



# **BOMAG**

**FAYAT GROUP**

## **Operating Instruction Maintenance Instruction**

*Original Operating Instructions*

### **BW 28 RH**



S/N 101 538 40 1001>

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## **Pneumatic tyred roller**

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### 1.1 Foreword

**BOMAG manufactures machines for earth, asphalt and refuse compaction, stabilizers/recyclers as well as planers and pavers.**

**BOMAG's vast experience in connection with state-of-the-art production and testing methods, such as lifetime tests of all important components and highest quality demands guarantee maximum reliability of your machine.**

These operating and maintenance instructions are part of your machine.

They provide necessary information to operate your machine safely and properly.

They also contain information on required operating, maintenance and repair measures.

Carefully read the operating and maintenance instructions before taking your machine into operation.

Please observe the safety regulations strictly and follow all instructions to ensure safe operation.

If you are not yet acquainted with the controls and indicating elements on this machine, you should thoroughly read the corresponding chapter ↪ *Chapter 4 „Indicators and control elements“ on page 67.*

The description of the individual operating steps including the notes on safety to be followed can be found in chapter “Operation” ↪ *Chapter 6 „Operation“ on page 113.*

Before every start up, carry out all required visual inspections and function tests ↪ *Chapter 5 „Checks prior to start up“ on page 93.*

Ensure the compliance with the specified operating, maintenance and repair measures to maintain the functional safety of your machine.

A description of all necessary maintenance work, maintenance intervals as well as information on fuels and lubricants can be found in the chapter “Maintenance” ↪ *Chapter 8 „Maintenance“ on page 147.*

Do not service or repair your machine by yourself to avoid harming persons or damaging material or environment.

The machine must only be serviced and repaired by qualified and authorized personnel.

Contact our Customer Service to carry out the required maintenance work or necessary repairs.

In case of operating errors, inadequate maintenance or the use of unapproved fuels and lubricants all warranty claims will become null and void.

For your own personal safety you should only use original parts from BOMAG.

For your machine we offer service kits to make maintenance easier.

In the course of technical development we reserve the right for technical modifications without prior notification.

These operating and maintenance instructions are also available in other languages.

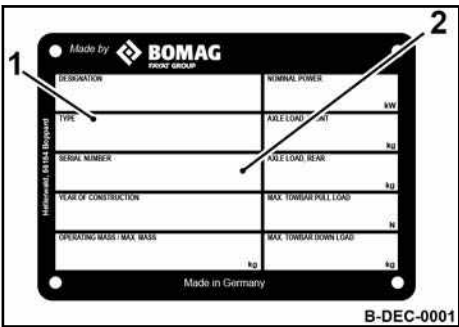
Apart from that, you can also order the spare parts catalogue against the serial number of your machine.

The above notes do not constitute an extension of the warranty and liability conditions specified in the general sales and delivery conditions of BOMAG GmbH.

We wish you successful work with your BOMAG machine.

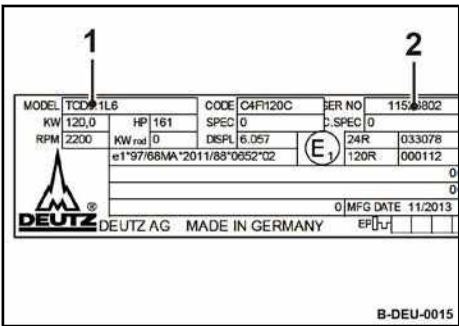
# Introduction – Machine type plate and engine type plate

## 1.2 Machine type plate and engine type plate



<b>Please enter here:</b>	
Machine type (1):	
Serial number (2):	

Fig. 1: Machine type plate (example)



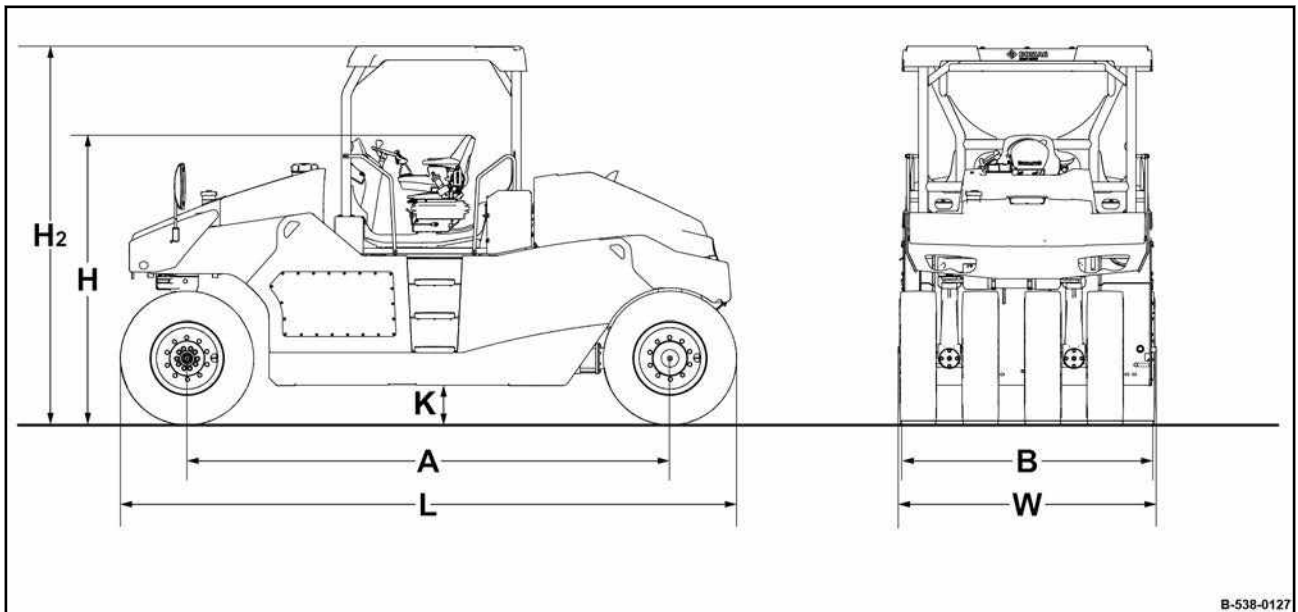
<b>Please enter here:</b>	
Engine type (1):	
Engine number (2):	

Fig. 2: Engine type plate (example)



## Technical data

### Dimensions



B-538-0127

Fig. 3

A	B	H	H <sub>2</sub>	K	L	W
3875	2070	2287	2995	280	4945	2042
(153)	(81)	(90)	(118)	(11.0)	(195)	(80)

Dimensions in millimetres

(Dimensions in inch)

### Dimensions

Width with thermal aprons ( <i>optional equipment</i> )	2220	mm
	(87)	(in)

**Technical data**

<b>Weights</b>		
Operating weight with ROPS-cabin	8600 (18960)	kg (lbs)
Max. operating weight	28000 (61729)	kg (lbs)
Max. mean wheel load (CECE)	3500 (7716)	kg (lbs)

<b>Travel characteristics</b>		
Max. travel speed	19 (12)	km/h (mph)
Max. gradability (depending on soil)	27	%

<b>Drive</b>		
Engine manufacturer	Deutz	
Type	TCD 3.6 L4	
Cooling	Fluid	
Number of cylinders	4	
Rated power ISO 14396	100	kW
Rated power SAE J 1995	134	hp
Rated speed	2000	min <sup>-1</sup>

<b>Electric system</b>		
Voltage	12	V

<b>Brakes</b>		
Service brake	hydrostatic	
Parking brake	Spring accumulator	

## Technical data

<b>Steering</b>		
Type of steering	2-point pivot	
Steering angle	+/- 30	°
Oscillation of front tyres	4	°
Level compensation	100 (3.9)	mm (in)
Inner track radius	5700 (224)	mm (in)

<b>Tyres</b>		
Tyre size	11.00-20 18 PR	
Air pressure min. / max.	2.0 - 8.0 (29 – 116)	bar (PSI)
Wheel track overlap	32.0 (1.26)	mm (in)

<b>Filling capacities</b>		
Fuel (diesel)	200 (53)	l (gal us)
Water	340 (90)	l (gal us)



## 2.1 Noise and vibration data

The following noise and vibration data were determined in accordance with the following guidelines under equipment specific conditions and by using harmonized standards:

- EU Machine Directive edition 2006/42/EU
- Noise Emission Directive 2000/14/EU, Noise Protection Directive 2003/10/EU
- Vibration Protection Directive 2002/44/EU

During operation these values may vary because of the prevailing operating conditions.

### 2.1.1 Noise data

**Sound pressure level at the operator's stand**

$L_{pA} = 72$  dB(A), determined acc. to ISO 11204 and EN 500.

**Guaranteed sound power level**

$L_{WA} = 104$  dB(A), determined acc. to ISO 3744 and EN 500

### 2.1.2 Vibration data

**Vibration of the entire body (driver's seat)**

The weighted effective acceleration value determined according to ISO 7096 is  $\leq 0.5$  m/s<sup>2</sup>.

**Hand-arm vibration**

The weighted effective acceleration value determined according to EN 500/ISO 5349 is  $\leq 2.5$  m/s<sup>2</sup>.





### 3.1 Basic prerequisites

#### 3.1.1 General

This BOMAG machine has been built in compliance with the latest technical standard and complies with the applicable regulations and technical rules.

However, dangers for persons and property may arise from this machine, if:

- it is used for purposes other than the ones it is intended for,
- it is operated by untrained personnel,
- it is changed or converted in an unprofessional way,
- the safety instructions are not observed.

Each person involved in the operation, maintenance and repair of the machine must therefore read and comply with these safety regulations. If necessary, the operating company must obtain the relevant signatures as confirmation.

Furthermore, the following obviously also applies:

- applicable accident prevention instructions,
- generally accepted safety and road traffic regulations,
- country specific safety regulations.

It is the duty of the operator to be acquainted with the safety regulations and to apply these accordingly. This also applies for local regulations and regulations concerning different types of handling activities. Should the recommendations in these instructions be different from the regulations valid in your country, you must comply with the safety regulations valid in your country.

### 3.1.2 Explanation of signal words used:



#### **DANGER!**

##### **Danger to life if failing to comply!**

Sections marked accordingly indicate an extremely dangerous situation that could lead to fatal or severe injuries, if this warning is disregarded.



#### **WARNING!**

##### **Danger to life or danger of severe injuries if failing to comply!**

Sections marked accordingly indicate a dangerous situation that could lead to fatal or severe injuries, if this warning is disregarded.



#### **CAUTION!**

##### **Danger of injury if failing to comply!**

Sections marked accordingly indicate a dangerous situation that could lead to fatal or severe injuries, if this warning is disregarded.



#### **NOTICE!**

##### **Danger of material damage if failing to comply!**

Sections marked accordingly indicate possible dangers for machines or components.

**i** Sections marked accordingly indicate technical information or notes on using the machine or its components.







**ENVIRONMENT!**

**Environmental damage if failing to comply!**




Paragraphs marked accordingly indicate practices for safe and environment-friendly disposal of fuels and lubricants as well as replacement parts.

**3.1.3 Personal protective equipment**

Depending on the work to be carried out, personal protective equipment is required (to be provided by the operating company):

	Working clothes	Tight fitting working clothes with low tear resistance, tight sleeves and without any projecting parts protect against being caught by moving components.
	Safety shoes	To protect against heavy falling parts and slipping on slippery ground.
	Protective gloves	To protect the hands against excoriation, punctures or deep injuries, against irritating and caustic substances as well as against burns.
	Safety goggles	To protect the eyes against airborne particles and squirting fluids.

## Concerning your safety – Basic prerequisites

	Face protection	To protect the face against airborne particles and squirting fluids.
	Hard hat	To protect the head against falling parts and to protect against injuries.
	Hearing protection	To protect the hearing against too loud noise.

### 3.1.4 Intended use

This machine must only be used for:

- Compaction of bituminous material, e.g. road surface layers,
- Light compaction work in earth construction and road bases.

Intended use also includes compliance with the specified operating, maintenance and repair measures.

### 3.1.5 Improper use

Dangers may arise from the machine when it is used for purposes other than the one it is intended for.

Any danger caused by improper use is the sole responsibility of the operating company or driver/operator, the manufacturer cannot be made liable.

Examples for improper use are:

- Fast downhill travel in a high travel range
- Overloading the machine with ballast

## Concerning your safety – Basic prerequisites

- Inappropriate emptying of the ballast tanks
- Driving on subsoils with too low load bearing capacity
- Driving on slippery subsoils (e.g. ice and snow)
- Driving on surfaces of insufficient size (danger of turning over)
- Unauthorized use of public roads
- Using the machine for towing

Transporting persons, except the machine driver, is prohibited.

Starting and operating the machine in explosive environments and in underground mining is prohibited.



## 3.2 Definition of responsible persons

### 3.2.1 Operating company

The operating company is the natural or juridical person who uses the machine or in who's name the machine is used.

The operating company must make sure that the machine is only used for the purpose it is intended for and in strict compliance with the safety regulations mentioned in these operating and maintenance instructions.

The operating company must determine and assess the danger in its company. It must then take appropriate action to ensure health and safety at work for its employees and point out any remaining dangers.

The operating company must determine whether there are special operational hazards such as a toxic atmosphere or limiting soil conditions. Such conditions require special, additional measures to remove or reduce the hazard.

The operating company must make sure that all users read and understand the information concerning safety.

The operating company is responsible for the planning and professional execution of regular safety inspections.

### 3.2.2 Expert / qualified person

An expert / qualified person is a person who, based on his/her professional education and experience, has profound knowledge in the field of construction equipment and the machine in question in particular.

This person is acquainted with the applicable governmental industrial safety regulations, accident prevention instructions, guidelines and generally acknowledged technical rules and regulations (standards, directives, technical rules of other member states of the European Union or other contractual states concerning the agreement about the European Economic Area) in as far as is necessary to be able to judge the safe condition of this machine.

### 3.2.3 Driver / operator

This machine must only be operated by trained, instructed persons entrusted by the operating company aged 18 or more.

Observe your local laws and regulations.

Rights, obligations and rules of conduct for driver or operator:

The driver or operator must:

- be instructed about his rights and obligations,
- wear protective equipment as appropriate for the application,
- have read and understood the operating instructions,
- have made himself familiar with the operation of the machine,
- be physically and psychologically able to drive and operate the machine.

Persons under the influence of alcohol, medication or drugs are not allowed to operate, service or repair the machine.

Maintenance and repair work requires specific knowledge and must therefore only be performed by trained specialists.

### **3.3 Basic safety regulations for safe operation**

#### **3.3.1 Remaining dangers, remaining risks**

Despite careful work and compliance with standards and regulations it cannot be ruled out that further dangers may arise when working with and handling the machine.

Both the machine as well as all other system components comply with the currently valid safety regulations. Nevertheless, remaining risks cannot be ruled out completely, even when using the machine for the purpose it is intended for and following all information given in the operating instructions.

A remaining risk can also not be excluded beyond the actual danger zone of the machine. Persons remaining in this area must pay particular attention to the machine, so that they can react immediately in case of a possible malfunction, an incident or failure etc.

All persons remaining in the area of the machine must be informed about the dangers that arise from the operation of the machine.

#### **3.3.2 Regular safety inspections**

Have the machine inspected by an expert / qualified person as required for the conditions the machine is working under, but at least once every year.

#### **3.3.3 Modifications and alterations to the machine**

Unauthorized changes to the machine are prohibited for safety reasons.

Original parts and accessories have been specially designed for this machine.

We wish to make explicitly clear that we have not tested or approved any parts or accessories not supplied by us.

The installation and/or use of such products may have an adverse effect on the active and/or passive safety.

When making conversions or changes approved by the manufacturer you must strictly adhere to the maximum weight of the machine.

This applies especially when weight relevant options are retrofitted (e.g. cabin, thermal aprons).

If the maximum weight is exceeded, remove ballast from the ballast compartment.

### 3.3.4 Damage, defects, misuse of safety devices

Machines which are not safe to operate or in traffic must be immediately taken out of service and shall not be used, until these deficiencies have been properly rectified.

Safety installations and switches must neither be removed nor must they be made ineffective.

### 3.3.5 Roll Over Protective Structure (ROPS)

**i** *On machines with cab the ROPS is an integral part of the cab.*

The frame of the machine must not be warped, bent or cracked in the area of the ROPS fastening.

The ROPS must not show any rust, damage, hairline cracks or open fractures.

The real machine weight must never exceed the testing weight for the ROPS.

## Concerning your safety – Basic safety regulations for safe operation

No accessories may be welded or bolted on and no additional holes must be drilled without the consent of the manufacturer, since this will impair the strength of the unit.

The ROPS must therefore also not be straightened or repaired if it is damaged.

A defect ROPS must generally be replaced with an original spare part in close coordination with the manufacturer.

### 3.4 Handling fuels and lubricants

#### 3.4.1 Preliminary remarks

The operating company must ensure that all professional users have read and follow the corresponding safety data sheets for the individual fuels and lubricants.

Safety data sheets provide valuable information about the following characteristics:

- name of substance
- possible dangers
- composition / information on constituents
- first-aid measures
- fire fighting measures
- measures in case of accidental release
- handling and storage
- limitation and monitoring of exposure / personal protective equipment
- physical and chemical properties
- stability and reactivity
- toxicological data
- environmental data
- notes on waste disposal
- information on transport
- legislation
- other data

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