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INTERNATIONAL STANDARD 3321

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Fluid power systems and components — Cylinder bores and piston rod diameters — Inch series

Transmissions hydrauliques et pneumatiques — Alésages des vérins et diamètres des tiges de piston — Série en inches

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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 3321 was drawn up by Technical Committee ISO/TC 131, *Fluid power systems and components,* and circulated to the Member Bodies in December 1973.

It has been approved by the Member Bodies of the following countries :

Australia	Germany	Spain
Austria	India	Switzerland
Belgium	Italy	Thailand
Brazil	Japan	United Kingdom
Czechoslovakia	New Zealand	U.S.A.
Finland	South Africa, Rep. of	Yugoslavia

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Ireland
Poland
Sweden
U.S.S.R.

Printed in Switzerland

Fluid power systems and components — Cylinder bores and piston rod diameters — Inch series

0 INTRODUCTION

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit.

One component of such systems is the fluid power cylinder. This is a device which converts power into linear mechanical force and motion. It consists of a movable element, i.e. a piston and piston rod, operating within a cylindrical bore.

This International Standard is one of two relating to fluid power cylinder bores and piston rod diameters. The other, relating to a metric series, is ISO 3320, *Fluid power systems and components — Cylinder bores and piston rod diameters — Metric series.*

For future design purposes the metric series is to be preferred to the inch series.

1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes an inch series of cylinder bores and piston rod diameters for application to hydraulic and pneumatic fluid power cylinders.

2 REFERENCE

ISO . . ., *Fluid power — Vocabulary.*[1)]

3 DEFINITIONS

3.1 cylinder : A device which converts fluid power into linear mechanical force and motion.

3.2 cylinder bore : The internal diameter of the cylinder.

3.3 piston rod : The element transmitting mechanical force and motion from the piston.

3.4 For definitions of other terms used, see ISO . . .

1) In preparation.

4 DIMENSIONS

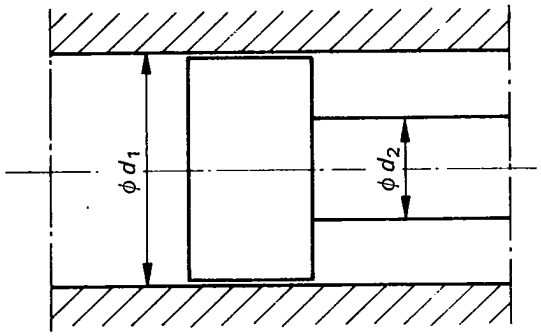
Refer to the figure for identification of bore and rod dimensions.

Select cylinder bores and piston rod diameters from the dimensions shown in table 1 and table 2.

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 :

"Cylinder bores and piston rod diameters selected in accordance with ISO 3321, *Fluid power systems and components — Cylinder bores and piston rod diameters — Inch series.*"



d_1 = cylinder bore;

d_2 = piston rod diameter.

FIGURE — **Identification of bore and rod dimensions**

TABLE 1 — **Cylinder bores**

Dimensions in inches

d_1	3/4	1	1 1/8	1 1/2	2	2 1/2	3 1/4	4
	5	6	7	8	10	12	14	

TABLE 2 — **Piston rod diameters**

Dimensions in inches

d_2	1/4	5/16	3/8	1/2	5/8	1	1 3/8	1 3/4	2	2 1/2
	3	3 1/2	4	4 1/2	5	5 1/2	7	8 1/2	10	