



**BRANO a.s., 747 41 Hradec nad Moravicí  
The Czech Republic**

tel.: +420 553 632 316, 553 632 303

fax: +420 553 632 407, 553 632 151

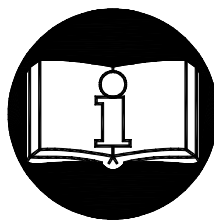
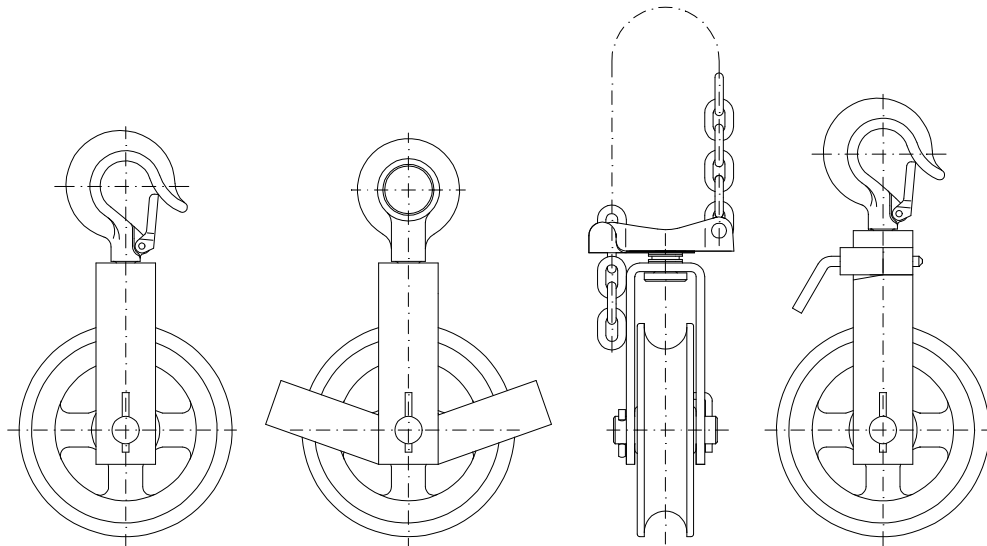
<http://www.brano.eu>

[info@brano.eu](mailto:info@brano.eu)

## **OPERATION MANUAL SAFETY PRINCIPLES, OPERATION AND MAINTENANCE FOR**

### **BRICKLAYER'S PULLEY**

**Types: Z 500 A;B;C;D;E;F - carrying capacity 500 kg**



Read carefully this manual before using this product. This manual contains important information on safety, use, installation, operation and maintenance of the product.

Make this manual available to all responsible persons.

**Keep for further use!**

Edition 3.

JANUARY 2012

Evidence number 1-52604-0-1



# CONTENT

1	DEFINITION .....	3
2	PURPOSE OF DEVICE.....	3
3	SAFETY PRINCIPLES .....	3
3.1	SAFETY SUMMARY .....	3
3.2	SAFETY PRINCIPLES .....	4
3.2.1	Prior to use .....	4
3.2.2	When in use.....	4
3.2.3	After use .....	4
3.2.4	Risk analysis.....	5
3.2.5	Maintenance .....	5
4	ACCESSORIES, PACKING AND STORAGE.....	5
4.1	ACCESSORIES .....	5
4.2	PACKING STORAGE.....	5
4.3	STORAGE .....	5
5	MAIN TECHNICAL PARAMETERS.....	6
6	INSTALLATION OF THE PULLEY.....	7
6.1	CHECKING BEFORE INSTALLATION.....	7
6.2	PULLEY SUSPENSION .....	7
6.2.1	Check of the rope .....	7
6.3	LOADING AND THE PULLEY POSITION WHEN LOADING .....	7
6.4	CHECK PRIOR TO USE.....	8
7	OPERATION .....	8
7.1	PULLEY APPLICATION .....	8
7.2	SAFETY WORKING ENVIRONMENT .....	8
8	INSPECTION OF THE PULLEY .....	8
8.1	INSPECTION.....	8
8.1.1	Inspection classification .....	8
8.1.2	Daily inspection.....	9
8.1.3	Regular inspection.....	9
8.1.4	Pulley occasionally used .....	9
8.1.5	Inspection record .....	9
8.2	INSPECTION PROCEDURE.....	10
9	LUBRICATION .....	11
10	MAINTENANCE .....	11
10.1	SAFETY PRINCIPLES .....	11
11	PUTTING OUT OF OPERATION – DISPOSAL .....	11
12	RELATED DOCUMENTATION .....	11
13	FINAL REQUIREMENTS OF THE MANUFACTURER TO THE CUSTOMER....	11

# 1 DEFINITION

**! DANGER** **Danger** is used to indicate the presence of hazard which will cause death or severe injury if the warning is ignored.

**! WARNING** **Warning** is used to indicate the presence of a hazard which can cause death or severe injury if the warning is ignored.

**! CAUTION** **Caution** is used to indicate the presence of a hazard which can cause minor injury if the warning is ignored. Caution can warn against dangerous practices as well.

**Carrying capacity (Q):** indicates maximum working load limit at normal operation, which the pulley has been designed for. The maximum mass of a lifted load is a half of the carrying capacity of the pulley – 250 kg (see fig. 6.3).

## 2 PURPOSE OF DEVICE

2.1 The bricklayer's pulley of Z 500 type of carrying capacity 500 kg and its A;B;C;D;E;F modifications (hereinafter referred to as the "pulley") is designed solely for manual lifting and lowering of free loads by means of polyamide or textile rope.

2.2 The pulley has been designed to meet requirements provided by the Directive 2006/42/EC of the European Parliament and of the Council as amended by the Czech technical regulation – ministerial order No. 176/2008 of the Coll. of Laws as amended as well as requirements of the ČSN EN ISO 12100 and ČSN EN 13157 +A1 harmonized technical standards.

## 3 SAFETY PRINCIPLES

### 3.1 SAFETY SUMMARY

Danger exists when lifting loads, particularly in case that the pulley is not used properly or is poorly maintained. Since an accident or serious injury could result, special safety precautions must be observed in the course of work with the pulley during its assembly, maintenance and inspection.

### **! WARNING**

**NEVER** use pulley for transporting people.

**NEVER** lift loads over or near people.

**NEVER** load pulley more than carrying capacity shown on the pulley nameplate.

**The maximum mass of the load is a half of the carrying capacity of the pulley.**

**ALWAYS** make sure the pulley anchorage and load carrying structure will safely support to handle fully loaded pulley and all lifting operations.

**ALWAYS** let people around to know when a lift is about to begin.

- ALWAYS** ensure safe load holding in a stable position after termination of the manipulation.
- ALWAYS** read operation manual and safety instructions.

Keep in mind that proper binding, lifting and pulling techniques are the responsibility of the operator. Check therefore all applicable national directives, regulations and standards for further information on safe use of your pulley.

### 3.2. SAFETY PRINCIPLES

#### **! WARNING**

##### 3.2.1 Prior to use

- ALWAYS** ensure physically fit, qualified and instructed persons older than 18 years of age, familiarized with this manual and trained in safety conditions and way of work, operate the pulley.
- ALWAYS** check the pulley before daily use according to the section 8.2.(1) „Daily inspection“.
- ALWAYS** make sure the length of the rope is sufficient for intended work.
- ALWAYS** ensure the carrying rope is clean and without defect.
- ALWAYS** use original rope only.
- NEVER** pull loads firmly bedded or of unknown weight.
- NEVER** tension without knowledge of necessary tensioning forces.
- NEVER** use pulley damaged or worn out.
- NEVER** use pulley with jumped out or missing safety latch of hook (“A“;“C“ and “F“ modifications)
- NEVER** use pulley without visible marking of carrying capacity on its nameplate.
- NEVER** use modified or deformed hooks.

##### 3.2.2 When in use

- ALWAYS** make sure the load is properly seated in the hook.
- ALWAYS** make sure the chain safety latch (E modification) or hook safety latch work in the correct way.
- ALWAYS** make sure the hinged side plate (F modification) is closed and secured by pivot.
- ALWAYS** pay attention to limit positions.
- ALWAYS** make sure the safety latches of hooks work in the correct way.
- ALWAYS** use manual power only.
- ALWAYS** when lifting loads of higher weights, we recommend, regarding the operating forces, the operation was ensured by two persons.
- NEVER** use pulley for anchoring of loads.
- NEVER** allow swinging the load, causing impacts or vibrations.
- NEVER** hitch load on hook tip.
- NEVER** pull rope over any edge.
- NEVER** weld, cut or perform any operation on suspended load.
- NEVER** tie other parts for lengthening rope (textile one).

##### 3.2.3 After use

- NEVER** leave a load suspended on pulley.
- ALWAYS** ensure pulley against incompetent use.

**Safety principles, use and check methods for the rope with the hook are defined in the separate operation manual supplied with every rope.**

### **3.2.4 Risk analysis**

The analysis of possible risks in light of design, operation and environment of the pulley application is presented in the freestanding document „Risk analysis“. This document can be required in service centers.

### **3.2.5 Maintenance**

**ALWAYS** enable qualified persons to inspect pulley regularly.

**ALWAYS** ensure sliding parts were greased enough.

Only such interventions can be done when maintaining that are in compliance with requirements of the manufacturer specified in the chapters 8, 10 and 13 of this operation manual.

**IT IS NOT PERMISSIBLE** to carry out repairs and maintenance in other way than prescribed by the manufacturer. It concerns namely the forbiddance of carrying out modifications on the product without any approval of the manufacturer.

## **4 ACCESSORIES, PACKING AND STORAGE**

### **4.1 ACCESSORIES**

4.1.1 The rope with the hook of the Z 500L type, which is not a part of the delivery and it is necessary to be extra-ordered, appertains to pulleys of all modifications. The basic rope length is 20 m.

### **4.2 PACKING STORAGE**

4.2.1 Pulleys are supplied assembled.

4.2.2 The following accompanying documentation is a part of the delivery:

- a) Operation Manual
- b) EC Declaration of Conformity
- c) Certificates of Quality and Completeness and Guarantee Card.
  - c1) Guarantee period is stated in the Guarantee Card.
  - c2) The guarantee does not apply to defects caused by infringement of the instructions stated in this Operation Manual and defects occurred owing to improper use and unskilled intervention.
  - c3) The guarantee does not apply also to modifications on the product without an approval of the manufacturer.
  - c4) A claim for defects in the product must be applied according to the relevant provisions of the Commercial Code or the Civil Code, as amended.
- d) List of service centers (for the Czech and Slovak Republics only).

### **4.3 STORAGE**

Store the pulleys in dry and clean stocks free of chemical influences and vapours.

- (1) Store pulleys always without any suspended load.
- (2) Remove all dust, water and impurities from the pulley before use.
- (3) During further use follow instructions of the sections 8.1.2 „Daily inspection“ and 8.1.4 „The pulley occasionally used“.

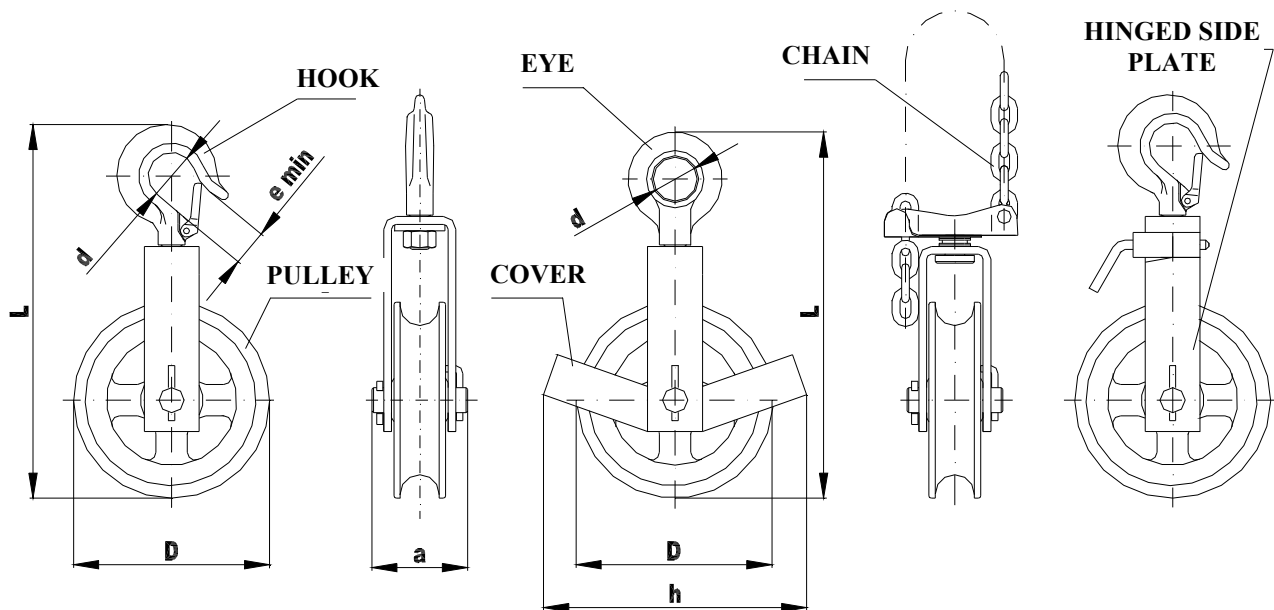
## 5 MAIN TECHNICAL PARAMETERS

A, C modifications

B, D modifications

E modification

F modification



Type	Carrying capacity* (kg)	a	d	D	e min	h	L	Range of operation temperature	Weight of pulley (kg)
A – with hook, without cover	500	61	30	125	20	-	240	-20°C to +50°C	1,7
B – with eye, without cover	500	61	28	125	-	-	233		1,8
C - with hook, with cover	500	61	30	125	20	165	240		1,9
D – with eye, with cover	500	61	28	125	-	165	233		2
E – with chain, without cover	500	61	-	125	-	-	-		2,3
F - with hook, without cover	500	61	30	125	20	-	256		1,7

\*) Maximum mass of lifted load is 250 kg – see the article 6.3

### 5.1 DATA ON THE PRODUCT

Every product is fitted with label with specified data as follows:

Standard design:
Manufacturer's identification
Address of the manufacturer
Type of product
Carrying capacity
Serial number
Year of production
CE marking

Pulley does not exceed the noise values specified in the annex no. 1 article 1.7.4.2 letter u) NV 176/2008 of the Coll of Laws (Directive EP and RE no. 2006/42/es)

## 6 INSTALLATION OF THE PULLEY

### 6.1 CHECKING BEFORE INSTALLATION

#### ! WARNING

**ALWAYS** check carefully whether the pulley is not damaged.

**ALWAYS** make sure the load carrying structure is firm enough to support the weight of a load and the pulley. The installation shall not be provided onto the structure, where carrying capacity cannot be verified.

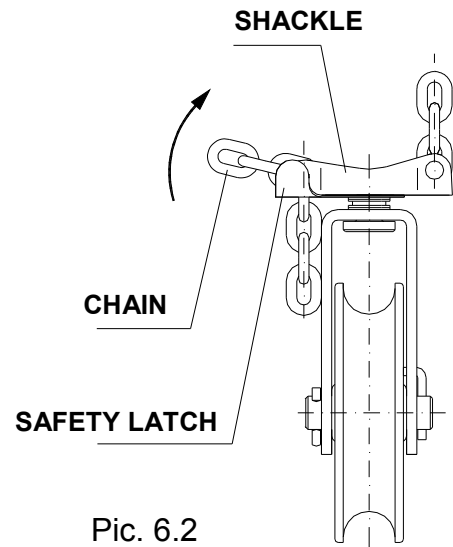
**ALWAYS** the user is responsible for the load carrying structure!

### 6.2 PULLEY SUSPENSION

#### ! CAUTION

Be careful when suspending the pulley on the suspension element and ensure appropriate conditions for safety installation according to the character of the environment (working platform, auxiliary lifting device etc.) to avoid endangering or injury of persons. Use safety equipment when suspending the pulley in heights to avoid falls from heights.

At pulley of E modification insert a required link of the binding chain from below to the suspension shackle (see pic. 6.2) and turn it in the direction of the arrow. Secure the link with the safety latch against getting out. After suspension secure the chain against a shift along the load carrying structure. Put the rope on the pulley.



Pic. 6.2

**ALWAYS** make sure the binding chain of the E modification pulley is properly inserted into suspension shackle bearings and secured by the safety latch against relieving.

**ALWAYS** make sure the pulley is properly suspended and secured against a shift along the load carrying structure.

**ALWAYS** user is responsible for creating conditions for pulley installation and performing the installation.

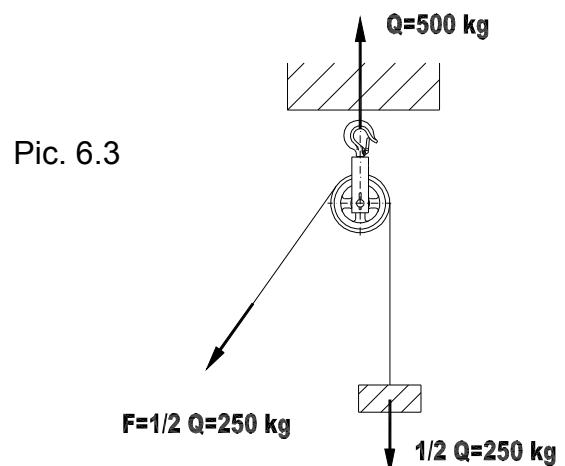
#### 6.2.1 Check of the rope

Check whether the rope is not twisted or damaged. Should the rope is twisted turn it back to the correct position. Should the rope is damaged replace it.

### 6.3 LOADING AND THE PULLEY POSITION WHEN LOADING

The pulley must be installed so that the lifting direction when lifting and lowering is always vertical.

The maximum mass of a load (carrying capacity  $Q$ ) is illustrated on the pic. 6.3. and is 250 kg.



Pic. 6.3

## **6.4 CHECK PRIOR TO USE**

### **! CAUTION**

(1) First see again through the previous articles of this manual and make sure all steps were correctly done and all parts are safely mounted.

Check whether the hooks are properly suspended and hooks safety latches snapped in, check securing of the chain with the safety latch (E modification), closing and securing of the side plate (F modification).

(3) Check over visually the load bearing structure or pendant elements whether they are without defects.

## **7 OPERATION**

### **7.1 PULLEY APPLICATION**

The pulley is a single-purpose device determined for hand lifting and lowering of loads under normal atmospheric conditions in the workplace by means of the rope.

It is designated for organizations and private persons as well. Since the operation with heavy loads may represent an unexpected danger, all "Safety instructions" according to the chapter 3 must be observed.

### **7.2 SAFETY WORKING ENVIRONMENT**

#### **! WARNING**

(1) The operating staff must be demonstrably familiarized with this operation manual, follow applicable safety and hygienic regulations and be qualified to the operation of this equipment.

(2) In the course of work with the pulley the operating staff must be equipped with helmet, gloves and suitable footwear.

(3) When more persons take part in the operation always one person trained in work safety must be determined that is responsible for manipulation with the pulley.

(4) The operator must have a clear and unobstructed view of the working area before starting the work. If it is not possible, a second or more persons must help to supervise in the nearby area.

(5) The operating staff must check whether the entire workplace is safe and whether there is a possibility of escaping in case of endanger, before starting to operate the pulley.

(6) When operating the pulley the sufficient distance of the operating staff from the load must be kept. It is prohibited to lift or lower bulky loads preventing to keep sufficient distance.

(7) When operating the pulley in limited areas you must prevent the hook or loads does not hit into obstacle or pulley body.

## **8 INSPECTION OF THE PULLEY**

### **8.1 INSPECTION**

#### **8.1.1 Inspection classification**

(1) Initial inspection: precedes first use. All new or repaired pulleys shall be inspected by a responsible competent person to ensure the qualified fulfilment of requirements of this operation manual.

(2) Inspection procedures of the pulleys in regular operation are divided into two general classifications based on the intervals at which they should be performed. The intervals are dependent upon the nature of the critical components of the pulleys and the degree of their wear and tear, deterioration or malfunction. The two general



classifications are herein designated as daily and regular. The respective intervals are defined as follows:

**(a) Daily inspection:** the visual examination performed by the operating staff designated by the user at the beginning of each usage.

**(b) Regular inspection:** the visual inspection performed by the qualified person designated by the user.

- 1) normal operation – annually,
- 2) heavy operation – twice per year,
- 3) special or infrequent operation – as recommended by the qualified person designated by the user prior to first use and according to the directions of the qualified employees (maintenance workers).

### **8.1.2 Daily inspection**

Inspect items such as those recommended in the section 8.2(1) “Daily inspection”, whether they are not damaged or have no defects. Perform this inspection also during the operation in the interval between regular inspections. Qualified employees shall determine whether any defects or damages can constitute a hazard or whether more detailed inspection is necessary to be performed.

### **8.1.3 Regular inspection**

Complete inspections of the pulley shall be performed as recommended regular inspection. These inspections may be performed with the pulley in its usual location and do not require its dismantling. The recommended regular inspection defined in the section 8.2(2) must be performed under the supervision of qualified persons determining whether the complete disassembly of the pulley is necessary. These inspections include also the requirements of daily inspections.

### **8.1.4 Pulley occasionally used**

(1) The pulley that has been idle for a period of one month or more but less than one year put through the inspection conforming to the requirements of the section 8.1.2 before it is placed again into operation.

(2) The pulley that has been idle for a period of one year put through the inspection conforming to the requirements of section 8.1.3 before it is placed into operation.

### **8.1.5 Inspection record**

Keep always the records of the performed tests, repairs, inspections and maintenance of pulleys. Carry out dated inspection records at time intervals specified in the section 8.1.1 (2) (b) and keep them available in the place designated by the user. Defects found out by the inspection or recorded during the operation must be announced to the person designated by the user who is responsible for work safety.

## 8.2 INSPECTION PROCEDURE

### (1) Daily inspection (provided by the operator or the responsible person)

PART	INSPECTION METHOD	LIMIT/CRITERIA FOR DISCARD	REMEDY
1. Function of the pulley	By turning round of the pulley. By turning round of the shackle.	The pulley or shackle seizes, goes hard, make an excessive noise, etc.	Clean the pulley, lubricate the pivots.
2. All parts	Visual check.	Worn out or damaged parts.  Fouled and non lubricated parts.	Putting out of operation.  Dismantle, clean, lubricate and mount again.
3. Function of the hinged side plate (F modification)	Manually by opening and closing of the side plate.	The side plate cannot be opened or closed.	Clean and lubricate the safety catch of the side plate, safety catch replacement, putting out of operation

**For rope supplied by the manufacturer the inspection procedure is specified in the separate "Operation manual" supplied with any rope.**

### (2) Regular inspection (performed by the qualified person)

PART	INSPECTION METHOD	LIMIT/CRITERIA FOR DISCARD	REMEDY
1. Function of the pulley	Turning of the pulley. Turning of the shackle.	The pulley seizes, goes hard, makes and excessive noise, etc.	Clean the pulley and lubricate pivots.
1. All parts	Visual check.	Worn out or damaged parts.  Fouled or non lubricated parts.	Putting out of operation.  Dismantle, clean, lubricate and mount again.
2. Name plate	Visual check.	Carrying capacity is illegible.	Repair or replace by a new one.
3. Safety latch of the chain (E modification) (1) Deformation  (2) Turning of the safety latch	Visual check. Manually.	Deformation is visible during the visual inspection. Safety latch cannot be turned round.	Repair of the safety latch.  Repair of the safety latch. Putting out of operation.
4. Safety latch of the hook (A, C, F modifications)	By manual spring back of the safety latch.	Safety latch does not return after compression.	Repair of the safety latch.

## **9 LUBRICATION**

Remove the old lubricant before the application of a new one, clean parts by the dissolvent and put the new lubricant. Use the PM – A2 lubricating grease or its equivalent.

## **10 MAINTENANCE**

Pulleys with the exception of lubrication do not require any special maintenance. For this product the manufacturer does not supply spare parts. Should any part of the pulley is damaged or worn out it is necessary the pulley is permanently put out of the operation and replaced by a new one.

### **10.1 SAFETY PRINCIPLES**

**NEVER** do maintenance when a load is suspended on the pulley.

## **11 PUTTING OUT OF OPERATION – DISPOSAL**

The pulley does not contain any harmful substances; its parts are made of steel and cast iron. After its putting out of operation give it to a firm dealing with disposal of metal waste.

## **12 RELATED DOCUMENTATION**

of Law as amended

This Operation Manual was elaborated in accordance with following technical regulations, technical standards and national regulations:

- Ministerial order No.176/2008 of the Coll. of Law as amended (EP and Council directive 2006/42/EC)
- ČSN EN ISO 12100
- ČSN EN 13 157 +A1

## **13 FINAL REQUIREMENTS OF THE MANUFACTURER TO THE CUSTOMER**

Any changes of the product can be realized only based on the approval of the manufacturer.

When not observing this condition the producer does not guarantee safety of his product. In this case any manufacturer's guarantees do not apply to the product.