#### Saf-T Vent<sup>®</sup> GC Specifications for Single Wall Special Gas Vent Applications

The Saf-T Vent GC system is a single-wall product designed for commercial applications. It is for use with Listed natural gas and propane burning equipment (ANSI Category I, II, III, and IV) that produce flue-gas temperatures not above 550°F. The system is to be installed and sealed per manufacturer's instructions so all joints are gas tight, preventing leakage of product of combustion into a building.

The Saf-T Vent GC system is fabricated from AL 29-4C<sup>®</sup> stainless steel, which is highly suited for use with high efficiency gas burning equipment, which produce excessive amounts of condensation in the vent.

All joints in the Saf-T Vent GC system are fastened with a new closure system<sup>\*</sup> that combines the features of Heat-fab's tapered ends with a mechanical closure system which consists of tabs and a locking band. The locking band is tightened from a single location using a simple hand tool, pulling the two pieces together making a pressure tight assembly. When installed on positive pressure or condensing applications, the joints are to be sealed with an approved sealant. This closure system is tested to be gas tight at two and one-half times the pressure rating of 15" water column.

When properly installed the Saf-T Vent GC system may be safely and securely be utilized in unenclosed combustible installations or as a liner for existing masonry stacks. The system may pass through combustible exterior roofs or walls using the appropriate thimble devices available from Heat-fab. If the venting system must extend exposed to the outdoors for more than 3 feet, the Saf-T Vent CI Plus double-wall Special Gas Vent system is recommended.

\*U.S. Patent No. 6,702,338

When connected to gas-burning appliances with a maximum continuous flue-gas temperature rating of 550°F, the Saf-T Vent GC may be installed at the clearances listed in the chart shown below.

The Saf-T Vent GC system is to be sized in accordance with appliance manufacturers' specifications, the most current edition of NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, the most current edition of NFPA 54 National Fuel Gas Code (ANSI Z223.1), ASHRAE recommendations, and all applicable local and regional codes. This proper sizing, based on information supplied by the consumer, is reflected in scale drawings of the system provided by Heat-fab.

The Saf-T Vent GC system is to be installed only in accordance with Heat-fab's "Installation and Maintenance Instructions" and with all applicable local, regional, and national codes.

TECHNICAL SPECIFICATION					
Product	Saf-T Vent GC Special Gas Vent				
Uses	Chimneys and Vents (Horizontal or Vertical) for ANSI Category I, II, III, and IV gas-burning appliances.				
Fuels	Natural gas or propane fired equipment				
Pressure	Positive up to 15" wc, negative, or neutral				
Standard Diameters	18"-24" (larger sizes available)				
Flue-Gas Conduit	AL 29-4C <sup>®</sup> stainless steel				

DIAMETER	MAXIMUM FLUE GAS TEMP. (°F)	ORIENTATION	ENCLOSURE	CLEARANCE TO COMBUSTIBLE MATERIAL
18"+	550	Any	At least one side open, combustible material on a maximum of 3 sides	6"
18"+	550	Any	Fully enclosed by noncombustible material on all sides	0"
18"+	550	Any	Fully enclosed by combustible material on all sides	Not Allowed

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The Saf-T Vent GC system is a single-wall product designed for commercial applications. It is for use with Listed natural gas and propane burning equipment (ANSI Category I, II, III, and IV) that produce flue-gas temperatures not above 550°F. The system is to be installed and sealed per manufacturer's instructions so all joints are gas tight, preventing leakage of product of combustion into a building.

The Saf-T Vent GC system is fabricated from AL 29-4C<sup>®</sup> stainless steel, which is highly suited for use with high efficiency gas burning equipment, which produce excessive amounts of condensation in the vent.

All joints in the Saf-T Vent GC system are fastened with the CI Plus closure system\* that combines the features of Heat-fab's tapered ends with a mechanical closure system which consists of tabs and a locking band. The locking band is tightened from a single location using a simple hand tool, pulling the two pieces together making a pressure tight assembly. When installed on positive pressure or condensing applications, the joints are to be sealed with an approved sealant. This closure system is tested to be gas tight at two and one-half times the pressure rating of 15" water column.

When properly installed, the Saf-T Vent GC system may be safely and securely utilized in enclosed combustible installations with the specified clearences or as a liner for existing masonry stacks. The system may pass through combustible exterior roofs or walls using the appropriate thimble devices available from Heatfab. If the venting system must extend exposed to the outdoors for more than 3 feet, the Saf-T Vent CI Plus double-wall Special Gas Vent system is recommended.

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TECHNICAL SPECIFICATION				
Product	Saf-T Vent GC Special Gas Vent			
Uses	Chimneys and Vents (Horizontal or Vertical) for ANSI Category I, II, III, and IV gas-burning appliances.			
Fuels	Natural gas or propane fired equipment			
Pressure	Positive up to 15" wc, negative, or neutral			
Standard Diameters	18"-32"			
Flue-Gas Conduit	AL 29-4C <sup>®</sup> stainless steel			

DIAMETER	MAXIMUM APPLIANCE OPERATING TEMP	ORIENTATION	CLEARANCE TO COMBUSTIBLE MATERIAL	Minimum Framing Dimensions Through Joist Vertical or Horizontal
18"	550°F	Vertical or Horizontal	4"	(ID + 9") X (ID + 9")
20-22"	550°F	Vertical or Horizontal	5"	(ID + 9") X (ID + 9")
24-26"	550°F	Vertical or Horizontal	6"	(ID + 9") X (ID + 9")
28-32"	550°F	Vertical or Horizontal	7"	(ID + 9") X (ID + 9")

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### **Technical and Dimensional Data**

# Saf-T Vent® GC

Single Wall AL 29-4C<sup>®</sup> Stainless Steel Special Gas Vent Sizes 18" -24" Diameters



Tested and Listed to UL 1738/ULC S636 by Underwriters Laboratories, Inc

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### Saf-T Vent® GC SINGLE WALL AL 29-4C® SPECIAL GAS VENT

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## Saf-TVent®GC

Saf-T Vent GC, large diameters, have the same joining system as Saf-T Vent CI Plus, combining the tight fit of the tapered male and female expands with a closure system which consists of tabs and a locking strap. The locking strap provides a mechanical connection between the two assembled sections. It also serves to pull together the two pieces, making a pressure-tight assembly. The locking strap is tightened from a single location using a simple hand tool. This single-point fastening system allows one installer to complete an assembly without rotating the sections or rotating himself around the sections.

#### Accessories:

**RTV Sealant**— Use to seal the system. Approximate coverage is shown in the table belw. These figures are based on a 1/4" bead of sealant, actual coverage may vary.

Maximum Appliance Flue Gas Temperature	Sealant	Size	Heat-fab Part Number	
	General Electric (GE) RTV 106	2.8 oz tube	7000RTV	
550° F.	or	10.1 oz cartridge	7000RTVL	
	Dow Corning 736			

	Approximate Number of Joints			
Inner Vent Diameter, Inches	3 oz Tube	10 oz Cartridge		
18	4	14		
20	4	13		
22	3	12		
24	3	11		

**Condensate Drain Tube Kit** — This kit contains a length of high temperature silicone rubber tubing, a clamp, and two cable ties. The silicone tubing is rated for 500°F, and is translucent to allow inspection of the P-trap. Larger diameter drains can be plumbed directly into a drain system.

Part Number:

7000TUBE 7000TUBE-10 7001TUBE 5 feet of 3/8" diameter tubing 10 feet of 3/8" diameter tubing 10 feet of 1/2" diameter tubing



# Single Wall AL 29-4C<sup>®</sup> Special Gas Vent

#### Accessories:

**In-Line Drain Section** — Use to drain away condensate from the vent system. Continuous horizontal runs in excess of 30 feet require a condensate drain. High temperature silicone rubber tubing is available separately, see below.

Part Number	DIM - A Nominal Diameter	DIM - B Installed Length	DIM - C Drain Location	DIM - D Drain Diameter (OD)	
71820GC	18	7.5	3	0.5	
72020GC	20	7.5	3	0.5	
72220GC	22	7.5	3	0.5	
72420GC	24	7.5	3	0.5	
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#### Covers:

**Tee Cover**— Used to cap off the male end of a tee that is installed horizontally. The combination of a tee and a tee cover allows for the future addition of appliances to a common-vent system. When Saf-T Vent GC is used as a masonry chimney liner, a tee cover is used to cap off the bottom of a tee that is installed vertically.



**Tee Cover with Drain Fitting** — Use at the base of a tee or boot tee to drain away condensate from a vent system. This type of tee cover may also be used on the leg of a tee that is installed horizontally, to create a drain in a horizontal run. High temperature silicone rubber tubing is available separately from Heat-fab.

Part Number	DIM - A	DIM - B	DIM - C	DIM - D
	Nominal Diameter	Height	Drain Diameter OD	Drain Length
71817GCD	18	1.62	0.50	1
72017GCD	20	1.62	0.50	1
72217GCD	22	1.62	0.50	1
72417GCD	24	1.62	0.50	1



**Tee Cover with Drain Fitting** 

In-Line Drain Section

#### **Boot Tees:**

**Boot Tee** — Use vertically or horizontally to add appliances into a common-vent system. When installed horizontally, the male end of the tee body may be capped off with a tee cover to allow for future appliances. When used in conjunction with a drain tee cover, the boot tee will effectively transition a vent system from a horizontal to a vertical orientation while allowing for proper condensate drainage. The pressure drop for this fitting is equivalent to 15 feet of vent. Other diameter configurations may be available; please contact Heat-Fab's Engineering Team to discuss your special needs.



Boot Tee

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#### Elbows:

**15° Elbow** — Use to achieve offsets or changes in the direction of the vent system. The degree of these welded seam elbows is not adjustable. The pressure drop for each elbow is equivalent to 3 feet of vent.

Part Number	DIM - A Nominal Diameter	DIM - B Rise	DIM - C Run	DIM - D Combined Installed Height	DIM - E Offset
71809GC	18	5.2	5.2	20.4	2.7
72009GC	20	5.3	5.3	20.9	2.8
72209GC	22	5.4	5.4	21.4	2.8
72409GC	24	5.6	5.6	21.9	2.9



15° Elbow

30° Elbow

**30° Elbow** — Use to achieve offsets or changes in the direction of the vent system. The degree of these welded seam elbows is not adjustable. The pressure drop for each elbow is equivalent to 5 feet of vent.

Part Number	DIM - A Nominal Diameter	DIM - B Rise	DIM - C Run	DIM - D Combined Installed Height	DIM - E Offset
71810GC 72010GC 72210GC	18 20 22	6.1 6.4 6.6	6.7 7.0 7.2	24 25 26	6.4 6.7 7.0
72410GC	24	6.9	7.5	27	7.2

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#### Elbows:

**45° Elbow**— Use to achieve offsets or changes in the direction of the vent system. The degree of these welded seam elbows is not adjustable. The pressure drop for each elbow is equivalent to 8 feet of vent.

Part Number	DIM - A Nominal Diameter	DIM - B Rise	DIM - C Run	DIM - D Combined Installed Height	DIM-E Offset
71811GC	18	9.1	9.7	32.0	13.3
72011GC	20	9.5	10.1	33.3	13.8
72211GC	22	9.9	10.5	34.8	14.4
72411GC	24	10.3	10.9	36.3	15.1



45° Elbow

#### Elbows:

**90° Elbow**— Use to achieve offsets or changes in the direction of the vent system. The degree of these welded seam elbows is not adjustable. The pressure drop for each elbow is equivalent to 15 feet of vent.

Part Number	DIM - A Nominal Diameter	DIM - B Rise	DIM - C Run	DIM - D Combined Installed Height	DIM - E Offset
71814GC	18	18.8	18.3	37	37
72014GC	20	19.8	19.3	39	39
72214GC	22	20.8	20.3	41	41
72414GC	24	21.8	21.3	43	43





#### **Straight Lengths:**

**Horizontal and Vertical** — Install vent with a continuous pitch of 1/4" per foot, sloping upward toward the termination (unless otherwise specified by the appliance manufacturer). It is important to provide adequate support to a Saf-T Vent system. Support horizontal portions of the vent system at 6-foot intervals. Vertical sections should be supported at least every 30-feet and after every offset or transition.

#### 6" Length

Part Number	DIM - A Nominal Diameter	DIM - B Installed Length	DIM - C Maximum OD	
71801GC 72001GC	18 20	4.5 4.5	18.4 20.4	C
72201GC	22	4.5	22.4 24.4	
72401GC	24	4.5	24.4	

#### 12" Length

Part Number	DIM - A Nominal Diameter	DIM - B Installed Length	DIM - C Maximum C
71802GC	18	10.5	18.4
72002GC	20	10.5	20.4
72202GC	22	10.5	22.4
72402GC	24	10.5	24.4



#### 18" Length

Part Number	DIM - A	DIM - B	DIM - C
	Nominal Diameter	Installed Length	Maximum OD
71804GC	18	16.5	18.4
72004GC	20	16.5	20.4
72204GC	22	16.5	22.4
72404GC	24	16.5	24.4

#### **Straight Lengths:**

**Horizontal and Vertical** — Install vent with a continuous pitch of 1/4" per foot, sloping upward toward the termination (unless otherwise specified by the appliance manufacturer). It is important to provide adequate support to a Saf-T Vent system. Support horizontal portions of the vent system at 6-foot intervals. Vertical sections should be supported at least every 30-feet and after every offset or transition.



**Adjustable Length** — Use to accommodate distances not possible with the standard Saf-T Vent GC lengths. The slip connector serves as an adjustable section and eliminates the need to cut parts to length. The Slip Connector can have an installed length from 12 to 21 inches. It works best in conjunction with another straight length of Saf-T Vent GC. When used with an elbow or a tee, do not insert the Slip Connector so far that air flow within the vent becomes obstructed. When planning a venting system, include one slip connector for every change of direction and for any spans between two fixed points. Each slip connector comes with three components, a slip section, a male connector and a stainless steel hose clamp.

Part Number	DIM - A Nominal Diameter	DIM - B Minimum Installed Length	DIM - C Maximum Installed Length	DIM - D Slip Diameter	
71824GC	18	12	21	17.9	
72024GC	20	12	21	19.9	B
72224GC	22	12	21	21.9	
72424GC	24	12	21	23.9	

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#### Supports:

**Guy Support Section** — Provides vertical support using a part that is a flue-gas-carrying component of the vent system. Guy sections are primarily installed in long, inaccessible chases or used to provide support to systems with extended lengths above the roofline. Attach the guy section using stainless steel or galvanized cables or chain (supplied by others). Each guy section comes standard with one 5" long coupler and a joint locking strap, note: the coupler is not required for use on the GC product.



Vertical Support Section With Plate — Provides vertical stack support using a part that is a flue-gas

carrying component of the vent system. Framework is by others, utilizing typical construction components such as angle iron or unistrut type material. Each support section comes standard with one 5" long coupler and a joint locking strap, note: the coupler is not required for use on the GC product.

Part Number	DIM - A Nominal Diameter	DIM - B Plate Size
CCA18VSP CCA20VSP CCA22VSP	18 20 22	22 24 26
CCA24VSP	24	28



**Support Clamp** — For use on horizontal systems to provide support at the required 6-foot intervals. Support clamps by themselves do not maintain the necessary clearances to combustible materials; be sure to consider clearances when planning the system. Support clamps are sold in pairs, with two half-shells, and two 1/4-20 nuts and bolts. This part is made from 18-gauge Type 304 stainless steel and should not be installed in the direct path of flue gases. Never drill or screw through the Saf-T Vent GC Seal conduit.

Part Number	DIM - A Nominal Diameter		
41827SS	18	Support Clown	(Halaman
42027SS	20	Support Clamp Used singly as a saddle to rest the vent in	
42227SS	22	or use in pairs to clamp around the vent;	
42427SS	24	suspend from rods or cables.	

#### Supports:

**Tall Cone Flashing and Support**— Use as a vertical roof penetration/support in conjunction with a combustible chase. Can be used with a roof curb if needed. Can be used on metal roofs with a 2-12 pitch. This part comes with a storm collar and support screws and is of all stainless steel construction. A Vented Termination Collar **must** be used when installed in a combustible chase and must be ordered separately. Can be used with Saf-T Vent GC vent when clearance to combustibles are maintained. CAUTION: the support screws can **only** be installed with Saf-T Vent CI Pus venting.



**Pitched Tall Cone Flashing** — Use as a vertical roof penetration in conjunction with a combustible chase. Can be used on roofs with a 2/12 - 6/12 pitch. This part comes with a storm collar and is of all stainless steel construction. A Vented Termination Collar *must* be used when installed in a combustible chase and must be ordered separately. Can be used with Saf-T Vent GC vent when clearance to combustibles are maintained.

Part Number	Inner Vent Diameter	DIM-A Top of Cone Opening	DIM - B Face Plate (Square)
CCM16TCFP	16	19.5	34
CCM18TCFP	18	21.5	36
CCM20TCFP	20	23.5	38
CCM22TCFP	22	25.5	40



#### Thimbles & Penetrations:

**Roof Jack Support System**— For use with Saf-T Vent systems with vertical terminations. Use to pass through combustible and non-combustible roof structures. The roof jack support system must be installed on a flat roof or a level curb only. Each roof jack support system includes a storm collar that provides support and, when sealed, acts as a water barrier.

Part Number	Nominal Diameter	DIM - A D of Roof Jack	DIM - B OD of Roof Jack	DIM - C Height Above Roof Line	DIM - D Height Below Roof Line	DIM - E Plate Size
51880CI	18	18.5	21.1	7.2515	30	
52080CI	20	20.5	23.1	7.25	15	32
52280CI	22	22.5	25.1	7.25	15	34
52480CI	24	24.5	27.1	7.25	15	36



**Roof Jack Support System** 

#### **Thimbles & Penetrations:**

**Wall Penetration & Horizontal Termination** — For Saf-T Vent systems with horizontal terminations. Use to penetrate any combustible or non-combustible wall. This part is a thimble only and does not include any vent. Order enough vent to pass through the thimble and extend 4-8 inches beyond the building sheathing. Includes an AL 29-4C screen cover to terminate the vent system. The assembly may be painted to match the exterior decor.

Part Number	DIM - A Nominal Diameter	DIM - B Outer Tube Diameter	DIM - C Face Plate Width	DIM - D Face Plate Height	DIM - E Overall Length	DIM - F Wall Opening	DIM - G Exterior Length
51890CI	18	21	27	26	27.5	23	12
52090CI	20	23	29	28	27.5	25	12
52290CI	22	25	31	30	27.5	27	12
52490CI	24	27	33	32	27.5	29	12



**Wall Penetration Assembly - without Screen** — The same as the wall penetration as shown above except without the screen cover.

Part Number	DIM - A Nominal Diameter	DIM - B Outer Tube Diameter	DIM - C Face Plate Width	DIM - D Face Plate Height	DIM - E Overall Length	DIM - F Wall Opening
51891CI	18	21	27	26	18.5	23
52091CI	20	23	29	28	18.5	25
52291CI	22	25	31	30	18.5	27
52491CI	24	27	33	32	18.5	29

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#### Terminations:

**Mitered Termination with Screen** — Use as a termination on horizontal or vertical systems, as specified or allowed by the appliance manufacturer.

Part Number	DIM - A Nominal Diameter	DIM - B Installed Length
71890GC	18	18.50
72090GC	20	18.50
72290GC	22	22.25
72490GC	24	22.25



#### **Mitered Termination with Screen**

**Screen Termination** — Use as a termination on horizontal or vertical systems, as specified or allowed by the appliance manufacturer.



#### **Terminations:**

**Rain Cap** — Use as a termination on vertical systems. Category I and II appliances require a raincap or other device to prevent rainwater from entering the vent. Vent systems for positive pressure appliances may omit the raincap if there are other provisions for draining rainwater from the system. The raincap may also be used as a horizontal termination. Each raincap includes a storm collar that is used to attach the raincap to the vent system.



#### **Termination Accessories:**

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**Storm Collar** — For use on horizontal or vertical systems when a Heat-fab wall or roof penetration is not used or is not required. The storm collar may be tightened and sealed around the vent to prevent water from entering the building. It may also be used as a decorative shield to cover holes where the vent penetrates interior concrete and masonry walls. This part is made from Type 304 stainless steel and should not be installed in the direct path of flue gases.

