

# HENAN SINORoader HEAVY INDUSTRY CORPORATION



## Automatic Bitumen Sprayer

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## ABOUT US

HENAN SINORoader HEAVY INDUSTRY MACHINERY MANUFACTURING CO.,LTD,WE ARE LOCATED IN ZHENGZHOU CITY OF HENAN PEOVINCE,WHICH IS NOT ONLY ONE OF THE LARCEST INDUSTRIAL ENTERPRISE GROUPS OF CHINA BUT AL SO ONE OF THE KEY ENTERPRISES IN CHINA'S CONSTRUCTION MACHINERY INDUSTRY.OUR TOTAL ASSETS AMOUNT TO ABOUT RMB1.2 BIL-LION;WE HAVE ABOUT 1200 EMPLOYEES:OUR COMPANY COVERS A GROSS AREA OF MORE THAN 80,000M<sup>2</sup>

# Brief Introduction

## Introduction

- The automatic asphalt distributor is researched and developed by our company on the basis of many years of construction and equipment design experience combined with the present road conditions. It is one of the series of asphalt distributing machinery which is easy-operated, economical and practical. It is professional construction equipment specialized in spraying emulsified asphalt, cutback asphalt, hot asphalt, hot modified asphalt and various binder.
- On the basis of introduced advanced technologies both domestic and abroad, this distributor add some humanized designs that ensure technical content of construction quality and improve construction conditions and environment. Heat oil pipe is equipped in asphalt pipelines. Heat oil internal heating method guarantees liquid running smooth and prevents asphalt from coke burning. In the process of manual spray, the rotation indicator reads asphalt pump rotation speed. The operator could calculate the corresponding vehicle speed and asphalt rotation speed to different spray volume according to our specified formula, so as to guarantee uniform spray volume. In the process of automatic spray, the operator just set spray volume in the console and start velocity meter, and then the automatic control system could regulate asphalt pump rotation speed according to the vehicle speed, so as to guarantee precise and even spray. Its reasonable designs guarantee the asphalt spray uniformity. This product gets through the strict detection of our operators and enjoys stable and reliable construction performance, and is known as ideal economical road maintenance equipment.



# Brief Introduction

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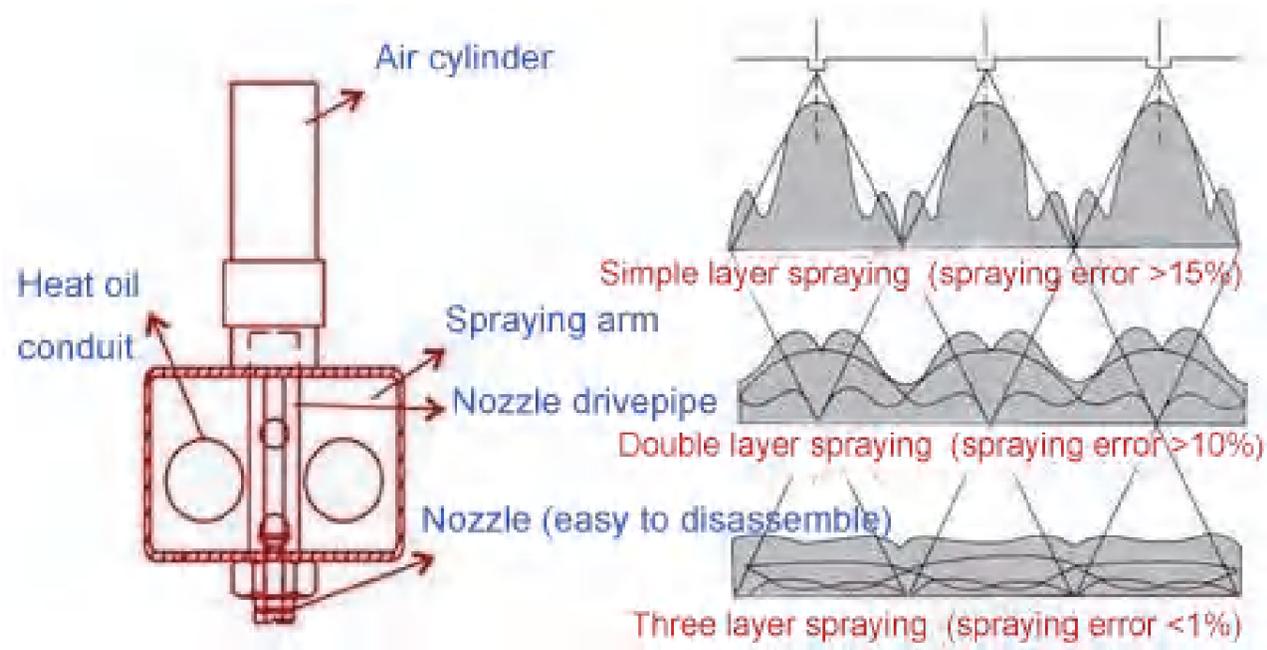
- It could be used to deal with upper and lower seal layer, prime layer, asphalt surfacing, asphalt penetration surface, fog seal layer and so on. It also could be used to transport liquid asphalt and other heavy oil.
- Tack coat is for combining the multiple layers together. Tack coat acts as a binder with high bond strength and high anti-shear strength; for this purpose, modified emulsion is better than normal emulsion. It is recommended to use quick breaking modified emulsion in tack coat. Prime coat is the thin penetration layer with liquid petroleum asphalt, coal tar or emulsion base on the non-asphalt base to make the top asphalt layers combine well with the non-asphalt base. Seal coat is a thin asphalt mixture layer for sealing the road surface pores to prevent water penetrating into surface or base. Seal coat on surface is top seal coat and under surface is bottom seal coat.
- After a few years service, the asphalt pavement would have slight cracks and fine aggregates losing and lose the waterproof ability. Water will penetrate into the road structure through the small cracks and lost aggregates space to damage the road. In the status, the road is good in basic condition. If the small disease could not be treated in time, they will lead serious damage like network cracks, chapping and pits, etc. The most effective treatment method is FOG SEAL with very low costs for these small problems. After fog seal treatment, the flowing materials could fill slight cracks and aggregates spaces to recover the asphalt adhesion and prevent water penetrating through cracks and pores. It would sustain the good service condition for 2 or 3 years to earn more time for later maintenance work with high costs.



# Brief Introduction

## Operation principle

◆ The operating principle of asphalt distributor is to pump the hot asphalt from asphalt storage pool into asphalt tank through asphalt pump; Transport it to construction site and heats the asphalt up to working temperature by heating system; Open asphalt pump and spraying valve by operating electrical apparatus control system; According to three overlapping spraying effect to spray the hot asphalt on pavement on the basis of measured distributing amount and pressure. The residual asphalt in pipeline will be transported into asphalt tank after finishing the work.



## Construction technology introduction

◆ Asphalt distributing is used special asphalt distributor to spray hot asphalt on pavement on the basis of measured distributing amount and pressure. It is mainly used deal with the construction of upper and lower seal coat, prime layer, asphalt surfacing, asphalt penetration surface, fog seal layer and so on.



# Features

## Main Performance

- (1) Intelligent control: The spray operation control can be completed in the cab, the touch screen sets the spray-amount, and the rear operation platform is provided. The amount of sprinkling can be controlled manually or automatically.
- (2) Quantitative spraying: The spraying process is controlled by the microcomputer from time to time, the pump speed is synchronized with the vehicle speed, and the computer speed compensation is used, and the external power output is separately used.
- (3) Width control: sprinkle width can be freely adjusted, unique nozzle design, can be manually controlled separately, the maximum spray width of up to 4 meters.
- (4) Uniform spreading: The unique nozzle design can be used for three overlapping spraying, and the spraying amount is very uniform within the range of 0.4-2KG/m<sup>2</sup>.
- (5) Convenient maintenance: After the spraying, the asphalt pump and nozzle do not need to be cleaned with diesel. The high-pressure air is used to press the asphalt in the pipeline and the spray pipe back to the tank, and then the oil passage and nozzle are purged.
- (6) Free configuration: The equipment is self-contained and the selected chassis must have low speed stability(3-8 km/h). Party A only needs to provide the vehicle model, the inner diameter of the bucket, and the height from the ground. Can also be customized according to the customer's existing vehicles, hoisting structure, can achieve a multi-purpose vehicle, saving investment for customers.
- (7) Spray media: can spray emulsified asphalt, diluted asphalt, hot asphalt and so on.



## Product advantages

### Working condition

- Environment temperature : 0 ~ 45°C ; RH:≤95% ; Altitude : ≤3000m.

### Composition

- It mainly has chassis, asphalt spray system, air circuit system, heating system, water circuit system, hydraulic system, speed measuring system and power supply system. Compact structure, good appearance, strong bearing capacity, easy operation, stable performance.



### Main technical parameters

Model	BS-4	BS-5	BS-6	BS-8	BS-10	Remark
Volume	4m <sup>3</sup>	5m <sup>3</sup>	6m <sup>3</sup>	8m <sup>3</sup>	10m <sup>3</sup>	
Spray Amount	0.3-2kg/ m <sup>2</sup>					
Spray Width	0-4m					Can be customized
Asphalt Pump Model	LQB-200/0.6 Maximum flow12m <sup>3</sup> /h(1400rpm)					
Burner Model	TBL20		TBL26			BALTUR from Italy
Engine Power(kw)	18					
Weight	2.3t	2.5t	2.8t	3.2t	3.5t	
Dimensions ( L*W*H )	4*2*1.8m	4.2*2*1.8m	4.5*2*1.8m	5*2*1.8m	5.5*2*1.8m	Can be customized

## Product advantages

### Asphalt tank

- The tank body has the advantages of safety, reliability and fast heating speed. It has washboard in the tank, which can protect from hidden danger. Asbestos insulation layer with thickness of 100mm preserves heat of heated asphalt. Good anticorrosion and durable insulation layer maintain temperature drop by no more than 12°C /8h. Stainless steel frosted board out of the insulation layer is elegant and easy to clean. Vents are on the tank to keep the ordinary pressure. It can self-priming and discharge, which can add or discharge the asphalt automatically, increase the efficiency.



### Spray System

- Asphalt pump :which has good pumping capacity, large discharge capacity, can do a better performance of asphalt circulation and spraying. Asphalt Pipeline can realize the heating oil whole coverage, guarantee the smooth circulation of asphalt in the pipeline. Special folding Spray Bar are used proper asphalt circulation and precise nozzle design ensure the accuracy and uniformity distributing precision. It can spray all kinds of asphalt, especially hot (modified) asphalt, diluted asphalt, emulsified asphalt. Spray volume : 0.2-3kg/m<sup>2</sup>, 48 nozzles in all, each has the space of 125mm. Each nozzle can be controlled by computer. High precision spraying, and aren't influenced by speed. Computer control the whole process of spraying, it can change the spraying width any time to meet the need of different pavement.



## Product advantages

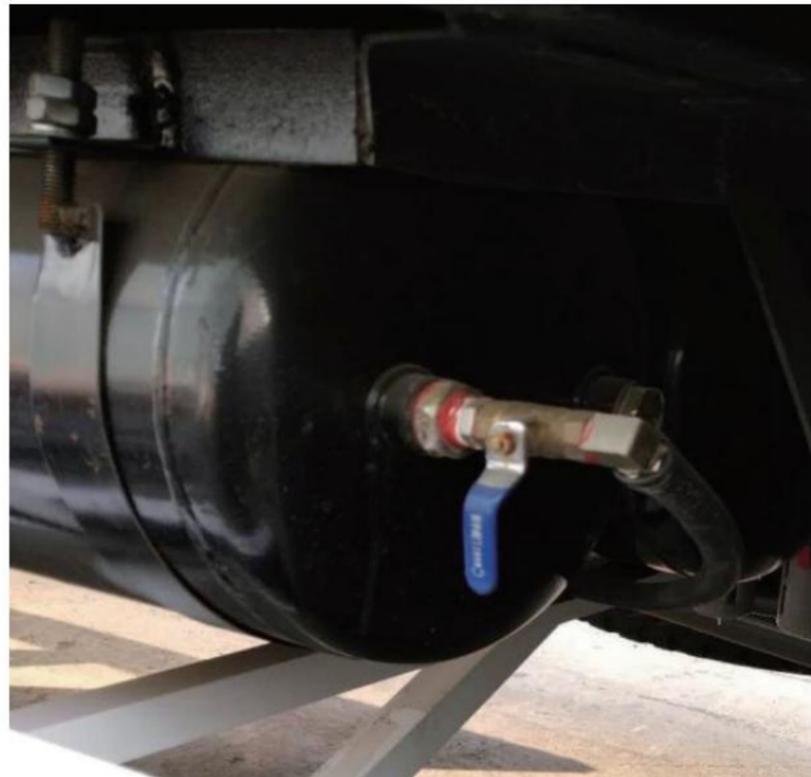
### Heating System

- Italy RELLIO diesel burner is applied.
- U-shape heating tube make the system heat fast.
- The heating oil coil pipes are parallel double loop, make the heat speed fast.
- The heating oil makes the asphalt cover all the pipe, which can realize no-clean.
- The upper and lower limits can be set, which are more safe and reliable.



### Air circuit system

- Plenty air source directly from the chassis guarantees the good performance of asphalt spray, spray bar lift and swing, air control angle seated valve and water system.
- Long-life service solenoid directional valve and elements are used.
- Different air circuit Pressure regulating valve and ball valves controls , ensure the main vehicle air circuit and the different circuits without interference.



## Product advantages

### Water circuit system

- ◆ The water nozzle are installed on the upper part of each tire,which can effectively prevent asphalt adhesion on the tires during the construction process,avoid tire skidding on the mountain road and reduce tire temperature of long distance travel in summer.
- ◆ The main vehicle air circuit give the pressure to the water tank,simple and convenient.



### Hydraulic system

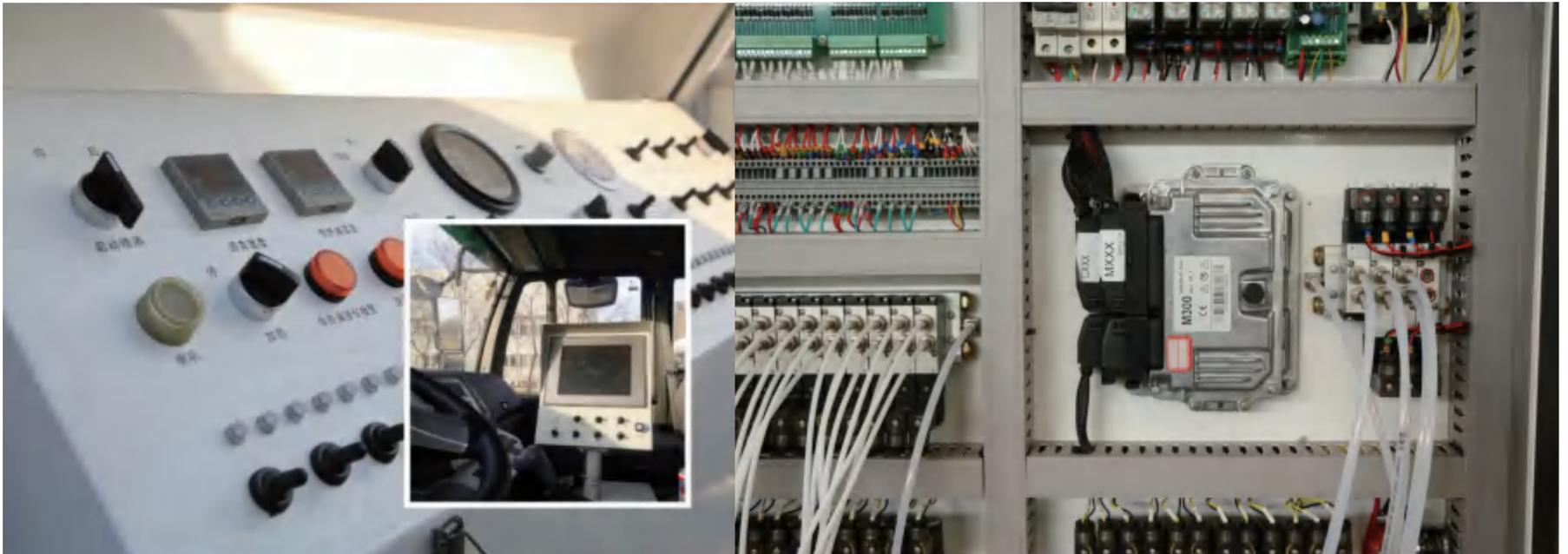
- ◆ Key hydraulic components adopt abroad famous brand,quality is stable and reliable.



# Product advantages

## Electric control system

- Asphalt spray can be controlled in the cabin with operation buttons or on the operating platform at the end of vehicle.
- It adopts vehicle control, to improve the stability of electrical system.
- Work according to the different requirements for operators to provide accurate distributing parameters, through the cabin or the back platform, the actual measurement parameters changing accurately reflects the operation of the equipment.



- Control system can modify parameters based on the actual asphalt density and load amount to accurately control the output of asphalt pump to keep spray precision error of  $\pm 1\%$ .
- The asphalt pump rotation speed, speed gear accurate testing to ensure that the asphalt distributing precision.
- It is also simple to operate manually. Flexible switch between manual and auto mode could improve working efficiency.
- Distribution box design with high protection against corrupt design, reduce the power distribution box components by tar and dust pollution.

## PROJECT CASE



Asphalt Distributor in Uzbekistan



Asphalt Distributor in Nigeria



Synchronous Chip Sealer in Ethiopia



Automatic Bitumen Sprayer in Australia

# HENAN SINORoader HEAVY INDUSTRY CORPORATION



Asphalt Distributor in Thailand



Synchronous Chip Sealer in Peru



Automatic Bitumen Sprayer in Africa



Asphalt Distributor in Philippines

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