1997 STANDARD for

REFRIGERANT ACCESS VALVES AND HOSE CONNECTORS

Standard 720

4301 NORTH FAIRFAX DRIVE • ARLINGTON, VIRGINIA 22203

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 manufacturer's 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 test conducted under its standards will be non-hazardous or free from risk.

Note:

This Standard supersedes ARI Standard 720-88.

Price $10.00 (M) $20.00 (NM)
Printed in U.S.A.

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REFRIGERANT ACCESS VALVES AND HOSE CONNECTORS

Section 1. Purpose

1.1 *Purpose.* The purpose of this standard is to establish, for refrigerant access valves and hose connectors used in refrigerating and air-conditioning systems; definitions, location requirements, dimensions and materials, gaging procedures and conformance requirements.

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 1/4 in. SAE flare refrigerant access valves and hose connectors as defined in Section 3.

2.1.1 *Refrigerant.* This standard applies to access valves and hose connectors intended intended for use with halogenated hydrocarbon refrigerants.

Section 3. Definitions

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

3.2 *Refrigerant Access Valve.* A refrigerant access valve is a normally closed valve containing a refrigerant valve core, incorporating a SAE external flare connection means and used for the purpose of servicing refrigeration or air conditioning systems.

3.3 *Refrigerant Access Valve Body.* A refrigerant access valve body is a special fitting machined such that it provides the external details of a SAE flare connector, and internal details to permit the insertion of a refrigerant valve core.

3.4 *Refrigerant Access Valve Hose Connector.* A refrigerant access valve hose connector is a modified SAE internal threaded flare connector suitable for sealed attachment to a refrigerant hose and containing a flare sealing gasket and a depressor to automatically depress the valve core pin as the connector is threaded on the access valve external flare connection.

3.5 *Refrigerant Valve Core.* A refrigerant valve core is an assembly containing a spring and moveable core pin and seating details, suitably threaded for insertion into a refrigerant access valve body to provide a normally closed valve arrangement intended for use with a refrigeration or air conditioning system. Depression of the core pin opens the valve.

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

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

3.6.2 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.

Section 4. Location Requirements

4.1 *Location of Valve Core Pin in Access Valve Body.* The internal machining of the access valve body shall be such that the insertion of the valve core into the valve body with a recommended initial assembly torque between 1-½ to 3 inch pounds [1.7 to 3.4 cm kg or 0.17 to 0.34 N•m], shall provide a refrigerant seal and position the top of the core pin at a location between 0.010 in. [0.25 mm] above to 0.035 in. [0.89 mm] below the end face of the valve body flare, see Figure 3.

4.2 *Location of Hose Connector Gasket and Core Pin Depressor.* With the core pin located within the limits specified by this standard, the core pin depressor in the hose connector shall be positioned to permit threaded engagement with the access body flare threads and connector gasket contact with the body flare face before the depressor engages the core pin.

It is recommended that for full flow the hose connector and pin depressor should be capable of depressing the core pin a minimum of 0.020 in. [0.51 mm].

Section 5. Dimensions and Materials