HASCO®

Enabling with System.

Translation of the original operating instructions

Z 70/...

CE

Lifting device

Content

1. Lifting device / Correct use according to regulations

The adjustable mould lifting device is used to transport moulds and tools for injection moulding machines with cranes or similar hoisting gear. The mould lifting device is intended for horizontal operation and must not be tilted.

The mould lifting device is not part of the hoisting gear.

1. It serves exclusively to grip the load,
2. it is mounted on the load itself, or
3. it is an integral part of the load,
4. it is sold separately and is thus regarded as a load handling device.

2. Basic principles

Machinery directive 2006/42/EC

DIN EN ISO 12100 – Safety of machines

BGR 500, Chapter 2.8, Operation of load handling devices in operation with hoisting gear

3. General information

These instructions for use are part the scope of delivery of the mould lifting device.

They must be read carefully and kept in a safe place. The company must ensure that the instructions for use are stored where they can be readily accessed and can be consulted at any time. Should the instructions for use become lost, a new copy can be obtained from the manufacturer.

The company may only assign persons to use the mould lifting device on their own if they have been trained in its use and are familiar with these instructions. The existence of a copy of the instructions for use does not absolve the user from his personal obligation to check the suitability of the user. The instructions for use can not replace the required individual training of the user.

A maximum of 20,000 load cycles are permitted. After that, the maximum service life of the load handling device has been reached. The mould lifting device must be taken out of operation, scrapped or, if possible, completely overhauled.

The manufacturer expressly emphasises that he does not assume any guarantee whatsoever for the correct installation of the mould lifting device in or on your equipment.

Symbols used:

 Warning, Suspended load

 Warning, Caution

 Information, Note

 The mould lifting device may only be used for vertical lifting with uniform (symmetrical) load distribution.

The lifting device must be positioned on the one hand above the centre of gravity of the load, and on the other, in the vertical alignment of the centre of gravity.

When moving the mould lifting device, care must be taken to prevent any swinging or knocking against objects or parts of the building. An appropriate transport speed must also be adhered to.

Pulling against a resistance, such as moulds and tools standing close to one another or touching each other, must be

avoided because, through friction of these machines, higher loads can occur than the permitted load-bearing capacity.

 The lifting or transport of loads must be avoided as long as persons are in the vicinity.

Carrying devices that are mechanically damaged, deformed or have greater than the permitted contraction of area may not be used. This applies to all lugs, bolts, stirrups, hooks, chains etc. The permitted contraction of area is given in regulation BGR 500 Chapter 2.8 of the Employer's Liability Insurance Association or in the additional manufacturer's instructions.

The maximum service temperature is -20° - +200° C. For use in other temperature ranges, approval from the manufacturer is required.

 The stated load-carrying capacity must not be exceeded.

The mould lifting device may be used only for the purpose described in the instructions for use (correct use according to regulations). If not, it can result in personal injury and/or material damage.

4. Special remarks on the mould lifting device

The mould lifting device is a rigid, adjustable steel construction used as a load handling device.

On the lifting site, the mould lifting device has an lifting eye bolt Z710/... It is adjustable with the aid of the sliding block in area (C) and must be tightened before commencing the transport!

When lifting a load, the carrying device must always be above the centre of gravity. If the point of suspension is not above the centre of gravity, the overall system will tilt on lifting until the centre of gravity is below the point of suspension.

Setting up the mould lifting device

Adjust the lifting device to the attachment points – hole measurement A – and the centre of gravity of the load.
To do this, loosen the lifting eye bolt Z710/... lower and upper part of Z70/..., and move them until the cylinder head screws Z31/... are the same distance apart as the holes of the load.

Move the eyebolt in the existing groove, in the lower and upper sections, until they match the centre of gravity of the load. Then tighten the eyebolt firmly.

Operation of the mould lifting device

Attach the suitable lifting device for the load (see setting up and table 1) as follows:

1. Screw – if necessary – one or two spacer blocks Z701/... (see table 2) into the holes of the load. This makes it possible to bypass add-on parts on the load. Make sure the bolts are firmly tightened.
2. Check the lifting device for damage before attaching it to the load.
   You must not use it if it is damaged in any way!
3. Screw the cylinder head screws using a hexagonal socket head screw either into the holes in the load or into the distance bolts. Make sure the screws are tight!

Insert the hook of the attachment device or hoisting gear into the eyebolt.
The hook must be provided with a safeguard against unintentional release from the eyebolt.
You can now raise the load with the hoisting gear. Make sure the mould lifting device is in a horizontal position – tilting of the lifting device is not allowed!

Make sure during the transport that nobody is below the suspended load.

1. A mould or tool may only be lifted if the lifting device is mounted according to regulations!
2. Die Transportbrücke ist nur für den horizontalen Betrieb zu verwenden!
3. The lifting device may not be used for loads involving a special risk as per BGR 500, Chapter 2.8, Section 3.10!
4. The lifting device may not be used in a potentially explosive area.
5. The lifting device may only be used indoors!
6. The lifting device is provided with an anti-corrosive protection.
   The anti-corrosive protection applied at the factory must be removed before the lifting device is used for the first time (e.g. with a cold cleaner)!
7. For hoisting the lifting device, a swivel hook must be used to prevent the eyebolt from twisting loose!
   Use load hooks with a safety catch to prevent unintentional loosening!
   Check the screws to ensure they are tight before raising the load!

Cleaning and maintenance

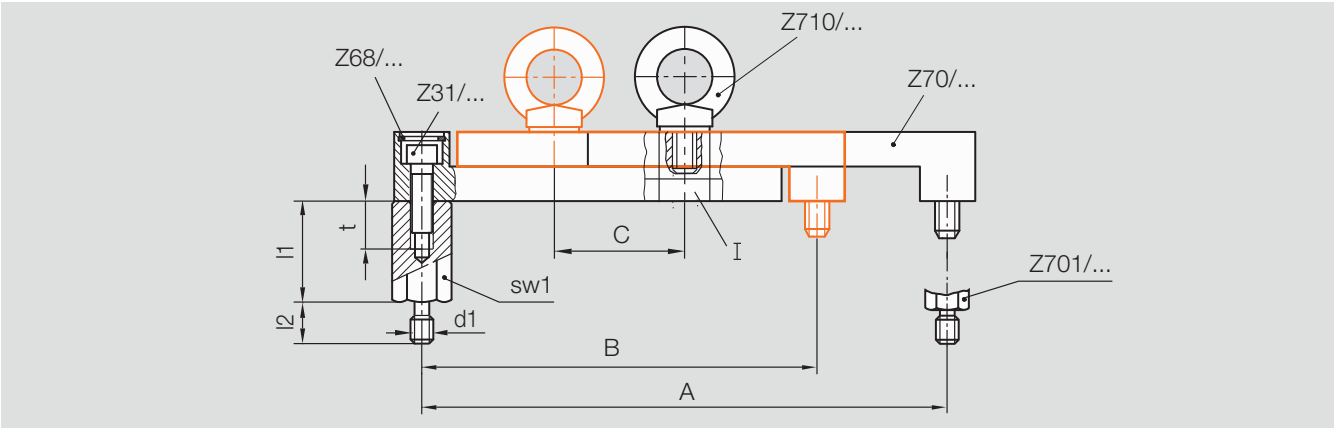
Storage: Use suitable lubricants and anti-corrosion agents.
Take care to protect the environment and prevent skin irritation – wear your personal protective equipment (PPE)!

Repairs

Use may only be made of original parts from the manufacturer. See also the diagrams and parts list.

Table 1

No./Nr.	Load-bearing capacity [kg]	C [mm]	B [mm]	A [mm]	Width [mm]	Height [mm]
Z70/1	140	40 - 80	140	180	30	61
Z70/2	230	50 - 140	210	300	40	74
Z70/3	700	60 - 195	295	430	60	101

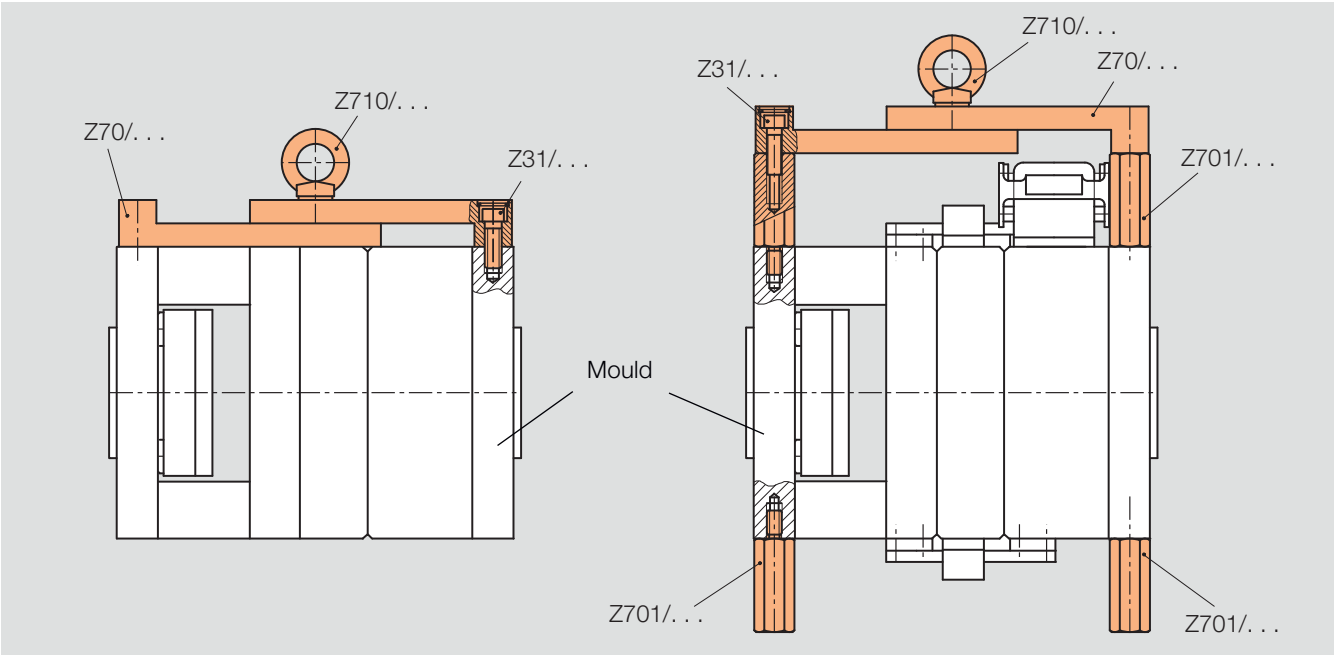


Protruding mould elements (latch locking device, plug housing etc.) can be simply bridged by using spacer blocks Z701/... The thread depth (t) is designed accordingly and the distance bolts can be shortened if required based on the following points:

1. Shortening of the external thread is forbidden!
2. The cylinder head screw Z31/... must be screwed completely into the spacer block Z701/...
3. The distance bolt must be firmly screwed together with the mould lifting device Z70/... and the machined surface must lie completely on the surface of the lifting device.
4. For alternative lengths of spacer block Z701/..., please consult HASCO.

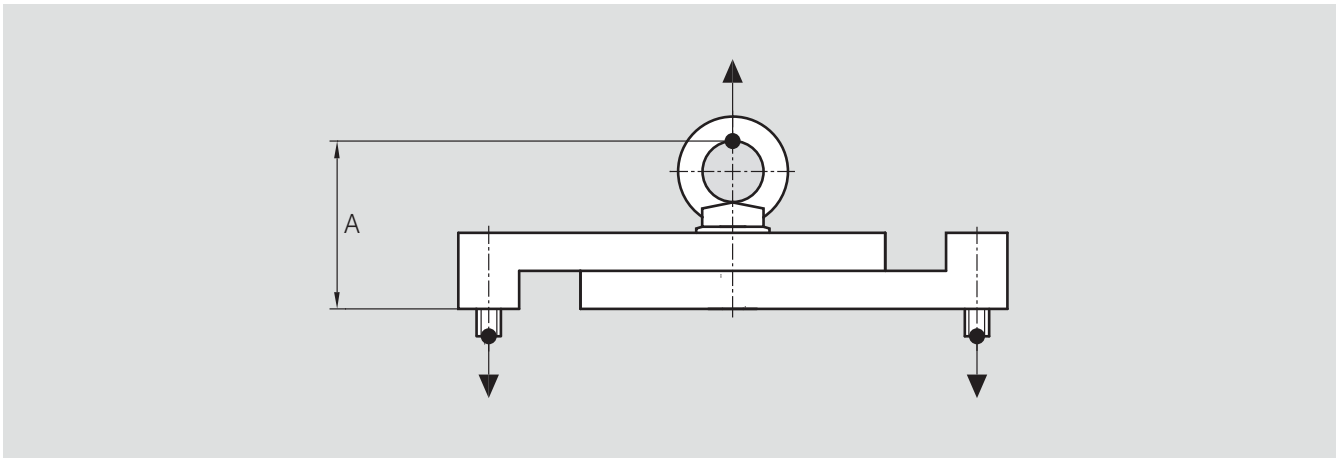
Table 2

No. / Nr.	d1 Thread	l1 [mm]	sw1 [mm]	l2 [mm]
Z701/ 8	M8	50	19	15
Z701/10	M10		22	
Z701/16	M16		27	20



The mould lifting device is regarded as part of the mould and should only be removed during the production process. The screws Z31/... are prevented from falling out by the internal circlips Z68/....

The stability of the lifting device / load combination is positive and thus always stable. The centre of gravity is below the attachment point of the lifting eye bolt.



Adjustable lifting eye bolt Z 710/...

With the lifting device, the eyebolt must be adjusted so that both the load and the load handling device are suspended at the permitted angle on the suspension device. As a rule, this means that the lifting device and the load are aligned horizontally after lifting.

If the lifting device is suspended off-centre, with a displaced centre of gravity, care must be taken that the screw Z 31/... closer to the suspension point is subjected to a higher load than the screw further away from the suspension point.

Carrying device

The carrying devices must be designed to conform to the measured forces.

5. CE labelling and risk assessment

The CE declaration and instructions for use apply only to the supplied mould lifting device. If the lifting device corresponds with other applications or involves special operational methods, it may be necessary to perform an additional in-house risk assessment and to incorporate the lifting device in this assessment.

In such cases, it is the duty of the operator or the party bringing it onto the market to perform an independent risk assessment in accordance with the Machinery Directive for the overall process and to publish an independent set of instructions for use.

The mould lifting device may only be used for the purposes described in the instructions for use (use according to regulations). If it is not used in accordance with the regulations it can result in serious personal injury or material damage. The manufacturer expressly points out that he does not accept any guarantee for the correct mounting of the lifting device in the moulds and tools.

Any modifications made to the mould lifting device may mean that it no longer complies with the requirements of various guidelines and standards.

6. Testing

Testing before use

The lifting device must be checked before first-time use on the operator's premises according to BGR 500 by a qualified expert, and any defects (e.g. transport damage) eliminated.

A qualified expert is someone who, on the basis of his technical training and experience, has adequate knowledge of load handling devices and is familiar enough with the relevant national occupational safety regulations, accident prevention regulations, guidelines and generally recognized technical rules and regulations (e.g. DIN EN standards) to be able to assess whether a load handling device is safe.

Testing before first-time use is essentially a visual and functional test. It should cover testing of the condition of the parts and components, correct assembly and the completeness and effectiveness of the safety facilities. Furthermore, a check should be made of the labelling of the mould lifting device.

Testing before every use

The mould lifting device should be subjected to a visible check by the user/operator before every use. These tests are essentially a visual and functional test. They should cover a check of the condition of the parts and components (deformation), correct assembly and the completeness and effectiveness of the safety facilities.
Attention should also be paid to possible contaminants that could influence or limit operation of the lifting device.

Regular testing

Regular testing to BGR 500 should be performed with load handling devices at least once a year by a qualified expert. Depending on the conditions of use and operating circumstances, additional tests may be necessary.

Regular testing essentially involves a visual and functional test. It covers the condition of the parts and components (checking for cracks, deformation, signs of serious corrosion and wear and tear), correct assembly and the completeness and effectiveness of the safety facilities. Attention should also be paid to contaminants that could influence or restrict operation of the lifting device.

All moving parts such as the top and bottom parts, sliding block, eyebolt, cylinder head screws etc. should be examined for completeness, functional reliability, wear and tear, and mobility. Furthermore, a check should be made of the labelling of the mould lifting device.

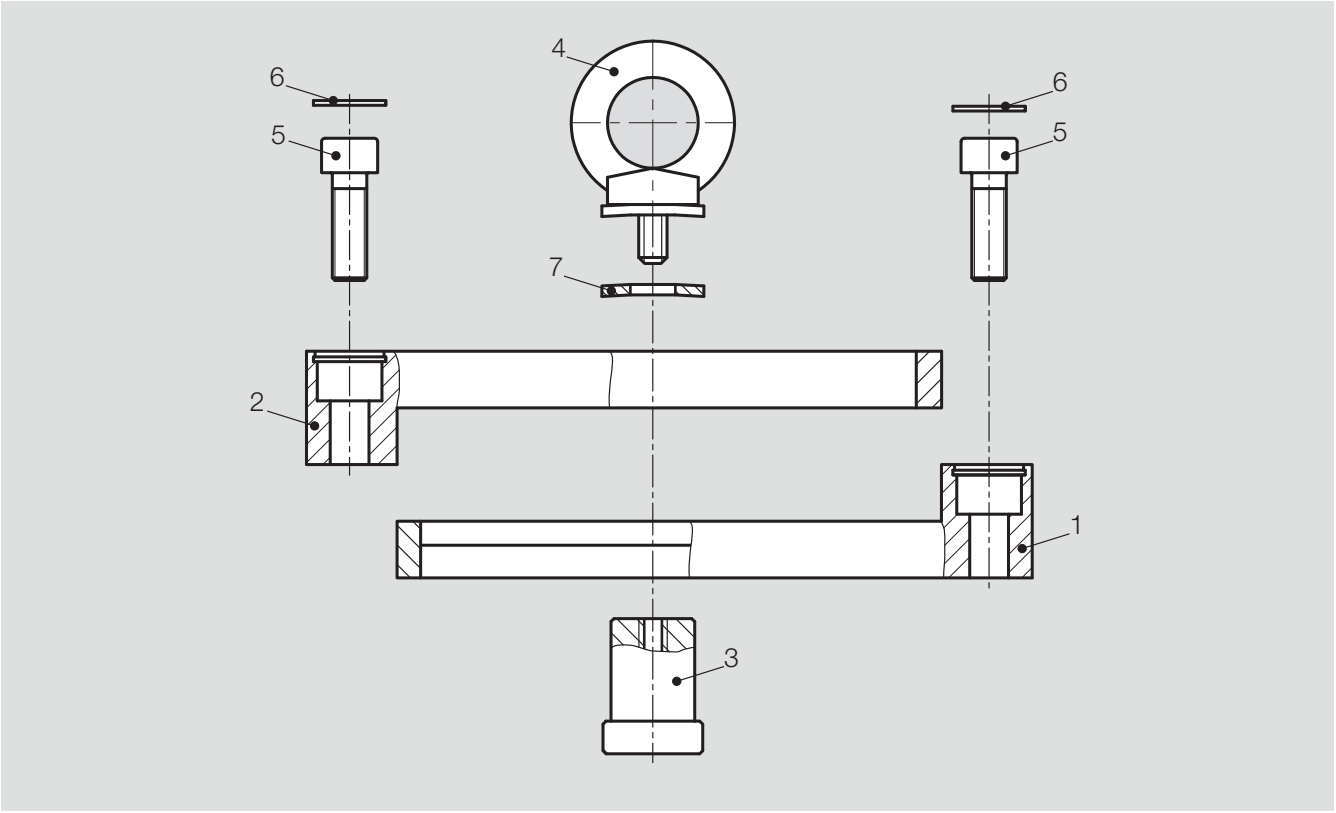
One-off testing

One-off tests to BGR 500 should be carried out with load handling devices after cases of damage and special incidents that could influence the load-bearing properties. Accessories must be checked in line with the relevant regulations of BGR 500 of the Employer's Liability Insurance Association. They should cover testing of the condition of the parts and components (checking for cracks, deformation etc.), correct assembly and the completeness and effectiveness of the safety facilities.

All moving parts such as top and bottom parts, sliding block, eyebolt, cylinder head screws etc. should be checked for completeness, functional reliability, wear and tear and mobility.

If these instructions are not adhered to, warranty claims may be lost as part of the product liability.

Diagram and parts list



Pos.	Designation	Piece
1	Bottom part	1
2	Top part	1
3	Sliding block	1
4	Lifting eye bolt	1
5	Hexagon socket head cap screw	2
6	Circlip	2
7	Locking washer	1