

NAURAL GAS HIGH ALTITUDE CONVERSION INSTRUCTIONS (FOR ALTITUDES OF 2000-10,000 ft ONLY)

Applies to: Gas-Fired, Tubular Radiant,
Low-Intensity Infrared Heater
for generation codes ZZ & BB
Models VPS, VPT, VCS, VCT



FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR YOUR SAFETY

The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

WARNING: Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapors or combustible dust, in atmospheres containing chlorinated or halogenated hydrocarbons, or in applications with airborne silicone substances.

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These instructions must be used in conjunction with the standard heater installation manual. These are generic conversion kits for each rating. Any extra components that come with the conversion kit need to be disposed of accordingly.



After converting any Gen ZZ burner for High Altitude it will then become Gen BB and burner label needs to be modified in permanent ink to indicate this.



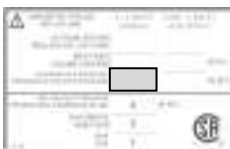


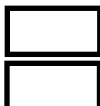
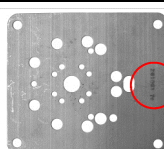
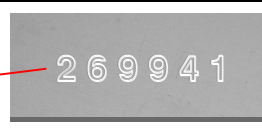












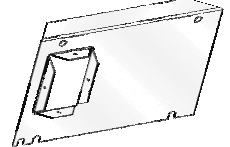

Table 1 - Conversion kit references

Natural Gas Model	Conversion Kit Part Number (VPS/VCS/VPT/VCT)	Natural Gas Model/BTU per hour AFTER CONVERSION	Altitude Range
60	1001370	18/60,000	0-10,000ft
80	1001371	25/80,000	0-10,000ft
100	1001372	30/100,000	0-10,000ft
125	1001373	38/125,000	0-10,000ft
150	1001374	45/150,000	0-10,000ft
170 ^(a)	1001419 ^(a)	45/150,000	0-10,000ft
170 ^(b)	1001375 ^(b)	50/169,000	0-10,000ft
200	1001376	69/200,000	0-10,000ft


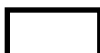

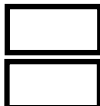
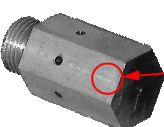
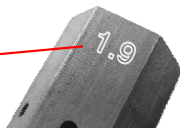





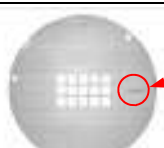
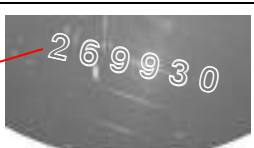



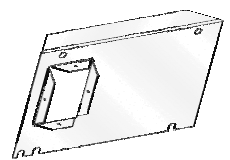

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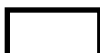

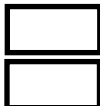
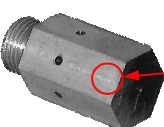









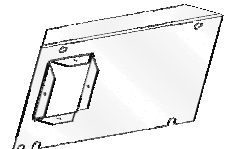

- (a) This kit is only to be used on Gen. ZZ VPS170 and VCS170 units which will convert them to VPS150 and VCS150 Gen. BB burners.
- (b) This kit is only to be used on Gen. ZZ VPT170 and VCT170 and all Gen. BB VP/VC.

Section 1: Natural Conversion Kit Parts List/Technical Data

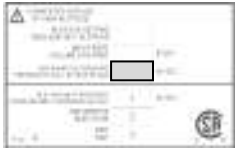


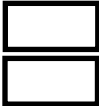




KIT PART NUMBER				1001370
For use with models - VPS60, VCS60, VPT60 & VCT60				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
270412	1	Grommet 12.5 x 9.5mm		 Only required for generation ZZ
270459	1	M6 retaining washer		 Only required for generation ZZ
1001351	2	Natural Data Conversion Label for VPS60 / VCS60		Gas Mainifold Pressure: singular box 
1001359	2	Natural Data Conversion Label for VPT60 / VCT60		Gas Mainifold Pressures: twin boxes 
269941	1	Burner orifice plate		 Stamped as indicated  Only required for generation ZZ
201318	1	Burner Head Anti-tip Bracket		 Only required for generation ZZ
269923	1	Blown fan orifice plate to suit three fixing plate, 8 x 10mm sq.		 8 holes, Stamped as indicated
269925	1	Blown fan orifice plate to suit three fixing plate, 10 x 10mm sq.		 10 holes, Stamped as indicated
269926	1	Blown fan orifice plate to suit three fixing plate, 11 x 10mm sq.		 11 holes, Stamped as indicated
270450	4	No. 6 x 3/8" BZP Self Tapper		 Only required for generation ZZ VPS60 ONLY!
270365	1	Closure Plate Gasket		 Only required for generation ZZ VPS60 ONLY!
269911	1	Fan Flange Plate		 Only required for generation ZZ VPS60 ONLY!

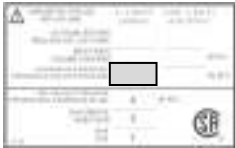

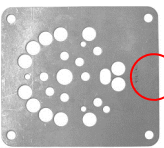

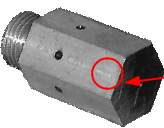
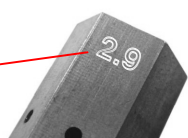







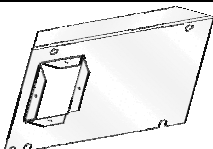
KIT PART NUMBER				1001371
For use with models - VPS80, VCS80, VPT80 & VCT80				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
270412	1	Grommet 12.5 x 9.5mm		Only required for generation ZZ
270459	1	M6 retaining washer		Only required for generation ZZ
1001352	2	Natural Data Conversion Label for VPS80 / VCS80		Gas Mainifold Pressure: singular box
1001360	2	Natural Data Conversion Label for VPT80 / VCT80		Gas Mainifold Pressures: twin boxes
269942	1	Burner orifice plate		 Stamped as indicated Only required for generation ZZ
269926	1	Blown fan orifice plate to suit three fixing plate, 11 x 10mm sq.		 11 holes, Stamped as indicated
269928	1	Blown fan orifice plate to suit three fixing plate, 12 x 10mm sq.		 12 holes, Stamped as indicated
269929	1	Blown fan orifice plate to suit three fixing plate, 14 x 10mm sq.		 14 holes, Stamped as indicated
270450	4	No. 6 x 3/8" BZP Self Tapper		Only required for generation ZZ VPS80 ONLY!
270365	1	Closure Plate Gasket		Only required for generation ZZ VPS80 ONLY!
269911	1	Fan Flange Plate		Only required for generation ZZ VPS80 ONLY!

KIT PART NUMBER				1001372
For use with models - VPS100, VCS100, VPT100 & VCT100				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
1001353	2	Natural Data Conversion Label for VPS100 / VCS100		Gas Mainifold Pressure: singular box 
1001361	2	Natural Data Conversion Label for VPT100 / VCT100		Gas Mainifold Pressures: twin boxes 
270403	1	Std. multi hole gas orifice 1.9mm		Stamped '1.9'   Only required for generation ZZ
269928	1	Blown fan orifice plate to suit three fixing plate, 12 x 10mm sq.		 12 holes, Stamped as indicated
L200325	1	Blown fan orifice plate to suit three fixing plate, 13 x 10mm sq.		 13 holes, Stamped as indicated
269930	1	Blown fan orifice plate to suit three fixing plate, 15 x 10mm sq.		 15 holes, Stamped as indicated
270450	4	No. 6 x 3/8" BZP Self Tapper		 Only required for generation ZZ VPS100 ONLY!
270365	1	Closure Plate Gasket		 Only required for generation ZZ VPS100 ONLY!
269911	1	Fan Flange Plate		 Only required for generation ZZ VPS100 ONLY!

KIT PART NUMBER				1001373
For use with models - VPS125, VCS125, VPT125 & VCT125				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
1001354	2	Natural Data Conversion Label for VPS125 / VCS125		Gas Mainifold Pressure: singular box 
1001362	2	Natural Data Conversion Label for VPT125 / VCT125		Gas Mainifold Pressures: twin boxes 
270405	1	Std. multi hole gas orifice 2.3mm		 Stamped '2.3'  Only required for generation ZZ
269931	1	Blown fan orifice plate to suit three fixing plate, 18 x 10mm sq.		 18 holes, Stamped as indicated
269932	1	Blown fan orifice plate to suit three fixing plate, 21 x 10mm sq.		 21 holes, Stamped as indicated
270450	4	No. 6 x 3/8" BZP Self Tapper		 Only required for generation ZZ VPS125 ONLY!
270365	1	Closure Plate Gasket		 Only required for generation ZZ VPS125 ONLY!
269911	1	Fan Flange Plate		 Only required for generation ZZ VPS125ONLY!




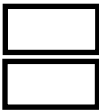
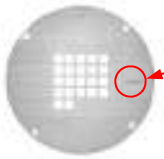

KIT PART NUMBER				1001374
For use with models - VPS150, VCS150, VPT150 & VCT150				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
270412	1	Grommet 12.5 x 9.5mm		Only required for generation ZZ
270459	1	M6 retaining washer		Only required for generation ZZ
1001355	2	Natural Data Conversion Label for VPS150 / VCS150		Gas Mainifold Pressure: singular box
1001363	2	Natural Data Conversion Label for VPT150 / VCT150		Gas Mainifold Pressures: twin boxes
1005513	1	Burner orifice plate		Stamped as indicated Only required for generation ZZ
270366	2	3.0mm EPDM Sponge Gasket to suit Burner Casting (with adhesive)		
270407	1	Std. multi hole gas orifice 2.9mm		Stamped '2.9' Only required for generation ZZ
269932	1	Blown fan orifice plate to suit three fixing plate, 21 x 10mm sq.		21 holes, Stamped as indicated
269933	1	Blown fan orifice plate to suit three fixing plate, 26 x 10mm sq.		26 holes, Stamped as indicated
270450	4	No. 6 x 3/8" BZP Self Tapper		Only required for generation ZZ VPS150 ONLY!
270365	1	Closure Plate Gasket		Only required for generation ZZ VPS150 ONLY!
269911	1	Fan Flange Plate		Only required for generation ZZ VPS150 ONLY!

KIT PART NUMBER <i>For use with models VPS170, VCS170, VPT170 & VCT170</i> <i>with Generation Code BB</i> <i>and VPT170 & VCT 170 with Generation Code ZZ</i>				1001375
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
1001356	2	Natural Data Conversion Label for VPS170 / VCS170		Gas Mainifold Pressure: singular box 
1001364	2	Natural Data Conversion Label for VPT170 / VCT170		Gas Mainifold Pressures: twin boxes 
269936	1	Blown fan orifice plate to suit three fixing plate, 14x 10mm sq.		 14 holes, Stamped as indicated
269937	1	Blown fan orifice plate to suit three fixing plate, 15 x 10mm sq.		 15 holes, Stamped as indicated

KIT PART NUMBER For use with models VPS170 & VCS170 with Generation Code ZZ.				1001419
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
270412	1	Grommet 12.5 x 9.5mm		
270459	1	M6 retaining washer		
1001355	2	Propane Data Conversion Label for VPS150 / VCS150		Gas Mainifold Pressures: singular box 
1005513	1	Burner orifice plate		 Stamped as indicated <i>Only required for generation ZZ</i>
270366	2	3.0mm EPDM Sponge Gasket to suit Burner Casting (with adhesive)		
270407	1	Std. multi hole gas orifice 2.9mm		 Stamped '2.9'
269932	1	Blown fan orifice plate to suit three fixing plate, 21 x 10mm sq.		 21 holes, Stamped as indicated
269933	1	Blown fan orifice plate to suit three fixing plate, 26 x 10mm sq.		 26 holes, Stamped as indicated
270375	1	1/2" NPT Standard Jet Carrier		 Cut groove Indicates NPT Thread
270450	4	No. 6 x 3/8" BZP Self Tapper		<i>Only required for generation ZZ VPS170 ONLY!</i>
270365	1	Closure Plate Gasket		<i>Only required for generation ZZ VPS170 ONLY!</i>
269911	1	Fan Flange Plate		<i>Only required for generation ZZ VPS170 ONLY!</i>



This kit will de-rate burner to 150,000kBtu

KIT PART NUMBER				1001376
For use with models - VPS200, VCS200, VPT200 & VCT200				
Part #	Qty	Description	Part Photo	Quality Criteria
D301004	1	Natural High Altitude Conversion Manual VP/VC		
1001357	2	Natural Data Conversion Label for VPS200 / VCS200		Gas Mainifold Pressure: singular box 
1001365	2	Natural Data Conversion Label for VPT200 / VCT200		Gas Mainifold Pressures: twin boxes 
269939	1	Blown fan orifice plate to suit three fixing plate, 22 x 10mm sq.		 22 holes, Stamped as indicated

Section 2

Step by step conversion instructional data

Table 2 - VPS Conversion		VPS MODEL NUMBERS							
		60	80	100	125	150	170	170*	200
Conversion Kit Required		1001370	1001371	1001372	1001373	1001374	1001375	1001419*	1001376
Step	Operation								
1	Burner Orifice Replacement	SECTION 3**		N/A		SECTION 3**	N/A	SECTION 3**	N/A
2	Fit Turbulators	SECTION 4a**	N/A		SECTION 4a**	N/A		SECTION 4b**	N/A
3	Remove Flame Plate	SECTION 5**	N/A						
4	Replace Gas Orifice	N/A		SECTION 6a**			N/A	SECTION 6b**	N/A
5	Refit Burner Head	SECTION 7**					N/A	SECTION 7**	N/A
6	Replace Fan Orifice	SECTION 8a					SECTION 8b	SECTION 8a**	SECTION 8b
7	Replace Data Badge	SECTION 9							
8	Re-commissioning	SECTIONS 10 - 12							

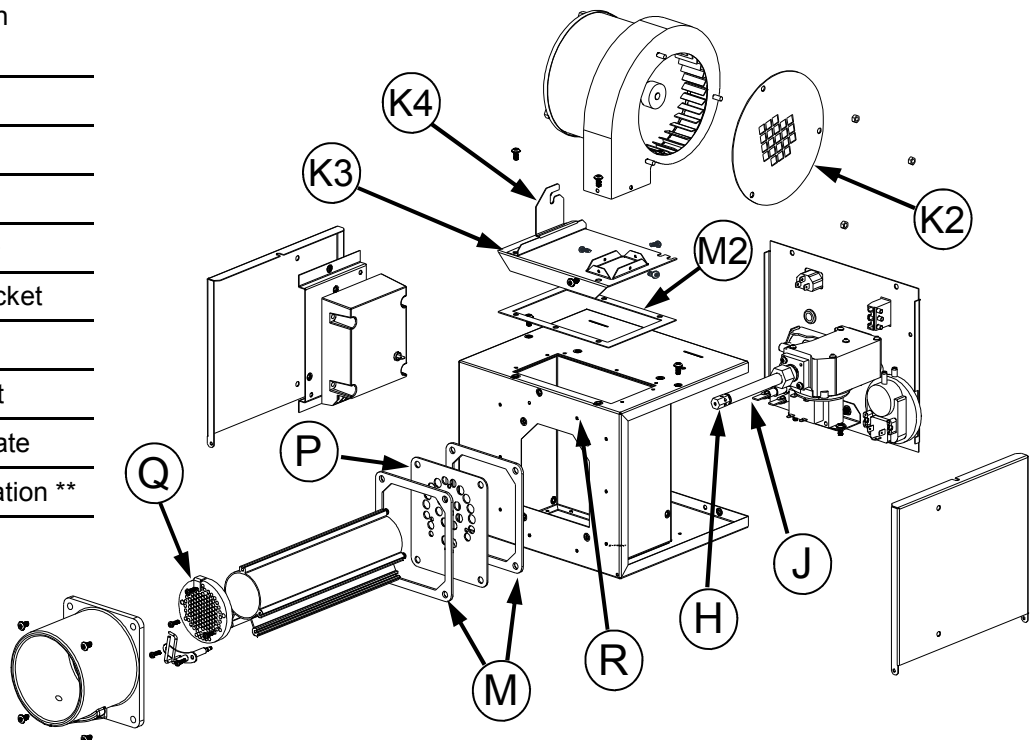
* VPS170 generation code ZZ ONLY

** Gen ZZ versions ONLY



Please note: The Natural Gas pressure must be reset according to the values in Section 11.

Part Code	Description
H	Gas Orifice
J	Jet Carrier
K2	Fan Orifice Plate
K3	Fan Flange Plate
K4	Fan Support Bracket
M	Gaskets
M2	Fan Plate Gasket
P	Burner Orifice Plate
Q	Flame Plate Location **
	**not shown



**VPS model
Exploded view**

Generation ZZ model 170 de-rated from 169kBTU to 150kBTU



Note: Burners will naturally de-rate at high altitude.

Table 3 - VPT, VCS & VCT Conversion		VPT, VCS & VCT MODEL NUMBERS							
		60	80	100	125	150	170	170*	200
Conversion Kit Req'd VCS		1001370	1001371	1001372	1001373	1001374	1001375	1001419*	1001376
(VPT & VCT)		1001370	1001371	1001372	1001373	1001374	1001375	N/A	1001376
Step	Operation								
1	Burner Orifice Replacement	SECTION 3**		N/A		SECTION 3***	N/A	SECTION 3**	N/A
2	Fit Turbulators	SECTION 4a**	N/A		SECTION 4a***	N/A		SECTION 4b**	N/A
3	Remove Flame Plate	SECTION 5**	N/A						
4	Replace Gas Orifice	N/A		SECTION 6a**			N/A	SECTION 6c**	N/A
5	Refit Burner Head	SECTION 7**					N/A	SECTION 7**	N/A
6	Replace Fan Orifice	SECTION 8c					SECTION 8d	SECTION 8c**	SECTION 8d
7	Replace Data Badge	SECTION 9							
8	Re-commissioning	SECTIONS 10 - 12							

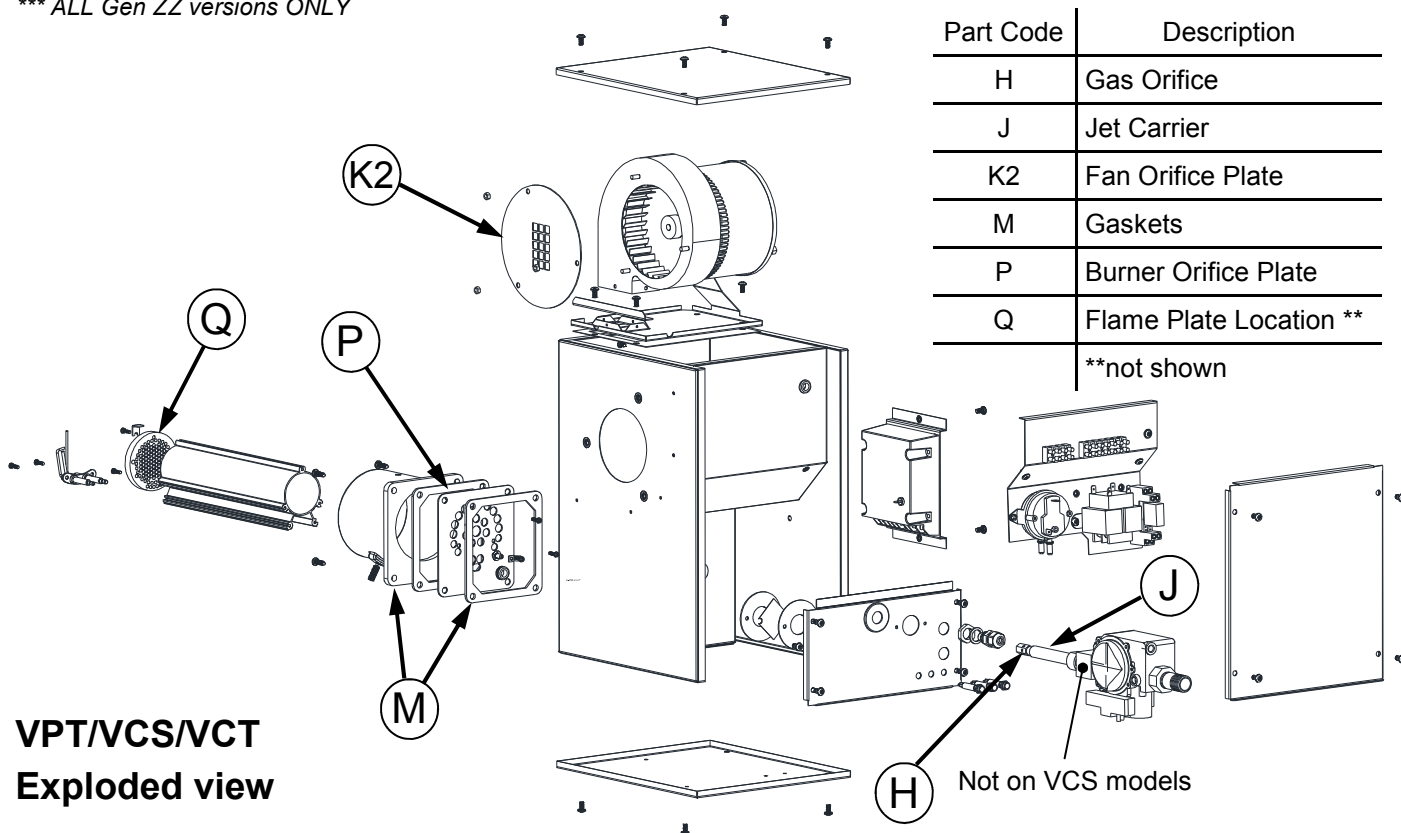
* VCS170 generation code ZZ ONLY

** VCS Gen ZZ versions ONLY

*** ALL Gen ZZ versions ONLY



Please note: The Natural Gas pressure must be reset according to the values in Section 11.



**VPT/VCS/VCT
Exploded view**

Section 3

Burner Orifice Plate Replacement (where req'd).

Step 1: Remove the four retaining screws securing the burner casting using a number 2 crosshead screwdriver.



Step 2: Remove the supporting casting and gasket.

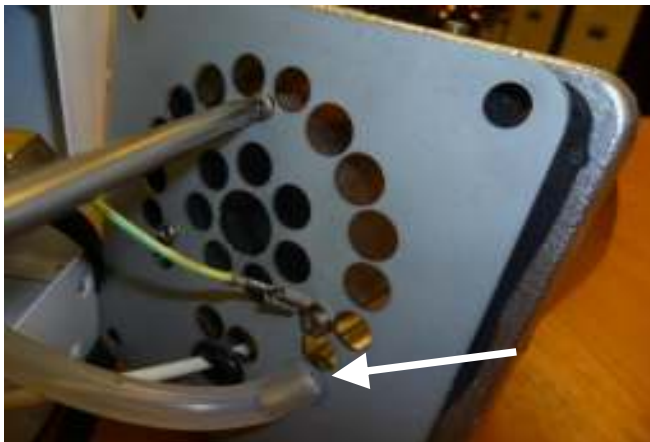


Step 3: The burner head assembly can now be disconnected by separating the connectors of the ignition and flame probe lead assemblies and removing the ground lead and pressure switch silicon tube.

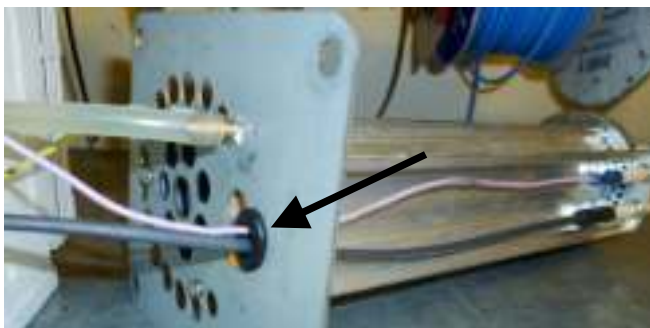


Step 4: The burner orifice plate can then be released by removing the 3 fixing screws from the burner tube using a number 2 crosshead screwdriver.

Step 5: Using a flathead screwdriver remove the retaining washer securing the impulse stud (arrowed). Remove the stud. Remove the cable grommet from the old orifice plate and attach to the replacement plate.



Step 6: Fit new High Altitude burner orifice plate to burner tube ensuring the impulse stud is facing the correct direction. The cable grommet is fitted to the obround hole at the bottom of the plate (arrowed).



Two new gaskets are provided and should be used when reconnecting to the burner housing. Dispose of the old gaskets.



See Section 1 for correct burner orifice plate identification.

Section 4

Turbulator Information.

These heaters may have a different arrangement of turbulators and tube inserts when converted for use at high altitude. This section will guide you through the process of changing these components where necessary.

Section 4a

Tube inserts

Prior to conversion a number of the natural gas heaters use a tube insert part # 1005500 or part # 270489 See Figure 1.

WARNING: THIS TUBE INSET IS REQUIRED FOR CORRECT OPERATION, PLEASE CHECK INSIDE THE FIRING LEG.

IF MISSING, INSTALL THE APPROPRIATE TUBE INSERT AS SHOWN IN FIGURE 1.

NOTE: AS A PART OF THE CONVERSION PROCESS GENERATION ZZ VPS/VCS60 UNITS AND GENERATION ZZ VPS/VCS/VPT/VCT125 UNITS WILL NEED THE APPROPRIATE TUBE INSERT FITTING AS SHOWN IN FIGURE 1

Length 5' (1524mm) Part # 270489 (models 60/80/100)
Length 3' (914mm) Part # 1005500 (model 125)

Figure 1



The burner insert (when required) is inserted into the first emitter tube from where it is joined to the second emitter tube. See Figure 2.



Figure 2

Section 4b

Turbulators

When converting and de-rating Generation ZZ VPS/VCS170 burners to Generation BB VPS/VCS150, fit the additional turbulators. See Figure 3.

Model VPS/VCS170 de-rated to VPS/VCS150 - add FOUR off Part # 116019 for S40 and U40 configurations.

Model VPS/VCS170 de-rated to VPS/VCS150 - no turbulator is required for S50-S70 and U60 configurations.

Figure 3

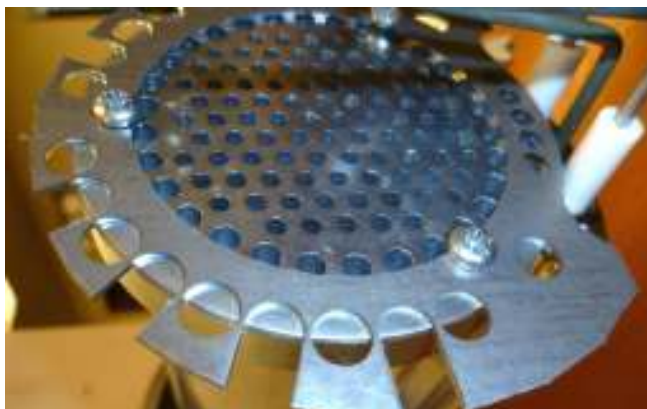


Section 5

Flame Plate Removal (VPS & VCS60 Gen ZZ only)

Step 1: Remove the 3 screws holding the burner head in place with a number 2 crosshead screwdriver.

Step 2: Discard the flame plate.



Step 3: Align the burner head anti-tip bracket (arrowed) with the top fixing screw of the burner head as shown.



Step 4: Attach the anti-tip bracket and reattach burner head to the burner tube using the 3 screws removed in step 1. Ensure the anti-tip bracket is mounted **ON TOP** of the original burner head.

Section 6a

Gas Orifice Replacement (VPS/VCS Gen. ZZ 100, 125 & 150 only).

Step 1: Remove the burner casting as detailed in section 3.

Step 2: Using a 12mm wrench remove the gas orifice from the jet carrier by rotating counter-clockwise.



Step 3: Replace the gas orifice with the alternative ensuring an approved gas sealant is used on the thread. **DO NOT OVERTIGHTEN.**



See Section 1 for gas orifice ID.

Section 6b

Gas Orifice Replacement (VPS Gen. ZZ 170 only).

Step 1: Remove the burner casting as detailed in section 3

Step 2: Remove the two securing screws from the base of the jet carrier, noting the ground terminal connection.



Step 3: Remove the four screws holding the rear burner plate in position (arrowed in next photo). Remove the rear plate.



Step 4: The jet carrier/gas orifice can now be detached from the gas valve.

Step 5: Replace the jet carrier/gas orifice with the alternative ensuring an approved gas sealant is used on the thread. **DO NOT OVERTIGHTEN.**



See Section 1 for gas orifice ID.

Section 6c

Gas Orifice Replacement (VCS Gen. ZZ only).

Step 1: Remove the burner casting as detailed in section 3.

Step 2: Remove the two securing screws from the base of the jet carrier, noting ground terminal connection.

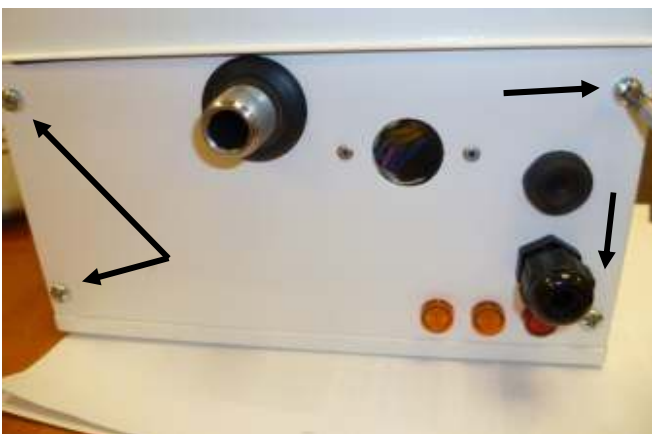


Step 3: Remove the four screws securing the base plate and remove.

Step 4: Remove the gas valve wiring connections, noting their positions.

Step 5: Remove the four screws (arrowed) securing the gas valve inlet plate to the burner housing and remove plate. Remove gas valve rearwards.

Step 6: The jet carrier/gas orifice can now be detached from the gas valve.



Step 7: Replace the jet carrier/gas orifice with the alternative ensuring an approved gas sealant is used on the thread.

DO NOT OVERTIGHTEN.



See Section 1 for gas injector identification.

Section 7

Refitting Burner Head (where required).

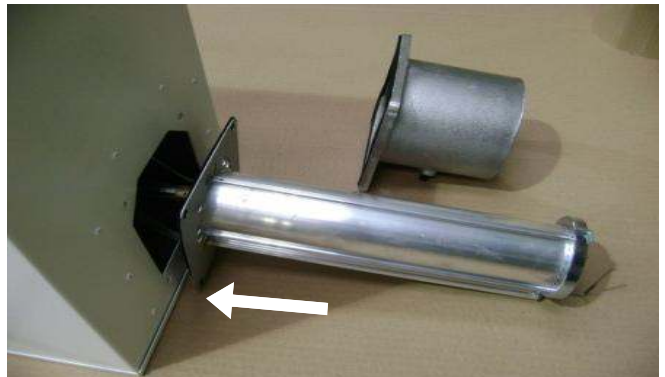
Step 1: Reconnect the ignition and flame probe leads, the ground lead and pressure switch silicon tube.

Take care to pass the leads and silicone tube through the gasket.

New gaskets are provided. The old gaskets should be disposed of accordingly.



Step 2: Locate the burner head assembly over the gas orifice ensuring the leads do not get pinched between the orifice plate and burner housing.



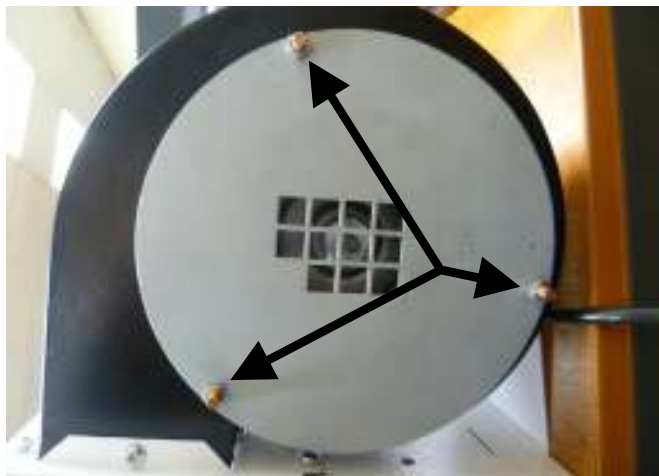
Step 3: Refit the gasket and casting over the burner head tube and fix with the original screws.




Section 8a


Fan Orifice Plate Replacement (3 screws VPS).

Step 1: Remove the 3 off 8mm nuts (arrowed) securing the fan orifice plate with an 8mm wrench. Slide orifice plate off the 3 protruding studs.



Step 2: Fit the replacement fan orifice plate. Re-attach the 3 x 8mm nuts (arrowed) turning clockwise, using the wrench to secure to the combustion fan.

 Take care not to cross thread the fasteners.

 See Section 12a to 12f for correct fan orifice plate identification.

For VPS burners Generation code ZZ ONLY
(refer to section 2 for component identification)

Step 3: Remove the four fan outlet retaining screws and unplug from burner box.

Step 4: Remove the two screws holding the fan support bracket (K3) / fan flange plate (K4) to the burner housing and remove the fan and bracket assy.

Step 5: Remove the remaining two screws and remove the fan flange plate.

Step 6: Locate the self adhesive gasket (M2) and position on the underside of the new fan flange plate.

Step 7: Position the new fan flange plate onto the burner housing and re-fit screws from step 5.

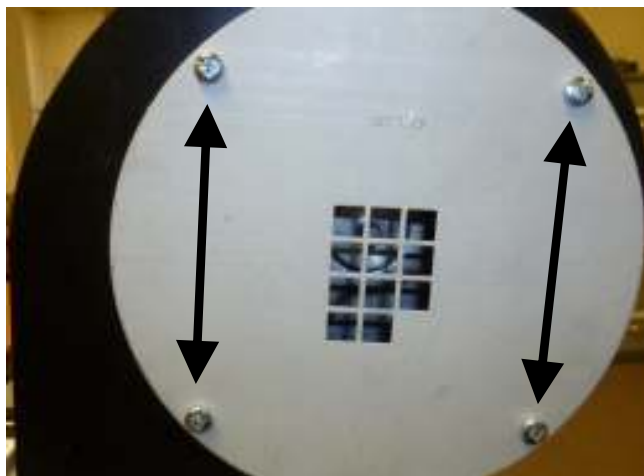
Step 8: Re-position fan/fan support bracket on top of fan flange plate ensuring the fan outlet is placed OUTSIDE the flange. Replace the remaining two screws removed from step 4.

Step 9: Fix fan outlet to housing using 4 x No.6 screws in kit.


Section 8b


Fan Orifice Plate Replacement (4 screws VPS).

Step 1: Using a number 2 crosshead screwdriver remove the four screws (arrowed) securing the fan orifice plate. Remove plate.



Step 2: Fit the replacement fan orifice plate and secure with the same four screws.

 See Section 12a to 12f for correct fan orifice plate identification.

 Take care not to cross thread the screws.

Section 8c

Fan Orifice Plate Replacement (3 screws VPT, VCS/VCT).


Step 1: Remove the top cover of the burner using a number 2 crosshead screwdriver to expose the combustion fan.



Step 2: Remove the four screws (arrowed), three of which can not be seen in the photograph. Lift out the fan assembly to access the fan.



Step 3: Follow the procedure in Section 3a to change the fan orifice plate.

 For correct fan orifice plate identification, see sections 12a-12f for VCS and sections 12g-12m for VPT/VCT


Step 4: Refit the fan and cover.

Section 8d

Fan Orifice Plate Replacement (4 screws VPT, VCS/VCT).

Step 1: Remove fan following procedure in Section 3c.


Step 2: Follow procedure in Section 3b to change the fan orifice plate.

 For correct fan orifice plate identification, see sections 12a-12f for VCS and sections 12g-12m for VPT/VCT

Step 3: Refit the fan and cover.

Section 9

Data Badge Replacement (all models).



 Ensure the single stage High Altitude conversion label is used on VPS/VCS burners and the two-stage High Altitude conversion label is used when converting VPT/VCT burners.

Step 1: Locate the High Altitude conversion data label.




Step 2: With a permanent marker pen Indicate the following:

- Altitude of the appliance installation
- Heat input of the unit.
- Gas manifold pressure.

Refer to sections 11a and 11b for VPS/VCS and section 11c and 11d for VPT/VCT to obtain correct data.

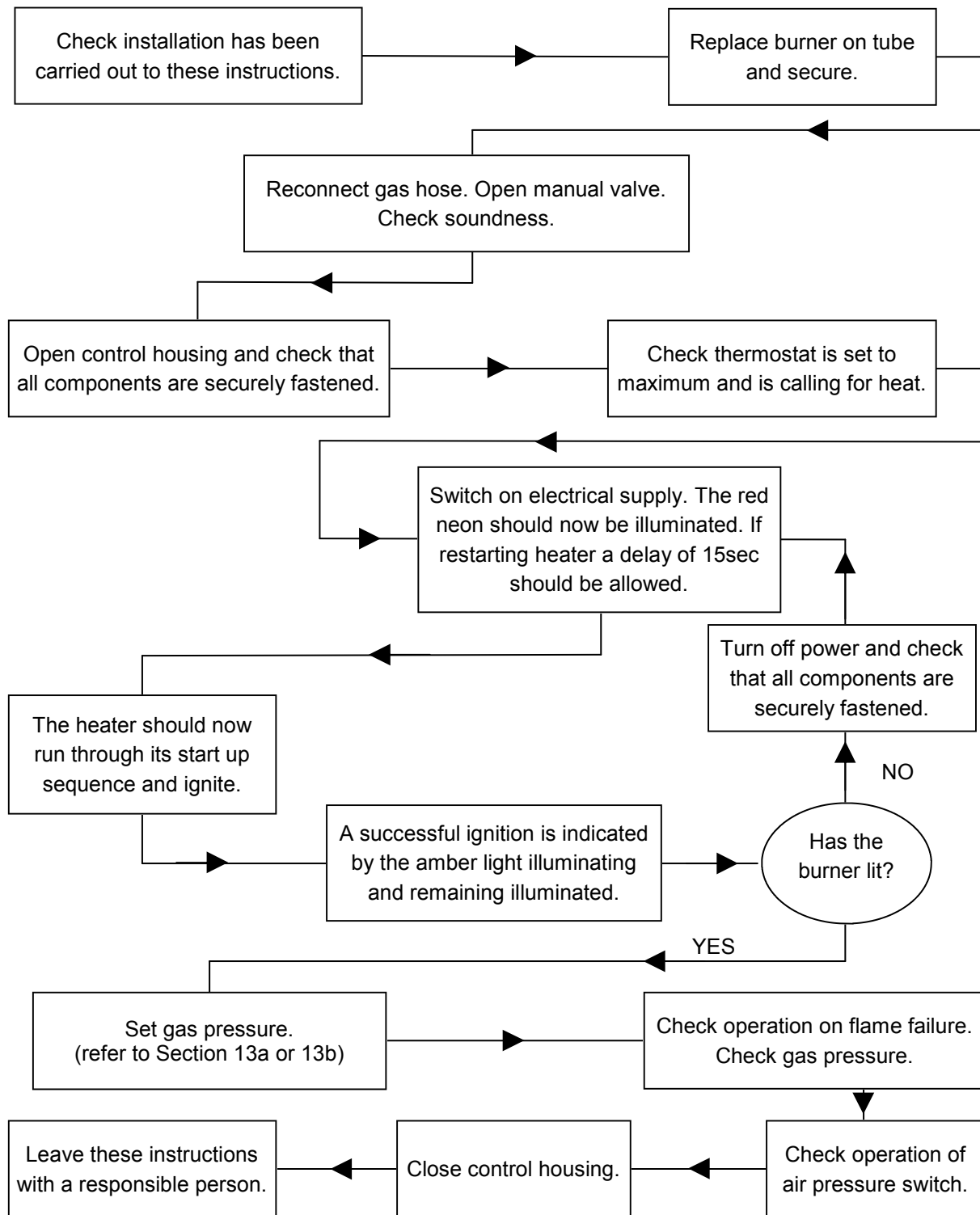
 CONVERTED FOR USE AT HIGH ALTITUDE		
ALTITUDE SETTING RÉGLAGE DE L'ALTITUDE		
INPUT RATE VOLUME D'ENTRÉE		BTU/h
GAS MANIFOLD PRESSURE PRESSION DU COLLECTEUR DE GAZ		IN. W.C.
MIN. GAS INLET PRESSURE PRESSION MIN. D'ADMISSION DE GAZ	5	IN. W.C.
GAS ORIFICE INJECTEUR	7 x 2.3	
GAS GAZ	Natural	
Pl. No. 1001354		
		

Step 3: Affix new label over the technical data section of the data label as shown below.

INFRARED RADIANT TUBE HEATER RADIATEUR À TUBE RAYONNANT À INFRAROUGE			GENERATION <input type="checkbox"/>
MODEL No. MODÈLE NO.	ANSI Z93.266-2011 CSA 2.340-2011	SERIAL No. NO. DE SÉRIE	
 CONVERTED FOR USE AT HIGH ALTITUDE			Nortek Global HVAC
ALTITUDE SETTING RÉGLAGE DE L'ALTITUDE	4500FT		
INPUT RATE VOLUME D'ENTRÉE	111.15	BTU/h	
GAS MANIFOLD PRESSURE PRESSION DU COLLECTEUR DE GAZ	4.3	IN. W.C.	
MIN. GAS INLET PRESSURE PRESSION MIN. D'ADMISSION DE GAZ	5	IN. W.C.	
GAS ORIFICE INJECTEUR	7 x 2.3		
GAS GAZ	Natural		
Pl. No. 1001354			
CLEARANCE FROM COMBUSTIBLE CONSTRUCTION DÉGAGEMENT DE LA STRUCTURE COMBUSTIBLE			
			WATER CONTRACT: ELECTRICAL / TÉLÉPHONE 120V / 60Hz © SP - Manufactured in USA

Section 10

Re-commissioning (all models).



Once gas outlet pressure has been set, replace gas valve regulator cover screw(s).

Section 11a - Orifice Pressure Adjustment by Altitude (VPS/VCS) USA

Altitude		Natural Gas ("wc)							
Feet	Meters	60	80	100	125	150	170	170*	200
0-2000	0-610	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
2001-3000	611-915	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
3001-4000	916-1220	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
4001-5000	1221-1524	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
5001-6000	1525-1829	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
6001-7000	1830-2134	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
7001-8000	2135-2439	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
8001-9000	2440-2743	3.9	3.5	4.5	4.2	4.0	3.3	4.0	3.3
9001-10000	2744-3048	3.9	3.5	4.5	4.2	4.0	3.3	4.0	3.3

Orifice Pressure Adjustment by Altitude (VPS/VCS) Canada

Altitude		Natural Gas ("wc)							
Feet	Meters	60	80	100	125	150	170	170*	200
0-2000	0-610	3.9	3.5	4.5	4.3	4.0	3.3	4.0	3.3
2001-4500	611-1372	3.7	3.3	4.3	4.1	3.8	3.1	3.8	3.1

Section 11b - Btu/h Heat Input by Altitude (VPS/VCS) USA

Altitude		Natural Gas Normal Input Btu/h							
Feet	Meters	60	80	100	125	150	170	170*	200
0-2000	0-610	60,000	80,000	100,000	123,500	150,000	169,000	150,000	200,000
2001-3000	611-915	56,400	75,200	94,000	116,090	141,000	158,860	141,000	188,000
3001-4000	916-1220	55,200	73,600	92,000	113,620	138,000	155,480	138,000	184,000
4001-5000	1221-1524	54,000	72,000	90,000	111,150	135,000	152,100	135,000	180,000
5001-6000	1525-1829	52,800	70,400	88,000	108,680	132,000	148,720	132,000	176,000
6001-7000	1830-2134	51,600	68,800	86,000	106,210	129,000	145,340	129,000	172,000
7001-8000	2135-2439	50,400	67,200	84,000	103,740	126,000	141,960	126,000	168,000
8001-9000	2440-2743	49,200	65,600	82,000	96,950	123,000	138,580	123,000	164,000
9001-10000	2744-3048	48,000	64,000	80,000	94,480	120,000	135,200	120,000	160,000

Btu/h Heat Input by Altitude (VPS/VCS) Canada

Altitude		Natural Gas Normal Input Btu/h							
Feet	Meters	60	80	100	125	150	170	170*	200
0-2000	0-610	60,000	80,000	100,000	123,500	150,000	169,000	150,000	200,000
2001-4500	611-1372	54,000	72,000	90,000	111,500	135,000	152,100	135,000	180,000

*Generation ZZ model 170 de-rated from 169kBTU to 150kBTU



Note: Burners will naturally de-rate at high altitude.

Section 11c - Orifice Pressure Adjustment by Altitude (VPT/VCT) USA

Altitude		Burner Setting	Natural Gas ("wc)						
Feet	Meters		60	80	100	125	150	170	200
0-2000	0-610	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
2001-3000	611-915	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
3001-4000	916-1220	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
4001-5000	1221-1524	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
5001-6000	1525-1829	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
6001-7000	1830-2134	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
7001-8000	2135-2439	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
8001-9000	2440-2743	Hi	3.9	3.5	4.5	4.2	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.4	2.1	1.9	2.5
9001-10000	2744-3048	Hi	3.9	3.5	4.5	4.2	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.4	2.1	1.9	2.5

Orifice Pressure Adjustment by Altitude (VPT/VCT) Canada

Altitude		Burner Setting	Natural Gas ("wc)						
Feet	Meters		60	80	100	125	150	170	200
0-2000	0-610	Hi	3.9	3.5	4.5	4.3	4.0	3.3	4.0
		Lo	2.6	2.3	3.0	2.7	2.1	1.9	2.5
2001-4500	611-1372	Hi	3.7	3.3	4.3	4.1	3.8	3.1	3.8
		Lo	2.5	2.1	2.9	2.5	2.0	1.8	2.4



Note: Burners will naturally de-rate at high altitude.

Section 11d - Btu/h Heat Input by Altitude (VPT/VCT) USA

Altitude		Burner Setting	Natural Gas ("wc)						
Feet	Meters		60	80	100	125	150	170	200
0-2000	0-610	Hi	60,000	80,000	100,000	123,500	150,000	169,000	200,000
		Lo	48,000	60,000	75,000	95,000	100,000	125,000	160,000
2001-3000	611-915	Hi	56,400	75,200	94,000	116,090	141,000	158,860	188,000
		Lo	45,120	56,400	70,500	89,300	94,000	117,500	150,400
3001-4000	916-1220	Hi	55,200	73,600	92,000	113,620	138,000	155,480	184,000
		Lo	44,160	55,200	69,000	87,400	92,000	115,000	147,200
4001-5000	1221-1524	Hi	54,000	72,000	90,000	111,150	135,000	152,100	180,000
		Lo	43,200	54,000	67,500	85,500	90,000	112,500	144,000
5001-6000	1525-1829	Hi	52,800	70,400	88,000	108,680	132,000	148,720	176,000
		Lo	42,240	52,800	66,000	83,600	88,000	110,000	140,800
6001-7000	1830-2134	Hi	51,600	68,800	86,000	106,210	129,000	145,340	172,000
		Lo	41,280	51,600	64,500	81,700	86,000	107,500	137,600
7001-8000	2135-2439	Hi	50,400	67,200	84,000	103,740	126,000	141,960	168,000
		Lo	40,320	50,400	63,000	79,800	84,000	105,000	134,400
8001-9000	2440-2743	Hi	49,200	65,600	82,000	96,950	123,000	138,580	164,000
		Lo	39,360	49,200	61,500	71,250	82,000	102,500	131,200
9001-10000	2744-3048	Hi	48,000	64,000	80,000	94,480	120,000	135,200	160,000
		Lo	38,400	48,000	60,000	69,350	80,000	100,000	128,000

Btu/h Heat Input by Altitude (VPT/VCT) Canada

Altitude		Burner Setting	Natural Gas ("wc)						
Feet	Meters		60	80	100	125	150	170	200
0-2000	0-610	Hi	60,000	80,000	100,000	123,500	150,000	169,000	200,000
		Lo	48,000	60,000	75,000	95,000	100,000	125,000	160,000
2001-4500	611-1372	Hi	54,000	72,000	90,000	111,150	135,000	152,100	180,000
		Lo	43,200	54,000	67,500	85,500	90,000	112,500	144,000



Note: Burners will naturally de-rate at high altitude.

Section 12a - VPS/VCS LP Gas Fan Orifice 0-2000ft (0-610m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20-40, U20-40	269922	7
80	S30-40, U20-40	269925	10
100	S30-50, U40	269925	10
125	S30-60, U40-60	269930	15
150	S40-70, U40-60	269931	18
170	S50-80, U60-80	269935	11
170*	S40-70, U40-60	269931	18
200	S50	269939	22
	S60-80, U60-80	269938	18

Section 12b - VPS/VCS LP Gas Fan Orifice 2001-5000ft (611-1524m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30, U20	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40-50, U40	269925	10
125	S30-40	269931	18
	S50-60, U40-60	269930	15
150	S40, U40	269932	21
	S50-70, U60	269931	18
170	S50-80, U60-80	269935	11
170*	S40, U40	269932	21
	S50-70, U60	269931	18
200	S50	269939	22
	S60-80, U60-80	269938	18



Important note: If heaters have been fitted with a 5ft Tube Pack then the orifice required must be fitted from the closest size downwards.

e.g. S35 should be treated as if it were a S30, S55 should be treated as if it were a S50 etc..

Section 12c - VPS/VCS Natural Gas Fan Orifice 5001-8000ft (1525-2439m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30, U20	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40-50, U40	269925	10
125	S30-40	269931	18
	S50-60, U40-60	269930	15
150	S40, U40	269933	26
	S50-70, U60	269932	21
170	S50-80, U60-80	269936	14
170*	S40, U40	269933	26
	S50-70, U60	269932	21
200**	S60-80, U60-80	269939	22

Section 12d - VPS/VCS Natural Gas Fan Orifice 8001-10000ft (2440-3048m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269926	11
	S30-40, U40	269925	10
80	S30, U20	269929	14
	S40, U40	269928	12
100	S30	269930	15
	S40-50, U40	L200325	13
125	S30-40	269932	21
	S50-60, U40-60	269931	18
150	S40, U40	269933	26
	S50-70, U60	269932	21
170	S50-80, U60-80	269937	15
170*	S40, U40	269933	26
	S50-70, U60	269932	21
200 **	S60-80, U60-80	269939	22



**** Note: model 200 S50 is not allowed.**

Section 12e - VPS/VCS Natural Gas Fan Orifice 0-2000ft (0-610m) Canada

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20-40, U20-40	269922	7
80	S30-40, U20-40	269925	10
100	S30-50, U40	269925	10
125	S30-60, U40-60	269930	15
150	S40-70, U40-60	269931	18
170	S50-80, U60-80	269935	11
170*	S40-70, U40-60	269931	18
200	S50	269939	22
	S60-80, U60-80	269938	18

Section 12f - VPS/VCS Natural Gas Fan Orifice 2001-4500ft (611-1372m) Canada

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30, U20	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40-50, U40	269925	10
125	S30-40	269931	18
	S50-60, U40-60	269930	15
150	S40, U40	269932	21
	S50-70, U60	269931	18
170	S50-80, U60-80	269935	11
170*	S40, U40	269932	21
	S50-70, U60	269931	18
200	S50	269939	22
	S60-80, U60-80	269938	18

Section 12g - VPT/VCT Natural Gas Fan Orifice 0-2000ft (0-610m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20-40, U20-40	269922	7
80	S30-40, U40	269925	10
100	S30-40, U40	269925	10
125	S30-50, U40	269930	15
150	S40-60, U40-60	269931	18
170	S50-70, U60	269935	11
200	S50	269939	22
	S60-70, U60	269938	18

Section 12h - VPT/VCT Natural Gas Fan Orifice 2001-5000ft (611-1524m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40, U40	269925	10
125	S30-40	269931	18
	S50, U40	269930	15
150	S40, U40	269932	21
	S50-60, U60	269931	18
170	S50-70, U60	269935	11
200	S50	269939	22
	S60-70, U60	269938	18



Important note: If heaters have been fitted with a 5ft Tube Pack then the orifice required must be fitted from the closest size downwards.

e.g. S35 should be treated as if it were a S30, S55 should be treated as if it were a S50 etc..

Section 12j - VPT/VCT Natural Gas Fan Orifice 5001-8000ft (1525-2439m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40, U40	269925	10
125	S30-40	269931	18
	S50, U40	269930	15
150	S40, U40	269933	26
	S50-60, U60	269932	21
170	S50-70, U60	269936	14
200 **	S60-70, U60	269939	22

Section 12k - VPT/VCT Natural Gas Fan Orifice 8001-10000ft (2440-3048m) USA

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269926	11
	S30-40, U40	269925	10
80	S30	269929	14
	S40, U40	269928	12
100	S30	269930	15
	S40, U40	L200325	13
125	S30-40	269932	21
	S50, U40	269931	18
150	S40, U40	269933	26
	S50-60, U60	269932	21
170	S50-70, U60	269937	15
200 **	S60-70, U60	269939	22



**** Note: model 200 S50 is not allowed.**

Section 12I - VPT/VCT Natural Gas Fan Orifice 0-2000ft (0-610m) Canada

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20-40, U20-40	269922	7
80	S30-40, U40	269925	10
100	S30-40, U40	269925	10
125	S30-50, U40	269930	15
150	S40-60, U40-60	269931	18
170	S50-70, U60	269935	11
200	S50	269939	22
	S60-70, U60	269938	18

Section 12m - VPT/VCT Natural Gas Fan Orifice 2001-4500ft (611-1372m) Canada

Model	Configuration	Fan Orifice Part #	Quantity 10mm Holes
60	S20, U20	269923	8
	S30-40, U40	269922	7
80	S30	269926	11
	S40, U40	269925	10
100	S30	269928	12
	S40, U40	269925	10
125	S30-40	269931	18
	S50, U40	269930	15
150	S40, U40	269932	21
	S50-60, U60	269931	18
170	S50-70, U60	269935	11
200	S50	269939	22
	S60-70, U60	269938	18

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