

**1997  
STANDARD for**

**DEFINITE  
PURPOSE AND  
LIMITED DUTY  
DEFINITE  
PURPOSE  
MAGNETIC  
CONTACTORS**



**AIR-CONDITIONING &  
REFRIGERATION  
INSTITUTE**

**Standard 780/790**

**IMPORTANT**

***SAFETY RECOMMENDATIONS***

It is strongly recommended that the product be designed, constructed, assembled and installed in accordance with nationally recognized safety requirements appropriate for products covered by this standard.

ARI, as a manufacturers' trade association, uses its best efforts to develop standards employing state-of-the-art and accepted industry practices. However, ARI does not certify or guarantee safety of any products, components or systems designed, tested, rated, installed or operated in accordance with these standards or that any tests conducted under its standards will be non-hazardous or free from risk.

Note:

This standard supersedes ARI Standards 780-86 and 790-86.

## TABLE OF CONTENTS

SECTION		PAGE
Section 1.	Purpose .....	1
Section 2.	Scope .....	1
Section 3.	Definitions .....	1
Section 4.	Classification .....	1
Section 5.	Sizes and Ratings .....	2
Section 6.	Test Requirements .....	2
Section 7.	Performance Requirements .....	3
Section 8.	Minimum Data Requirements for Published Ratings .....	6
Section 9.	Marking and Nameplate Data .....	6
Section 10.	Voluntary Conformance .....	6

## TABLES

Table 1.	Sizes and Ratings - Definite Purpose and Limited Duty Contactors .....	2
Table 2.	Load Test Voltages .....	2

## FIGURES

Figure 1.	Load Test Diagrams .....	6
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## APPENDICES

Appendix A.	References - Normative .....	7
Appendix B.	References - Informative .....	7

# DEFINITE PURPOSE AND LIMITED DUTY DEFINITE PURPOSE MAGNETIC CONTACTORS

## Section 1. Purpose

**1.1 Purpose.** The purpose of this standard is to establish, for definite purpose and limited duty definite purpose magnetic contactors within its scope: definitions; classifications; sizes and ratings; requirements for testing and performance; minimum data requirements for published ratings; marking and nameplate data; and conformance conditions.

**1.1.1 Intent.** This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors and users.

**1.1.2 Review and Amendment.** This standard is subject to review and amendment as technology advances.

## Section 2. Scope

**2.1 Scope.** This standard applies to contactors intended for use in refrigeration and air-conditioning equipment.

**2.1.1 Definite Purpose Magnetic Contactors.** These contactors are suitable for use with pilot duty protected compressor motors where they are part of the motor protection system. They are also applicable as controls for fan motors, pump motors, resistive loads, etc.

**2.1.2 Limited Duty Definite Purpose Magnetic Contactors.** These contactors are intended for use where the contactor is not part of the compressor motor protection circuit or primary safety circuit, and may also be applicable as controls for fan motors, pump motors, resistive loads, etc.

## Section 3. Definitions

**3.1 Definitions.** All terms in this document will follow the standard industry definitions established in the current edition of *ASHRAE Terminology of Heating, Ventilation, Air Conditioning, and Refrigeration*, unless otherwise defined in this section.

**3.2 Definite Purpose Magnetic Contactors.** A device for repeatedly establishing and interrupting an electric power circuit for application on compressor motors, fan and pump motors, other motors, and resistive heater loads as part of

the motor protection system and may be either an integral part of an air conditioning or refrigeration unit, or mounted on the control panel for such a unit.

**3.3 Limited Duty Definite Purpose Magnetic Contactors.** A device for repeatedly establishing and interrupting an electric power circuit for application on compressor motors, fan and pump motors, other motors, and resistive heater loads, and may be an integral part of an air-conditioning or refrigeration unit, but where the contactor itself is not a part of the safety circuit or motor protection system of the unit.

**3.4 "Shall," "Should," "Recommended" or "It Is Recommended."** "Shall," "should," "recommended" or "it is recommended" shall be interpreted as follows:

**3.4.1 Shall.** Where "shall" or "shall not" is used for a provision specified, that provision is mandatory if compliance with the standard is claimed.

**3.4.2 Should, Recommended or It Is Recommended.** "Should," "recommended" or "it is recommended" is used to indicate provisions which are not mandatory but which are desirable as good practice.

**3.5 Published Rating.** A statement of the assigned values of those performance characteristics, under stated rating conditions, by which a unit may be chosen to fit its application. These values apply to all units of like nominal size and type (identification) produced by the same manufacturer. As used herein, the term "published rating" includes the rating of all performance in specifications, advertising or other literature controlled by the manufacturer, at stated rating conditions.

**3.5.1 Standard Rating.** A rating based on tests performed at Standard Rating Conditions.

**3.5.2 Application Rating.** A rating based on tests performed at application rating conditions (conditions other than Standard Rating Conditions).

## Section 4. Classification

**4.1 Contactor Classifications.** Contactors are classified into two types as defined in Section 3; definite purpose magnetic contactors and limited duty definite purpose magnetic contactors.