

Submitted for recognition as an American National Standard

**HFC-134a (R-134a) Refrigerant Recovery Equipment for Mobile Automotive
Air-Conditioning Systems**

Foreword—SAE J2210 established equipment specifications for on-site recovery and reuse of HFC-134a (R-134a) in mobile air-conditioning (A/C) systems. These specifications are for HFC-134a (R-134a) recovery (extraction) only equipment that are intended to be used in conjunction with the on-site recovery/recycling (R/R) equipment used at service facilities, or allow for off-site refrigerant reclamation.

1. **Scope**—The purpose of this SAE Standard is to provide equipment specifications for the recovery of HFC-134a (R-134a) refrigerant to be returned to a refrigerant reclamation facility that will process it to the appropriate ARI 700 Standard or allow for recycling of the recovered refrigerant to SAE J2210 specifications by using Design Certified equipment of the same ownership. It is not acceptable that the refrigerant removed from a mobile air-conditioning (A/C) system, with this equipment be directly returned to a mobile A/C system.

This information applies to equipment used to service automobiles, light trucks, and other vehicles with similar HFC-134a (R-134a) A/C systems.

2. **References**

- 2.1 **Applicable Publications**—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

- 2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J639—Safety and Containment of Refrigerant for Mechanical Vapor Compression Systems Used for Mobile Air-Conditioning Systems

SAE J1771—Criteria for Refrigerant Identification Equipment for Use with Mobile Air-Conditioning Systems

SAE J2210—HFC-134a (R-134a) Recovery/Recycling Equipment for Mobile Automotive Air-Conditioning Systems

SAE J2196—Service Hose for Automotive Air Conditioning

SAE J2296—Retest of Refrigerant Containers

- 2.1.2 ARI PUBLICATION—Available from Air Conditioning and Refrigeration Institute, 1501 Wilson Boulevard, Sixth Floor, Arlington, VA 22209.

ARI 700—Specifications for Fluorocarbon Refrigerants

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2.1.3 CGA PUBLICATION—Available from CGA, Crystal Gateway #1, Suite 501, 1235 Jefferson Davis Highway, Arlington, VA 22202.

CGA S-1.1—Pressure Relief Device Standard Part 1—Cylinders for Compressed Gases

2.1.4 DOT SPECIFICATION—Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

CFR 49, Section 173.304—Shippers—General Requirements for Shipments and Packagings

2.1.5 UL PUBLICATION—Available from Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 1769—Cylinder Valves

3. **Specifications and General Description**

3.1 The equipment must be able to recover (extract) HFC-134a (R-134a) refrigerant from a mobile A/C system.

3.2 The equipment shall be suitable for use in an automotive service garage environment as defined in 6.8.

3.3 **Equipment Certification**—The equipment shall be certified by Underwriters Laboratories or an equivalent certifying EPA listed laboratory to meet SAE J1732.

3.4 **Label Requirements**—The equipment shall have a label "Design Certified by (Company Name) to meet SAE J1732 for use only with HFC-134a (R-134a). The refrigerant from this equipment must be processed to the appropriate ARI 700 specifications or to SAE J2210 specifications by using Design Certified equipment of the same ownership." The minimum letter size shall be bold type, 3 mm in height.

4. **Safety Requirements**

4.1 The equipment must comply with applicable federal, state, and local requirements on equipment related to the handling of HFC-134a (R-134a) material. Safety precautions or notices, labels, related to the safe operation of the equipment shall also be prominently displayed on the equipment and should state "CAUTION—SHOULD BE OPERATED BY CERTIFIED PERSONNEL." The safety identification shall be located on the front near the controls.

4.2 The equipment must comply with applicable safety standards for electrical and mechanical requirements.

5. **Operating Instructions**

5.1 The equipment manufacturer must provide operating instructions that include information required by SAE J639, necessary maintenance procedures, and source information for replacement parts and repair.

5.1.1 The instruction manual shall include the following information on the lubricant removed. Only new lubricant, as identified by the system manufacturer, should be replaced in the mobile A/C system. Removed lubricant from the system and/or the equipment shall be disposed of in accordance with the applicable federal, state, and local procedures and regulations.

5.2 The equipment must prominently display the manufacturer's name, address, the type of refrigerant it is designed to extract, a service telephone number, and any items that require maintenance or replacement that affect the proper operation of the equipment. Operation manuals must cover information for complete maintenance of the equipment to assure proper operation.