



# Technical data and methods of the machinery: Machinery 01

|                              |  |
|------------------------------|--|
| <b>Name:</b>                 | Machinery 01   |
| <b>Product:</b>              | M. - Machinery   |
| <b>Model:</b>                | Model 2018   |
| <b>Serial:</b>               | Serue 01/2018  |
| <b>Revision:</b>             | 00 -   |
| <b>Year of construction:</b> | 2018   |
| <b>Directive:</b>            | Dir. 2006/42/EC (EN)   |
| <b>Manufacturer:</b>         | Certifico Srl - IT   |
| <b>Intended use:</b>         | Intended purpose   |
| <b>Description:</b>          | The machine in question is a hydraulic press brake. The reference technical standards are:<br>UNI EN ISO 16092-3: 2018 Safety of machine tools - Presses - Part 3: Safety requirements for hydraulic presses and UNI EN ISO 16092-1: 2018. |

Technical Data and Methods

## Certification Procedure

- The machinery complies Annex IV
1. Internal check for machinery production as Annex VIII.
  2. EC Type examination as Annex IX.
  3. Full quality assurance as Annex X.

## CE Marking Process

**Risk assessment**  
**EN ISO 12100**  
**Tool EN ISO 12100 | Standard**

Safety of machinery - General principles for design - Risk assessment and risk reduction

1. State of the machine | Operating condition
2. Hazardous situation
3. Hazardous event
4. Hazard zone
5. Initial risk evaluation
6. Inherently safe design measures
7. Safeguarding
8. Complementary protective measures
9. Information for use
10. Safety signs
11. Final risk evaluation
12. Residual risk
13. Technical standards applied
14. Notes
15. Related EHSR (Annex 1 Machinery Directive)

**ISO/TR 14121-2**

Safety of machinery - Risk assessment - Part 2: Pratical guidance and examples of methods

The hybrid tool is described in section 6.5 of ISO/TR 14121-2.  
 The hybrid tool combines two of the methods described in the ISO/TR 14121-2. They are usually risk charts (qualitative tool) combined with matrices or scoring systems (quantitative method). The risk factors to be taken into consideration are the same as the tree method (gravity, frequency, probability, and avoidability) and each of them contains different levels to which correspond to different numerical weights. The method is applied as follows:

1. to establish the numerical weights for the severity, the frequency, the

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- probability and the avoidability of the damage (see below the tables with the relative numerical weights);
- 2. add the three frequency, probability, and avoidance weights to determine the probability class "CI" (Class) ( $CI = Fr + Pr + Av$ );
- 3. insert the Gravity and Class dimensions into a weighting matrix;
- 4. calculate the risk by finding the intersection point of the row (CI) with the column (Se) of the matrix.

| Consequences / Severity<br>(Se) | Class CI (Fr+Pr+Av) |        |        |        |       | Frequency<br>(Fr) | Probability<br>(Pr) | Avoidance<br>(Av) |   |
|---------------------------------|---------------------|--------|--------|--------|-------|-------------------|---------------------|-------------------|---|
|                                 | 4                   | 5-7    | 8-10   | 11-13  | 14-15 |                   |                     |                   |   |
| Death, losing an eye or arm     | 4                   | Yellow | Red    | Red    | Red   | <= 1h             | 5 Very high         | 5                 |   |
| Permanent, losing fingers       | 3                   | Green  | Yellow | Red    | Red   | > 1h to <= 24h    | 5 Likely            | 4                 |   |
| Reversible, medical attention   | 2                   | Green  | Green  | Yellow | Red   | > 24 to <= 2w     | 4 Possible          | 3 Impossible      | 5 |
| Reversible, first aid           | 1                   | Green  | Green  | Yellow | Red   | > 2w to <= 1y     | 3 Rarely            | 2 Possibile       | 3 |
|                                 |                     |        |        |        |       | > 1y              | 2 Negligible        | 1 Likely          | 1 |

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