Certification

ISO 9001

ISO 14001

ISO 18001

MANUFACTURING ASSESSMENT

DESIGN ASSESSMENT

PRODUCT TYPE APPROVAL

TYPE APPROVAL CERTIFICATE

TYPE APPROVAL CERTIFICATE

TYPE APPROVAL CERTIFICATE

MARINE DESIGN APPRAISAL

MARINE DESIGN APPRAISAL

MARINE DESIGN APPRAISAL

Certification

CE

CE – TUV

CE – VERTICAL CLAMP

CE – HORIZONTAL CLAMP

CE – TURNOVER CLAMP

CE – LIFTING HOOK

CE – RATCHET

CE – SCREW CLAMP

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General Information and Warnings about National Clamp

Application

The clamps, hooks, and ratchet pullers manufactured by National Clamp are efficient products designed to use for vertically or horizontally lifting, transporting, loading, unloading, installing or manufacturing(attaching and welding) steel plates and steel blocks. These products are easy, convenient and safe tools to use in all areas.

Warnings

The clamps, hooks and ratchet pullers manufactured by National Clamp are convenient to use and increase work efficiency. However, using them in an improper manner can lead to serious accidents, injuries or damage to equipment. To prevent accidents, injuries or damage, thoroughly read the instruction manual, the instructions, and the warnings and familiarize yourself with them so that you can operate the clamps, hooks and ratchet pullers in a proper manner.

Compensation for Accidents

If an accident happens while using our product and it is caused by a manufacturing defect, the legal lost will be compensated under the product liability insurance.

Exemption of Warranty

No warranty is guaranteed except for the warranties specified in the instruction manual or explained in person or by other forms of communication.

How to Maintain Clamps

- Store clamps on indoor display shelves with no water or moisture.
- After using clamps, sort them into usable and unusable ones in accordance with safety check(maintenance) rules.
- After inspection, grease the operating parts of usable clamps and store the clamps on display shelves by model and size.
- Separately store clamps that have to be disposed of or repaired with the sign, "Stop Using" on them.
- Conduct regular inspection of stored clamps by maintenance personnel according to safety check rules.
- Before use, always ensure that there is no problem with the application, the specification, the rated capacity and the working range(the thickness of a work piece).
- Before use, always check clamps for any problem and then hand over them to users.

Maintenance(Repair) of Clamps

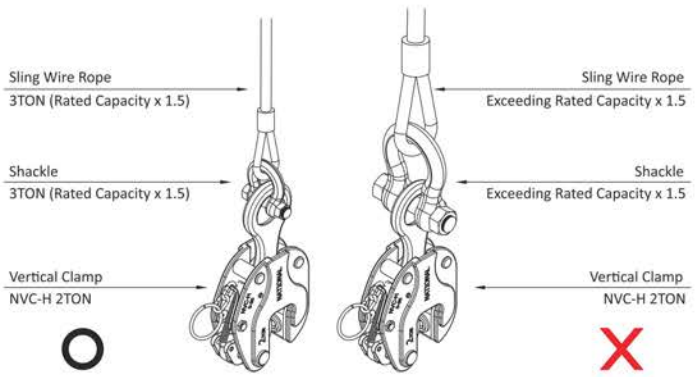
- Repair of clamps must be always performed by qualified maintenance personnel in designated tool repair shops.
- Safety check and replacement of clamp components must be performed in accordance with the guidelines in the instruction manual.
- Never make alterations to clamps and clamp components for other application.
- Never heat or weld clamps and clamp components.

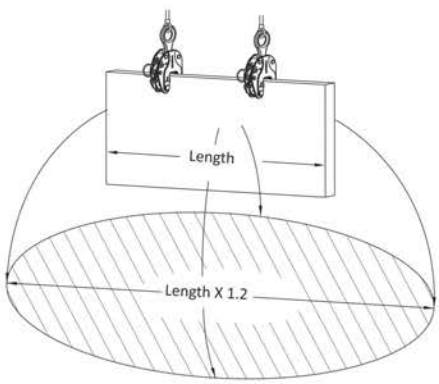
Warnings
for National Clamp

- Before using the clamps and a variety of hooks manufactured by National Clamp, thoroughly read and familiarize yourself with the instruction manual, instructions and warnings specified in the instruction manual.
- Never use steel clamps for other metals except steel.
- Do not use clamps for materials with high hardness(300HB or above) and low hardness(80HB or below), which can cause slipping.
- Do not use clamps for materials whose surface temperatures are 150℃ or higher and −20℃ or lower.
- Do not exceed the rated capacity specified on clamps.
- Use work pieces only which fall into the jaw opening(work piece thickness: mm) range specified in the instruction manual.
- The working load limit(WLL) specified on clamps and in the instruction manual refers to a load for only one clamp. It is also the maximum load which clamps are designed to sustain in the straight line load condition. It is also called the working load or the safety working load.
- If the weight of a work piece is less than 1/5 of the clamp to be used, be careful that there can be slipping due to the weaker clamping force.
- If the thickness of a work piece is less than 1/4 of the clamp's working range, be careful that there can be slipping due to the weaker clamping force.
- Choose the model, the specification, and the number of clamps based on the shape of a work piece, the weight of a work piece and the working method.
- Clamping and lifting must be done only by qualified signal men.
- Before use, always check the abrasion, the deformation, and the operating condition of clamp components.
- When lifting, clamp the center of gravity of the work piece in order to equally distribute the weight of the work piece.
- Never lift long or thin work pieces that gets bent.
- Do not lift work pieces whose end gets thinner due to beveling, alteration, and defect.
- Do not vertically lift work pieces with screw clamps.
- Do not exceed the working angle of the sling rope specified in the instruction manual.
- When using lifting hooks, the points must be 3 or more and a balance beam must be used for lifting.
- Lifting must be done with one set of two or more clamps.
- When clamping, insert the work piece into the inside end of the clamp's jaw opening and then always secure the safety lock.
- For information on clamping and lifting, see [the Warnings for Clamps(p.10)], [the Warnings for Signal Men(p.12)], [the Lifting Angle and the Safety Load Table(p.13)], [the Safety Load Table of Sling Wire Rope(p.14)]. Before use, thoroughly read and familiarize yourself with them.

Warnings
for Signal Men

- Clamping and sling work must be done by qualified signal men only.
- To prevent the overload from being placed on the clamp, choose the model, the specification and the quantity of clamps after calculating the weight, the area, the center of gravity, and the clamping point of a work piece, and the working angle of a wire rope.
- The shackle that is connected to a clamp must be within 1.2 times ~ 1.5 times the rated capacity of the clamp.
- Always ensure that the specification of the sling wire rope to be used must match the specification of the shackle connected to the clamp.
- The clamp must bite the center of gravity of a work piece, not the center of area.
- The lifting working angles of the wire rope and the sling rope should not exceed the maximum angle applied to a work piece.
- After completing the preparation for transporting a work piece, a signal man must inform workers in advance to keep them from approaching until the transportation is finished.
- When lifting a work piece, a signal man should be outside the rotation radius(where a work piece can fall) of the work piece and then send a signal to a crane operator.
- After slowly lifting a work piece approximately 30 centimeters high, always ensure that the work piece remains horizontal.
- When putting down a lifted work piece to make the work piece horizontal again, always check the biting condition of the clamp and the safety lock before lifting the work piece again.
- Slowly transport work pieces. Acceleration or abrupt stop during the transportation can cause slipping due to the impact load(twice the load of a work piece) by a moving work piece.
- To prevent safety accidents, a signal man must pay attention to the transportation direction in order to ensure that a work piece to be transported does not collide with another work piece, which is ready to be transported or being transported, in the front, on the right or on the left.
- Do not use a sling wire rope(whose outside diameter is) bigger than the rated capacity of a shackle.





Warnings
for Lifting Angle

- As the load on a clamp changes depending on the angle of the wire rope in use, determine the specification and the quantity of clamps by accurately calculating the weight of a work piece and the working angle of the rope. (Observing the rated capacity of the clamp not only prevents safety accidents but also increases the durability of the clamp.)
- Lift work pieces only whose thickness falls within the jaw opening range specified on the clamp and in the instruction manual.

Vertical Clamp	Turnover Clamp	Horizontal Clamp	Screw Clamp	Lifting Hook
				
NVC-H, NVC-HN, NVC-L, NVC-N, NVC-BH, NVC-HP, NVC-LP, NVC-HS etc.	NVC-LPS, NVC-LJS, NVC-LMS, NVC-TH, NPC-WB etc.	NHC-H, NHC-HL, NHC-T, NGC-H, NGC-HN, NHC-HP, NGC-HP, NHC-HS etc.	NPC-A, NPC-B, NPC-DB, NPC-F, NPC-NT, NPC-T, NPC-SR, NPC-LA etc.	NHT, NHT-B, NHG-SA, NS-A, NS-BL, NS-BM, NS-C, NS-H, NCP-M etc.

Working Angle	0°	30°	45°	60°	90°	120°
Vertical Clamp Turnover Clamp Horizontal Clamp Screw Clamp Lifting Hook						
Safety Load	100%	95%	90%	85%	70%	50%
Rated Capacity of the Clamp x 2pcs	Clamp Safety Load for the Angle of the Wire Rope(TON)					
0.5 X 2pcs = 1TON	1.00	0.95	0.90	0.85	0.70	0.50
0.75 X 2pcs = 1.5TON	1.50	1.43	1.35	1.28	1.05	0.75
1 X 2pcs = 2TON	2.00	1.90	1.80	1.70	1.40	1.00
1.5 X 2pcs = 3TON	3.00	2.85	2.70	2.55	2.10	1.50
2 X 2pcs = 4TON	4.00	3.80	3.60	3.40	2.80	2.00
3 X 2pcs = 6TON	6.00	5.70	5.40	5.10	4.20	3.00
5 X 2pcs = 10TON	10.00	9.50	9.00	8.50	7.00	5.00
8 X 2pcs = 16TON	16.00	15.20	14.40	13.60	11.20	8.00
10 X 2pcs = 20TON	20.00	19.00	18.00	17.00	14.00	10.00
12 X 2pcs = 24TON	24.00	22.80	21.60	20.40	16.80	12.00

The Safety Load Table of Sling Wire Rope

- Accurately calculate the biting location and the lifting angle as the working load of the sling wire rope changes according to the lifting angle.
- Choose the proper wire rope based on the load and the angle of a work piece.
- Severely bending the rope makes it permanently bent, making the rope no longer usable. When using the rope, be careful that there is no rope bending.
- When using two or more wire ropes, use wire ropes of the same diameter and the same length.
- Before using wire ropes, always ensure that there is no damage caused by abrasion or friction, or no damage by welding or cutting flame. Also check the grease infusion.
- After connecting wire ropes, always ensure that there is no loose rope.

D Diameter of Wire Rope (mm)	S Safety Load (Safety Factor of 6) (TON)	Break Load (TON)	0°	30°	60°	90°	120°
							
			※ These lifting angles apply only for two points. ※ The safety load changes depending on the lifting angle.				
			100%	96%	85%	70%	50%
5.0	0.21	1.25	0.42	0.40	0.36	0.29	0.21
8.0	0.54	3.21	1.08	1.04	0.92	0.76	0.54
10.0	0.84	5.02	1.68	1.61	1.43	1.18	0.84
12.0	1.21	7.23	2.42	2.32	2.06	1.69	1.21
14.0	1.58	9.48	3.16	3.03	2.69	2.21	1.58
16.0	2.13	12.80	4.26	4.09	3.62	2.98	2.13
18.0	2.72	16.30	5.44	5.22	4.62	3.81	2.72
20.0	3.35	20.10	6.70	6.43	5.70	4.69	3.35
22.4	4.20	25.20	8.40	8.06	7.14	5.88	4.20
25.0	5.23	31.40	10.46	10.04	8.89	7.32	5.23
28.0	6.55	39.30	13.10	12.58	11.14	9.17	6.55
30.0	7.53	45.20	15.06	14.46	12.80	10.54	8.03
32.0	8.75	51.40	17.50	16.80	14.88	12.25	8.75
35.0	10.25	61.50	20.50	19.68	17.43	14.35	10.25
38.0	12.08	72.50	24.16	23.19	20.54	16.91	12.08
40.0	13.38	80.30	26.76	25.69	22.75	18.73	13.38
42.0	14.75	88.50	29.50	28.32	25.08	20.65	14.75

NJ-SB T-SECTION STEP(horizontal) SETTING JIG

· Application

– NJ-SB is a setting jig to easily adjust the step (height difference) of the T-section by using a hydraulic jack when setting by connecting T-section to various block steel plates of a ship.

· Features

– NJ-SB is designed to conveniently and quickly adjust the step of the opposite side of T-section that has not been set by using the T-section of the set block when connecting medium-sized blocks to each other.

· How to use

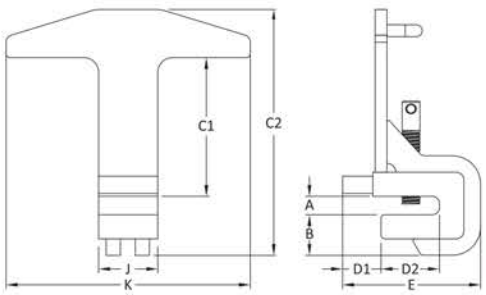
– Insert the T-section flange into the inside end of the jig's jaw opening, and then lock the screw tightly.

– Position the saddle of the hydraulic jack in the center of the end of the jig wing and work.

· Warnings

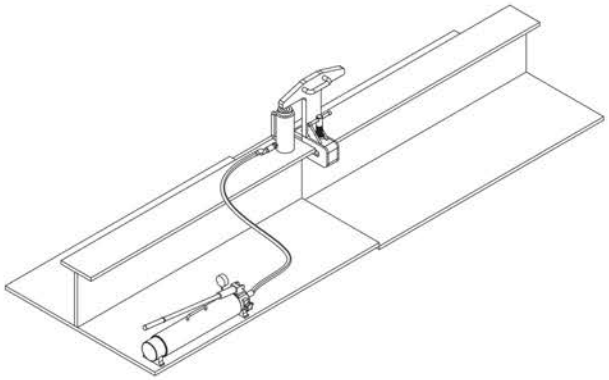
– Do not exceed the rated capacity specified on the jig.

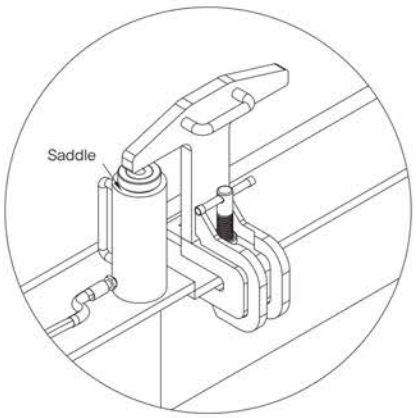
– Be careful not to release the hydraulic jack from the jig.



· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C1	C2	D1	D2	E	J	K	Weight (kg)
20	0-22	25	58	187	335	52	79	199	80	330	13.7





NJ-SJ T-SECTION STEP(horizontal, vertical) SETTING JIG

· Application

- NJ-SJ is a setting jig that allows vertical and horizontal steps to be aligned with one jig when setting by connecting T-section to various block steel plates of a ship.

· Features

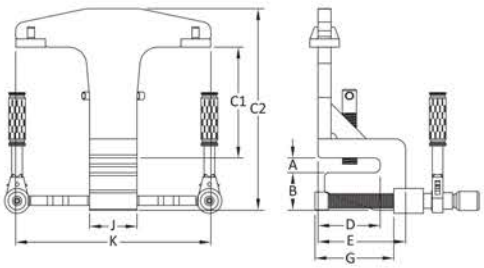
- The NJ-SJ is designed to adjust the vertical and horizontal step with the opposite side of the shape steel with one jig using the shape steel of the set block when connecting the medium-sized blocks of the hull to each other.

· How to use

- Insert the set-up shape steel flange into the inside end of the jig's jaw opening, and then lock the screw tightly.
- Adjust the vertical step of the shape steel with a ratchet pusher mounted on the jig.
- A separate hydraulic jack shall be used for the horizontal step of the shape steel.
- Position the saddle of the hydraulic jack in the center of the end of the jig wing and work.

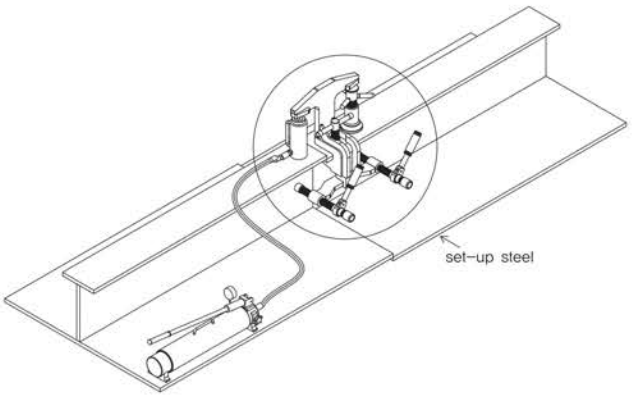
· Warnings

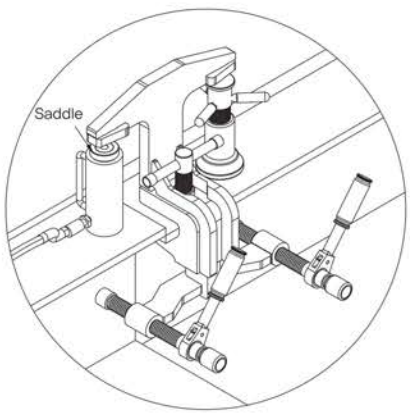
- Do not exceed the rated capacity specified on the jig.
- Be careful not to release the hydraulic jack from the jig.



· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C1	C2	D	E	G	J	K	Weight (kg)
20	0-22	25	63	187	340	105	148	290	80	330	19.6





NHJ-A T-SECTION STEP(horizontal, vertical) AUXILIARY SCREW JACK

· Application

– Auxiliary jig is used to set by connecting T-section to various block steel plates of a ship.

· Features

– The NHJ-A is a convenient manual screw jack designed to prevent the NJ-SJ jig from tilting to the opposite side caused by the pressure of the jack when the hydraulic jack is installed on the NJ-SJ.

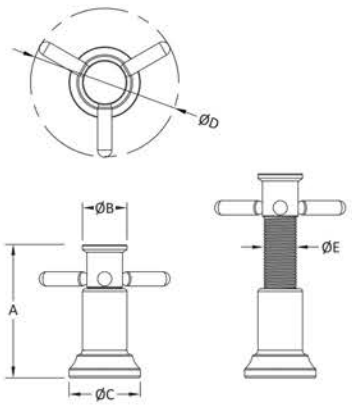
· How to use

– After setting NJ-SJ jig to T-section, position and fix a hydraulic jack to the flange for adjusting the horizontal step. Install NHJ-A screw jack on the opposite flange. Next, operate the screw and fix it to prevent NJ-SJ jig from getting tilted.

· Warnings

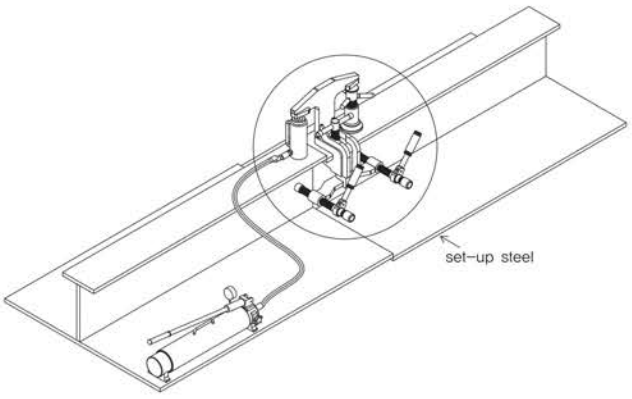
– Do not exceed the rated capacity specified on the jig.

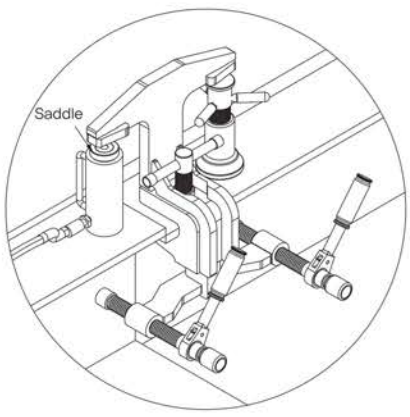
– Position NHJ-A right in the middle of the jig base to prevent NHJ-A from escaping during operation.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	ØC	ØD	ØE	Weight (kg)
5	160-200	160	50	100	160	40	3.7
8	180-230	180	55	110	180	48	5.6





NJM-A DECK BLOCK PLATE STEP ADJUSTMENT JIG

· Application

– NJM-A is a jig designed to efficiently adjust the step of the plate when doing butt welding to connect T-section to various block plates of the ship.

· Features

– The NJM-A has at the top a screw clamp that can hold the T-section flange, and at the bottom a ratchet screw that can adjust the step of the plate, making it highly workable.

· How to use

– Insert the T-section flange into the inside end of the jig's jaw opening, and then lock the screw tightly.

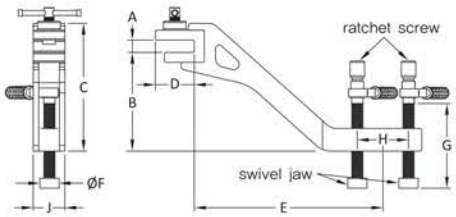
– For the plate with the higher step, operate the ratchet screw on the high step plate to lower the plate.

– For the plate with the lower step, weld the swivel jaw in that position to the plate and operate the ratchet screw to raise it upward.

· Warnings

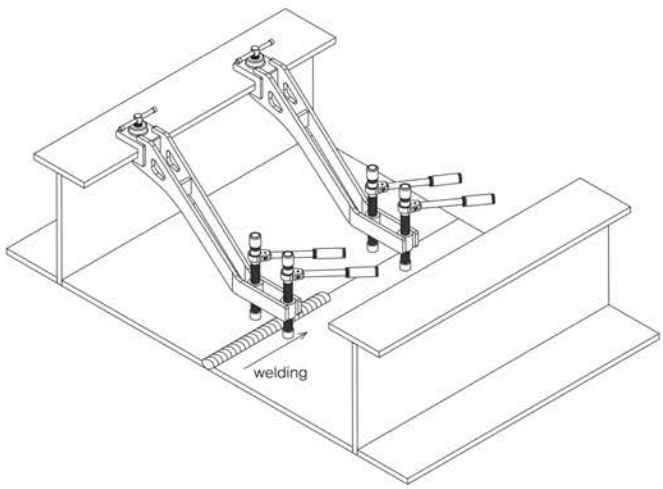
– It may not be possible to adjust the step with this product depending on the plate thickness of the block, so please review it thoroughly before operation.

– When welding the swivel jaw to the plate, weld it completely to avoid cracks during operation.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	B	C	D	E	ØF	G	H	J	Weight (kg)
–	394	31	18	349	86	318	40	150	110	62	10.5
–	579	27	18	354	86	478	40	150	110	66	13.4



NPJ-MA MAGNET-TYPE RATCHET PUSHER

· Application

- Magnet-type ratchet pusher is designed to work safely and conveniently when thin plates and lightweight materials are placed on high walls or ceilings in the deckhouse outfit and various outfitting works of a ship or marine plant.

· Features

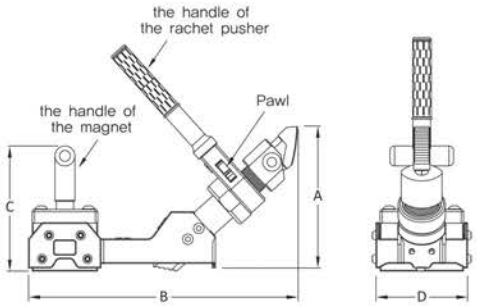
- NPJ-MA is an efficient product that has high workability with a magnet embedded in the frame so that it can be attached to the floor as well as walls and ceiling.
- The magnet built into the body is a permanent magnet so that the magnetic force can be on and off by turning the handle of the magnet from side to side.

· How to use

- Secure NPJ-MA inside the object by using the handle of the magnet, and then operate the handle of the rachet pusher by pushing up or down the pawl depending on purposes, push up or down, fix it and then.

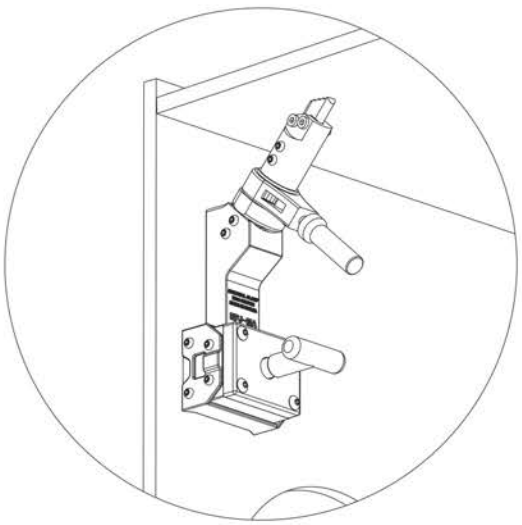
· Warnings

- Do not exceed the rated capacity specified on the ratchet pusher.
- Be careful that the magnet may fall off if there is a foreign substance on the surface where the magnet is attached or if the surface is not flat.



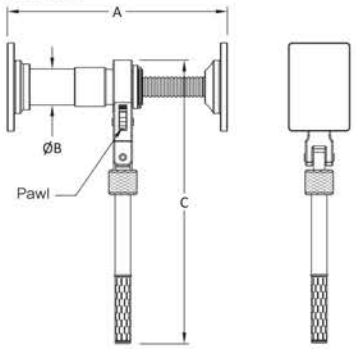
· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	B	C	D	Weight (kg)
1	0-50	141	290	138	101	5.6



NPR-B RATCHET PUSHER

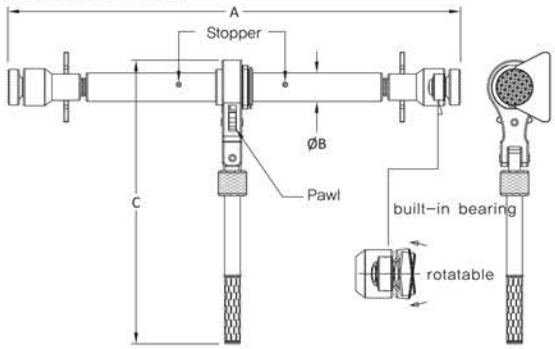
· SPECIFICATION



WLL (TON)	WORKING LENGTH	A	ØB	C	Weight (kg)
1.5	180–280	180	55	395	4.5
3	210–380	210	60	410	6.3

NPR-C RATCHET PUSHER

· SPECIFICATION



WLL (TON)	WORKING LENGTH	A	ØB	C	Weight (kg)
1.5	600–930 (600–910)	600	37	395	6.8
3	650–950 (650–930)	650	40	410	9.1

※ For the stopper (screw slipping prevention pin) types, the working length is 20mm shorter than non-stopper types.
※ The numbers in ( ) are the working length of The stopper type.

· Application

- The NPR-B is a ratchet pusher to push outwards work pieces whose height is low and interval is short.
- The NPR-C is a ratchet pusher used to adjust the interval of frames when attaching side frames to the outer plating and the inner bottom plating of a ship.

· Features

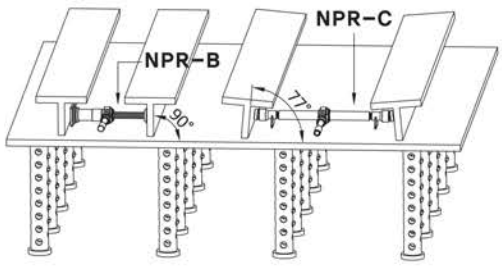
- The NPR-B is a special ratchet pusher which has one screw built in the pipe and the other screw in the screw inside the pipe.
- The NPR-B is designed to be lightweight, so it is convenient to be transported, and also easy to work with in small space.
- For the NPR-C, the two pads, which come in contact with a work piece, are built in the bearing and the tooth-shaped contact area enables the rotation and the tilting(max. 13°) of the pads to be free and also to prevent slipping, making the NPR-C a safe product.
- The stopper type has the built-in pin to prevent the screw from completely coming out of the pipe.

· How to use

- After fixing the ratchet pusher between work pieces to be pulled(the NPR-B) and erecting the swivel pad vertically (the NPR-C), push up or down the pawl according to purposes and then operate the handle.

· Warnings

- Do not exceed the rated capacity specified on the ratchet puller.
- Be careful that there can be slipping when the inner angle of a work piece to be pushed is not vertical or horizontal.
- For non-stopper types, leave at least 40mm of the screw thread inside one end of the pipe(80mm for both ends) when pulling the screw out of a pipe.



NPR-S RATCHET PUSHER

· Application

– The NPR–S is a ratchet pusher used to adjust the interval of frames when attaching side frames to the outer plating and the inner bottom plating of a ship.

· Features

– For the NPR–S, when operating the handle, the length of this ratchet pusher gets longer because the screw built in the pipe is pushed out.

– When attaching side frames of a ship, the NPR–S is convenient to be transported and simple to operate compared to HYD'JACK which makes it an efficient product.

· How to use

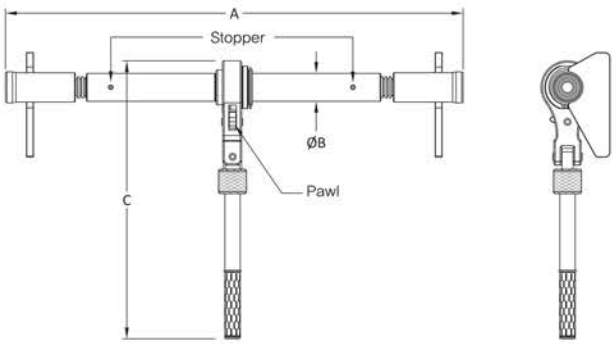
– For the NPR–S, after setting the ratchet pusher between work pieces to be pushed, push up or down the pawl according to purposes and then operate the handle.

· Warnings

– Do not exceed the rated capacity specified on the pusher.

– Be careful that there can be slipping when the inner side angles of the both side work pieces to be pushed are not vertical or horizontal.

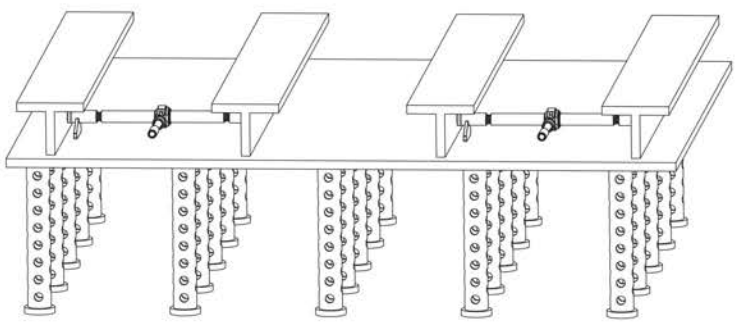
– For non–stopper types, leave at least 40mm of the screw thread inside one end of the pipe(80mm for both ends) when pulling the screw out of a pipe.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	C	Weight (kg)
1.5	650–970 (650–950)	650	37	395	7.1
3	650–970 (650–950)	650	40	410	8.6
5	650–970 (650–950)	650	42	410	9.7

※ For the stopper (screw slipping prevention pin) types, the working length is 20mm shorter than non–stopper types.
※ The numbers in ( ) are the working length of The stopper type.



NPR-KB RATCHET PUSHER

· Application

– A ratchet pusher to use in assembling thin steel keel blocks in ship assembly shops. The NPR-KB is for adjusting horizontality of the inner plating arranged on a flat plate(worktable) or adjusting the interval of frames.

· Features

– One worker alone can quickly and accurately perform the horizontal and vertical work due to the magnetic force of the magnet attached to the one end part of the pusher.

– The stopper type has the built-in pin to prevent the screw from completely coming out of the pipe.

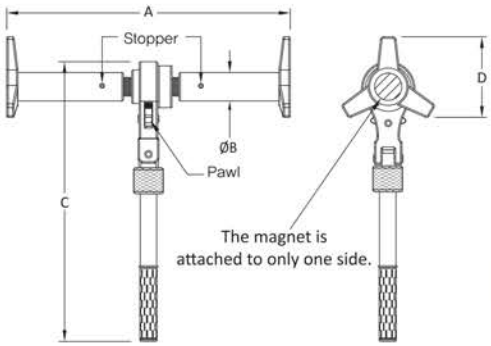
· How to use

– After setting the ratchet pusher between frames to be tack welded and tack welded frames(L- and T- sections), operate the handle.

· Warnings

– Do not exceed the rated capacity specified on the ratchet pusher.

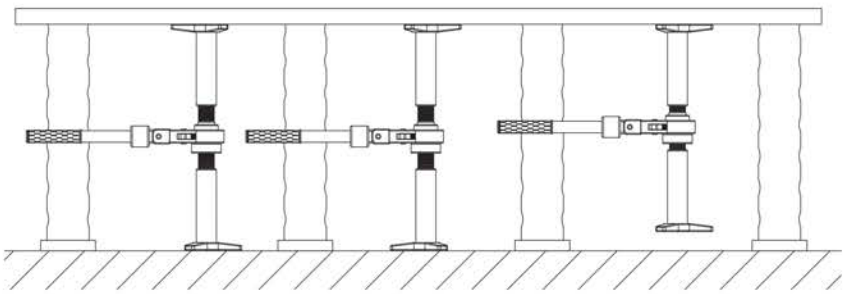
– Be careful that the pusher can slip when the erected angle of the inner plating or the frame is more or less than 90°.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	C	D	Weight (kg)
1	380-560	380	37	395	108	5.9

※ The above numbers are the dimensions of the stopper(screw slipping prevention pin) type.



NPR-M RATCHET PUSHER

· Application

– NPR-M is used to weld semicircular pipes together to make them into circular pipes.

· Features

– NPR-M is designed to be easily attached to the inside of the pipe by mounting magnets at both ends.

– The magnet built into the body is a permanent magnet so that the magnetic force can be on and off by turning the handle of the magnet from side to side.

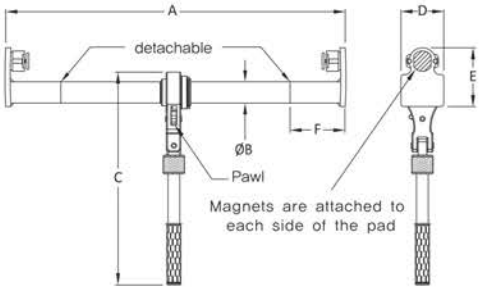
· How to use

– Secure NPR-M inside the object by using the handle of the magnet, and then operate the handle of the rachet pusher by pushing up or down the pawl depending on purposes, push up or down, fix it and then.

· Warnings

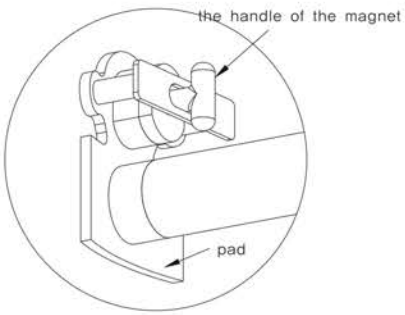
– Do not exceed the rated capacity specified on the ratchet pusher.

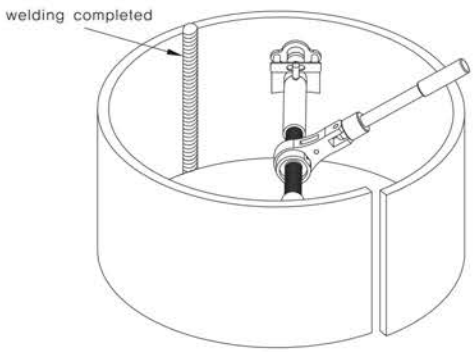
– Be careful that the magnet may fall off if there is a foreign substance on the surface where the magnet is attached.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	C	D	E	F	Weight (kg)
2	Ø400–550	397	40	395	110	80	22	5.9
	Ø580–760	577	40	395	110	90	95	6.9





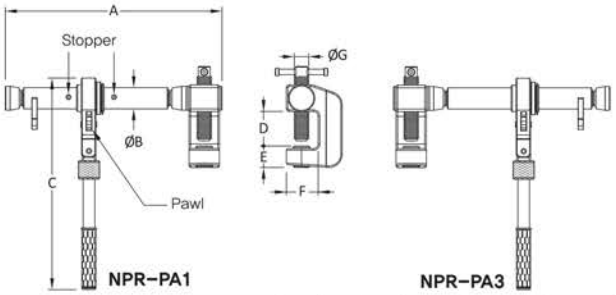
NPR-PA1, PA2, PA3 RATCHET PUSHER


NPR-PA1


NPR-PA2


NPR-PA3

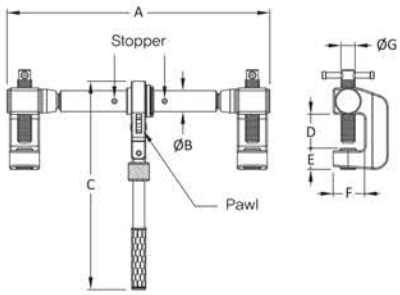
· SPECIFICATION



NPR-PA1 NPR-PA3

MODEL	WLL (TON)	WORKING LENGTH	A	ØB	C	D	E	F	ØG	Weight (kg)
NPR-PA1 NPR-PA3	2	300-380-30	300	37	397	35	33	55	30	6.7

· SPECIFICATION



MODEL	WLL (TON)	WORKING LENGTH	A	ØB	C	D	E	F	ØG	Weight (kg)
NPR-PA2	2	345-420-30	345	37	397	35	33	55	30	9.8

※ The above numbers are the dimensions of the stopper (screw slipping prev ention pin) type.
※ The working length represents the working length of the screw and the thickness of a work piece.
Ex) 300-380-30 : the working length of the screw (300-380) Max. thickness of a work piece (30)

· Application

- Efficient ratchet pushers which are convenient and quick to work with when assembling frames(outer plating and middle wall) to the inner(bottom) plating in ship assembly shops.

· Features

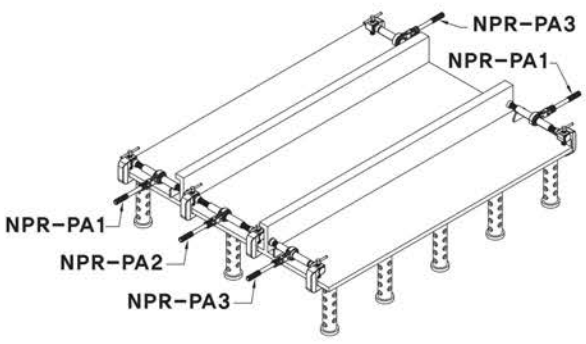
- The NPR-PA is the combination of a ratchet pusher and a screw clamp and it is an efficient clamp shortening the multiple-step working process, leading to higher productivity.(Previous process: Fix the HYD'JACK. support piece to the inner plating by electric welding. Remove the piece after completing the work.)
- The NPR-PA is used to push inward the interval of frames which are installed at the end part of the inner plating.
- Since different models of the NPR-PA(PA1, PA2, PA3) are used depending on the left and right end parts of the inner plating, accurately select a model according to the working condition.
- The NPR-PA2 is used in attaching two work pieces on a flat work plate by pulling or in widening the interval of work pieces by pushing.
- The stopper type has the built-in pin to prevent the screw from completely coming out of the pipe.

· How to use

- After setting the ratchet pusher between frames to be tack welded and tack welded frames(L- and T- sections), push up or down the pawl according to purposes and then oper -ate the handle.

· Warnings

- Do not exceed the rated capacity specified on the ratchet pusher.



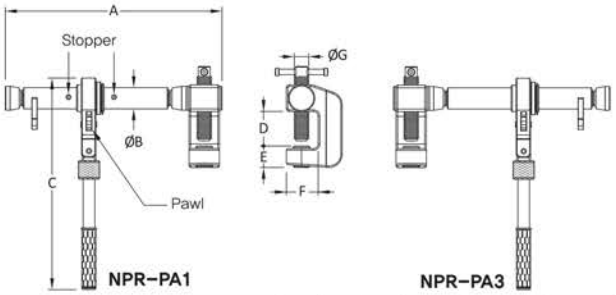
NPR-PA1, PA2, PA3 RATCHET PUSHER


NPR-PA1


NPR-PA2


NPR-PA3

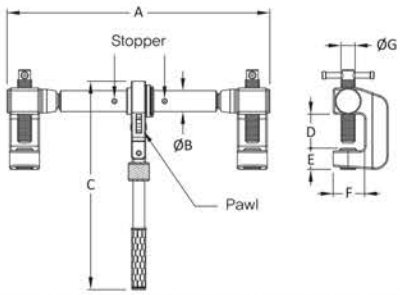
· SPECIFICATION



NPR-PA1 NPR-PA3

MODEL	WLL (TON)	WORKING LENGTH	A	ØB	C	D	E	F	ØG	Weight (kg)
NPR-PA1 NPR-PA3	2	300-380-30	300	37	397	35	33	55	30	6.7

· SPECIFICATION



MODEL	WLL (TON)	WORKING LENGTH	A	ØB	C	D	E	F	ØG	Weight (kg)
NPR-PA2	2	345-420-30	345	37	397	35	33	55	30	9.8

※ The above numbers are the dimensions of the stopper (screw slipping prev ention pin) type.
※ The working length represents the working length of the screw and the thickness of a work piece.
Ex) 300-380-30 : the working length of the screw (300-380) Max. thickness of a work piece (30)

· Application

- Efficient ratchet pushers which are convenient and quick to work with when assembling frames(outer plating and middle wall) to the inner(bottom) plating in ship assembly shops.

· Features

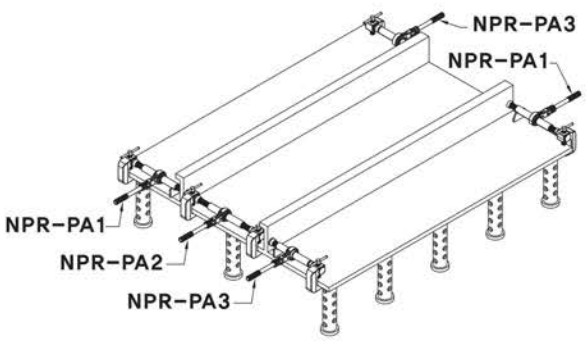
- The NPR-PA is the combination of a ratchet pusher and a screw clamp and it is an efficient clamp shortening the multiple-step working process, leading to higher productivity.(Previous process: Fix the HYD'JACK. support piece to the inner plating by electric welding. Remove the piece after completing the work.)
- The NPR-PA is used to push inward the interval of frames which are installed at the end part of the inner plating.
- Since different models of the NPR-PA(PA1, PA2, PA3) are used depending on the left and right end parts of the inner plating, accurately select a model according to the working condition.
- The NPR-PA2 is used in attaching two work pieces on a flat work plate by pulling or in widening the interval of work pieces by pushing.
- The stopper type has the built-in pin to prevent the screw from completely coming out of the pipe.

· How to use

- After setting the ratchet pusher between frames to be tack welded and tack welded frames(L- and T- sections), push up or down the pawl according to purposes and then oper -ate the handle.

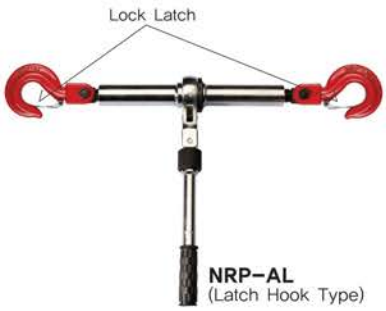
· Warnings

- Do not exceed the rated capacity specified on the ratchet pusher.



NRP-A, AL RATCHET PULLER

NRP-A
(No-latch Hook Type)



NRP-AL
(Latch Hook Type)

Application

- Ratchet pullers for pulling or fixing a block in shipyards or steel block manufacturing plants.

· Features

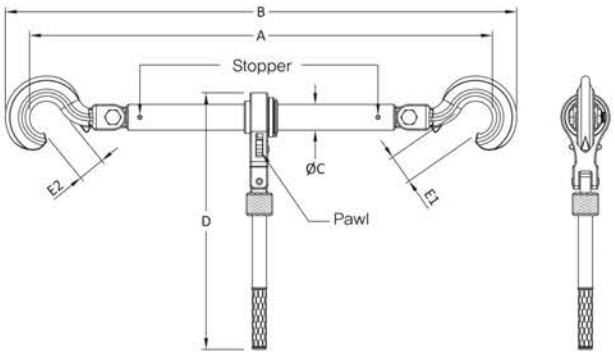
- The NRP-A ratchet puller is faster and more convenient to operate than the existing turn buckles, which can improve productivity.
- When operating the handle, both screws go into the inside of the screwed pipe by the ratchet gear so the working length gets shorter.
- The NRP-A ratchet puller has the universal-style handle which can be folded or unfolded according to purposes, making it convenient to be transported and work with.
- The stopper type has the built-in pin which prevents the screw from completely coming out of the pipe.

· How to use

- Have a screw clamp bite both ends of a steel block to pull or fix, and insert the hook of the ratchet puller into the eye hole(shackle). Depending on purposes, push up or down the pawl, fix it and then operate the handle.

· Warnings

- Do not exceed the rated capacity specified on the ratchet puller.
- Operate the handle only after completely inserting the hook of the ratchet puller into the eye hole(shackle) of a screw clamp.
- Before inserting the hook into the eye hole(shackle), always check that all chains are in alignment.
- When leaving work, retreat the installed ratchet puller by one step.
- For non-stopper types, leave at least 40mm of the screw thread inside one end of the pipe(80mm for both ends) when pulling the screw out of a pipe.

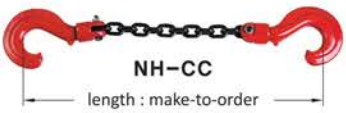


· SPECIFICATION

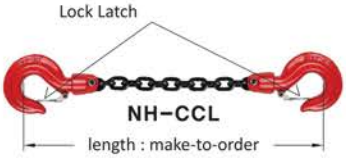
MODEL	WLL (TON)	WORKING LENGTH	A	B	ØC	D	E1	E2	Weight (kg)
NRP-A NRP-AL	1.5	600-830 (600-810)	600	665	37	400	31	31	6.2
	3	720-1050 (720-1030)	720	800	40	410	40	40	9.3

※ For the stopper (screw slipping prevention pin) types, the working length is 20mm shorter than non-stopper types.
※ The numbers in the parentheses are the working length of the stopper types.

NH-CC, CCL CONNECTING CHAINS



NH-CC
length : make-to-order



NH-CCL
length : make-to-order

NRP-B, BL RATCHET PULLER

NRP-B
(No-latch Hook Type)

NRP-BL
(Latch Hook Type)

· Application

- Ratchet pullers for pulling or fixing a block in shipyards or steel block manufacturing plants.

· Features

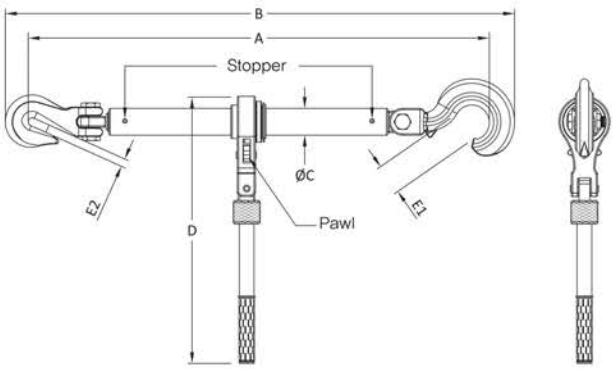
- The NRP-B ratchet puller is faster and more convenient to operate than the existing turn buckles, which can improve productivity.
- When operating the handle, both screws go into the inside of the screwed pipe by the ratchet gear so the working length gets shorter.
- The clevis grab hook is assembled to one end of the NRP-B ratchet puller to connect a chain to a high or long block.
- The NRP-B ratchet puller has the universal-style handle which can be folded or unfolded according to purposes, making it convenient to be transported and work with.
- The stopper type has the built-in pin to prevent the screw from completely coming out of the pipe.

· How to use

- Have a screw clamp bite both ends of a steel block to pull or fix, and insert the hook of the ratchet puller into the eye hole(shackle). Depending on purposes, push up or down the pawl, fix it and then operate the handle.

· Warnings

- Do not exceed the rated capacity specified on the ratchet puller.
- Operate the handle only after completely inserting the hook of the ratchet puller into the eye hole(shackle) of a screw clamp.
- Before inserting the hook into the eye hole(shackle), always check that all chains are in alignment.
- When leaving work, retreat the installed ratchet puller by one step.
- For non-stopper types, leave at least 40mm of the screw thread inside one end of the pipe(80mm for both ends) when pulling the screw out of a pipe.

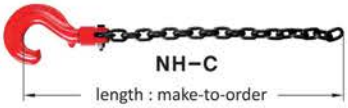


· SPECIFICATION

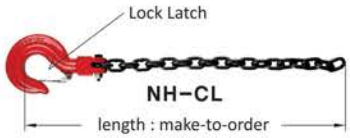
MODEL	WLL (TON)	WORKING LENGTH	A	B	ØC	D	E1	E2	Weight (kg)
NRP-B NRP-BL	1.5	560-790 (560-770)	560	620	37	400	31	9.5	5.6
	3	680-1010 (680-990)	680	755	40	410	40	11	8.3

※ For the stopper (screw slipping prevention pin) types, the working length is 20mm shorter than non-stopper types.
※ The numbers in the parentheses are the working length of the stopper types.

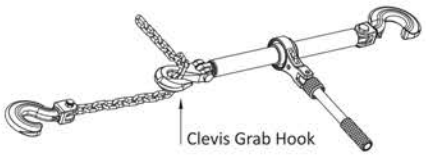
NH-C, CL CONNECTING CHAINS



NH-C
length : make-to-order



NH-CL
length : make-to-order



NRC-B RATCHET TYPE SUPPORT CLAMP

· Application

– NRC–B is a support clamp for supporting or pushing a block not to topple when erecting a variety of frames (the outer plating and middle wall) on the inner bottom plating in ship and plant assembly shops of shipyards.

· Features

– For NRC–B, the middle part, which works as the support, is designed to be screw–style so the length is adjustable, making this model convenient to pull or push frames depending on purposes.

– When erecting a frame on a plate vertically (90°), NRC–B is convenient due to the ratchet–style screw functioning.

– For double prevention of clamp slipping, the swivel jaw is installed at the opposite side of the screw. To prevent clamp slipping by shaking of a frame, NRC–B has protruding triangle teeth at the end of the bolt.

· How to use

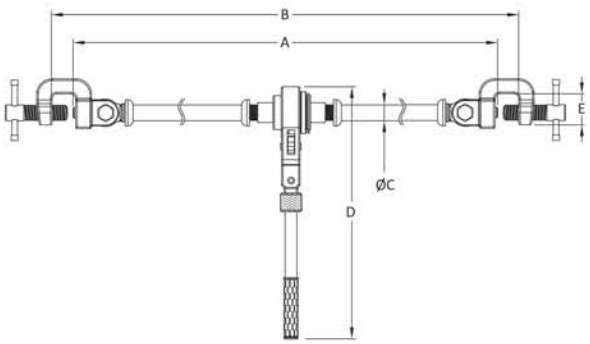
– Insert a work piece into the inside end of the jaw opening and then com–pletely tighten the screw.

· Warnings

– Do not exceed the rated capacity specified on the clamp because this model is lightweight.

– Use a work piece only which falls within the working range specified in the instruction manual.

– After completely fixing the block supported by the support clamp, dismantle the clamp.

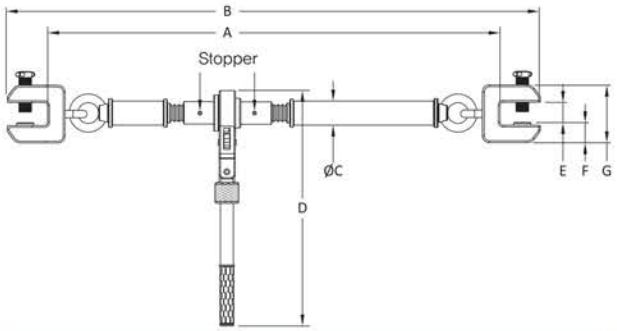


· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	B	ØC	D	E	ØF	Weight (kg)
3	3048–3810–25	2822	3042	48.5	650	28	28	19.3

NRC-R RATCHET TYPE SUPPORT CLAMP

· SPECIFICATION

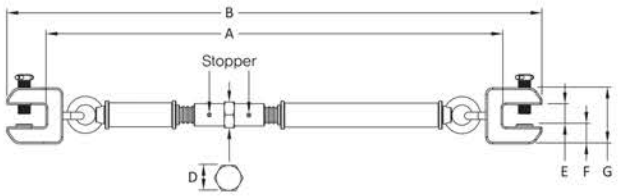


WLL (TON)	WORKING LENGTH	A	B	ØC	D	E	F	G	Weight (kg)
3	1270–1370–30	1270	1410	43	410	35	30	90	13.2

※ The dimensions are for the stopper(screw slipping prevention pin) type.
※ The working length represents the working length of the screw and the thickness of a work piece.
Ex) 1270–1370–30: Screw Working Length (1270–1370), Max. Thickness of a work piece (30)

NRC-W WRENCH TYPE SUPPORT CLAMP

· SPECIFICATION



WLL (TON)	WORKING LENGTH	A	B	ØC	D	E	F	G	Weight (kg)
3	1270–1370–30	1270	1410	43	50	35	30	90	11.5

※ The dimensions are for the stopper(screw slipping prevention pin) type.

· Application

– Support clamps for supporting or pushing a block not to topple when erecting a variety of frames(the outer plating and the middle wall) on the inner bottom plating in ship and plant assembly shops of shipyards.

· Features

– For the NRC–R and –W, the middle part, which works as the support, is designed to be screw style so the length is adjustable, making these clamps convenient to pull or push frames depending on purposes.

– When erecting a frame on the inner plating vertically(90°), the NRC–R is convenient due to the ratchet style screw functioning.

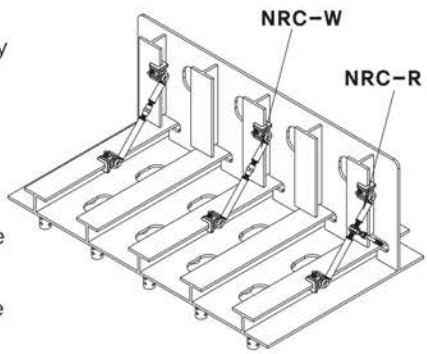
– For double prevention of clamp slipping, the swivel jaw is installed at the opposite side of the screw.

– The U–type ring attached to the clamp is bolt–style so that the repair time can be saved.

– The stopper type has the built–in pin to prevent the screw from completely coming out of the pipe.

· How to use

– Insert a work piece into the inside end of the jaw opening and then completely tighten the screw.



· Warnings

– Do not exceed the rated capacity specified on the clamp because these models are lightweight with a safety factor of 3.

– Use a work piece only which falls within the working range specified in the instruction manual.

– After completely fixing the block supported by the support clamp, dismantle the clamp.

NRT-A RATCHET TYPE TURNBUCKLE

· Application

- This ratchet type turnbuckle is for supporting or pushing a block not to topple when erecting a variety of frames (the outer plating and the middle wall) on the inner bottom plating in ship and plant assembly shops of ship-yards.
- This ratchet type turnbuckle can be used conveniently and quickly when setting various equipment in containers and cargo ships.

· Features

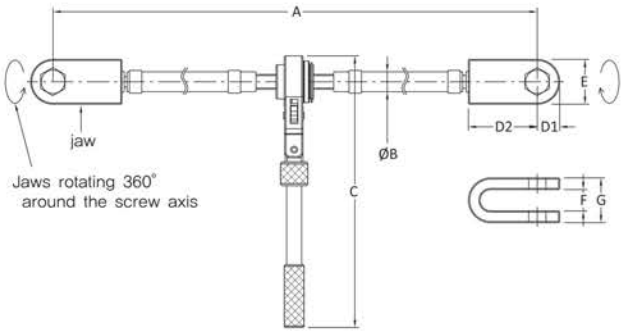
- For the NRT-A, the middle part, which works as the support, is designed to be screw style so the length is adjustable, making these ratchet type turnbuckles convenient to pull or push frames depending on purposes.
- When adjusting the length, the NRT-A is convenient due to the ratchet style screw functioning.

· How to use

- After completely assembling the bolts and nuts of the NRT-A to the lug and piece hole in the object.
- When using the NRT-A outdoors, inject grease into the screw and ratchet gear frequently.

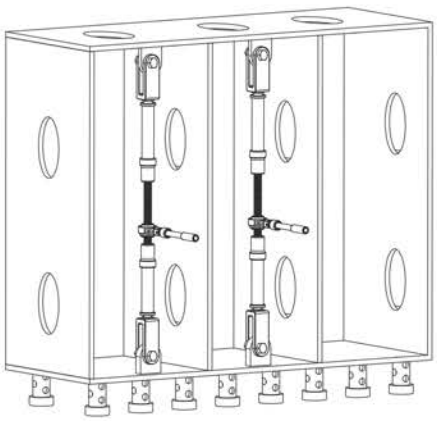
· Warnings

- Do not exceed the rated capacity specified on the clamp because these models are lightweight with a safety factor of 3.
- Use a work piece only which falls within the working range specified in the instruction manual.
- After completely fixing the block supported by the NRT-A, dismantle the clamp.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	C	D1	D2	E	F	G	Weight (kg)
3	3048-3810-25	3042	48.5	650	32	110	64	28	67	33.6



NRT-A RATCHET TYPE TURNBUCKLE

· Application

- This ratchet type turnbuckle is for supporting or pushing a block not to topple when erecting a variety of frames (the outer plating and the middle wall) on the inner bottom plating in ship and plant assembly shops of ship-yards.
- This ratchet type turnbuckle can be used conveniently and quickly when setting various equipment in containers and cargo ships.

· Features

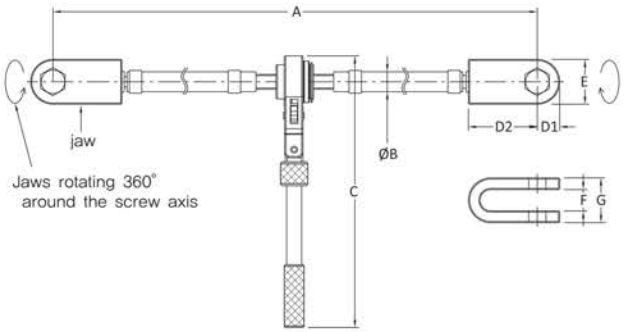
- For the NRT-A, the middle part, which works as the support, is designed to be screw style so the length is adjustable, making these ratchet type turnbuckles convenient to pull or push frames depending on purposes.
- When adjusting the length, the NRT-A is convenient due to the ratchet style screw functioning.

· How to use

- After completely assembling the bolts and nuts of the NRT-A to the lug and piece hole in the object.
- When using the NRT-A outdoors, inject grease into the screw and ratchet gear frequently.

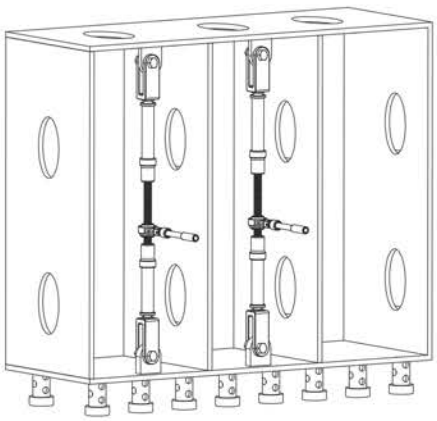
· Warnings

- Do not exceed the rated capacity specified on the clamp because these models are lightweight with a safety factor of 3.
- Use a work piece only which falls within the working range specified in the instruction manual.
- After completely fixing the block supported by the NRT-A, dismantle the clamp.



· SPECIFICATION

WLL (TON)	WORKING LENGTH	A	ØB	C	D1	D2	E	F	G	Weight (kg)
3	3048-3810-25	3042	48.5	650	32	110	64	28	67	33.6



NPP-A RATCHET PRESS

· Application

– A ratchet press used instead of a jig when attaching L– and T–sections (frames) to the outer plating, the inner plating and the deck of a ship.

· Features

– A ratchet press designed to be suitable for attaching another frame by hanging the NPP–A on the already welded low frame.

– The NPP–A is designed not to be pushed due to the swivel jaw assembled to the end part of the screw when operating the handle.

– The NPP–A can be customized according to the width and height of section steel.

· How to use

– After inserting the press jaw opening into the end part of the section steel flange, push up or down the pawl according to purposes and then operate the handle.

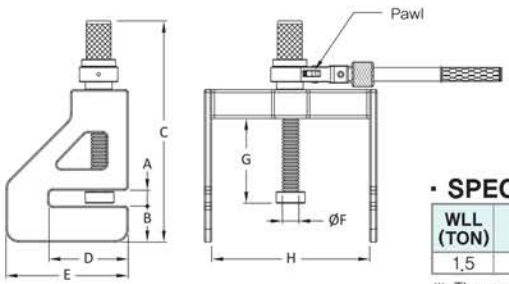
· Warnings

– Do not exceed the rated capacity specified on the ratchet press.

– Use a work piece only which falls within the working length range specified in the instruction manual.

– Before use, always check the rotating condition of the jaw and the screw, and the grease injection condition.

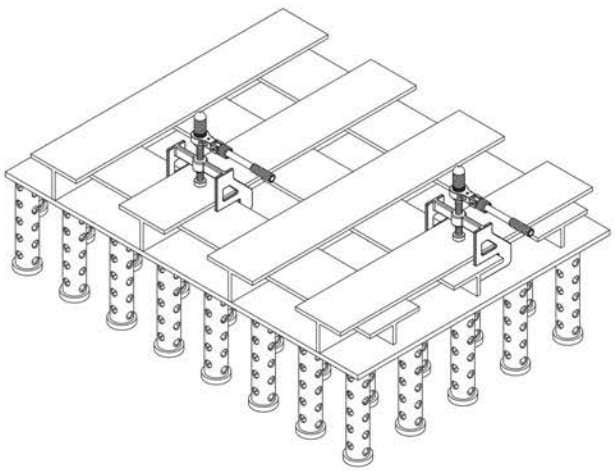
– Store the NPP–A in a dry place with no water or moisture to prevent it from being rusty.



· SPECIFICATION

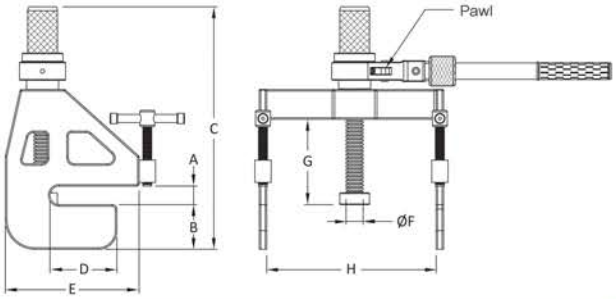
WLL (TON)	WORKING LENGTH	A	B	C	D	E	ØF	G	H	Weight (kg)
1.5	0–120–20	22	50	325	110	160	25	122	220	7.9

※ The working length represents the working length of the screw and the thickness of a work piece.
Ex) 0–120–20: the working length of the screw (0–120) Max. thickness of a work piece (20)



NPP–B RATCHET PRESS

· SPECIFICATION

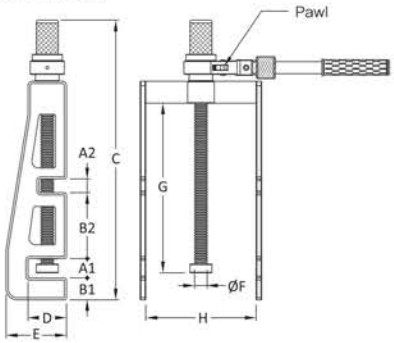


WLL (TON)	WORKING LENGTH	A	B	C	D	E	ØF	G	H	Weight (kg)
1.5	0–125–20	25	60	325	90	150	40	144	227	10.1

※ The working length represents the working length of the screw and the thickness of a work piece.
Ex) 0–125–20: the working length of the screw (0–125) Max. thickness of a work piece (20)

NPP–C RATCHET PRESS

· SPECIFICATION



WLL (TON)	WORKING LENGTH	A1	A2	B1	B2	C	D	E	ØF	G	H	Weight (kg)
1.5	0–315–15	20	25	40	120	503	69	110	25	325	180	8.5

· Application

– Ratchet presses used instead of a jig when attaching L– and T–sections(frame) to the outer plating, the inner plating and the deck of a ship.

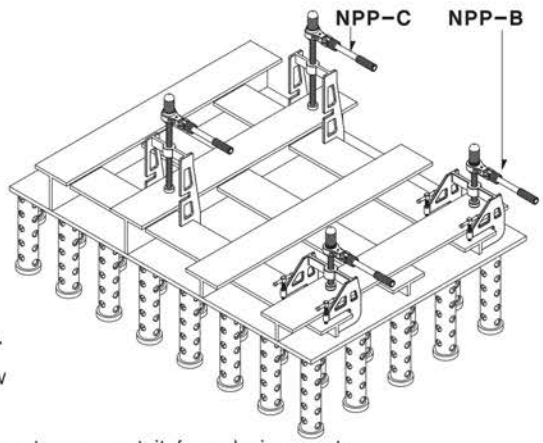
· Features

– The NPP–B is designed to be suitable for attaching another frame by hanging the NPP–B on the already welded low frame.

– The NPP–C is an efficient press which has two jaw openings(top and bottom) to enable the NPP–C to use with low and high frames(L– and T– sections).

– The NPP–B and the NPP–C are designed not to be pushed due to the swivel jaw assembled to the end part of the screw when operating the handle.

– The width and the length of the NPP–B and the NPP–C can be customized according to purposes.



· How to use

– After inserting the jaw opening of the press into the end part of the section steel flange, completely tighten the fixing bolt. Then push up or down the pawl according to purposes and operate the handle.

· Warnings

– Do not exceed the rated capacity specified on the ratchet press.

– Before use, always check the rotating condition of the swivel jaw and the screw, and the grease injection condition.

– Store the NPP–B and –C in a dry place with no water or moisture to prevent it from being rusty.

NPC-A SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

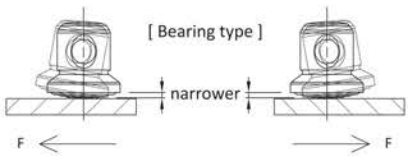
· Features

– The NPC–A is a screw clamp used to prevent accidents caused by the widening, slipping or breakage of the hook because the load is concentrated at the end of the hook when hanging the hook of a lever block and a chain block directly on a work piece.

– The NPC–A is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

– Insert a steel plate into the inside end of the clamp's jaw opening and then completely tighten the screw.



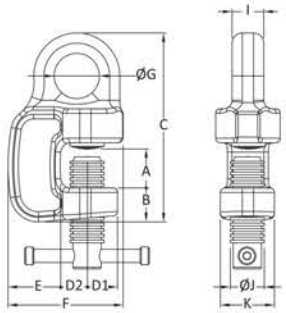
· Warnings

– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

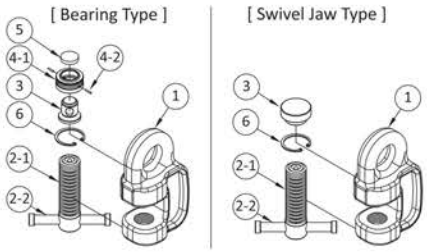
– Never vertically erect a work piece with this model.

– For horizontal lifting, the clamping point must be two or more. When clamping, the clamps must face each other, not look in one direction.



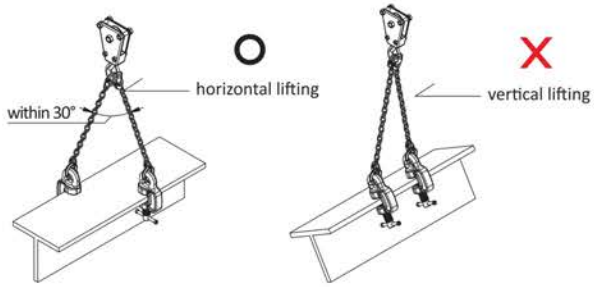
· SPECIFICATION

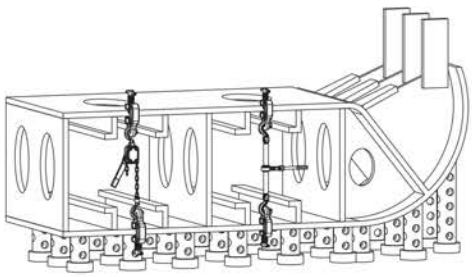
WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
1	0–25	30	30	168	25	25	46	98	38	17	25	40	2.7
1.5	0–25	25	32	166	25	25	46	98	38	18	28	45	2.7
2	0–30	30	35	182	25	25	46	100	40	20	30	50	2.9
	0–40	45	30	182	25	25	46	103	40	20	30	48	3.1
3	0–35	40	38	205	30	38	46	116	42	22	36	60	4.4
	0–60	65	40	235	30	40	51	121	45	22	36	61	6.3
	0–100	105	50	323	37	55	60	162	50	30	36	75	16.1
5	0–50	52	52	265	35	50	59	152	55	28	40	70	10.3
	0–70	75	55	295	38	50	62	160	55	30	40	70	12.0



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			4–2	SPRING PIN
		2–2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–





NPC-B SCREW CLAMP

· Application

– A screw clamp for horizontal lifting during the press process when building vessels and manufacturing(press) construction plants.

· Features

– A screw clamp designed to be safely used for hanging a hook on thick structural steel and for bending(curvature) a variety of structural steel.

· How to use

– Insert a steel plate into the inside end of the clamp's jaw opening and then completely tighten the screw.

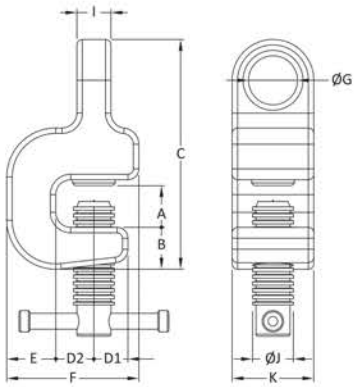
· Warnings

– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

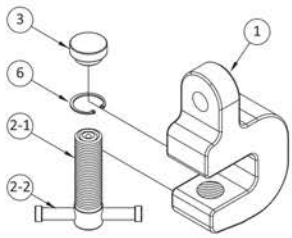
– Never vertically lift a work piece with this model.

– For horizontal lifting, the clamping point must be two or more. When clamping the clamps must face each other, not look in one direction.



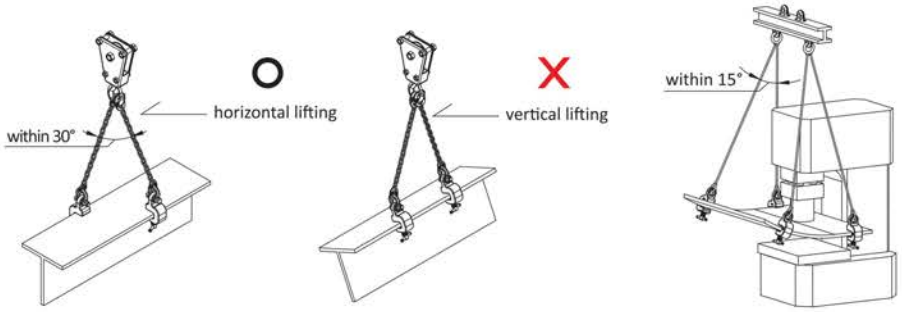
· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
5	0–50	56	66	291	42	62	70	174	32	34	40	80	15.6
	0–70	76	66	311	42	64	72	178	32	34	40	80	16.7
6	0–70	76	75	342	44	68	78	190	35	40	44	85	21.1
	50–100	106	75	372	44	70	80	194	35	40	44	85	22.4
8	0–70	77	94	389	47	80	86	213	42	42	48	90	29.4
	50–100	107	96	423	47	82	88	217	42	42	48	90	31.6
	70–120	127	98	447	47	84	90	221	42	42	48	90	33.5
10	0–70	77	100	412	52	86	96	234	45	46	52	100	37.2
	50–100	107	102	446	52	88	98	238	45	46	52	100	39.9
	70–120	127	104	470	52	90	100	242	45	46	52	100	42.2
12	50–100	110	122	494	56	98	114	268	50	54	58	110	60.4
	70–120	130	124	518	56	100	116	272	50	54	58	110	63.4
15	70–120	130	134	552	64	115	132	311	55	58	64	125	87.3
	100–150	160	136	586	64	118	134	316	55	58	64	125	92.4



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	3	SWIVEL JAW	–	–
2	SCREW ASS'Y	2–1	SCREW	6	SNAP RING	–	–
		2–2	HANDLE				



NPC-BB SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

· Features

– The NPC–BB is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

– Insert a steel plate into the inside end of the clamp's jaw opening and then completely tighten the screw.

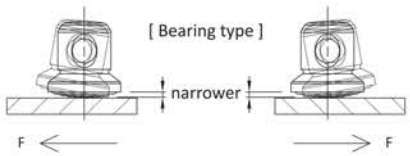
· Warnings

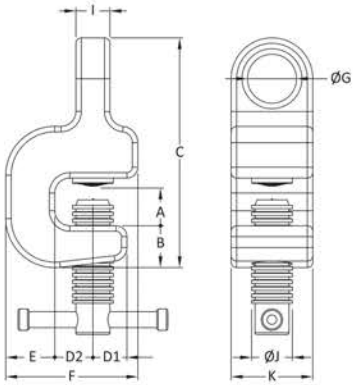
– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never vertically lift a work piece with this model.

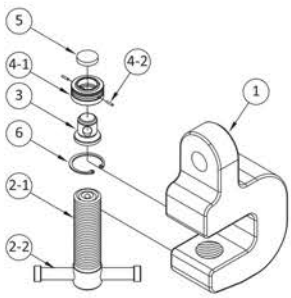
– For horizontal lifting, the clamping point must be two or more. When clamping, the clamps must face each other, not look in one direction.





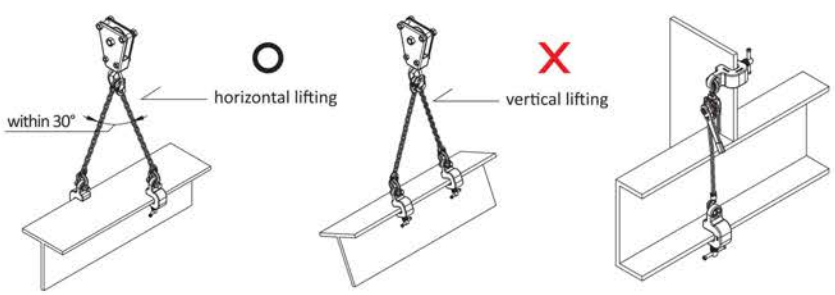
· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
1	0–25	30	30	160	29	32	36	96	35	22	25	55	3.5
1.5	0–30	35	34	180	32	34	40	106	38	25	28	60	4.5
2	0–35	40	36	194	34	36	44	114	42	27	30	65	5.8
	0–60	66	36	222	34	38	46	118	42	27	30	65	6.1
3	0–40	46	40	215	37	40	48	125	45	30	34	70	8.3
5	0–50	56	48	270	42	55	63	160	32	34	40	80	13.0
	0–70	76	50	294	42	60	68	170	32	34	40	80	14.6
6	0–70	76	58	317	43	68	76	187	35	40	44	85	18.5
	50–100	106	58	347	43	70	78	191	35	40	44	85	19.6
8	0–70	76	94	401	47	80	86	213	42	42	48	90	30.3
	50–100	106	96	435	47	82	88	217	42	42	48	90	32.4
	70–120	126	98	459	47	84	90	221	42	42	48	90	34.4
10	0–70	77	100	429	52	86	96	234	45	46	52	100	38.3
	50–100	107	102	463	52	88	98	238	45	46	52	100	40.9
	70–120	127	104	487	52	90	100	242	45	46	52	100	43.8



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			4–2	SPRING PIN
		2–2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–



NPC-T, TB SCREW CLAMP

NPC-T


NPC-TB

· Application

– Screw clamps for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

· Features

– The NPC-T and NPC-TB are screw clamps used to prevent accidents caused by the widening, slipping or breakage of the hook because the load is concentrated at the end of the hook when hanging the hook of a lever block and a chain block directly on a work piece.

– When using with a lever block, the NPC-T and the NPC-TB are efficient clamps designed to simultaneously perform the up-and-down straight line work which is between the eye hole at the upper side and the screw at the lower side, and the lateral work which is in either way of the left and the right.

– The NPC-T and the NPC-TB are safe clamps designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

– Insert a steel plate into the inside end of the clamp's jaw opening and then completely tighten the screw.

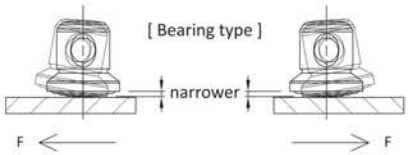
· Warnings

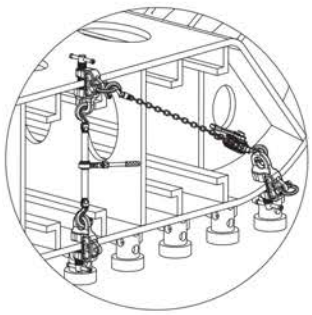
– Do not exceed the rated capacity specified on the clamp.

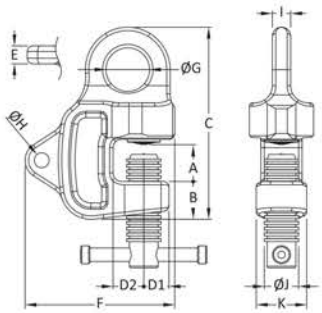
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

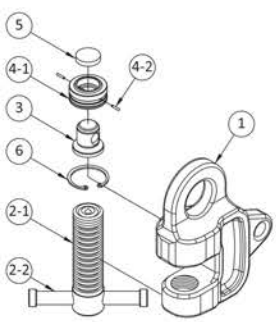
– Never vertically erect a work piece with this model.

– For horizontal lifting, the clamping point must be two or more. When clamping, the clamps must face each other, not look in one direction.









· SPECIFICATION

MODEL	WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	ØH	I	ØJ	K	Weight (kg)
NPC-T	1,5	0-25	26	30	165	24	28	15	135	40	17	19	28	17	2,8
	3	0-35	40	34	198	27	33	20	160	42	22	20	30	22	4,7
	5	0-50	52	50	264	37	50	32	218	58	27	28	40	27	11,5
	7,5	0-45	50	48	257	40	50	35	226	55	30	35	40	80	14,5
NPC-TB	2	0-40	43	30	179	24	60	20	167	40	40	22	30	49	3,6

· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4-1	BEARING
2	SCREW ASS'Y	2-1	SCREW			4-2	SPRING PIN
		2-2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–

NPC-Z SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

· Features

– The NPC–Z is a screw clamp used to prevent accidents caused by the widening, slipping or breakage of the hook because the load is concentrated at the end of the hook when hanging the hook of a lever block and a chain block directly on a work piece.

– The NPC–Z is an efficient clamp that can improve the safety and the productivity of a worker due to the screw. This screw is located next to the eye hole in the upper part of the clamp in order to make it convenient to bite upper and lower work pieces when working in the middle of the block.

– The NPC–Z is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

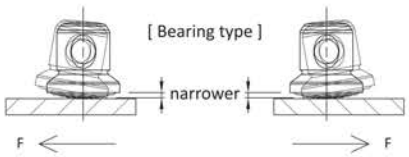
– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

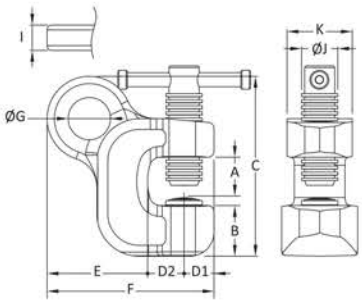
· Warnings

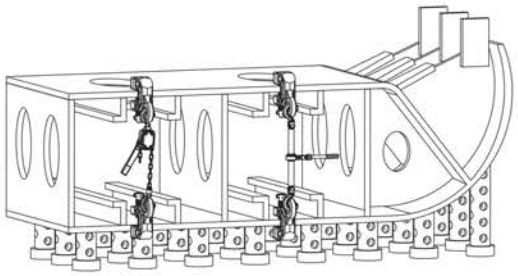
– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never lift a work piece with this model.







· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
1.5	0–25	30	42	158	28	30	80	148	38	21	30	55	3.5

· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			4–2	SPRING PIN
		2–2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–

NPC-ZJ SCREW CLAMP

· Application

– This screw clamp for a jack support is designed to conveniently use a hydraulic jack by using the end of the plate when attaching the ship's side frames on the outer plate and the inner plate of the ship.

· Features

– It's an efficient product made of 3 planar portions – the front, left and right sides of the upper part of the body are flat in order to be used for a jack support. (Only one of the 3 planer portions must be worked, not simultaneously.)

– The eye hole is on the upper part of the body to hang lever blocks and chain blocks.

– The pad welded to the screw and the body is machined into tooth shape so that the clamp is not released from the work piece during operation.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

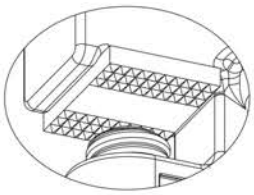
· Warnings

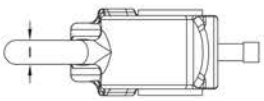
– Do not exceed the rated capacity specified on the clamp.

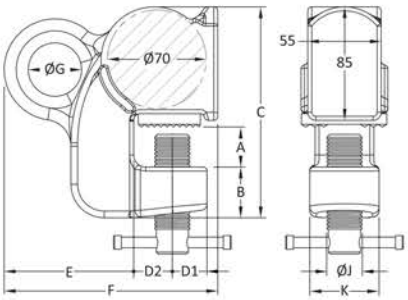
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Use only 1/2 of the rated specification when using the jack and lever block (chain block) at the same time.

– Never lift a work piece with this model.

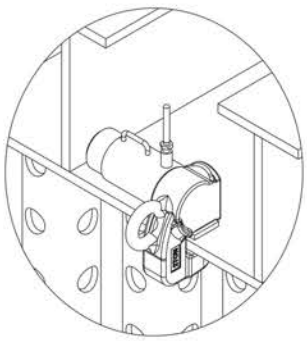






· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
2	0–30	35	38	163	26	29	97	160	40	18	30	52	6.0



NPC-DB SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

· Features

– The NPC-DB is a screw clamp used to prevent accidents caused by the widening, slipping or breakage of the hook because the load is concentrated at the end of the hook when hanging the hook of a lever block and a chain block directly on a work piece.

– The NPC-DB is a convenient and efficient clamp with the shackle which rotates 360° right and left, making work possible in all directions(up and down, left and right).

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

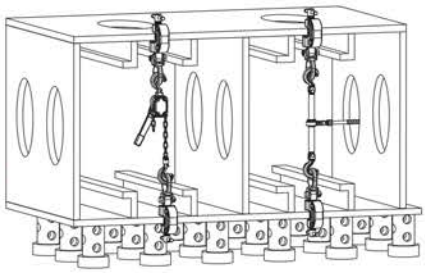
· Warnings

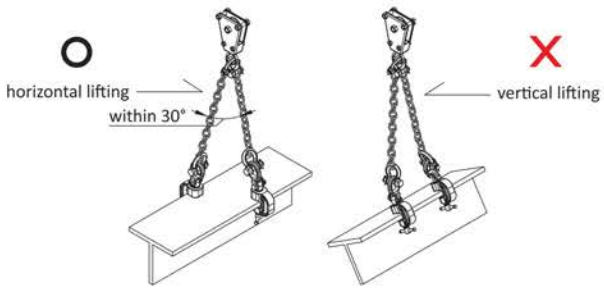
– Do not exceed the rated capacity specified on the clamp.

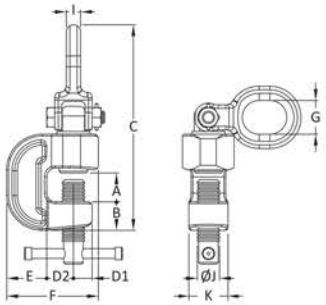
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never vertically erect a work piece with this model.

– For horizontal lifting, the clamping point must be two or more. When clamping, the clamps must face each other, not look in one direction.

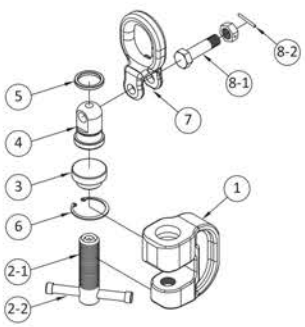






· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	G	I	ØJ	K	Weight (kg)
1.5	0–25	30	34	235	20	30	46	105	38	16	28	44	3.5
2	0–30	35	36	255	22	35	48	112	40	18	30	48	4.3
3	0–35	40	40	280	27	43	52	130	45	20	34	56	6.2
5	0–50	55	52	378	35	55	60	155	55	30	40	70	13.1
	0–70	75	52	390	40	52	67	168	55	30	40	74	15.4
6	0–100	110	62	445	48	60	79	192	55	30	42	84	22.8



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	5	SPACE	–	–
2	SCREW ASS'Y	2-1	SCREW	6	SNAP RING	–	–
		2-2	HANDLE	7	SHACKLE	–	–
3	SWIVEL JAW	–	–	8	SHACKLE BOLT ASS'Y	8-1	BOLT & NUT
4	SHAFT	–	–			8-2	SPRING PIN

NPC-DBP NO TEETH MARK SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block which is used with nonferrous metal materials(stainless steel and aluminum) for building LNG tanks, other chemical tanks and plants which require no teeth mark left by clamps.

· Features

– The NPC–DBP is a convenient and efficient clamp with the shackle which rotates 360° right and left, making work possible in all directions(up and down, left and right).

– For the NPC–DBP, on the upper and lower sides of the jaw opening are the flat surface swivel jaws with no tooth, and the body rotates on the screw as the axis, making this model convenient to use.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

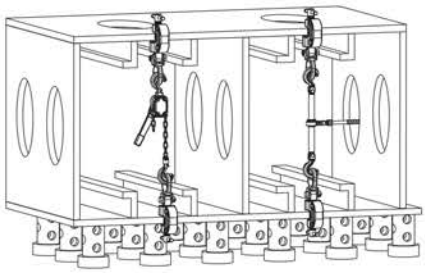
– Before clamping, remove oil or grease on a work piece with detergent and a cloth to prevent slipping.

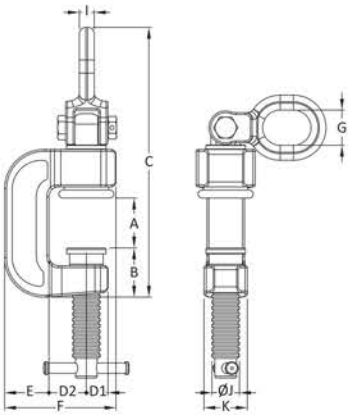
– Do not exceed the rated capacity specified on the clamp.

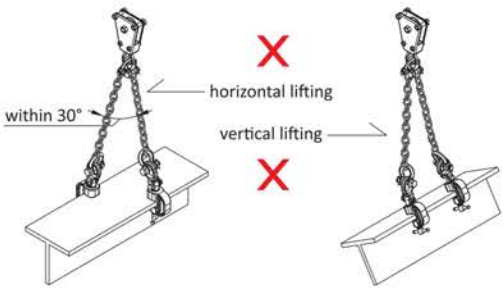
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– If the load is placed laterally, not straightly, on the shackle, use only 1/2 of the rated capacity.

– Never lift a work piece with this model.

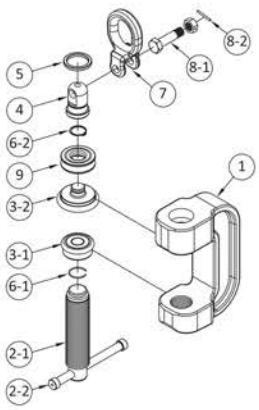






· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	G	I	ØJ	K	Weight (kg)
1.5	0–50	50	53	235	20	40	47	113	38	16	30	60	4.6
2	0–70	71	56	320	26	41	52	125	40	18	32	66	6.5
3	0–70	72	62	348	29	45	57	131	45	20	36	76	9.0



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	6	SNAP RING	6–1	SNAP RING
2	SCREW ASS'Y	2–1	SCREW			6–2	SNAP RING
		2–2	HANDLE	7	SHACKLE	–	–
3	SWIVEL JAW	3–1	SWIVEL JAW	8	SHACKLE BOLT ASS'Y	8–1	BOLT & NUT
		3–2	SWIVEL JAW			8–2	SPRING PIN
4	SHAFT	–	–	9	BUSH	–	–
5	SPACE	–	–				

NPC-DC SCREW CLAMP

· Application

– A T-section only screw clamp to transport or carry T-sections used for shipbuilding and plants.

· Features

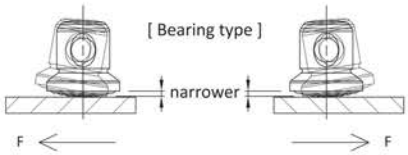
– Rather than for hanging the hook of a lever block used to manufacture steel blocks, the NPC-DC is designed to be suitable for transporting T-sections.

– The NPC-DC is a convenient and efficient clamp with the shackle which rotates 360° right and left, making work possible in all directions(up and down, left and right). When clamping T-sections, depending on the angle of the wire rope(or chain), the shackle rotates to align with the rope, making this model convenient and efficient.

– The NPC-DC is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

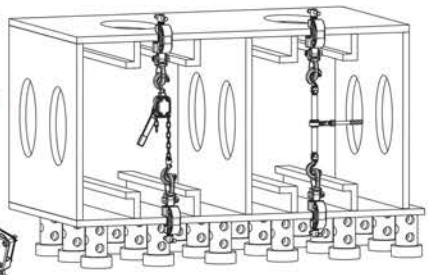


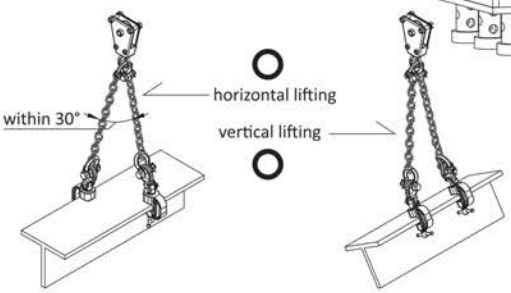
· Warnings

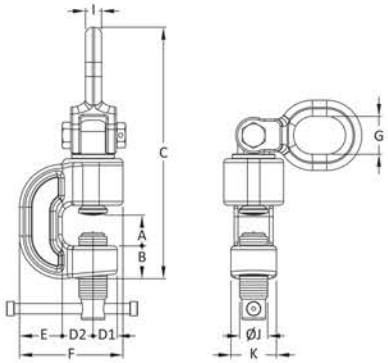
– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– For horizontal lifting, the clamping point must be two or more. When clamping, the clamps must face each other, not look in one direction.

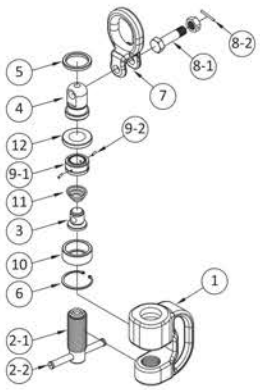






· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	G	I	ØJ	K	Weight (kg)
1.5	0–25	35	35	235	20	31	46	104	38	16	28	44	3.6
2	0–30	40	38	270	24	34	48	115	40	17	30	48	4.7
3	0–35	45	40	296	26	40	52	130	45	18	34	58	6.7
5	0–55	60	56	395	34	60	64	166	55	26	40	72	15.0



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	8	SHACKLE BOLT ASS'Y	8-1	BOLT & NUT
2	SCREW ASS'Y	2-1	SCREW			8-2	SPRING PIN
		2-2	HANDLE	9	BEARING ASS'Y	9-1	BEARING
3	SWIVEL JAW	–	–			9-2	SPRING PIN
4	SHAFT	–	–	10	BEARING COVER	–	–
5	SPACE	–	–	11	SPRING	–	–
6	SNAP RING	–	–	12	END PLATE	–	–
7	SHACKLE	–	–				

NPC-LA NO TEETH MARK SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block which is used with nonferrous metal materials(stainless steel and aluminum) for building LNG tanks, other chemical tanks and plants which require no teeth mark left by clamps.

· Features

– To make it easy to clamp the end part of a work piece, the depth of the jaw opening in the NPC–LA is designed to be short.

– For the NPC–LA, on the upper and lower sides of the jaw opening are the flat surface swivel jaws with no tooth, and the special bearing is built in the NPC–LA so that the body rotates on the screw as the axis, making this model convenient to use.

– The synthetic resin pad which is attached to the inside of the jaw opening minimizes marks caused by clamping work pieces.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

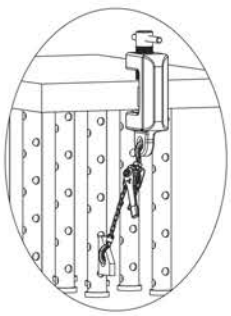
– Before clamping, remove oil or grease on a work piece with detergent and a cloth to prevent slipping.

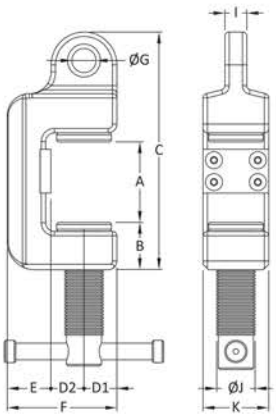
Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– If the load is placed laterally, not straightly, on the eye hole, use only 1/2 of the rated capacity.

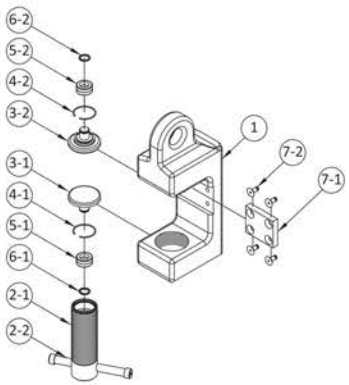
– Never lift a work piece with this model.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
2	0–60	70	42	218	30	28	46	105	22	20	40	60	6.1
3	0–120	130	53	300	30	82	56	170	27	20	40	60	11.5



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	5	BEARING	5–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			5–2	BEARING
		2–2	HANDLE	6	SNAP RING	6–1	SNAP RING
3	SWIVEL JAW	3–1	SWIVEL JAW			6–2	SNAP RING
		3–2	SWIVEL JAW	7	PAD ASS'Y	7–1	PAD
4	SNAP RING	4–1	SNAP RING			7–2	BOLT
		4–2	SNAP RING				

NPC-LAD NO TEETH MARK SCREW CLAMP

· Application

– A screw clamp for hanging the hook of a lever block which is used with nonferrous metal materials(stainless steel and aluminum) for building LNG tanks, other chemical tanks and plants which require no teeth mark left by clamps.

· Features

– The NPC–LAD is a convenient and efficient clamp with the shackle which rotates 360° right and left, making work possible in all directions(up and down, left and right).

– For the NPC–LAD, on the upper and lower sides of the jaw opening are the flat surface swivel jaws with no tooth, and the special bearing is built in the NPC–LAD so that the body rotates on the screw as the axis, making this model convenient to use.

– The synthetic resin pad which is attached to the inside of the jaw opening minimizes marks caused by clamping work pieces.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

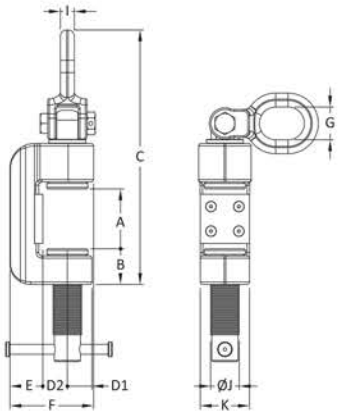
– Before clamping, remove oil or grease on a work piece with detergent and a cloth to prevent slipping.

– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

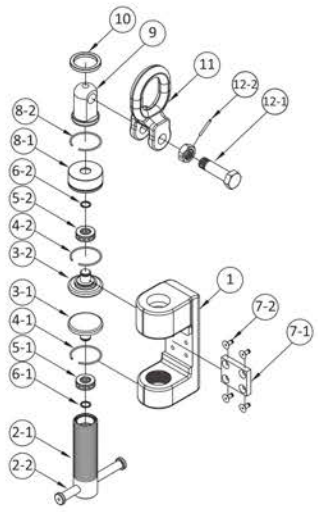
– If the load is placed laterally, not straightly, on the shackle, use only 1/2 of the rated capacity.

– Never lift a work piece with this model.



· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	G	I	ØJ	K	Weight (kg)
2	0–60	70	43	309	30	30	40	102	40	17	40	60	6.8
	0–70	80	43	434	30	70	44	147	40	17	40	60	9.1



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	7	PAD ASS'Y	7–1	PAD
2	SCREW ASS'Y	2–1	SCREW			7–2	BOLT
		2–2	HANDLE	8	COVER ASS'Y	8–1	BEARING COVER
3	SWIVEL JAW	3–1	SWIVEL JAW			8–2	SNAP RING
		3–2	SWIVEL JAW	9	SHAFT	–	–
4	SNAP RING	4–1	SNAP RING	10	SPACE	–	–
		4–2	SNAP RING	11	SHACKLE	–	–
5	BEARING	5–1	BEARING	12	SHACKLE BOLT ASS'Y	12–1	BOLT & NUT
		5–2	BEARING			12–2	SPRING PIN
6	SNAP RING	6–1	SNAP RING				
		6–2	SNAP RING				

NPC-LB NO TEETH MARK SCREW CLAMP FOR BEVELED EDGE

· Application

– A screw clamp for hanging the hook of a lever block which is used with nonferrous metal materials(stainless steel, aluminum) for building LNG tanks, other chemical tanks and plants which require no teeth mark left by clamps.

· Features

– The NPC–LB is a clamp for work pieces whose edge is long beveled(V and X beveling) to butt weld thick work pieces.

– For the NPC–LB, on the upper and lower sides of the jaw opening are the flat surface swivel jaws with no tooth, and the special bearing is built in the NPC–LB so that the body rotates on the screw as the axis, making this model convenient to use.

– The synthetic resin pad which is attached to the inside of the jaw opening minimizes marks caused by clamping work pieces.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

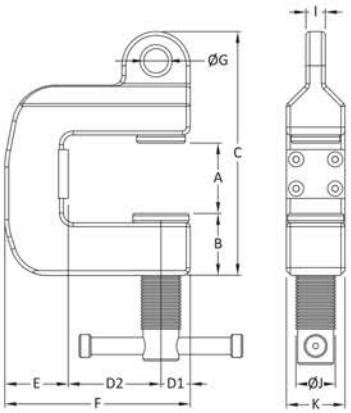
– Before clamping, remove oil or grease on a work piece with detergent and a cloth to prevent slipping.

– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

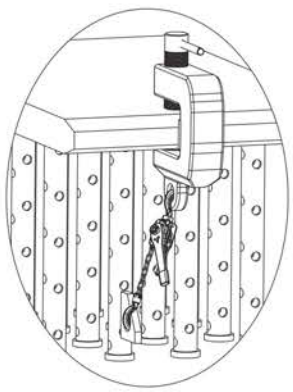
– If the load is placed laterally, not straightly, on the eye hole, use only 1/2 of the rated capacity.

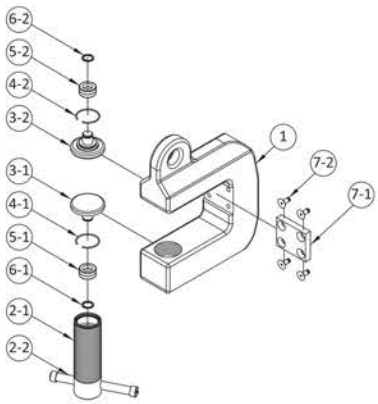
– Never lift a work piece with this model.



· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
2	0–60	70	52	238	30	93	64	186	22	20	40	60	11,3
3	0–120	130	71	344	30	127	101	252	27	20	40	60	22,9





· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	5	BEARING	5–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			5–2	BEARING
		2–2	HANDLE	6	SNAP RING	6–1	SNAP RING
3	SWIVEL JAW	3–1	SWIVEL JAW			6–2	SNAP RING
		3–2	SWIVEL JAW	7	PAD ASS'Y	7–1	PAD
4	SNAP RING	4–1	SNAP RING			7–2	BOLT
		4–2	SNAP RING				

NPC–WB TURNOVER SCREW CLAMP

· Application

– A clamp to pull a variety of steel work pieces when building ships and manufacturing(attaching) construction plants.

– When rotating boards and blocks vertically and 180°, the NPC–WB, a screw locking turnover clamp, can be used instead of the NVC–LPS, a turnover clamp.

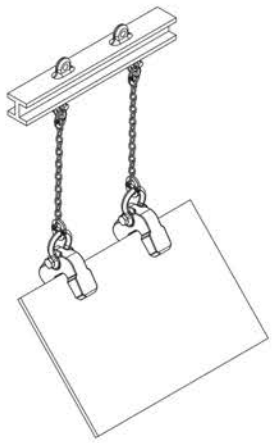
· Features

– The location of the eye hole makes the NPC–WB convenient to vertically lift a work piece. The NPC–WB is a safe clamp designed to prevent a work piece from slipping.

– The NPC–WB is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

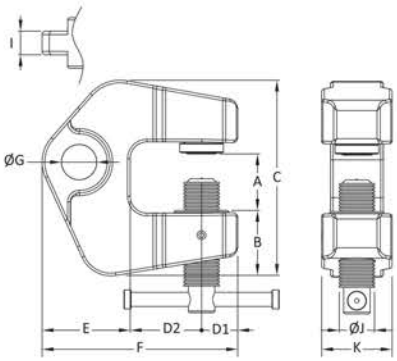


· Warnings

– Do not exceed the rated capacity specified on the clamp.

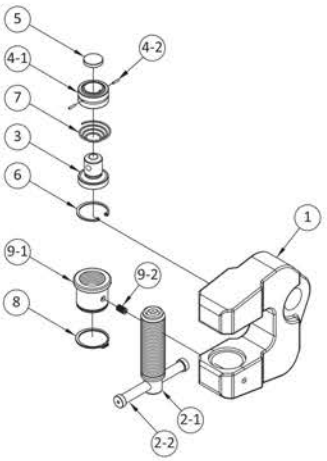
– Use work pieces only which fall within the jaw opening range specified in the instruction manual.

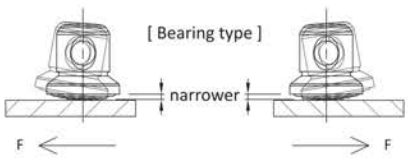
– Keep the lifting angle of a sling chain vertical(90°) to the ground For vertical lifting, the clamping points must be two or more.



· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
3	0–35	39	54	164	33	46	83	162	30	25	38	65	6.7
4	0–45	55	66	204	36	55	100	191	35	30	40	70	10.1
6	0–50	60	76	231	41	71	121	233	40	35	44	80	16.5
	30–80	90	80	269	41	75	125	241	40	35	44	80	18.9
8	0–50	60	92	266	46	84	138	268	45	40	48	90	26.2
	30–80	90	96	304	46	88	142	276	45	40	48	90	29.5
	50–100	110	100	332	46	92	146	284	45	40	48	90	32.5
10	0–50	60	102	290	51	88	153	292	50	45	52	100	35.6
	30–80	90	106	328	51	92	157	300	50	45	52	100	40.0
	50–100	110	110	356	51	96	161	308	50	45	52	100	43.8
	70–120	130	114	384	51	100	165	316	50	45	52	100	47.8
12	30–80	90	116	351	56	96	172	324	55	50	58	110	51.4
	50–100	110	120	379	56	100	176	332	55	50	58	110	55.4
	70–120	130	124	407	56	104	180	340	55	50	58	110	59.7
15	50–100	110	132	408	63	110	191	364	60	55	64	125	73.8
	70–120	130	136	436	63	114	195	372	60	55	64	125	79.1
	100–150	160	140	474	63	118	199	380	60	55	64	125	85.8



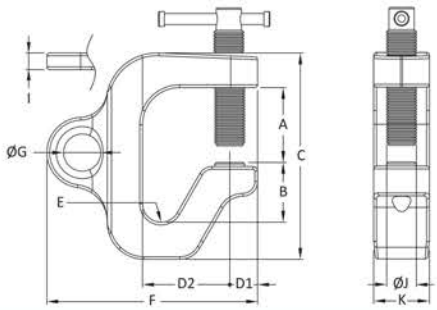


· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	5	END PLATE	–	–
2	SCREW ASS'Y	2–1	SCREW	6	SNAP RING	–	–
		2–2	HANDLE	7	SPRING	–	–
3	SWIVEL JAW	–	–	8	SNAP RING	–	–
4	BEARING ASS'Y	4–1	BEARING	9	SCREW NUT ASS'Y	9–1	SCREW NUT
		4–2	SPRING PIN			9–2	SET SCREW

NPC-FJ SCREW CLAMP FOR BULB PLATE

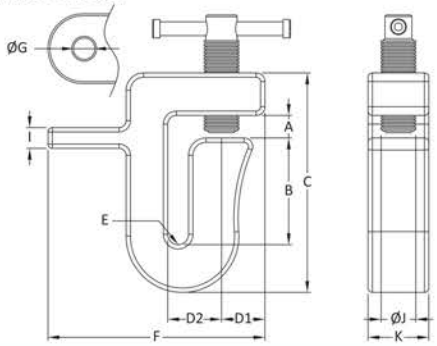
· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
1.5	0–55	50	44	170	27	68	R14	200	40	22	30	58	6.8
2	0–85	80	70	223	30	90	R20	230	40	21	32	64	10.0

NPC-FS SCREW CLAMP FOR ANGLE

· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
5	0–25	28	178	254	50	62	R12	248	30	24	38	70	16.9

· Application

– A screw-locking clamp for hanging the hook of a lever block when building vessels and manufacturing(attaching) construction plants.

· Features

– The NPC-FJ and the NPC-FS are clamps used to prevent accidents caused by the widening, slipping or breakage of the hook because the load is concentrated at the end of the hook when hanging the hook of a lever block and a chain block directly on a work piece(bulb plate).

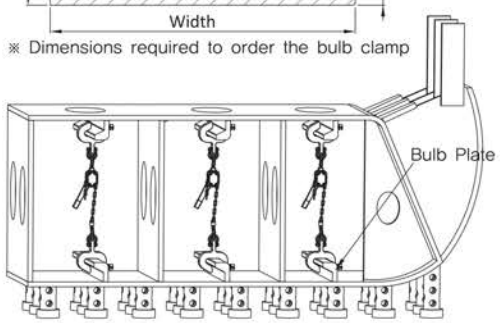
– The NPC-FJ has the jaw opening specially designed for bulb plates which are used as the frame of the outer plating and the inner plating in shipbuilding. It is a safe and convenient clamp that can do horizontal lifting due to the swivel jaw at the opposite side of the screw.

– The NPC-FS is a clamp designed to use with the wide flange of the angle.

· How to use

– Insert the bulb of a bulb plate or the flange of an angle into the clamp's jaw opening and then completely tighten the screw.

※ Dimensions required to order the bulb clamp



· Warnings

– Do not exceed the rated capacity specified on the clamp.

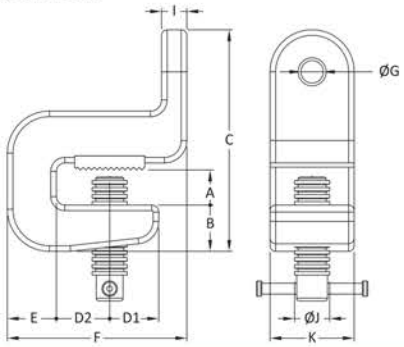
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never use other materials except bulb plates with the NPC-FJ.

– Never lift work pieces with NPC-FS.

NPC-GA SCREW CLAMP

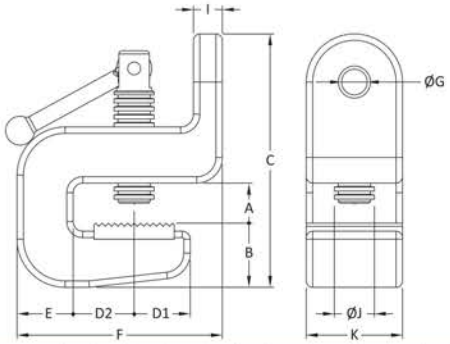
· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
1.5	0–20	25	22	156	30	43	35	128	16	17	25	60	4.9
2	0–60	65	55	242	30	92	55	200	20	20	28	60	12.0

NPC-GB SCREW CLAMP

· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
0.5	0–50	55	32	190	35	47	30	134	25	17	25	50	3.8
1.5	0–20	25	22	156	35	38	35	128	16	17	25	60	4.6
2	0–60	65	55	242	35	87	55	200	20	20	28	60	12.0

· Application

– A screw–locking clamp for hanging a work piece or hanging the hook of a lever block in a small engine room or a workshop on the ship.

· Features

– The NPC–GA and the NPC–GB have their eye holes fixed at the upper side for convenient use in small space. The screws and pads of the upper and bottom of the jaw opening in the NPC–GA and the NPC–GB are assembled differently so that they can be used depending on purposes.

· How to use

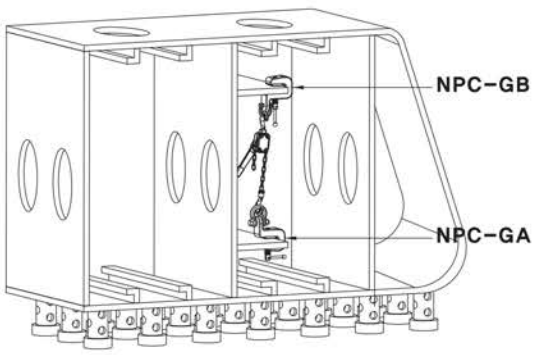
– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

– Do not exceed the rated capacity specified on the clamp.

– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never lift work pieces with the NPC–GA and the NPC–GB.



NPC-SA SCREW CLAMP FOR SAFETY BELT

· Application

- A safety belt clamp used to prevent falling and dropping from high working places(in shipyards and construction sites).
- When there is no object to fix the hook of a safety belt in a working place, have the safety belt screw clamp bite a steel structure and then fasten a safety belt, allowing a worker to safely work.
- A clamp to prevent a variety of tools(electric drills, electric drivers, impact wrenches, spanners) from falling from steel structures and construction sites.

· Features

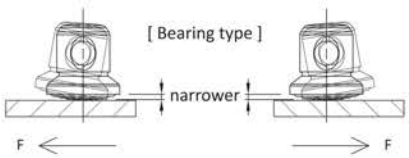
- A light and convenient clamp which is made of special alloy steel to help workers safely work.
- The NPC-SA is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

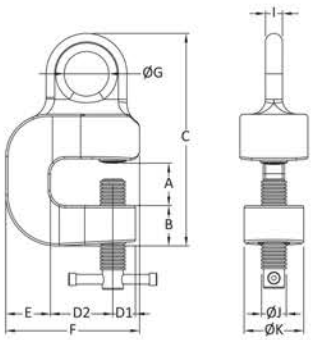
· How to use

- Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.
- Insert the hook of a safety belt into the eye hole of the clamp.

· Warnings

- Do not exceed the rated capacity specified on the clamp.
- Use a work piece only which falls within the jaw opening range specified in the instruction manual.
- Do not use other metals with this model except steel.
- Before use, always check the abrasion of the jaw and the screw.
- Do not lift with this model.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
0.15	0-15	17	20	101	14	26	21	63	21	8	18	28	0.43

· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	-	-	4	BEARING ASS'Y	4-1	BEARING
2	SCREW ASS'Y	2-1	SCREW			4-2	SPRING PIN
		2-2	HANDLE	5	END PLATE	-	-
3	SWIVEL JAW	-	-	6	SNAP RING	-	-

NPC-SB SCREW CLAMP FOR SAFETY BELT

· Application

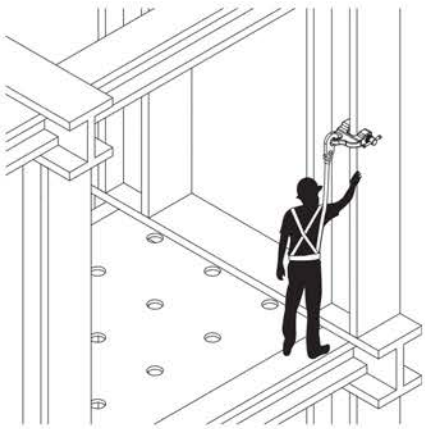
- A safety belt clamp used to prevent falling and dropping from high working places(in shipyards and construction sites).
- When there is no object to fix the hook of a safety belt in a working place, have the safety belt screw clamp bite a steel structure and then fasten a safety belt, allowing a worker to safely work.
- A clamp to prevent a variety of tools(electric drills, electric drivers, impact wrenches, spanners) from falling from steel structures and construction sites.

· Features

- A light and convenient clamp which is made of special alloy steel to help workers safely work.
- The NPC-SB is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

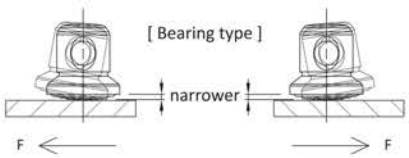
· How to use

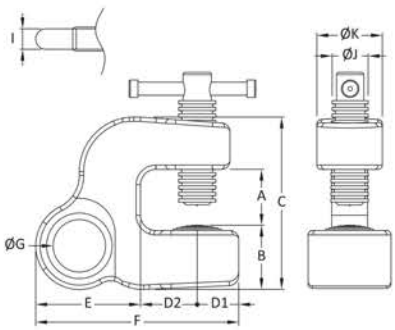
- Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.
- Insert the hook of a safety belt into the eye hole of the clamp.



· Warnings

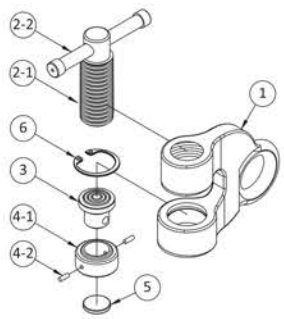
- Do not exceed the rated capacity specified on the clamp.
- Use a work piece only which falls within the jaw opening range specified in the instruction manual.
- Do not use other metals with this model except steel.
- Before use, always check the abrasion of the jaw and the screw.
- Do not lift with this model.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	ØK	Weight (kg)
0.15	0–15	18	25	62	15	24	46	85	21	8	18	28	0.38
	6–28	31	26	77	16	24	46	85	21	8	18	28	0.44
0.2	0–20	23	31	76	19	27	49	94	23	10	20	30	0.62
	0–35	39	29	89	19	27	49	94	23	12	20	30	0.72



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4–1	BEARING
2	SCREW ASS'Y	2–1	SCREW			4–2	SPRING PIN
		2–2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–

NPC-SZ SCREW CLAMP FOR SAFETY BELT

· Application

- A safety belt clamp used to prevent falling and dropping from high working places(in shipyards and construction sites).
- When there is no object to fix the hook of a safety belt in a working place, have the safety belt screw clamp bite a steel structure and then fasten a safety belt, allowing a worker to safely work.
- A clamp to prevent a variety of tools(electric drills, electric drivers, impact wrenches, spanners) from falling from steel structures and construction sites.

· Features

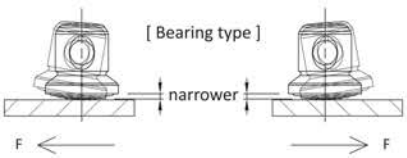
- A light and convenient clamp which is made of special alloy steel to help workers safely work.
- The NPC-SZ is a safe clamp designed to prevent a work piece from slipping as the jaw opening of the clamp gets smaller by the slope which is proportional to the load on the spherical swivel jaw built in the jig bearing which works as gearing on the opposite side of the screw.

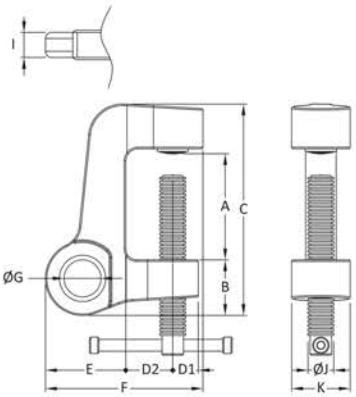
· How to use

- Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.
- Insert the hook of a safety belt into the eye hole of the clamp.

· Warnings

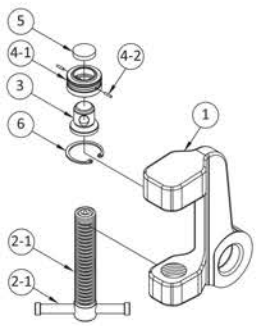
- Do not exceed the rated capacity specified on the clamp.
- Use a work piece only which falls within the jaw opening range specified in the instruction manual.
- Do not use other metals with this model except steel.
- Before use, always check the abrasion of the jaw and the screw.
- Do not lift with this model.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
0.3	0-60	67	39	137	19	31	50	100	24	16	20	32	1.4



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	4	BEARING ASS'Y	4-1	BEARING
2	SCREW ASS'Y	2-1	SCREW			4-2	SPRING PIN
		2-2	HANDLE	5	END PLATE	–	–
3	SWIVEL JAW	–	–	6	SNAP RING	–	–

NPC-UA SCREW CLAMP FOR GUIDE ROPE

· Application

– A clamp for guide rope used to control the direction of a work piece when transporting or loading a variety of blocks and work pieces by a crane in the ship shop at shipyards.

· Features

– A light and convenient clamp which is made of special alloy steel to help workers safely work.

– The NPC-UA is a safe clamp designed to prevent a work piece from slipping because the end part of the body is manufactured to be diamond-shaped teeth. The end part of the body works as gearing at the opposite side of the screw.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

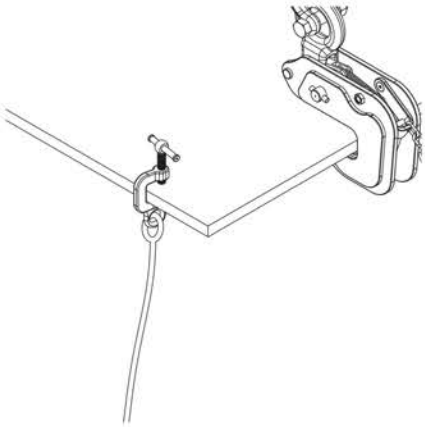
– Do not exceed the rated capacity specified on the clamp.

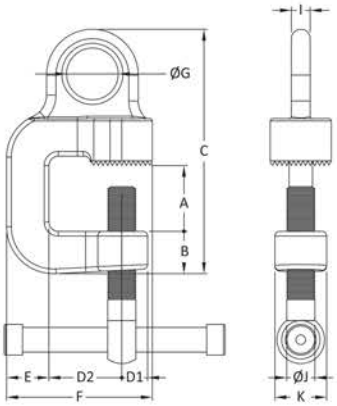
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Do not use other metals with this model except steel.

– Before use, always check the abrasion of the jaw and the screw.

– Do not lift with this model.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D1	D2	E	F	ØG	I	ØJ	K	Weight (kg)
0.15	0–25	28	18	104	11	30	18	62	22	8	12	22	0.4
	0–40	43	19	121	11	35	19	67	22	8	12	22	0.45

NVC-H VERTICAL CLAMP

· Application

– A vertical lifting clamp for steel plates and various steel blocks.

· Features

– The NVC-H has the built-in safety latch that prevents a work piece from slipping due to the initial clamping force caused by the spring even if the wire rope becomes loose during the operation.

· How to use

– Insert a steel plate into the inside end of the clamp's jaw opening and then lock the safety latch.

– Clamp the center of gravity of the work piece in order to equally distribute the weight of the work piece.

· Warnings

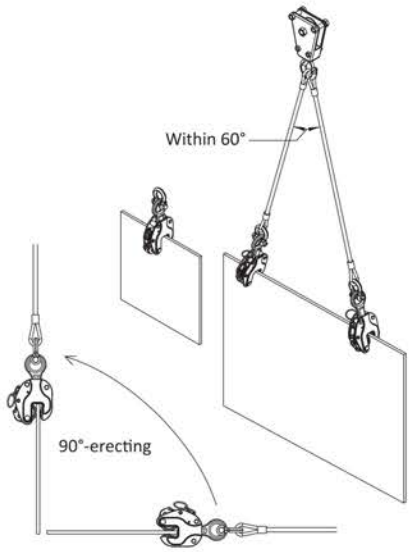
– Do not exceed the rated capacity specified on the clamp.

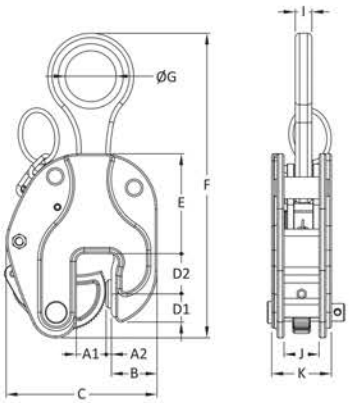
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– Never lift two or more work pieces with one clamp.

– Lift a work piece only after checking the biting location and the biting condition of the work piece, and the proper functioning of the safety latch.

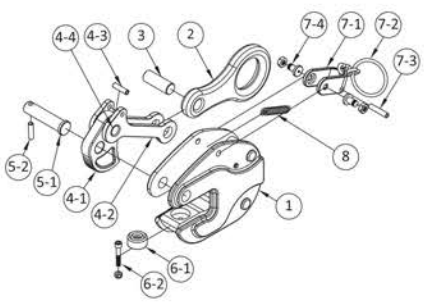
– When lifting a work piece, a signal man must be outside the rotation radius of a work piece to send a signal to a crane operator.





· SPECIFICATION

WLL (TON)	JAW OPENING	A1	A2	B	C	D1	D2	E	F	ØG	I	J	K	Weight (kg)
0.5	0–20	22	4	28	102	22	32	88	265	45	10	28	56	3.3
	0–50	52	4	32	166	27	50	120	378	50	14	30	54	6.4
1	0–25	30	4	38	148	24	40	100	310	55	16	36	60	6.1
	0–30	35	5	46	162	30	46	108	315	55	16	36	60	6.6
	0–45	50	5	45	190	35	43	118	342	55	16	36	60	7.8
2	0–30	35	5	54	172	32	46	114	345	58	18	40	68	8.8
	10–70	75	5	62	256	35	70	160	456	60	19	40	68	17.4
	30–70	75	5	62	247	42	64	155	444	58	18	40	68	15.6
3	0–35	40	5	58	192	40	48	130	380	60	19	43	71	11.6
	30–50	55	5	58	208	40	60	130	385	60	19	43	71	13.5
	30–70	75	5	70	260	48	67	155	425	60	19	45	75	18.9
	40–80	85	5	70	270	47	63	155	435	60	19	45	75	19.2
5	0–45	50	5	65	234	52	50	144	432	60	22	48	84	18.5
	0–50	55	5	65	240	55	62	148	440	60	22	48	84	20.0
	30–65	70	5	70	252	55	62	148	440	60	22	48	84	22.1
	30–70	75	5	82	265	55	82	177	485	60	22	50	88	26.2
	40–80	85	5	88	288	55	82	180	487	60	22	50	88	27.8
8	0–50	55	5	85	263	55	64	182	485	65	30	60	104	33.5



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	6	JAW ASS'Y	6–1	SWIVEL JAW
2	SHACKLE	–	–			6–2	BOLT & NUT
3	SHACKLE PIN	–	–	7	LATCH ASS'Y	7–1	SAFETY LATCH
4	CAM ASS'Y	4–1	CAM			7–2	HANDLE RING
		4–2	LINK			7–3	SPRING PIN
		4–3	SPRING PIN			7–4	BOLT & NUT
		4–4	RIVET PIN	8	LOCK SPRING	–	–
5	CAM PIN ASS'Y	5–1	CAM PIN				
		5–2	SPRING PIN				

NHC–H HORIZONTAL CLAMP

· Application

– A horizontal lifting clamp for steel plates, a variety of "H–", "T–", "ㄷ–" sections, and steel blocks.

· Features

– The NHC–H has the built–in safety latch that prevents a work piece from slipping due to the initial clamping force caused by the spring even if the wire rope becomes loose during the operation.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then lock the safety latch.

– Clamp the center of gravity of a work piece in order to equally distribute the weight of the work piece.

· Warnings

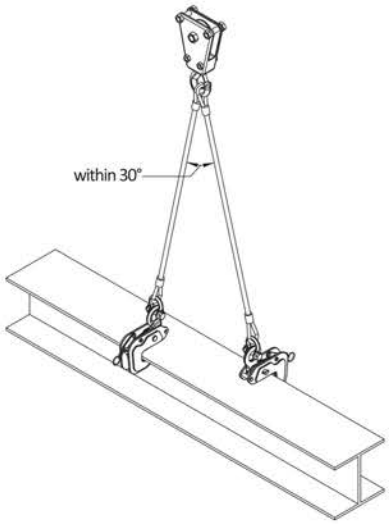
– Do not exceed the rated capacity specified on the clamp.

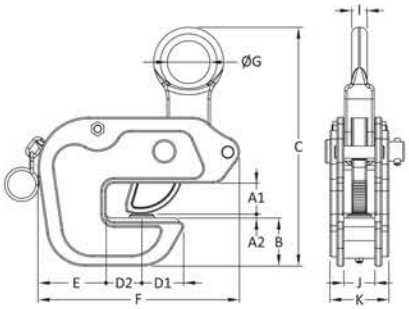
– Lift a work piece only which falls within the jaw opening range specified in the instruction manual.

– Do not vertically lift work pieces with horizontal clamps.

– Never lift narrow work pieces.

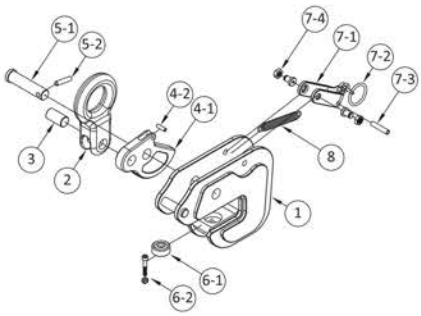
– Never lift bendable work pieces.





· SPECIFICATION

WLL (TON)	JAW OPENING	A1	A2	B	C	D1	D2	E	F	ØG	I	J	K	Weight (kg)
0.75	0–20	24	4	46	254	28	35	58	190	40	17	32	56	5.6
1	0–25	30	4	57	290	34	40	64	225	46	18	32	56	7.0
2	0–30	35	5	57	295	36	44	74	248	50	18	40	68	9.9
3	0–35	40	5	62	306	38	46	90	264	55	20	40	76	13.0
	0–50	60	5	67	360	42	48	96	290	54	27	50	86	19.0
5	0–30	40	5	65	365	46	52	94	300	65	28	50	100	24.4
	0–35	45	5	63	382	45	45	104	306	65	28	50	100	25.3
	0–40	50	5	63	382	45	48	104	306	65	28	50	100	25.8
	30–70	80	5	82	445	62	52	118	340	63	28	50	106	36.0
	50–100	105	5	92	505	52	58	120	380	65	28	60	124	59.0
8	0–50	60	5	97	490	55	80	122	406	65	33	68	130	53.6
10	0–50	65	5	100	575	62	100	132	412	70	35	73	137	65.8
	50–100	105	5	112	588	55	117	142	444	70	35	72	136	73.3



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	6	JAW ASS'Y	6–1	SWIVEL JAW
2	SHACKLE	–	–			6–2	BOLT & NUT
3	SHACKLE PIN	–	–	7	LATCH ASS'Y	7–1	SAFETY LATCH
4	CAM ASS'Y	4–1	CAM			7–2	HANDLE RING
		4–2	SPRING PIN			7–3	SPRING PIN
5	CAM PIN ASS'Y	5–1	CAM PIN			7–4	BOLT & NUT
		5–2	SPRING PIN	8	LOCK SPRING	–	–

NVC-HPT VERTICAL CLAMP FOR SECTION STEEL

· Application

– A vertical lifting clamp for narrow T-sections and various steel blocks.

· Features

– The NVC-HPT is designed to lift T-sections with very narrow flange and is also efficient to erect the lifted section steel on the plate at 90°.

– The NVC-HPT has the built-in safety latch that prevents the work piece from slipping due to the initial clamping force caused by the spring even if the wire rope becomes loose during the operation.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then lock the safety latch.

– Clamp the center of gravity of a work piece in order to equally distribute the weight of the work piece.

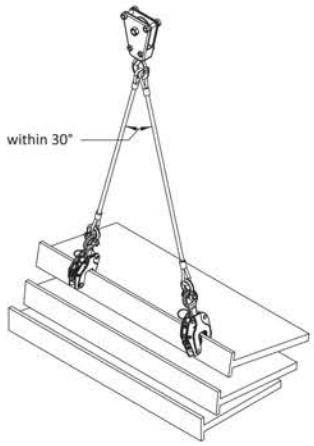
· Warnings

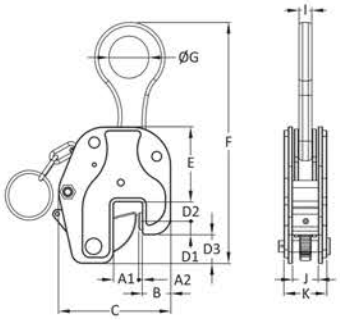
– Do not exceed the rated capacity specified on the clamp.

– Lift a work piece only which falls within the jaw opening range specified in the instruction manual.

– Insert the frame flange into the end of the clamp's jaw opening and then lift.

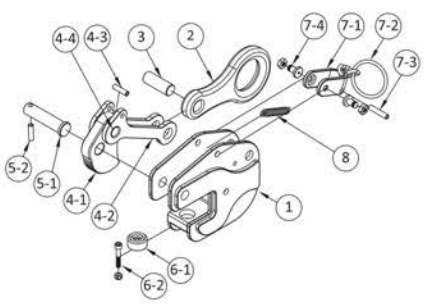
– Never lift bendable work pieces.





· SPECIFICATION

WLL (TON)	JAW OPENING	A1	A2	B	C	D1	D2	D3	E	F	ØG	I	J	K	Weight (kg)
1	5–30	35	5	40	157	17	28	41	105	320	55	16	36	60	6.1
3	0–35	39	5	58	191	26	34	29	145	380	60	19	45	75	11.9
5	0–40	45	5	65	227	29	41	59	159	430	60	22	48	84	18.7



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	6	JAW ASS'Y	6–1	SWIVEL JAW
2	SHACKLE	–	–			6–2	BOLT & NUT
3	SHACKLE PIN	–	–	7	LATCH ASS'Y	7–1	SAFETY LATCH
4	CAM ASS'Y	4–1	CAM			7–2	HANDLE RING
		4–2	LINK			7–3	SPRING PIN
		4–3	SPRING PIN			7–4	BOLT & NUT
		4–4	RIVET PIN	8	LOCK SPRING	–	–
5	CAM PIN ASS'Y	5–1	CAM PIN				
		5–2	SPRING PIN				

NGC-HPT HORIZONTAL CLAMP FOR SECTION STEEL

· Application

– A horizontal lifting clamp for narrow T-sections and various steel blocks.

· Features

– The NGC-HPT is designed to lift T-sections with very narrow flange and is also efficient to erect the lifted section steel on the plate at 90°.

– The NGC-HPT has the built-in safety latch that prevents the work piece from slipping due to the initial clamping force caused by the spring even if the wire rope becomes loose during the operation.

· How to use

– Insert a work piece into the inside end of the clamp's jaw opening and then lock the safety latch.

– Clamp the center of gravity of a work piece in order to equally distribute the weight of the work piece.

· Warnings

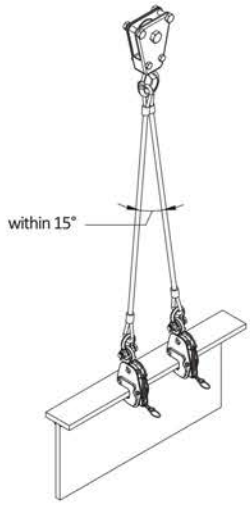
– Do not exceed the rated capacity specified on the clamp.

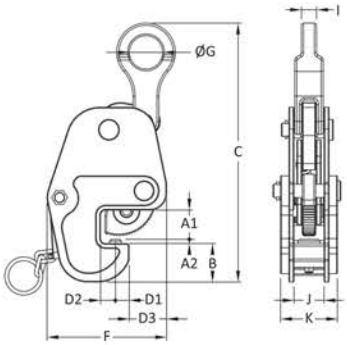
– Lift a work piece only which falls within the jaw opening range specified in the instruction manual.

– Do not vertically lift work pieces with horizontal clamps.

– Insert the frame flange into the end of the clamp's jaw opening and then lift.

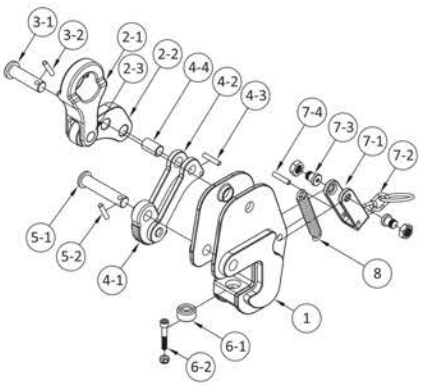
– Never lift bendable work pieces.





· SPECIFICATION

WLL (TON)	JAW OPENING	A1	A2	B	C	D1	D2	D3	F	ØG	I	J	K	Weight (kg)
1	10–35	38	5	46	302	13	16	49	142	35	20	36	68	6,2
3	15–40	46	5	64	400	25	25	59	190	45	22	50	94	15,0
5	0–30	35	5	73	410	30	40	64	240	60	25	53	101	24,3



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	5	CAM PIN ASS'Y	5–1	CAM PIN
2	SHACKLE ASS'Y	2–1	SHACKLE			5–2	SPRING PIN
		2–2	L-LINK	6	JAW ASS'Y	6–1	SWIVEL JAW
		2–3	RIVET PIN			6–2	BOLT & NUT
3	BODY PIN ASS'Y	3–1	BODY PIN	7	LATCH ASS'Y	7–1	SAFETY LATCH
		3–2	SPRING PIN			7–2	HANDLE RING
4	CAM ASS'Y	4–1	CAM			7–3	SPRING PIN
		4–2	LINK			7–4	BOLT & NUT
		4–3	SPRING PIN	8	LOCK SPRING	–	–
		4–4	LINK PIN				

NCP-A PIPE LIFTING HOOK

· Application

– NCP–A is a pipe–only hook used in pipe processing plants to easily trans–port remnants of large pipes.

· Features

– NCP–A is used to transport pipes whose outer diameter is large and length is short.

– The protruding jaw is at the end of the hook to prevent the pipe from falling out even without a lock.

· How to use

– Only use objects whose length is similar to the drawing "D" dimension of the hook.

– Insert the hook into the object and slowly lift it.

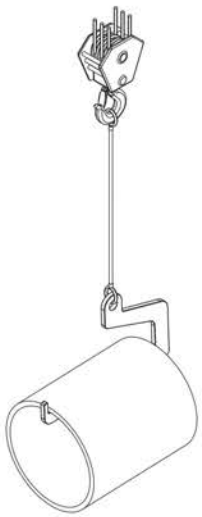
· Warnings

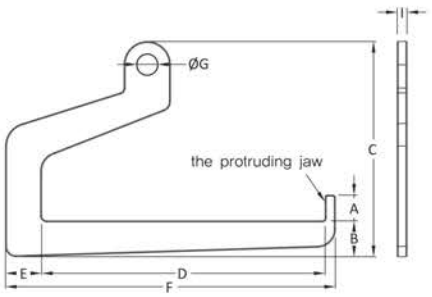
– Do not exceed the rated capacity specified on the hook

– Always use a work piece only which falls within the jaw opening range speicified in the instruction manual.

– Before lifitng, always make the work piece horizontal.

– When transporting work pieces, do not abruptly start or stop a crane.



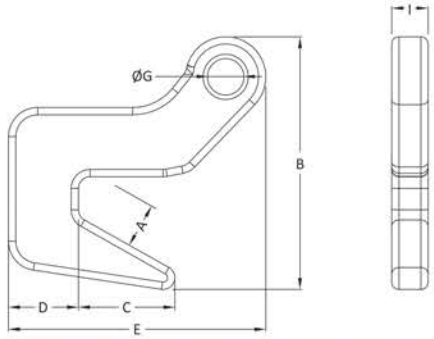


· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D	E	F	ØG	I	Weight (kg)
0.3	0–100	50	70	415	550	70	640	40	19	11.1

NCP-SA STAINLESS STEEL PIPE LIFTING HOOK

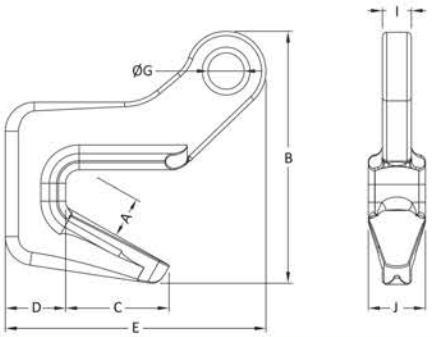
· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	ØG	I	Weight (kg)
2	0–20	25	173	65	48	177	25	25	2.7

NCP-SB STAINLESS STEEL PIPE LIFTING HOOK

· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	ØG	I	J	Weight (kg)
2	0–20	25	174	70	41	180	25	20	39	2.2

· Application

- Stainless steel pipe–only hook used to transport (load and unload) or install pipes at shipyards and chemical plants and docks.

· Features

- NCP–SA is made of a stainless steel plate to prevent corrosion of stainless steel pipes.
- NCP–SB is a precision casting product of stainless steel to prevent corrosion of stainless steel pipes.
- The opening of the NCP–SB (the contact area of the outer and inner diameters of the pipe) is curved to fit the size of the pipe, making it easy to adhere to the pipe when lifting.
- The NCP–SA and NCP–SB do not have safety locks on their own, but the external force pulling in proportion to the lifting angle of the sling rope and the load of the object acts as a safe hook to prevent the object from falling out.

· How to use

- Insert the hook into the object and slowly lift it.

· Warnings

- Do not exceed the rated capacity specified on the hook
- Always use a work piece only which falls within the jaw opening range speicified in the instruction manual.
- Do not exceed the working angle of a sling rope.
- Before lifitng, always make the work piece horizontal.
- When transporting work pieces, do not abruptly start or stop a crane.

NCP-SC STAINLESS STEEL PIPE LIFTING HOOK

· Application

– NCP-SC is a stainless steel pipe-only hook used to transport (load and unload) or install pipes at shipyards and chemical plant plants and docks.

· Features

– NCP-SC is made of stainless steel to prevent corrosion of stainless steel pipes.

– NCP-SC is a special pipe hook designed to fit a small pipe with a narrow inner diameter.

– NCP-SC doesn't have safety locks on their own, but the external force pulling inward in proportion to the lifting angle of the sling rope and the weight of the object acts as a safe hook to prevent the object from falling out.

· How to use

– Insert the hook into the object and slowly lift it.

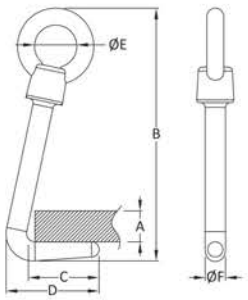
· Warnings

– Do not exceed the rated capacity specified on the hook

– Always use a work piece only which falls within the jaw opening range speicified in the instruction manual.

– Before lifitng, always make the work piece horizontal.

– When transporting work pieces, do not abruptly start or stop a crane.

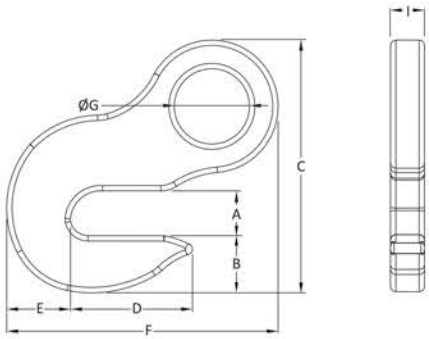


· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D	ØE	ØF	Weight (kg)
0.75	5-22	25	298	85	107	50	24	1.8

NCP–SF STAINLESS STEEL PIPE LIFTING HOOK

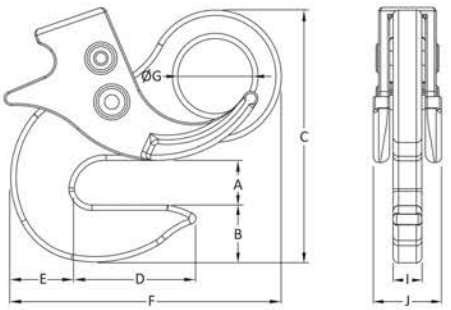
· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	F	ØG	I	Weight (kg)
0.75	0–20	25	31	141	68	35	150	42	16	1.1
2	0–20	25	47	162	68	60	180	42	22	2.7

NCP–SL STEEL PIPE LIFTING HOOK

· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	F	ØG	I	J	Weight (kg)
2	0–20	25	31	141	68	35	150	42	16	37	1.7

· Application

– Pipe–only hook used to transport (load and unload) or install pipes at shipyards and chemical plant plants and docks.

· Features

– NCP–SF is made of stainless steel plate to prevent corrosion of stainless steel pipes.

– NCP–SL has a safety latch attached to the body, which reduces the slip of the hooks engaged in the steel pipe.

– NCP–SF and NCP–SL are safe hooks that do not allow the object to fall out due to an external force that pulls inward in proportion to the lifting angle of the sling rope and the weight of the object.

· How to use

– Insert the hook into the object and slowly lift it.

· Warnings

– Do not exceed the rated capacity specified on the hook

– Always use a work piece only which falls within the jaw opening range speicified in the instruction manual.

– Do not exceed the working angle of a sling rope.

– Before lifitng, always make the work piece horizontal.

– When transporting work pieces, do not abruptly start or stop a crane.

NHG-NE FOR HANGING HOOK

· Application

– A hook for hanging the hook of a lever block in attaching square boxes (tanks) of ships and plants.

· Features

– The NHG–NE is a specially designed hook to use in places where you cannot hang a lever block hook or a screw clamp when manufacturing tanks.

– A safe hook that prevents the hook from slipping with the pad attached to the bottom part of the hook's hanging side.

· Warnings

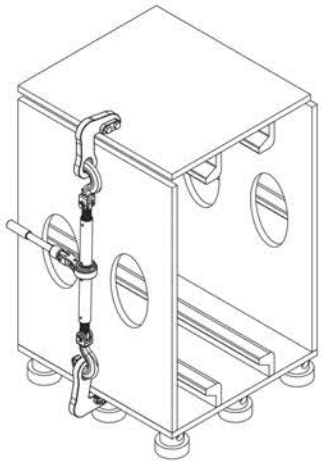
– Do not exceed the rated capacity specified on the hook.

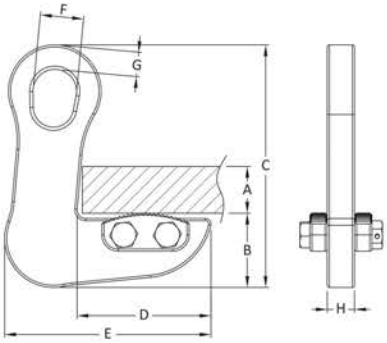
– Use a work piece only which falls within the jaw opening range specified in the instruction manual.

– When using the NHG–NE hook, one pair of two people must work together.

– To prevent slipping, one person must hang the hook on a tank and the other must operate the lever of a ratchet puller.

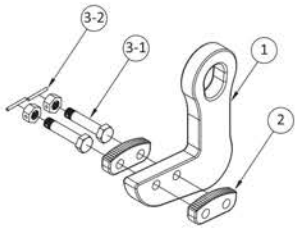
– After completely installing the hook, frequently check the hook because giving vibration or a shock to the tank by doing other work can make the hook slip.





· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D	E	F	G	H	Weight (kg)
2	0–50	55	65	225	120	188	40	22	25	4.4



· COMPONENTS

No.	ASS'Y NAME	No.	PART NAME	No.	ASS'Y NAME	No.	PART NAME
1	BODY	–	–	3	PAD BOLT ASS'Y	3–1	BOLT & NUT
2	PAD	–	–			3–2	SPRING PIN

NWB PIPE LIFTING HOOK FOR SLING BELT

· Application

– NWB is a pipe–only hook used to transport (load and unload) or install pipes at shipyards and chemical plant plants and docks.

· Features

– NWB is a pipe–only hook used to transport pipes tied together with a belt, such as bending pipes and flange pipes whose center of gravity is difficult to maintain.

– NWB has a latch attached to it, which ensures that the belt does not come off the hook when lifting.

– NWB is a hook designed to prevent the pipe from falling out due to tighten–ing of the sling belt in proportion to the weight of the pipe during lifting.

· How to use

– Tie the sling belt to the center of gravity of the pipe and lift it slowly.

· Warnings

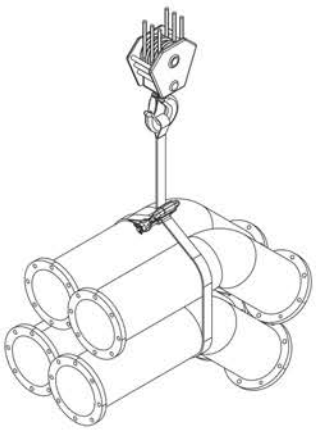
– Do not exceed the rated capacity specified on the hook.

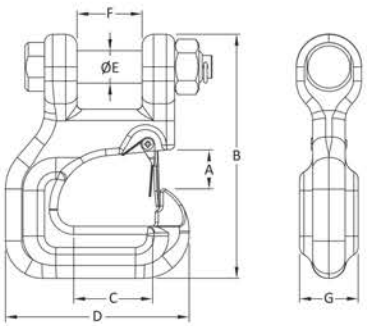
– Always use a work piece only which falls within the working thickness range specified in the instruction manual.

– When tying a pipe with a sling belt, make sure that the belt does not touch
– the protruding area.

– Before lifting, always make the work piece horizontal.

– When transporting work pieces, do not abruptly start or stop a crane.

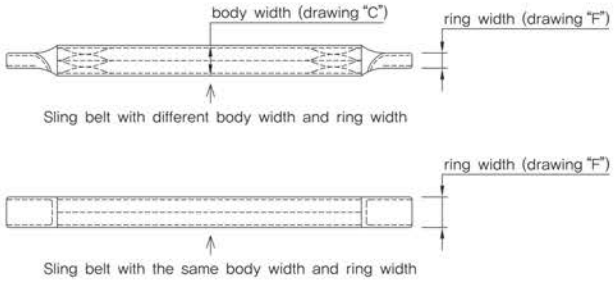


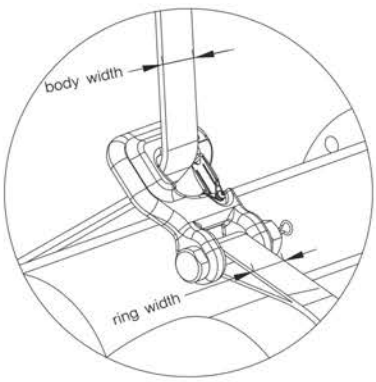


· SPECIFICATION

WLL (TON)	JAW OPENING	A	B	C	D	ØE	F	G	Weight (kg)
3	0–50	22	148	50	118	20	40	35	2.4

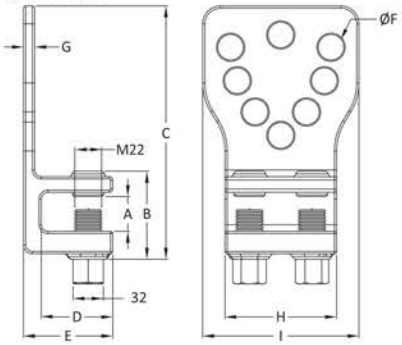
※ Depending on the type of sling belt, the width of the torso and ring may differ, so please use it according to the size. (Fig. below)





NSH-B CLAMP FOR INSTALLING SCAFFOLDING

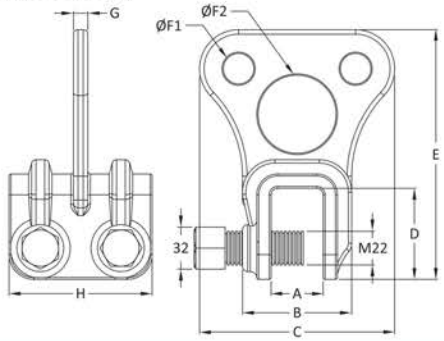
· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	ØF	G	H	I	Weight (kg)
0.5	0–25	30	80	230	64	80	22	10	100	140	4.2

NSH-L CLAMP FOR INSTALLING SCAFFOLDING

· SPECIFICATION



WLL (TON)	JAW OPENING	A	B	C	D	E	ØF1	ØF2	G	H	Weight (kg)
0.5	0–35	40	85	150	70	192	23	60	13	110	3.2

· Application

– Scaffolding screw clamps for installing scaffolding in order to work on high blocks in shipyards.

· Features

– The NSH–B is used usually for adjusting the angle of the scaffolding to a curved block such as the stem and the stern of a ship.

– The NSH–B has the toothed screw bolt and the swivel jaw at the opposite of the bolt so that the clamp does not fall or slip despite of vibration or sway.

– The NSH–B is a specially designed secure scaffolding clamp with safety locking bolts to prevent screw bolts from being released by vibration or shaking.

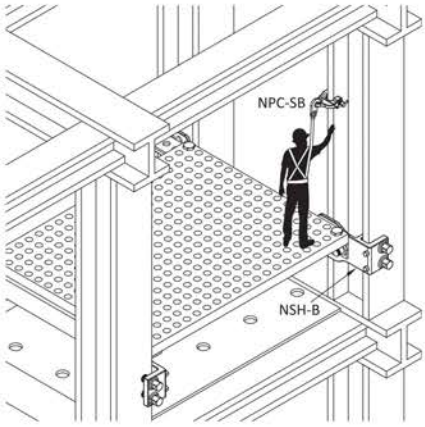
– The NSH–L is installed usually on horizontal blocks. This model has the flat screw bolt with no tooth. The NSH–L has three ⊏–shaped grooves in the screw hole of the body so that even a painted bolt/ paint–stained bolt can be easily tightened and loosened.

· How to use

– Insert the frame flange into the end of the clamp's jaw opening and then completely tighten the screw.

· Warnings

– Completely tighten the two screws.



NJ-TN, TW, TWA LEVER CALMP

NJ-TN

NJ-TW

NJ-TWA

· Application

– These models are clamping levers that allow you to work safely when steel plates or various work pieces placed on the floor need to be erected or be repositioned.

· Features

– Lever clamps are a safe product designed to include a cam to prevent frequent accidents in which work pieces fall out or bounce off while working with a general lever at a shipyard or plant workshop.

· How to use

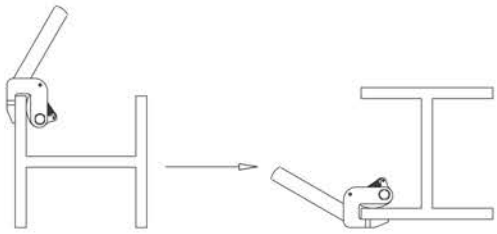
– If the opening of the clamp is completely inserted in the gap between the steel plate and the work piece, the cam is automatically fastened, when removing the clamp from the work piece, use a lever to rotate the body sideways.

– Clamp the work piece's center of gravity when inserting the opening into the work piece.

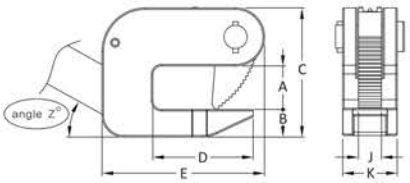
· Warnings

– Use only the work pieces that can be worked with this product.

– Work slowly when turning the work piece with the lever.



· SPECIFICATION

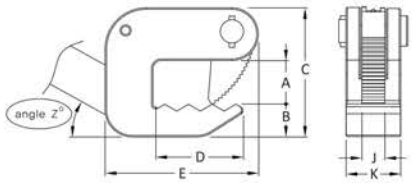


MODEL	JAW OPENING	A	B	C	D	E	J	K	Weight (kg)
NJ-TN NJ-TW	0-25	30	19	89	67	112	14	32	4.4 / 5.9
	0-30	35	19	92	67	112	14	32	4.5 / 6.0
	0-30 (E : 135)	35	19	92	90	135	14	32	4.8 / 6.3
	0-40	48	23	117	67	120	16	36	4.8 / 6.3
	0-50	58	27	147	67	143	16	36	5.8 / 7.3

※ The bodies of the NJ-TN and TW are the same, but the model name varies depending on whether the tip of the pipe is wedge attached or not.

※ The left side of the diagonal in the weight compartment is the weight of the NJ-TN / the right side is the weight of the NJ-TW.

※ Pipe and wedge specifications are as shown on the right.



MODEL	JAW OPENING	A	B	C	D	E	J	K	Weight (kg)
NJ-TWA	0-30	35	24	98	80	126	14	32	6.1

※ Pipe specifications and wedge specifications are as follows.