

Actuator Considerations

Selection Considerations



Smoke Ventilation - Actuators which are to be used for the operation of smoke ventilators need to be capable of maintaining their open function whilst subjected to high temperatures. All actuator data sheets showing this symbol indicate the actuators have been tested and are suitable for using with natural smoke vents. These actuators are 24V dc as this enables them to be controlled in a mains power failure situation via battery backed controls. Where stated, actuators will comply to EN12101-2:2003 Annex G specification for natural SHEVs (Smoke Heat Exhaust Ventilation Systems).



Natural Ventilation - Most natural ventilation systems are required to have a high duty cycle. All actuators showing this symbol have been tested to at least 10,000 cycles. When selecting an actuator for a natural ventilation system care needs to be taken when considering the opening stroke and the type of limit switch as incorrect selection can lead to shortening of the life of the actuators.



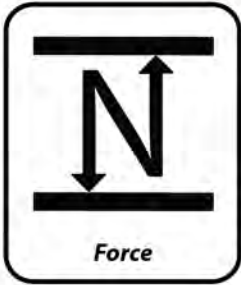
Installation Hazards - Care must be taken when installing any automatic mechanical device, and if there is any risk of injury, expert advice must be sought. EN60335-2-103:2003 requires that any automatic mechanism installed at a height less than 2.5m from any access point needs to be risk assessed and additional protective measures may need to be taken.



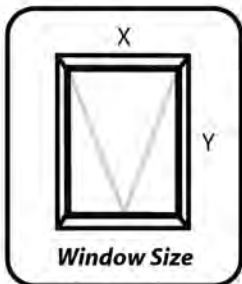
Application - Some actuator types are more suited to certain applications than others. Where automatic windows are highly visible or at a level where they are easily accessed chain actuators may be more suited than linear actuators.

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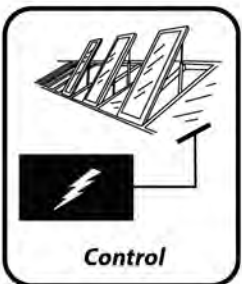
Selection Considerations



Force - Force calculation is a factor when selecting the appropriate actuator. Sloping vents generally need more force to open than a typical vertical top or bottom hung vent. Linear actuators tend to be better suited to this type of application. Other factors such as snow & wind loading may need to be taken into account.



Vent Size - The size of the window or vent to be opened is crucial for the actuator selection process. It is important to ensure weather performance when a vent is closed. This may be achieved by using more than one actuator or by using automatic multi point locking. In both instances care must be taken to ensure the compatibility of components.

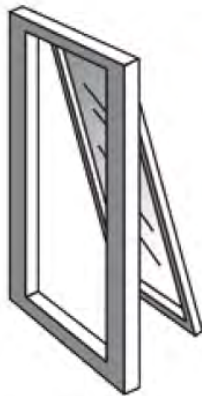


Actuator Control - When designing a system, it is necessary to ensure compatibility between the actuators and the control system. Advice should be sought for optimising the solution, which will take factors, such as voltage, ampage and system configuration into account.



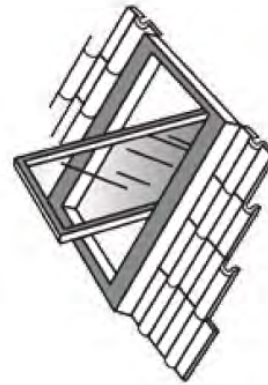
CE Marking - Any building work which is subject to the requirements imposed by Schedule 1 of the Building Regulations should be carried out with proper materials. You may show you have complied with this requirement by using products which have been CE marked in accordance with the Construction Products Directive. Care must be taken when selecting products to ensure compliance with the relevant EN standards.

Window Applications



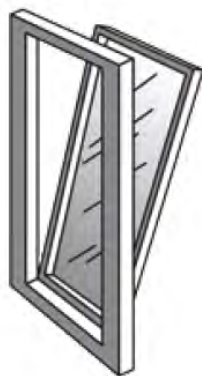
Top Hung Windows

Chain actuators are more commonly installed. Any motor specified must provide sufficient power to support the maximum load that occurs when the window is fully opened. Open in and open out applications are possible.



Roof Windows

Chain actuators are more commonly installed. Any motor specified must provide sufficient power to support the maximum load that occurs when the window is fully opened. Linear actuators can be used but their ingress into the space must be considered.



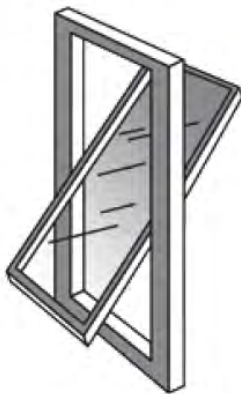
Bottom Hung Windows

Chain actuators are more commonly installed. These applications usually are suited to actuators with lower thrust force. Open in and open out applications are possible. Bottom hung windows must be fitted with restrictions.



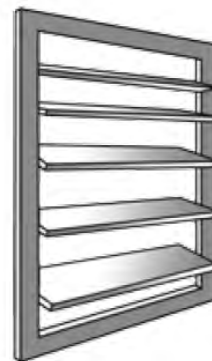
Sloping roof vents

Linear actuators are more commonly installed. Any motor specified must provide sufficient power to support the maximum load that occurs when the window is opened fully. Chain actuators can be used but great care must be taken specifying a suitable force. Operating conditions must also be addressed (i.e. wind & snow etc.)



Centre Pivot Windows

Chain actuators are more commonly installed. Any motor specified must provide sufficient power to support the maximum load that occurs when the window is fully opened. Larger pivot windows often require multipoint being mechanisms.



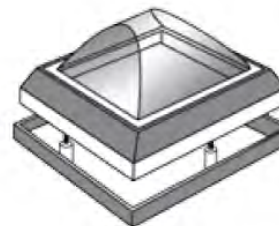
Louvre

Linear actuators are the only type to be considered for this application. Any motor specified must provide sufficient power to support the maximum load that occurs when the Louvre is fully opened.



Side Hung Windows

Chain actuators are more commonly installed. Any motor specified must provide sufficient power to support the maximum load that occurs when the window is fully opened. Open in and open out applications are possible.



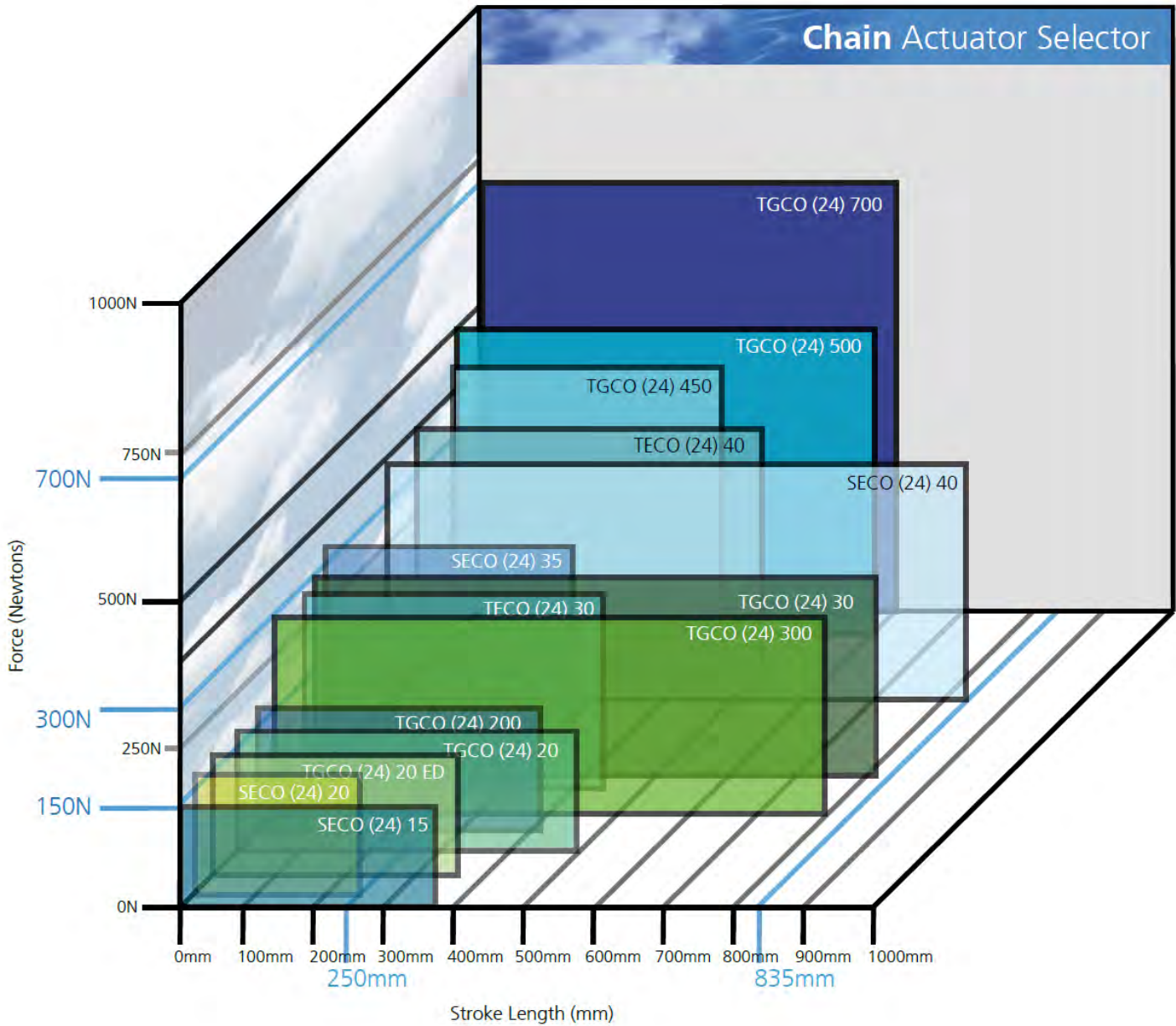
Vertical Opening Domes

Linear actuators are generally the type of actuators to be considered for this application. Any motor specified must provide sufficient power to support the maximum load that occurs when the dome is fully opened. Operating conditions must also be addressed (i.e. wind & snow etc.) For this application a synchronisation unit must be used to ensure safe operation.

>> Multi point locking can be installed to these options to provide increased weather performance.

Version 2.0

Chain Actuator Selector



Linear Actuator Selector

