

Vibrating screen

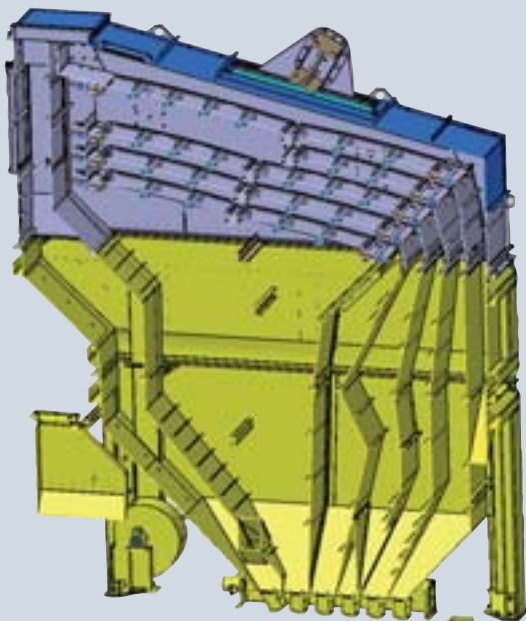
- 4, 5 or 6 sizes, depending on model
- Totally bolted frame
- Automatic adjustment of mesh tension
- External easy-maintenance vibrators
- 24-hour factory testing

Storage under screen (hot bins)

Standard by-pass storage system. Storage may be composed in modules to suit the plant capacity (up to 200 t)

Aggregate and fines metering

The aggregates and fines/filler are both weighed on a dedicated scale



Mixer and bitumen metering

The combination of the reliable, well-tested MARINI mixer and the highly-precise bitumen metering system is a optimum guarantee of the quality of the final mix.

Design

- the drive system for the twin-shaft mixer consists of two motor-reducers which are directly connected to the shafts and synchronised by splined couplings
- the arms and paddles are in line for optimum mixing
- the mixer is designed to distribute fines and aggregates evenly which makes mixing quicker
- the bitumen is injected uniformly along the entire length of the mixer by a spray ramp
- the filling coefficient and cycle time are controlled from the cabin.

Maintenance

- arms and paddles are bolted for easy replacement
- paddles may be rotated 180° for life enhancement (almost double)
- mixer greasing made easier by centralized system
- safe and easy access to mixer.

Versatility

- all today's asphalt formulas can be produced (modified bitumen, warm asphalt...), using RAP and all types of additive, in bags or big-bags.

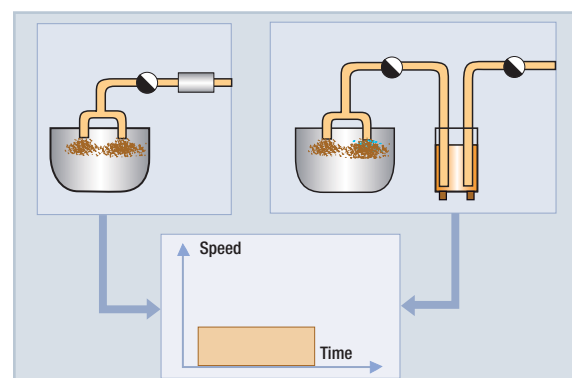
Bitumen metering

Design

- the quantity of bitumen required is calculated according to the weight of fines and aggregates in the mix
- bitumen is metered from a hot oil heated weigh kettle emptied using a dedicated spraying pump. Bitumen is metered by loss of weight system

Safety

- the weigh hopper is fitted with a safety-level indicator linked to the cut-off of the metering pump.



Hot-mix asphalt storage

Several different capacities and configurations are available to satisfy all requirements. When storage capacity needs to be increased, one or more silos can be added.



Design

- truck clearance for under-mixer storage: 4 m
- electrically heated discharge doors
- high level indicator in hoppers
- remote-controlled discharge doors
- automatic antiadhesive spray into skip bin
- with silos at the side, 3 truck-loading points are available:
 - under mixer
 - under rejects hopper
 - under storage silos

Options

- rockwool insulated storage hoppers
- continuous level indicator
- scale-mounted hoppers to measure quantity of asphalt loaded onto trucks
- long-term storage

Range

- Storage with silos on side from 25 to 250 m³
- Storage with silo under mixer from 50 to 350 m³
- Mobile storage from 20 m³ and 26 m³

Binder storage

The binder storage system is designed so that the tanks can be loaded and the asphalt plant can be supplied in complete safety. Featuring vertical and horizontal tanks, heated electrically or by oil, the system can store all types of hydrocarbon or synthetic binder.

Thermo-fluid heated tanks

Thermo-fluid heated storage can be supplied with horizontal or vertical tanks. Horizontal tanks are also available in a mobile version.

Range

Vertical	Horizontal
70 m ³	50 m ³

Boilers

Several boiler models are available, depending on the heating power required. All are equipped with automatic burners and can use different fuels: fuel oil, natural gas, LPG

Range

Model	Heating power
200	232 kW
400	465 kW
600	698 kW
800	930 kW

Vertical, electrically heated tanks

Features

- insulated with rockwool (up to 200 mm)
- thermostatically-controlled electrical heating equipment
- continuous level indicator
- high level indicator to prevent overflow
- purging vent

Range

Single compartment	Dual compartment
60 m ³	70 m ³
80 m ³	(35 + 35 m ³)



Asphalt plant management

The new CYBERTRONIC control system manages all calibration, production and maintenance operations. User-friendly and reliable, it guarantees total traceability of production parameters.



Ergonomics and safety

- new visual design
- start-up of entire plant in complete safety: each motor can be controlled with just one click
- easily identifiable alarms
- safety system for temperature monitoring
- main motor absorption monitoring

Production management

- easy management of mix formulas and production in progress
- integrated extractor calibration system
- complete control of aggregate heating
- complete management of binder storage (loading, storage, transfer, etc.)
- management of hot-mix asphalt storage silos
- production can be entirely automatic
- description of materials utilized can be inserted

Data management and traceability

- history of materials used and produced according to formulas and production dates
- production data can be exported in Microsoft® EXCEL® o ACCESS®
- data may be transmitted by ADSL modem

Recycling

Nowadays it is normal practice to add a quantity of RAP to the asphalt mix. Whatever technical solution is chosen, the feeder system must take into consideration the specifications of the RAP.

Recycling ring

Cold RAP is fed directly into dryer through the recycling ring and reaches the final temperature through heat exchange with the virgin aggregates. This economic solution has been amply tested with RAP percentages being as high as 35% or even more, in specific cases.



Recycling at foot of hot elevator

This simple method, which requires only a small investment, allows use of up to 15% RAP. It is ideal for plants without a recycling ring.



Recycling in mixer

RAP is fed into the mixer through a cold elevator and, in the same way as the virgin aggregates, it is metered in a weigh hopper before introduction.

Since the hot virgin aggregates and the unheated RAP pass through different circuits before the mixer, the virgin aggregates can be screened.

RAP can reach 25% and, by adding a recycling ring, can even be as high as 40% or more in specific cases.



Recycling in 2nd parallel flow drum

RAP is dried and heated in a specially designed dryer drum. High percentages of RAP may be used and even exceed 50%. Virgin aggregates go through the conventional route and are screened.

Range

UltiMAP plants have a production capacity of 60 to 320 tph. The multiple configurations mean the plants can be adapted to all types of worksite and make transfer and reassembly easier.



UltiMAP 1300

Compact and flexible, ideal for maintenance works and small to medium size sites.

- Production : 60-120 t/h
- Screen: 4 sizes on 2 decks, screening surface up to 10.5 m²
- By-pass plus 4 bins under screen, total capacity 20-50 t
- Mixer capacity: 1350 kg
- Asphalt storage under mixer or at side of tower



UltiMAP 2000

Designed for city sites and medium size worksites.

- Production : 120-175 t/h
- Screen :
 - 4 sizes on 3 1/2 decks, total surface 20 m²
 - 5 sizes on 4 1/2 decks, total surface 24 m²
- By-pass plus 4 or 5 bins under screen, total capacity 35-65 t.
- Mixer capacity: 1950 kg





UltiMAP 4000

Highest production plant, for most demanding markets

- Production : 240-320 t/h
- Screen :
 - 5 sizes on 4 1/2 decks, total surface 38 m²
 - 6 sizes on 5 1/2 decks, total surface 59 m²
- By-pass plus 5 or 6 bins under screen, total capacity 90 - 150 t
- Mixer capacity : 4125 kg

OPTIONS

- Storage and metering of all types of liquid or solid additive
- Feeding of RAP into the asphalt mix
- Special circuits for recovered fines and imported filler
- Several capacities of modular hot bins
- Hot-mix asphalt storage with silo under mixer or on side, for all models



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