ZOOMLION

DTU Series

Технические характеристики

DTU75G/H75G Multi-functional Paver Introduction

DTU75G/H75G is brand-new multi-functional paver latest developed by Zoomlion, mainly used for road stabilizing material paving and also meets paving requirement of asphalt concrete and RCC material. It adopts advanced technology from modern worldwide well-known brand, is a hi-tech product with mechanical-electrical –hydraulic integration. With intelligentized control level and service convenience increased, and with product structure optimized, it's more suitable for large-scale transit mixer. It is featured with advance performance, logical design and sophisticated process. The main components are from world famous brand to increase machine reliability. In all, it is the ideal equipment for road construction.

I. High degree of intelligence and advance technology;

1. Adopts control system with display to automatically display each parameter of working condition, and then gives the alarm if failures occur.

2. Emergency control and remote monitoring to reduce the fault rate.

3. Electronically controls the screed lifting, lowering and floating via the panel to reduce the fault rate associate with handle control mode.

4. Major systems (such as traveling, spiral distributing, screed feeding) are driven by independent hydraulic driven both at the right and the left, with automatic control function. The factors is minimized which affect the paving accuracy to ensure paving stability and accuracy. Tamper pounding and screed vibrating are driven by hydraulic oil, with variable speed control function. This could be suitable for different working conditions.

5. Traveling system adopts imported controller specially used for big-scale pavers, ensuring the straight, constant speed traveling and smooth turning. It is equipped with start/stop control specially used for Zoomlion. Therefore the paving precision is high. This completely satisfies the rigorous paving requirements for high-way asphalt road.

II. High reliability and strong capability to adapt to working conditions

1. If the failure of control system occurs, please carry out emergency operation or movement via control panel.

2. All major mechanisms (such as traveling, scraper feeder, spiral distribution, pounding and vibrating) are independent hydraulic driven and controlled, with low fault rate. Therefore it is safe and reliable.

3. Optimal design of hydraulic system and automatic temperature control could make sure the quick start at low temperature and the quick heat dissipation at high temperature. This could ensure the optimal temperature of paver working.

4. Feeding height of hopper is relatively low. The hopper steel thickness is up to

16mm, with high rigid. It is equipped with independent support at one side to avoid transmit mixer damaging the paver.

5. Adopts part 3 transfer case originally imported from Germany with a little heat dissipation. The installing space between the master pump and its oil pipe is large for maintenance. The coupling is also original imported form Germany, ensuring reliable paving.

6. Hydraulic main pump for traveling, spiraling, tamping adopts Germany Rexroth or USA Sauer variable axial piston pump. Reducer and motor adopts famous brand from USA, Germany and Italy. It is featured with high bearing load, reliability and long life.

7. Drive wheels of walking system adopt USA CAT standard gear shape made by forged alloy steel. It is of more walking reliability than that made by cast steel.

8. Top quality of material:

1) Structural parts- high-quality, low- alloy, high-strength steel

2) Baseboard of screed etc - special steel of high- abrasion imported from Sweden or Japan.

3) Tamper head- die steel used for special wire drawing

4) Bearing seat, tamper seat, connecting rod- medium carbon steel of completely modulated.

5) Spiral blade- chromium-alloy abrasion-resistance cast iron.

III Easy to use and operate, high working efficiency

1. To make sure the stability of paving quality during the paver stopping, please push forward the walking handle, and then all major mechanisms will automatically walk at the preset speed only after the walking, spiraling, scraper, vibrating, and tamper are set as automatic status. This ensures the continuity of paving thickness and density. It's easy to operate.

2. With smart operation desk, it could rotate around medium box by 180°to facilitate the driver's work. Logical button layout on the panel is easy for driver to understand and operate.

3. Hydraulic control valve block is located outside of fuel tank; therefore the driver could carry out inspection standing outside of paver. Each hydraulic sub-system is mounted with a quick testing connector, facilitating the driver checking and debugging system pressure, and then ensuring the hydraulic system properly working.

4. Diesel inlet and hydraulic oil inlet are located in cab. If opening the engine hood, you could see the whole drive system to facilitate the maintenance.

5. Zoomlion's all master pumps are located on the transfer case and PTO. The driving equipment at the fan end is canceled, simplifying the structure and increasing reliability and adaptation.

6. Centralized automatically lubricating system is controlled by a computer to ensure sufficient lubricating of each mechanism. Therefore the maintenance workload will be greatly reduced.

Ⅳ. Screed technical features

DTU75G paver is equipped with JPA screed (mechanical extended, heating of spitfire tube, double-tamper signal-vibration). The screed is optimally designed by a computer in strength and rigid respect. With 6-step adjustable pounding stroke, the paving density and evenness is very high. Deformation space satisfies the camber adjustment requirement. Wear-proof base-plate structure and connecting mode meet the box torsion equipment.

DTUH75G paver adopts two-stage telescopic screed, with basic width of 3m and basic telescopic width of 3-6m. Max. paving width is up to 7.5m after mechanical extension. One-sided telescopic stroke is driven by two hydraulic cylinders. There are 3 telescopic rod at one side to strengthen rigid. The whole screed has 4 telescopic cylinders, 6 rods, increasing the whole rigid.

DTUH75G paver is equipped with HFA fuel fan, creed of heating type double-tamper single-vibrator (heating system option) and electronic automatic ignition. It is featured with quick and even heating and windproof.

A set of horizontal pull rod or side tensioning cylinder is respectively installed on the front of machine frame (LH, RH) and on the outermost of screed (LH, RH). This greatly increases the screed levelness and could pave the ideal road surface even if there is a large paving resistance.

Main technical parameters of DTU75G/H75G multifunctional paver

Paving width 2.5 ~ 7.5m(DTU75G) 3-7.5m（DTUH75G）
Basic paving width 2.5m(DTU75G) 3m(DTUH75G)
Engine model/power: Shanghai diesel engine SC8D190G2B1 (supercharged), 140Kw
Max. paving width 300mm
Paving speed 0 ~ 16m/min stepless speed governor
Traveling speed 0 ~ 2.6 Km/h stepless speed governor
Theoretical productivity 600t/h
Number of tamper 2 pieces
Tamper frequency 0 ~ 25Hz stepless speed governor
Vibrator frequency 0 ~ 50Hz stepless speed governor
Camber adjusting -1 ~ +3%
Density
Stabilized earth ≥85％
Asphalt concrete ≥90％
Evenness (asphalt concrete) 3mm/3m (stabilized soil) 4mm/3m
Traveling mode: crawler type, bilateral independent drive
Hopper capacity 14t
Scraper feeder speed 18m/min
Spiral distributor diameter φ420 φ360 mm
Spiral distributor speed 0～120rpm stepless speed governor

DTU75G/H75G Multi-functional Paver Assembly Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Engine SC8D190G2B1/140kW	1	Shangcai diesel engine, water cooling
2	Transfer case A4374	1	Germany Stiebel
3	Reducer GFT/CT/7C series, traveling	2	Germany Rexroth or USA Fairfield or Italy Bonfigiol
4	Spiral reducer RR710	2	Italy Reggiana Riduttori
5	Scraper reducer RR710	2	Italy Reggiana Riduttori
6	Track chain and track roller	1 set	Worldwide famous brand
7	Bearing	1 set	Sweden, Germany or Japan
8	Separated type 320, rubber track shoes	1 set	Taiwan Everpads
9	Centralized lubricating system	1 set	Germany Beka or Vogel
10	Wear-proof solenoid	1 set	Imported from Sweden or Japan
11	Conveying chain, scraper	1 set	Jiangsu Shuangling
12	Drive chain, spiral scraper	1 set	Worldwide famous brand
13	Spiral blade	1 set	Chinese high wear-proof alloy
14	Structural parts	1 set	High-strength manganese steel, high quality
15	Tamper head	1 set	Die steel, special heat treatment, high quality

DTU75G/H75G Multi-functional Paver Hydraulic System Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Hydraulic pump A10VG or H1T tandem pump, traveling	2 or a pair	Germany Rexroth or USA Sauer
2	Hydraulic pump A10VG or MPT tandem pump, spiraling	2 or a pair	Germany Rexroth or USA Sauer
3	Hydraulic pump AZPF-1X022 or PRR tandem pump, scraper	2 or a pair	Germany Rexroth or USA Sauer
4	Hydraulic pump A4VG or 42 series, tamper	1	Germany Rexroth or USA Sauer
5	Hydraulic pump AZPN or PLN, vibrating	1	USA Permco or USA Sauer
6	Auxiliary pump P097 or PLN\ SNP2	1/2	USA Permco or USA Sauer
7	Motor A6VE or 51C or H1 series, traveling	2	Germany Rexroth or USA Sauer
8	Motor OMTS315, spiral	2	USA Sauer- Danfoss
9	Motor OMTS315, scraper	2	USA Sauer-Danfoss
10	MOTOR A2FM or MMF/A2FM or A2F, Tamper	1/4	Germany Rexroth or Linde or Chinese top brand
11	Motor KM1 or SNM2, vibrating	1/4	Germany Kracht or USA Sauer
12	Hydraulic rubber hose	1 set	USA PARKER' rubber hose, joint and seals
13	Hydraulic valve	1 set	Germany Rexroth\Bucher or USA Eaton\SUN .etc

DTU75G/H75G Multi-functional Paver Electrical System Configuration Table

Name	Configuration	Number	Description
Sensor, longitudinal wave	Tonly G176M	2	Joint completely mating with laser scanning controller
Sensor, transverse wave	Tonly S276M	1	Joint completely mating with laser scanning controller
Sensor, ultrasonic	Tonly CLW-14	2	Joint completely mating with laser scanning controller
External control table	Zoomlion	2	
Toggle switch	USA Honeywell		High reliability and long service life
Controlling handle	Germany GESSMANN		High reliability and long service life
Button	France Schneider		High reliability and long service life
Relay	Germany HELLA		High reliability and long service life
Controller, traveling	Germany iffm controller, original binding	1	Traveling controller specially used for pavers. Detecting the working condition at the site Checking the failure and setting parameters. Realizing the completely closed-loop control and increasing the backward closed-loop control.
Display	Germany iffm display, original binding	1	

Product Technical Standard

1	GB/T16277-2008	Asphalt Concrete Paver
2	GB50092-1996	Code for Construction and Acceptance of Asphalt Pavement
3	GB/T3766-2001	Hydraulic Fluid Power-General Rules Relating to Systems
4	GB/T3846-1993	Emission Standard for Smoke at Free Acceleration From Vehicle With Diesel Engine
5	GB/T4094.2-2005	Electic Vehicle-Symbols Controls, Indicators and Tell-tall
6	GB/T4798.5-1991	Environmental Conditions Existing in the Application of Electric and Electronic Products Ground Vehicle Installations
7	GB7258-2004	Safety specifications for power driven vehicles operating on roads
8	GB/T13802-1992	The Current Method of Sound Measurement of a Confusion of Voices of Radiate of Machine
9	GB/T13325-1991	Noise Emitted by Machinery and Equipment--Guidelines for the Preparation of Test Codes of Engineering Grade Requiring Noise Measurements at the Operator's or by Stander's Position
10	QC/T413-2002	Basic Technical Requirements for Automotive Electric Equipment
11	JG/T69-1999	Liquid Sample Extraction Method for Hydraulic Oil Tank
12	JG/T70-1999	counting Method of Microscope for Particle Contamination in Oil Fluid
13	JG/T5035-1993	Solid Contamination Cleanliness Classes for Fluids in Construction Machinery and Equipment
14	Q / OKAM103009-2003	Asphalt Concrete Paver

DTU90G/H90G Multi-functional Paver Introduction

DTU90G/H90G is brand-new multi-functional paver latest developed by Zoomlion, mainly used for road stabilizing material paving and also meets paving requirement of asphalt concrete and RCC material. It adopts advanced technology from modern overseas well-known brand, is a hi-tech product with mechanical-electrical –hydraulic integration. With intelligentized control level and service convenience increased, and with product structure optimized, it's more suitable for large-scale transit mixer. It is featured with advance performance, logical design and sophisticated process. The main components are from world famous brand to increase machine reliability. In all, it is the ideal equipment for road construction.

I. High degree of intelligence and advance technology;

1. Adopts control system with display to automatically display each parameter of working condition, and then gives the alarm if failures occur.

2. Emergency control and remote monitoring to reduce the fault rate.

3. Electronically controls the screed lifting, lowering and floating via the panel to reduce the fault rate associate with handle control mode.

4. Major systems (such as traveling, spiral distributing, screed feeding) are driven by independent hydraulic driven both at the right and the left, with automatical control function. The factors is minimized which affect the paving accuracy to ensure paving stability and accuracy. Tamper pounding and screed vibrating are driven by hydraulic oil, with variable speed control function. This could be suitable for different working conditions.

5. Traveling system adopts imported controller specially used for big-scale pavers, ensuring the straight, constant speed traveling and smooth turning. It is equipped with start/stop control specially used for Zoomlion. Therefore the paving precision is high. This completely satisfies the rigorous paving requirements for high-way asphalt road.

II. High reliability and strong capability to adapt to working conditions

1. If the failure of control system occurs, please carry out emergency operation or movement via control panel.

2. All major mechanisms (such as traveling, scraper feeder, spiral distribution, pounding and vibrating) are independent hydraulic driven and controlled, with low fault rate. Therefore it is safe and reliable.

3. Optimal design of hydraulic system and automatic temperature control could make sure the quick start at low temperature and the quick heat dissipation at high temperature. This could ensure the optimal temperature of paver working.

4. Feeding height of hopper is relatively low. The hopper steel thickness is up to 16mm, with high rigid. It is equipped with independent support at one side to avoid transmit mixer damaging the paver.

4. Adopts part 3 transfer case originally imported from Germany with a little heat dissipation. The installing space between the master pump and its oil pipe is large for maintenance. The coupling is also original imported form Germany, ensuring reliable paving.

5. Hydraulic main pump for traveling, spiraling, tamping adopts Germany Rexroth or USA Saue variable axial piston pump. Reducer and motor adopts famous brand from USA, Germany and Italy. It is featured with high bearing load, reliability and long life.

6. Drive wheels of walking system adopt USA CAT standard gear shape made by forged alloy steel. It is of more walking reliability than that made by cast steel.

7. Top quality of material:

1) Structural parts- high-quality, low- alloy, high-strength steel

2) Baseboard of screed etc - special steel of high- abrasion imported from Sweden or Japan.

3) Tamper head- die steel used for special wire drawing

4) Bearing seat, tamper seat, connecting rod- medium carbon steel of completely modulated.

5) Spiral blade- chromium-alloy abrasion-resistance cast iron.

II Easy to use and operate, high working efficiency

1. To make sure the stability of paving quality during the paver stopping, please push forward the walking handle, and then all major mechanisms will automatically walk at the preset speed only after the walking, spiraling, scraper, vibrating, and tamper are set as automatic status. This ensures the continuity of paving thickness and density. It's easy to operate.

2. With smart operation desk, it could rotate around medium box by 180°to facilitate the driver's work. Logical button layout on the panel is easy for driver to understand and operate.

3. Hydraulic control valve block is located outside of fuel tank; therefore the driver could carry out inspection standing outside of paver. Each hydraulic sub-system is mounted with a quick testing connector, facilitating the driver checking and debugging system pressure, and then ensuring the hydraulic system properly working.

4. Diesel inlet and hydraulic oil inlet are located in cab. If opening the engine hood, you could see the whole drive system to facilitate the maintenance.

5. Zoomlion's all master pumps are located on the transfer case and PTO. The driving equipment at the fan end is canceled, simplifying the structure and increasing reliability and adaptation.

6. Centralized automatically lubricating system is controlled by a computer to ensure sufficient lubricating of each mechanism. Therefore the maintenance workload will be greatly reduced.

V. Screed technical features:

DTU90G paver is equipped with JPA screed (mechanical extended, heating of spitfire tube, double-tamper signal-vibration). The screed is optimally designed by a computer in strength and rigid respect. With 6-step adjustable pounding stroke, the paving density and evenness is very high. Deformation space satisfies the camber adjustment requirement. Wear-proof base-plate structure and connecting mode meet the box torsion equipment.

DTUH90G paver adopts two-stage telescopic screed, with basic width of 3m and basic telescopic width of 3-6m. Max. paving width is up to 9m after mechanical extension. One-sided telescopic stroke is driven by two hydraulic cylinders. There are 3 telescopic rod at one side to strengthen rigid. The whole screed has 4 telescopic cylinders, 6 rods, increasing the whole rigid.

DTUH90G paver is equipped with HFA fuel fan, creed of heating type double-tamper single-vibrator (heating system option) and electronic automatical ignition. It is featured with quick and even heating and windproof.

Optionally adopts HXB screed of gas heating type signal-tamper signal-vibrator. It is featured with quick heating speed, a few requirements for air pressure, automatical temperature control and energy-saving and environmental protection. It could preheat the tamper of which starting speed is quick

A set of horizontal pull rod or side tensioning cylinder is respectively installed on the front of machine frame (LH, RH) and on the outermost of screed (LH, RH). This greatly increases the screed levelness and could pave the ideal road surface even if there is a large paving resistance.

Main technical parameters of DTU90G/H90G multifunctional paver

Paving width 2.5 ~ 9m(DTU90G)3-9m（DTUH90G）
Basic paving width 2.5m(DTU90G)3m(DTUH90G)
Engine model/power: Shanghai diesel engine SC8D190G2B1 (supercharged), 140Kw
Max. paving width 300mm
Paving speed 0 ~ 16m/min stepless speed governor
Traveling speed 0 ~ 2.6 Km/h stepless speed governor
Theoretical productivity 600t/h
Number of tamper 2 pieces
DTU90G:
DTU90G:
Tamper stroke front tamper 0/3/6/9/10/12 6-step adjustable
Rear tamper 3/4/5/7/8/9mm 6-step adjustable
DTUH90G:
DTU90G:
Tamper stroke front tamper 0/2/4/5/7/8 6-step adjustable
Rear tamper 4mm
Tamper frequency 0 ~ 25Hz stepless speed governor
Vibrator frequency 0 ~ 50Hz stepless speed governor
Camber adjusting -1 ~ +3%
Density
Stabilized earth≥85％
Asphalt concrete ≥90％
Evenness (asphalt concrete) 3mm/3m (stabilized soil) 4mm/3m
Traveling mode: crawler type, bilateral independent drive
Hopper capacity 14t
Scraper feeder speed 18m/min
Spiral distributor diameter φ420mm φ360 mm
Spiral distributor speed 0 ~ 120rpm stepless speed governor

DTU90G/H90G Multi-functional Paver Assembly Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Engine SC8D190G2B1/140kW	1	Shangcai diesel engine, water cooling
2	Transfer case A4374	1	Germany Stiebel
3	Reducer GFT/CT/7C series, traveling	2	Germany Rexroth or USA Fairfield or Italy Bonfigiol
4	Spiral reducer RR710	2	Italy Reggiana Riduttori
5	Scraper reducer RR710	2	Italy Reggiana Riduttori
6	Track chain and track roller	1 set	Domestic famous brand
7	Bearing	1 set	Sweden, Germany or Japan
8	Separated type 320, rubber track shoes	1 set	Taiwan Everpads
9	Centralized lubricating system	1 set	Germany Beka or Vogel
10	Cooling system: double-radiator	1 set	AKG or domestic brand
11	Wear-proof solenoid	1 set	Imported from Sweden or Japan
12	Conveying chain, scraper	1 set	Jiangsu Shuangling
13	Drive chain, spiral scraper	1 set	Oversea famous brand
14	Spiral blade	1 set	Domestic high wear-proof alloy
15	Structural parts	1 set	High-strength manganese steel, high quality
16	Tamper head	1 set	Die steel, special heat treatment, high quality

DTU90G/H90G Multi-functional Paver Hydraulic System

Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Hydraulic pump A10VG or H1T045L, traveling	2	Germany Rexroth or USA Saue
2	Hydraulic pump A10VG or MPT046, spiraling	2	Germany Rexroth or USA Saue
3	Hydraulic pump AZPF-1X022 or PRR022, scraper	2	Germany Rexroth or USA Saue
4	Hydraulic pump A4VG or 42 series, tamper	1	Germany Rexroth or USA Saue
5	**Hydraulic pump AZPN or PLN, vibrating**	1	Germany Rexroth or USA Saue
6	Auxiliary pump **AZPN or SNP2**	1/2	Germany Rexroth or USA Saue
7	Motor A6VE or 51C or H1 series, traveling	2	Germany Rexroth or USA Saue
8	Motor OMTS315, spiral	2	Denmark Danfoss
9	Motor OMTS315, scraper	2	Denmark Danfoss
10	MOTOR A2FM or HMF or **A2F**, Tamper	1/4	Germany Rexroth or Linde or domestic famous brand
11	Motor A2FM or SNM2, vibrating	1/4	Germany Rexroth or USA Saue
12	Hydraulic rubber hose	1 set	USAPARKER' rubber hose, joint and seals
13	Hydraulic valve	1 set	Germany Rexroth or USA SUN

DTU90G/H90G Multi-functional Paver Electrical System Configuration Table

Name	Configuration	Number	Description
Sensor, longitudinal wave	Tonly G176M	2	Joint completely mating with laser scanning controller
Sensor, transverse wave	Tonly S276M	1	Joint completely mating with laser scanning controller
Sensor, ultrasonic	Tonly CLW-14	2	Joint completely mating with laser scanning controller
External control table	Zoomlion	2	
Toggle switch	USA Honeywell		High reliability and long service life
Controlling handle	Germany GESSMANN		High reliability and long service life
Button	France Schneider		High reliability and long service life
Relay	Germany HELLA		High reliability and long service life
Controller, traveling	Germany Rexroth or EPEC2023		Traveling controller specially used for pavers. Detecting the working condition at the site Checking the failure and setting parameter by portable PC or BBC. Realizing the completely closed-loop control and increasing the backward closed-loop control.

Product Technical Standard

1	GB/T16277-2008	Asphalt Concrete Paver
2	GB50092-1996	Code for Construction and Acceptance of Asphalt Pavement
3	GB/T3766-2001	Hydraulic Fluid Power-General Rules Relating to Systems
4	GB/T3846-1993	Emission Standard for Smoke at Free Acceleration From Vehicle With Diesel Engine
5	GB/T4094.2-2005	Electic Vehicle-Symbols Controls, Indicators and Tell-tall
6	GB/T4798.5-1991	Environmental Conditions Existing in the Application of Electric and Electronic Products Ground Vehicle Installations
7	GB7258-2004	Safety specifications for power driven vehicles operating on roads
8	GB/T13802-1992	The Current Method of Sound Measurement of a Confusion of Voices of Radiate of Machine
9	GB/T13325-1991	Noise Emitted by Machinery and Equipment--Guidelines for the Preparation of Test Codes of Engineering Grade Requiring Noise Measurements at the Operator’s or by Stander’s Position
10	QC/T413-2002	Basic Technical Requirements for Automotive Electric Equipment
11	JG/T69-1999	Liquid Sample Extraction Method for Hydraulic Oil Tank
12	JG/T70-1999	counting Method of Microscope for Particle Contamination in Oil Fluid
13	JG/T5035-1993	Solid Contamination Cleanliness Classes for Fluids in Construction Machinery and Equipment
14	Q / OKAM103009-2003	Asphalt Concrete Paver

DTU100D Multi-functional Paver Introduction

DTU100D is multi-functional paver latest developed by Zoomlion, mainly used for road stabilizing material paving and also meets paving requirement of asphalt concrete and RCC material. It adopts advanced technology from modern overseas well-known brand, is a hi-tech product with mechanical-electrical –hydraulic integration. It is featured with advance performance, logical design and sophisticated process. The main components are from world famous brand to increase machine reliability. In all, it is the ideal equipment for road construction.

Main technical features of DTU100D multifunctional paver

I. With advanced technology, it not only satisfy the paving requirements for stabilized earth and RCC material, but also satisfy the paving of asphalt concrete.

- All hydraulic drive

  The traveling, spiral distributing and scraper feeding are driven by right and left-independence hydraulic cylinder and could be automatically controlled. This could make sure the high paving precision via stabilizing the paving process and minimize the factors of impairing the paving precision. The tamper vibrating and screed vibrating are of stepless speed governing function, meeting different working conditions

- Big closed-loop electrical controlling system

  Big closed-loop feedback controlling theory is applied to the leveling, traveling, spiral distributing and scraper feeding. Viz: the sensor will detect the working parameters, then feedback to the controlling unit, realizing precisely and automatically controlling.

- Walking system adopts imported controller specially used for large pavers, ensuring the straight and even speed walking, smooth steering and accurate paving, fully meet rigorous paving requirement of the asphalt layer of highway.

- Contact-type electronic-leveling controller could ensure the evenness and controlling layer elevation. As controller connectors are commonly used, users could expediently choose domestic or imported leveling system, or install latest contactless ultrasonic balance beam or laser scanning level control system. The technology and performance have reached the leading level of the world

II. With high reliability and high capability of adapting working conditions, the pavers could be widely used in paving of asphalt road and stabilized soil basic level road.

- All major mechanisms (such as traveling, scraper feeder, spiral distribution, pounding and

vibrating) are independent hydraulic driven.

- Adopts part 3 transfer case originally imported from Germany with little heat dissipation. The installing space between the master pump and its oil pipe is large for maintenance. The coupling is also original imported form Germany, ensuring reliable paving.
- Dual hydraulic oil cooler is adopted to increase heat dissipating capability by 30% when compared with other similar pavers. It even could work on the Gobi desert in summer.
- Hydraulic main pump for traveling, spiraling, tamping adopts Germany Rexroth or USA Saue variable axial piston pump. It is featured with high bearing load, reliability and long life.
- Spiral system is equipped with high configuration, steady start and high efficiency to avoid separation.
- Drive wheels of walking system adopt USA CAT standard gear shape made by forged alloy steel. It is of more walking reliability than that made by cast steel.
- Spiral distributing, leveling-up at longitudinal slope and cross slope adopts dedicated sensor and controller to make the control system more accurate and intelligent.
- Top quality of material

  1) Structural parts- high-quality, low- alloy, high-strength steel

  2) Baseboard of screed etc - special steel of high- abrasion imported from Sweden or Japan.

  3) Tamper head- die steel used for special wire drawing

  4) Bearing block, tamper seat, connecting rod- medium-carbon steel of completely modulated.

  5) Spiral blade- chromium-alloy abrasion-resistance cast iron.

III Easy to use and operate, high working efficiency

- To make sure the stability of paving quality during the paver stopping, please push forward the walking handle, and then all major mechanisms will automatically walk at the preset speed only after the walking, spiraling, scraper, vibrating, tamper are set as automatic status. This ensures the continuity of paving thickness and density. It's easy to operate. Completely automation operation greatly reduces the labor, speed up the paving process and increase service efficiency.
- Zoomlion's all master pumps are located on the transfer case and PTO. The driving equipment at the fan end is canceled, simplifying the structure and increasing reliability

and adaptation.

- Each hydraulic sub-system is mounted with a quick testing connector, facilitating the driver checking and debugging system pressure, and then ensuring the hydraulic system properly working.
- The amount of asphalt supply in paving slot will be detected by ultrasonic sensor. The spiraling speed could be stepless adjusted.
- Scraper position sensor will control its starting and stopping automatically or manually.
- The control bench could move to the right and to the left. The driver could choose the left or the right operating position. The driver's seat could move to the outside of cabin, widening the view. External control table at both sides of screed could facilitate the co-driver operating.
- Inaccessible oil inlet and outlet have been thoughtfully extended to the handy position.

IV. Convenient maintenance, lower cost during later period

- Centralized automatically lubricating system is controlled by a computer to ensure sufficient lubricating of each mechanism. Therefore the maintenance workload will be greatly reduced.
- The patent technology is introduced into the scraper system, with easy maintaining, dismantle and installation. There is no blocking when scraping asphalt.
- The ceiling and doors at both sides could be open, getting access to the power system, hydraulic unit and electrical unit. It is very convenient to carry out the maintenance work such as replacing the filter element.
- With high reliability of the whole machine, it could reduce the damage caused by fault stop and maintenance cost caused by replacing parts. Therefore the later cost is very low.
- It is easy to the install, fix, adjust, tension and dismantle the front baffle board of screed, greatly alleviate the difficulty of cleaning screed.

V. Screed technical features:

- DTU100D paver is equipped with JPA screed (mechanical extended, heating of spitfire tube, double-tamper single-vibrator). The screed is optimally designed by a computer in strength and rigid respect. With 6-step adjustable pounding stroke, the paving density and evenness is very high. Deformation space satisfies the camber adjustment requirement. Wear-proof base-plate structure and connecting mode meet the box torsion equipment.

- A set of horizontal pull rod or side tensioning cylinder is respectively installed on the front of machine frame (LH, RH) and on the outermost of screed (LH, RH). This greatly increases the screed levelness and could pave the ideal road surface even if under a large paving resistance. The screed could reach the requirements for rigid to ensure the paving eveness.

Main technical parameters of DTU100D multifunctional paver

Paving width 2.5 ~ 10m

Basic paving width 2.5m

Engine model/power: Shangcai diesel engine SC8D190G2B1 (supercharged), 140Kw

Max. paving width 300 mm

Paving speed 0 ~ 16m/min stepless speed governor

Traveling speed 0 ~ 2.6 Km/h stepless speed governor

Theoretical productivity 600t/h

Number of tamper 2 pieces

Tamper stroke front tamper 0/3/6/9/10/12 6-step adjustable

Rear tamper 3/4/5/7/8/9mm 6-step adjustable

Tamper frequency 0 ~ 25 Hz stepless speed governor

Vibrator frequency 0 ~ 50 Hz stepless speed governor

Camber adjusting -1 ~ + 3％

Density

Stabilized earth ≥85％

Asphalt concrete ≥90％

Evenness (asphalt concrete) 3mm /3m (stabilized soil) 4mm /3m

Traveling mode: crawler type, bilateral independent drive

Hopper capacity 14t

Scraper feeder speed 18m/min

Spiral distributor diameter φ420mm φ360 mm

Spiral distributor speed 0 ~ 120rpm stepless speed governor

DTU100D Multi-functional Paver Assembly Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Engine SC8D190G2B1 /140kW	1	Shangcai diesel engine, water cooling
2	Transfer case A4374	1	Germany Stiebel
3	Reducer GFT/CT/7C series, traveling	2	Germany Rexroth or USA Fairfield or Italy Bonfigiol
4	Spiral reducer RR710	2	Italy Reggiana Riduttori
5	Scraper reducer RR710	2	Italy Reggiana Riduttori
6	Track chain and track roller	1 set	Domestic famous brand
7	Bearing	1 set	Sweden, Germany or Japan
8	Rubber track shoes separated type 320	1 set	Taiwan Everpads
9	Centralized lubricating system	1 set	Germany Beka or Vogel
10	Cooling system: double-radiator	1 set	AKG or domestic brand
11	Wear-proof solenoid	1 set	Imported from Sweden or Japan
12	Conveying chain, scraper	1 set	Jiangsu Shuangling
13	Drive chain, spiral scraper	1 set	Oversea famous brand
14	Spiral blade	1 set	Domestic high wear-proof alloy
15	Structural parts	1 set	High-strength manganese steel, high quality
16	Tamper head	1 set	Die steel, special heat treatment, high quality

DTU100D Multi-functional Paver Hydraulic System Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Hydraulic pump A10VG or H1T045L, traveling	2	Germany Rexroth or USA Saue
2	Hydraulic pump A10VG or MPT046, spiraling	2	Germany Rexroth or USA Saue
3	Hydraulic pump AZPF-1X022 or PRR022, scraper	2	Germany Rexroth or USA Saue
4	Hydraulic pump A4VG or 42 series, tamper	1	Germany Rexroth or USA Saue
5	Hydraulic pump AZPN or PLN, vibrating	1	Germany Rexroth or USA Saue
6	Auxiliary pump AZPN or SNP2	1/2	Germany Rexroth or USA Saue
7	Motor A6VE or 51C or H1 series, traveling	2	Germany Rexroth or USA Saue
8	Motor OMTS315, spiral	2	Denmark Danfoss
9	Motor OMTS315, scraper	2	Denmark Danfoss
10	MOTOR A2FM or HMF or **A2F**, Tamper	1	Germany Rexroth or Linde or domestic famous brand
11	Motor A2FM or SNM2, vibrator	1	Germany Rexroth or USA Saue
12	Hydraulic rubber hose	1 set	USAPARKER' rubber hose, joint and seals
13	Hydraulic valve	1 set	Germany Rexroth or USA SUN

DTU100D Multi-functional Paver Eletrical System Configuration Table

Name	Configuration	Number	Description
Sensor, longitudinal wave	Tonly G176M	2	Joint completely mating with laser scanning controller
Sensor, transverse wave	Tonly S276M	1	Joint completely mating with laser scanning controller
Sensor, ultrasonic	Tonly CLW-14	2	Joint completely mating with laser scanning controller
External control table	Zoomlion	2	
Toggle switch	USA Honeywell		High reliability and long service life
Controlling handle	Germany GESSMANN		High reliability and long service life
Button	France Schneider		High reliability and long service life
Relay	Germany HELLA		High reliability and long service life
Controller, traveling	Germany Rexroth or EPEC2023		Traveling controller specially used for pavers. Detecting the working condition at the site Checking the failure and setting parameter by portable PC or BB3. Realizing the completely closed-loop control and increasing the backward closed-loop control.

Product Technical Standard

1	GB/T16277-2008	Asphalt Concrete Paver
2	GB50092-1996	Code for Construction and Acceptance of Asphalt Pavement
3	GB/T3766-2001	Hydraulic Fluid Power-General Rules Relating to Systems
4	GB/T3846-1993	Emission Standard for Smoke at Free Acceleration From Vehicle With Diesel Engine
5	GB/T4094.2-2005	Electic Vehicle-Symbols Controls, Indicators and Tell-tall
6	GB/T4798.5-1991	Environmental Conditions Existing in the Application of Electric and Electronic Products Ground Vehicle Installations
7	GB7258-2004	Safety specifications for power driven vehicles operating on roads
8	GB/T13802-1992	The Current Method of Sound Measurement of a Confusion of Voices of Radiate of Machine
9	GB/T13325-1991	Noise Emitted by Machinery and Equipment--Guidelines for the Preparation of Test Codes of Engineering Grade Requiring Noise Measurements at the Operator's or by Stander's Position
10	QC/T413-2002	Basic Technical Requirements for Automotive Electric Equipment
11	JG/T69-1999	Liquid Sample Extraction Method for Hydraulic Oil Tank
12	JG/T70-1999	counting Method of Microscope for Particle Contamination in Oil Fluid
13	JG/T5035-1993	Solid Contamination Cleanliness Classes for Fluids in Construction Machinery and Equipment
14	Q / OKAM103009-2003	Asphalt Concrete Paver

DTU100G multi-functional paver introduction

DTU100G is brand-new multi-functional paver latest developed by Zoomlion, mainly used for road stabilizing material paving and also meets paving requirement of asphalt concrete and RCC material. It adopts advanced technology from modern overseas well-known brand, is a hi-tech product with mechanical-electrical–hydraulic integration. With intelligent control level and service convenience increased, and with product structure optimized, it's more suitable for large-scale transit mixer. It is featured with advance performance, logical design and sophisticated process. The main components are from world famous brand to increase machine reliability. In all, it is the ideal equipment for road construction.

I. High degree of intelligence and advance technology;

1. Adopts control system with display to automatically display each parameter of working condition, and then gives the alarm if failures occur.

2. Emergency control and remote monitoring to reduce the fault rate.

3. Electronically controls the screed lifting, lowering and floating via the panel to reduce the fault rate associate with handle control mode.

4. Major systems (such as traveling, spiral distributing, screed feeding) are driven by independent hydraulic driven both at the right and the left, with automatical control function. The factors is minimized which affect the paving accuracy to ensure paving stability and accuracy. Tamper pounding and screed vibrating are driven by hydraulic oil, with variable speed control function. This could be suitable for different working conditions.

5. Traveling system adopts imported controller specially used for big-scale pavers, ensuring the straight, constant speed traveling and smooth turning. It is equipped with start/stop control specially used for Zoomlion. Therefore the paving precision is high. This completely satisfies the rigorous paving requirements for high-way asphalt road.

II. High reliability and strong capability to adapt to working conditions

1. If the failure of control system occurs, please carry out emergency operation or movement via control panel.

2. All major mechanisms (such as traveling, scraper feeder, spiral distribution, pounding and

vibrating) are independent hydraulic driven and controlled, with low fault rate. Therefore it is safe and reliable.

3. Optimal design of hydraulic system and automatic temperature control could make sure the quick start at low temperature and the quick heat dissipation at high temperature. This could ensure the optimal temperature of paver working.

4. Feeding height of hopper is relatively low. The hopper steel thickness is up to 16mm, with high rigid. It is equipped with independent support at one side to avoid transmit mixer damaging the paver.

5. Adopts part 3 transfer case originally imported from Germany with a little heat dissipation. The installing space between the master pump and its oil pipe is large for maintenance. The coupling is also original imported form Germany, ensuring reliable paving.

6. Hydraulic main pump for traveling, spiraling, tamping adopts Germany Rexroth or USA Sauer variable axial piston pump. Reducer and motor adopts famous brand from USA, Germany and Italy. It is featured with high bearing load, reliability and long life.

7. Drive wheels of walking system adopt USA CAT standard gear shape made by forged alloy steel. It is of more walking reliability than that made by cast steel.

8. Top quality of material:

1) Structural parts- high-quality, low- alloy, high-strength steel

2) Baseboard of screed etc - special steel of high- abrasion imported from Sweden or Japan.

3) Tamper head- die steel used for special wire drawing

4) Bearing seat, tamper seat, connecting rod- medium carbon steel of completely modulated.

5) Spiral blade- chromium-alloy abrasion-resistance cast iron.

III Easy to use and operate, high working efficiency

1. To make sure the stability of paving quality during the paver stopping, please push forward the walking handle, and then all major mechanisms will automatically walk at the preset speed only after the walking, spiraling, scraper, vibrating, and tamper are set as automatic status. This ensures the continuity of paving thickness and density. It's easy to operate.

2. With smart operation desk, it could rotate around medium box by 180°to facilitate the driver's work. Logical button layout on the panel is easy for driver to understand and operate.

3. Hydraulic control valve block is located outside of fuel tank; therefore the driver could

carry out inspection standing outside of paver. Each hydraulic sub-system is mounted with a quick testing connector, facilitating the driver checking and debugging system pressure, and then ensuring the hydraulic system properly working.

4. Diesel inlet and hydraulic oil inlet are located in cab. If opening the engine hood, you could see the whole drive system to facilitate the maintenance.

5. Zoomlion's all master pumps are located on the transfer case and PTO. The driving equipment at the fan end is canceled, simplifying the structure and increasing reliability and adaptation.

6. Centralized automatically lubricating system is controlled by a computer to ensure sufficient lubricating of each mechanism. Therefore the maintenance workload will be greatly reduced.

IV Screed technical features:

DTU100G paver is equipped with JPA screed (mechanical extended, heating of spitfire tube, double-tamper signal-vibration). The screed is optimally designed by a computer in strength and rigid respect. With 6-step adjustable pounding stroke, the paving density and evenness is very high. Deformation space satisfies the camber adjustment requirement. Wear-proof base-plate structure and connecting mode meet the box torsion equipment.

Optionally adopts HXB screed of gas heating type signal-tamper signal-vibrator. It is featured with quick heating speed, a few requirements for air pressure, automatical temperature control and energy-saving and environmental protection. It could preheat the tamper of which starting speed is quick.

A set of horizontal pull rod or side tensioning cylinder is respectively installed on the front of machine frame (LH, RH) and on the outermost of screed (LH, RH). This greatly increases the screed levelness and could pave the ideal road surface even if there is a large paving resistance.

Main technical parameters of DTU100G multifunctional paver

Paving width 2.5 ~ 10m

Basic paving width 2.5m

Engine model/power: Shanghai diesel engine SC8D190G2B1 (supercharged), 140Kw

Max. paving width 300mm

Paving speed 0 ~ 16m/min stepless speed governor

Traveling speed 0 ~ 2.6 Km/h stepless speed governor

Theoretical productivity 600t/h

Number of tamper 2 pieces

Tamper frequency 0 ~ 25Hz stepless speed governor

Vibrator frequency 0 ~ 50Hz stepless speed governor

Camber adjusting -1 ~ +3%

Density

Stabilized earth≥85％

Asphalt concrete ≥90％

Evenness (asphalt concrete) 3mm/3m (stabilized soil) 4mm/3m

Traveling mode: crawler type, bilateral independent drive

Hopper capacity 14t

Scraper feeder speed 18m/min

Spiral distributor speed 0 ~ 120rpm stepless speed governor

DTU100G Multi-functional Paver Assembly Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Engine SC8D190G2B1/140kW	1	Shangcai diesel engine, water cooling
2	Transfer case A4374	1	Germany Stiebel
3	Reducer GFT/CT/7C series, traveling	2	Germany Rexroth or USA Fairfield or Italy Bonfigiol
4	Spiral reducer RR710	2	Italy Reggiana Riduttori
5	Scraper reducer RR710	2	Italy Reggiana Riduttori
6	Track chain and track roller	1 set	Domestic famous brand
7	Bearing	1 set	Sweden, Germany or Japan
8	Separated type 320, rubber track shoes	1 set	Taiwan Everpads
9	Centralized lubricating system	1 set	Germany Beka or Vogel
10	Wear-proof solenoid	1 set	Imported from Sweden or Japan
11	Conveying chain, scraper	1 set	Jiangsu Shuangling
12	Drive chain, spiral scraper	1 set	Oversea famous brand
13	Spiral blade	1 set	Domestic high wear-proof alloy
14	Structural parts	1 set	High-strength manganese steel, high quality
15	Tamper head	1 set	Die steel, special heat treatment, high quality

DTU100G Multi-functional Paver Hydraulic System Configuration Table

Index:	Name and model	Number	Manufacture or material
1	Hydraulic pump A10VG or H1T tandem pump, traveling	2	Germany Rexroth or USA Sauer
2	Hydraulic pump A10VG or MPT tandem pump, spiraling	2	Germany Rexroth or USA Sauer
3	Hydraulic pump AZPF-1X022 or PRR tandem pump, scraper	2	Germany Rexroth or USA Sauer
4	Hydraulic pump A4VG or 42 series, tamper	1	Germany Rexroth or USA Sauer
5	Hydraulic pump P136 or PLN, vibrating	1	Germany Permco or USA Sauer
6	Auxiliary pump P097 ,PLN, or SNP2	1/2	Germany Permco or USA Sauer
7	Motor A6VE or 51C or H1 series, traveling	2	Germany Rexroth or USA Sauer
8	Motor OMTS315, spiral	2	Denmark Danfoss
9	Motor OMTS315, scraper	2	Denmark Danfoss
10	Motor A2FM or MMF/A2F or A2F, Tamper	1/4	Germany Rexroth or Linde or domestic famous brand
11	Motor SNM2/KM1, vibrating	1/4	Germany Rexroth or Clack
12	Hydraulic rubber hose	1 set	USA PARKER' rubber hose, joint and seals
13	Hydraulic valve	1 set	Germany Rexroth or USA SUN

DTU100G Multi-functional Paver Electrical System Configuration Table

Name	Configuration	Number	Description
Sensor, longitudinal wave	Tonly G176M	2	Joint completely mating with laser scanning controller
Sensor, transverse wave	Tonly S276M	1	Joint completely mating with laser scanning controller
Sensor, ultrasonic	Tonly CLW-14	2	Joint completely mating with laser scanning controller
External control table	Zoomlion	2	
Toggle switch	USA Honeywell		High reliability and long service life
Controlling handle	Germany GESSMANN		High reliability and long service life
Button	France Schneider		High reliability and long service life
Relay	Germany HELLA		High reliability and long service life
Controller, traveling	Germany iffm		Traveling controller specially used for pavers. Detecting the working condition at the site Checking the failure and setting parameter by portable PC or BBC. Realizing the completely closed-loop control and increasing the backward closed-loop control.
display	Germany iffm		

Product Technical Standard

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13	JG/T5035-1993	Solid Contamination Cleanliness Classes for Fluids in Construction Machinery and Equipment
14	Q / OKAM103009-2003	Asphalt Concrete Paver

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