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Hydraulic fluid power — Quick-action coupling — Flush face type

Descriptors: coupling, Hydraulic Tool Manufacturers Association (HTMA), coupling, flush face, quick-action coupling, hydraulic tool coupling

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Foreword

This Foreword is not part of National Fluid Power Association Recommended Standard Hydraulic fluid power — Quick-action coupling — Flush face type, NFPA/T3.20.15-1990.

NFPA T3.20.15 Hydraulic fluid power — Quick action coupling for tool applications project work was initiated in October 1983, per request of the Hydraulic Tool Manufacturers Association (HTMA). The NFPA T3.20 Section approved the title scope and purpose (TSP) of the project at their 20 April 1984 meeting. The NFPA Technical Board approved the TSP at their 17 May 1984 meeting.

A rough draft which included HTMA requirements was reviewed by the T3.20 Section at their 2 October 1984, and 5 March 1985 meetings.

Draft No. 3 and proposed revisions were reviewed at the 18 March 1986 meeting following comments from HTMA.

Draft No. 4 reviewed at 30 September 1986 meeting again following comments from HTMA.

Following the 30 November 1986 HTMA meeting at E.H. Wash's Co. in Chicago, Draft No. 5 was revised to conform to HTMA requests.

Following an HTMA meeting in Portland on 4 September 1987, in which representatives from Stanley, Fairmont, Bruning, Hansen and Aeroquip were present, Draft No. 6 was revised to include connect under pressure, disconnect under flow and stencil requirements.

Draft No. 7 was submitted to committee members and reviewed. Corrections were made to an abbreviation on page 7 of 9 ("GMP" to "GPM") and the illustration of figure 2 (deleted a line through the blocked portion of the control valve).

At the 15 March 1988 meeting of T3.20, it was recommended that this project be submitted for General Review. NFPA Technical Staff prepared the document for general review on 27 May 1988.

After the resolution of negative comments, on 14 February 1989 T3.20 recommended that the document be forwarded to the NFPA Technical Board for approval to Ballot.

NFPA Technical Board granted approval to Ballot on 16 March 1989. Headquarters prepared the Ballot Draft on 5 May 1989.

The ballot closed with several comments which, where appropriate, were incorporated into the standard. The Quick-Action Couplings Section, T3.20, was balloted for their approval to submit T3.20.15 to the NFPA Technical Board for final approval. The ballot was favorable. On 13 September 1990 the Technical Board granted final approval to this standard.

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Hydraulic fluid power — Quick-action coupling — Flush face type

0 Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Quick-action couplings are used to quickly join or separate fluid conducting lines without the use of tools or special devices.

1 Scope and field of application

1.1 To include dimensions and performance requirements of a flush face valved coupling with both connected and disconnected sealing capabilities.

1.2 This Standard defines dimensional interchange only and does not guarantee functional interchange.

1.3 Series "A" is intended for medium duty service, i.e., hand tools and rigid mountings. Series "B" is intended for heavy duty service, i.e., hose lines and other areas subject to abuse or rough handling.

1.4 To promote interchangeability of quick-action coupling halves of the same reting.

1.5 To discourage interchangeability of quick-action coupling halves of different ratings.

2 References

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

NFPA/T3.20.1 R1-1989, *Fluid power systems — Quick—action couplings — Glossary.*

NFPA/T2.10.1M-1978 (R1986), *Metric Units for Fluid Power Applications.*

ANSI/(NFPA)T3.20.2 R2-1991, *Hydraulic fluid power - Quick-action coupling - Test method (revision and redesignation of ANSI/B93.42-1977.*

NFPA/T2.6.1 R1-1991, *Fluid power systems and products - Method for verifying the fatigue and establishing the burst pressure ratings of the pressure containing envelope of a metal fluid power component.*

3 Terms and definitions

For definitions of terms used, see ANSI/B93.2 and NFPA/T3.20.1 R1.

4 Units of measurement

4.1 Units of measurement are used in accordance with 73 NFPA/T2.10.1M. This document agrees with ISO 1000.

4.2 Approximate conversions to customary U.S. units are shown in parentheses after their metric counterparts and are made in accordance with NFPA/T2.10.1M.

5 Requirements

5.1 Rated pressure and rated flow are shown in table 1.

5.2 Verify rated operating pressure by impulse testing in accordance with ANSI/(NFPA)T3.20.2 R2 for 150,000 cycles.

5.3 Verify rated static pressure by static pressure testing in accordance with NFPA/T2.6.1 R1 for one cycle.