



National Fluid Power Association

ANSI/(NFPA)T3.16.2 R1-1997(R2005)
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Hydraulic fluid power – Design for nonintegral industrial reservoirs

(Revision and redesignation of ANSI/B93.18-1973)

A NATIONAL INDUSTRY STANDARD FOR FLUID POWER

Approved by Committee ASC B93,
accredited by the American National Standards Institute (ANSI)



Descriptors: capacity, additional; capacity, breather; capacity, fluid; hydraulic fluid power; reservoir, hydraulic; reservoir, nonintegral; reservoir, top-mounted.

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Foreword

This Foreword is not part of American National Standard *Hydraulic fluid power – Design for nonintegral industrial reservoirs*, ANSI/(NFPA)T3.16.2 R1-1997 (Revision of ANSI/B93.18-1973).

A Title Scope and Purpose (TSP) was prepared at the 17 August 1993 Hydraulic Systems Technology Committee (T2.24) meeting. The Technical Board approved the TSP at their 14 April 1994 meeting. James C. White (Danfoss Fluid Power, Inc.) agreed to serve as Project Chairman.

Draft No. 1 was sent to the Project Group on 16 May 1994 with a request to review the document prior to the first Project Group meeting. The Project Group met on 20 September 1994 and reviewed the document and made changes. The Project Group recommended that after the changes were made, the document be submitted for General Review.

Headquarters' Technical Staff prepared and sent the document out for General Review on 1 November 1994. The General Review closed on 15 December 1994 with comments from five companies. The Project Group met on 7 February 1995 to review the comments.

Letters to the commentators were sent out on 28 April 1995 and Headquarters received an updated document on 1 May 1995. The document was updated on 3 May 1995 and the Project Group meeting for May 1995 was postponed so the commentators would have 30 days to review the response to their comments. A copy of the updated document, Proposed Ballot Draft, was circulated with the postponement notice so that the Project Group could approve the document for Balloting, contingent upon the commentators signing off. Additional editorial comments were incorporated into the document with the Project Chairman's approval on 27 July 1995. This document was granted approval to Ballot at the 17 August 1995 Technical Board meeting.

This document was sent out for Ballot on 21 August 1995. Balloting closed with one negative vote and three approval votes with comments. The approval comments were taken care of by June 1996 and the negative comment was taken care of by August 1996. The document was granted final approval at the 15 August 1996 Technical Board meeting.

Project group members who developed this standard:

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On 30 August 1996 ANSI/(NFPA)T3.16.2 R1-19xx was submitted to ANSI Committee B93 for Ballot. Balloting closed with no negative comments. ANSI granted final approval to this document on 7 April 1997.

The membership roster of Standards Committee B93 at the time of Ballot:

Jack C. McPherson

Chairman

Daniel B. Shore

Vice Chairman

Shirley C. Seal

Secretary

American Society of Agricultural Engineers

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Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within a closed circuit.

Reservoirs are devices which:

- store the fluid;
- facilitate separation of contaminants;
- facilitate dissipation of heat;
- provide mounting for system components;
- provide accessibility for service and handling;
- facilitate separation of air from the fluid;
- facilitate system fluid volume changes.

Hydraulic fluid power — Design for nonintegral industrial reservoirs

1 Scope

To include nonintegral reservoirs applicable to fluid power hydraulic systems as defined in ANSI/B93.2 except reservoirs, sealed, pressurized, and where size does not permit. Intensifiers and air-oil storage tanks are sometimes considered reservoirs, they are not included within the scope of this document.

Although filters are frequently located in reservoirs, filters are separate components and are not included within the scope of this standard. Refer to separate documents, such as ANSI/(NFPA/JIC)T2.24.1, for filtration requirements.

The purpose of this document is to establish basic requirements for the design, construction and selection; to provide the proper function and maintenance features; and to allow manufacturer's freedom of design within these basic requirements.

This document in no way prevents applying integral hydraulic reservoirs, nor fabricating and applying nonintegral reservoirs of less comprehensive features and construction. However, it does provide the machine tool or related equipment purchaser with the option to specify a proven design, quality components, good workmanship practices, and maintenance cost reduction technique.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this document. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below. NFPA maintain registers of currently valid NFPA/ANSI standards.

ANSI/B93.2-1986, *Fluid power systems and products — Glossary*.

ANSI/IEEE 268:1992, *Metric Practice*.

ANSI/(NFPA/JIC)T2.24.1-1991, *Hydraulic fluid power — Systems standard for stationary industrial machinery*.

ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other units*.

ISO 6149-1:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 1: Ports with O-ring seal in truncated housing*.

ISO 6149-2:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 2: Heavy-duty (S series) stud ends — Dimensions, design, test methods and requirements*.

ISO 6149-3:1993, *Connections for fluid power and general use — Ports and stud ends with ISO 261 threads and O-ring sealing — Part 3: Light-duty (L series) stud ends — Dimensions, design, test methods and requirements*.