TECHNOTES

Window Solutions for Accessibility

Compliance with ICC/ANSI 117.1 "Accessible and Usable Buildings and Facilities"

ADA requirements affect many public and private commercial buildings. These requirements are intended to ensure equal access to all persons regardless of physical disabilities. The information on windows in this Technote was compiled to assist in addressing this issue.

- **Height of Operating Mechanisms**
  Hardware for window operation shown not be higher than 48 inches above the finished floor surface. Some allowances can be made for window hardware depending on parallel approach clear floor space, which can increase the maximum side reach height to 54 inches.
- **Hardware Operation**
  The controls of operating mechanisms used in windows shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be not greater than 5 lbs. force. Lever handles, and some other types comply with this requirement. Traditional round doorknobs are not accessible, as they require tight grasping and twisting to turn.
- **Manually Operated Windows**
  Windows requiring pushing, pulling, or lifting to open (for example double hung, sliding, casement, and awning units without cranks) should require no more than 5 lbs. of force to open or close.

Pella Window Accessibility Options

Pella Corporation has windows that may comply with accessibility requirements; however, confirm compliance with accessibility requirements with the Projects Design Professional or local building code official.

- **Impervia Casement and Awning Windows:**
  The Impervia Easy Slide Operator with accessible lock lever is one option that may meet accessibility requirements provided that hardware is within the allowable range above finished floor.

Lock Handle Operator Height

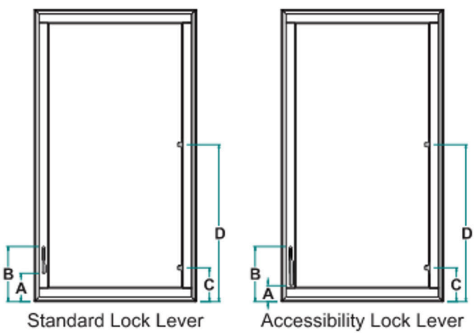
Frame Height	Standard Locked Location (A)	Standard Unlocked Location (B)	Accessibility Locked Location (A)	Accessibility Unlocked Location (B)
≥ 20" to ≤ 59.5"	4-5/8"	9-3/8"	2-1/2"	9-7/8"
> 59.5" to < 72.5"	9-5/8"	14-3/8"	7-1/2"	14-7/8"
≥ 72.5" to ≤ 79.5"	30-9/16"	35-5/16"	–	–

Easy-Slide Operator Height

Frame Height	Closed Location (C)	Open Location (D)*
≥ 20" to < 30.5"	5-1/2"	15-1/2"
≥ 30.5" to < 72.5"	5-1/2"	25-1/2"
≥ 72.5" to ≤ 79.5"	21-1/2"	41-1/2"

Height is measured from the bottom of the frame, proper installation height is required for ADA compliance. Review Local and Federal requirements for guidance on install height and other considerations to meet ADA compliance.

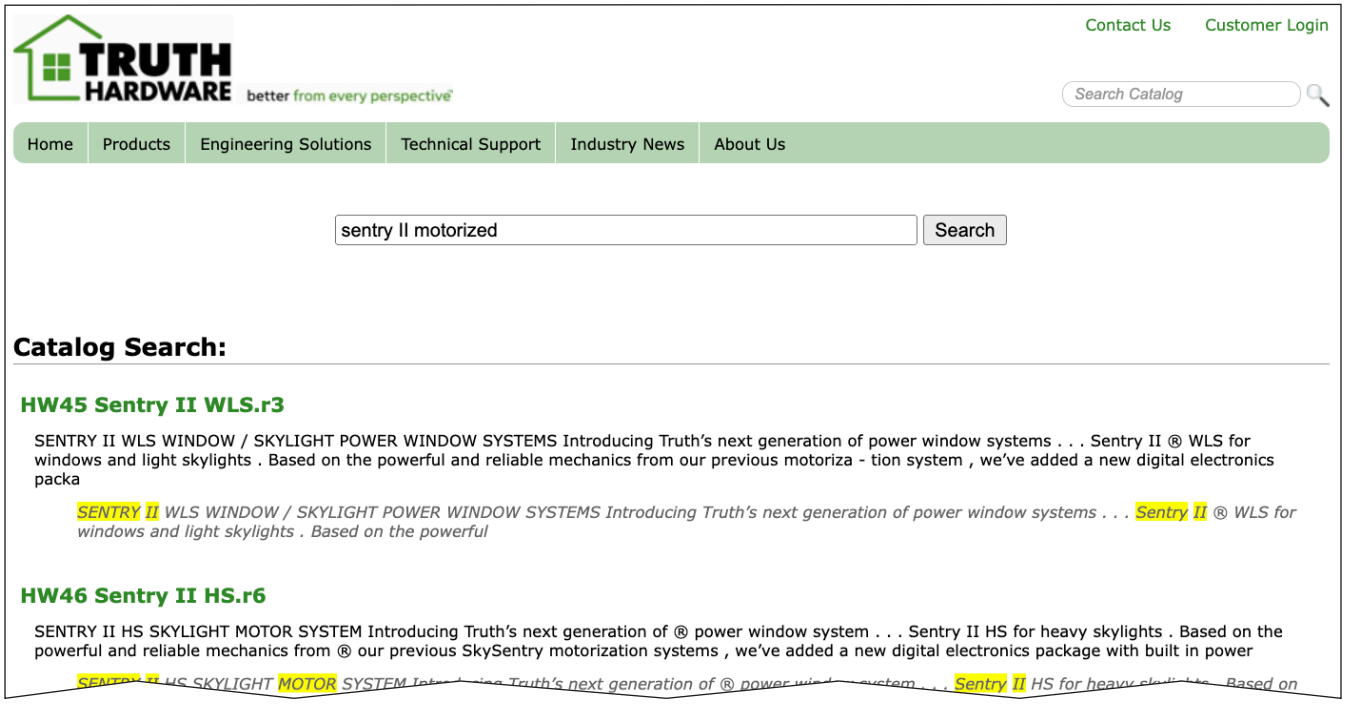
*Limited Opening Limited Travel and Window Opening Control Device Hardware will reduce the open location by 5"



- **Impervia or Aluminum Clad Wood Casement and Awning Windows:**
  Pella Architectural Solutions (PAS) has developed an extended crank handle that can replace the Folding-Crank to allow units to comply with operating forces. This accessory can be used with the Impervia accessible lock lever. Window frame size and hinging may impact whether a given window complies with operating force requirements. Work with PAS to determine if this solution will work for your project.



Another option for casement and awning windows is motorization. The following provides just one example of this type of product: Window motorization systems and technical bulletins from Truth Hardware. Go to www.truth.com and search "Sentry II motorized".

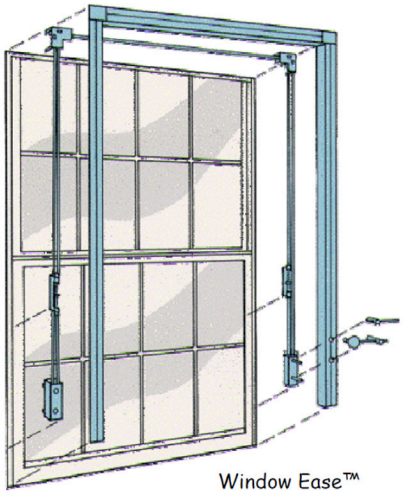


- **Double-Hung, Single-Hung, and Sliding Windows:**
  The following Single-Hung Pull String Auto-Lock accessory is available in the Commercial Solutions Catalog, which is found on myPella.com under Commercial/Commercial Solutions/Commercial Solutions Catalog. Go to https://extranet.pella.com/pdsn/Sales/Documents/Commercial%20Solutions%20Catalog-CURRENT.pdf

  While this accessory could be used to assist in the ability to address check rail height restrictions for unlocking a hung window, it does not address ease of grasping or operating force. Further, this operator assisted accessory has not been tested for compliance with ADA requirements by Pella; therefore, you may not claim that the window system's performance in the field will be ADA compliant.

PART NUMBER	PART DESCRIPTION	PHOTO
CSC0005 - White CSC0006 - Almond	250-Series, Encompass/Thermastar/150-Series, and Impervia Pull String Auto-lock. **Be Advised: Part CSC0007 is not required when the 250-Series Auto-lock has been ordered/selected on the unit in PQM.**	

Another option for single-hung and sliding windwos is the WindowEase system from Southwest Home Products, LLC. Go to http://www.windowease.com/ or http://www.windowease.com/styled-3/files/installation-instructions.pdf



- **Other motorized window operator manufacturers to consider are as follows:**
  Electric window openers for casement, sliding, and double hung windows. Go to www.olideautodoor.com and search "Automatic Windows Opener".

You are here: Home » Products » Automatic window opener

AUTOMATIC WINDOWS OPENER (18)

Automatic window opener can be installed to many varieties of windows including Single hung, double hung, hinged casement, skylights, roof vents, conservatories, etc. Electric window opener that is more reliable and made for your convenience is the best choice for you.

WIFI SMART AUTOMATIC WINDOW OPENER WITH SMOKE SENSOR, ALEXA AND APP CONTROL WORKABLE



Read more...

SMART AUTOMATIC WINDOW OPENER WITH GAS ALARM DETECTOR, TUYASMART APP CONTROL WINDOW CLOSER



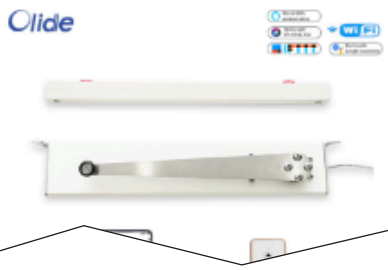
Read more...

SMART ADJUSTABLE STROKE AUTOMATIC CHAIN WINDOW OPENER WITH THERMOHYGROMETER



Read more...

OLIDE SMART ELECTRIC CASEMENT OPENER, PHONE APP CONTROL AND WORK WITH ALEXA



TUYA SMART APP PROGRAM BUILT-IN ELECTRIC WINDOW OPENER WITH ADJUSTABLE OPENING AND CLOSING DISTANCE



OLIDE SMART CHAIN WINDOW OPENER DC24V



Frequently asked questions:

- **Do operator assisted systems meet ADA requirements?**
  Response:
  The performance of products by others and their ability to meet the applicable ADA standards are affected by several variables. These variables include but are not limited to; the type of window, construction, and size of window on which they are used, the installation of the window, hardware positioning, potential sash sag, and weather stripping. Therefore, operator assisted hardware manufacturers may not claim that the window system's performance in the field will be ADA compliant and generally recommend that ADA compliance testing on individual systems be performed.

- **Will the use of these type products effect product warranty?**
  Response:
  Modifications of Pella products do affect warranty; however, only if the failure is the result of that modification. Pella recommends getting confirmation of coverage for failures occurring as a result of hardware supplied by others from the hardware manufacturer.

- **Are there options for both operator-assisted opening and locking hardware?**
  Response:
  Yes; however, this varies between manufacturers. Please note that separate motorized locking systems are generally not available, and the window is held closed by the motorized operator hardware.

- **What happens with an electric operator system if there is a power outage?**
  Response:
  A battery backup system should be used to supply emergency power in the event of a power outage.

- **Does the use of an operator assisted system affect egress requirements?**
  Response:
  Confirm that the operator assisted system chosen does not encroach on the dimensional properties of the window such that it does not meet the minimum requirements for egress if required.

- **Does the size of the window matter and are there limitations?**
  Response:
  Yes, selection of an operator that is properly sized to the window and vice versa is required.

- **Who do I contact for assistance with operator assisted systems?**
  Response:
  While Pella engineers have investigated a few operator-assisted systems for windows in the past, these systems are provided by others and require your contacting the hardware manufacturers representative for technical assistance.