



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

tel.:+420 553 632 318, 553 632 345

fax:+420 553 632 407, 553 632 151

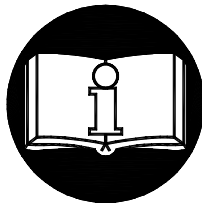
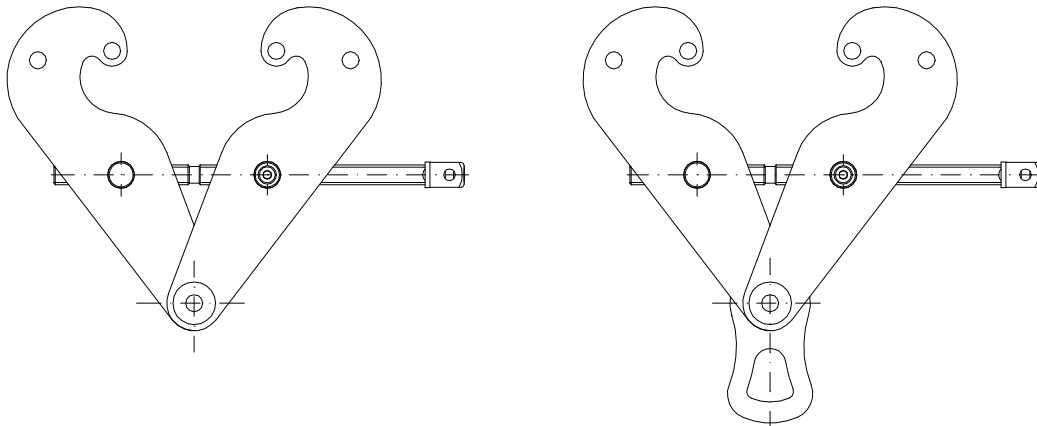
<http://www.brano.cz>

info@brano.cz

OPERATION MANUAL
SAFETY PRINCIPLES, OPERATION AND MAINTENANCE
FOR

GIRDER CLAMP

type ZZ, carrying capacities 2t, 3,2t, 5t and 10t



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

Make this manual available to all responsible persons.

Keep for further use!

Edition 1.

AUGUST 2006

Evidence number 1-52252-0-1



CONTENTS

1 DEFINITION	3
2 DEVICE PURPOSE	3
3 SAFETY PRINCIPLES	4
3.1 SAFETY SUMMARY	4
3.2. SAFETY PRINCIPLES	4
3.2.1 Prior to use	4
3.2.2 When in use	4
3.2.3 Risk analysis	4
3.2.4 Maintenance	5
4 PACKING, STORAGE AND MANIPULATION	5
4.1 PACKING	5
4.2 STORAGE	5
5 MAIN TECHNICAL PARAMETERS	6
5.1 MATERIAL AND DESIGN	6
5.2 DATA ON PRODUCT	7
6 INSTALLATION OF THE GIRDER CLAMP	7
6.1 LOAD CARRYING STRUCTURE	7
6.2 BEAM DIMENSIONS	7
6.3 ASSEMBLY AND DISASSEMBLY OF THE GIRDER CLAMP	7
6.3.1 Generally	7
6.3.2 Assembly	7
6.3.3 Disassembly	8
6.4 TEST PRIOR TO USE	8
7 OPERATION	9
7.1 APPLICATION OF THE GIRDER CLAMP	9
7.2 SAFE WORKING ENVIRONMENT	9
8 INSPECTION OF THE GIRDER CLAMP	9
8.1 INSPECTION	9
8.1.1 Inspection clasifications	9
8.1.2 Daily inspection	10
8.1.3 Regular inspection	10
8.1.4 Girder clamps occasionally used	10
8.1.5 Inspection record	10
8.2 Inspection procedure	11
9 LUBRICATION	11
10 MAINTENANCE	11
10.1 SAFETY PRINCIPLES	12
10.2 CHECK	12
11 PUTTING OUT OF THE OPERATION – DISPOSAL	12
12 RELATED DOCUMENTATION	12
13 FINAL REQUIREMENTS OF THE MANUFACTURER TO THE CUSTOMER	12
EC DECLARATION OF CONFORMITY	13

1 DEFINITION

! DANGER **Danger** is used to indicate the presence of a hazard, which will cause death or severe injury, if the operating staff does not avoid it.

! WARNING **Warning** is used to indicate the possible presence of a hazard, which could cause death or severe injury, if the operating staff does not avoid it.

! CAUTION **Caution** is used to indicate the possible presence of a hazard, which can cause minor injury, if the operating staff does not avoid it. Caution can also warn against dangerous practices.

Carrying capacity (Q): indicates maximum permitted mass (working load limit), which a girder clamp is designed to be loaded during operations under conditions specified in this manual.

2 INTENDED PURPOSE

2.1 The girder clamp of ZZ type of carrying capacities 2t, 3,2t 5t and 10t is designed for using as accessories for BRANO hand operated lifting devices. It is intended namely for easy and quick suspending of hand operated lifting devices of the appropriate carrying capacity onto girders or columns of I - or T- profiles. They are suitable for using as portable tool kit during assembling, repairing and other works as well. The mass of a load must not exceed the nominal carrying capacity

2.2 The girder clamp has been designed to meet requirements provided by the Directive 98/37/EC of the European Parliament and of the Council as amended by the Czech technical regulation – ministerial order No. 24/2003 of the Coll. of Laws as amended as well as requirements of the ČSN EN ISO 12100-1, ČSN EN ISO 12100-2, ČSN EN 1050 and ČSN EN 13157 harmonized technical standards.

2.3 The girder clamp has been designed to meet requirements defined for the group I of devices (mine) category M2 according to the Directive 94/9/EC of the European Parliament and of the Council as amended by the Czech technical regulation – ministerial order No. 23/2003 of the Coll. of Laws as amended as well as requirements of the ČSN EN 13463-1 harmonized Czech technical standard and fulfils the conditions for use in the „dangerous atmospheric conditions 2“ environment according to the ČSN EN 1127-2 standard with the limitation according to the national regulation – CBM (Czech Bureau of Mine) regulation No.22/89 of Coll. of Laws § 232 section (1) c) up to 1,5% of mine gas accumulation.

2.4 The girder clamp has been designed to meet requirements specified for the group II of devices (non-mine) categories 2 and 3 according to the Directive 94/9/EC of the European Parliament and of the Council as amended by the Czech technical regulation – ministerial order No. 23/2003 of the Coll. of Laws as amended as well as requirements of the ČSN EN 13463-1 harmonized Czech technical standard and fulfils the conditions for use in the „zone 1 and zone 21“, „zone 2 and zone 22“ environments according to the ČSN EN 1127-1 standard.

Note: The articles 2.3 and 2.4 apply for the girder clamp designed for use in an environment with explosion hazard.

3 SAFETY PRINCIPLES

3.1 SAFETY SUMMARY

Danger exists when using the girder clamp, particularly when the girder clamp is not being used properly. Since an accident or serious injury could result, special safety precautions must be observed in the course of work with the girder clamp during its assembly and inspection.

! WARNING

NEVER load more than carrying capacity shown on the girder clamp nameplate.

ALWAYS make sure the load carrying structure will provide the adequate support to handle fully loaded girder clamp and all other lifting operations.

ALWAYS follow all safety instructions concerning the lifting device suspended on the girder clamp.

ALWAYS read operation manual and safety instructions.

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 girder clamp.

ALWAYS check the girder clamp before daily use according to the article 8.2.(1) „Daily inspection“.

NEVER use damaged or worn out girder clamp.

NEVER use girder clamp without a visible marking of carrying capacity on its nameplate.

NEVER use a girder clamp marked with the label „**OUT OF OPERATION**“.

ALWAYS consult with the manufacturer or his authorized representative using of the girder clamp in extreme environment.

ALWAYS release the retaining screw.

3.2.2 When in use

ALWAYS make sure the lifting device (load) is properly suspended on the girder clamp.

NEVER load girder clamp by diagonal pull.

NEVER allow impacts or vibrations effect on the girder clamp.

NEVER leave a suspended load without supervision.

3.2.3 Risk analysis

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

3.2.4 Maintenance

ALWAYS enable qualified persons to inspect the girder clamp regularly.

ALWAYS ensure the screws and sliding parts were greased enough.

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

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

4 PACKING, STORAGE AND MANIPULATION

4.1 PACKING

The girder clamp is supplied assembled and packed into cardboard boxes.

4.1.2 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) Claim of product defects is carried out according to applicable provisions of commercial code eventually as amended.
- d) List of service centers (for the Czech and Slovak Republics only).

4.2 STORAGE

Store girder clamps in dry and clean stocks free of chemical influences and vapours.

- (1) Always store a girder clamp without any suspended load.
- (2) Remove clamp all dust, water or impurities from the girder.
- (3) Lubricate screws.
- (4) Store the girder clamp in a dry place.
- (4) During further use follow instructions of the article 8.1.2 „Daily inspection“ or 8.1.4 „Girder clamp occasionally used“.

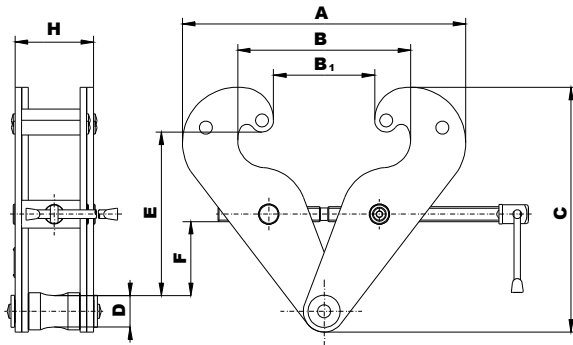
5 MAIN TECHNICAL PARAMETERS

Type	Carrying capacity (t)	Main dimensions (mm)									Weight (kg)	
		A max.	B max.	B ₁	C max.	D	E min. max.	F min.	J	H max.	With cross beam	With eye
		ZZ	2	360	270	220	220	20	108 155	35		
3,2	415		300	235	285	34	145 190	55	81	85	6,5	7
5	415		300	235	285	38	142 187	52	88	93	8,4	9
10	415		300	235	285	-	-	-	120	109	-	15,5

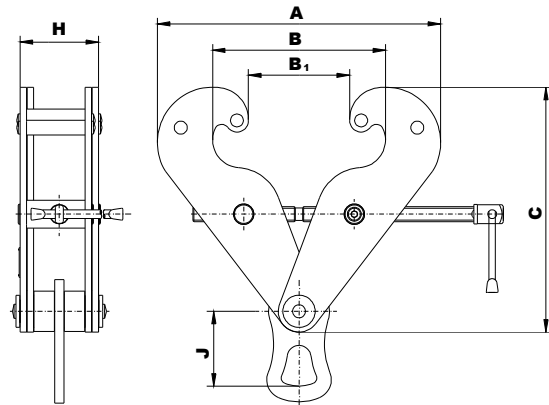
Notes:

- 1) B = width of I girder flange

ZZ with cross beam



ZZ with eye



5.1 MATERIAL AND DESIGN

- 5.1.1 All parts of the girder clamp are made of steel; cap is made of plastic.
- 5.1.2. Materials inclinable to creation of an incendiary spark in terms of the annex No. 2 article 1.3.1 to the ministerial order No. 23/2003 of the Coll. of Laws and the ČSN EN 1127-2 article 6.4.4, ČSN EN 1127-1 article 6.4.4 and ČSN EN 13 463-1 article 8.1 harmonized technical standards are not used in the girder clamp design.
- 5.1.3. Materials with dangerous effects of static electricity within the meaning of the ČSN EN 1127-2 article 6.4.7, ČSN EN 1127-1 article 6.4.7, ČSN EN 13463-1 article 7.4.3 and ČSN 33 2030 are not used in the girder clamp.

Note: The articles 5.1.2 and 5.1.3 apply for a girder clamp design for use in an environment with explosion risk

5.2 DATA ON PRODUCT

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

Standard design:	Design to environment with explosion risk:
Manufacturer's identification	Manufacturer's identification
Address of the manufacturer	Address of the manufacturer
Type of product	Type of product
Carrying capacity	Carrying capacity
Serial number	Serial number
Year of production	Year of production
CE marking	CE marking
	Symbol of protection type(I M2 for group I , II 2G for group II)

6 INSTALLATION OF THE GIRDER CLAMP

Prior to installation, check carefully whether the girder clamp is not damaged.

6.1 LOAD CARRYING STRUCTURE

! WARNING

ALWAYS make sure the load carrying structure is firm enough to support the weight of the load and girder clamp. The installation shall not be carried out onto the structure, where the carrying capacity cannot be verified.

ALWAYS the user is responsible for the load carrying structure!

6.2 GIRDER DIMENSIONS

The girder clamp can be installed on any I - or T- profile with flange gradient to 20%.

6.3 MOUNTING AND DISMANTLING OF THE GIRDER CLAMP

6.3.1 Generally

! CAUTION

Be careful when mounting of the girder clamp to the girder and ensure appropriate conditions for safety mounting according to the environment character (working platform, auxiliary lifting device, etc.) to avoid endanger or injury of persons. Use safety equipment when mounting the girder clamp in heights to avoid falls from height.

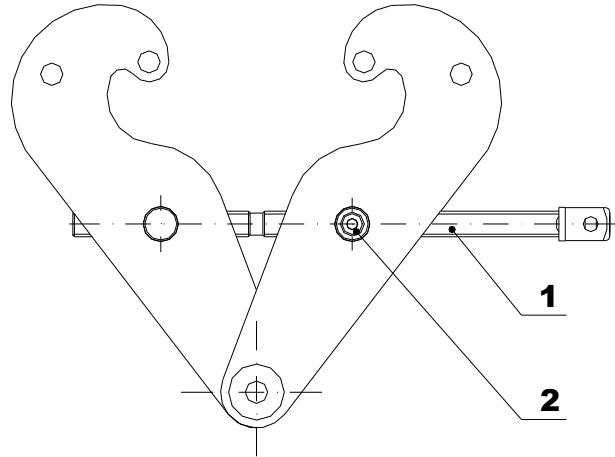
The user is responsible for creating conditions for mounting of the girder clamp and performing its installation.

6.3.2 Mounting

The girder clamp can be mounted in an easy way to various kinds of I - or T- profiles including welded ones. Maximum width of the I- or T-profile flanges for particular carrying capacities (types) of the girder clamp is specified in the table of the chapter 5 – see dimension "B".

Carry out mounting as follows:

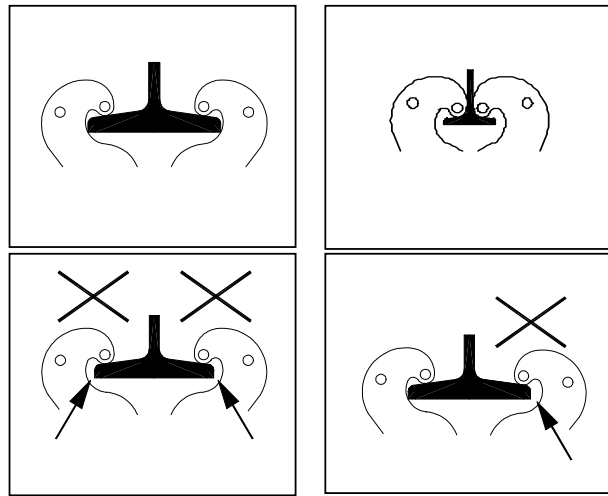
1. Release the retaining screw (2) by means of a hexagonal socket wrench.
2. By means of the screw handle (1) open arms to a distance allowing the mounting of the girder clamp onto the flange of the I-profile in the place of the manipulation.
3. Tighten the arm screw handles slightly to the flange of the girder.
4. By tightening of the retaining screw (2) with hexagonal socket wrench secure the bolt (1) against releasing.



Such installed girder clamp is ready to use.

When installing the girder clamp must not be loaded.

GOOD - arms sit on the vertical or horizontal part of the girder flange.



WRONG - there is a clearance between one or both arms and the profile flange.

6.3.3 Dismantling

Before dismantling of the girder clamp do not forget at first to release the retaining screw (2). After releasing of the retaining screw you can open screw handle arms (1) and take of the girder clamp from the carrying profile.

! WARNING

Never release the screw (1) of the loaded girder clamp.

6.4 TEST PRIOR TO USE

! CAUTION

- (1) First look again through the previous articles of this manual and make sure all steps were correctly done and all parts are safely mounted.
- (2) Inspect visually load carrying structure or suspension elements, whether they are without defects.
- (3) Check manually and visually as well, whether the girder clamp is anchored in accordance with the article 6.3.2.

7 OPERATION

7.1 APPLICATION OF THE GIRDER CLAMP

The girder clamp has been designed entirely for the installation onto flanges of I- or T-girders. It is destined for suspension of the chain blocks, lever jacks or other lifting devices always of the appropriate carrying capacity manufactured by the BRANO.

When suspending the lifting device of other manufacturer or binding means, the hook opening shall correspond to diameter of the crossbeam and eye of the hook shall fit tightly on the crossbeam or suspension eye.

Consult with the manufacturer other use of the girder clamp.

The girder clamp is destined for organizations and private persons as well.

When installing it the air protect the girder clamp against direct climatic influences (shelter).

Since handling with heavy loads may involve unexpected danger, all the „Safety instructions“ according to the chapter 3 must be followed.

! WARNING

NEVER suspend the lifting device of a greater carrying capacity than the nominal carrying capacity of the girder clamp.

NEVER suspend a lifting device, the hook of which does not fit tightly on the hinge pin.

7.2 SAFE WORKING ENVIRONMENT

! WARNING

- (1) The operating staff of the girder clamp must be demonstrably familiarized with this operation manual, must observe applicable safety and hygienic regulations and must be qualified for operation of this equipment.
- (2) For binding of loads only tested binding means of an appropriate carrying capacity shall be used.
- (3) The operation staff shall check, whether the entire work area is safe and whether there is a possibility of escaping from this area in case of endanger, before starting to operate the girder clamp.

8 INSPECTION OF THE GIRDER CLAMP

8.1 INSPECTION

8.1.1 Inspection classifications

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

(2) Inspection procedures of girder clamps operated regularly are generally divided into two classifications based on the intervals at which should be performed. The intervals depend on the condition of the critical components of the girder clamp and the degree of the wear and tear, deterioration or malfunction. The two general classifications are

herein classed as daily and regular ones. The respective intervals are defined as follows:

(a) Daily inspection: visual inspection carried out by the operating staff designated by the user at the beginning of each application.

(b) Regular inspection: visual inspection carried out by the qualified person designated by the user.

1) normal operation – once per year, determined by the user

2) heavy operation – twice per year

3) special or infrequent operation – according to the recommendation of the qualified person at first usage and according to the directions of the qualified employees (maintenance workers).

8.1.2 Daily inspection

Regarding parts such as those recommended in the section 8.2(1) „Daily inspection“ verify, whether the girder clamp is without any defect. Provide this inspection also during operation in the interval between regular inspections. Qualified employees will determine whether any defect or damage can constitute a hazard and whether more detailed inspection is necessary.

8.1.3 Regular inspection

Complete inspections of the girder clamp perform as recommended regular inspections. These inspections may be performed with the girder clamp in its normal location. Recommended regular inspection specified in the section 8.2(2) shall be performed under the supervision of qualified persons that will determine, whether it is necessary to repair the girder clamp. These inspections shall include the requirements of the daily inspection as well.

8.1.4 Girder clamps occasionally used

(1) The girder clamp, which has been idle for a period of one month or longer but less than one year, remit to the inspection conforming to the requirements of the section 8.1.2 before follow-up putting it into operation.

(2) The girder clamp, which has been idle for a period of one year, remit to the inspection conforming to the requirements of the section 8.1.3 before follow-up putting it into operation.

8.1.5 Inspection record

Always keep the record of the performed tests, repairs, inspections and maintenance of the girder clamp. Dated inspection records perform in time intervals specified in the section 8.1.1 (2) (b) and such records store in an accessible place designated by the user.

Defects found by the inspection or recorded during the operation must be announced to the person responsible for safety and designated by the user.

8.2 Inspection procedure

(1) Daily inspection (carried out by the operating staff or a qualified person)

PART	INSPECTION METHOD	LIMIT/CRITERIA FOR DISCARDING	REMEDY
1. Arms	Visually	Visible deformation of arms; cracks in the place of cavity.	Put out of the operation and replace by a new girder clamp.
2. Suspension	Visually	Clearance space between arm and beam.	Correction of installation according to the article 6.3.2.

(2) Regular procedure (carried out by a qualified person)

PART	INSPECTION METHOD	LIMIT/CRITERIA FOR DISCARD	REMEDY
1. Arms	Visually	Visible deformation of arms, cracks in the place of cavity.	Put out of the operation and replace by a new girder clamp.
2. Screw 3. Securing screw	Visual check. Turning of the screw.	Difficult operation, fouled and non lubricated thread.	Clean and lubricate.
4. Name plate	Visual check.	Carrying capacity is illegible.	Repair or replace with a new one
4. Hinge pin 5. Suspension eye	Visual check or check by means of the caliper.	Worn out cross bar or suspension shackle by more than 10%.	Put out of the operation and replace by a new girder clamp.

9 LUBRICATION

9.1 SCREW AND FRICTION SURFACES

Before the application of a new lubricant, remove the old one, clean parts by the help of the acid solution and put the new lubricant. Use PM-A2 grease or its equivalent.

10 MAINTENANCE

The girder clamp does not require – except for a lubrication of the screw thread - any special maintenance.

The manufacturer does not supply spare parts for the product. In case of any damage or wear and tear of parts of the girder clamp it is necessary to put out the device permanently of the operation and replace by a new one.

10.1 SAFETY PRINCIPLES

! WARNING

It is not permitted to perform repairs and maintenance in the other way than prescribed by the manufacturer. It concerns especially the forbiddance of performing modifications on the product without any approval of the manufacturer.

ALWAYS check the function of the girder clamp after performing maintenance.

ALWAYS mark the defective girder clamps or girder clamps under repair by an appropriate sign (e.g.: „OUT OF OPERATION“).

NEVER carry out maintenance when a load is suspended on the girder clamp.

10.2 CHECK

Check all parts, whether they are suitable for further use.

1. Check, whether they are not worn out and have no scratches or cracks.
2. Check, whether threaded parts have no damaged thread.
3. Check, whether the hinge pin and suspension eye are not worn out or damaged.

11. PUTTING OUT OF THE OPERATION – DISPOSAL

The girder clamp does not contain any harmful substances; its parts are made of steel and cast iron. After putting it out of operation, hand over it to a firm dealing with disposal of the waste metal.

12. RELATED DOCUMENTATION

12.1 EC declaration of conformity

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

- Ministerial order No.24/2003 of the Coll. of Law as amended (EP and Council directive 98/37/EC)
- Ministerial order No.23/2003 of the Coll. of Laws as amended (EP and Council directive 94/9/EC)
- ČSN EN ISO 12100 - 1
- ČSN EN ISO 12100 - 2
- ČSN EN 13157
- ČSN EN 1050
- ČSN EN 1127 - 2
- ČSN EN 1127 - 1
- ČSN EN 13463 - 1
- Regulation of CBM (Czech Bureau of Mine) No.22/89 of the Coll. of Laws
ČSN 33 2030.

13. FINAL REQUIREMENTS OF THE MANUFACTURER TO THE CUSTOMER

Any changes of the product can be implemented 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.



EC Declaration of conformity



Manufacturer **BRANO a.s.**
747 41 Hradec nad Moravicí, Opavská 1000
The Czech Republic
ID No.: 45193363 TIN: CZ45193363

We declare under our sole responsibility that the product

Name: **Girder clamp**
Type: **ZZ**
Parameters: **Carrying capacities 2t – 10t**

Description and purpose of use:

Girder clamp is designed as accessories for hand operated BRANO lifting devices. It is intended especially for easy and quick suspension of the hand operated lifting devices of appropriate carrying capacity on girders or columns Of I-profile. Load shall not exceed given nominal carrying capacity.

Is in conformity with the following directives and standards:

MO CR No. 24/2003 of the Coll. of Laws, RE directive No. 98/37/EC, ČSN EN ISO 12100-1:2004(EN ISO 12100-1:2003), ČSN EN ISO 12100-2:2004 (EN ISO 12100-2:2003), ČSN EN1050:2001(EN1050:1996), ČSN EN 349:1994, ČSN EN 614-1:1997.

The following authorized body had a share in conformity assessment:

Hradec nad Moravicí 1.5.2004

Ing. Alena Šimečková

Ing. Zdeněk Pavlíček

.....
Place

Date

Director of SBU ZZ

Manager of Q SBU ZZ