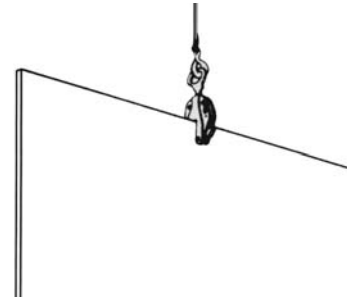




Lifting Clamps & Beam Grabs

Model FR - Vertical Lifting, Lock Closed

The **Model FR** is a vertical lifting tool for relatively light work. It is small and easy to handle in capacities through three tons. It incorporates a "Lock Closed" feature which facilitates attaching the clamp to the plate.



NOTE: Plate and Fabricated - Vertical Lifting Only



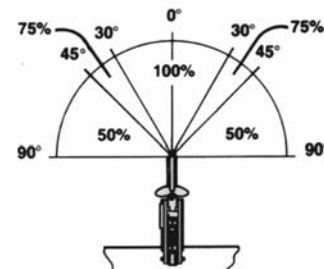
| PIN # | Rated Capacity (tons) | Plate Thickness Range | Weight (lbs) |
|------------|-----------------------|-----------------------|--------------|
| FR05000004 | 1/2 | 0 - 3/4" | 8 |
| | 1/2 | 1/2 - 1" | 8 |
| FR10000004 | 1 | 0 - 3/4" | 14 |
| | 1 | 1/2 - 1" | 15 |
| FR20000004 | 2 | 0 - 1" | 23 |
| | 2 | 3/4 - 1-1/2" | 23 |
| FR30000004 | 3 | 0 - 1-1/4" | 30 |
| | 3 | 3/4 - 1-1/2" | 31 |

Available in other plate thicknesses for any of the above rated capacities.

Model JPA - Turning, Lifting, Lock Open, Lock Closed

The **Model JPA** is a vertical lifting clamp capable of turning a single plate or member from horizontal to vertical to horizontal through a 180 degree arc. Incorporates a push button auxiliary lock. Permits side loading of lifting shackle to 90 degrees by derating of clamp's rated capacity. (See Figure at the right.)

Model JPA incorporates a pivoting shackle that permits side loading of the lifting shackle at 100 percent of rated capacity from vertical to 30 degrees, 75 percent of rated capacity between 30 and 45 degrees and 50 percent of rated capacity between 45 and 90 degrees.

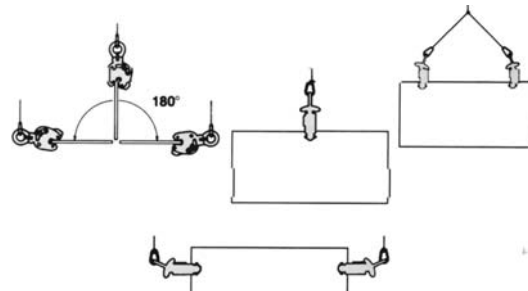


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| Rated Capacity (tons) | Plate Thickness Range | Weight (lbs) |
|-----------------------|----------------------------|--------------|
| 1/2 | 0 - 5/8" 1/2 - 1" | 12 |
| 1 | 0 - 3/4" 1/2 - 1" | 20 |
| 2 | 0 - 1" 3/4 - 1-1/2" | 40 |
| 4 | 3/16 - 1-1/4" 1 - 2" | 50 |
| 6 | 1/4 - 1-3/8" 1 - 2-1/8" | 72 |
| 8 | 3/8 - 1-1/2" 1 - 2-1/8" | 93 |

Other plate thicknesses available for above capacities. Also available in larger capacities.

NOTE: Vertical + 180 + Side Pull



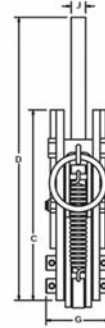
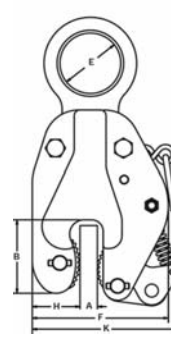


Model LJ - Vertical Lifting - Lock Closed

The **Model LJ** is a vertical lifting clamp capable of turning a plate from horizontal to vertical and back through the same ninety degree arc. It is small and easy to handle in capacities through 3 tons.

The **Model LJ** incorporates a “Lock Closed” feature, which facilitates attaching the clamp to the plate even with your gloves on!

NOTE: Vertical + 90



| Rated Capacity (tons) | Plate Thickness A | B | C | Max. D | E | F | G | H | J | Max. K | Weight (lbs) |
|-----------------------|-------------------|--------|--------|----------|-------|--------|-------|--------|-----|--------|--------------|
| 1/2 | 0-3/4 | 2-5/8 | 6-5/8 | 10-1/4 | 2-1/4 | 5 | 2-3/8 | 1-7/8 | 1/2 | 5 | 9 |
| 1 | 0-3/4 | 3-3/16 | 8-1/4 | 13-7/16 | 2-5/8 | 5-7/8 | 2-7/8 | 2-1/16 | 5/8 | 6-7/16 | 15 |
| 2 | 0-1 | 3-5/8 | 9 | 15-13/16 | 3-5/8 | 7-1/4 | 3-1/4 | 2-7/8 | 3/4 | 7-5/8 | 26 |
| 3 | 0-1-1/4 | 4-1/4 | 10-3/4 | 18 | 3-5/8 | 8-3/16 | 305/8 | 3 | 3/4 | 8-3/8 | 34 |

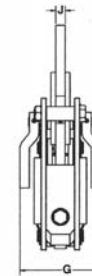
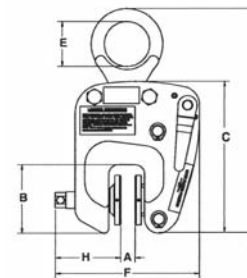
Specifications are in inches and are subject to change without notice.

Model NMBL - Locking Type

The **NMBL** model is used to turn plates from horizontal through a 180 degree arc. It is manufactured with smooth gripping surfaces to prevent marring when gripping stainless steel, copper, aluminum and other polished metal plates.

The **NMBL** incorporates a lock open - lock closed feature to facilitate attaching and removing the clamp from the plate.

NOTE: Non-marring



| Rated Capacity (tons) | Jaw Opening A | B | C | D | E | Max. F | G | H | J | Weight (lbs) |
|-----------------------|---------------|---------|---------|----------|-------|---------|-------|--------|-------|--------------|
| 1/2 | 0-5/8 | 3-5/8 | 8 | 12-5/16 | 2-3/8 | 7-5/8 | 4-1/4 | 3-7/16 | 1/2 | 15-5/8 |
| 1 | 0-3/4 | 3-5/8 | 8 | 11-7/8 | 2-3/8 | 7-9/16 | 4-1/4 | 3-7/16 | 1/2 | 17-1/4 |
| 2 | 0-2 | 4-7/8 | 10-7/8 | 17-9/16 | 3 | 12-1/32 | 5-1/2 | 5-7/16 | 3/4 | 31 |
| 4 | 1/4 - 1-1/2 | 7-11/64 | 16-3/16 | 23-25/32 | 3 | 6-1/4 | 8-1/2 | 8-9/64 | 1-1/4 | 126 |

Specifications are in inches and are subject to change without notice.



Model AST & ASTL - Non-Locking

Both the **Model AST** and **ASTL** were developed primarily for lifting, turning and stacking lightweight beams and structural shapes while a constant tension is applied to the lifting shackle. The horizontal shackle permits a beam to be lifted with the web in a near horizontal position by placing the clamp on the load with the shackle positioned over the web, and between the flanges. With a beam lying in a horizontal position, and the clamp placed with the shackle overhanging the flange, the beam can be lifted, turned 90 degrees, and raised in a vertical position.

The **Model ASTL** includes all of the features of the **Model AST** plus a linkage which permits the tool to be removed remotely by setting the load down with the sling slack, then lifting the crane hook.

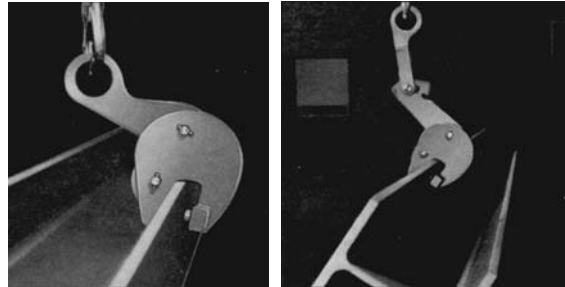


Model AST

Model ASTL

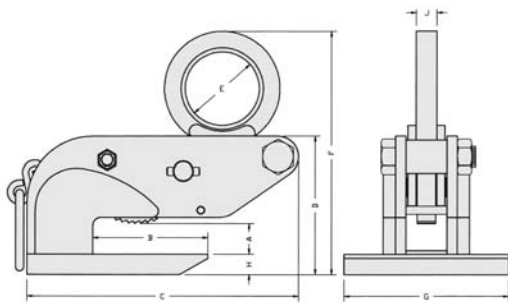
NOTE: Structural - Shapes

| PIN # | Model | Rated Capacity (tons) | Plate Thickness Range | Weight (lbs) |
|------------|-------|-----------------------|-----------------------|--------------|
| AST0000054 | AST | 1/2 | 0 - 3/4" | 10 |
| AST0000304 | AST | 1-1/2 | 0 - 3/4" | 20 |
| AST0000604 | AST | 3 | 0 - 1-1/2" | 50 |
| ASTL000054 | ASTL | 1/2 | 0 - 3/4" | 10 |
| ASTL000304 | ASTL | 1-1/2 | 0 - 3/4" | 24 |
| ASTL000604 | ASTL | 3 | 0 - 1-1/2" | 61 |



Model DWS - Horizontal, "Locked - Closed"

Model DWS is a horizontal lifting clamp utilizing Refroe's famous "lock-closed" feature. This clamp comes in four opening sizes as shown below.



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NOTE: Clamps must be used horizontally in pairs or multiple pairs.

| Rated Capacity (tons) | Jaw Opening | B | C | D | Std. E | Option E | F | G | H | J | Weight (lbs) |
|-----------------------|-------------|-------|--------|---------|--------|----------|--------|-------|-----|-----|--------------|
| 1/4 | 0-1/2 | 2-7/8 | 6-5/8 | 3-3/16 | 3/4 | 2 | 5-3/4 | 3-1/2 | 3/8 | 1/2 | 5 |
| 1/2 | 0-3/4 | 3 | 7 | 3-9/16 | 1 | 2-1/4 | 7-3/8 | 4 | 1/2 | 5/8 | 9 |
| 1-1/2 | 0 - 1 | 3-1/2 | 8-1/4 | 4-1/4 | 1 | 2-1/4 | 8-1/8 | 5 | 5/8 | 5/8 | 14 |
| 3 | 0 - 1-1/4 | 4-1/2 | 11-3/4 | 5-13/16 | 1-1/8 | 3-1/2 | 11-3/4 | 6-1/2 | 1 | 1 | 37 |

Specifications in inches and are subject to change without notice.

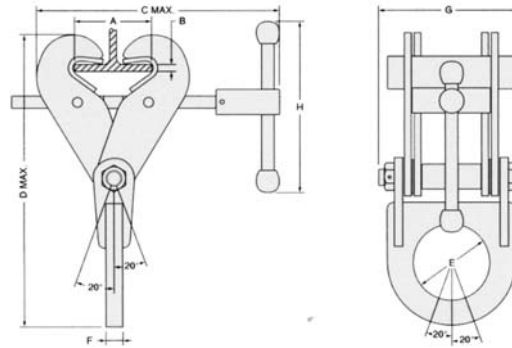


Model BC Screw Adjusting Beam Clamp



The **Model BC** is a multi-purpose beam clamp suitable for both lifting beams or providing suspension of hoists from beams or girders, thereby eliminating the need for nuts, bolts and shackles.

The Model BC clamp is intended for use on the American standard or wide flange beams.



NOTE: Now available with optional soft jaw inserts. Factory installed at time of order or as Retrofit Kit for customer installation.

| Working Load Limit @ 0° - 20° Vertical Tons | Flange Width A | Flange Thickness B | C | D | E | F | G | H | Weight (lbs) |
|---|----------------|--------------------|--------|--------|-------|-------|--------|-------|--------------|
| 1-1/2 | 3 - 7-1/2 | 1/4 - 5/8 | 11-7/8 | 11-3/4 | 3 | 1/2 | 5 | 5-3/4 | 9-1/25 |
| 3 | 3 - 7-1/2 | 1/4 - 5/8 | 11-7/8 | 12 | 3 | 5/8 | 5-3/16 | 6-3/4 | 13-1/2 |
| 5 | 6 - 10 | 1/2 - 7/8 | 17 | 14-7/8 | 3-1/4 | 3/4 | 6-5/16 | 6-3/4 | 22-1/2 |
| 10 | 6 - 12 | 1/2 - 1-1/4 | 21-1/4 | 19-1/8 | 4 | 1-1/2 | 7-1/8 | 9 | 53 |
| 15 | 8 - 18 | 7/8 - 2 | 32 | 26-1/2 | 4-1/2 | 1-3/4 | 8-3/8 | 12 | 120 |
| 25 | 18 - 40 | 2 - 3 | 61 | 40-1/2 | 5 | 2 | 15 | 15 | 450 |

Specifications are in inches and are subject to change without notice.

Model TL & TLA - Turning, Lifting, Lock Open, Lock Closed

The **Model TLA** is a vertical lifting clamp incorporating a “Lock Open” and a “Lock Closed” feature and an auxiliary lock. The clamp is capable of turning a steel plate from horizontal to vertical to horizontal through a 180° arc. The “Lock Open,” “lock Closed” feature facilitates attaching and removing the clamp from the plate.

The **Model TL** is identical to the **Model TLA** except that it does not contain the auxiliary lock. The Model TL is capable of turning a plate from horizontal to vertical and back through the same 90° arc.



Model TL
(Vertical + 90)



Model TLA
(Vertical + 180)

| Rated Capacity (tons) | Plate Thickness (in.) | Weight (lbs) |
|-----------------------|--------------------------|--------------|
| 1/2 | 0 - 5/8 1/2 - 1 | 9 10 |
| 1 | 0 - 3/4 1/2 - 1 | 14 15 |
| 2 | 0 - 1 3/4 - 1-1/2 | 32 33 |
| 4 | 3/16 - 1-1/4 1 - 2 | 36 37 |
| 6 | 1/4 - 1-3/8 1 - 2-1/8 | 49 51 |
| 8 | 3/8 - 1-1/2 1 - 2-1/8 | 72 74 |
| 12 | 1/2 - 2-1/2 2 - 4 | 142 150 |

Other capacities and plate thicknesses available upon request.





Model SCP & SCPA Locking Screw

The **Model SCP** and **Model SCPA** clamps are capable of handling steel plate from the horizontal through a 180° arc and may be used for handling plate at rolling and forming machines. These clamps feature a spring loaded pivoting cam jaw that “cams in” when a load is applied to the lifting shackle.

Clamp is capable of handling plate horizontally when used in pairs or sets of pairs, or in a tripod arrangement.

Pivoting Shackle Assembly available on SCPA models 3 tons and larger.



Model SCP

Model SCPA

| Rated Capacity (tons) | Plate Thickness (in.) | SCP Weight (lbs) | SCPA Weight (lbs) |
|---|-----------------------|------------------|-------------------|
| 1/2 | 0 - 3/4 | 7 | 8 |
| 1-1/2 | 0 - 1-1/4 | 13 | 15 |
| 3 | 0 - 2 | 19 | 24 |
| 6 | 0 - 2-1/2 | 44 | 57 |
| 10 | 0 - 3 | 93 | 134 |
| 15 | 0 - 4 | 210 | 312 |
| Capacities through 150 tons and various plate thicknesses available upon request. | | | |



Model M - Locking

The **Model M** is a multipurpose clamp used for positioning, sorting, erection and handling of prefabricated sections. The split lower jaw enables the clamp to be particularly useful in handling structural shapes.

The **Model M** incorporates a “Locked Closed” feature which facilitates attaching the clamp to the member being lifted.

These clamps must be used in pairs, sets of pairs, or in a tripod arrangement for transporting plate horizontally.

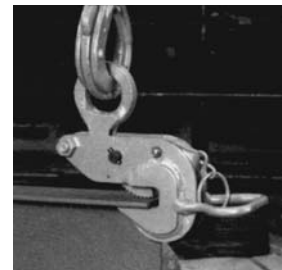
Handles are available in the 8 Ton model only.



Model M



| Rated Capacity (tons) | Jaw Opening (in.) | Weight (lbs) |
|--|----------------------------|--------------|
| 1/2 | 0 - 1 3/4 - 1-1/2 | 7 8 |
| 1 | 0 - 1 3/4 - 1-1/2 | 11 12 |
| 2 | 0 - 1-1/4 1 - 2 | 23 24 |
| 4 | 0 - 1-1/2 1-1/4 - 2-1/2 | 36 38 |
| 8 | 0 - 2 1-3/4 - 3-1/2 | 107 110 |
| Available with other jaw openings for any of the above rated capacities. | | |



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