

# 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

---

<b>Contents</b>		<b>Page</b>
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

<b>Annex D (informative) Reporting particulate contamination level in a hydraulic liquid sample as determined by automatic counting .....</b>	<b>18</b>
<b>Bibliography .....</b>	<b>20</b>