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How the Vertical-Lift Counterweight Balanced System Operates

The Renlita vertical-lift system use counterweights in the jambs to effortlessly move the door. The counterweights eliminate any need for hydraulics, straps or cables, and allow the system to have a very small motor, which is essentially used to get the door/weights in motion. Since the system is completely jamb supported, it greatly reduces the lateral load applied to the building structure, and eliminates the need for structure at the head.

Amazingly, doors up to 90’ wide x 30’ high can be provided by Renlita, and they can accommodate up to 14 lbs/sf of cladding. High thermal performing double and triple glazed windows are available, making Renlita doors the best in the industry in NFRC air infiltration and u-factor/R value.

Benefits of Counterweight Balanced Systems

- Completely jamb supported (no overhead structure needed)
- No overhead track
- Minimal intrusion into interior space
- Many material and cladding choices
- Can span great widths and heights (up to 90’w x 30’h)!
- Withstands high winds in closed and open positions
- Weather tight
- Insulated
- Smooth and quiet operation
- Clean, precise detailing
- Can be manually operated
- Minimal electrical requirements
- Additional customization available

Types of Counterweighted Wall Systems

Renlita offers a wide range of opening styles to fit the aesthetic desired for your project.

Vertical Lifting System (Renlita S-500)

Vertical Lifting overhead systems are customizable and provide design flexibility. Compatible with a variety of cladding materials, these doors allow for a dramatic aesthetic and design statement. They also fit a variety of openings with minimal jamb space.
Some key components of Vertical Lifting systems are:

- Single panel steel frame design that lifts vertically to a designated height
- No internal/external projection
- Can also be designed to drop into the space below

**Vertical Pivot System (Renlita S-1000)**

Vertical Pivot operating systems accept a variety of sizes, claddings, and glazing patterns with an impactful design aesthetic. The design, strength and durability of these doors ensure long service life.

Key components include:

- Single panel steel frame design
- Pivots at its midpoint
- Equal internal and external projection in open position
- Can be flush mounted to exterior
- Exterior matched to building (perfect solution for historic preservation)
- Suitable for openings up to 30 feet wide x 20 feet high
- Operated manually or motorized (depending on size and weight)
- Accepts a wide range of customization including site lines, cladding, and other special features
Vertical Hinged System (Renlita S-2000)

Vertical Hinged overhead systems are a good fit for residential, industrial and commercial applications where minimum internal projection is desired, requiring little headroom, and allows for the inlet of natural light and the outdoor environment.

Key points for Vertical Hinged doors:

- 2 panel steel tube frame design
- Accepts a wide variety of cladding options (Up to 1” Insulated glass, metal, wood, composites, stone, etc.)
- Operated manually or motorized (depending on panel size and weight)
- Panel sizes up to 30 feet wide X 20 feet high
- Ideal where a minimum of interior projection is desired
- Panel creates an awning effect when in the open position
- Accepts a wide variety of cladding options (Up to 1” Insulated glass, metal, wood, composites, stone, etc.)

Hinge operates to the interior and door path is towards the exterior.
Vertical Bi-Folding System (Renita S-3000)

Vertical Bi-Folding overhead systems also accept a wide variety of sizes, claddings and glazing patterns with impactful design aesthetic. It is suitable to most residential, commercial and industrial applications.

Key points for Vertical Bi-Folding doors:

- 2 panel steel tube frame design
- Sizes up to 30 feet high X 90 feet wide
- Hinge operates to the exterior and door path is towards the interior.
- In the open position, both panels rest underneath the header
- Suitable for high wind load, high security, and wide opening applications
- Accept wide assortment of cladding options including; glass up to 1" thick, wood, metal, composite, stone, etc.
- Customize features include; site lines, hinge location, motorization, cladding, and much more
Aluminum Vertical Bi-Folding System (Renlita A-750)

A-750 NuFold is a counterweight balanced vertical bi-folding system constructed from all aluminum and stainless steel.

The NuFold comes equipped with safety features that you expect including obstruction sensing motor, safety photos eyes, and failsafe device as standard. Renlita provides a turnkey solution including specified finish, glass or cladding, and installation. The NuFold requires no additional structure at the header and attaches to the jambs only.

The A-750 NuFold utilizes counterweight balanced technology to ensure smooth operation and durability. By eliminating the need for overhead structure, architects and customers will have more clear opening to create amazing views. Reduced interior projection allows customers the versatility to accommodate design needs.

Key points for Aluminum Vertical Bi-Folding doors:

- Maximum Size: 18' X 12'
- Projects to exterior only, creating canopy
- Makeup: Aluminum (lower cost point)
- Safety: Standard Renlita safety features
- Operation: Motor operator requires 110V, single phase, 8 amps
- Glazing Options: 1/4" - 1" glazing
- Cladding Options: Custom cladding up to 2" thick
Where can Counter Weighted Wall Systems influence design?

**Historic Preservation Buildings**
The Ruth Chris Steakhouse and Urban Farmer projects in downtown Denver required the Renlita doors to match the existing façade for Historic Preservation. The Renlita doors can be customized to match mullion lines, materials and finishes, making them ideally suited for this type of project.

**Restaurant/Brewery/Distillery**
Renlita Doors are an excellent solution for opening up a restaurant or bar onto a patio or sidewalk. C85 Wonderbar in Casper and Otra Ves Cantina in Denver are a couple of the many successful restaurants implementing this technology.
Residential
From a sophisticated garage to opening onto a patio, counter-weighted vertical lift doors can be the perfect fit for your residential design challenge. Create a one-of-a-kind interior/exterior space.

K12/Higher Education
Openness, transparency and visibility are all becoming more commonplace in our K12 and Higher Ed buildings, and the Renlita Door system provides outstanding solutions for meeting those needs.
Interior Openings
Many corporate offices, libraries, schools and bars have also been equipped with various counter-weighted Renlita doors. Create a dynamic, large scale interior opening with the various Renlita counter weighted options.
<table>
<thead>
<tr>
<th>Door Models</th>
<th>Sovereign</th>
<th>A-750 NuFold</th>
<th>S-500 Liftaway</th>
<th>S-1000 Floataway</th>
<th>S-2000 Hingeway</th>
<th>S-3000 Foldaway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max Width</strong></td>
<td>14”</td>
<td>18”</td>
<td>50”</td>
<td><strong>30’</strong></td>
<td><strong>30’</strong></td>
<td><strong>90’</strong></td>
</tr>
<tr>
<td><strong>Max Height</strong></td>
<td>12” max height - 2’ max per panel and must be even number of panels.</td>
<td>12’</td>
<td>20’</td>
<td>20’</td>
<td>20’</td>
<td>30’</td>
</tr>
<tr>
<td><strong>Door Style</strong></td>
<td>Accordion style stack behind header</td>
<td>50/50 all exterior</td>
<td>Single panel lift No interior or exterior must go straight up.</td>
<td>Single panel 50% interior 50% exterior</td>
<td>2 panel 27% fold 27% interior 46% exterior</td>
<td>2 panel 50% fold 25% interior 25% exterior</td>
</tr>
<tr>
<td><strong>Frame Material</strong></td>
<td>Aluminum Extrusion</td>
<td>Aluminum</td>
<td>Steel</td>
<td>Steel</td>
<td>Steel</td>
<td>Steel</td>
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<tr>
<td><strong>Glass Thickness</strong></td>
<td>&quot;1/4&quot; or 1/2&quot; IG</td>
<td>&quot;1/4&quot; or 1&quot; IG</td>
<td>&quot;1/4&quot; or 1&quot; IG</td>
<td>&quot;1/4&quot; or 1&quot; IG</td>
<td>&quot;1/4&quot; or 1&quot; IG</td>
<td>&quot;1/4&quot; or 1&quot; IG</td>
</tr>
<tr>
<td><strong>Standard IGU Glass Makeup</strong></td>
<td>1/2&quot; IGU 1/8&quot; glass 1/4” spacer 1/8&quot; glass</td>
<td>1” IGU 1/8” glass 3/4” spacer 1/8” glass</td>
<td>1” IGU 1/4” glass 1/2” spacer 1/4” glass</td>
<td>1” IGU 1/4” glass 1/2” spacer 1/4” glass</td>
<td>1” IGU 1/4” glass 1/2” spacer 1/4” glass</td>
<td>1” IGU 1/4” glass 1/2” spacer 1/4” glass</td>
</tr>
<tr>
<td><strong>LowE Coating</strong></td>
<td>Solarban 60 and 70XL Only</td>
<td>Solarban 60 and 70XL Only</td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td><strong>Max Cladding weight and Thickness</strong></td>
<td>Must fit within the capture system and be approved by engineering</td>
<td>4” max thickness 15# psf max weight</td>
<td>&quot;4” max thickness 15# psf max weight</td>
<td>2.5” max thickness 15# psf max weight</td>
<td>&quot;4” max thickness 15# psf max weight</td>
<td></td>
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<tr>
<td><strong>Anodized Aluminum</strong></td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td><strong>Powder coated Finish</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Manual Operation</strong></td>
<td>Chain Hoist only</td>
<td>NO</td>
<td>YES &lt; 15’</td>
<td>YES &lt; 15’</td>
<td>YES &lt; 15’</td>
<td>YES &lt; 15’</td>
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<tr>
<td><strong>Motorized</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Counterweights</strong></td>
<td>Torsion Spring</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Average weight of door frame and IG glass.</strong></td>
<td>4#</td>
<td>6#</td>
<td>12#</td>
<td>12#</td>
<td>12#</td>
<td>12#</td>
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<tr>
<td><strong>Flush Mount Design</strong></td>
<td>NO</td>
<td>NO</td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td><strong>Photo Eyes</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Auto Reverse Motor</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Patented Failsafe Device</strong></td>
<td>NO</td>
<td>YES</td>
<td>****YES</td>
<td>****YES</td>
<td>****YES</td>
<td>****YES</td>
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<tr>
<td><strong>High Wind Load Capabilities</strong></td>
<td>NO</td>
<td>30 PSF</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Touch Screen Wall Controller</strong></td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td><strong>Shared Counterweight</strong></td>
<td>N/A</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

* Glass max size: 1/4” temp- 35sf and 84”L. 1/2” IG- 18sf and 84”L. A-750 1” IG 18sf and 84”L. S-Series 1” IG temp/temp 35sf and 84”L 1/4” Laminated 18sf 72” L

** Doors will have truss frame design at 30’ widths. Please consult engineering with actual sizes to determine if truss is required.

*** Some thicknesses will require chamfer edge to maintain the fold of the door

**** Inertia (Strap) safety brake systems will replace the patented failsafe device on larger doors. Please consult engineering with specific size to determine if Inertia system will be required.