



Double Purchase

Counterweight systems are widely used in the theatre industry to operate act drops, scene changes, masking cloths, lighting bars, etc. quickly and safely on a stage.

Most counterweight systems are designed to allow the operator to raise and lower a piece of stage equipment up to 500Kg in weight with very little effort. This is achieved by raising and lowering a steel cradle with cast iron weights fitted inside a guide frame. The cradle is raised and lowered by a hauling rope which is thimble to the head block. The rope then passes over the top cradle pulley and around the head block, before being diverted down through the brake to the return pulley. Once the line has passed round the return pulley it is then diverted up to and around the bottom cradle pulley before being terminated at the bottom stop.

A rope lock normally fitted on the fly gallery allows the operator to stop the cradle at a required position. Steel cables attached to a steel barrel pass over drop pulleys located on the grid over the head pulley before being passed round the top cradle pulley and terminated off at the head block mounting. This in turn means that as the cradle moves up and down so the steel barrel travels half the distance.

When the weight in the cradle is twice the weight of that on the steel barrel the counterweight system is in balance. This allows the operator to easily raise and lower each item of stage equipment with the minimum amount of effort.

As a safety feature the steel barrel is designed to stop approximately 1 metre from the stage floor and 100mm from the grid. This is achieved by top and bottom stops installed in the counterweight guide frame restricting the movement of the counterweight cradle.

