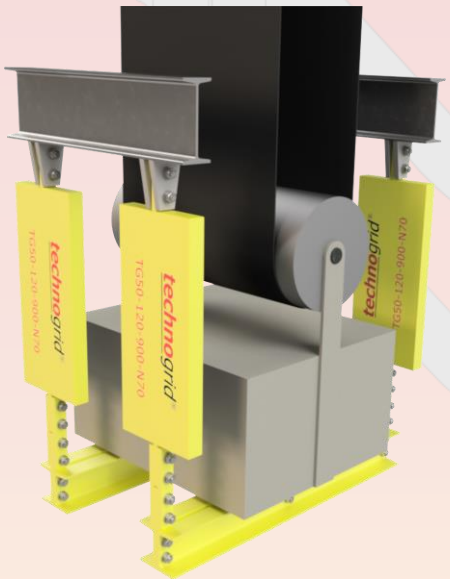
technogrid®
ENERGY ABSORPTION SYSTEMS

COUNTERWEIGHT ARRESTING

ADVANTAGES:

- ✓ Prevents damage to counterweight
- ✓ Prevents damages from falling to ground
- ✓ Prevents damages to structures
- ✓ Reduce down time after belt failure
- ✓ Maintenance free
- ✓ A ***technogrid***® system is adaptable for many applications

One of the more cost effective applications of ***technogrid***® is in arresting a falling gravity take-up conveyor counterweight. In some applications, if the belt fails and the counterweight falls, there is potential for damage to occur to structures or equipment below. This is why counterweight arresting needs to be installed.



A typical ***technogrid***® Counterweight Arresting System.

A ***technogrid***® system provides the ideal solution to this problem, reducing expensive down time. The specified ***technogrid***® system is simply "hung-up" vertically below the counterweight. The top of the catch frame should be installed just below the lowest point of travel for the counterweight. The catch frame transfers the falling counterweights energy to the ***technogrids***® which are anchored to the structure. The structure must be able to handle the reaction forces which are generated during the impact. The ***technogrid***® system will stop the falling counterweight over a predictable stroke, absorbing all the impact energy. The counterweight will remain on the catch frame until reinstalled on the repaired conveyor belt. Then the ***technogrids***® are simply replaced and the conveyor is ready for operation.

An Installed ***technogrid***® Counterweight Arresting System.

A wide range of ***technogrids***® can be engineered and manufactured to suit many different counterweight applications.

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COUNTERWEIGHT ARRESTING

Designing a *technogrid*® Counterweight Arresting System

General Notes:

The catch frame should be designed to be installed just below the lowest point of operational travel, so as to not interfere with the motion of the counterweight. This minimizes the fall height, less energy is required to be absorbed and reduces the reaction forces on the structure.

Symbols:

Required for Calculation:

T – Maximum travel of the Counterweight

Y – Available distance to arrest the Mass

M – Mass of Counterweight + Pulley

Output:

R – Reaction Forces on Steel Structure

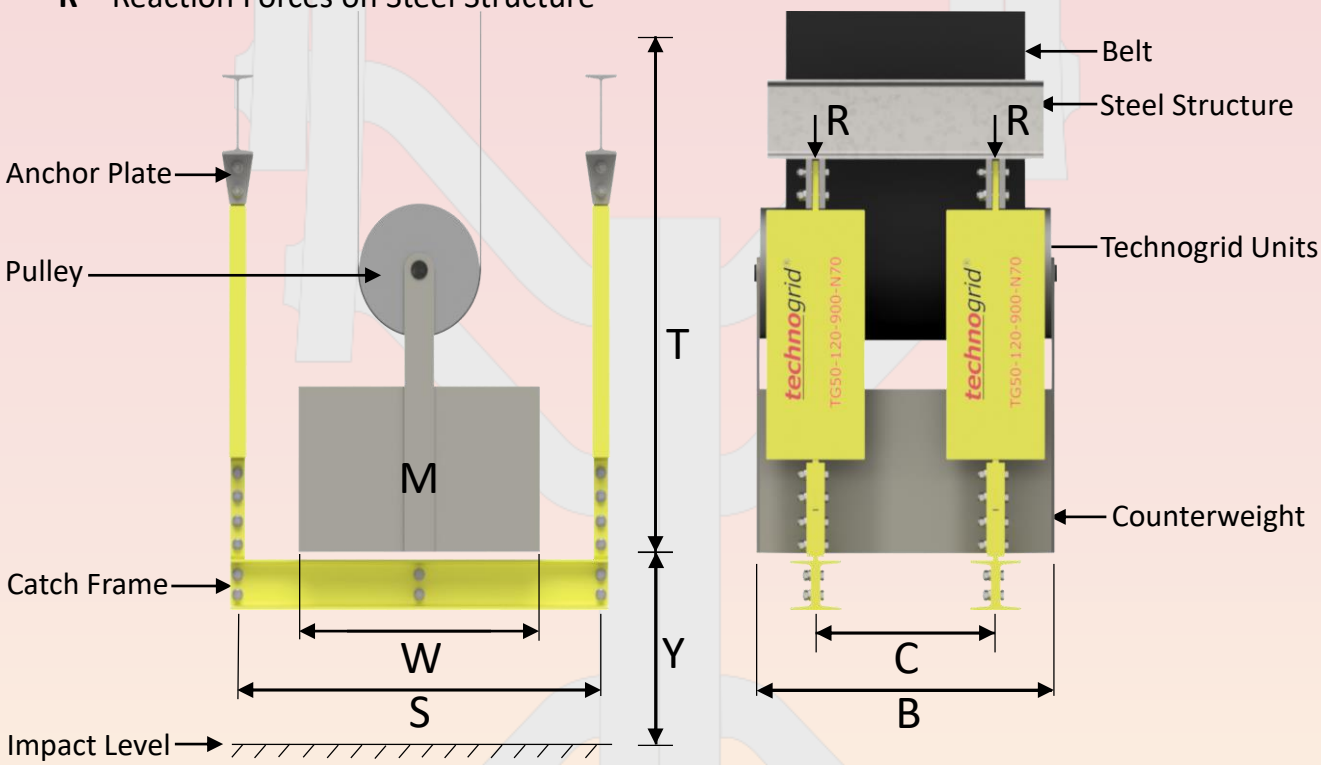
Required for System Design:

S – Available span of the Catch Frame

C – Available span between Catch Frames

B – Breadth of Counterweight

W – Width of Counterweight



Please contact us for a Counterweight System Proposal

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