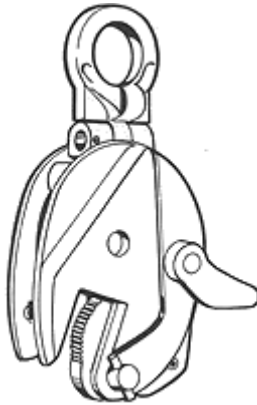


INSTRUCTION MANUAL



Note: Owner/Operator must read and understand this instruction manual before using the clamp.

General

This manual contains important information for the correct installation, operation, and maintenance of the equipment described herein. The use of any clamp presents some risk of personal injury or property damage. All persons involved in such installation, operation and maintenance should be thoroughly familiar with the contents of this manual. To safeguard against the possibility of property damage or personal injury follow the recommendations and instructions of this manual and keep it for further reference.

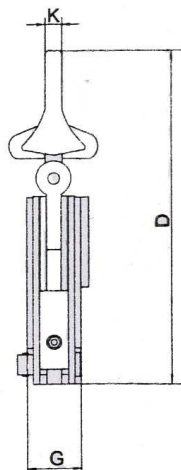
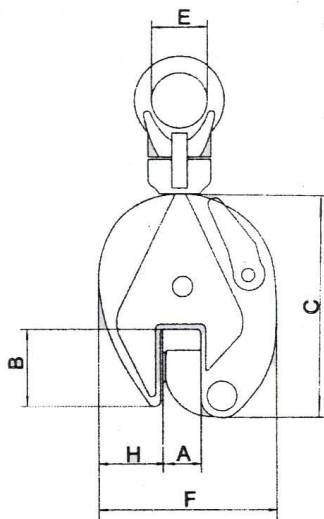
Aside from transporting plate, this clamp is well-suited to turning over steel structures and welded constructions.

All plate clamps have been manufactured in accordance with the Machinery Directive 98/37/EC.

They are type-tested 4 to 1 against breakage. Each unit is proof-tested 1.5 times of the rated load.

Do not use the clamps in areas containing flammable vapors, liquids, gasses or combustible dust or fibres. Do not use the clamp in highly corrosive, abrasive, wet environments or in applications involving exposure to temperatures below -40°C or above 80°C

Specification



Model		CL05	CL10	CL20	CL30
Rated capacity t		0.5	1.0	2.0	3.0
Test load KN		7.35	14.7	29.4	44.1
Jaw Opening mm		0—15	0—20	0—25	0—30
Dimensions mm	A	17	22	27	32
	B	44	63	76	85
	C	128	167	202	237
	D	212	295	370	418
	E	30	48	60	65
	F	103	138	164	193
	G	36	50	52	78
	H	35	51	56	59
	K	10	12	16	20
Net weight kg		1.9	4.5	7.5	14.8

Installation

3.1 Estimate the plate that is to be lifted or moved and make sure it does not exceed the rated load of the clamp.

3.2 This clamp with pivoting shackle can be used for lifting and transporting plate at various angles, but the load capacity is reduced, as seen on the diagram below showing the load/force capacities.

3.3 The pivoting shackle has the added advantage of providing enough clamping force to hold a plate safely, even when transporting large-sized plates with the 2-legged lifting system. Slipping or damage to the clamp is prevented.

When using two clamps to transport large-sized plates, pay attention to the reduced capacities of the clamps.

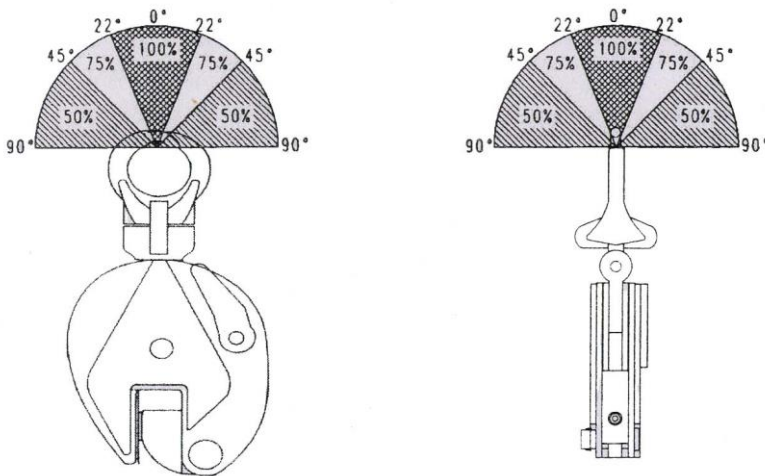
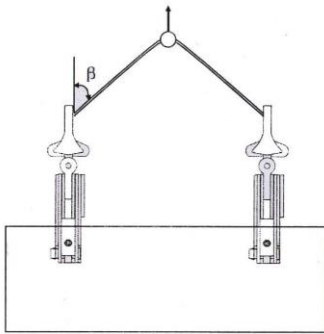
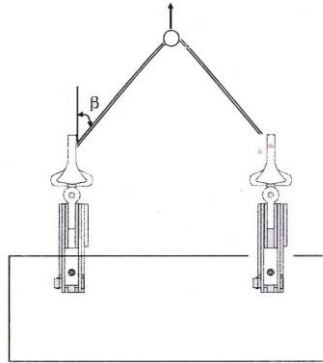


Diagram of forces



Up to $\beta = 40^\circ - 60^\circ$
 $La = 1$



Up to $\beta = 40^\circ$
 $La = 1.4$

F = Working Load Limit of the clamp

La = factor

Calculation example: $F = 1000\text{kg}$, $La = 0.8$ ($\beta = 50^\circ$)

Rated Load = $F \cdot La = 1000\text{kg} \times 50\% \cdot 1000\text{kg} \times 0.8 = 400\text{kg}$ capacity (WLL)
 in this lifting method

The larger the angle of inclination on 2-leg slings the greater is the tension force between the individual slings and clamps that has to be taken up in addition to the plate. The reductions in carrying capacity for the inclinations 45° and from 45° to 60° as shown as follows. Inclination angles larger than 60° are not permissible.

3.4 Make sure that the plate surface must have a hardness below HRC 30/ Brinell 1300.

3.5 Make a sure that the support to which the pivoting shackled is attached is strong enough to hold several times the weight of the plate.

4.Operation

Warning

To avoid damage and/or personal injury:

- 1 .Do not exceed maximum load of the clamp.
2. Do not use the clamp to lift or transport people.
3. Do not use damaged clamp or clamp that is not working properly.
4. Do not lift or transport loads over people and make sure all personnel remain clear of supported plate.
5. Do not lift the plate that is not fully engaged with the clamping jaws.
6. Do not leave load supported by the clamp unattended unless specific precaution have been taken.
7. Do not lift loads that are not balanced, and the holding action is not secure.

SAFETY WARNING

Never Exceed Maximum Capacity

Never Lift UNDER 20% Of The Rated

Capacity

Used on all hot rolled structural steel plates and sections up to a surface hardness of 300 Brinell/32 Rockwell C

4.1 Attaching the plate

Turn the function lever clockwise to disengage the jaws. Then put the plate to the end of the mouth of clamp. Move the function lever counter- clockwise to gripe and lock the

plate.

4.2 Danger zones

Do not lift or transport loads while personnel are in the danger zone.

Do not stand or place hands or feet under the raised plate.

Raised loads are not to be left unattended for a longer period of time.

The operator may only start to move the load when he is sure the load will not overturn and that all personnel have left the danger zone.

4.3 To loosen load

Move the function lever clockwise to disengage the jaws.

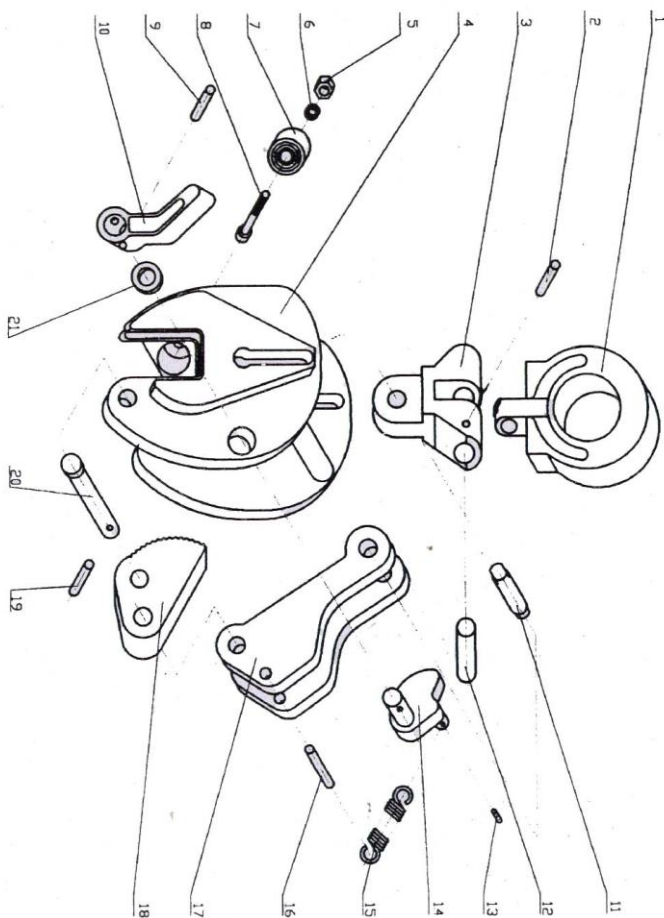
5. Maintenance/Inspection

To maintain continuous and satisfactory operation, a regular inspection procedure must be initiated so that worn or damaged parts can be replaced before they become unsafe.

If faults are detected the clamp must be put out of service immediately. The intervals of inspection must be determined by the individual application and are based up on the type of service to which the clamp is subjected.

The components of the clamp are to be inspected for damage, wear, corrosion or other irregularities. Repairs may only be carried out by a specialist workshop that uses original spare parts.

6.Parts List



Item	Description	Quantity
1	Pivoting Shackle	1
2	Rollpin	1
3	Connecting Block	1
4	Body	1
5	Locknut	1
6	Lockwasher	1
7	Round Jaw	1
8	Screw	1
9	Rollpin	1
10	Function Lever	1
11	Connecting Block Pin	1
12	Pivoting Shackle Pin	1
13	Rollpin	1
14	Function Block	1
15	Pulling Spring	1
16	Rollpin	1
17	Connecting Plate	1
18	Clamping Jaw	1
19	Rollpin	1
20	Jaw Pin	1
21	Shim Washer	1