



PHOTOS MAY SHOW OPTIONAL OR CUSTOMISED EQUIPMENT.



Double basic line



Double basic line



Edgeflex



Longflex



Chess



Single basic line

## THERMOPLASTIC SPRAY AND EXTRUSION APPLICATIONS

The BM 5500 series provides you with a variety of high capacity line marking machines designed for large scale jobs such as marking highways, motorways or airport runways. The material tank capacity can be up to 710L. The possibility of large material capacity naturally gives fewer stops during the day for refilling.

Equipped with a new Deutz diesel engine, the BM 5500 meets the EU Stage IV final (Stage V ready) and US Tier 4 emissions standards. The engine room is also designed to offer you easy access and servicing of the machine through large doors to the engine room.

The BM 5500 has a two-seat slidable drive and operator section for flexible working on the left or right side.

Depending on the equipment, the machine can apply both flat and profiled markings, single and double lines of different widths, as well as the simultaneous application of continuous and interrupted lines.

# KNOWING THE BM 5500

## OPERATOR SECTION

Quick and easy change from side to side for marking left and right. Dual torque steering - good directional stability. Cruise control can be added as optional equipment.

## LINEMASTER COMPUTER

With the LineMaster Computer you can control up to 6 paint or spray guns, 6 bead guns and equipment with up to 24 shutters. Moreover, it controls all these various sets of equipment in this ONE unit.

## EFFICIENT SCREW COMPRESSOR

Hydraulically driven. Positioned behind the operator for quick access. Possibility to turn compressor ON/OFF.

## FULL REAR VIEW

## DIESEL TANKS

Allows for a full day's work.

## ENGINE ROOM

Easy access for service.

## WHEEL MOTOR

2-speed wheel motor. Allows working uphill.

## PRESSURIZED BEAD TANK

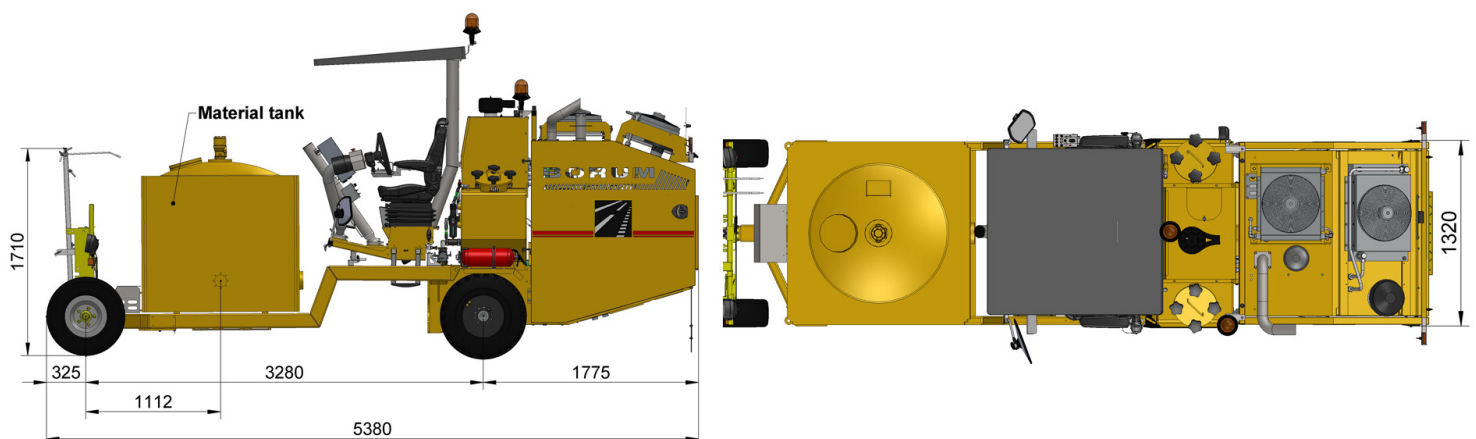
Tank divided in two chambers. Individual or single outlet (2 in 1). Low filler necks for easy refill.

## MATERIAL TANKS

The possibility of an extra large material tank for major works ensures the most efficient workday and fast progression of the road works.

## CHASSIS

Solid double-frame construction



## TECHNICAL SPECIFICATIONS

## ENGINE

Cooling	Water
RatedPower	90kW / 121HP @ 2300rpm
Manufacturer	Deutz TCD 3.6 L4
Cylinder	4 cylinder, 3600cm3
Approval	EU Stage IV final ( Stage V ready) – US Tier 4. CRT + SCR, AdBlue
Type	4 stroke, common rail diesel with turbo and intercooler

## COMPRESSOR

Compressor Capacity Hydraulic driven, air screw 2400 or 4500 L/min @ 10 bar. Integrated oil system with external oil cooler. Water separator.

## FILLING CAPACITIES

Bead capacity	330 L (2 x 165 L). Pressurized (max 3 bars)
Hydraulic tank size	126 L
Fuel tank capacity	159 L (78 +81 L)

## MATERIAL TANK

Material Tank 445 L, 585 L, or 710 L

## DRIVING PROPERTIES

Turning radius	4.90 m.
Steering	Dual torque steering
Drive angle	8° or 14° at 21 km/h, 17° or 30° at 11km/h

## TRANSMISSION

Hydrostatic transmission	For variable speed
Speed	Low gear 0-12 km/h, high gear 0-24 km/h

## ELECTRICAL SYSTEM

Electrical system	12 V / 150 Amp
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## CONTROL UNIT

Borum LineMaster	Program up to 99 different line types. Organise lines in up to 30 marking programs. 8" display. Transfer of daily marking reports. Data about road marking jobs can be accessed online (optional).
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COLOUR

Colour RAL 1007 (Other colours available on request)

## DIMENSIONS

Length	5350 mm
Width	1300 mm
Height	2250 mm (Without Beacon)



# THERMO SPRAY APPLICATION (PUMP)

The thermoplastic spray application equipment works via a pump. The amount of the applied material is set by the pressure of the pump and the air pressure of spraying, but the pump can also be adjusted to the speed of the machine.



## SPRAY-PLASTIC PUMP

Spray-plastic pump operates with a non-pressurized material tank. The pump consists of a hydraulically driven motor, gearbox, clutch, highly durable rotors and pump house. The pump housing is oil-jacketed and isolated. Capacity up to 80 L/min. at 8.5 bar.

The hydraulic control valve adjusts the quantity of spray-plastic material according to the speed of the machine in order to obtain a constant layer thickness.

The application speed for doing spray-plastic can go up to 15 km/h.

## ADVANTAGES WHEN USING A SPRAY PUMP SYSTEM:

- \* The ability to quickly adjust the pressure while driving (controlled in the LineMaster).
- \* Easy filling of thermoplastic due to the lid of the non-pressurized tank being larger compared to the pressurized tank.

## GUN FOR SPRAY-PLASTIC APPLICATION

Automatic high-capacity spray plastic gun. Consists of an oil jacketed gun body and a pneumatic cylinder. Possibility to apply line widths ranging from 10 - 20 cm depending on line thickness, work conditions, application speed and layer thickness. As an alternative, we offer a narrow nozzle, which can spray 5-15 cm with one gun. Optional narrow nozzle size of 3 mm or wide nozzle size of 7 mm.

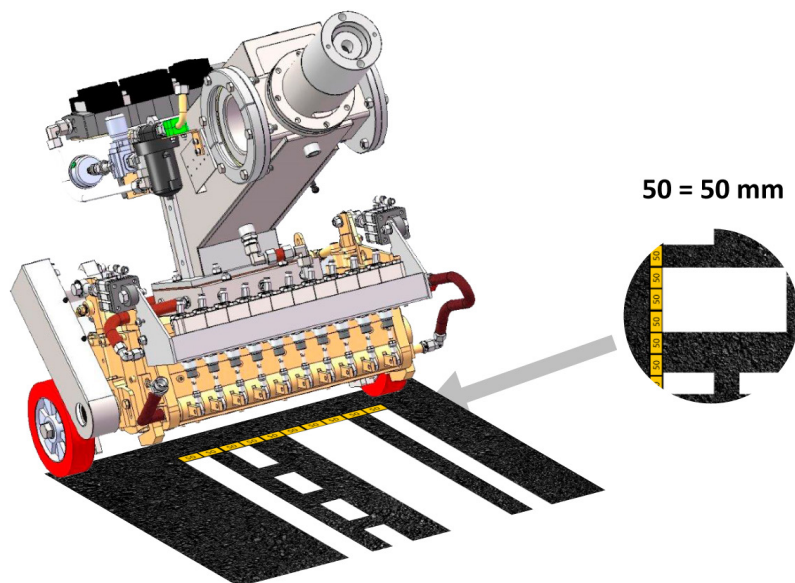
The guns are mounted on a sliding retainer frame, on which 1-3 spray guns and 1-3 bead guns are attached. Easily slidable from side to side for an optimal working position. Ground distance is maintained by retainer wheels to ensure a constant road marking width. All material pipes are oil-jacketed and insulated to maintain an ideal material temperature. Lifting of retainer from operators seat using a hydraulic cylinder.

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# THERMOPLASTIC EXTRUDER

The working principle of the extruder lies in the extrusion of the hot thermoplastic material through the extruder shutters onto the road surface. This allows to switch between line types in seconds with a push of a button. No need for mechanical adjustment.

The thickness of the line is controlled by the slot gap and the speed of the machine, coupled to the thermoplastic feed rate.



Glass beads can be pre-mixed and/or automatically applied with glass bead guns.

You can choose between thermoplastic extruder of 30, 40, or 50 cm in total line width, built-up with 5 cm standard shutters (alternative shutter dimensions in the range of 4-10 cm for alternative line widths).

Effective heating of the complete unit using a centrifugal pump, 42 L/min, hydraulically driven. This ensures optimal performance and that the material does not stiffen and set inside the equipment.

Pneumatic lifting cylinder for up/down function, operation controlled from operator's seat.

Pneumatically controlled quick cleaning system for removal of solids left in the extrusion slot. It

can be activated while extrusion is in process and is only slightly detectable on the line in the form of a moderate thickening of the layer.

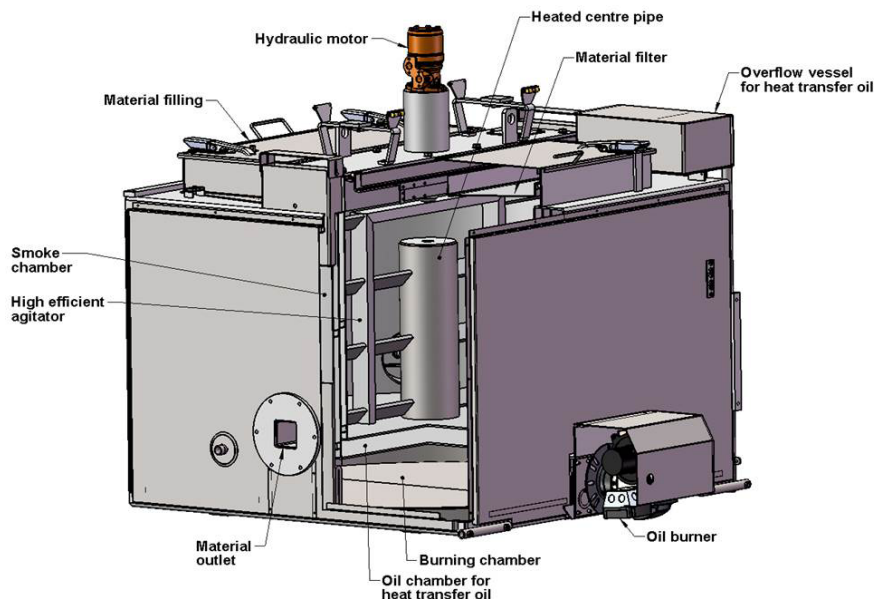
The application speed varies according to the material, line type and width. Usual working speed is 3-6km/h but can go up to 8 km/h for some lines. Speed-dependent settings are possible.

## AUGER SCREW PUMP WITH CONTINUOUS RECIRCULATION SYSTEM

The transport of material from tank to extruder head is done by a hydraulically driven auger screw pump, which is electronically controlled. The screw pump has a permanent thermoplastic recirculation system which ensures a constant flow past the inactive extrusion shutters, keeping these clean and ready for opening. This avoids settling and catching of solid parts and prevents unnecessary wear of mechanical parts.

Build-in pressure regulating system ensures that line width and thickness does not change no matter the number of shutters involved in the current marking assignment.

# NON-PRESSURIZED THERMOPLASTIC TANK



Non-pressurized thermoplastic tank, indirectly heated via heat transfer oil. The thermal oil and thermoplastic material temperature is thermostatically controlled and regulated automatically according to the settings

## BURNER SYSTEM

Diesel burner system for heating of the thermal oil (and thermoplastic). Propane burner is available on demand.

## VERTICAL AGITATOR (MIXER)

With hydraulic transmission. Heated center pipe for efficient uniform temperature control. Perfect melting & homogenization of the thermoplastic. Stable construction with foundation and bearings at the top of the material tank.

## LINEMASTER FEATURES

The Borum LineMaster control unit is an easy way of setting and controlling your line marking jobs. The LineMaster is attached to the operator's section of the machine and gives you full control of all your line marking tasks, from line application and pre-marking to reporting and invoicing.

It is possible to store up to 99 different line types, and to arrange these in up to 30 different marking programs. You are also able to pre-set line widths, line types and different combinations to have them ready for marking, and can instantly adjust them on the go.

Furthermore, you are able to view the status of various parts of the machine (e.g. compressor) on the computer screen that will help with correctly maintaining the machine and avoiding break downs.





## ADVANTAGES OF THERMOPLASTIC SPRAY EQUIPMENT

The spray plastic application equipment that works with a pump gives you the possibility of quickly adjusting the pressure while driving. Our LineMaster may also to a certain extent do this automatically.

Furthermore, filling and thermoplastic filtration is easy, since the tank lid is larger than the one on the pressurized tank. Sprayed thermoplastic forms a uniform application that is more durable and dries faster compared to cold paint applications.



## THERMOPLASTIC FEATURES

Thermoplastic is a durable material that cures quickly and adheres strongly to the road surface. It can be used for applications of both flat lines (also known as type 1 lines) or of thick profiled lines and markings (also known as type 2 lines).

This type of material is used on various types of roads, but you will often see it on highways or motorways as it can withstand high traffic density, it has a high visibility at night and during wet conditions and glass beads can be mixed in for enhancing visibility.



## TYPICAL USES:

Thermoplastic is generally used on roads with high traffic volume and low night visibility as highways and motorways.



## LEARN MORE

Find out more in the Borum Knowledge Lab.



# ADDITIONAL EQUIPMENT

The additional equipment can be mounted on the machine according to your requirements. They are not necessary for the running of the machine but add to the comfort of the machine driver or to the functionality of the machine.



**Pre-marking system with paint can**



**Pre-marking system with paint gun**



**Bar with pneumatic lift for mounting warning lights**  
(Comes without lights)



**Sunshade with 1 rotating light**



**Remote control for BM Lin-eMaster**



**BORUM Online**



**Quick shift**



**Bead alarm mounted on bead gun**



**Pointer turning with steering**  
With hydraulic lifting system



**Hydraulic broom**



**Airknife**



**Fixed pointer**  
With hydraulic lifting system



**Ejector filling of bead tank**



**Air drier for bead tank**