

INTERNATIONAL
STANDARD

ISO
9189

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**Machine tools — Straight-sided
high-speed mechanical power presses from
250 kN up to and including 4 000 kN
nominal force — Characteristics and
dimensions**

Machines-outils — Presses mécaniques rapides à bâti en arcade, de force nominale comprise entre 250 kN et 4 000 kN inclus — Caractéristiques et dimensions



Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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Introduction

Values are not specified in this International Standard for all the dimensional, geometric and operational characteristics of high-speed straight-sided mechanical power presses owing to the restrictions that this would place on the performance and development of these presses. Those features which are not covered by this International Standard are listed below, and the reason(s) for their exclusion are given.

a) Hole in bed and bedplate, and bedplate thickness

These directly influence the rigidity of the press and as such are often dimensioned to suit the production of a specific component. One common practice, which is employed to maintain maximum bed stiffness, is to machine discharge holes only where they are required as dictated by the pitch of the press tooling.

b) Height of bedplate from floor

The use of automatic feeding and unloading mechanisms makes the specification of floor-to-bedplate height undesirable.

c) Tool fixing holes and T-slots

Owing to the relatively high stroking speed of these presses, the designer always endeavours to minimize the mass of the reciprocating parts. It is usually impracticable to achieve total balance of these masses and as a result the press members will be subjected to high disturbing forces.

By specifying the tool fixing holes, the die and press designer would be restricted in achieving the optimum solution for each application.

d) Passage through uprights, and strip width

These may be standardized at a later date if there is sufficient support for this work.

e) Stroking rate

Standardization would impede further technical progress since this characteristic depends on the specific application of the press (feed length, type of feed; gripper, roller, step motor; type of die, length of stroke, feed-out of parts, etc.).

Modern high-speed presses can be provided with a variable adjustable stroking rate from 1 to 10.

f) Energy

The working energy cannot be fixed since the stroking rate is variable over a wide range. For example, for an adjustable range of stroking rate of 1 to 10 as mentioned in e), the working energy changes at a ratio of 1 to 100.