



William Hackett

MULTI-DIRECTIONAL CLAMP OPERATION MANUAL

Manufactured in accordance with the requirements of
the following international standards:
**BSEN13155:2003+A2:2009 – Cranes – Safety – Non fixed
load attachments**
ASME B30.20-2018 – Below-the-Hook Lifting Devices

WARNING:

Read instructions carefully before using our clamps. Failure to
comply with instructions could result in serious or fatal injury.



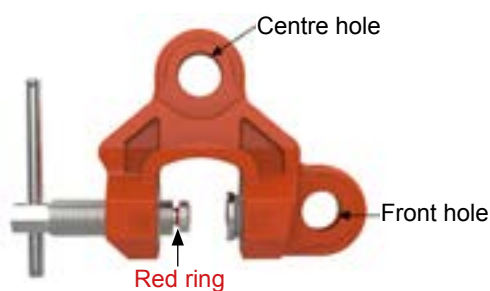
Multi-Directional Clamp

Applications

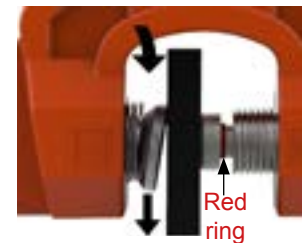
Clamps are suitable for lifting, transporting, suspending, lateral pulling and turning over steel plates and materials in various shapes throughout civil engineering, construction, iron and steel, shipbuilding, and steel plate working industries. They are also ideal for hanging hoists and for the pulling of various materials as an anchor point.

Features

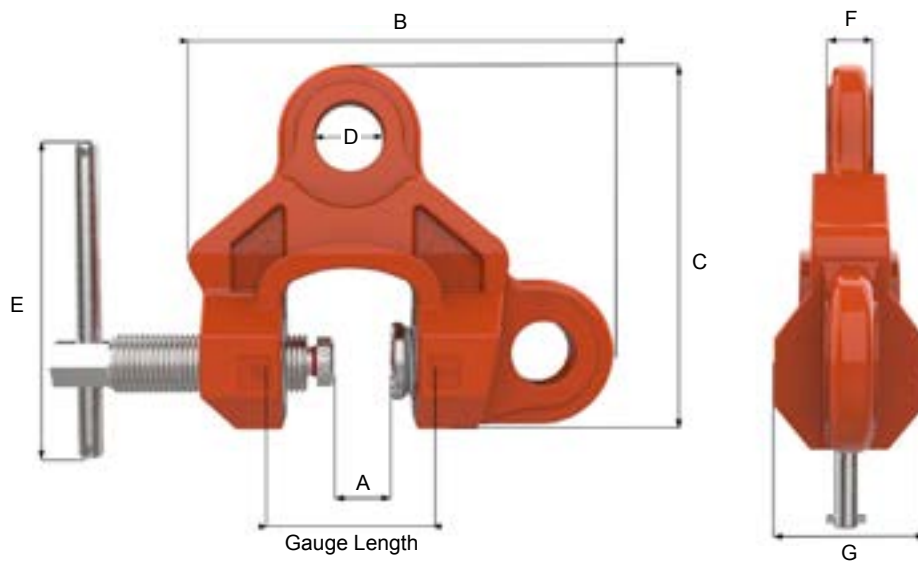
1. There are two shackle holes, front hole and center hole. It is important to choose the appropriate hole depending on the specific application.
2. The screw and cam ensures reliable clamping. When lifting the load, the cam tilts and the contact surface becomes larger, securely clamping the load to be lifted.
3. The clamp is designed with a “visual confirmation of safety”. When the clamp screw is tightened, the red ring is not visible and completely hidden inside of the main body.
4. The main body is a mold forged product of alloy steel processed with optimal heat treatment, and thus, strong and durable.



When under load the pressure of the cam on the load increases



Specifications

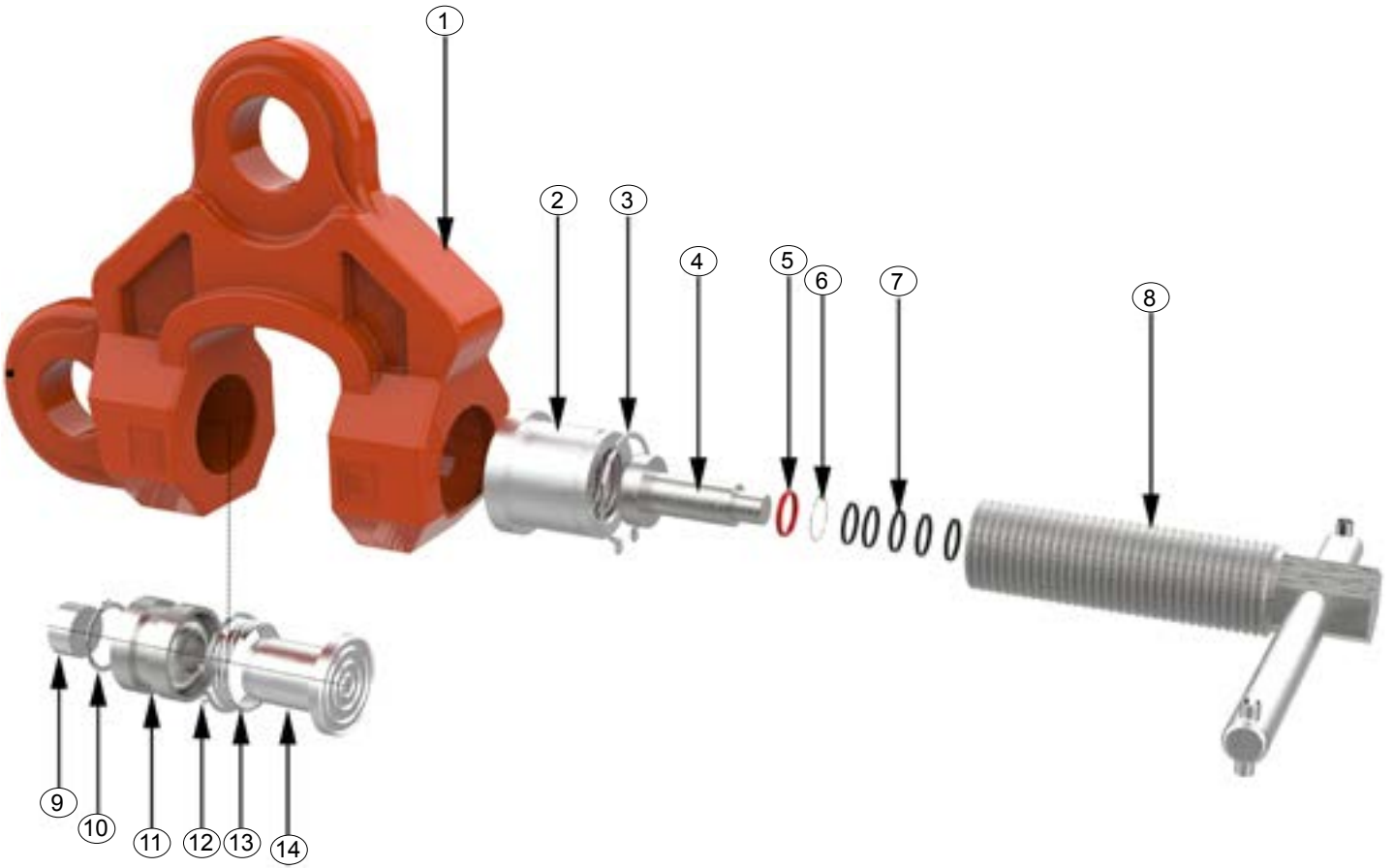


Model	WLL t	Effective Thickness mm	Gauge Length mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Nett Weight kg
	1.0	1-40	80	0-40	203	170	32	150	20	61	4.3
	2.0	1-40	90	0-40	226	190	36	150	25	76	8.2
	3.2	5-40	95	5-40	250	205	45	200	31	86	10.0

- Safety factors: 4 times the working load limit (WLL)
- Hardness limits for the object to be lifted (h): $h \leq \text{HRC}30$
- Tightening torque: Min. tightening torque for 1T: 14.7Nm
Min. tightening torque for 2T: 19.6Nm
Min. tightening torque for 3.2T: 24.5Nm
- The minimum load is 1/5 the WLL, eg. when WLL is 2t, the minimum load should be 400kg.
- Ambient temperature range of operation: - 20°C to + 50°C

Multi-Directional Clamp

Name of Parts



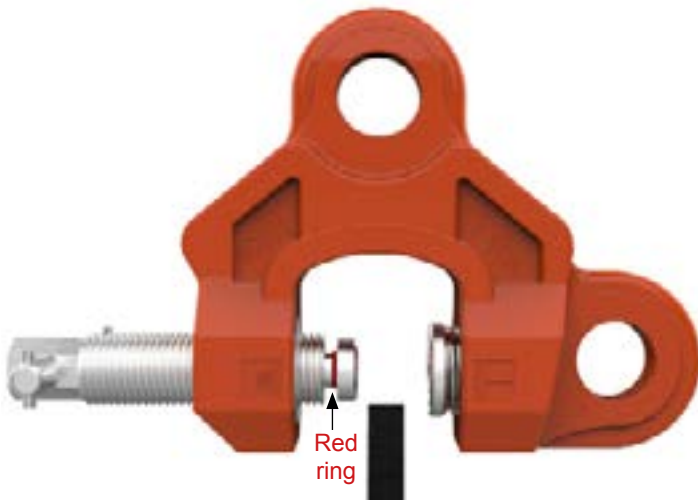
Part No.	Part Name	Qty./Pcs.	Part No.	Part Name	Qty./Pcs.
1	Main Body	1	8	Clamp Screw and Handle	1
2	Pressure Nut	1	9	Bottom Plate	1
3	Circlip for Pressure Nut	1	10	Circlip for Hole	1
4	Edge Pad	1	11	Bearing	1
5	Red Ring	2	12	Circlip for Cam	1
6	Circlip for Shaft	1	13	Conical Spring	1
7	Disc Springs	Several	14	Cam	1

Multi-Directional Clamp

How to Use

1. OPERATION METHOD

- a) Before use an evaluation should be taken by a competent person to determine the optimum position the clamp should be attached depending on the shape of the objects to be lifted.
- b) Loosen the clamping screw, and open the clamp opening until it is slightly wider than the thickness of the object to be lifted.
- c) Insert the edge of the object deep into the clamp opening.
- d) Secure the clamp on the object with the clamping screw. When tightening the clamping screw, do not tilt the cam or the main body.
- e) Tighten the clamping screw sufficiently so that the spring built into the pressure nut can work properly to provide a secure grip. The clamp is designed with “visual confirmation of safety”. Ensure that the **red ring** is not visible and completely inside the main body.
- f) Choose a shackle hole in consideration of use method and status of load. Never use two holes simultaneously for same operation. Double check that the clamping safety check line (the red ring) is not visible. It should remain completely hidden inside the main body. The lifting operation can then start.
- g) During lifting operation, special attention must be given to prevent screw from loosening by unintended contact of handle with wire rope, shackle or any other objects.



NB: Red ring should not be visible when the clamp is correctly tensioned

Multi-Directional Clamp

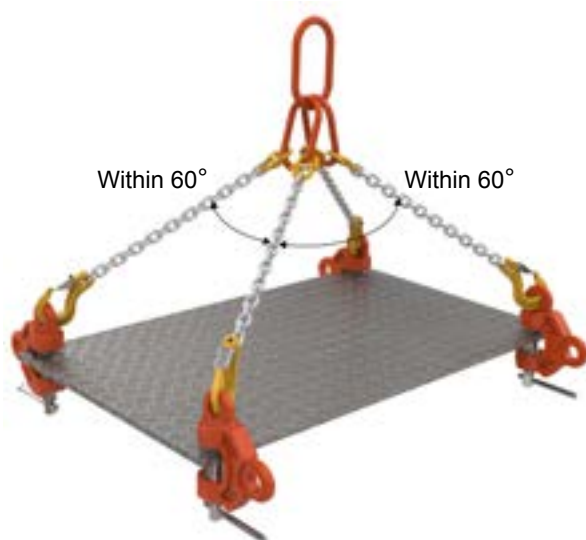
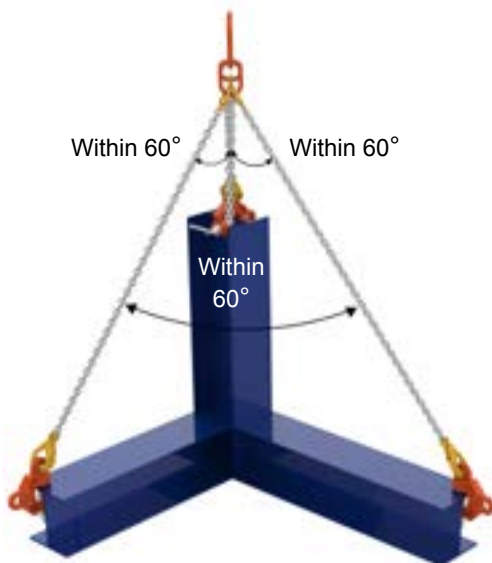
How to Use

2. OPERATION PATTERNS

- a) When lifting at two points, keep the lifting angle within 60° .



- b) Always lift at three or more points with complicated shaped objects, and balance the load with the proper clamping position and length of sling.



- c) Clamps can also be used for positioning steel structure for welding, pulling and/or suspending.



Make sure the red ring is not visible

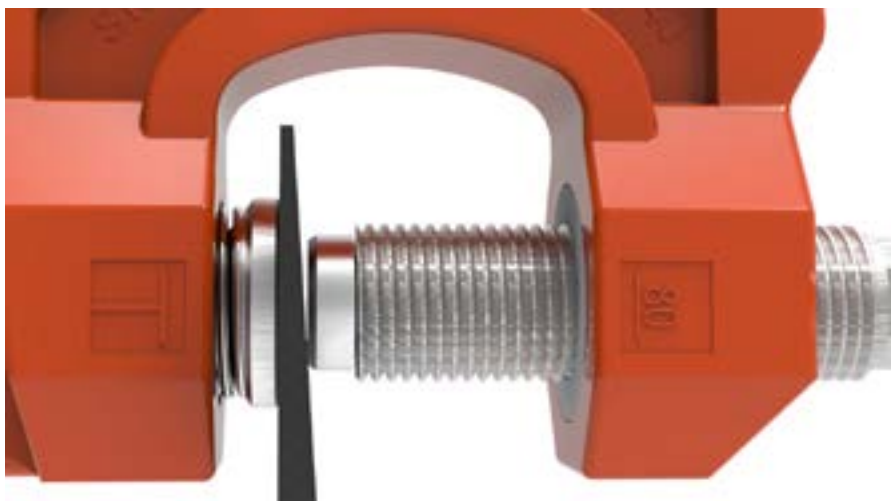
Multi-Directional Clamp

d) Clamps can also be used for lifting and turning over pipe shaped objects.



Cylinder with
inner diameter
over 600mm

e) The clamp **cannot be used** with tapered objects or on sloping faces.



f) The clamp **cannot be used** on the following shaped structures.



Multi-Directional Clamp

Safety Warning

- Do not use clamps with any object whose weight exceeds the WLL, or is less than 20% the WLL.
- Do not lift an object whose thickness exceeds the max. specified thickness or is less than the min. specified thickness.
- Do not lift people or lift an object over people.
- Do not throw or drag clamps.
- Do not use for any objects other than steel materials. Do not use for objects with an extremely low tensile strength or which are soft.
- Do not use for objects harder than HRC30 or with stainless steel material.
- Do not use clamp continuously for a long period of time. Be sure to retighten the clamp screw after each operation.
- Do not operate a crane to drag the object on the ground. It will cause the clamping force to disappear and the object to slip out of the clamp.
- Do not use for tapered objects or objects with sloping faces.
- Do not lift more than one steel plate at a time.
- Always use two or more clamps as a set, and make sure they are the same model of clamp (WLL and effective thickness).
- Do not attach chain sling or wire ropes directly to clamps. Use a shackle or connecting link to connect the chain or a wire rope sling.
- Always be careful to avoid mechanical shock or impact load or strike to the object or the clamp when lifting.
- Always be careful not to catch the wire rope, sling chain, or other objects in the clamp handle.
- Before using the clamps, be sure to check for cracks or deformation of the main body and for clogging and wear of the teeth of the cam, screw and any other parts.
- Do not use clamps on steel materials with a coating on any single side that is 0.2mm or thicker. Before lifting coated steel materials, be sure to replace the cams and screws with new ones.
- Do not use clamps in or around strong acid or alkali liquids.
- Do not use clamps if there is oil, paint, scales, rust, etc. in the clamping area on the object to be lifted.
- Do not modify, weld or heat the clamps or their accessories. Heating, modifying, etc. will significantly reduce the quality (strength).

Inspection and Maintenance

Inspection and maintenance should only be made by a qualified person. Conduct daily checks and maintenance to prevent the loss of safety and efficiency.

1. Check that there are no cracks or deformation at the body, or shackle holes. Measure the gauge length if it is 5% more than stated distance. Discard the clamp if any of them is found.
2. Check for cracks or deformation at cam or screw, and check for wear, loss or clogging of the teeth of the cam and screw. Clean clogged teeth. Replace the part if any cracks, deformations, too much wear or loss of tooth is found.

When the degree of wear exceeds 0.5mm



When any broken tooth is found



3. Check if the movement of each part is good. Make sure the cam can rotate and tilt smoothly. Make sure that when the clamp screw is tightened, the red ring disappears, and when the clamps screw is loosened, the red ring reappears. If there is a movement problem, disassemble that part and inspect the spring, bearing, etc. If any of them is worn, deformed, broken, missed or twisted, replace that spare part.
4. Remove any paint and sludge from moving parts, cam and screws.
5. Periodic lubrication is required at bearing (part No. 11).
6. Always store clamps indoors.



e: liftingsales@williamhackett.co.uk

www.williamhackett.co.uk

t: +44 (0)1665 604200 f: +44 (0)1665 604204

William Hackett Lifting Products Limited

Oak Drive, Lionheart Enterprise Park

Alnwick, Northumberland

United Kingdom

NE66 2EU