

# Camlok®

HIGH GRIP VERTICAL PLATE CLAMPS

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## HG CLAMP

**WLL 25 - 500 KG (PER PIECE)**

EN- OPERATING MANUAL

(ALSO APPLICABLE FOR SPECIAL VERSIONS)

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## Introduction

Products of Columbus McKinnon Corporation Limited have been built in accordance with the state-of-the-art and generally accepted engineering standards. Nonetheless, incorrect handling when using the products may cause dangers to life and limb of the user or third parties and/or damage to the hoist or other property.

The operating company is responsible for the proper and professional instruction of the operating personnel. For this purpose, all operators must read these operating instructions carefully prior to the initial operation.

These operating instructions are intended to acquaint the user with the product and enable them to use it to the full extent of its intended capabilities. The operating instructions contain important information on how to operate the product in a safe, correct and economic way. Acting in accordance with these instructions helps to avoid dangers, reduce repair costs and downtimes and to increase the reliability and lifetime of the product. The operating instructions must always be available at the place where the product is operated. Apart from the operating instructions and the accident prevention act valid for the respective country and area where the product is used, the commonly accepted regulations for safe and professional work must also be adhered to.

The personnel responsible for operation, maintenance or repair of the product must read, understand and follow these operating instructions.

The indicated protective measures will only provide the necessary safety, if the product is operated correctly and installed and/or maintained according to the instructions. The operating company is committed to ensure safe and trouble-free operation of the product.

## HG Clamp

Model	WLL kg	Jaw capacity Z mm	Weight kg
HG500	25-500	0-10	5

Table 1

## General Safety

- ⚠ ALWAYS wear practical, protective clothing, gloves and footwear as a minimum.
- ⚠ ALWAYS bear in mind your safety and the safety of others while using this equipment.
- ⚠ DO NOT operate this equipment, if you feel ill, tired or are under the influence of alcohol or drugs.
- ⚠ This equipment MUST NOT be used to carry or lift personnel.

## General Safety

- ALWAYS** check the operation of your Camlok lifting clamp before use.
- ALWAYS** place the palm of the hand on top of the load.
- ALWAYS** stand clear when lifting or lowering.
- ALWAYS** keep a record of inspections and repairs.
- ALWAYS** transport the load as close to the floor as possible.
- NEVER** use a worn or damaged Camlok lifting clamp.
- NEVER** lift more than one plate/product at a time.
- NEVER** leave a suspended load unattended or place a plate down on edge for a long period of time.
- NEVER** exceed the maximum working load limit
- NEVER** lower fast, **ALWAYS** lift and lower gently.
- NEVER** stand under a suspended load and if guiding a load by hand, **NEVER** grip the load with fingers on the underside.
- NEVER** pull or push the load where the crane cannot reach
- NEVER** force the locking lever.

## Product Overview

The HG plate clamp has an extremely high clamping force which makes the clamp particularly suited to the transport of a plate with a surface hardness up to HRC 40/Brinell 375. For other materials consult your supplier before use. The minimum load for this clamp is 5% of the WLL (25Kg)

## Fitting:

This clamp is opened and closed with a locking lever. The safety lock spring loads the cam jaw, preventing the clamp from opening even when there is no load on the jaw.

- Check that the plate is free from grease, standing water, oil, scale and is not coated with paint or film.
- For long plates use 2 clamps and a lifting beam.
- Check the weight of the clamp and ensure the lifting sling is slack.
- Turn the locking lever clockwise to lock the jaws open.
- Position the clamp on the edge of the plate over the centre of gravity and to the full depth of the mouth.
- Take care not to damage the lifting surfaces.
- Place the fixed jaw onto the plate and turn the lever anticlockwise to the 'LOCK' position.
- Check correct fitting and position before lifting.

## Lifting & Transport:

- Never lift more than one plate at a time.
- For short plates, a single clamp can be used. For long plates two clamps and a lifting beam must be used.
- Never exceed the maximum working load limit or pick up loads weighing less than the minimum working load limit as marked on each clamp.
- Check position and fitting of clamp as weight is applied.

## Lifting & Transport:

- Check for obstacles prior to lift. Lift slowly and smoothly at all times.
- Lifting slings must be vertical at all times.
- Always keep clear of the area below and surrounding the load while lifting and transporting as the plate may kick or swing as it lifts from the floor.
- Minimise the danger area by moving plates as close to the ground as possible.
- Take precautions to stop the load from swinging.
- Don't sideload the clamp over the permitted angle as shown below.

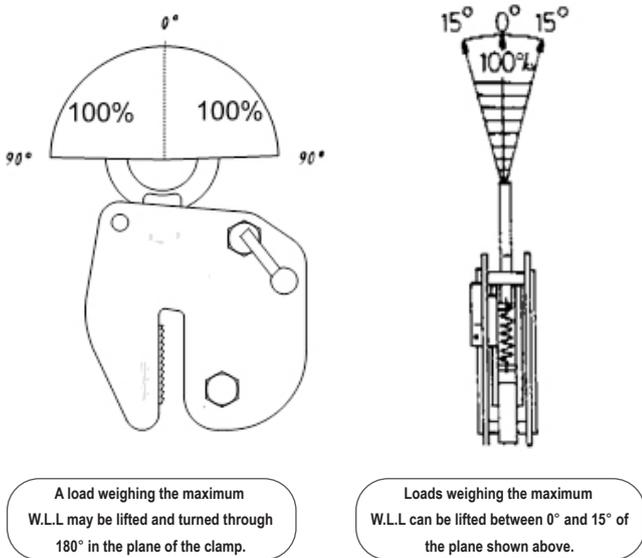


Figure 1 - Load diagram with lifting slings vertical

## Release:

- Place loads down gently. Fast lowering may release the clamp.
- DO NOT lower if the locking lever is not in the 'LOCK' position.
- The clamp can only be released when the entire load is removed.
- The lifting sling must have sufficient slack to allow the hooking to withdraw into the clamp.
- Push the hooking down and into the clamp shell while turning the locking lever.
- Do not force or hit the lever.

## Testing/Service:

All Camlok lifting clamps are tested before sale to a proof load of twice the working load limit. Any clamp that has been repaired must be tested to this load before re-entering service.

## Care and Maintenance:

The maintenance schedule is based on normal usage of clamps operating in a workshop environment. Maintenance frequency must be increased if clamps are subject to heavy usage or operated in adverse conditions.

Fasteners fitted to 'Camlok' clamps are retained with Loctite 270 Thread Locking Compound unless bolt is secured with a nyloc nut.

DO NOT use any other grade. For maintenance, use heat to loosen locking compound (up to 80°). Always keep a record of inspections and repairs.

The components which need to be inspected are detailed in the table below with correct frequency.

	Check	Daily	Weekly	3 Months
A	Smooth operation	✓	✓	✓
B	Welds for cracks	✓	✓	✓
C	Distortion in the shell plates	✓	✓	✓
D	Obvious signs of damage	✓	✓	✓
E	Clean teeth, remove all grit, dirt & mud	-	✓	✓
F	Lubricate all moving parts with a soft grease	-	✓	✓
G	Fasteners for integrity & tightness	-	✓	✓
H	Distortion in jaw bolt, internal links & spring	-	-	✓
I	Jaw & pad wear	-	-	✓
J	Locking cam handle for wear	-	-	✓
K	Spring tension	-	-	✓

Table 2

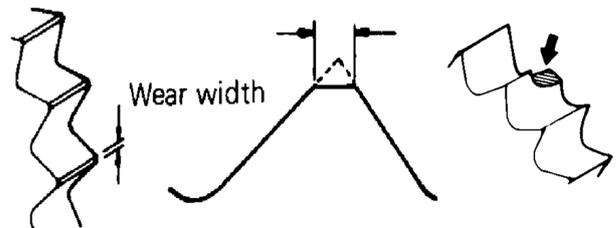


Figure 2 - The maximum wear width as shown above should not exceed the dimensions shown in the table below.

HG500
0.3-0.5 mm

Table 3

**Note:** Chipped teeth are only acceptable if the chip is less than half the width of the tooth and the adjoining teeth are undamaged.

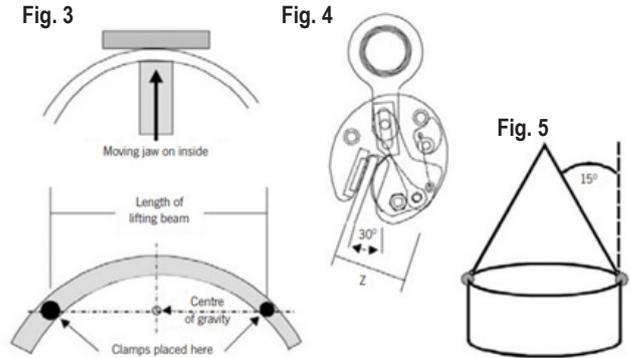
**Curved Surfaces:**

When using clamps to lift curved objects, the following should be observed:

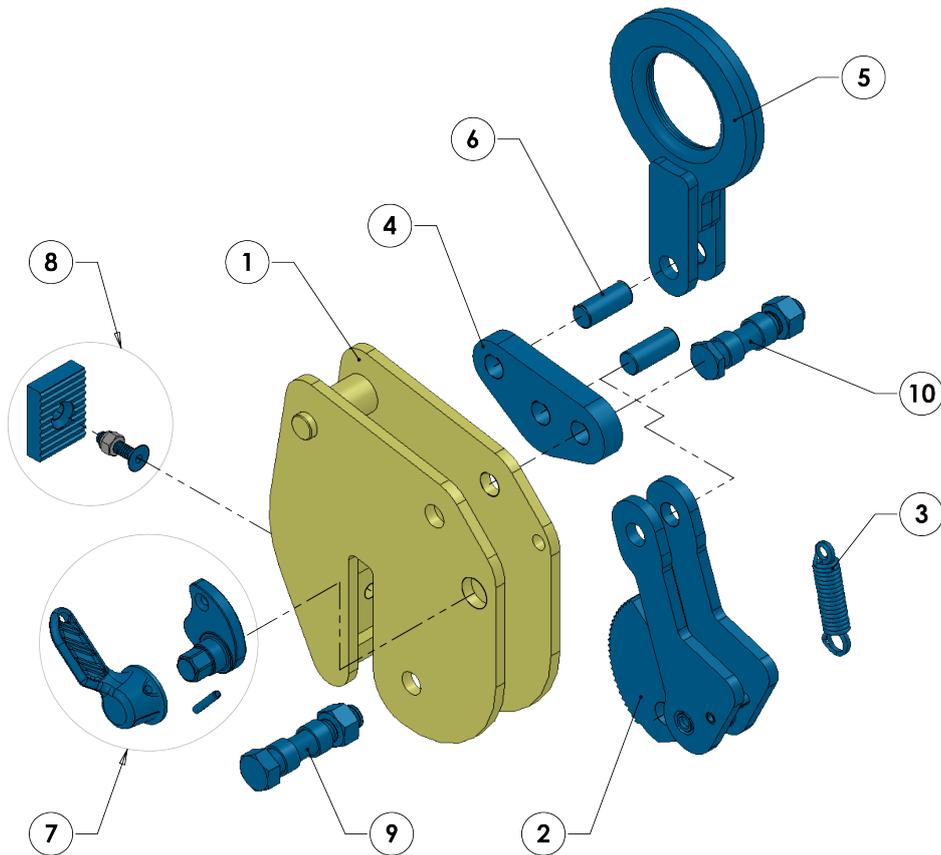
- W.L.L. reduced to 75% of that marked on the clamp. Minimum W.L.L is unaffected.
- The moving jaw must be placed on the inside of the curve (fig 3).
- The minimum internal diameter is 2.5 times the distance from the fixed jaw to the opposite edge of the clamp

**SINGLE CLAMP** - The clamp must not exceed 30° tilt from the vertical (fig. 4).

**MULTIPLE CLAMPS** - When using a multi-leg sling the maximum sling angle from the vertical is 15° (fig. 5).



**HG Spares Breakdown:**



REF	HG500	HG1	HG2	HG3	Description
1	N4300001884	N4300001896	N4300001945	N4300001945	Shell Assembly
2	N59000349	N59110320	N4300001950	N4300001950	Internal Assy C/w Spring
3	N59110105	N59110107	N59210318	N59210318	Spring
4	N4300001891	N4300001911	N4300001939	N4300001939	Lever Arm
5	N59000353	N4300001897	N4300001938	N4300001938	Hookring
6	N59000350				Hookring Pin
7	N4300002063	N59110314	N59110314	N59110314	Cam Assembly
8	N59000346	N59110315	N29110144	N29110144	Pad Assembly
9	N59000347	N59110136	N59210319	N59210319	Jaw Bolt Assy
10	N4300001885				Lever Arm Bolt Assy

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## COLUMBUS MCKINNON

Columbus McKinnon has a history of over 150 years and is a world leader in lifting and intelligent motion control technology. The innovative portfolio of high-quality brands, including Stahl CraneSystems, Magnetek, Pfaff-silberblau, Duff-Norton, Yale, Dornier, CM and montratec addresses the needs of our customers by enhancing safety and promoting growth and efficiency. Experience, expertise and innovation

combined with a deep understanding of user needs are the formula for success that has long underpinned our portfolio of hoists, material handling equipment and lifting accessories. Columbus McKinnon is a global organization headquartered in Charlotte, USA (North Carolina). Its global presence includes offices and manufacturing facilities in North America, Latin America, Europe, Africa and Asia.



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