



# **XPRESS**

READY FOR ACTION

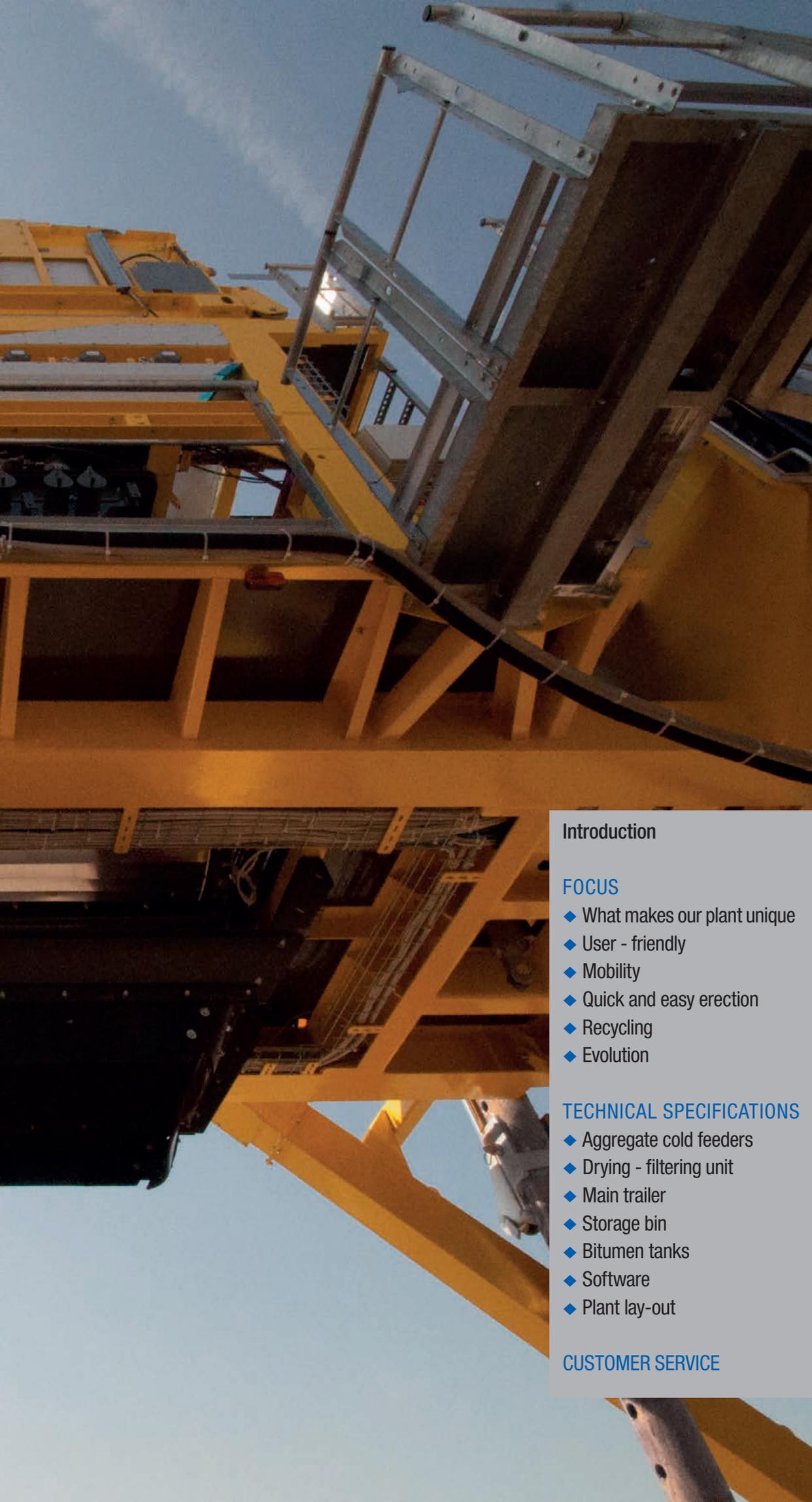


FAYAT MIXING PLANTS



# XPRESS

The XPRESS mobile batch plant, which has 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 (AQUABlack®) 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 similar to operations with a stationary plant.*

## **Straight to work with ultra-rapid erection**

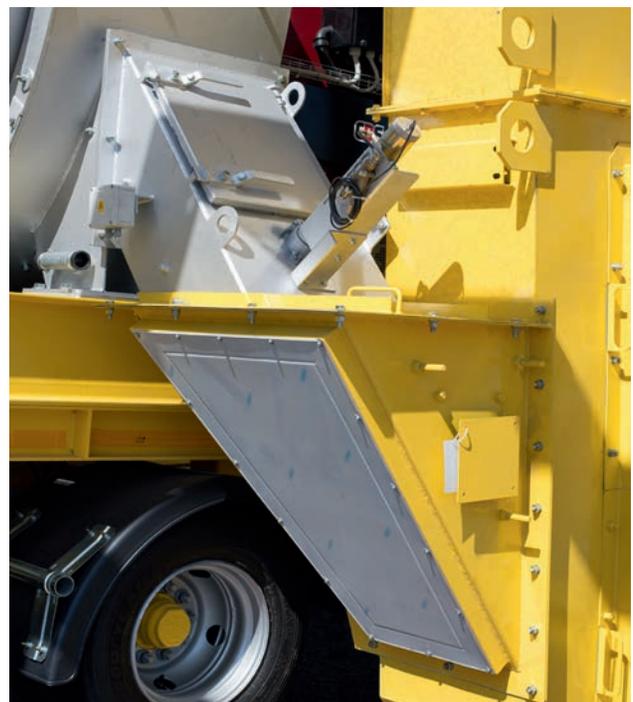
XPRESS is designed to satisfy clients who need quick production and flexible operations without sacrificing high level performance. It is the perfect plant for clients producing large quantities of asphalt in short periods of time, in the knowledge that the relocation of the plant is easily carried out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



## Rapid erection wherever

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.

## 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.





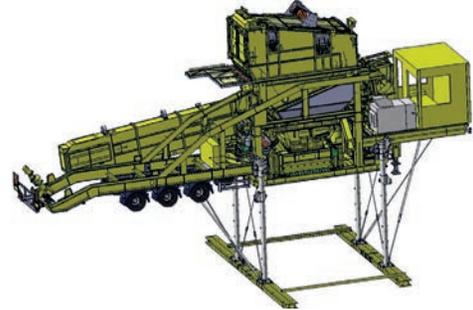
## Quick and easy erection

*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.*

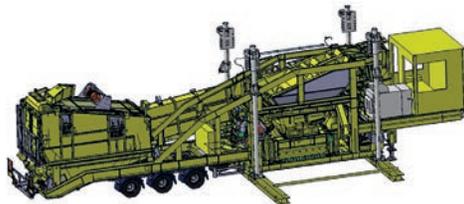
## Assembly sequence



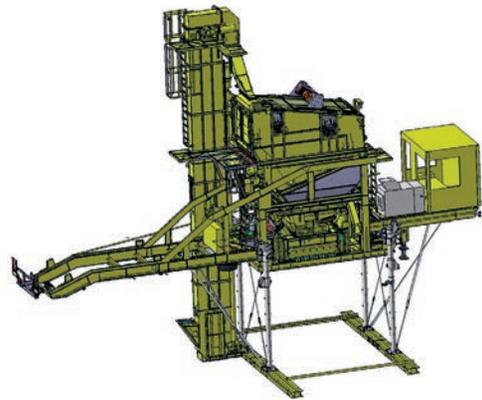
1 - Main trailer arrives on the jobsite



4 - Main trailer hydraulically elevated



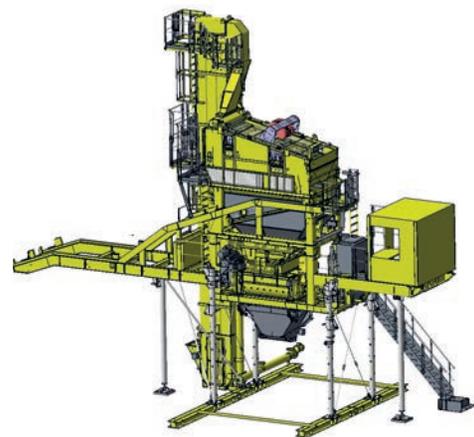
2 - Main trailer positioned in the final position



5 - Elevator rotated in order to reach the final configuration



3 - Screen electrically transported at the top of the tower



6 - Assembly... completed!

# Recycling

*Asphalt plant designers are constantly researching the use of higher percentages of RAP, not only for ecological friendliness, but also to optimise the costs of production, thanks to the re-use of aggregates and bitumen.*

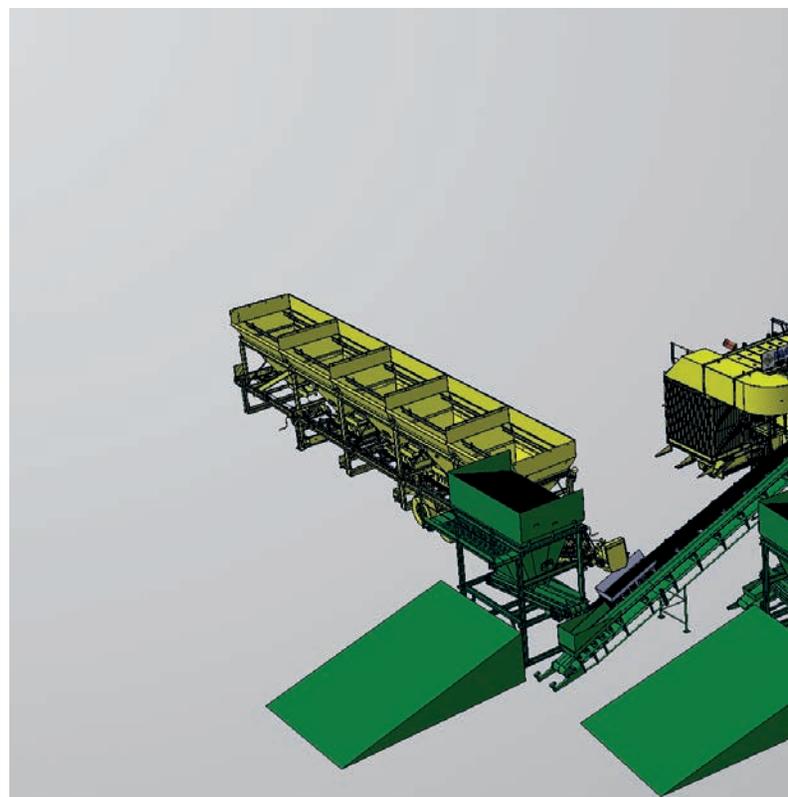


## **Recycling with mobile plants**

Clients pay special attention to these innovations and, even if they decide not to immediately invest in a system of RAP recycling, they are interested in the possibility of conversion at a later stage.

## **XPRESS is designed for using RAP**

Adding a percentage of RAP into the specs is now an essential practice for all plants, even mobile plants. XPRESS is no exception. The project was conceived and set up for use with recycling equipment into the dryer recycling ring or into the mixer, at any moment in time. This means that for the first time it is now possible to use high percentages of RAP in a plant of this nature.



### Up to 25% in the recycling ring

XPRESS can be fitted with the traditional MARINI recycling ring. The RAP, which has been crushed and selected, is fed directly into the dryer through the special recycling ring, the result of MARINI's lengthy experience, where it is brought up to the right temperature in the final part of the drum, in order to maintain the elastic properties of the bitumen contained in the RAP. Thanks to its innovative design, this solution avoids any blockage which could occur during the progressive fusion of the residual bitumen contained in the RAP and allows, with just a small investment, to be prompt and ready for use whenever the specifications require the use of RAP. This economic and amply tested solution means that high percentages of RAP can be used: 25% plus in certain circumstances.

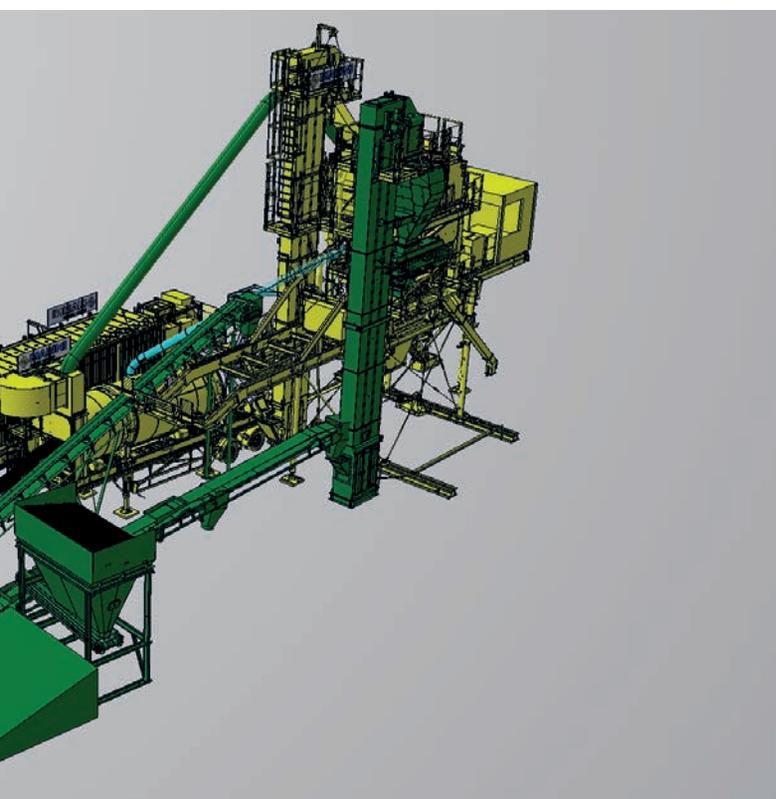
### Recycling in the mixer

XPRESS can also be fitted for cold recycling in the mixer, where the RAP is fed from a bucket elevator. The RAP is metered in a special weigh hopper before being fed into the mixer.

The water vapour released into the mixer from the contact of cold RAP and hot aggregates has to be expelled. XPRESS is set up with appropriate spaces where the exhaust pipes can be fitted.

Thanks to this solution, the virgin aggregates can be screened, since the RAP follows a separate circuit.

The percentage of RAP can be as high as 25% and, combining this technique with a recycling ring, can reach well over 40% in certain cases.



# Evolution

*The requests 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.*

The use of foam bitumen has been considerably developed over the past few years and the FAYAT group has formed an international partnership with the American company MAXAM, for the sales of AQUABlack® outside North America.

## **AQUABLACK®: an easily fitted kit**

XPRESS can be fitted with the kit at any stage and consists of:

- a unit for pressurized water metering
- a foaming gun for injecting water into the bitumen feed
- a module for total integration of system into the main plant software



*Neutral bitumen injection kit*



*Foam bitumen kit*

### 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 AQUABlack® kit 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 AQUABlack® 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.



*AQUABlack® system*

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 AQUABlack® foam bitumen generator 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.



## Aggregate cold feeders

*Storage of materials and recomposition of the gradation curve.*

### **Five cold feeders or more**

XPRESS envisages a basic layout of a mobile wheel-mounted unit with 5 cold feeders (11 m<sup>3</sup>). 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.

### **Safety: a fundamental requirement**

MARINI, with a history going back for more than a century, has safety at heart, not just for its employees but also for plant workers. So, like all the MARINI plant components, the XPRESS cold feeders are fitted with the best solutions to guarantee the safety of both operators and maintenance workers.



# Drying-filtering unit

*Reliable and performing units designed for high mobility.*

## **MARINI dryer: a guarantee**

Dryers are one of the components that have contributed most to the success of MARINI. A wealth of experience accumulated over many years, in which more than 4000 dryers have been produced, and the design of the internal paddles has been gradually improved, culminating in the most up-to-date solutions available today.

The XPRESS plant dryer has been studied to produce 200 t/h with 3% aggregate moisture and is located on a 2 axle semitrailer. Once on site it is positioned on the ground on 4 supporting legs. The quality European burner can be fed with several types of fuel and can be easily regulated. It functions perfectly with the MARINI dryer and guarantees maximum efficiency.



## **Mobile bag filter for easy transport**

XPRESS 2500 is fitted with a bag filter with more than 663 m<sup>2</sup> (750 m<sup>2</sup> for 2500 P) of filtering surface. It is mounted on a 2 axle semitrailer and does not require

special complex permits for road transport.

The aluminium chimney, ventilator and the recovered fines screw conveyor are all located on the same trailer.





## 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 standard 5-selection 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 AQUABlack® for WMA production.



## 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 m<sup>3</sup> finished product storage bin, which requires a small crane for erection. With discharge at 90° to the main trailer, the bin has a feeder under the mixer with heated doors and anti-adhesive liquid spray bar.



## 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



# Software

*Software is a vital part of any asphalt plant. MARINI's extremely versatile software management system can be installed on all asphalt plants currently on the market. Control management system complete & user-friendly.*

## Every plant can be upgraded with new software to ensure:

- easy plant use and management
- complete traceability
- total automation of production

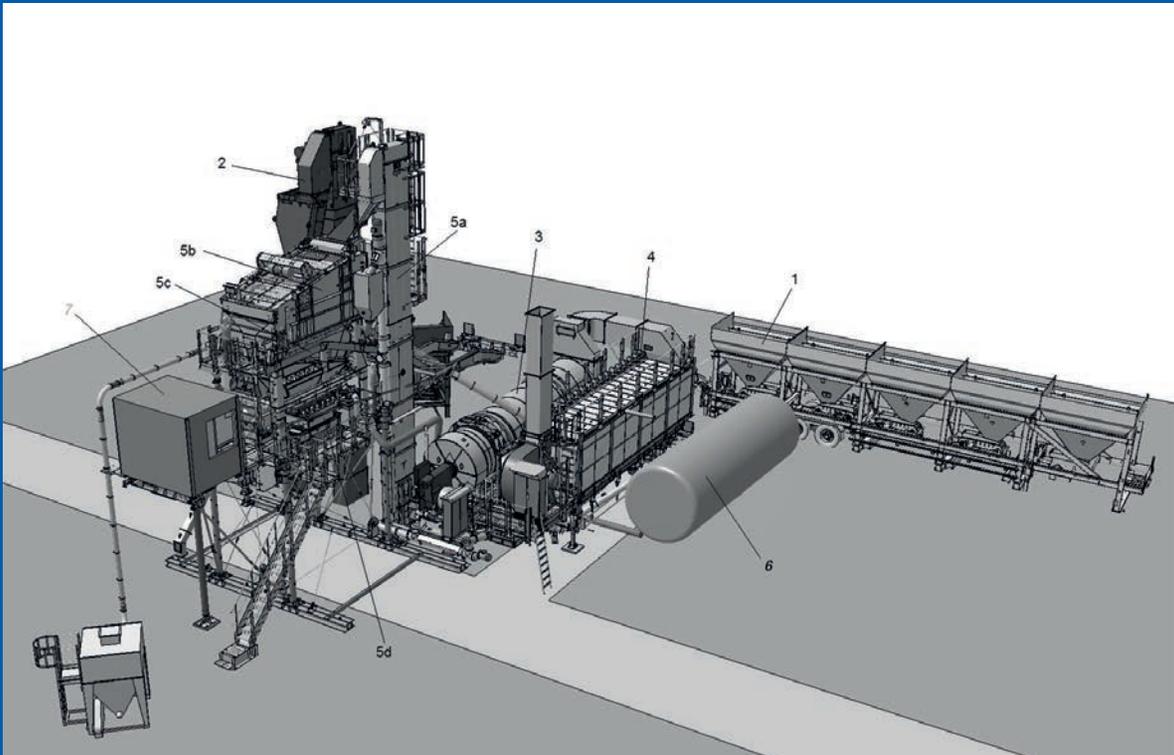
## The software can also:

- memorise and manage production data
- convert files into Excel for plant analysis and production data management

- communicate via modem with MARINI head offices to maximise efficiency of technical interventions
- manage maintenance operations through a specially designed programme
- integrate with CYB-\$AVE Energy Control module to control and manage consumption



# Plant lay-out



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

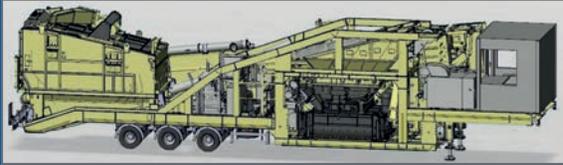
- 5** main trailer
  - a** hot elevator
  - b** screen
  - c** hot aggregates storage bin
  - d** weighing and mixing unit
- 6** binder storage tank trailer
- 7** main trailer – control cabin

Total plant capacity	XP 2500	XP 2500 P
3% moisture	200 t/h	200 t/h
5% moisture	180 t/h	200 t/h

### Screening-weighing-mixing unit

vibrating screen	5 selections	mixer capacity	2,500 kg
screen surface	26.9 m <sup>2</sup>	cold recycling in the mixer	yes / 25%
under screen capacity	19 t (optional: separate bypass)	mixer max performance	200 t/h

Mixing tower



length	18.61 m
width	2.99 m
height	4.35 m
weight	47,500 kg

Dryer



	XP 2500	XP 2500 P
length transport	12.45 m	13.85 m
width	2.61 m	2.54 m
height	4.11 m	4.30 m
weight	20,700 kg	25,700 kg
diameter / length dryer drum	2.06/8.5 m	2.2/9.0 m
driving motor	4 x 15 kW	4 x 15 kW
burner power	13.4 MW	15 MW
fuel type	diesel - heavy fuel oil - natural gas	
recycling ring	yes / 25%	yes / 25%

Filter



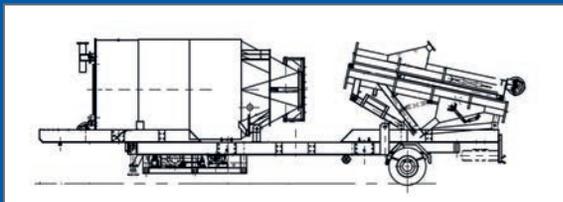
	XP 2500	XP 2500 P
length	13.80 m	14.40 m
width	2.50 m	2.50 m
height	4.28 m	4.28 m
weight	19,900 Kg	22,000 Kg
filtering surface	663 m <sup>2</sup>	750 m <sup>2</sup>
filter fun	38,900 Nm <sup>3</sup> /h	55,200 Nm <sup>3</sup> /h
recovered filler silo (under filter)	9 m <sup>3</sup>	9 m <sup>3</sup>

Cold feeders (n°5)



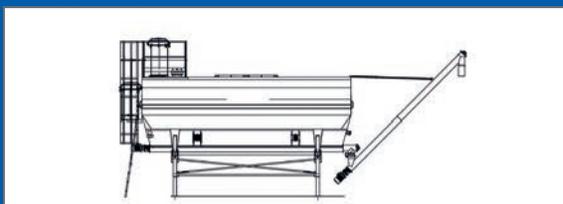
length	20.20 m
width	2.54 m
height	4.29 m
weight	18,040 kg
capacity	11 m <sup>3</sup> - 18 m <sup>3</sup>

Storage bin (optional)



length	14.12 m
width	2.99 m
height	4.20 m
weight	17,140 kg
storage silo	25 m <sup>3</sup>

Filler (optional)



length	8.02 m
width	2.44 m
height	2.70 m
weight	3,300 kg
imported filler silo	29 m <sup>3</sup>

# Customer service

MARINI offers its customers the experience and professionalism of a team of experts, capable of offering consultancy and finding solutions regarding retrofitting, service, spare parts, training.

## We can work together to:

- renovate old plants with the integration of new components
- improve plant efficiency
- increase plant capacity
- bring the plant up to current emission and eco-standards
- add kits and other packages to benefit from recycling
- implement modern technologies for warm mix asphalt



## Retrofitting

New technical solutions to existing plants, replacement of obsolete or dated technologies, new life to parts needing replacement, upgrade to improve and complete the asphalt plant to give it a new lease of industrial life: this is the target of retrofitting.

Together with our team of experts and consultants, customers can identify the best solutions to achieve reliability and quick return on investment.

## Service

Expertise and professionalism of the MARINI team is the core of service, perfectly integrated in our CUSTOMER SUPPORT programme, with the aim of creating an ongoing relationship of excellence. Prompt efficiency, competence and knowledge support the day by day work and activities of our customers and plants all over the world.



## Spare parts

Thanks to the experience accumulated over many decades and the expertise of its staff, MARINI is in a position to meet the requirements of the most demanding customers. The company can trace and supply spare parts also for plants which are out-of-production and when this is not possible our experts can always provide the best alternative technical solutions.

Customers can access our **online parts catalogues** from MARINI official website and inquire about parts availability and price at any time.

Remember only genuine original MARINI spare parts and accessories guarantee reliability and high performance to your asphalt plant.



## Training

Well prepared and competent staff guarantee the productivity and reliability of the plant. This is why we have designed a package of four different training programmes, implemented in the new Training Academy or directly on site.

MARINI training programmes:

- a basic course for asphalt plant operators
- how to manage and run the dryer burner
- how to maintain the Asphalt Plant
- CYBERTRONIC: the MARINI control system



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