

## II.4 Examples of machine guarding

### II.4.1 Area guarding on an assembly line

This example gives, for one and the same application (access guarding), two possible ways of installing an AOPD which takes into account both perpendicular and parallel approaches, as previously described.

It is assumed that the machine is only accessible via this access, that the risk is one of severe injury and that the operator frequently accesses the hazardous zone.

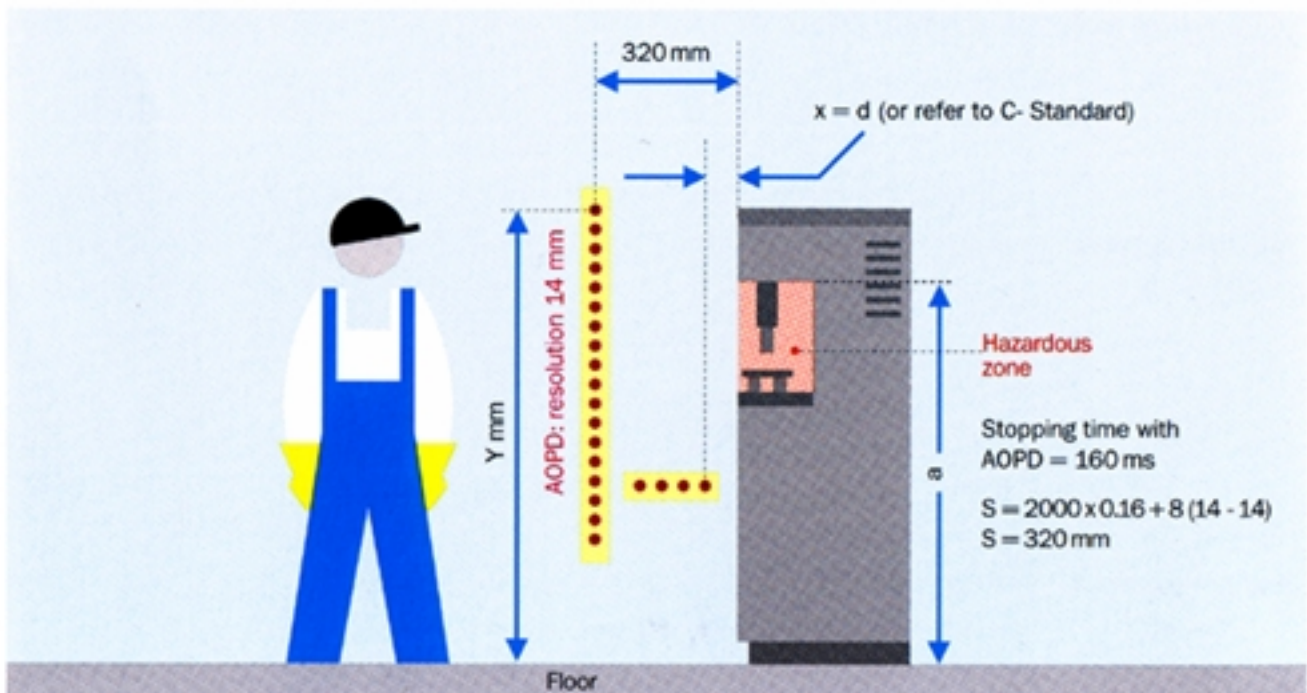
### Solution no. 1:

**Perpendicular approach.**

**Point of operation guarding in combination with area guarding.**

The calculation as shown in the diagram produces a value of 320 mm for the safety distance. If a reduced resolution is used (e.g. 30 mm) the safety distance increases. The safety distance shall not be less than 100 mm. To avoid the risk of being undetected, two AOPDs are used: a vertical one at safety distance (perpendicular approach) and a horizontal one to prevent being undetected behind the vertical AOPD.

According to EN 294, if the height "a" of the danger zone is 1000 mm,  $y = 1800$  mm



$x$  = End of the protected field up to the mechanical guarding preventing standing between.