

Hydraulic fluid power — Flange connectors with split or one-piece flange clamps and metric or inch screws —

**Part 2: Flange connectors for use at
pressures of 35 MPa (350 bar) to
40 MPa (400 bar), DN 13 to DN 51**

ICS 23.100.40

National foreword

This British Standard reproduces verbatim ISO 6162-2:2002 and implements it as the UK national standard. Together with BS ISO 6162-1:2002 it supersedes BS 7796:1995 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee MCE/18, Fluid power systems and components, to Subcommittee MCE/18/-/4, Connectors and associated components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 13 December 2002

Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 18, an inside back cover and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 13 December 2002

ISBN 0 580 40947 3

INTERNATIONAL STANDARD

BS ISO 6162-2:2002

ISO
6162-2

First edition
2002-12-01

Hydraulic fluid power — Flange connectors with split or one-piece flange clamps and metric or inch screws —

Part 2:

**Flange connectors for use at pressures of
35 MPa (350 bar) to 40 MPa (400 bar), DN 13
to DN 51**

*Transmissions hydrauliques — Raccordements à bride avec demi-bridés ou
bride monobloc et vis métriques ou en inches —*

*Partie 2: Raccordements à bride pour utilisation à des pressions de 35 MPa
(350 bar) à 40 MPa (400 bar), DN 13 à DN 51*



Reference number
ISO 6162-2:2002(E)

AVA Documents
Document Sharing Hub

Contents

	Page
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Material	2
5 General specifications	2
6 Dimensions	3
7 Tolerances	3
8 Finish	3
9 Pressure/temperature requirements	4
10 Marking	4
11 Designation of flange connections and their parts	5
12 Identification statement (Reference to this part of ISO 6162)	5

Annexes

A Equivalent SAE O-rings	16
B Equivalent inch screw strengths.....	17
Bibliography.....	18

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 6162 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6162-2 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

This first edition of ISO 6162-2 together with first edition of ISO 6162-1 cancel and replace the first edition of ISO 6162:1994, which has been technically revised.

ISO 6162 consists of the following parts, under the general title *Hydraulic fluid power — Flange connectors with split or one-piece flange clamps and metric or inch screws*:

- *Part 1: Flange connectors for use at pressures of 3,5 MPa (35 bar) to 35 MPa (350 bar), DN 13 to DN 127*
- *Part 2: Flange connectors for use at pressures of 35 MPa (350 bar) to 40 MPa (400 bar), DN 13 to DN 51*

Annexes A and B of this part of ISO 6162 are for information only.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Components are interconnected through their ports and associated fluid conductor connector ends.

Hydraulic fluid power — Flange connectors with split or one-piece flange clamps and metric or inch screws —

Part 2:

Flange connectors for use at pressures of 35 MPa (350 bar) to 40 MPa (400 bar), DN 13 to DN 51

WARNING — Users of this part of ISO 6162 shall ensure that suitable material is chosen for the port to maintain the required working pressure, if carbon steel is not used. Also, the tube material and wall thickness depend on the selected working pressure and tube diameter. Tube dimensions shall be calculated in accordance with ISO 10763.

1 Scope

This part of ISO 6162 specifies complete general and dimensional characteristics for flange heads, split flange clamps (FCS), one-piece flange clamps (FC) and ports applicable to four-screw, split and one-piece flange clamp type tube and hose connectors for use at pressures of 35 MPa (350 bar¹⁾) to 40 MPa (400 bar). It also specifies the dimensions of the seals to be used, as well as the grooves to house the seal.

This part of ISO 6162 also recognizes the need to accommodate metric (type 1) screw fasteners, as well as to provide a means to use existing inch (type 2) screw fasteners.

These connectors are intended for application in hydraulic systems on industrial and commercial products, where it is desired to avoid the use of threaded connectors.

Surges of pressure higher than the nominal ratings will reduce the ability of the flange connectors to retain the hydraulic fluid. This should be taken into account in the design of the hydraulic system.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 6162. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 6162 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

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

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0.06 to 6 in*

ISO 273, *Fasteners — Clearance holes for bolts and screws*

1) 1 bar = 0,1 MPa = 10⁵ Pa; 1 Pa = 1 N/m².