INTERNATIONAL STANDARD

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Earth-moving machinery — Diagnostic ports

Engins de terrassement — Orifices de contrôle

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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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8925 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery.*

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Earth-moving machinery — Diagnostic ports

1 Scope

This International Standard defines the sizes, types and accessibility of diagnostic ports for use in measuring fluid temperature, pressure and flow, and to obtain fluid samples. It also sets out the requirements for accessibility to the port.

It applies to earth-moving machinery as defined in ISO 6165, and gives general guidelines for diagnostic port use.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2860 : 1983, *Earth-moving machinery — Minimum access dimensions.*

ISO 4510-1 : 1987, *Earth-moving machinery — Service tools — Part 1 : Common maintenance and adjustment tools.*

ISO 6149 : 1980, *Fluid power systems and components — Metric ports — Dimensions and design.*

ISO 6165 : 1987, *Earth-moving machinery — Basic types — Vocabulary.*

3 Size and type of port

3.1 Temperature, pressure and sampling ports

The port size for measuring temperature and pressure, and to obtain fluid samples shall be an M14 × 1,5[1] port, in accordance with ISO 6149, attached to a tube of 8 mm outside diameter.

3.2 Flow measurement ports

Flow measurement ports shall be adequate for the flow to be measured. Generally, sizes below 25 mm tube should be as specified in 3.1 and sizes equal to and above 25 mm should have either threaded or flanged port faces.

4 Application guidelines

4.1 Number and location of diagnostic ports

The number and location of diagnostic port checking points shall be determined by the manufacturer and shall be commensurate with the complexity of the system being checked and cost effectiveness.

The preferred location of diagnostic ports is in the component; however, they should be readily and safely accessible which might often require them to be located in a connecting line. The ports should be so located in the fluid stream as to minimize any conditions which could cause inaccuracies in readings : for fluid sampling, the ports should be located in a turbulent flow section of the system.

The ports shall be fitted with devices to prevent loss of fluid during connecting and disconnecting of diagnostic measuring instruments. The ports shall also be located so that the fluid is not contaminated from the surface of the machine when connecting the measuring instruments or during fluid sampling.

4.2 Accessibility

4.2.1 Test ports shall be accessible with common tools, limited to those specified in ISO 4510-1, without the removal of any component other than sealing caps, access panels and/or plates.

4.2.2 A free access area of 75 mm radius around the centreline of the port and 200 mm from the port surface shall be provided. Access to the port shall be as specified in ISO 2860.

1) M14 × 1,5 = 9/16 – 18 UNF – 2 B

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Descriptors : earth moving equipment, fluid circuits, ports (openings), dimensions.

Price based on 1 page