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Hydraulic fluid power — Method for evaluating the buckling load of a hydraulic cylinder

*Transmissions hydrauliques — Méthode d'évaluation de la charge de
flambage d'un vérin hydraulique*



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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 3, *Cylinders*.

This third edition cancels and replaces the second edition (ISO/TS 13725:2016) which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Formulae \(18\)](#) and [\(27\)](#) have been corrected.
- The key to [Figure A.1](#) has been corrected.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Historically, cylinder manufacturers in the fluid power industry have experienced very few rod buckling failures, most likely due to the use of adequately conservative design factors employed during cylinder design and to the recommendation of factors of safety to the users. Many countries and some large companies have developed their own methods for evaluating buckling load.

The method presented in this document has been developed to comply with the requirements formulated by ISO/TC 131.