

# ANSI/AHRI Standard 710 (I-P)

**2009 Standard for**

# **Performance Rating of Liquid-Line Driers**



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Note:

This standard supersedes ARI Standard 710-2004.  
For SI ratings, see AHRI Standard 711 (SI)-2009.



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# PERFORMANCE RATING OF LIQUID-LINE DRIERS

## Section 1. Purpose

**1.1 Purpose.** The purpose of this standard is to establish for Liquid-line Driers: definitions; test requirements; rating requirements; 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 Liquid-line Driers utilizing solid Desiccants designed for use in the liquid line of all types of refrigeration and air-conditioning systems.

**2.2 Applicability.** This standard applies to Liquid-line Driers for use in refrigerant systems employing the halocarbon refrigerants listed in Table 1, as described in ANSI/ASHRAE Standard 34:

Refrigerant Number	Chemical Name	Chemical Formula
R-12	dichlorodifluoromethane	CCl <sub>2</sub> F <sub>2</sub>
R-22	monochlorodifluoromethane	CHClF <sub>2</sub>
R-134a	1,1,1,2-tetrafluoroethane	CH <sub>2</sub> FCF <sub>3</sub>
R-245fa	1,1,1,3,3-pentafluoropropane	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>
R-404A	Refrigerants 125/143a/134a 44.0/52.0/4.0 % wt.	CHF <sub>2</sub> CF <sub>3</sub> / CH <sub>3</sub> CF <sub>3</sub> / CH <sub>2</sub> FCF <sub>3</sub>
R-407C	Refrigerants 32/125/134a 23.0/25.0/52.0 % wt.	CH <sub>2</sub> F <sub>2</sub> / CHF <sub>2</sub> CF <sub>3</sub> / CH <sub>2</sub> FCF <sub>3</sub>
R-410A	Refrigerants 32/125 50.0/50.0 % wt.	CH <sub>2</sub> F <sub>2</sub> / CHF <sub>2</sub> CF <sub>3</sub>
R-502	Refrigerants 22/115 48.8/51.2 % wt.	CHClF <sub>2</sub> / CClF <sub>2</sub> CF <sub>3</sub>
R-507A	Refrigerants 125/143a 50.0/50.0 % wt.	CHF <sub>2</sub> CF <sub>3</sub> / CH <sub>3</sub> CF <sub>3</sub>

**2.3 Exclusions.** This standard does not apply to liquid anti-freeze solution Desiccants or driers used in the suction line or low side of refrigeration and air-conditioning systems.

**2.4 Limitations.** This standard provides a means of determining Water Capacity and Refrigerant Flow Capacity of a Liquid-line Drier at specified conditions. This standard does not attempt to reflect the performance of a Liquid-line Drier over the entire range of possible applications. Therefore, acid and particulate removal are not considered here.

**2.4.1 Acid Removal.** It is known that acid in a refrigeration system causes harmful corrosion. Many Liquid-line Driers will remove acids. However, there is no knowledge at the present time as to what concentration of various acids is allowable, nor how to test a liquid-line drier's ability to remove these acids. Therefore, while noting its importance, no consideration of acid removal is given in this standard at this time.