



MARINI
FAYAT GROUP

XPRESS

READY FOR ACTION

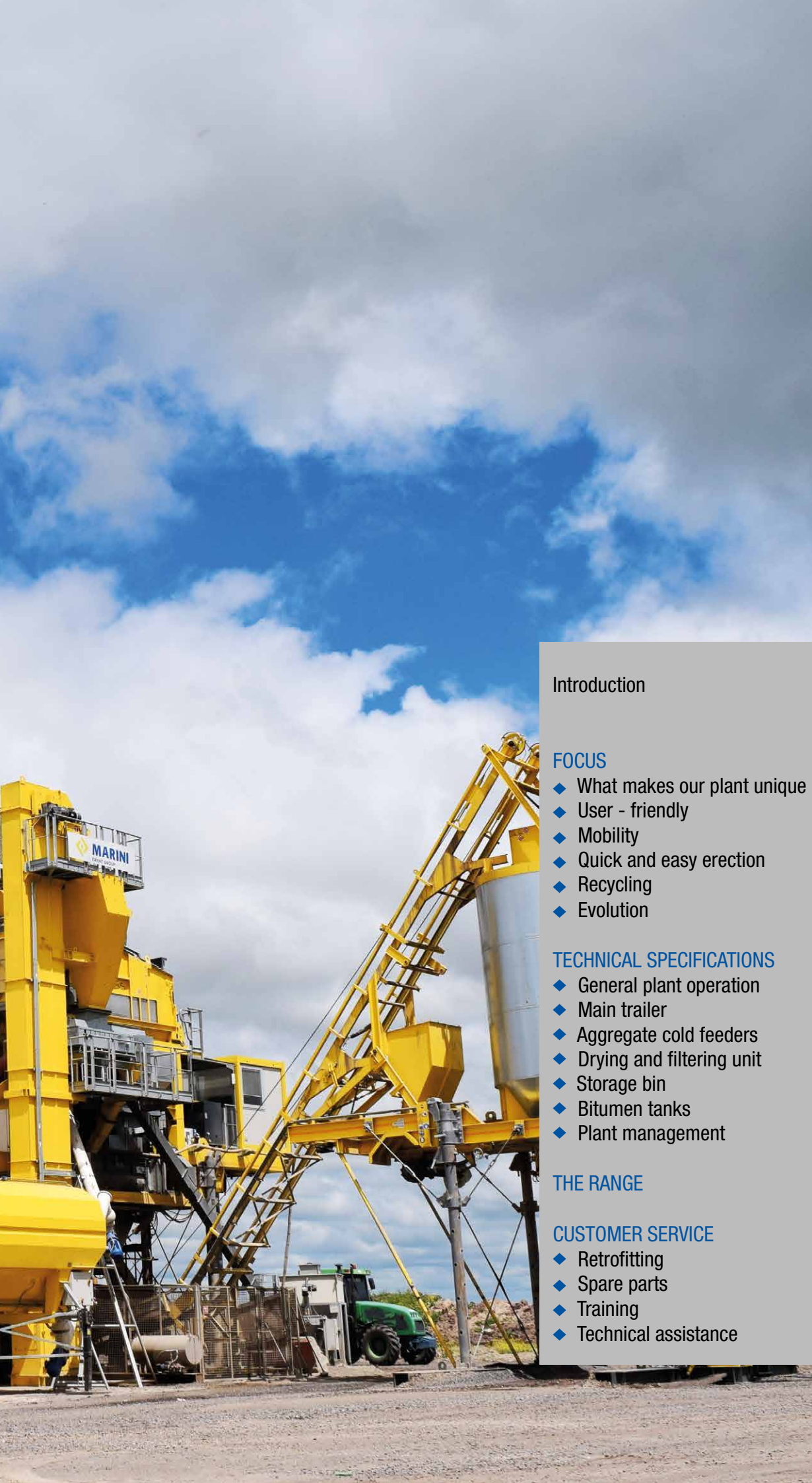


F A Y A T M I X I N G P L A N T S

XPRESS

The XPRESS mobile batch plant, which has up to 200 t/h output, is wheel-mounted for easy transport and suitable for short term, itinerant production sites or logistically difficult ones. Whatever your site challenges may be, XPRESS gives you the best in terms of cost/performance.





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What makes our plant unique

USER-FRIENDLY

Making a difficult job easy

Added to the advantage of easy transport on wheels, the XPRESS plant benefits from the same effortless use and upkeep that you get with a stationary plant.

Designed to extend the average lifespan of the components parts and reduce the impact of scheduled and extraordinary maintenance, XPRESS makes the most out of productivity levels while reducing operational costs to a minimum.

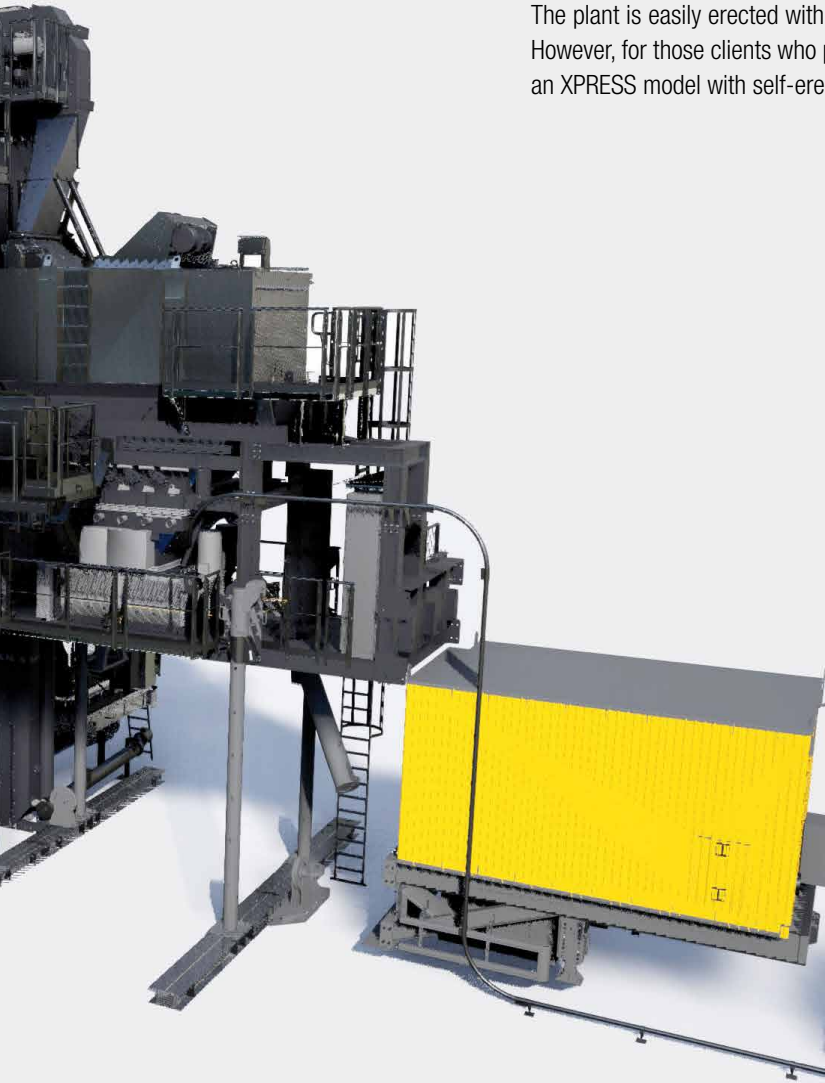


MOBILITY

High quality asphalt wherever needed

XPRESS is the right plant for the client who makes diversification the trump card of his business.

Once work on one site has been completed, without compromising the quality of output this travelling plant can be easily moved onto the next site, cutting down on dismantling/assembly time and incrementing production time.



QUICK AND EASY ERECTION

Rapid installation, quick profit

The plant is easily erected with the aid of a small crane. However, for those clients who prefer a self-reliant plant, an XPRESS model with self-erection kit is available.

RECYCLING

The right balance between ecology and profitability

Adding a percentage of RAP into the specs is now an essential practice for all plants, even mobile plants. XPRESS is no exception. It is conceived for use with recycling equipment and high percentages of RAP, right from the start or later on in its working life.

EVOLUTION

Ready to face the challenges of the present and the future

The XPRESS project was designed and set up for the addition of a whole range of optional equipment, such as a RAP feeding line into the recycling ring of the dryer drum or into the mixer and a system for the production of foam bitumen for producing WMA at low temperatures.

User - friendly

XPRESS is a mobile plant which can offer the client an experience comparable to working with a stationary plant. In addition to its advantage of easy transport on wheels, XPRESS boasts straightforward flexible handling and easy maintenance.





Straight to work with ultra-rapid erection

XPRESS is designed to satisfy clients who need quick production and flexible operations without sacrificing high level performance. It is the perfect plant for clients producing large quantities of asphalt in short periods of time, in the knowledge that the relocation of the plant is easily carried out once the job has been completed.

High level quality

Designed to extend the average lifespan of the component parts and reduce the impact of ordinary maintenance, the XPRESS mixer has bolted anti-wear arms and paddles. The symmetrical paddles not only make the asphalt mix uniform but also limit damage to the component parts. The anti-wear cast-iron plates bolted in the lower part of the mixer form a highly resistant protection shield which simplifies and reduces maintenance work. The plant itself can be fitted for use with special MARINI ENDURANCE anti-wear plates, which are up to six times more resistant to abrasion than traditional plates.

Easy maintenance

XPRESS is made for the client who lives and works with his plant on a daily basis. Ample space for access to all parts of the plant guarantee increased safety and rapidity in maintenance operations. Several recently registered patents offer quick screen replacement and SMART WIRING technology means rapid intervention on cabin electrics.

Mobility

Mobility is the new way of being on the road. Not only it is important to move a plant quickly from one site to another, but cost reduction also has an important role, and savings are made on the costs of dismantling and erection, on the number of personnel, on the simplicity of site preparation and the reduced use of external support.



XPRESS 1500 - XP 1500 P - XP 2000 - XP 2000 P trailers



1 - Mixing tower



2 - Dryer, filter, cold feeders (n°4)

Farewell to expensive special transportation costs

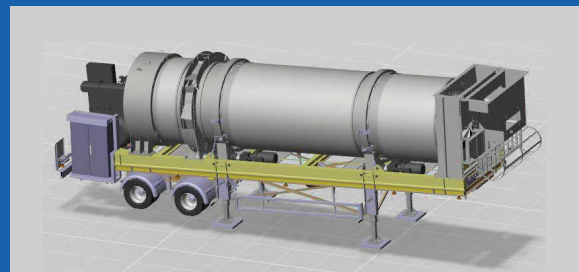
Transport permits can be costly and complex and are part of the working life of every owner of a middle-size mobile plant. XPRESS makes this problem a mere memory of the past, given that all the components, including the main

trailer which is just 3 metres wide, can be transported without special escorts. The remaining plant components are assembled on a trailer narrower in width than 3 metres or transported in regular containers.

XPRESS 2500 - XP 2500 P trailers



1 - Mixing tower



2 - Dryer



3 - Filter



4 - Cold feeders (n°5)



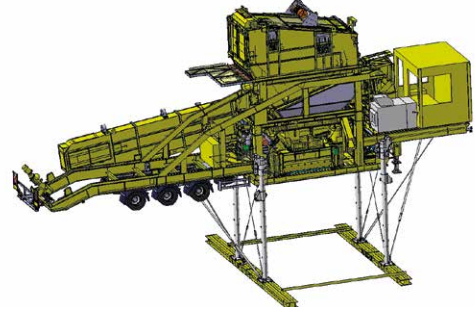
Quick and easy erection

The plant is quickly erected with the aid of a small crane. However, for those clients who prefer a self-reliant plant, an XPRESS model with self-erection equipment is available. With this option, the costs and difficulties associated with crane rental are eliminated making the XPRESS plant easy to relocate every time work begins on a new site.

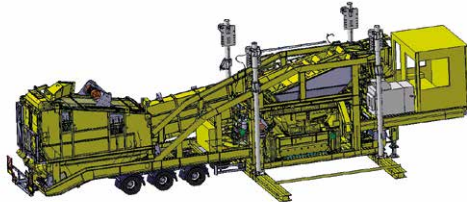
Assembly sequence



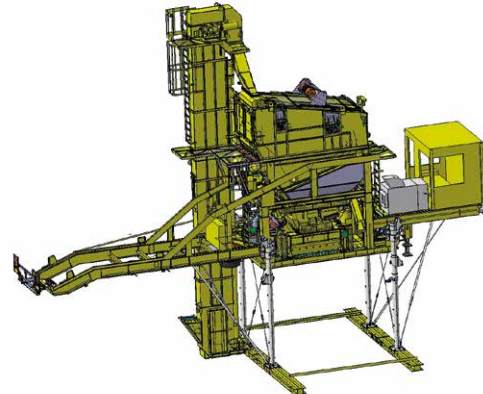
1 - Main trailer arrives on the jobsite



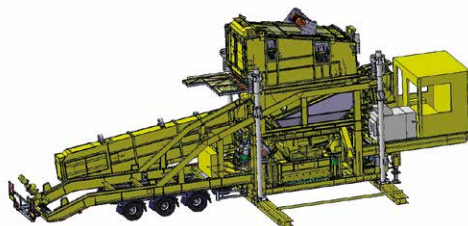
4 - Main trailer hydraulically elevated



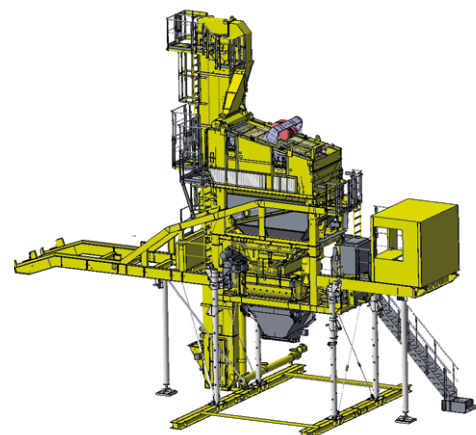
2 - Main trailer positioned in the final position



5 - Elevator rotated in order to reach the final configuration



3 - Screen electrically transported at the top of the tower



6 - Assembly... completed!

Recycling



Over the years there has been a growing interest in the use of recycling which can no longer be considered an optional.

Throughout the world, specialists are working towards recycling for a series of reasons:

- reduction of waste resulting from the degrading of the road network
- elevated amounts of RAP with problems of storage
- reuse of raw materials, since there is a lack of aggregates due to the decreasing number of active

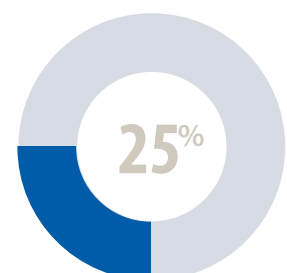
quarries at national and international level

- energy savings, since consumption is lowered due to the reduction in aggregate quarrying, transportation and traffic hold-ups
- bitumen recycling, because not just aggregates are reutilized, but also the binder is recuperated in part



Recycling ring

The position of the recycling ring after the flame means RAP can be fed at the ideal point of the dryer drum without any infiltration of parasitic cold air. RAP does not enter into direct contact with the hot gases of the burner flame, but is gradually heated in the drum through heat-recovery flights and mixed with the virgin aggregates which have been heated up to a suitable temperature. In this way the risk of damaging the bitumen is avoided, which is the most considerable advantage of this technology.





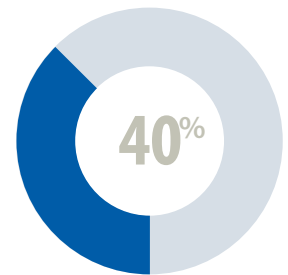
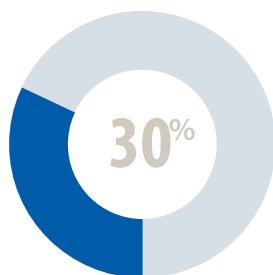
Recycling into mixer

The feeding of RAP can be made directly into the mixer through a special feed line which consists of:

- cold feeder and belt
- cold RAP metering unit with bucket elevator, surge hopper, weigh belt with variable RAP feed management, depending on moisture content
- modular exhaust system for RAP produced in the mixer with stoppage of fumes from drum to filter

Combined technology: ring + mixer

A combination of the two technologies mentioned above proves to be the best technical solution in terms of flexibility and performance when using RAP.



Evolution

The request for a plant capable of producing asphalt at low temperatures is increasing. XPRESS is the answer to this market request through the use of foam bitumen, obtained with or without additives, before mixer operations.

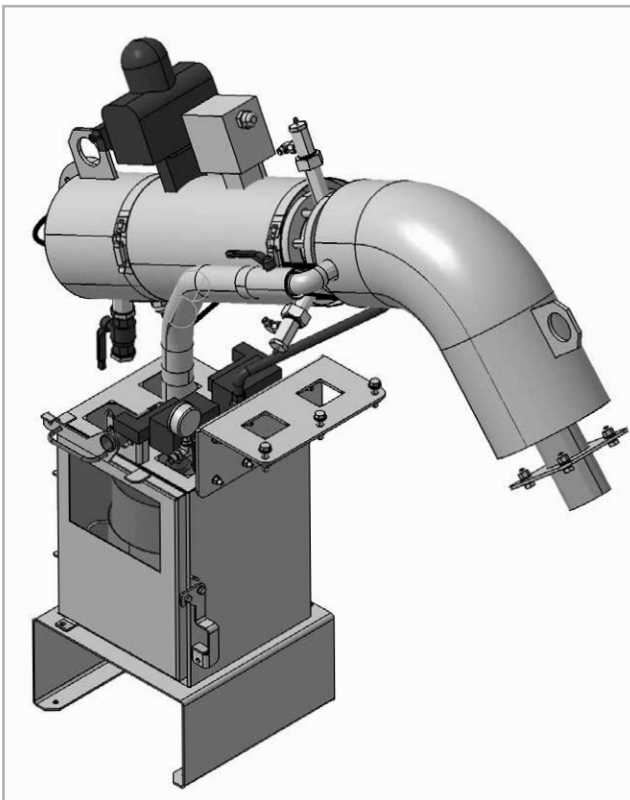


Foaming system: easily fitted kit

Based on the long experience of the Fayat Mixing Plant division (FMP) in this field, the foaming system has proved to be the best performing equipment for producing higher quality foam bitumen with the micro-bubble method and low water percentage in the bitumen.

It consists of:

- a unit for pressurized water metering
- a foaming gun for injecting water into the bitumen feed
- total integration of the system into the main plant software for new plants or into independent panel for retrofitted plants



Foaming system

Metering kit

The metering kit can be installed in the immediate vicinity of the plant. It can be directly connected to the main water network to guarantee a continuous supply (exceptions can be made for winter months).

The metering unit has the job of drawing and filtering the water, as well as checking the capacity and pressure.

A compressed air injection line ensures automatic cleaning of the connections between the metering system and the foaming gun, so avoiding damage in case of freezing.

Foaming gun

The foaming gun is the heart of the system.

Its characteristics and its easy installation are the key elements of this new method for WMA. The special injectors are designed to ensure the homogeneous penetration of water into the bitumen, in the form of micro bubbles, to render the foam as stable as possible.

The foaming gun is installed onto the bitumen line and requires no ordinary maintenance.

A simple flexible solution

The foaming system is available in various sizes and can be fitted onto all types of plants, XPRESS included.

The various versions differ in the pump sizes and the type of injection, both connected to the main bitumen supply. The foaming system is extremely simple to use. The foam is produced on request and it is possible to pass from a warm asphalt formula to a foam bitumen formula by simply selecting the water to inject into the formula.

The kit is fitted onto several batch plants, not only in Europe, where the technique is recognized and highly regarded, but also further afield.

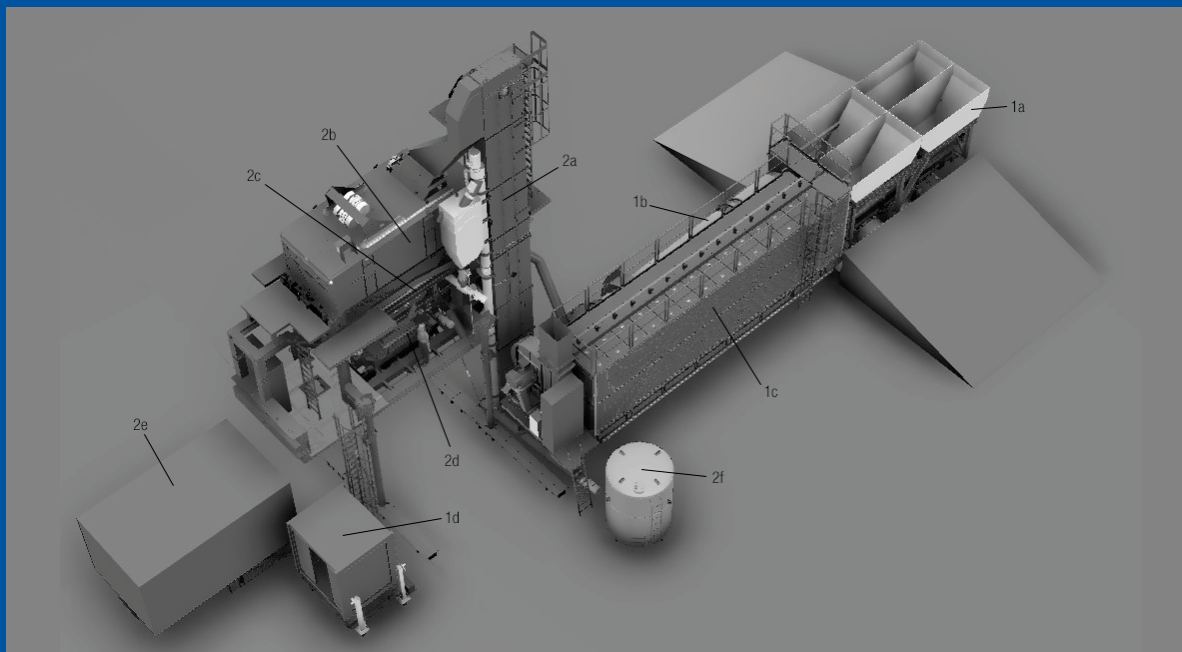
The foaming system represents a simple solution that has been well tested and adapted to all types of asphalt plant.

Important energy savings made by producing asphalt at a temperature lower than 30°C when compared to traditional production are now possible with this quick and easy solution.



General plant operation

XPRESS 1500 - XP 1500 P - XP 2000 - XP 2000 P



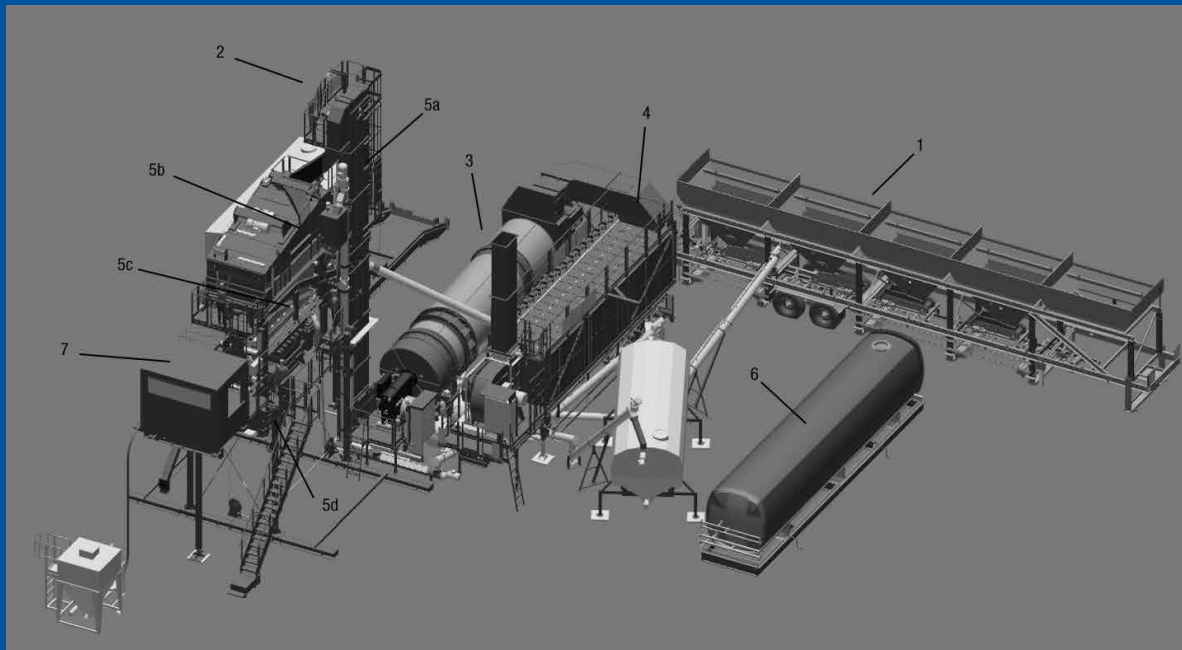
1 dryer trailer

- a cold feeder
- b dryer drum
- c filter
- d control cabin

2 main trailer

- a hot elevator
- b screen
- c hot aggregates storage bin
- d weighing and mixing unit
- e binder storage tank (optional)
- f fuel tank (optional)

XPRESS 2500 - XP 2500 P



- 1** mobile cold feeders
- 2** recycled material storage, elevator and metering unit (cold recycling)
- 3** mobile dryer unit
- 4** mobile filter / fines hopper

- 5** main trailer
 - a** hot elevator
 - b** screen
 - c** hot aggregates storage bin
 - d** weighing and mixing unit
- 6** binder storage tank trailer
- 7** main trailer – control cabin

Main trailer

The parts that form the real heart of the plant's technology are found in the main trailer: the units for screening, aggregate weighing and mixing, the hot elevator, the recovered fines line, the cabin, the automatics and the pneumatic plant with compressor.





The screen

The quality of screening, a basic necessity for obtaining a high quality mix, is guaranteed by MARINI's lengthy experience in the field and the production of more than 3000 screens. In the XPRESS plant the screen is placed on the main trailer meaning that the client makes effective cost savings every time the plant moves. The under-screen hoppers have a bypass allocated with the sand compartment, whereas an independent bypass is obtained by bolting separators on the inside.

Metering

For the new mobile XPRESS plant MARINI has designed a filler weigh hopper (recovered or not) with gravity discharge and bitumen metering with discharge pump to always ensure a precise mix. An adequately sized aggregate weigh hopper offers maximum flexibility to suit all the clients' requirements.

An optional kit allows warm/cold liquid additives to be added to the bitumen.

Mixer

The XPRESS plant arms and paddles are characterized by the use of anti-wear components which can be easily unbolted and replaced. The XPRESS mixer is fitted for use with cold recycling and additives in bags and can also be set up for use with foaming system for WMA production.





Aggregate cold feeders

Storage of materials and recomposition of the gradation curve.



Four cold feeders or more

While the XP 1500 and the XP 2000 have a basic layout of 4 cold feeders on board (8 m³), the XP 2500 envisages a basic layout of a mobile wheel-mounted unit with 5 cold feeders (11 m³).

Should the client need to add extra feeders for special production requirements or RAP use, the plant can be fitted with extra feeders upon request.

Drying and filtering unit

Reliable and performing units designed for high mobility.



High performance counter-flow dryer drum

- shape and location of flights optimizes heat exchange between combustion gases and aggregates
- quick and easy adjustment of drum position

Burner

The burner/dryer unit is designed for maximum thermal performance: energy consumption is optimized and CO₂ emissions limited

- suitable for all types of fuel available on market: diesel fuel, dense oil, natural gas, lignite dust

Filter

- the elliptical shape of the aramid bags means reduced volume, with consequent reduction of the overall size of the filter, while maintaining the same filtering capacity as circular models

Storage bin

Hot mix storage silo

Trucks can be directly loaded making plant installation and startup of production quick and easy. Upon request, the plant can be supplied with a special 25 m³ finished product storage bin, which requires a small crane for erection.



Bitumen tanks

Mobile bitumen tanks (on semi-trailer)

capacity	50,000 l	42,000 l
width	2,460 mm	2,460 mm
length	17,500 mm	15,500 mm
height	3,915 mm	3,915 mm

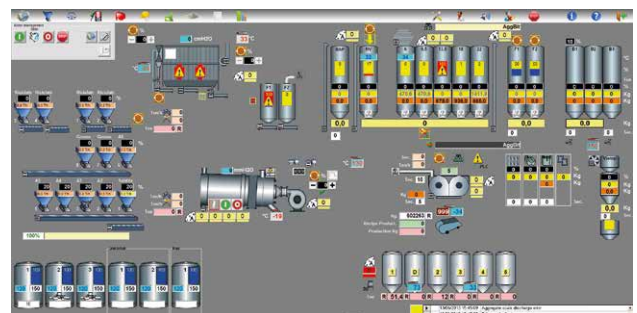


Plant management

The coordination of production efficiency together with plant maintenance and safety must be guaranteed by an adequate management system - the new Marini Cybertronic system.

Ergonomics, safety and ecology in the simplest of control methods:

- Integrated Diagnostic System (IDS) for a quick and simple identification of possible procedural errors
- innovative graphic design, easy to understand, real time plant visualization
- wide range of operational languages which can be customized
- client training programme for improved competency
- dual monitor control system (upon request)



Plant components management:

- **production planning:** automatic production cycle planning for optimum results
- **maintenance module:** automatic non-stop management of maintenance activities of individual components
- **calibration management system:** specific integrated system for efficient calibration of plant components and extractors
- **binder park management system:** control of loading, storage and decanting to ensure the product's total integrity
- **WMA production management:** automatized management module for WMA production with foaming system
- **CYB-R@P module:** automatic RAP and virgin material modification with regard to customer requirements
- **interface with weigh bridge:** weighing operations automatically connected to planning operations

In addition:

- **CYB-SAVE module:** control system for containing energy consumption and limiting environmental footprint
- **geo-tracking system:** accurate geo-location of customer system of logistics
- **worldwide online service:** remote connection to MARINI plants with 24/7 hotline support for rapid technical intervention



XPRESS: range up to 200 t/h

Type	XP 1500	XP 1500 P	XP 2000	XP 2000 P
MAX production	120 t/h		160 t/h	
Nominal production 3% moisture	120 t/h		160 t/h	
Nominal production 5% moisture	100 t/h	120 t/h	140 t/h	160 t/h
Cold feeders: capacity and number	4 x 8 m ³			5 x 11 m ³
Dryer drum	E160 (L=7.5 m/D=1.6 m)	E180 (L=8 m/D=1.8 m)		E206 (L=8.5 m/D=2.06 m)
Burner power	7 MW	9 MW		13.4 MW
Hopper under filter (only recovered fines)	-	-		-
Filtering surface	380 m ²	487 m ²		663 m ²
Total screen surface	14.6 m ²		16.5 m ²	
Compartments under screen	4 or 5 + 1 by-pass			
Storage capacity under screen	12 t			
Mixer capacity	1.5 t		2 t	
Imported filler storage	on customer request			
Bitumen storage	optional 29 m ³ integrated + extra on customer request			
Fuel Storage	optional 7 m ³ integrated + extra on customer request			
Product storage / compartments	- direct discharge			
	- mobile			
	45 t in 1 compartment			
	- transferable			
	50 t in 2 compartment			
	100 t in 2 compartment			
200 t in 4 compartment				
(on request load cells / long storage)				
Recycling up to 25%	Traditional dryer drum with MARINI RAP RING			
Recycling up to 30%	Traditional dosing system with weighing belt			
Recycling up to 40%	Combined of RING + MIXER			
Transportability	All mobile unit on wheels			
Self erecting	Optional self erecting KIT			



XP 2500

XP 2500 P

200 t/h

200 t/h

180 t/h

200 t/h

5 x 11 m³

E206 (L=8.5 m/D=2.06 m)

E220 (L=9 m/D=2.2 m)

13.4 MW

16.8 MW

-

-

663 m²

750 m²

26.9 m²

5 or 6

+ 1 by-pass

20 t

2.5 t

on customer request

on customer request

on customer request

- direct discharge

- mobile

45 t in 1 compartment

- transferable

50 t in 2 compartment

100 t in 2 compartment

200 t in 4 compartment

(on request load cells / long storage)

Traditional dryer drum with MARINI RAP RING

Traditional dosing system with weighing belt

Combined of RING + MIXER

All mobile unit on wheels

Optional self erecting KIT

XPRESS

MARINI



After sales service

Innovation. Everywhere. With you. Complete customer satisfaction lies at the heart of our job and this requires a superior after sales service. MARINI can boast a high-quality service, backed up by an expert team of professionals who are at the constant service of the customer.

Retrofitting

Retrofitting gives new life to all site components and increases plant efficiency, even with regard to the strictest of new eco standards

- **up-grading:** gradual integration of new competitive technologies into existing plants
- **replacement:** substitution of obsolete solutions / dated or well-worn components
- **ecology:** implementation of RAP / WMA technologies and treatment of emissions
- **consultancy:** expert teams of specialists ready to collaborate with customers to identify the necessary modifications
- **not just MARINI:** ability to integrate MARINI technologies and components into asphalt plants of all brands

Spare parts

A quality service for all plant types, based on 120 years of MARINI experience

- **highly qualified teams:** professional MARINI staff offer their vast expertise to identify and supply the necessary parts
- **out of stock parts:** ability to trace spares even out of stock or to find alternative solutions
- **stock management:** optimum stock control to ensure more than 80% availability of original spare parts
- **long-life guarantee** of original MARINI spare parts
- **widespread market presence:** availability of a vast sales network
- **last minute shipments:** two daily shipments (plus last minute) with express service and special transport. Special Saturday and Sunday morning shipments upon request





Training

MARINI is aware of the importance of well-prepared, competent staff who can ensure the efficiency and productivity of the plant and exploit its potential to the full. It offers the customer a comprehensive training programme, held either in the modern Marini Training Academy or directly on site

- **foundation course for plant operators:** basic training for safe and better asphalt production with MARINI plants
- **burner management course:** basic concepts for burner management to reduce consumption and improve product margins
- **software course:** training programme for increasing awareness and competence when using MARINI software
- **maintenance course:** basic concepts for ordinary maintenance of MARINI plants with the aim of reducing down-time

Technical assistance

The “Marini Service” programme guarantees continual support for its plants worldwide. This is possible thanks to a team of constantly up-dated technicians and local Marini partners. Consultancy, support and rapid intervention, even at long distance, are at the heart of “Marini Service”, with the aim of establishing beneficial, long-lasting customer relationships based on:

- **quality:** rapid and reliable action in all services thanks to MARINI’s competence and experience
- **erection:** supervision of all assembly stages to ensure total adherence to budget plans and time scales
- **testing:** customer support during final plant testing to guarantee optimum installation
- **maintenance:** regular inspections and programme planning for custom-made preventive maintenance
- **support H24/7:** long-distance customer assistance and support around the clock, with qualified staff ready to respond to all demands

MARINI SpA

Via Roma, 50
48011 Alfonsine (RA)
ITALY
Ph.: +39 0544 88 111
Fax: +39 0544 81 341
info@marini.fayat.com
www.marini.fayat.com

MARINI CHINA

20, Huaxiang Road
Langfang
Economic and Technical
Development Zone
Hebei 065001
CHINA
Ph.: +86 (0)316 608 7001
Fax: +86 (0)316 608 7002
info@marini.com.cn
www.marini.com.cn

MARINI INDIA PVT LTD

AV/39-40-41 GIDC,
Sanand - Industrial Estate II,
BOL, Sanand Ahmedabad
382110 - Gujarat
INDIA
Ph.: +91 (0)75 7485 2816
support@marini.co.in
www.marini.co.in

MARINI MAKİNA A.Ş.

1. OSB Kırım Hanlığı Cad. No: 1 06935
Sincan, Ankara
TURKEY
Ph.: +90 (312) 386 33 22
Fax: +90 (312) 386 33 23
info@marini.com.tr
www.marini.com.tr

FAYAT MIDDLE EAST FZE

Jafza South
FZS1AH03 Dubai
U.A.E.
Ph.: +971 (0)4 8863233
Fax: +971 (0)4 8863234
marinime@emirates.net.ae
www.marini.fayat.com



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