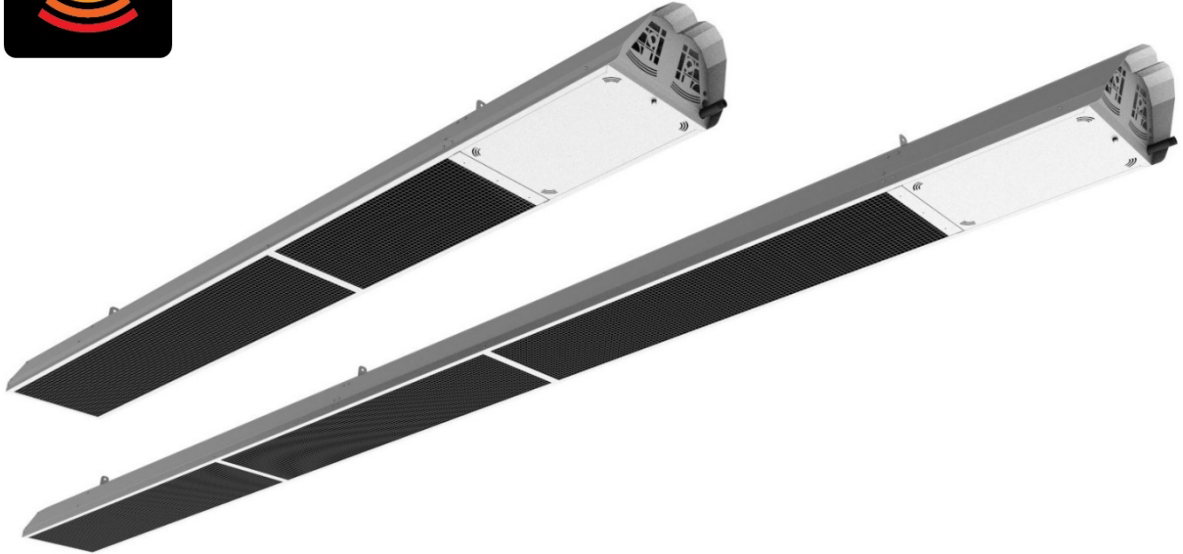


INFRARED HEATER



Series ETS & ETSV



WARNING

- This conversion kit shall be installed by a qualified service agency in accordance with the appliance manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction.
- If the information in these instructions is not followed exactly, a fire, an explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life.
- The qualified service agency is responsible for the proper installation of the kit.
- The installation is not proper and complete until the operation of the converted appliance is checked as specified in the appliance manufacturer's instructions supplied with the kit.

WARNING

In the United States for installations over 2000ft above sea level the appliance must be installed in accordance with the Current National Fuel Gas Code, ANSI Z223.1/NFPA 54. The De-Ration Charts, included in these instructions are based on ANSI Z223, NFPA 54, National Fuel Gas Code.

In Canada, the ETS and ETSV Series are certified for installation up to 4500ft. When installing this heater over 4500 ft. above sea level in Canada, the heater must be properly de-rated and installed according to local codes. In the absence of local codes, the appliance must be de-rated in accordance with the most recent CSA -B149 Natural gas and propane installation code. The De-Ration Charts, included in these instructions, may be used above 4500ft.

Canada: 563 Barton Street, Stoney Creek, Ontario L8E 5S1

USA: 315 N Madison Street, Fortville, IN 46040

www.irenergy.ca / www.superiorradiant.com

CAUTION

Before proceeding with the conversion, the gas supply shall be shut off prior to disconnecting the electrical power.

WARNING

Conversion kit shall be installed by a qualified service agency.

NOTE

ALL Images have been simplified for clarity purposes, not all existing parts, hardware & wires are shown.

NOTE

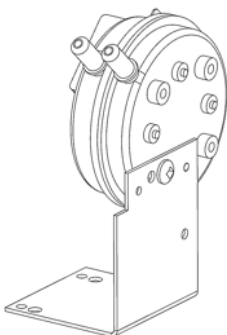
Sea Level De-Ration Chart - For USA, based on ANSI Z223, NFPA 54, National Fuel Gas Code

1. Follow the chart (Table 1) provided to determine which parts need to be changed out to de-rate the Burner for the correct operation.
2. Follow the procedures provided on the following pages to change out the appropriate parts.
3. Apply the correct Label stickers to the required locations on the Burner after parts have been changed out and before putting the Burner back into service.

Kit Parts List

Item	Part Description
1	Air Pressure Switch with bracket
2	Orifice
3	Sea Level Deration Kit Installation Instructions
4	Hi-Altitude Plate Label
5	Conversion Plate Label

1



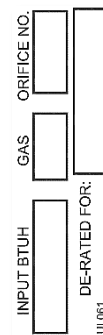
2



3



4



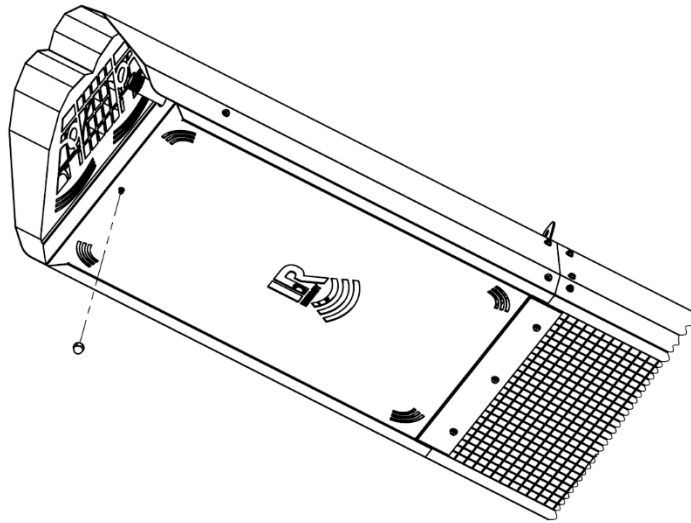
5



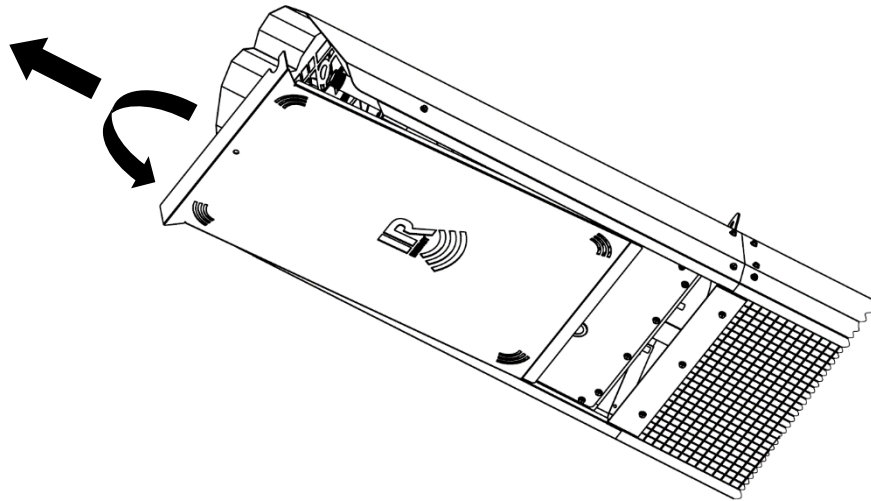
AIR PRESSURE SWITCH
CHANGE OUT:

- 1) Remove nut from Service Cover.

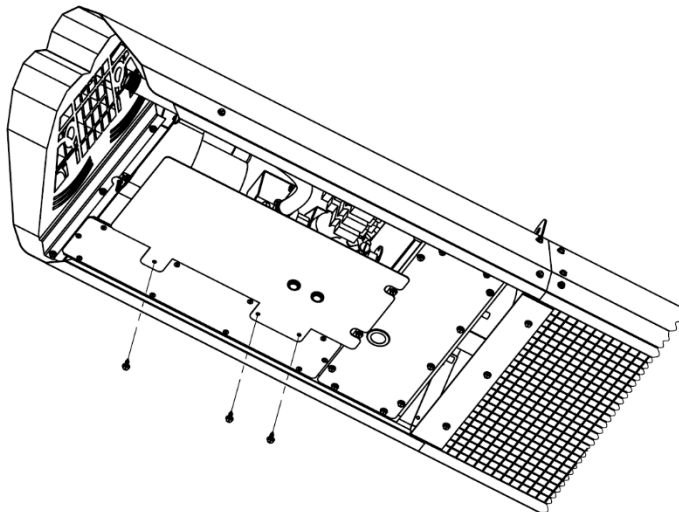
Leave Service Cover off until finished ALL change-outs.



- 2) Remove service cover from stud first, and then slide out.

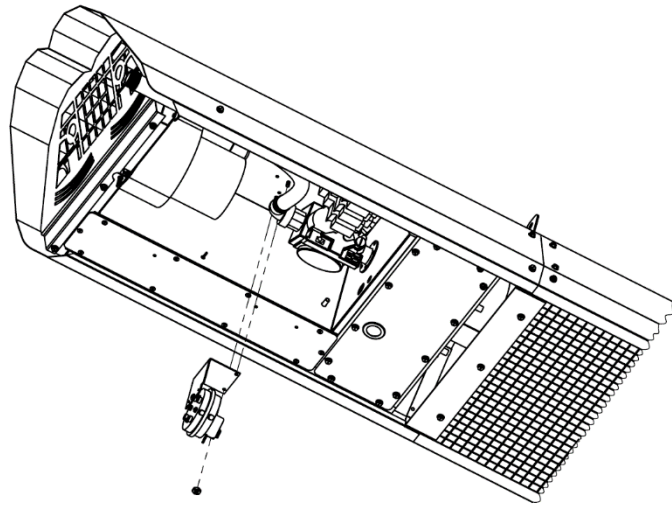


- 3) Remove 3 screws securing the light plate. Disconnect lights from the back to remove the plate completely if needed.

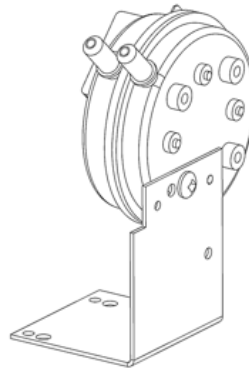


4) Remove nut securing the air pressure switch to the housing. Remove existing air pressure switch.

5) Disconnect the 2 electrical wires and 2 clear tubes connected to the air pressure switch.

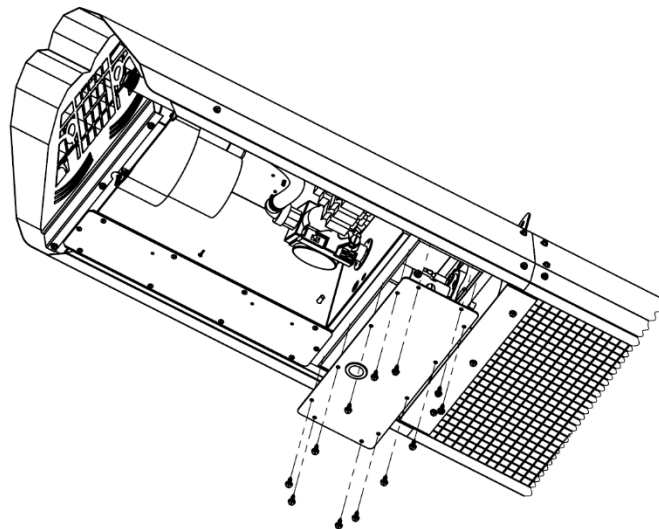


6) Replace air pressure with new air pressure switch.

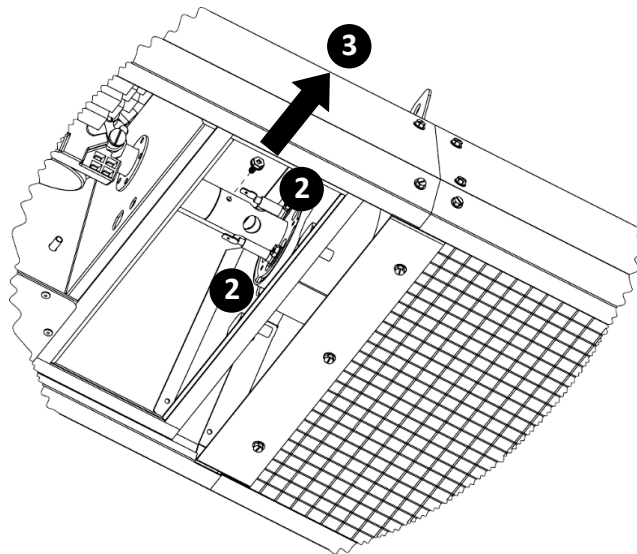


ORIFICE SWITCH CHANGE OUT:

1) Remove 12 screws securing the combustion cover to the housing.



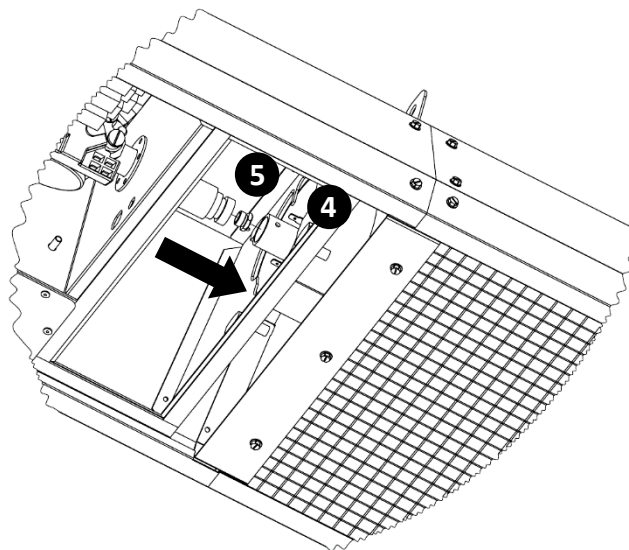
- 2) Disconnect the pink wire from the flame sense (top connection) and disconnect the black wire from the Ignitor (bottom connection).
- 3) Remove set-screw from valve train / burner cup assembly.



- 4) Carefully slide the burner cup forward part way into the first Tube to gain access to the orifice.*
- 5) Unscrew the existing orifice and replace with the new orifice.

Reassemble by reversing this procedure.

**Ensure that the burner cup is re-seated securely between the 3 support cut-outs in the burner housing and that the flame sense is still oriented at the TOP (12 o'clock) of the Cup.*



ETS & ETSV Gen II

Sea Level De-Ration Chart - For USA, based on ANSI Z223, NFPA 54, National Fuel Gas Code.

NG												
		Altitude (ft)	0'	2001'-3000'	3001'-4000'	4001'-5000'	5001'-6000'	6001'-7000'	7001'-8000'	8001'-9000'	9001'-10000'	
ETS Gen II	40	Kit PN		EG080			EG081	EG082	EG083	EG084	EG085	
		Orifice PN	UG020	UG032			UG019	UG069	UG068	RG024	UG031	
		Orifice	31	32	32	32	33	34	35	36	37	
		High (Btu/h) inch WC	3.3	38,500	36,000	36,000	36,000	34,000	33,000	32,000	30,000	29,000
		Low (Btu/h) inch WC	1.5	23,000	21,000	21,000	21,000	20,000	20,000	19,000	18,000	17,000
		APS PN	CE029 - .59"	CE021 - .55"			CE291 - .50"	CE291 - .50"	CE291 - .50"	CE160 - .44"	CE160 - .44"	
ETSV Gen II	40	Kit PN		EG086			EG087	EG088	EG089	EG090	EG091	
		Orifice PN	UG020	UG032			UG019	UG069	UG068	RG024	UG031	
		Orifice	31	32	32	32	33	34	35	36	37	
		High (Btu/h) inch WC	3.3	38,500	36,000	36,000	36,000	34,000	33,000	32,000	30,000	29,000
		Low (Btu/h) inch WC	1.5	23,000	21,000	21,000	21,000	20,000	20,000	19,000	18,000	17,000
		APS PN	CE021 - .55"	CE021 - .55"			CE210 - .46"	CE210 - .46"	CE210 - .46"	CE208 - .41"	CE208 - .41"	
ETS Gen II	50	Kit PN		EG161	EG176	EG162	EG163		EG164			
		Orifice PN	UG070	UG043	UG043	RG023	RG023		UG020			
		Orifice	28	29	29	29	30	30	30	30	31	
		High (Btu/h) inch WC	3.3	50,000	47,000	47,000	47,000	42,000	42,000	42,000	42,000	36,000
		Low (Btu/h) inch WC	1.5	30,000	28,000	28,000	28,000	25,000	25,000	25,000	25,000	22,000
		APS PN	CE022 - .45"	CE160 - .44"	CE208 - .41"		CE208 - .41"	CE395 - .36"		CE395 - .36"		
ETSV Gen II	50	Kit PN		EG165	EG166	EG167	EG168	EG169				
		Orifice PN	UG021	UG070	UG043	UG043	RG023	RG023				
		Orifice	27	28	28	29	29	29	30	30	30	
		High (Btu/h) inch WC	3.3	58,000	55,000	55,000	52,000	52,000	52,000	46,000	46,000	46,000
		Low (Btu/h) inch WC	1.5	37,500	36,000	36,000	33,000	33,000	33,000	30,000	30,000	30,000
		APS PN	CE028 - .78"	CE028 - .78"		CE028 - .78"		CE412 - .63"	CE412 - .63"	CE029 - .59"		
ETSV Gen II	60	Kit PN		EG165	EG166	EG167	EG168	EG169				
		Orifice PN	UG021	UG070	UG043	UG043	RG023	RG023				
		Orifice	27	28	28	29	29	29	30	30	30	
		High (Btu/h) inch WC	3.3	58,000	55,000	55,000	52,000	52,000	52,000	46,000	46,000	46,000
		Low (Btu/h) inch WC	1.5	37,500	36,000	36,000	33,000	33,000	33,000	30,000	30,000	30,000
		APS PN	CE028 - .78"	CE028 - .78"		CE028 - .78"		CE412 - .63"	CE412 - .63"	CE029 - .59"		
ETS Gen II	80	Kit PN		EG099	EG100	EG101	EG102	EG103	EG104	EG105		
		Orifice PN	UG022	UG035	UG074	UG073	UG072	UG071	UG034	UG021		
		Orifice	18	19	19	20	21	22	23	24	26	
		High (Btu/h) inch WC	3.3	80,000	77,000	77,000	72,000	70,000	69,000	66,000	64,000	60,000
		Low (Btu/h) inch WC	1.5	50,000	48,000	48,000	45,000	44,000	43,000	41,000	40,000	38,000
		APS PN	CE160 - .44"	CE208 - .41"		CE208 - .41"	CE208 - .41"	CE395 - .36"	CE395 - .36"	CE395 - .36"	CE395 - .36"	
ETSV Gen II	80	Kit PN		EG099	EG100	EG101	EG102	EG103	EG104	EG105		
		Orifice PN	UG022	UG035	UG074	UG073	UG072	UG071	UG034	UG021		
		Orifice	18	19	19	20	21	22	23	24	26	
		High (Btu/h) inch WC	3.3	80,000	77,000	77,000	72,000	70,000	69,000	66,000	64,000	60,000
		Low (Btu/h) inch WC	1.5	50,000	48,000	48,000	45,000	44,000	43,000	41,000	40,000	38,000
		APS PN	CE160 - .44"	CE208 - .41"		CE208 - .41"	CE208 - .41"	CE395 - .36"	CE395 - .36"	CE395 - .36"	CE395 - .36"	
ETS Gen II	100	Kit PN		EG106	EG107	EG108	EG109	EG110	EG111	EG112		
		Orifice PN	UG023	UG076	UG075	UG089	UG040	UG036	UG022	UG035		
		Orifice	11	13	13	14	15	16	17	18	19	
		High (Btu/h) inch WC	3.3	100,000	94,000	94,000	91,000	89,000	86,000	82,000	79,000	76,000
		Low (Btu/h) inch WC	1.5	62,000	58,000	58,000	56,000	55,000	53,000	51,000	49,000	47,000
		APS PN	CE160 - .44"	CE208 - .41"		CE208 - .41"	CE208 - .41"	CE395 - .36"	CE395 - .36"	CE395 - .36"	CE395 - .36"	

ETS & ETSV Gen II

Sea Level De-Ration Chart - For USA, based on ANSI Z223, NFPA 54, National Fuel Gas Code.

LP												
		Altitude (ft)	0'	2001'-3000'	3001'-4000'	4001'-5000'	5001'-6000'	6001'-7000'	7001'-8000'	8001'-9000'	9001'-10000'	
ETS Gen II	40	Kit PN		EG113			EG114			EG115		
		Orifice PN	UG029	UG059			UG058			UG057		
		Orifice	49	50	50	50	51	51	51	52	52	
		High (Btu/h) inch WC	10.2	38,500	35,000	35,000	35,000	32,000	32,000	32,000	29,000	29,000
		Low (Btu/h) inch WC	4.2	23,000	21,000	21,000	21,000	19,000	19,000	19,000	17,000	17,000
		APS PN	CE029 - .59"	CE021 - .55"			CE291 - .50"			CE160 - .44"		
ETSV Gen II	40	Kit PN		EG113			EG116			EG117		
		Orifice PN	UG029	UG059			UG058			UG057		
		Orifice	49	50	50	50	51	51	51	52	52	
		High (Btu/h) inch WC	10.2	38,500	35,000	35,000	35,000	32,000	32,000	32,000	29,000	29,000
		Low (Btu/h) inch WC	4.2	23,000	21,000	21,000	21,000	19,000	19,000	19,000	17,000	17,000
		APS PN	CE021 - .55"	CE021 - .55"			CE210 - .46"			CE208 - .41"		
Note: ETS 50 not available in LP												
ETS Gen II	60	Kit PN		EG170			EG171	EG172		EG173		
		Orifice PN	UG062	UG061			UG110	RG025		UG060		
		Orifice	44	45	45	45	46	47	47	48	48	
		High (Btu/h) inch WC	10.2	58,000	53,000	53,000	53,000	51,000	48,000	48,000	45,000	45,000
		Low (Btu/h) inch WC	4.2	37,500	34,000	34,000	34,000	33,000	31,000	31,000	29,000	29,000
		APS PN	CE028 - .78"	CE028 - .78"			CE028 - .78"	CE412 - .63"		CE029 - .59"		
ETSV Gen II	60	Kit PN		EG170			EG171	EG172		EG173		
		Orifice PN	UG062	UG061			UG110	RG025		UG060		
		Orifice	44	45	45	45	46	47	47	48	48	
		High (Btu/h) inch WC	10.2	58,000	53,000	53,000	53,000	51,000	48,000	48,000	45,000	45,000
		Low (Btu/h) inch WC	4.2	37,500	34,000	34,000	34,000	33,000	31,000	31,000	29,000	29,000
		APS PN	CE028 - .78"	CE028 - .78"			CE028 - .78"	CE412 - .63"		CE029 - .59"		
ETS Gen II	80	Kit PN		EG122	EG123	EG124		EG125		EG126		
		Orifice PN	UG067	UG066	UG065	UG064		UG063		UG030		
		Orifice	38	39	40	41	41	42	42	43	43	
		High (Btu/h) inch WC	10.2	78,000	75,000	73,000	70,000	70,000	66,000	66,000	60,000	60,000
		Low (Btu/h) inch WC	4.2	49,000	47,000	46,000	44,000	44,000	42,000	42,000	38,000	38,000
		APS PN	CE160 - .44"	CE208 - .41"	CE208 - .41"	CE208 - .41"		CE395 - .36"		CE395 - .36"		
ETSV Gen II	80	Kit PN		EG122	EG123	EG124		EG125		EG126		
		Orifice PN	UG067	UG066	UG065	UG064		UG063		UG030		
		Orifice	38	39	40	41	41	42	42	43	43	
		High (Btu/h) inch WC	10.2	78,000	75,000	73,000	70,000	70,000	66,000	66,000	60,000	60,000
		Low (Btu/h) inch WC	4.2	49,000	47,000	46,000	44,000	44,000	42,000	42,000	38,000	38,000
		APS PN	CE160 - .44"	CE208 - .41"	CE208 - .41"	CE208 - .41"		CE395 - .36"		CE395 - .36"		
ETS Gen II	100	Kit PN		EG127	EG174		EG175	EG128	EG129	EG130	EG131	
		Orifice PN	UG069	UG068	RG024		UG031	UG031	UG067	UG066	UG065	
		Orifice	34	35	36	36	37	37	38	39	40	
		High (Btu/h) inch WC	10.2	92,000	90,000	85,000	85,000	81,000	81,000	77,000	74,000	72,000
		Low (Btu/h) inch WC	4.2	58,000	57,000	53,000	53,000	51,000	51,000	48,000	47,000	45,000
		APS PN	CE160 - .44"	CE208 - .41"	CE208 - .41"		CE208 - .41"	CE395 - .36"	CE395 - .36"	CE395 - .36"	CE395 - .36"	

ETS Gen I (these heaters are discontinued)

Sea Level De-Ration Chart - For USA, based on ANSI Z223, NFPA 54, National Fuel Gas Code.

NG											
		Altitude (ft)	0'	2001'-3000'	3001'-4000'	4001'-5000'	5001'-6000'	6001'-7000'	7001'-8000'	8001'-9000'	9001'-10000'
		Kit PN		EG092			EG093			EG094	
		Orifice PN	UG070	UG043			RG023			UG020	
ETS Gen I	50	Orifice	28	29	29	29	30	30	30	30	31
High (Btu/h)	inch WC	3.3	50,000	47,000	47,000	47,000	42,000	42,000	42,000	42,000	36,000
Low (Btu/h)	inch WC	2	35,000	33,000	33,000	33,000	29,000	29,000	29,000	29,000	26,000
		APS PN	CE291 - .50"	CE210 - .46"			CE160 - .44"			CE395 - .36"	
		Kit PN		EG095		EG096		EG097		EG098	
		Orifice PN	UG021	UG033		UG070		UG043		RG023	
ETS Gen I	60	Orifice	26	27	28	28	28	29	29	30	30
High (Btu/h)	inch WC	3.3	60,000	58,000	55,000	55,000	55,000	51,000	51,000	46,000	46,000
Low (Btu/h)	inch WC	2	45,000	43,000	41,000	41,000	41,000	39,000	39,000	34,000	34,000
		APS PN	CE028 - .78"	CE028 - .78"	CE028 - .78"		CE412 - .63"		CE029 - .59"		
		Kit PN		EG132		EG133	EG134	EG135	EG136	EG137	EG138
		Orifice PN	UG022	UG035		UG074	UG073	UG072	UG071	UG034	UG021
ETS Gen I	80	Orifice	18	19	19	20	21	22	23	24	26
High (Btu/h)	inch WC	3.3	80,000	77,000	77,000	72,000	70,000	69,000	66,000	64,000	60,000
Low (Btu/h)	inch WC	2	50,000	48,000	48,000	45,000	44,000	43,000	41,000	40,000	38,000
		APS PN	CE028 - .78"	CE028 - .78"		CE028 - .78"	CE028 - .78"	CE412 - .63"	CE412 - .63"	CE029 - .59"	CE029 - .59"
		Kit PN		EG144		EG148	EG149	EG150	EG151	EG152	EG153
		Orifice PN	UG023	UG076		UG075	UG089	UG040	UG036	UG022	UG035
ETS Gen I	100	Orifice	11	13	13	14	15	16	17	18	19
High (Btu/h)	inch WC	3.3	100,000	94,000	94,000	91,000	89,000	86,000	82,000	79,000	76,000
Low (Btu/h)	inch WC	2	62,000	58,000	58,000	56,000	55,000	53,000	51,000	49,000	47,000
		APS PN	CE021 - .55"	CE021 - .55"		CE291 - .50"	CE291 - .50"	CE160 - .44"	CE160 - .44"	CE160 - .44"	CE160 - .44"

LP											
		Altitude (ft)	0'	2001'-3000'	3001'-4000'	4001'-5000'	5001'-6000'	6001'-7000'	7001'-8000'	8001'-9000'	9001'-10000'
		Kit PN		EG118			EG119	EG120		EG121	
		Orifice PN	UG030	UG062			UG061	UG110		RG025	
ETS Gen I	60	Orifice	43	44	44	44	45	46	46	47	47
High (Btu/h)	inch WC	10.2	60,000	56,000	56,000	56,000	51,000	51,000	50,000	47,000	47,000
Low (Btu/h)	inch WC	6.4	45,000	42,000	42,000	42,000	38,000	38,000	37,000	35,000	35,000
		APS PN	CE028 - .78"	CE028 - .78"			CE028 - .78"	CE412 - .63"	CE029 - .59"		
		Kit PN		EG139	EG140	EG141		EG142		EG143	
		Orifice PN	UG067	UG066	UG065	UG064		UG063		UG030	
ETS Gen I	80	Orifice	38	39	40	41	41	42	42	43	43
High (Btu/h)	inch WC	10.2	78,000	75,000	73,000	70,000	70,000	66,000	66,000	60,000	60,000
Low (Btu/h)	inch WC	6.4	49,000	47,000	46,000	44,000	44,000	42,000	42,000	38,000	38,000
		APS PN	CE028 - .78"	CE028 - .78"	CE028 - .78"	CE028 - .78"	CE412 - .63"		CE029 - .59"		
		Kit PN		EG154	EG155		EG156	EG157	EG158	EG159	EG160
		Orifice PN	UG069	UG068	RG024		UG031	UG031	UG067	UG066	UG065
ETS Gen I	100	Orifice	34	35	36	36	37	37	38	39	40
High (Btu/h)	inch WC	10.2	92,000	90,000	85,000	85,000	81,000	81,000	77,000	74,000	72,000
Low (Btu/h)	inch WC	6.4	58,000	57,000	53,000	53,000	51,000	51,000	48,000	47,000	45,000
		APS PN	CE021 - .55"	CE021 - .55"	CE291 - .50"	CE291 - .50"	CE160 - .44"	CE160 - .44"	CE160 - .44"	CE160 - .44"	CE160 - .44"