



Increase productivity, reduce product damage.



Optional Designs



Tipping Clamp

Can be used when handling a variety of products. More versatile than rotating arm clamp. Good for work in warehouse and trailer loading. Operation is one step.



Rotating Arm Clamp

Designed to be used near loading trailer when T-loading refrigerators. Requires three steps: clamp and rotate, unclamp then reclamp before driving into the trailer.



Appliance Clamp with Forks

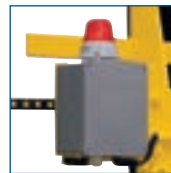
For applications that occasionally require the moving of pallets. Also called the "shopping clamp" because you can start with an empty pallet and fill it by "shopping" around the warehouse.

Optional Volumetric Force Control (VFC)

How it works:



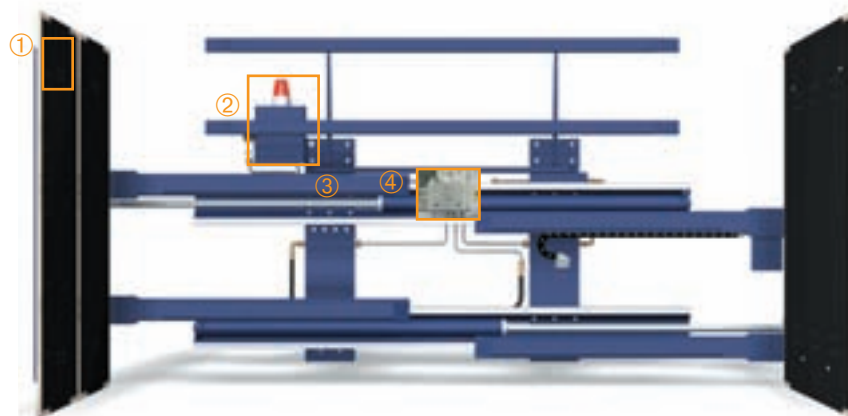
1. Sensors on the contact pads and frame recognize different sizes of loads and positions.



2. A PLC computer mounted on the frame gathers data from the sensors, calculates the correct force and sends the commands to the proportional valve.



3. Proportional valve regulates pressure to deliver the perfect clamp force.



4. Valve and cylinders are fully protected from damage but easily accessible for service.

The Volumetric Force Control (VFC) automatically adjusts clamping pressure based on volume of the load. This option is designed to reduce damage caused by excessive force, the VFC "calculates" the size of load and will clamp with the least amount of force. The operator does not need to judge the clamping force with manual controls, it is completely automatic.

A feature of the VFC system stops operation and sounds a visual and audible alarm if a malfunction occurs. Easily programmable using PC V Pacmar touch screen.

ADVANTAGES OF THE VFC SYSTEM:

- Reduction of damage to loads.
- Easy and safe movement of several types of loads without adjustment.
- Easy system calibration.
- No driver input required.
- Improves warehouse productivity by keeping speed constant and avoids 3 position valves.

The "Smart Clamping" system can be installed on certain Carton and White Goods clamps.

A variety of clamps specifically designed for handling white goods.

Designed for the warehousing, beverage, white goods, appliance and electronics industries, white goods clamps allow palletless handling, which improves warehouse space utilization. Cascade offers a broad selection of carton clamps and white goods clamps for any application. With these features and a variety of options, the result is faster, safer and more precise handling, leading to improved productivity, less damage and happy customers.



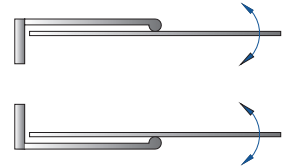
White Goods Clamps

Single articulation both arms.

Preferred clamp for wide mix of products

Good distribution of the clamping force

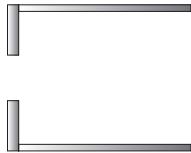
Thin arm profile.





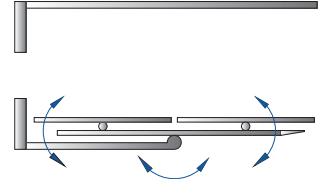
Rigid Arm Clamps

No articulation, both rigid arms.
Should be used only for single deep-double height without clamping on top.
Disadvantage: Clamp force distribution unbalanced. Advantage: Thin arm profile.



Rigid one arm, Double Articulation other

Retail Distribution Center:
Handles all types and sizes of products.
The thin rigid arm is excellent for knifing between loads. Good all-around clamp.



Key benefits

Equalized clamp force distribution

Cascade White Goods Clamps distribute clamp force evenly along the pad surface, reducing damage.

Damage reduction

The flat clamp design reduces tear damage to packaging.

Visibility

Cascade White Goods Clamps feature a thin arm profile and excellent visibility.

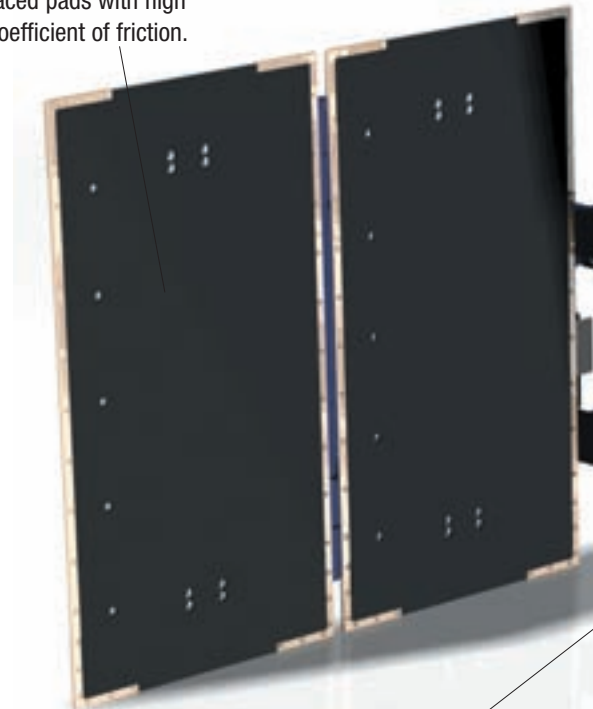
Clamp Force Control

Optional Volumetric Force Control (VFC) controls the force applied to different types and sizes of loads.

Smooth Serviceability

Bearings are designed for easy maintenance, durability and excellent sliding pressure.

Durable, reversible rubber faced pads with high coefficient of friction.

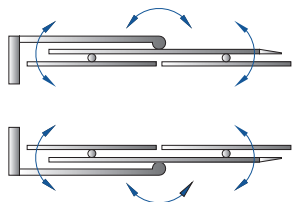


Valve and cylinders are fully protected from damage but easily accessible for service. Incorporated sideshifting valve available upon request.



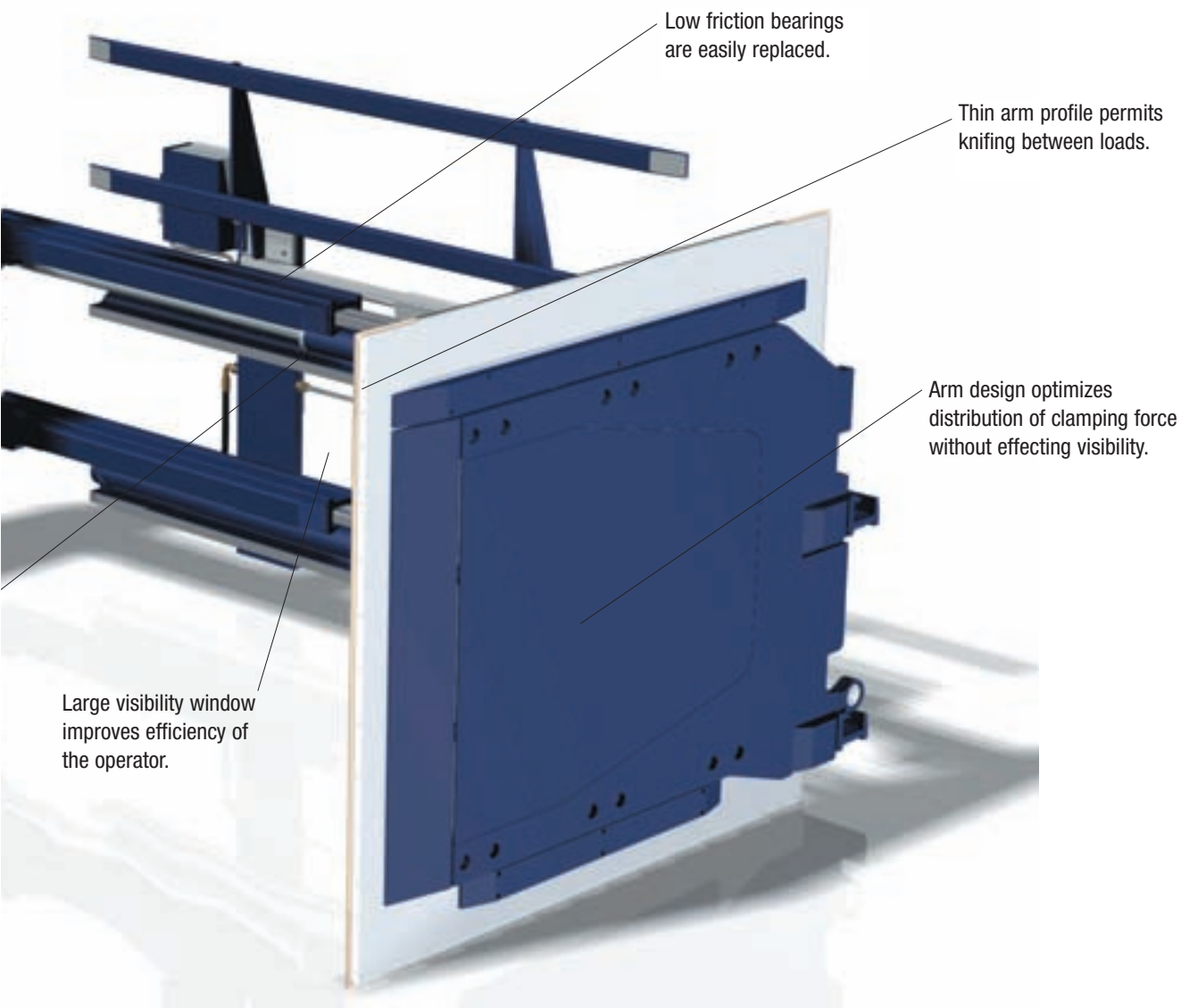
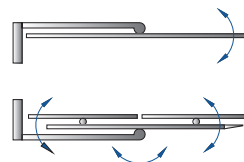
Double articulation both arms

Factory Distribution Center:
Used when always handling the same product load. Visibility over the top of the clamp is important for floor loading.



**Single Articulation one arm/
Double Articulation one arm**

Regional Distribution Center:
Used when handling mixed products. Visibility through the frame is important for handling off conveyors or trailers. Superior grip in many difficult conditions.



Low friction bearings are easily replaced.

Thin arm profile permits knifing between loads.

Arm design optimizes distribution of clamping force without effecting visibility.

Large visibility window improves efficiency of the operator.

Whatever the application, we can handle it.

Four Position Pressure Regulator

The pressure regulator with three pressure settings plus relief valve permits using the minimum hydraulic pressure required to satisfactorily clamp a load.



Single Pressure Setting Relief Valve

Limits hydraulic pressure in 1 line to attachment. Two valves required per auxiliary function.



Quick Change Mounting Kits

Increases versatility by allowing attachments to be easily interchanged.



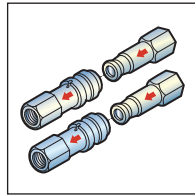
Bi-Directional Pressure Relief Valve

Allows single valve to be used for each auxiliary function to limit hydraulic pressure to attachment.



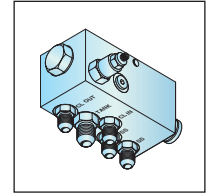
Quick-Change hydraulic couplers

Quick-Change Hydraulic Couplers provide a fast connect/disconnect of hydraulic lines without the use of hand tools.



Anti-Spiking Valve

Prevents the auxiliary valve control lever from being used to "spike" or "milk" the clamp hydraulic circuit to increase clamp force.



Light Bar Kit

The light bar shows the pressure setting in use when installed with the Four Position Pressure Regulator.



Load Cushion™

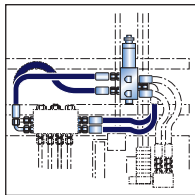
Hoist system accumulator absorbs shocks and reduces the clamp force required to handle the load.



Electric Solenoid Valve

Valves with connections for revolving clamp

- Electric solenoid valve permits use of single hydraulic valve to operate two hydraulic functions to fit on the clamp (exclusive of electric and hydraulic connection).
- Electric solenoid adaptor permits use of single hydraulic valve to fit on the truck.



4 Point Tester

Portable design measures clamp force in 4 quadrants of the contact pad for a reliable measurement.



Additional Options

- Different opening ranges available.
- Different pad configurations and sizes
- Bumpers
- Backrest styles
- Pad options