SAE International™

SURFACE VEHICLE STANDARD

J1926-1

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Connections for General Use and Fluid Power—Ports and Stud Ends with ASME B1.1 Threads and O-Ring Sealing—Part 1: Threaded Port with O-Ring Seal in Truncated Housing

RATIONALE

SAE J1926-1 covers the requirements for inch O-Ring ports formerly covered in SAE J514. They have been moved out of SAE J514 for more flexibility when used with multiple connector systems. The design parameters are the same and remain unchanged except for conversion to metric dimensions and in some rounding.

FOREWORD

SAE J1926 consists of the following parts, under the general title:

Connections for general use and fluid power Ports and stud ends with ASME B1.1 threads and O-ring sealing:

— Part 1: Port with O-Ring Seal in Truncated Housing
— Part 2: Heavy-Duty (S Series) Stud Ends
— Part 3: Light-Duty (L Series) Stud Ends

These standards define performance requirements, dimensions, and designs for port and stud end connections for heavy-duty in Part 2 and light-duty in Part 3. Significant testing through 40 years of use has confirmed the performance requirements of these ports and stud ends.

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit. In general applications, a fluid may be conveyed under pressure. Components are connected through their threaded ports by fluid conductor fittings to tubes and pipes, or to hose fittings and hoses.

Ports are an integral part of fluid power components such as pumps, motors, valves, cylinders, etc.

1. SCOPE

This part of SAE J1926 specifies dimensions for fluid power and general use ports with inch threads to ASME B1.1 for use with adjustable and nonadjustable stud ends shown in SAE J1926-2 and SAE J1926-3.

Ports in accordance with this part of SAE J1926 may be used at working pressures up to 63 MPa for nonadjustable stud ends up to 40 MPa for adjustable stud ends. The permissible working pressure depends upon materials, design, working conditions, application, etc.

For threaded ports and stud ends specified in new designs for hydraulic fluid power applications, only SAE J2244 shall be used. Threaded ports and stud ends in accordance with ISO 1179, ISO 9974, and ISO 11926 shall not be used for new design in hydraulic fluid power applications.

Appendix A of this document is informative.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

2. REFERENCES

2.1 Applicable Publications

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

2.1.1 SAE Publications

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J514 Hydraulic Tube Fittings

SAE J1453 Fitting—O-ring Face Seal

SAE J1644 Metallic Tube Connections for Fluid Power and General Use—Test Methods for Threaded Hydraulic Fluid Power Connectors

SAE J2244-1 Connections for Fluid Power and General Use—Parts and Stud Ends with ISO 261 Threads and O-ring Sealing—Part 1: Port with O-ring Seal in Truncated Housing

2.1.2 ISO Publications

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, www.ansi.org.

ISO 263:1973 ISO inch screw threads—General plan and selection for screws, bolts and nuts—Diameter range 0,06 to 6 in

ISO 1101:1983 Technical drawings—Tolerancing of form, orientation, location and run-out—Generalities, definitions, symbols, indications on drawings

ISO 1302:1978 Technical drawings—Method of indicating surface texture on drawings

2.1.3 ASME Publications

Available from the American Society of Mechanical Engineers, 22 Law Drive, PO Box 2900, Fairfield, NJ 07007-2900, Tel: 973-882-1170, www.asme.org.

ASME B1.1 Unified Inch Screw Threads (UN and UNR Thread Form)

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this document.

2.2.1 ISO Publications

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, www.ansi.org.

ISO 1179-1[1] Connections for general use and fluid power—Ports and stud ends with ISO 228-1 threads with elastomeric and metal-to-metal sealing—Part 1: Threaded port

ISO 1179-2[1] Connections for general use and fluid power—Ports and stud ends with ISO 228-1 threads with elastomeric and metal-to-metal sealing—Part 2: Heavy duty (S series) and light duty (L series) stud ends with elastomeric sealing (type E)

ISO 1179-3[1] Connections for general use and fluid power—Ports and stud ends with ISO 228-1 threads with elastomeric and metal-to-metal sealing—Part 3: Light duty (L series) stud end with sealing by O-ring with retaining ring (types G and H)

ISO 1179-4[1] Connections for general use and fluid power—Ports and stud ends with ISO 228-1 threads with elastomeric and metal-to-metal sealing—Part 4: Stud end for general use only with metal-to-metal sealing (type B)

ISO 2306:1972 Drills for use prior to tapping screw threads

ISO 5598:1985 Fluid power systems and components—Vocabulary

ISO 6149-1:1993 Connections for fluid power and general use—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 1: Port with O-ring seal in truncated housing

ISO 6149-2:1993 Connections for fluid power and general use—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 2: Heavy duty (S series) stud ends—Dimensions, design, test methods and requirements

ISO 6149-3:1993 Connections for fluid power and general use—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 3: Light duty (L series) stud ends—Dimensions, design, test methods and requirements

ISO 8434-2[1] Metallic tube fittings for fluid power and general use—Part 2: 37° flared fittings

ISO 9974-1:1996 Connections for general use and fluid power—Ports and stud ends with ISO 261 threads with elastomeric and metal-to-metal sealing—Part 1: Threaded port

ISO 9974-2[1] Connections for general use and fluid power—Ports and stud ends with ISO 261 threads with elastomeric and metal-to-metal sealing—Part 2: Stud end with elastomeric sealing (type E)

ISO 9974-3[1] Connections for general use and fluid power—Ports and stud ends with ISO 261 threads with elastomeric and metal-to-metal sealing—Part 3: Stud end with metal-to-metal sealing (type B)

ISO 11926-1:1995 Connections for general use and fluid power—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 1: Threaded port with O-ring seal in truncated housing

ISO 11926-2:1995 Connections for general use and fluid power—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 2: Heavy duty (S series) stud ends

ISO 11926-3:1995 Connections for general use and fluid power—Ports and stud ends with ISO 261 threads and O-ring sealing—Part 3: Light duty (L series) stud ends

[1] To be published.

3. DEFINITIONS

For the purpose of this part of SAE J1926, the definitions given in ISO 5598 shall apply.

4. PORT SIZE

The ports shall be specified by SAE J1926-1 and the thread size (without UNF or UN and 2B designation), separated by a colon, for example SAE J1926-1:1/2-20.

5. DIMENSIONAL REQUIREMENTS

Ports shall conform to the dimensions in Figure 1 and Table 1.

6. TEST METHODS

Ports shall be tested along with stud ends per the test methods and requirements in SAE J1644.

7. IDENTIFICATION STATEMENT

Use the following statement in test reports, catalogues, and sales literature when electing to comply with this part of SAE J1926:

Port conforms to SAE J1926-1, Connections for fluid power and general use—Ports and stud ends with ASME B1.1 threads and O-ring sealing—Part 1: Threaded port with O-ring seal in truncated housing.

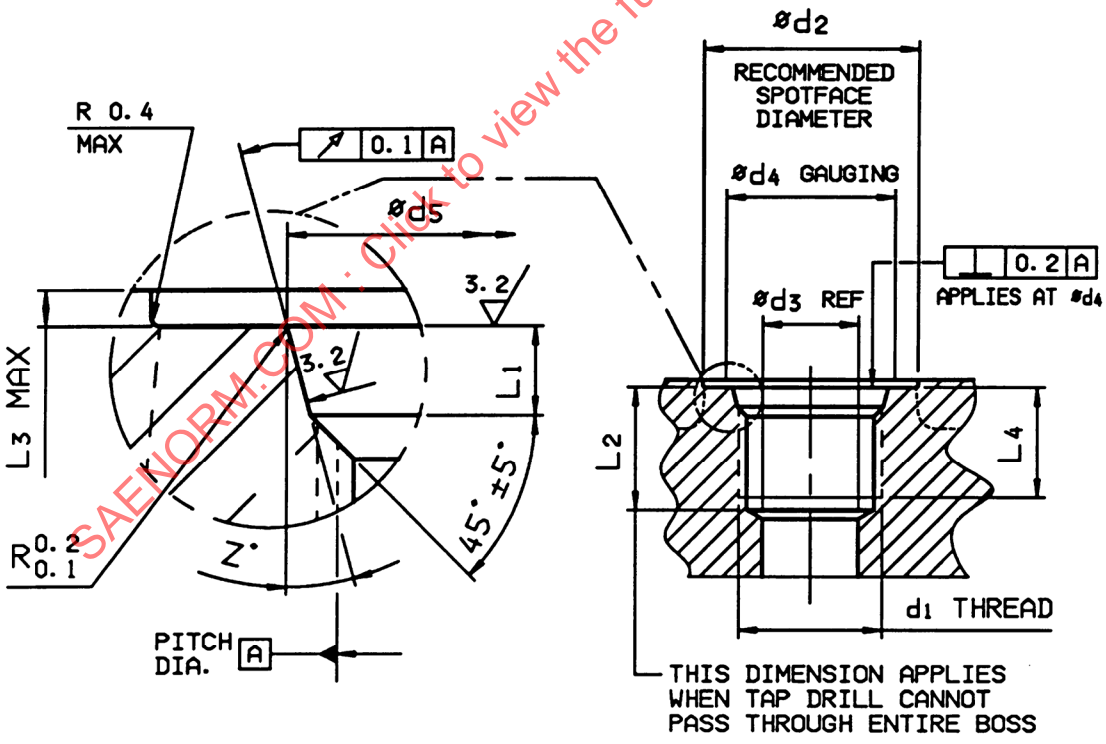

FIGURE 1 - SAE J1926-1 PORT DETAIL