
**Reciprocating internal combustion
engines — Performance —**

**Part 4:
Speed governing**

*Moteurs alternatifs à combustion interne — Performances —
Partie 4: Régulation de la vitesse*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3046-4 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This third edition cancels and replaces the second edition (ISO 3046-4:1997), which has been technically revised.

ISO 3046 consists of the following parts, under the general title *Reciprocating internal combustion engines — Performance*:

- *Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods — Additional requirements for engines for general use*
- *Part 3: Test measurements*
- *Part 4: Speed governing*
- *Part 5: Torsional vibrations*
- *Part 6: Overspeed protection*

Reciprocating internal combustion engines — Performance —

Part 4: Speed governing

1 Scope

This part of ISO 3046 establishes a classification for the requirements and parameters of speed-governing systems and specifies terms and definitions of typical engine speeds for reciprocating internal combustion (RIC) engines. Where necessary, individual requirements are given for particular engine applications.

This part of ISO 3046 applies to RIC engines for land, rail-traction and marine use, excluding engines used to propel road-construction and earth-moving machines, agricultural and industrial types of tractors, road vehicles and aircraft. Also excluded are self-governing engines and those engines requiring only maximum speed or maximum fuel delivery limitation.

This part of ISO 3046 defines requirements for compression-ignition oil engines (diesel engines). For spark ignition engines and dual fuel engines, special requirements can apply.

NOTE 1 Performance and parameters for speed-governing systems applied to RIC engine driven generating sets are specified in ISO 8528-2 and ISO 8528-5.

NOTE 2 The terms and definitions of typical engine speeds in connection with overspeed protection devices are specified in ISO 3046-6.

2 Terms and definitions, symbols and subscripts

For the purposes of this document, the following terms and definitions, symbols and subscripts apply.

NOTE Terms and definitions related to overspeed devices are given in ISO 3046-6.

2.1 Speed-governing systems

2.1.1

engine speed governor

device which under specific engine operating conditions compares the actual speed and the setting speed and causes a modification of the fuel delivery into the engine in order to adjust the actual speed of the RIC engine towards the setting speed

NOTE 1 See ISO 7967-7:2005, 3.1.1.

NOTE 2 Speed governors can be classified according to:

- the speed sensing and amplification of their output signal (see ISO 7967-7:2005, 3.3.1);
- their dynamic behaviour (transfer function) (see ISO 7967-7:2005, 7.2);
- their related engine application (see ISO 7967-7:2005, 3.3.3).