

## OCTOBER

### Safety distance management on industrial machinery

*Safety distances management is a subject common to almost all industrial machinery in order to ensure the effective protection of the worker who works on them, of course by the manufacturer who makes a new machine but also by the employer work that makes available old or new machines to their employees, having to evaluate their suitability over time.*

*MTM Consulting can track your business in defining the right and sufficient solution to protect your employees and comply with current legislation.*

The UNI EN ISO 13857: 2008 "Safety of machinery - Safety distances to prevent the reaching of dangerous areas with lower and upper limbs" presents the precise measures concerning the safety distances to be applied according to certain geometric parameters, and it must be, in our view, widely known to those who handle the safety of a machine, providing unambiguous reference measures.

The safety distance is an aspect that must be respected in the sizing of many types of openings or fixings, fixed or mobile or perimeter, including in particular we can remember:

- the meshes of a protective net;
- openings in a fixed or movable guard;
- the openings of channels or slides used to unload processed pieces;
- the openings or slits used to load or puncture raw materials inside hoppers, tables or grip systems, or to allow the entry or exit of conveyor belts;
- the openings for sampling;
- the height from the ground of the perimeter protections;
- free space between two protective structures;
- the size of any slot or aperture that would allow a dangerous moving organ to reach from the outside.

To this end, UNI EN ISO 13857: 2008 provides a series of non-readable brochures that serve as a guideline for positioning the shelters and dimensioning the protective nets in order to ensure the safety distance.

The first prospectus relates to the size of small openings on the machine's sheaves, and provides the minimum safety distance to be met between the start of the opening and the nearest dangerous point reachable. This distance is provided according to the opening size (width and height). For example, a very wide slot opening and height of 2 cm, the minimum distance from the first dangerous point reachable must be 12 cm. If the height of the aforementioned opening reaches 3 cm, the distance from the dangerous organ suddenly reaches 85 cm, considering the possible passage of the arm.

A second interesting example is the floor-to-ceiling height that must comply with the perimeter protectors, which provides the minimum safety distance between the top of the perimeter guard and the nearest dangerous reachable point. This minimum safety distance is provided on the basis of the ground clearance of the perimeter guard and the height of the reachable hazard point, discriminating between high risk and low risk (ie possible more or less serious injury) regarding the hazardous point.

The UNI EN ISO 13857: 2008 standard, in addition to the above-described outlines, also provides other measures, for example, at the safety distances of dangerous parts placed above the operator's head or indications in case of openings which, besides their size, difficult access with obstacles or labyrinths of various types, in order to allow reduced distances in the air between opening and dangerous area.

The security distances provided by the standard may seem at first glance very cautious and almost unrealistic. However, two fundamental aspects must be considered.

The first is that the norm also considers people with anthropometric dimensions that are not necessarily common, or very small, thus guaranteeing their safety. We also talk about geometric measures and therefore difficult to challenge, or we know that the rule is voluntary and the manufacturer can decide different solutions, but they must be justified; justifications based on avoiding a rise in costs, increased landmarks or better productivity can not be used in this case.