



**KITCHEN VENTILATION PRODUCTS**

## **VAN-PACKER FACTORY FABRICATED GREASE DUCT**

### **MODEL GRZ AND GZ**

### **PRODUCT ADVANTAGE**

#### **NFPA 96, Chapter 4, Section 4.3.3.1.**

“Factory-built grease duct protection system shall be listed in accordance with UL 2221”

#### **IMC Code Chapter 5, Section 506.3.11.3**

“Factory-built grease duct enclosure assemblies. Factory-built grease ducts incorporating integral enclosure materials shall be listed and labeled for use as grease duct enclosure assemblies specifically evaluated for such purpose in accordance with UL 2221”

### **The Safest Choice**

All **Van-Packer (V.P.)** grease duct products are tested, listed and labeled to UL 1978, Standard for Grease Duct. In addition, Models GRZ, Patent Pending, and GZ grease ducts are tested, listed, and labeled to UL 2221, Tests of Fire Resistive Grease Duct Enclosure Assemblies.

**Van-Packer Model GRZ and GZ, tested, listed, and labeled by ETL, an independent third-party agency.**

Once the entire grease duct system is assembled, it is a ***listed system***, which meets or exceeds the building occupant’s safety standards in addition to the owner’s standards and requirements. A listed system reduces liability for the installing contractor and specifying engineer because of its higher standards over field-fabricated duct.

**Van-Packer factory fabricated and listed grease duct meets the following standards:**

- The National Fire Prevention Association, NFPA 96
- The International Mechanical Code, IMC Section 5.06
- The Uniform Mechanical Code, Chapter 5, Part II
- The International Code Council, ICC AC101.

**NFPA reports cooking equipment is responsible for 57 percent of restaurant fires causing fires in field installed grease duct.**

## **VAN-PACKER PRODUCT ADVANTAGE**

V.P. is subject to random third party inspections of our manufacturing facility to assure the following:

- Strict adherence to all quality control procedures and standards during the listing process.
- Materials used meet the ASTM standards as specified in our listing and that we have traceable documentation for that material.
- All our manufacturing equipment is made in the USA, properly calibrated, and of the latest technology.
- Our experienced factory employees are trained to exceed in all criteria of our listings.

V.P. Exclusive Feature Specification - Our rectangular ducts, GRZ (fire rated, zero clearance) was tested, and listed for a 6:1 ratio, U.S. Patent No. D908,201. This allows more flexibility for those tight quarters where grease duct typically runs. An exclusive advantage.

V.P. Exclusive Ease of Alignment Feature - When fire rated duct penetrates a fire rated partition (floor, ceiling, or wall), other manufacturer's instructions require that the duct be centered in a precisely sized hole. Our firestop penetration design allows the space between the outside surface of the duct and the inside of the hole to vary from 1" to 4". GRZ grease ducts provide for a more flexible application, reducing labor cost, and exceeding UL 2221 standards.

V.P. Superior Quality Feature - Welding procedures are certified to AWS standards. Welded assemblies are routinely checked by our quality inspectors in accordance with AWS. Random inspections from UL and ETL ensure adherence to the highest safety and quality standards.

V.P. "Space Savings" Feature - Model GRZ fire rated, zero clearance grease duct saves space:

**For example**, an exhaust volume of 2,200 CFM, which will require a 10" X 20" rectangular duct or a 16" diameter round straight section. A 2-hour fire rating is also required (shaft wall thickness of at least 3'-0 5/8") all around. The choices are as follows in *Table 1*.

**Table 1: Listed duct vs. Field-fabricated dimensions:**

	<b>Construction Type</b>	<b>Internal Dimensions (in)</b>	<b>Dimension Type</b>	<b>External Dimensions (in)</b>	<b>Area (in<sup>2</sup>)</b>
<b>A.</b>	<b>Field-Fabricated Duct</b>	<b>10 x 20</b>	<b>Outside of Chase</b>	<b>29 1/4" X 39 1/4"</b>	<b>1148</b>
<b>B.</b>	<b>Rect. Fire Rated Duct (GRZ)</b>	<b>10 x 20</b>	<b>Outside of Duct</b>	<b>16" X 26"</b>	<b>416</b>
<b>C.</b>	<b>Field-Fabricated Duct</b>	<b>16 (diam.)</b>	<b>Outside of Chase</b>	<b>35 1/4" X 35 1/4"</b>	<b>1243</b>
<b>D.</b>	<b>Round Fire Rated Duct (GZ)</b>	<b>16 (diam.)</b>	<b>Outside of Duct</b>	<b>22 1/4" X 22 1/4"</b>	<b>495</b>

## VAN-PACKER PRODUCT ADVANTAGE

### SPACE SAVING ADVANTAGES

Model GRZ - is smaller and allows multiple ducts to run in a common shaft with minimal clearance space. *Figure 1* is an illustration of a non-rated uninsulated 16 gauge black iron grease duct in a chase with 18" clearance compared to Model GRZ zero clearance grease duct with no chase required, when firestops are used at the floor opening.

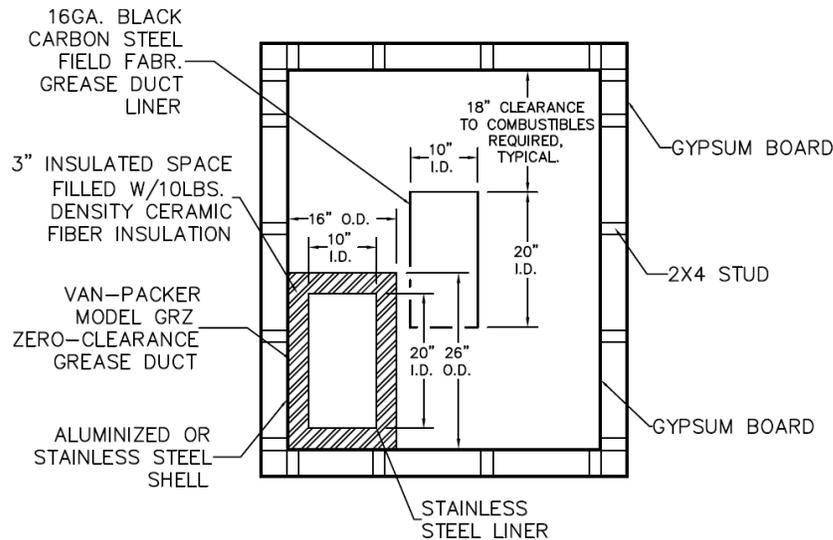
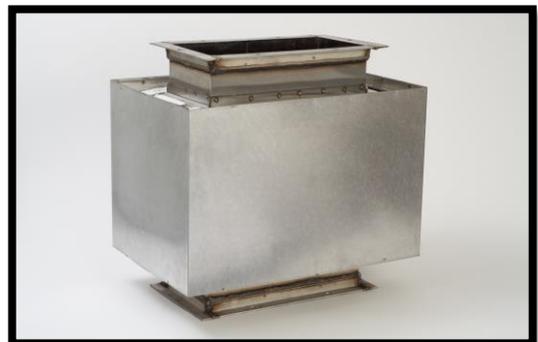


Figure 1: Size comparison of Rectangular UL 2221 Listed Duct versus Rectangular Field-Fabricated Duct

In the example above, an 81 percent reduction of space is achieved, including no labor to build a chase. Also, no labor needed for field welding, fire watch, and multiple inspections. Scheduling is so much easier.

Wrapped, welded, carbon steel duct may sag and deform during a grease fire due to the intense heat that is produced. A wrapped duct often has no reinforcement when built, so in a fire it can collapse, as shown in the photo. Our unique integral design keeps our duct Model GRZ from collapsing, even when exposed to temperatures of 2000 Degrees. It was rare for Model GRZ to deform under ETL's rigorous testing and exceeded UL 2221 acceptance criteria.



## **VAN-PACKER PRODUCT ADVANTAGE**

**V.P. Exclusive Feature Specification** - Model GRZ rectangular & GZ round grease duct systems have a significant difference in pitch than field fabricated grease duct.

**Table 2: Van-Packer factory fabricated and listed Model GRZ & GZ slope requirements:**

Model / Duct Type	Breeching less than 75 ft		Breeching greater than 75 ft	
	Required Drop (inches per foot)	Cumulative Drop at 75 ft (inches)	Required Drop (inches per foot)	Cumulative Drop at 76 ft (inches)
GRZ (Rectangular)	0.125	9.375	0.25	19
GZ (Round)	0.0625	4.6875	0.1875	14.25
Field Fabricated	0.25	18.75	1	76

**Model GRZ and GZ** - Stainless steel liner, leads to less grease deposition verses carbon steel because it does not corrode, so it stays smooth. The stainless steel liner is also easier to drain and clean than carbon steel. Cleaner duct decreases chances of a grease fire. ***Easy to sanitize your kitchen!***

**Model GRZ and GZ** - A single inspection is typically required at installation by the Authority Having Jurisdiction for Van-Packer factory built grease duct compared to two or three for field fabricated duct with fire wrap or in a fire rated chase.

### **Additional benefits of Van-Packer Models GRZ and GZ grease duct are:**

- Support component capabilities are known. Components are physically tested and ETL listed to assure they would carry the load of the duct. Weights and intervals are shown in the approved installation instructions making support design easy.
- Access door locations designed in accordance with code requirements and coordinated with the installer. Access doors installed at the factory, so there is no need for the installer to cut and fit doors in the field, saving time and money. ***Does the contractor know the rules? We do!***
- Van Packers Technical Department provides quotes, sketches, submittal drawings, and duct calculations.
- Factory fabricated, insulated grease duct includes stainless or aluminized steel outer shell that protects the insulation from damage. The outer shell also holds the insulation in place. Field applied wraps can droop over time, reducing or eliminating the duct's fire rating.
- Commercial kitchens use stainless steel because it's one of the most durable, versatile, and worry-free metals available. It's attractive, resistant to corrosion, heat resistant, and great for exterior and exposed applications. Stainless Steel shells also provides a maintenance free surface.
- In an open kitchen, wrapped insulation will easily hold dirt and kitchen aerated grease particles. Using stainless shells on our Model GRZ and GZ will provide an extremely easy surface to clean.

The **Van-Packer Company** has been solely dedicated to venting systems since 1944.