ISO 11500:2022-12 (E)

Hydraulic fluid power - Determination of the particulate contamination level of a liquid sample by automatic particle counting using the light-extinction principle

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Materials and equipment 2

5 Diluent liquid 3

6 Pre-test requirements and procedures 4
6.1 Precautions 4
6.1.1 Chemicals 4
6.1.2 Electrical interference 4
6.1.3 Use of magnetic stirrer 4
6.1.4 Relative humidity 4
6.1.5 Sample storage 4
6.2 Glassware cleaning procedure 4
6.3 APC calibration procedure 5
6.4 APC operation 5
6.5 Sample inspection and preparation before counting 5
6.5.1 Outline 5
6.5.2 Initial preparation and inspection 5
6.5.3 Preparation of sample of excessive volume 6
6.5.4 Determination of presence of water 7
6.6 Determination of need for sample dilution 7

7 Procedure for determining the particulate contamination level by automatic counting 7
7.1 Outline 7
7.2 Sample dilution 8
7.2.1 Use of sample dilution 8
7.2.2 Precautions 9
7.2.3 Volumetric dilution method 9
7.2.4 Mass dilution method 10
7.3 Analysis procedure 10

8 Test report 12

9 Identification statement (reference to this document) 13

Annex A (normative) Procedure for performing a statistical check of an automatic particle counter 14

Annex B (informative) Acceptable diluents 15

Annex C (informative) Method for pre-cleaning diluent and method for incorporating additives into the diluent to eliminate the influence of static electricity on particle counts 16

Annex D (informative) Reporting particulate contamination level in a hydraulic liquid sample as determined by automatic counting 18

Bibliography 20