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## Methods of test for full-flow lubricating oil filters for internal combustion engines —

### Part 2: Element by-pass valve characteristics

*Méthodes d'essai des filtres à huile de lubrification à passage intégral pour moteurs à combustion interne —*

*Partie 2: Caractéristiques de l'organe de dérivation du filtre*

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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.

International Standard ISO 4548-2 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, Subcommittee SC 7, *Tests for lubricating oil filters*.

This second edition cancels and replaces the first edition (ISO 4548-2:1982), which has been technically revised.

ISO 4548 consists of the following parts, under the general title *Methods of test for full-flow lubricating oil filters for internal combustion engines*:

- *Part 1: Differential pressure/flow characteristics*
- *Part 2: Element by-pass valve characteristics*
- *Part 3: Resistance to high differential pressure and to elevated temperature*
- *Part 4: Initial particle retention efficiency, life and cumulative efficiency (gravimetric method)*
- *Part 5: Cold start simulation and hydraulic pulse durability test*
- *Part 6: Static burst pressure test*
- *Part 7: Vibration fatigue test*
- *Part 9: Inlet and outlet anti-drain valve tests*
- *Part 10: Life and cumulative efficiency in the presence of water in oil*
- *Part 11: Self-cleaning filters*
- *Part 12: Particle retention ability and contaminant holding capacity using particle counting*

Annex A of this part of ISO 4548 is for information only.

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## Introduction

ISO 4548 establishes standard test procedures for measuring the performance of full-flow lubricating oil filters for internal combustion engines. It has been prepared in separate parts, each part relating to a particular performance characteristic.

Together the tests provide the information necessary to assess the characteristics of a filter, but if agreed between the purchaser and the manufacturer, the tests may be conducted separately.

This revision of this part of ISO 4548 has been undertaken in order to align the presentation with the requirements of the current ISO Directives. The principal changes are editorial, affecting the layout and the text. Minor technical changes comprise the inclusion of ISO VG and SAE oil grades for the test liquids and the addition of a note concerning the specification of the valve opening pressure. In addition, the test rig dimensions have been modified to make them consistent with those specified in ISO 3968 and the flow meter has been repositioned downstream of the throttle valve.