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Hydraulic fluid power — Identification of valve ports, subplates, control devices and solenoids

iTeh STANDARD PREVIEW

Transmissions hydrauliques — Identification des orifices des appareils, embases, organes de commande et solénoïdes

<u>ISO 9461:1992</u> https://standards.iteh.ai/catalog/standards/sist/81b5a694-8151-4fab-8e7c-25f463f3f81b/iso-9461-1992



Foreword

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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 VIEW a vote.

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Annex A of this International Standard is for information lonly.9461-1992

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Introduction

This International Standard complies as closely as possible with the rules for the identification of valve ports specified in previously published International Standards, in particular those concerning valves on subplates (i.e. ISO 4401, ISO 5781, ISO 6263 and ISO 6264).

These four International Standards are however, somewhat extensive as they were expected to cover most of the current marking practices.

To remedy this situation, this International Standard give rules corresponding to the recommended practice, to be applied as a first priority for the identification of any new valve.

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Fluid distribution and regulation are achieved by means of hydraulic valves which may be mounted on subplates. Valves, subplates, control devices and solenoids should be marked to ensure correct assembly and connection to the intended pipe or hose end.

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Hydraulic fluid power — Identification of valve ports, subplates, control devices and solenoids

Scope 1

This International Standard specifies rules for the identification of valve ports, subplates, control devices and solenoids for use in hydraulic fluid power systems. It applies in particular to valves which will be developed in future with two and three ports, where today's practise of marking valve ports is different. Table 1 therefore does not refer to components which are standardized in ISO 5781 ISO 6263 and A ISO 6264.

standards Identification rules as specified in this International Standard apply to those ports which provide the connection between two valves or between a valve and 9461.1 a pipe. The rules are consequently valid for the valves indards/sist 81b5a694-8151-4fab-8e7cthemselves when mounted in-line, and for the sub-1b/iso-9461, P⁹⁹² identifies the normal inlet port. plates on which the valves are mounted when such a type of mounting is used. "A" identifies the normal working port.

2 Subplate-mounted valves

For subplate-mounted valves, the function actually performed by the valve port shall correspond to the function marked on the corresponding subplate port. This also applies to subplates which, although originally designed for values of a given type and function. are then used with valves of a different type even if these valves have a smaller number of ports.

3 Valves with two main ports

3.1 In-line-mounted valves

The identification shall be replaced by an arrow indicating the direction of the flow, whenever this can be done without any risk of confusion.

3.2 Pressure-relief valves

"P" identifies the inlet port.

"T" identifies the outlet port.

3.3 Other valves, excluding pressure-relief valves

"P" identifies the inlet port.

"A" identifies the outlet port.

Valves with three main ports

These are either flow-control valves with a return to the cexcess inlet flow tank, or valves to connect working ports to the return supply ports. (The latter valves may, if required, be connected in a different

"T" identifies the normal return-to-tank port.

5 Valves with four main ports

"P" identifies the normal inlet port.

- "A" and "B" identify the normal working ports.
- "T" identifies the normal return-to-tank port.

Auxiliary ports 6

6.1 Pilot ports

These ports are used for the remote control of pilotoperated valves

- either by using a pressure signal,
- or by using a lower pressure signal (or by return to tank or by venting to a reference pressure lower than the pressure at the considered port),

 or by supplying pressure to a pilot directionalcontrol valve (normal supply and return to tank).

"X" and "Y" identify pressure pilot ports, that is

- either remote-controlled pilot ports,
- or supply ports and return ports of a pilot valve.

NOTE 1 "X" should be reserved for the control device port or for the supply to the pilot stage for pressurizing A.

"V" identifies the port of a pilot device whose action is initiated by venting to a lower pressure.

6.2 Drain ports

These ports are used to return to tank leak flows resulting from operating clearances or permanent flows from nozzles which may be necessary for the satisfactory operation of the valve.

"L" identifies the drain port.

In the case of subplate-mounted valves under the conditions described in clause 2, letters "" and "T" A

may also be used to identify the drain port when no confusion is possible.

6.3 Take-off-point ports

These ports are used to take samples of operating fluid for examination.

"M" identifies the take-off-point port.

7 Solenoids

The solenoids of the main or pilot stages shall be given the same identification as the main ports pressurized by their action.

8 Identification statement (Reference to this International Standard)

Use the following statement in tests reports, catalogues and sales literature when electing to comply with this International Standard:

"Identification of valve ports conforms to ISO 9461:1992, Hydraulic fluid power — Identification of valve ports, subplates, control devices and solenoids."

Number of main ports		<u>ISO 9461:1992</u>		3	4
	https://standard	ls.iteh.ai/catalog/stand Pressure-relief valves	trds/sist/81b5a694-81 iso-Øther1val⊋es	51-4fab-8e7c- Flow-control valves	Directional-control valves and function blocks
Main ports	Inlet	Р	Р	Р	Р
	1st outlet		А	A	A
	2nd outlet				В
	Return-to-tank	Т		Т	Т
Auxiliary ports	1st pilot		Х		X
	2nd pilot				Y
	Pilot (lower pressure)	V	V	V	
	Drain	L	L	L	L
	Take-off-point	М	М	М	М

Table 1 (standards iteh.ai) Summary of identification rules

NOTE — This table does not refer to components which are standardized in ISO 5781, ISO 6263 and ISO 6264.

Annex A

(informative)

Bibliography

- [1] ISO 4401:1980, Hydraulic fluid power Fourport directional control valves — Mounting surfaces.
- [2] ISO 5781:1987, Hydraulic fluid power Pressure-control valves (excluding pressurerelief valves), sequence valves, unloading

valves, throttle valves and check valves — Mounting surfaces.

- [3] ISO 6263:1987, Hydraulic fluid power Compensated flow-control valves Mounting surfaces.
- [4] ISO 6264:1987, Hydraulic fluid power Pressure-relief valves — Mounting surfaces.

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Descriptors: hydraulic fluid power, hydraulic equipment, hydraulic valves, solenoid valves, ports (openings), control devices, mounting surfaces, identification methods, marking.

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