



BSI Standards Publication

**Hydraulic fluid power — Hose and hose assemblies
— Method of collecting a fluid sample for analyzing
the cleanliness of a hose or hose assembly**

National foreword

This Published Document is the UK implementation of ISO/TS 18409:2018.

The UK participation in its preparation was entrusted to Technical Committee MCE/18/-/4, Connectors and associated components.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018

Published by BSI Standards Limited 2018

ISBN 978 0 580 88093 3

ICS 23.100.40

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 April 2018.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

TECHNICAL SPECIFICATION

**ISO/TS
18409**

First edition
2018-04-15

Hydraulic fluid power — Hose and hose assemblies — Method of collecting a fluid sample for analyzing the cleanliness of a hose or hose assembly

*Transmissions hydrauliques — Flexibles et flexibles de raccordement
— Méthode de collecte d'échantillon de fluide pour l'évaluation de la
propreté de flexibles ou flexibles de raccordement*



Reference number
ISO/TS 18409:2018(E)

AVA Documents
Document Sharing Hub
© ISO 2018



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test equipment	2
5 Contaminant collection methods	3
5.1 General.....	3
5.2 Procedure for collecting a sample using the agitation (“slosh”) method.....	4
5.3 Procedure for collecting a sample using the quick rinse method.....	5
6 Identification statement (reference to this document)	6
Annex A (informative) Choice of the contaminant collection method	7
Annex B (normative) Determination of the controlled volume and controlled surface	8
Annex C (normative) Agitation (slosh) method — Instructions on filling and rotating the test item, and collecting the test liquid	9
Annex D (normative) Requirements for the dispensing system for quick rinse method	11
Bibliography	13

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.

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a pressurized liquid within a circuit where piping allows the fluid to flow between components. Part of the piping may consist of hose assemblies, usually manufactured by assembling a length of hose, cut out from a hose coil, with specific connectors at its ends.

One of the functions of the hydraulic liquid in a system is to separate and lubricate the moving parts of components. The presence of solid particles produces wear, resulting in loss of efficiency, reduced component life and subsequent unreliability. Thus, hydraulic liquid cleanliness is very important for the system's uninterrupted operation and long life.

The amount of solid contamination present in a hydraulic system at start-up has a great influence on reliability during initial operation and subsequent component life. Components should be cleaned to an appropriate level after manufacturing and prior to use.

Hose assemblies are potential sources of contamination because of the bulk hose manufacturing processes, which can be intrinsically dirty, and because of other contaminants coming from assembly operations (hose cutting, dirty connectors, etc.) and/or storage.

It may be required to assess the actual built-in solid contamination of hose assemblies before installation (e.g. ISO 4413: 2010, 5.4.6.4, in general requirements for piping).