ANSI/AHRI Standard 711 (SI)

2009 Standard for

Performance Rating of Liquid-Line Driers

Approved American National Standard ANSI

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Note:

This standard supersedes ARI Standard 710-2004.
For I-P ratings, see AHRI Standard 710 (I-P)-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:

Table 1. Applicable Refrigerant Systems

Refrigerant Number	Chemical Name	Chemical Formula
R-12	dichlorodifluoromethane	$CC1_2F_2$
R-22	monochlorodifluoromethane	$CHC1F_2$
R-134a	1,1,1,2-tetrafluoroethane	CH_2FCF_3
R-245fa	1,1,1,3,3-pentafluoropropane	$CHF_2CH_2CF_3$
R-404A	Refrigerants 125/143a/134a 44.0/52.0/4.0 % wt.	CHF_2CF_3/ CH_3CF_3/ CH_2FCF_3
R-407C	Refrigerants 32/125/134a 23.0/25.0/52.0 % wt.	CH_2F_2/ CHF_2CF_3/ CH_2FCF_3
R-410A	Refrigerants 32/125 50.0/50.0 % wt.	CH_2F_2/ CHF_2CF_3
R-502	Refrigerants 22/115 48.8/51.2 % wt.	$CHC1F_2$/ $CC1F_2CF_3$
R-507A	Refrigerants 125/143a 50.0/50.0 % wt.	CHF_2CF_3/ CH_3CF_3

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.

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