

# emulFALT

Bitumen Emulsion Plant



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# emulFALT

## Bitumen Emulsion Plant

**MARINI emulFALT is the reliable, highly efficient, compact, easy to use, economic bitumen emulsion plant which is engineered for bitumen emulsion production for all road construction projects, asphalt and other special emulsion applications.**

### Product Range of emulFALT

Type	Capacity	Heating	Transportation	WAE Preparation Tank	Control System
emulFALT6	6 t/h	Thermal Oil Electrical	1x 20' OT or 1x TIR	Single preparation tank	Manual or Automatic
emulFALT15	15 t/h	Thermal Oil Electrical	1x 20' OT or 1xTIR	Single preparation tank	Manual or Automatic

### Easy Transportation of emulFALT15



emulFALT15 emulsion plant is designed as a compact machine in order to be transported by 20' OT container, especially for overseas trades.

Width x Length x Height: 2130x6000x2300mm

### Easy Transportation of emulFALT15 w/ IBT



Integrated Bitumen Tank (IBT) option is a flexible solution for different emulsion applications. emulFALT15 with IBT can be transported easily by a truck and also 40' OT container all around the world.

Width x Length x Height: 2146x9630x2300mm

- ◆ Designed and produced by **MARINI MAKİNA**, emulFALT's **colloid mill** guarantees perfect results that can provide preferred particle size by adjustable gap setting between rotor/stator discs for all types of bitumen emulsions (even with low PEN bitumen or modified bitumen).
- ◆ Divided inlet for **WAE and bitumen** at the colloid mill in order to prevent foaming and ensure perfect particle size.
- ◆ **Reliable and controlled production** with thermal oil or electrically heated mill, inverter controlled bitumen and WAE pump, flowmeters, valves and piping.
- ◆ Trouble-free and precise production with robust plant structure equipped with stainless steel **water-acid-emulsifier (WAE) tank** and **acid-emulsifier weighing hopper** on loadcells, thermostatic controlled **stainless steel** heating coils.
- ◆ 316L stainless steel gear type positive displacement **water-acid-emulsifier (WAE)** pump and flowmeter, both are suitable for working with acidic and basic liquids.
- ◆ Ease of operation by accurate continuous control via **bitumen, WAE and kerosene** flowmeters in accordance with receipt-based manufacturing.
- ◆ Container type **compact design** for **easy transportation and installation**.
- ◆ Optional; **Bitumen Flowmeter** can be added to the mill's bitumen feeding line.
- ◆ Optional; **kerosene dosing system** consists of a gear type kerosene pump with ex-proof electric motor including flowmeter and specially designed static mixer for premixing in order to reach desired dosing quality.
- ◆ Optional; **latex dosing system and optional heat exchanger** for modified bitumen emulsion applications.
- ◆ Optional; **integrated bitumen tank (IBT)** for special bitumen processes and flexible production opportunities for various project needs.
- ◆ Optional; **twin WAE tanks** to enable **capacity increase** by continuous production.
- ◆ Optional; **PLC & SCADA control system** with embedded touch screen computer on the control panel or **control cabin option with PC**.



**MARINI MAKİNA A.Ş. Export Network**

- ◆ **5 continents**
- ◆ **64 countries**
- ◆ **More than 1500 products**



### Kerosene Dosing System (OPTIONAL)



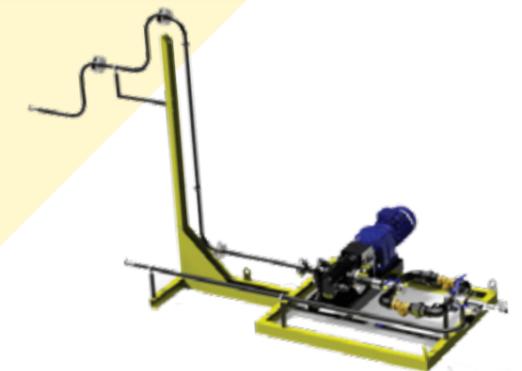
There are two options for kerosene dosing system;  
 - High flow rate (%25-60) to produce cut-back (MC).  
 - Low flow rate (%3-10) for softening the bitumen.

### Bitumen Mass Flowmeter (OPTIONAL)

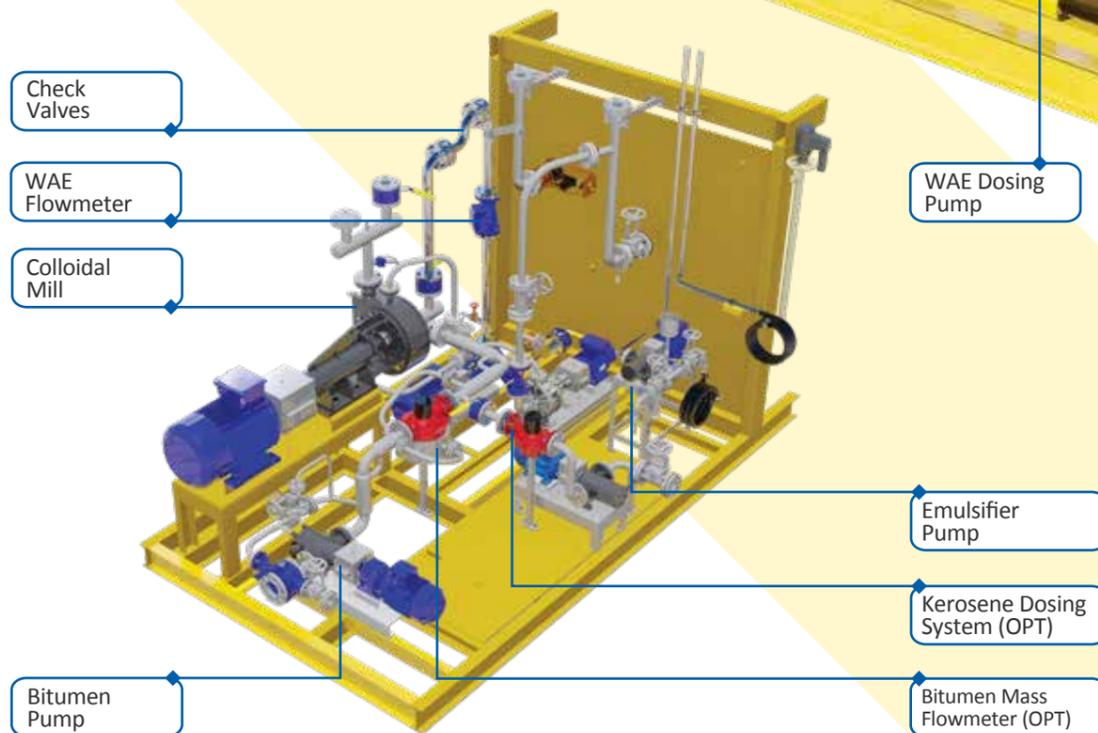


Bitumen mass flowmeter to produce high-quality emulsion. Thanks to bitumen flowmeter; the actual amount of bitumen flow, total amount and other parameters can be checked and adjusted properly.

### Latex Dosing System (OPTIONAL)



Latex Dosing System is an external part of the emulsion plant that feeds the plant with latex through a dosing pump which is equipped with an inverter for perfect dosing rates. Latex Dosing System can be easily positioned according to worksite layout thanks to its flexible hoses and compact size. Dosing rate can be adjusted in accordance with the recipe.



### Colloidal Mill



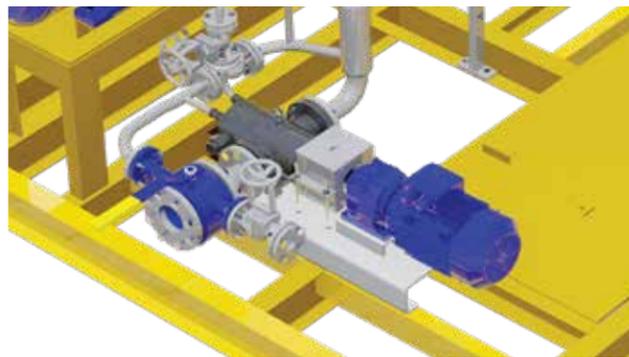
emulFALT's **emulMILL** with its **adjustable milling gap** provides <math><6\ \mu\text{m}</math> particle size and guarantees the best quality of final product even with low penetration bitumen. Thermal oil or electrically heated mill is suitable for the production of both anionic and cationic emulsions and also modified bitumen emulsions.

### WAE Preparation Tank



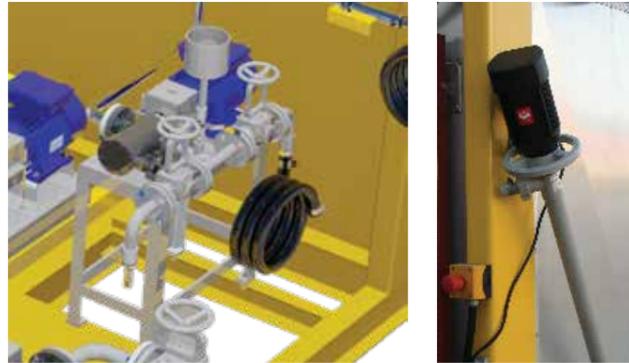
emulFALT's **water-acid-emulsifier preparation tank's** body and heating coil pipes are constructed with **316L stainless steel** and tank is **covered with rockwool insulation**. No.1, 3kW, direct coupled with a gear-motor agitator with 316L stainless steel shaft and blades, equipped with protected bearing housing at the bottom of the tank.

### Bitumen Pump & Circulation Pump



emulFALT's special design helical gear type bitumen pump with inverter **ensures stable bitumen flow and prevents performance loss in the colloidal mill**, so mill can focus its whole production capacity on milling process. Hot oil circulation pump is a 1,5kW ALLWEILER centrifugal pump for thermal oil heated version of the plant.

### Emulsifier and Acid Pumping System



Long-lasting acid and emulsifier pumps ensure easy and fast operation to feed acid-emulsifier weighing hopper precise production. **Dosing systems of additives and emulsifiers can be managed automatically** with possible options.

Drum type pump which resistant to HCl acid.

### Acid and Emulsifier Weighing Hopper



**Acid & emulsifier weighing hopper** (316L stainless steel) is equipped with a **loadcell** and has 60lt operational capacity.

### Control System



Control system of the emulFALT is **manual as a standard**. However, PLC & SCADA control system with embedded touch screen computer on the control panel or control cabin with PC options are available.

### Integrated Bitumen Tank (OPTIONAL)



Integrated Bitumen Tank (IBT) with 9 ton capacity is a perfect solution to keep small amounts of bitumen at required temperature without heating up/cooling down the whole bitumen storage to operational values; and therefore, reducing heating costs. Additionally, it provides production flexibility by allowing to add & mix (with agitator) solid and liquid additives directly into the bitumen prior to milling process.

### Twin WAE Tanks (OPTIONAL)



The integration of Twin WAE Tanks reduces the batch intervals, thus capacity increases with continuous production. While WAE mix is being prepared in one part of the tank, ready WAE mix is being fed into the system.

### Heat Exchanger (OPTIONAL)



The heat exchanger is used for instantly and continuously decreasing the temperature of final product according to required values. It is used for modified bitumen emulsion production and processes that need fast cooling for related applications.



### UKRAINE - emulFALT15 up to 15 t/h

Due to their high reliability and cost-efficiency, emulFALT Bitumen Emulsion Plants have become a well-known product in the area in recent years. The practicality and ease of use as well as competitive price of emulFALT makes it a preferred choice of Ukrainian road builders.



### TURKEY - emulFALT15 w/ IBT up to 15t/h

The proven success of this special emulFALT design with Integrated Bitumen Tank option providing many advantages to the customers in respect to produce various emulsion mixes with different additives, as well as saving money due to its less energy requirements than standard bitumen tanks when producing small amounts of emulsion.



### BOLIVIA - emulFALT15 up to 15 t/h

Despite its far location, we have managed to successfully install and launch a complete bitumen process facility with PMB and emulsion plant to produce modified bitumen emulsion in order to satisfy the needs of Bolivian market. This project is still the biggest machinery export operation between Turkey & Bolivia consists of 75 containers (40' OT).