



PHOTOS MAY SHOW OPTIONAL OR CUSTOMISED EQUIPMENT.



Basic Line  
(Continuous)



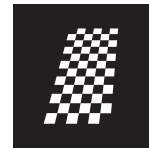
Basic Line  
(Interrupted)



Edgeflex



Longflex



Chess

## SPRAY PLASTIC AND EXTRUSION APPLICATION

The Borum® Master 3000 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 445L. The possibility for the large material capacity naturally gives fewer stops during the day for refilling.

The BM 3000 has a two-seat slidable drive and operator section for flexible working on 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 for simultaneous application of continuous and interrupted lines.

# KNOWING THE BM 3000

## FULL REAR VIEW

### OPERATOR SECTION

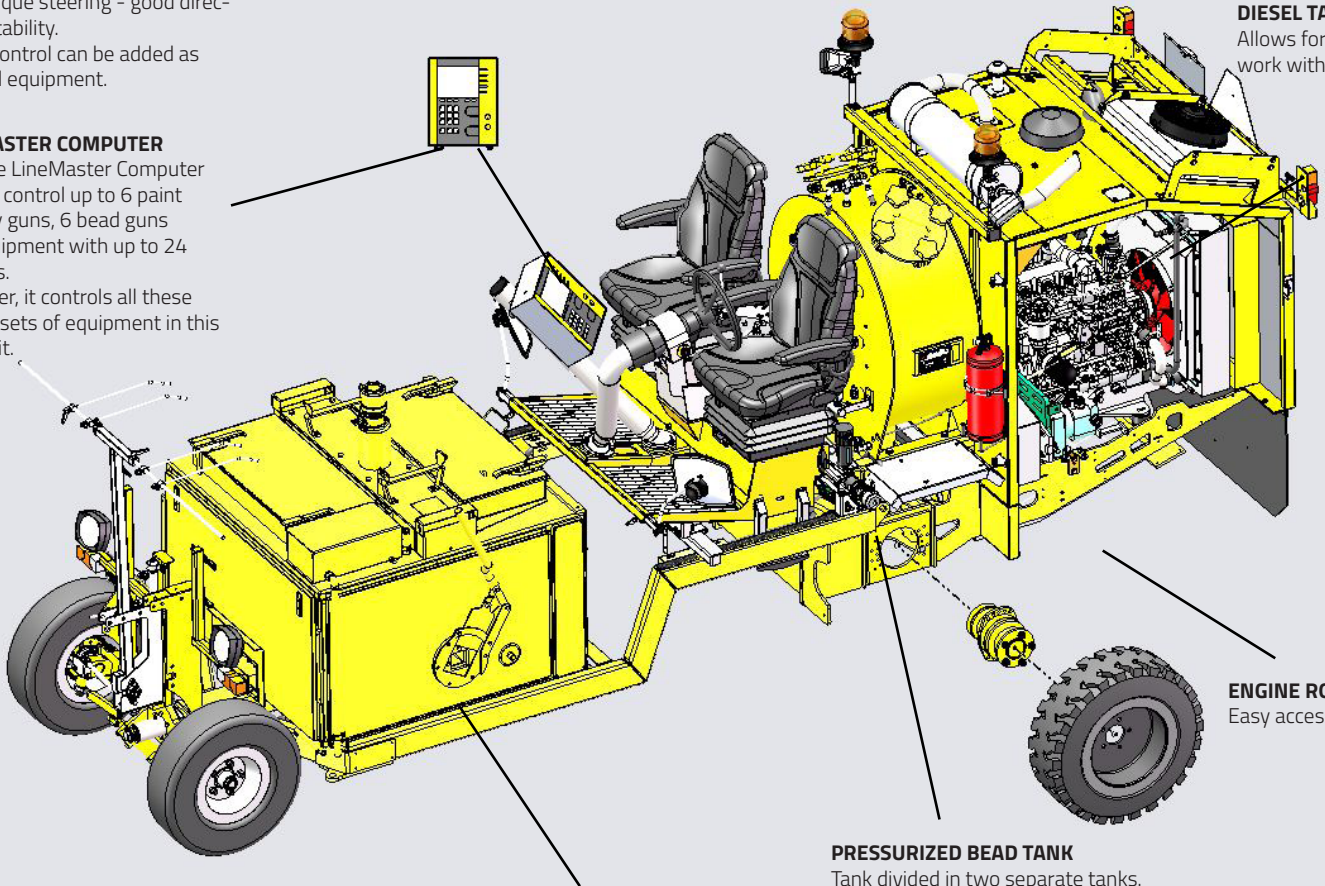
Quick and easy change from side to side for marking left and right. Dual torque steering - good directional stability. Cruise control can be added as optional equipment.

### 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.

### DIESEL TANKS

Allows for a full day's work without refuelling.



### ENGINE ROOM

Easy access for service.

### PRESSURIZED BEAD TANK

Tank divided in two separate tanks. Individual or single outlet.

### MATERIAL TANKS

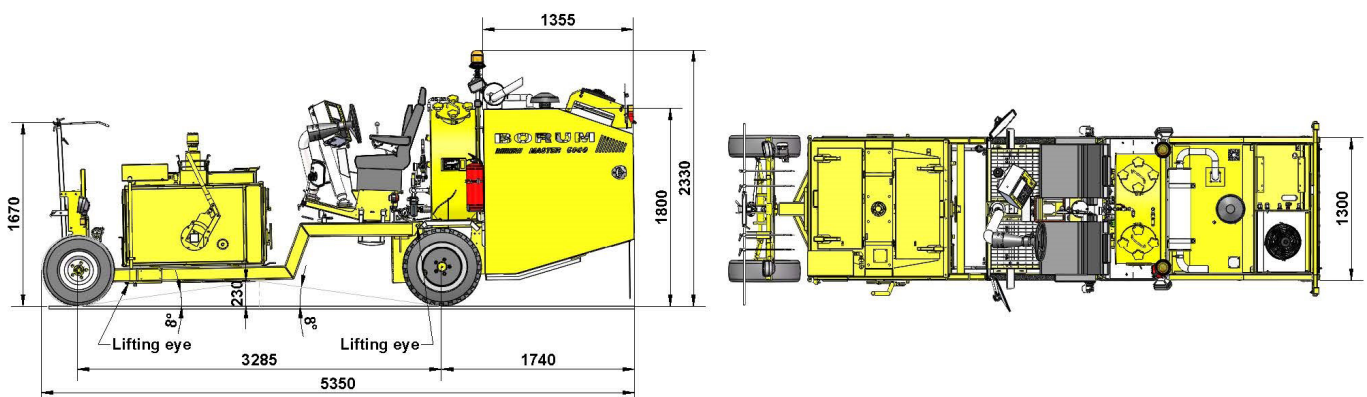
The possibility of an extra large material tank for major works ensures the most efficient workday and fast progression of the road works. Combination of hot thermoplastic and cold paint is also possible on an extended chassis.

### WHEEL MOTOR

2-speed wheel motor  
Allows working uphill

### CHASSIS

Solid double-frame construction



# TECHNICAL SPECIFICATIONS

ENGINE	
Manufacturer	Kubota
Type	Turbo
Cooling	Water
Cylinder	4 stroke 3600 cm <sup>3</sup>
RatedPower	63 KW
Approval	EU Stage IIIA resp. TIER 3
COMPRESSOR	
Compressor Capacity	Choice of 1-2 compressors can give 1800 - 3600 L/min @ 10 bar. Integrated oil-cooling system. Air-cooler incl. water separator
FILLING CAPACITIES	
Fuel tank capacity	180 L (2 x 90 L)
Hydraulic tank size	93 L
Bead capacity	330 L (2 x 165 L). Pressurised (max 3 bars)
MATERIAL TANK	
Material Tank	445 L
DRIVING PROPERTIES	
Drive angle	10.4 degrees / 18% (5000 kg)
Turning radius	4.90 m.
Steering	Dual torque steering
TRANSMISSION	
Hydrostatic transmission	For variable speed
Speed	0-22 km/h
ELECTRICAL SYSTEM	
Electrical system	12 V / 130 Amp
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. See more detailed info.
COLOUR	
Colour	RAL 1007 (Other colours available on request)
DIMENSIONS	
Length	5350 mm
Width	1300 mm
Height	2250 mm

# THERMOPLASTIC SPRAY APPLICATION (PRESS. TANK)

The thermoplastic spray application equipment works via a pressure tank. The amount of material that is put on the road is set by the pressure of the tank and the air pressure of spraying. This offers you an easy to use the system.



Sliding retainer frame, upon which 1-3 spray guns and 1-3 bead guns can be attached. Easy slidable from side to side for an optimal working position. Ground distance is maintained by retainer wheels hereby ensuring a constant road marking width.

Lifting of retainer from operators seat is done using a hydraulic cylinder.

All material pipes are oil-jacketed and insulated to maintain an ideal material temperature.

Effective heating of the complete unit using a centrifugal pump, 42 L/min, hydraulically driven.

Line thickness is typically between 0.75 mm to 1.5 mm

Marking speed up to 15 km/h depending on the work conditions, operator, etc.

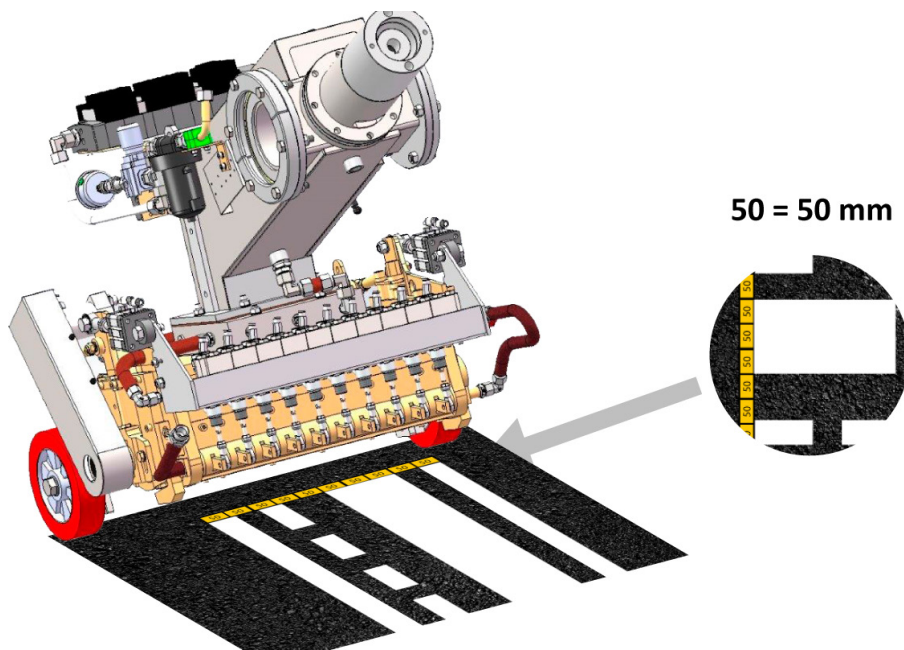
## **BM SP 2500 SPRAY-PLASTIC GUN**

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.

# THERMOPLASTIC EXTRUDER

The working principle of the extruder lies in the extrusion of the ready hot thermoplastic material through the extruder valves onto the road surface. Glass beads can be automatically applied. The thickness of the line is controlled by the slot gap and the speed of the machine, coupled to the thermoplastic feed rate.



Thermoplastic extruder set-up ranging from 30-50 cm total line width, built-up with 5 cm standard valves (alternative valve dimensions in the range of 4-10 cm for alternative line widths). Hot-oil heated equipment for optimal performance.

Effective heating of the complete unit using a centrifugal pump, 42 L/min, hydraulically driven.

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

The shutters do not touch the high tensile steel drum and therefore the lifetime is long.

Pneumatically controlled quick cleaning function for the removal of solids left in the extrusion slots can be activated while extrusion is in process.

Continuous circulation of the thermoplastic inside the equipment. This avoids settling and catching of solid parts and prevents unnecessary wear of mechanical parts.

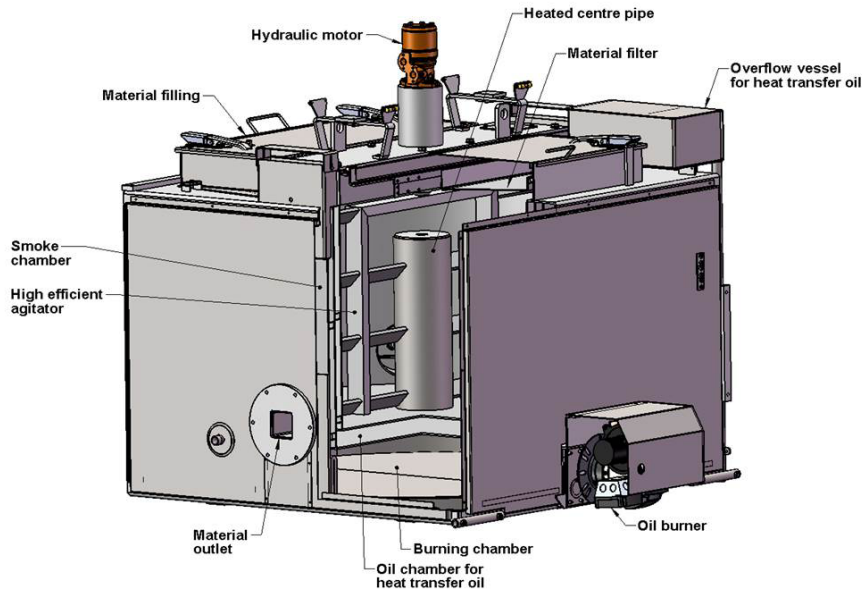
The application speed goes up to 8-10 km/h. Speed-dependent settings possible.

## SCREW PUMP WITH CONTINUOUS RECIRCULATION SYSTEM

The transport of material from tank to extruder head is done by a hydraulically driven screw pump, which is electronically controlled. The screw pump has a permanent thermoplastic recirculation system which ensures a constant flow past the in-active extrusion valves, keeping these clean and ready for opening.

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

# PRESSURIZED MATERIAL TANK



## THERMOPLASTIC PRESSURIZED TANK:

Pressurised tank indirectly heated via thermal oil. The thermal oil and thermoplastic material temperature is thermostatically controlled and regulated automatically.

## BURNER SYSTEM

Diesel burner system for heating of the thermal oil (and thermoplastic). Propane burner 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 allows you efficient control of all 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, colours and combinations to have them ready for marking, and can instantly adjust them on the go.

## CRUISE CONTROL

For your convenience we recommend use of cruise control. Read more about the cruise control in the Borum Knowledge Lab on [www.borum.as](http://www.borum.as).

## QUICK CLEANING

Pneumatically controlled quick cleaning system for removal of solids left in the extrusion slot. Can be activated while extrusion is in process and is only slightly detectable on the line in the form of a moderate thickening of layer.

## RAW MATERIALS

We recommend using a high quality application material. Please contact your material supplier for further advice on choosing the right material.

## THERMOPLASTIC SPRAY ADVANTAGES

Due to the equipment working via a pressure vessel, it is very simple and easy to use as the pressure in the vessel is the same as the pressure in the application. Furthermore, the tank requires very little maintenance.

Thermoplastic spray markings are a cost-efficient solution as the applied lines do not require as much material as extruded profiled markings. Furthermore, this type of material forms a uniform application that is more durable and dries faster compared to cold paint applications.



## FEATURES THERMOPLASTIC EXTRUDER:

Extrusion applied thermoplastic road markings are available in various levels of Luminance, Skid Resistance & Reflectivity.

- Audible linemarking that is used on road edges.
- The raised marking produces a sound when a vehicle drives over it.
- Immediate retroreflectivity.
- Durable thermoplastic and long lasting markings.

Depending on the set-up of the extruder, lines of 30 – 50 cm width can be applied. The extruder may be used for the application of various types of plain and profiled lines, single and double lines of different widths, as well as for simultaneous application of continuous and intermittent lines.



## TYPICAL USES:

Thermoplastic is generally used on roads with high traffic 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.



**Quick shift**



**Ejector filling of bead tank**



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



**Fixed pointer**  
With hydraulic lifting system



**Cruise control**



**Sunshade with 1 rotating light**



**Bead alarm mounted on bead gun**



**Remote control for BM Lin-eMaster**



**Cone holder**



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



**Air drier for bead tank**



**GPS system**



**Pre-marking system with paint gun**



**Airknife**



**Pre-marking system with paint can**