Vacuum Products
Cups, Generators, Sensors & Accessories
Catalog 0802-E
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This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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Vacuum Accessories
Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

⚠️ WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC 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:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

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 Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.

1.2. Fail-Safe: Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.


1.4. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.5. User Responsibility: Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum 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 valve, FRL, Vacuum component, or accessory.
- 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 valves, FRLs or Vacuum products are used; and,
- Assuring compliance with all applicable government and industry standards.

1.6. Safety Devices: Safety devices should not be removed, or defeated.

1.7. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.

1.8. Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

2.1. Flow Rate: The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.

2.2. Pressure Rating: Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.

2.3. Temperature Rating: Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.

2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.

2.5. Lubrication and Compressor Carryover: Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:

- Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
- Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.
2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

2.8. Product Rupture: Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
- Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
- Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1. Component Inspection: Prior to assembly or installation a careful examination of the valves, FRLs, or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

3.2. Installation Instructions: Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.

3.3. Air Supply: The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing.

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1. Maintenance: Even with proper selection and installation, valve, FRL and vacuum products 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 Pneumatic Division products so that products 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 4.9.

4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.


4.4. Visual Inspection: Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:
- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test: Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals: It is the user’s responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components 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.

4.8. Servicing or Replacing of any Worn or Damaged Parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put 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.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.
1. Definitions. As used herein, the following terms have the meanings indicated.

Buyer: means any customer receiving a Quote for Products from Seller.

Goods: means any tangible part, component or system to be disposed of or transferred to Buyer.

Products: means the Goods, Services and/or Software as described in a Quote provided by the Seller.

Quote: means the offer or proposal made by Seller to Buyer for the supply of Products.

Seller: means Parker-Hannifin Corporation, including all divisions and businesses therein.

Terms: means the terms and conditions of this Offer of Sale or any newer version of the same as published by Seller electronically at the Website.

2. Terms. All sales of Products by Seller are contingent upon, and will be governed by, these Terms and, these Terms are incorporated into any Quote provided by Seller to any Buyer. Buyer’s order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other elecronic means is subject to prior approval by Seller. Seller reserves the right to modify prices at any time to adjust for any raw material price fluctuations. Unless otherwise specified by Seller, all prices are F.C.A. Seller’s facility (INCOTERMS 2010). All sales are contingent upon acceptance of Goods by Buyer within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the disposition of the Goods; (ii) Buyer’s obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the disposition of the Goods; (iii) Software is only warranted to perform in accordance with applicable specifications provided by Buyer to Seller for thirty (30) days from the date of delivery of the Software to Buyer and refund to Buyer all fees and other charges paid by Buyer for the Software if the Software does not conform to such specifications; (iv) no claim for shortage will be allowed unless reported to the Seller within ten (10) days of delivery. Buyer shall defend, indemnify and hold harmless Seller from any losses, claims, liabilities, damages, losses, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property, and/or any other claim, brought by, on behalf of, or at the direction of any employee, officers, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products provided by Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller’s use of any equipment, process or design information furnished by Buyer; (d) any use of raw materials, labor, or equipment furnished by Supplier for the Products for any reason; or (e) Buyer’s failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

3. Price, Payment. The Products set forth in Seller’s Quote are offered for sale at the prices indicated in Seller’s Quote. Unless otherwise specifically stated in Seller’s Quote, prices are valid for thirty (30) days and do not include any sales, use or other taxes or duties. Seller reserves the right to modify prices at any time to adjust for any raw material price fluctuations. Unless otherwise specified by Seller, all prices are F.C.A. Seller’s facility (INCOTERMS 2010). All sales are contingent upon Buyer’s written order, unless otherwise specified in Seller’s Quote. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order. All sales are subject to Buyer’s written order.

4. Warranty. The warranty related to the Products is as follows: (i) Goods are warranted against defective material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of use, whichever occurs first; (ii) Services shall be performed in accordance with generally accepted practices of the industry, so long as the contractor is using reasonable care and skill in the performance of the work; (iii) Software is warranted only to perform in accordance with applicable specifications provided by Buyer for thirty (30) days from the date of delivery of the Software to Buyer and refund to Buyer all fees and other charges paid by Buyer for the Software if the Software does not conform to such specifications; (iv) no claim for shortage will be allowed unless reported to the Seller within ten (10) days of delivery. Buyer shall defend, indemnify and hold harmless Seller from any losses, claims, liabilities, damages, losses, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property, and/or any other claim, brought by, on behalf of, or at the direction of any employee, officers, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products provided by Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller’s use of any equipment, process or design information furnished by Buyer; (d) any use of raw materials, labor, or equipment furnished by Supplier for the Products for any reason; or (e) Buyer’s failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

5. Cancellations and Changes. Buyer may not cancel or modify any order for any reason, except with Seller’s written consent in writing, in which event the entire sales order will be void.

6. Limitation of Liability. Buyer assumes all risks of any defects resulting from Buyer’s use of the Goods, Services and/or Software. Seller shall not be liable for any loss or damage to such property while it is in Buyer’s possession or control.

7. Indemnity for Infringement of Intellectual Property Rights. Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights (“Intellectual Property Rights”) except as provided in this Section. Seller shall defend and hold Buyer harmless from any losses, claims, liabilities, damages, losses, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property, and/or any other claim, brought by, on behalf of, or at the direction of any employee, officers, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products provided by Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller’s use of any equipment, process or design information furnished by Buyer; (d) any use of raw materials, labor, or equipment furnished by Supplier for the Products for any reason; or (e) Buyer’s failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

8. Export Control. Seller has reviewed all of the information about Goods, Services and/or Software that it has received from Buyer and from any third parties to which Seller has access and has determined that the Goods, Services and/or Software are not subject to any export control laws of any country to which they are being shipped. Buyer represents and warrants that Goods, Services and/or Software have not been subject to any export control laws of any country to which they are being shipped and that Buyer shall comply with all export control laws of any country to which they are being shipped.

9. Governing Law. These Terms and the sale and delivery of all Products are deemed to have taken place in Cuyahoga County, Ohio and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and performed wholly therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio, in any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

10. Entire Agreement. The terms of this Agreement are the only terms between the Seller and Buyer for the sale of the Product and supersede all other terms and conditions of Buyer. Buyer acknowledges that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FCPA and the FDA and certifies that Buyer will adhere to the requirements thereof.