

**Installation and Operating Instructions**

**1. Security Advice:**

Caution:  
Please read the complete documentation carefully before starting the set-up operation!



1.1. Depending on the type of application danger will be caused by:

- Contusion during installation caused by unsecured connecting construction
- Improper hydraulic connections
- Malfunction of hydraulic supply caused by pressure fluctuation or excessive heating
- Malfunction of hydraulic system caused by improper filling of hydraulic system
- Loose hydraulic connections
- Loose attachment screws
- Not turning off the operating instrument during installation or repair works at the clamping elements
- Human malpractice
- Non-observance of the information and warning facilities during installation and the set-up operation.

Installation instructions have to be followed and the necessary equipment and supplies have to be used during installation, modifications, maintenance and repair. Throughout every working process on the clamping elements the appropriate accident prevention regulations, VDE security and installation instructions have to be followed.

1.2. The application of the clamping technology - in accordance with regulations - implies that this technology will be utilized exclusively in consideration of the realm of possibilities defined by technical specification. All different ways of use exclude further liability of the Zimmer GmbH.

**2. Model KBH BREAKING- and CLAMPING ELEMENT**

The clamping element of the model KBH is preset to the appropriate LM guide gauge ex factory. Large surface clamping elements are pressed onto the non-attached areas of the LM guide by the hydraulic oil via reciprocating principle. The contact sections are pressed onto the non-attached areas of the LM guide. The model KBH is delivered with a hydraulic oil filling (HLP 46) ex factory.  
Note: In case of the use of other types of oil, the faultless functionality of the product can not be guaranteed.

2.1. Operational Area:

The model KBH is particularly suitable for heavy load applications (Its main focus lies with breaking and positioning). The elements are licensed for 2000 breaking processes. The use of specific friction lining prevents track damage with dynamic usage.



- max. environmental temperature 70°C
- max. hydraulic operating pressure: see table, item 5., Technical Data
- OEM seal are available as accessories
- NBR-compatibility with external influences has to be warranted

**3. Installation Instructions**

3.1. Including fitting edge:

Mount clamping element together with the guiding slide at the guiding chassis.  
Clamping element has to abut to the stop unit!  
(Stop unit guarantees exact fixation)  
Pay attention to cleanliness and evenness of the mounting areas.

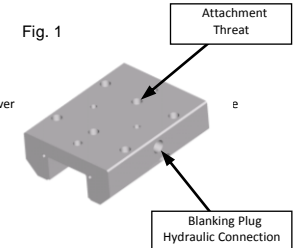
Continuation: see 3.3

3.2. Without fitting edge:

Mount clamping element together with the guiding slide at the linear guides. Pay attention to cleanliness and evenness of the mounting areas.  
Turn in screws manually; do not tighten.  
The distance between contact section and linear guide has to be tested by means of a 0,05mm metal foil.  
Continuation: see 3.3

3.3. General

For mounting the clamping elements, screws used have to comply with the category of solidity of min. 8.8. Tighten attachment screws with required moment. (Tab.1)  
Caution: The attachment screws in the middle do have a significant influence on the rigidity of the clamping element. The maximum holding load is reached only by a rigid connection construction which must cover clamping element.  
Set clamping element including connecting construction onto the linear guide.  
Tighten attachment screws of wiper (supply).  
Remove blanking plug on both sides. (see Fig. 1)  
Install G1/8" (G1/4") hydraulic connection.  
Filling (deairation) of hydraulic piping by loosening blanking plug on opposite side  
Loosen hydraulic connection at the clamping element cautiously until oil becomes visible  
Tighten respective screw connection afterwards!  
Unreleased air inside of improperly filled hydraulic lines may cause the destruction of the clamping element and the linear guide.  
The pressurizing with hydraulic pressure must take place after the installation and on the linear guide, exclusively.  
The clamping process during motion results in the destruction of the LM guide. It serves for positioning only!  
The elements have to be tested for leakage after connecting to the hydraulic supply unit.



The accessibility of the elements has to be warranted, in order that the wearing part can be changed without complexity.

**4. Operational Test**

4.1. After the appropriate installation of the clamping element the operating readiness has to be tested.

The mobility has to be tested by manually moving the slide.  
The process of clamping has to be tested by manually moving the connecting construction.  
The appropriate mounting of the fixed and flexible hydraulic pipe installation has to be tested by visual control.  
All hydraulic connections at the pressurized element have to be visually checked for leakage.  
All attachment screws have to be checked for their required moment. (Tab.1)  
For further information please contact our technical service: 0049/7844/9138-0

Non-observance of the installation and operating instruction causes the guarantee to expire.

**5. Technical Data**

Table 1

Size	Max. Allowing Operating Pressure [bars]	Allowable Peak Pressure [bars]	Max. Allowing Remaining Pressure [bars]	Allowable Holding Force* [N]	Swallowing Capacity per Clamping Process [cm³]	Attachment Screws Category of Solidity 8.8	Moment [Nm]
25	100	110	< 1,5	3,300	0,6	M 6	9,5
30	100	110	< 1,5	4,100	0,7	M 8	23
35	150	160	< 1,5	5,700	1,1	M 10 / M 8	46 / 23
45	150	160	< 1,5	9,900	1,8	M 12 / M 10	79 / 46
55	150	160	< 1,5	13,700	2,4	M 14 / M 12	125 / 79
65	150	160	< 1,5	22,700	3,8	M 16 / M 14	195 / 125
85	150	160	< 1,5	27,400	4,8	M 20 / M 16	340 / 195
100	150	160	< 1,5	34,000	5,0	M 20 / M 16	340 / 195
125	150	160	< 1,5	46,000	7,6	M 27 / M 24	855 / 580

1) Values are exclusively appropriate for standard-clamping technology of the model range KBH.

Technical modifications reserved.

**Type:  
KBH**

Version 1.2 / 21.03.2014

## Clamping Elements



### Manufacturer's Statement

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in terms of the EC – Machinery Directive 98 / 37 / EEC, Appendix II B

Herewith we certify that the type of construction

Product Name: Clamping Element

Part Number: KBH

is – in its delivered version - intended to be installed into a machine or for the assembly with other machines in order to create a new machine, and that its start-up is prohibited until it is proved that the machine, in which the above-named machine shall be integrated, corresponds to the EC – Machinery Directive 93 / 44 / EEC.

A handwritten signature in black ink, appearing to read "Ulrich F.", written in a cursive style.

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Legally binding signature (Business Management)