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मानक

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“Step Out From the Old to the New”

IS 8208 (2004): Fluid power systems and components -
Cylinder bores and piston rod diameters - Metric series
[PGD 16: Fluid Power]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

द्रव पावर पद्धतियाँ और संघटक — सिलिंडर नली और
पिस्टन छड़ व्यास — मीटरी श्रृंखला

(पहला पुनरीक्षण)

Indian Standard

FLUID POWER SYSTEMS AND COMPONENTS —
CYLINDER BORES AND PISTON ROD
DIAMETERS — METRIC SERIES

(*First Revision*)

ICS 23.100.20

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 3320 : 1987 'Fluid power systems and components — Cylinder bores and piston rod diameters — Metric series' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of the Basic Fluid Power Sectional Committee and approval of the Medical Instruments, General and Production Engineering Division Council.

This Indian Standard was first published in 1976 and conformed to ISO 3320 : 1975 'Fluid power systems and components — Cylinder bores and piston rod diameters — Metric series'. ISO 3320 has since been revised to ISO 3320 : 1987. In order to align with the international practices, the sectional committee dealing with the subject decided to adopt ISO 3320 : 1987 as Indian Standard.

The text of the ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

CROSS REFERENCE

In the adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is listed below along with its degree of equivalence for the edition indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 5598 : 1985 Fluid power systems and components — Vocabulary	IS 10416 : 1992 Fluid power systems and components — Vocabulary (<i>first revision</i>)	Identical

Indian Standard

**FLUID POWER SYSTEMS AND COMPONENTS —
CYLINDER BORES AND PISTON ROD
DIAMETERS — METRIC SERIES**

(First Revision)

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.

1 Scope and field of application

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

This International Standard only applies to the dimensional criteria of products manufactured in conformity with this International Standard; it does not apply to their functional characteristics.

2 Reference

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

3 Definitions

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

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

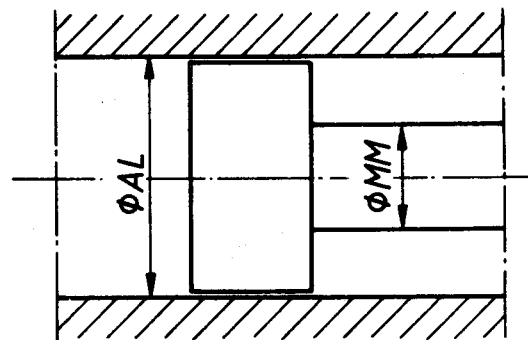
3.2 cylinder bore: The internal diameter of the cylinder.

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

4 Dimensions

Bore and rod dimensions are illustrated and identified in the figure.

Cylinder bores and piston rod diameters shall be selected from the dimensions given in tables 1 and 2.



AL = cylinder bore

MM = piston rod diameter

NOTE — Letter codes as specified in ISO 6099.

Figure — Identification of bore and rod dimensions

Table 1 – Cylinder bores¹⁾

Dimensions in millimetres

<i>AL</i>	8	10	12	16	20	25	32	40	50	63	80	(90)	100	(110)
	125	(140)	160	(180)	200	(220)	250	(280)	320	(360)	400	(450)	500	

1) An extension upwards of the diameter ranges may, if required, be made using the series of preferred numbers: R 10 for diameters *AL* < 100 mm and R 20 for diameters *AL* > 100 mm.

Values in parentheses are non-preferred values and should be used only for special applications.

Table 2 – Piston rod diameters¹⁾

Dimensions in millimetres

<i>MM</i>	4	5	6	8	10	12	14	16	18	20	22	25
	28	32	36	40	45	50	56	63	70	80	90	100
	110	125	140	160	180	200	220	250	280	320	360	

1) An extension upwards of the diameter ranges may, if required, be made using the R 20 series of preferred numbers.

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 3320, Fluid power systems and components – Cylinder bores and piston rod diameters – Metric series.”

Bibliography

The following International Standard is referred to in this International Standard for information purposes only:

ISO 6099, *Fluid power systems and components – Cylinders – Identification code for mounting dimensions and mounting types.*

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. **MGP 14 (390)**.

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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