
International Standard



6149

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Fluid power systems and components — Metric ports — Dimensions and design

Transmissions hydrauliques et pneumatiques — Orifices de raccordement, série métrique — Dimensions et types

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Descriptors : fluid power, pneumatic fluid power, hydraulic fluid power, ports (openings), junction, O-ring seals, dimensions, metric system, sealing

Price based on 2 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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.

International Standard ISO 6149 was developed by Technical Committee ISO/TC 131, *Fluid power systems and components*, and was circulated to the member bodies in March 1979.

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It has been approved by the member bodies of the following countries :

Australia
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The member bodies of the following countries expressed disapproval of the document on technical grounds :

Poland
Switzerland
United Kingdom

Fluid power systems and components — Metric ports — Dimensions and design

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0 Introduction

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

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

1 Scope and field of application

This International Standard lays down dimensions and gives specifications for a fluid power metric parallel-threaded port.

This International Standard is intended for nominal pressures up to 400 bar (40 000 kPa). The permissible working pressure depends upon materials, design, working pressure, application, etc.

2 References

ISO 261, *ISO general purpose metric screw threads — General plan.*

ISO 1302, *Technical drawings — Method of indicating surface texture on drawings.*

ISO 5598, *Fluid power systems and components — Vocabulary.*¹⁾

3 Dimensions

Select metric port dimensions from the table.

4 Port sizes and identification

The ports are identified by their thread size.

5 Identification statement

(Reference to this International Standard)

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

"Metric port conforms to ISO 6149, *Fluid power systems and components — Metric ports — Dimensions and design.*"

1) At present at the stage of draft.

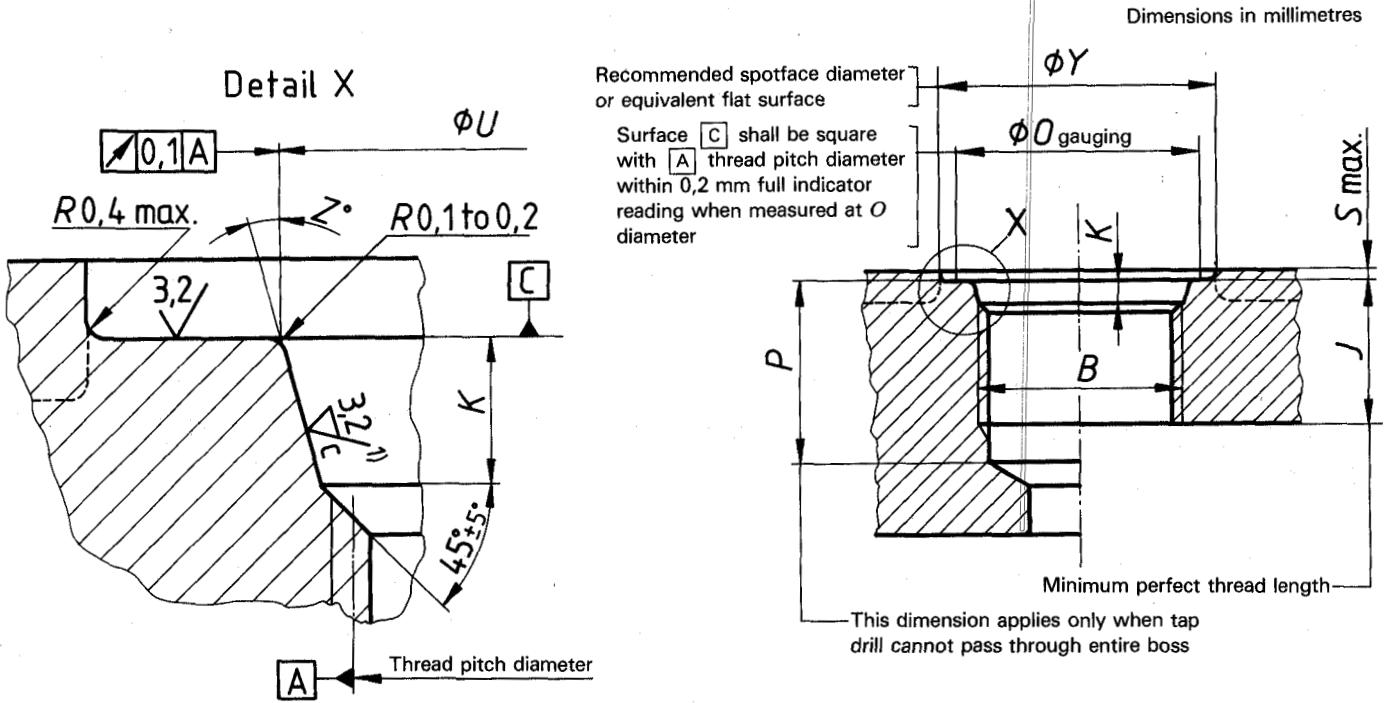


Figure – Metric port

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Table – Dimensions of metric port

B		J	K	O	P ⁴⁾ reference min. 1980	S ²⁾³⁾ max.	U ⁵⁾ + 0,1 0	Y ³⁾ min.	Z ^o ± 1°
(Thread class 6H)		min.	+ 0,4 0						
M 5 × 0,8	8,0	1,6	1,6	8,0	9,5	1,0	6,35	14,0	12°
M 8 × 1	10,0	1,6	1,6	11,0	11,5	1,0	9,1	17,0	12°
M 10 × 1	10,0	1,6	1,6	13,0	11,5	1,0	11,1	20,0	12°
M 12 × 1,5	11,5	2,4	2,4	16,0	14,0	1,5	13,8	22,0	15°
M 14 × 1,5	11,5	2,4	2,4	18,0	14,0	1,5	15,8	25,0	15°
M 16 × 1,5	13,0	2,4	2,4	20,0	15,5	1,5	17,8	27,0	15°
M 18 × 1,5	14,5	2,4	2,4	22,0	16,5	2,0	19,8	29,0	15°
M 22 × 1,5	15,5	2,4	2,4	26,0	18,0	2,0	23,8	34,0	15°
M 27 × 2	19,0	3,1	3,1	32,0	22,0	2,0	29,4	40,0	15°
M 33 × 2	19,0	3,1	3,1	38,0	22,0	2,5	35,4	46,0	15°
M 42 × 2	19,5	3,1	3,1	47,0	22,5	2,5	44,4	56,0	15°
M 50 × 2	21,5	3,1	3,1	55,0	24,5	2,5	52,4	66,0	15°
M 60 × 2	24,5	3,1	3,1	65,0	27,5	2,5	62,4	76,0	15°

- This surface shall be free from longitudinal and spiral tool marks. Circular tool marks up to 1,6 μm will be permissible.
- Maximum recommended spotface depth to permit sufficient wrench grip for proper tightening of the fitting or locknut.
- If the face of the boss is on a machined surface, dimensions Y and S need not apply.
- Tap drill depths given require use of a bottoming tap to produce the specified full thread lengths. Where standard taps are used, increase tap drill depths accordingly.
- Diameter U shall be concentric with thread pitch diameter A within 0,1 mm total indicator reading.