

INTERNATIONAL STANDARD



4397

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

Fluid power systems and components — Connectors and associated components — Outside diameters of tubes and inside diameters of hoses

Transmissions hydrauliques et pneumatiques — Raccords et éléments associés — Diamètres extérieurs des tubes et diamètres intérieurs des tuyaux flexibles

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Descriptors : hydraulic equipment, pneumatic equipment, tubes (pipes), hoses, pipe joints, dimensions, diameters.

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 4397 was developed by Technical Committee ISO/TC 131, *Fluid power systems and components*, and was circulated to the member bodies in November 1976.

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

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Italy	Sweden
Brazil	Japan	Turkey
Chile	Korea, Rep. of	U.S.A.
Czechoslovakia	Mexico	U.S.S.R.
Finland	Netherlands	Yugoslavia
France	Poland	
Germany	Romania	

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

Switzerland
United Kingdom

Fluid power systems and components – Connectors and associated components – Outside diameters of tubes and inside diameters of hoses

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 interconnected through their ports and associated fluid conductor fitting ends. Tubes are rigid conductors; hoses are flexible conductors.

1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes the following select series for use within hydraulic and pneumatic fluid power connectors and associated components :

- a) a select series of outside diameters for hydraulic and pneumatic rigid tubes, irrespective of material composition;
- b) a select series of inside diameters for hydraulic and pneumatic hoses made of rubber or plastic.

2 REFERENCE

ISO 5598, *Fluid power – Vocabulary*.¹⁾

3 DEFINITIONS

3.1 tube : A pipeline of metal or plastic, used for connecting fixed assemblies, the size of which is defined by its nominal outside diameter and is available in various wall thicknesses.

3.2 hose : A flexible pipeline, usually of wire-reinforced rubber or plastic, the size of which is defined by its nominal inside diameter and is available in various wall thicknesses.

3.3 For definitions of other terms used, see ISO 5598.

4 DIMENSIONS

Select outside diameters of tubes and inside diameters of hoses from the dimensions in tables 1 and 2.

TABLE 1 – Series of
outside diameters
of tubes

Dimensions in millimetres

4
5
6
8
10
12
16
20
25
32
38*
40
50

• For some flanged connection applications.

TABLE 2 – Series of
inside diameters
of hoses

Dimensions in millimetres

3,2
5
6,3
8
10
12,5
16
19*
20
25
31,5
38*
40
50
51*

• For hydraulic purposes only.

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 :

“Outside diameters of tubes and inside diameters of hoses selected in accordance with ISO 4397, *Fluid power systems and components – Connectors and associated components – Outside diameters of tubes and inside diameters of hoses.*”

1) In preparation.