

IEEE Standard for Performance of Adjustable-Speed AC Drives Rated 375 kW and Larger

IEEE Industry Applications Society

Sponsored by the
Petroleum and Chemical Industry Committee

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USA

IEEE Std 1566™-2015
(Revision of
IEEE Std 1566-2005)

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**Petroleum and Chemical Industry Committee
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Approved 16 February 2015

IEEE-SA Standards Board

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Abstract: AC adjustable speed drive (ASD) systems rated above 375 kW and above 750 V output voltage as used in petrochemical and similar applications are applicable to this standard. Performance requirements for an ASD system including, but not limited to, input transformer or reactor as required, power electronics, control interfaces, cooling system, switchgear, and motor are covered. Requirements for power quality, engineering analysis, start-up assistance, training, and spare parts are also included. Certain items such as the motor, switchgear, or transformer may be excluded from the scope of vendor supply if specified in the data sheets; any special requirements for the excluded equipment shall be given by the system vendor.

Keywords: adjustable speed, IEEE 1566™, large drives

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Introduction

This introduction is not part of IEEE Std 1566™-2015, IEEE Standard for Performance of Adjustable-Speed AC Drives Rated 375 kW and Larger.

IEEE Std 1566-2005 has been revised to address technology changes as well as working experience with the standard.

The need for a performance standard for ASD systems was perceived as a means to reduce confusion when specifying large drive systems for petrochemical and similar applications. Therefore, the work of this document was started in 2000. Input was received from users, manufacturers, and consultants in the industry.

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1. Overview

1.1 Scope

This standard applies to ac adjustable-speed drive (ASD) systems rated above 375 kW and above 750 V output voltage as used in petrochemical and similar applications. It covers the performance requirements for an ASD system including, but not limited to, input transformer or reactor as required, power electronics, control interfaces, cooling system, switchgear, and motor. Requirements for power quality, engineering analysis, start-up assistance, training, and spare parts are also included. Certain items such as the motor, switchgear, or transformer may be excluded from the scope of vendor supply if specified in the data sheets; the system vendor shall specify any special requirements for the excluded equipment.

1.2 Purpose

The purpose of this standard is to assist users in defining the required performance of a drive system in clear terms. It is not intended to specify a particular technology that must be followed. It is to be used with the data sheets provided in Annex A and Annex B.