Automatic Clamp Force for Versatile Handling and Reduced Product Damage

APPLICATIONS

Excessive clamp force caused by too much hydraulic pressure is one of the most common causes of damage to paper rolls. HFC (Hydraulic Force Control) solves this problem by automatically adjusting the clamp force proportional to the weight of the load, without any driver input. HFC works by continually sensing the hydraulic pressure necessary to lift the load and adjusts the clamping pressure as the weight of the load increases or decreases.

Cascade's specially engineered two-stage cylinder will generate a large clamp force when the primary stage is engaged and a reduced clamp force when the secondary stage is engaged. This translates into a larger clamp force for the range of large roll sizes and a lower clamp force for the range of small roll sizes.

HFC+ is the combination of HFC and the specially engineered two-stage cylinder solution. This innovative damage reduction system combines the benefits from both to enable the handling of a wide range of paper rolls with the same paper roll clamp. The clamp will automatically adjust clamp force based on the weight of the load and will shift to a lower clamp force setting when handling the smaller roll sizes. The customer can handle more product in less time while saving money on equipment by not having to switch trucks or attachments.

BENEFITS

- No need to change driver habits; driver can use normal operating procedures.
- Low maintenance system.
- Compatible with Split and Solid Arm Clamps.
- Enables handling of different weight and diameter paper rolls with one paper roll clamp.
- Removes the guesswork from roll handling.
- Minimizes paper roll damage due to incorrect clamp force.
- Handle more product in less time by not having to change trucks or attachments, resulting in improved productivity and reduced operating costs.

FEATURES

- The clamp force is automatically adjusted without any special actions by the driver.
- Conveniently sized hydraulic valves mount easily onto the cowl of lift truck.
- Infinite adjustment of clamp force in the capacity range of the attachment. The system adjusts clamp force proportional to the roll weight.
- When installed with the equalizing valve, the clamp force remains constant between Freelift and Mainlift. This is accomplished with the use of an automatic switch that determines if the clamp is in Freelift or Mainlift.
- HFC+ is flexible, allowing easy adjustment for:
  - All clamp force settings.
  - Maximum pressure.
  - Balancing clamp force between Freelift and Mainlift.
  - Balancing clamp force when the size of the truck and clamp are not ideally matched.

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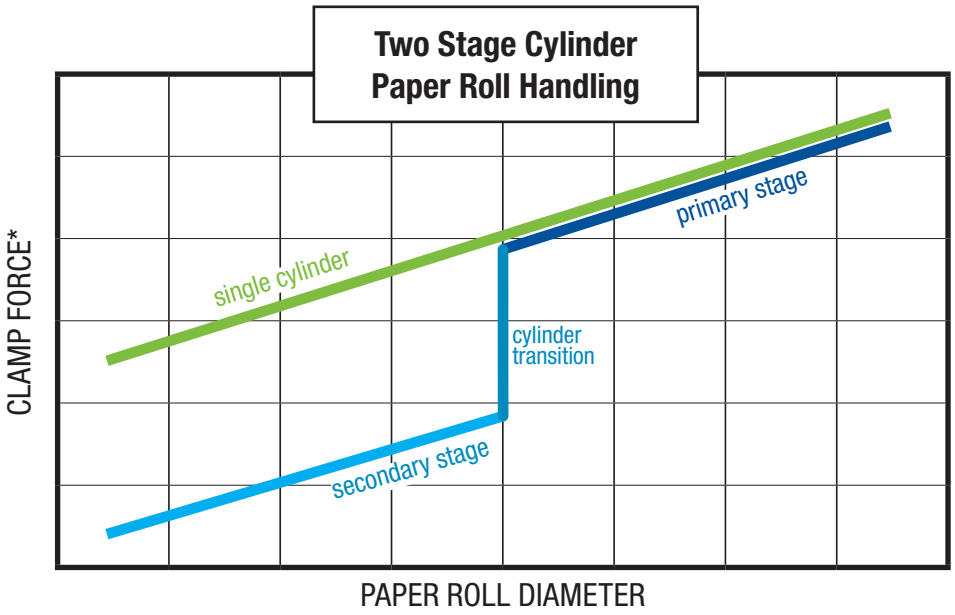
HFC+™ - HYDRAULIC FORCE CONTROL
TWO-STAGE CYLINDER SYSTEM



*Clamp force depends on a variety of factors, including roll diameter.

Single-Stage Cylinder

A typical cylinder gives a clamp a specific range of clamp force, dependent on the diameter and weight of the paper roll being handled.

Two-Stage Cylinder

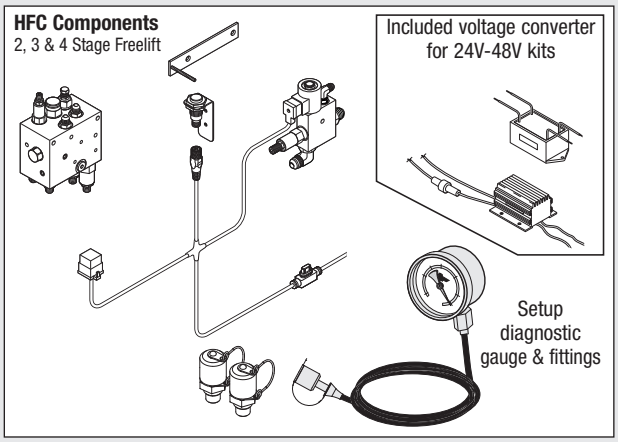
A two-stage cylinder allows for a wide ranges of clamp force for handling multiple sizes of paper rolls:

The primary stage is appropriate for heavier, large diameter rolls.

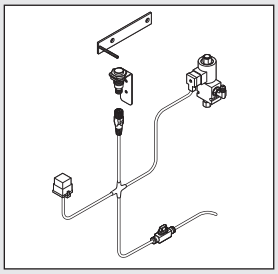
The secondary stage allows for handling of lighter, small diameter rolls.

OTHER HFC OPTIONS

HFC KIT FOR FREE LIFT MAST APPLICATIONS



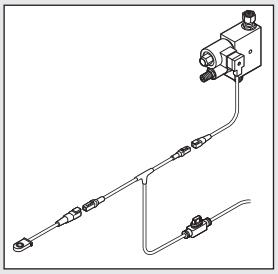
For use on 2 Stage Full Free Lift (Duplex) and 3 Stage Full Free Lift (Triplex) mast applications. Includes equalization switch which equalizes system pressure for improved accuracy.



FULL HEIGHT PRESSURE LIMITER

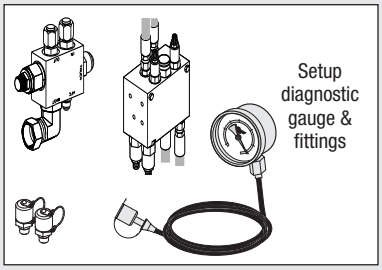
Prevents excessive clamp force in applications where the mast is extended to full height on a regular basis while clamping a load.

OPTIONAL ARM SPEED OVERDRIVE SYSTEM



System drives the arms to close at full speed (used in applications where very low clamping pressure is required, resulting in lower arm speed). Conveniently attaches to the main HFC valve for easy installation.

HFC KIT FOR LIMITED FREE LIFT MAST APPLICATIONS



For use on 2 Stage Limited Free Lift (Simplex) mast applications.

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Form 6904580 US 6/18