ASA/ANSI S2.75-2021/Part 3

AMERICAN NATIONAL STANDARD

Shaft alignment methodology, Part 3: alignment of vertically oriented rotating machinery

Secretariat:

Acoustical Society of America

Approved on November 4, 2021:

American National Standards Institute, Inc.

Abstract

This standard establishes methodology consistent with industry best practices for the measurement, analysis, and correction of alignment of shafts on vertically oriented rotating machinery coupled by either flexible or rigid type couplings. Examples of different types of vertically oriented pumps are discussed but the measurement, analysis, and correction principles will apply to any type of rotating machinery where the shafts are oriented in a position other than pure horizontal. The standard addresses conditions for machinery mounting, acceptability criteria for spigot fits on machine casings, and acceptability guidelines for vertically oriented shafts with rigid couplings. Ancilliary information is provided in five Annexes.

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Foreword

This Foreword is for information only and is not a part of the American National Standard ASA/ANSI S2.75-2021/Part 3 American National Standard Shaft alignment methodology, Part 3: alignment of vertically oriented rotating machinery. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.

This standard comprises a part of a group of definitions, standards, and specifications for use in mechanical vibration and shock. It was developed and approved by Accredited Standards Committee S2, Mechanical Vibration and Shock, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S2 is as follows:

Standards, specification, methods of measurement and test, and terminology in the field of mechanical vibration and shock, and condition monitoring and diagnostics of machines, including the effects of exposure to mechanical vibration and shock on humans, including those aspects which pertain to biological safety, tolerance and comfort.

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At the time this Standard was submitted to Accredited Standards Committee S2, Mechanical Vibration and Shock, for approval, the membership was as follows:

James T. Nelson, *Chair*
Anthony Nash, *Vice-Chair*

Nancy Blair-DeLeon, *Secretary*

Acoustical Society of America ..... James T. Nelson
..... Anthony Nash (Alt.)

Association of American Railroads ..... George Page
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..... John Pentikis (Alt.)

Vibration Institute ..... Brian Biby
..... Gyorgy Szasz (Alt.)

VibeTech, Inc. ..... Jeff Leismer

Vycon ..... Zhiyang Wang

Individual Experts of Accredited Standards Committee S2, Mechanical Vibration and Shock, were:

Anthony J. Brammer
Robert Koch
Karl Peterman

Working Group S2/WG 15 S2.75 Part 3, Alignment of Vertically Oriented Rotating Machinery, which assisted Accredited Standards Committee S2, Mechanical Vibration and Shock, in the development of this standard, had the following membership.

Brian Biby, *Chair*
Gene Vogel, *Vice-Chair*

Julian Hanks
John Lambert
John Piotrowski
Don Scaturro

Suggestions for improvements to this standard will be welcomed. They should be sent to Accredited Standards Committee S2, Mechanical Vibration and Shock, in care of the Standards Secretariat of the Acoustical Society of America, 1305 Walt Whitman Road, Suite 300, Melville, New York 11747. Telephone: +1 (516) 576-2341; E-mail: standards@acousticalsociety.org.

American National Standard

Shaft Alignment Methodology, Part 3: Alignment of Vertically Oriented Rotating Machinery

1. Scope

Application of alignment concepts concerning relative positions of vertically oriented rotating shafts connected by mechanical means. Examples of a dry pit vertical pumps are shown in figures 1 through 3. Examples of vertical turbine pumps are shown in figures 4 and 5. An example of a hollow shaft motor driven vertical pump is shown in figure 6. Figures 7 and 8 are examples of single stage overhung pumps.