

## Operable Window Technologies Shaft and Lever

### Shaft and Lever

We supply and install **shaft and lever** window control gearing. This is the **most robust and reliable** manual window control option, having been tried and proven over decades of use, particularly in schools. We offer manual and electric options, both of which are economical and practical for use on high level windows and louvres.

### Benefits

- Extremely strong and robust
- Suitable for large and heavy sashes
- High wind resistance
- Economical window gearing solution
- Powdercoated to match the joinery

### Design Requirements

- Maximum number of sashes 7 (if sashes < 850mm wide)
- Maximum horizontal shaft length 7500mm
- Maximum vertical riser height 5400mm
- Sashes must be top hung or on frictionless stays
- Restrictor stays must not be fitted to sashes
- Not suitable for windows at head height, as the gearing protrudes into the room when closed.
- Not recommended for windows with curtains or blinds - see **Chain Drives**

### Manual

The windows are operated by a vertical shaft and gearbox with handle, positioned at an easy to reach height.

- No cabling is required
- Gearboxes and vertical drive mechanisms must be mounted on solid walls below the windows



**Operable Window Technologies**

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[owtnz.com](http://owtnz.com)

## Electric

Recommended if a number of groups of windows in one room. Minimal extra investment over manual, especially if the sashes are very high. The windows are operated by a 230 volt electric linear actuator motor. We use motors from the Italian **GIESSE** range, a quality and economical solution for operating window controls.

- Fast and very quiet
- Can be installed everywhere
- Takes up little space
- Economical solution for a quality product

## Design Requirements

230 volt is the standard voltage of all cabling, so no special wiring or controllers are required.

- Electric motors are finished with a natural anodised body with black plastic fittings.
- Electric linear actuators must be mounted on solid walls.
- At installation we set up the motors and limit switches and leave the cable hanging for final connection by the electricians. They are not to be permanently hard wired.
- The registered electrical contractor
  - Supplies all electrical wiring, switches with a 4 core supply from the switch to a permanent connection unit, or similar, with a 4 way connector strip for connection and to make the final electrical connection after the gearing is installed and tested.
  - The switches must have a neutral position to which the switch returns, so that power is not permanently supplied to the motors.
  - Electric linear actuator motors can be wired in parallel. They are **230 volt**.

## Louvres

Shaft and lever gearing is suitable for controlling banks of louvres, using either manual gearbox or electric motor control.

- Louvres must have A13 handles for remote gearing operation



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