



SLOVENSKI STANDARD SIST ISO 11727:2000

01-september-2000

:`i]XbUfM b]_U!'DbYj a Uf]_U!'DfYdcnbUj Ub^Ydf]_`f _cj]b'i _Unb]`a Y Ubn]na cj
_fa]b]`j Ybf]cj]b`Xfi []`gYgfUj]b

Pneumatic fluid power -- Identification of ports and control mechanisms of control valves and other components

iTeh STANDARD PREVIEW

Transmissions pneumatiques -- (standards.iteh.ai) Identification des orifices et des mécanismes de commande des distributeurs de commande et autres composants

SIST ISO 11727:2000

Ta slovenski standard je istoveten z: <https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ac0188dfecc3/sist-iso-11727-2000> ISO 11727:1999

ICS:

23.100.50 Krmilni sestavni deli Control components

SIST ISO 11727:2000

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ISO 11727:2000

<https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000>

INTERNATIONAL
STANDARD

ISO
11727

First edition
1999-05-01

**Pneumatic fluid power — Identification of
ports and control mechanisms of control
valves and other components**

*Transmissions pneumatiques — Identification des orifices et des
mécanismes de commande des distributeurs de commande et autres
composants*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ISO 11727:2000

<https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000>



Reference number
ISO 11727:1999(E)

ISO 11727:1999(E)

Contents

1 Scope	1
2 Normative reference	1
3 Terms and definitions	1
4 General principles.....	3
5 Directional control valves	3
5.1 Use of single-digit identification numbers.....	3
5.2 Use of two-digit identification numbers	3
5.3 Manifold port identifications.....	5
5.4 External pilot supply port identification	6
5.5 Pilot exhaust ports identification	6
6 Quick exhaust, shuttle and lockout valves	6
7 Shut-off valves	6
8 Flow control valves, non-return (check) valves and relief valves.....	6
9 Pressure regulators and filter-regulators.....	7
10 Filters, lubricators and ancillary units.....	7
11 Examples	7
12 Identification statement	7
Annex A (informative) Symbols giving examples of identification	8
Bibliography	11

iteh STANDARD PREVIEW
(standards.iteh.ai)

SIST ISO 11727:2000

<https://standards.iteh.ai/catalog/standards/sist/81ba94b5-8152-40c9-b16b-ae0188dfecc3/sist-iso-11727-2000>

© ISO 1999

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standards ISO 11727 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

Annex A of this International Standard is for information only.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ISO 11727:2000](https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000)

<https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000>

Introduction

In pneumatic fluid power systems, power is transmitted and controlled through a gas under pressure within a circuit. Flow is directed through and blocked from selected passages in the several components of a pneumatic system. Identification of the ports and the control mechanisms permits the user to properly connect components in a system when using a circuit diagram.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ISO 11727:2000](https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000)

<https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000>

Pneumatic fluid power — Identification of ports and control mechanisms of control valves and other components

1 Scope

1.1 This International Standard includes rules for identifying and marking ports in pneumatic directional control valves. These ports are the main flow connections, control connections and pilot supply connections.

1.2 This International Standard includes rules for identifying and marking electrical leads for solenoids. It is not applicable to internal electrical connections across manifold sections, such as connections to bus systems.

1.3 This International Standard includes rules for identifying and marking control mechanisms of directional control valves.

1.4 This International Standard includes rules for identifying and marking ports and/or flow path directions in filters, regulators, lubricators, non-return (check) valves, flow control valves and other ancillary devices.

1.5 This International Standard does not include rules for identifying and marking ports on proportional pneumatic valves, air logic valves, cylinders, air motors, semi-rotary actuators, air compressors, air dryers or other devices not specifically described in this International Standard.

[SIST ISO 11727:2000](https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000)

<https://standards.iteh.ai/catalog/standards/sist/8fba94f3-8f32-40c9-bf6b-ae0188dfecc3/sist-iso-11727-2000>

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5598, *Fluid power systems and components — Vocabulary*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 5598 and the following apply.

3.1

control mechanism

device that provides an input signal to a component (e.g. lever, solenoid)

NOTE The terms "operator" and "actuator" have sometimes been used for this definition, but the term "control mechanism" is preferred.

3.2

pilot control port

port that is subject to a change in pressure, usually an applied pressure signal from an external source, that produces a change in state of the component under control

3.3**external pilot supply port**

port that receives a continuous, uninterrupted supply of pressure from an external source for use by a control mechanism

3.4**main ports**

ports in a component that are either connected to one another or blocked upon actuation by the control mechanism

3.5**solenoid lead**

electrical wires directly attached to a solenoid winding

3.6**electric lead**

electrical wires communicating with an electrically operated valve that are used for field connections.

NOTE These might not be directly attached to a solenoid winding when the valve has electrical circuitry or other internal connections.

3.7**normally closed (NC) valve**

valve that, in its normal position (as defined in ISO 5598), has its inlet port closed

3.8**normally open (NO) valve**

valve that, in its normal position (as defined in ISO 5598), has its inlet port connected to its outlet port

3.9**diverter valve**

3/2 directional control valve with a single inlet port that can divert flow to either of two separate outlet ports

3.10**selector valve**

3/2 directional control valve with a single outlet port, flow to which can be selected from either of two separate inlet ports

3.11**lockout valve**

manually controlled valve that has two operating positions

NOTE The first position allows normal passage of pressurized fluid into a machine or system. The second prevents the passage of fluid from the inlet and allows a discharge of the pressurized fluid from a machine or system. The control device is capable of being locked, by a key or combination padlock, in the second position only.

3.12**identification**

means of reference to be used in descriptive literature or on a label associated with a component

3.13**mark**

means of reference to be applied directly on the component

3.14**pilot exhaust port**

exhaust port associated with a control mechanism which provides an exhaust or relief function which is not part of the actual control function

3.15**3/2 normally open optional valve**

3/2 directional control valve supplied as a normally closed valve, and marked or identified as such, but constructed so that the inlet and exhaust connection can be interchanged to provide a normally open mode of operation

3.16**5/2 optional dual pressure valve**

5/2 directional control valve with standard main port identification, but which is constructed so that the exhaust ports 5 and 3 can be used as separate inlets and the normal inlet port 1, used as a common exhaust port

4 General principles

4.1 The numerals used in this International Standard are the principal means of port identification based on the precedence established in ISO 5599-1, ISO 5599-2 and ISO 5599-3. Some exceptions are defined for pilot supply ports in valves and for flow direction arrows in two-ported devices.

4.2 Main ports are identified by single-digit numbers.

4.3 Control mechanisms, the pilot control ports and their electrical leads are identified by double-digit numbers. The first of these digits is the number one (1) and the second digit is the main port that communicates with main port 1 when the correspondingly numbered control mechanism is actuated. If the control mechanism causes main port 1 to become blocked, a zero (0) is used as the second digit.

NOTE 1 Other flow paths may exist or become blocked as a result of a control mechanism actuation, in addition to the flow path related to main port 1. These may be determined from the graphic symbol for the valve.

NOTE 2 The principle in 4.3, however, does not apply to the centre position of three-position valves or to mechanical/manual control mechanisms that have multiple independent positions.

4.4 Port locations and control mechanism locations are not required to occupy any specific position on a component. Their physical location relative to graphic symbols on a drawing also need not correspond.

5 Directional control valves**5.1 Use of single-digit identification numbers**

Use the single-digit identification numbers as listed in Table 1 to identify and mark the main ports. Marking shall be placed next to the ports on the component or on labels that are located to identify the ports.

5.2 Use of two-digit identification numbers

Use the two-digit identification numbers as listed in Table 1 to identify and, if desired, mark the control mechanisms and to identify and mark the pilot control ports (if any exist), plus the solenoid leads (if any exist — see 5.2.1).