

# Safety Guide

## Selecting and Using Refrigerating Specialties Division Products and Related Accessories

### Safety Bulletin RSBSG

**⚠ WARNING: FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF REFRIGERATING SPECIALTIES DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS (“PRODUCTS”) CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:**

- Injuries or damage resulting from inhalation or exposure to conveyed fluids
- Injuries from lifting or supporting a heavy item
- Electric shock from contact with live electrically energized components
- Explosion

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

#### 1. General Instructions

- 1.1. Scope: This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Refrigerating Specialties Division products (R/S Products).
- 1.2. Fail-Safe: R/S Products can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of these products and related accessories will not endanger persons or property.
- 1.3. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of R/S Products. Do not select or use R/S Products without thoroughly reading and understanding this safety guide as well as the specific R/S publications for the products considered or selected.
- 1.4. User Responsibility: Due to the wide variety of operating conditions and applications for R/S Products, Parker and its distributors do not represent or warrant that any particular R/S Product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
  - Making the final selection of the appropriate R/S Product.
  - Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
  - Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the R/S Products are used; and,
  - Assuring compliance with all applicable government and industry standards.
- 1.5. Safety Devices: Safety devices should not be removed or defeated.
- 1.6. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.
- 1.7. Additional Questions and Information: If you have any additional questions or require further information call 1-708-681-6300 or go to [www.parker.com/refspec](http://www.parker.com/refspec). Safety Bulletins RSBCV and RSBHV can also be obtained there.

#### 2. Product Selection Instructions

- 2.1. Pressure rating: Never exceed the maximum rated pressure sometimes referred to as the design pressure of a refrigeration system. Consult product labeling, R/S catalogs or the instruction sheets supplied with R/S Products for maximum rated pressure.
- 2.2. Temperature rating: Never operate outside the rated temperature limits of an R/S Product. Operating the R/S Product outside the rated temperature limits can result in product failure. Consult R/S Product labeling, R/S catalogs, or the instruction sheets



ENGINEERING YOUR SUCCESS.

supplied with the R/S Products for maximum and minimum fluid temperature limits

- 2.3. Flow Rate: The flow rate requirements are a primary consideration when designing a refrigeration system. System components need to be able to reliably provide minimum and maximum flow requirements for the desired application. Flow ratings are provided in the R/S catalog.
- 2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. R/S Products are designed for use in general purpose industrial applications. Typical refrigerants used with these products are explosive, corrosive, caustic, or greenhouse gases. Compliance with government, industry or environmental standards is required.
- 2.5. Fluid Compatibility: Compatibility references can be found in R/S catalogs or calling 1-708-681-6300 or going to [www.parker.com/refspec](http://www.parker.com/refspec) for any additional questions or information.

### 3. Product Assembly and Installation Instructions

- 3.1. Component Inspection: Prior to assembly or installation a careful examination of these R/S Products must be performed. All R/S Products must be checked for correct style, size, and catalog number. DO NOT use any R/S Product that displays any signs of nonconformance.
- 3.2. Hydrostatic Expansion: Hydrostatic expansion (thermal expansion due to heating of liquids in a confined space) of liquid refrigerant trapped between refrigeration components can create dangerously high pressures and rupture components. See R/S Product bulletins and installation instructions for more detail on precautions to take to avoid damage or injury.
- 3.3. Installation Instructions: R/S published installation instructions must be followed for installation of R/S Products. These instructions are provided with every R/S Product sold, or by calling 1-800-627-4593, or at [www.parker.com/refspec](http://www.parker.com/refspec).

### 4. Valve and Accessory Maintenance and Replacement Instructions

- 4.1. Maintenance: R/S Product service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of R/S Products so that they are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.6.
- 4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the R/S Product in question. These service and installation instructions are provided with every R/S Product sold, or are available by calling 1-800-627-4593, or at [www.parker.com/refspec](http://www.parker.com/refspec).
- 4.3. System Isolation Hazards: Care must be taken when isolating system components for service or replacement. As a guide see the appropriate bulletins published by the International Institute of Ammonia Refrigeration available at [www.iiar.org](http://www.iiar.org). Also see R/S Safety Bulletins RSBCV and RSBHV available at [www.parker.com/refspec](http://www.parker.com/refspec) for guidelines to avoid potentially dangerous conditions.
- 4.4. Visual Inspection: Any of the following conditions requires immediate system shut down, replacement of worn or damaged components, or correction of any system malfunction. These conditions can mask potentially hazardous situations and should be corrected.
  - Leakage to the atmosphere: Look and listen to see if there are any signs of damage to any of the components in the system.
  - Damaged or degraded components: Look to see if there are any visible signs of wear, component degradation or excessive corrosion.
  - Any observed improper system or component function.
  - Excessive dirt and/or ice build-up.
- 4.5. Service or Replacement Intervals: It is the user's responsibility to establish appropriate service and/or replacement intervals. R/S Products do wear and can deteriorate over time. Environmental conditions can significantly accelerate this process. R/S Products need to be serviced or replaced on routine intervals. Service intervals need to be established based on:
  - Previous performance experiences.
  - Government and/or industrial standards.
  - When failures could result in unacceptable down time, equipment damage or personal injury risk.
- 4.6. Servicing or replacing any worn or damaged parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:
  - Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
  - Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
  - Components installed in pressurized refrigerant piping must be isolated from the refrigeration system and the refrigerant safely purged from the component. See 4.3 above.
  - Installation, servicing, and / or conversion of these products must be performed by knowledgeable and qualified personnel.
  - After installation or servicing electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If leakage is present or if the product does not operate properly, do not put the product or system into use.
  - Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.
  - Putting Serviced System Back into Operation: Follow the guidelines above and all relevant installation and maintenance instructions supplied with the R/S Product to insure proper function of the system.

