



PBGII PACKAGED GAS BURNERS

PBG BURNER SPECIFICATIONS		BURNER MODEL						
		300	500	750	1000	2000	3000	5000
Capacity	(BTUx10 ³ /hr)	310	520	750	1,030	2,040	3,000	5,040
	(kW)	82	138	198	272	540	794	1,333
Air Capacity	(scfh)	3,170	5,350	7,790	10,680	21,100	31,120	52,200
	(nm ³ /hr)	85	143	209	286	565	834	1,398
Body Air Pressure	(in.w.c.)	3.9	5.2	5.9	5.9	5.5	5.5	5.5
	(mbar)	9.7	12.9	14.7	14.7	13.7	13.7	13.7
Gas Inlet Pressure	(in.w.c.)	3.2	4.5	4.1	4.3	3.5	4.5	3.1
	(mbar)	8.0	11.2	10.2	10.7	8.7	11.2	7.7
Flame Length	(inches)	12	14	27	34	60	66	72
	(mm)	305	356	686	864	1524	1676	1829
Flame Diameter	(inches)	3	5	6	8	12	16	16
	(mm)	76	127	152	203	305	406	406

Table 1. PBGII Burner Capacities

NOTES:

1. Capacities based on Natural Gas with HHV of 1,034 BTU/ft³ (Standard), and LHV of 36.74 MJ/nm³ (Metric), 0.59 S.G., and a stoichiometric ratio of 9.74:1 with burner firing into chamber under no pressure at 10% excess air.
2. Air and fuel flows based on STP operating conditions at sea level and industry standard air and gas piping practices.
3. Gas Inlet Pressures supplied for natural gas. Pressures are for reference only, not for burner setup.
4. Flame lengths measured from end of burner tile.
5. The above operating specifications are achievable by the burner. Not all control systems or components will produce these results.
6. Consult gas manifold packages for expected performance.
7. Packaged blower will produce the above pressures and flow at neutral conditions.

PBG BURNER DUCT PRESSURE		CAPACITY AT PRESSURE CONDITIONS						
		300	500	750	1000	2000	3000	5000
-1.0"wc (2.5mbar)	(BTUx10 ³ /hr)	350	570	810	1,110	2,220	3,260	5,480
	(kW)	93	151	214	294	587	862	1,450
-0.5"wc (1.2mbar)	(BTUx10 ³ /hr)	330	540	780	1,070	2,130	3,130	5,260
	(kW)	87	143	206	283	563	828	1,391
-0.25"wc (0.6 mbar)	(BTUx10 ³ /hr)	320	530	770	1,050	2,090	3,070	5,150
	(kW)	85	140	204	278	553	812	1,362
Neutral Chamber	(BTUx10 ³ /hr)	310	520	750	1,030	2,040	3,000	5,040
	(kW)	82	138	198	272	540	794	1,333
+0.25"wc (0.6 mbar)	(BTUx10 ³ /hr)	300	510	730	1,010	1,990	2,930	4,920
	(kW)	79	135	193	267	526	775	1,301
+0.5"wc (1.2 mbar)	(BTUx10 ³ /hr)	290	490	720	990	1,950	2,860	4,810
	(kW)	77	130	190	262	516	757	1,272

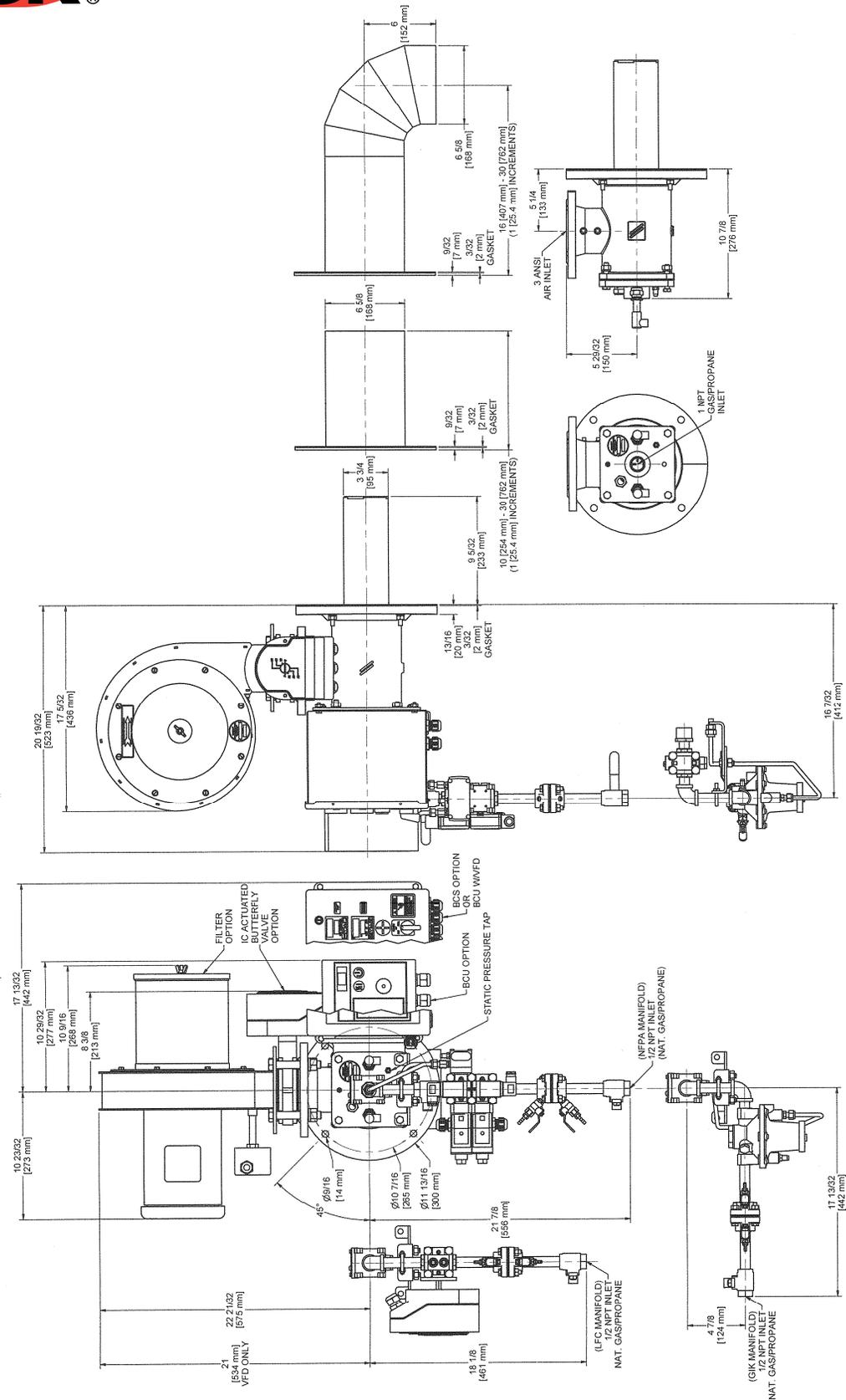
Table 2. Burner Capacities at Pressure Conditions

In accordance with Hauck's commitment to Total Quality Improvement, Hauck reserves the right to change the specifications of products without prior notice.



DIMENSIONS

PBGII PACKAGED GAS BURNERS PBGII-300D



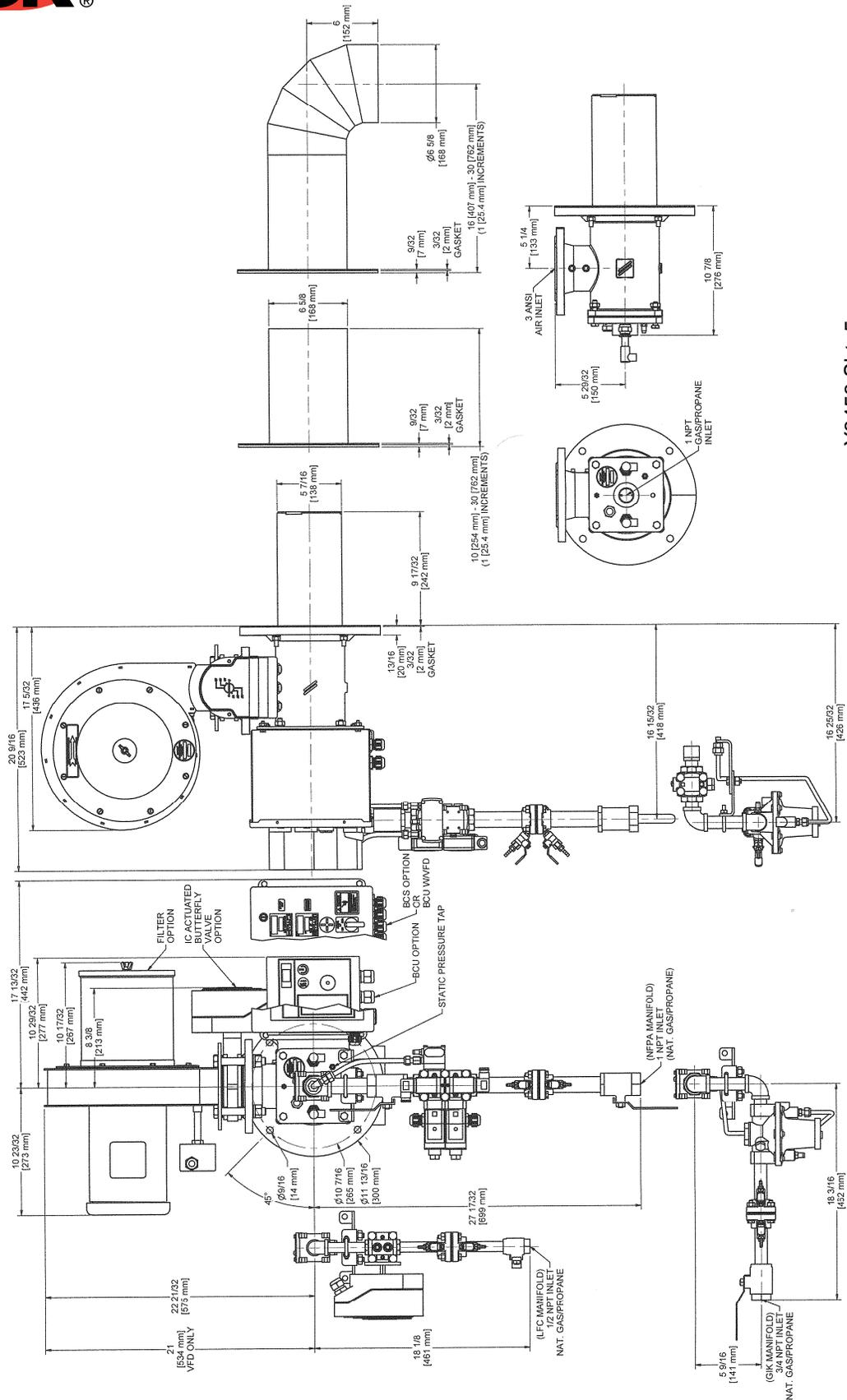
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DIMENSIONS

PBGII PACKAGED GAS BURNERS PBGII-1000E

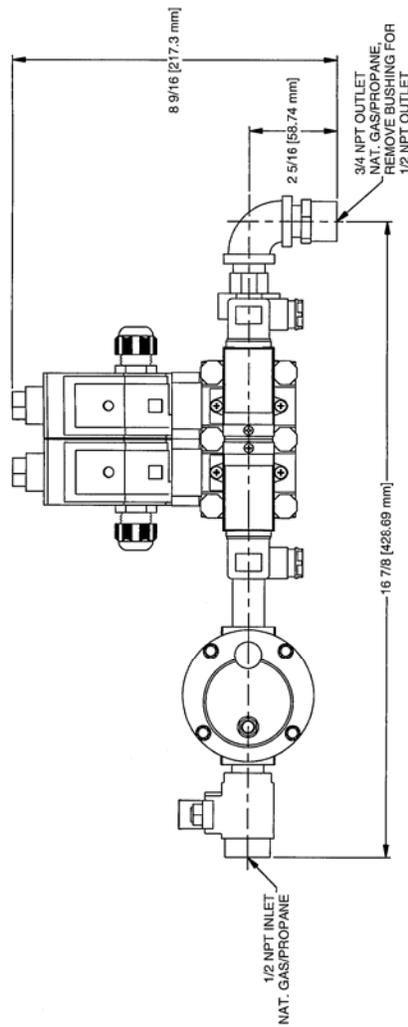


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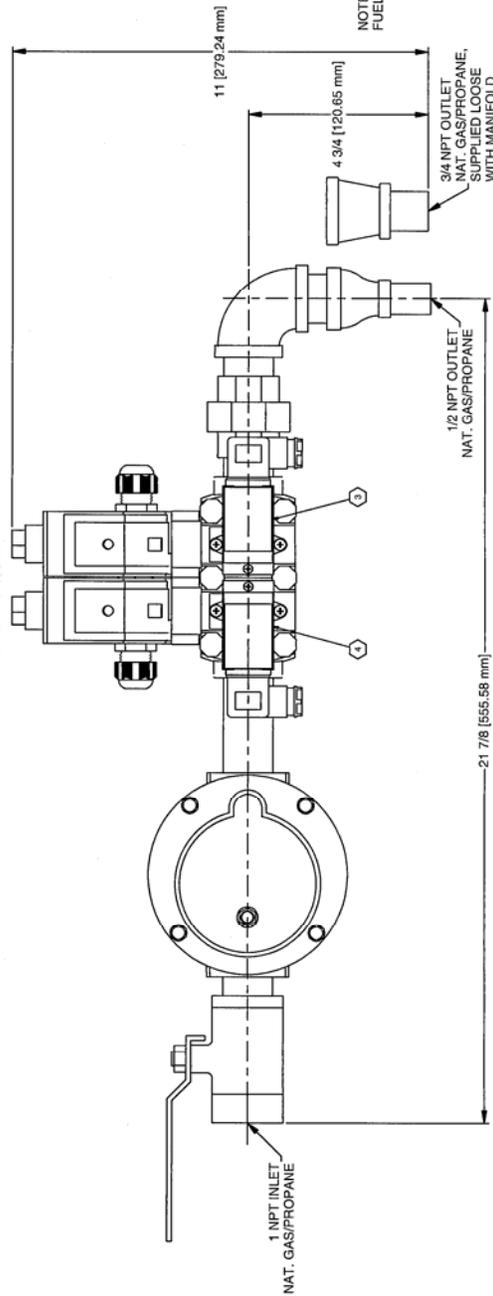
PBGII PACKAGED GAS BURNERS OPTIONAL NFPA GAS MANIFOLD



PBG300D-750D

NOTE: THIS MANIFOLD TO BE USED WITH PBG
FUEL-ONLY MANIFOLD OR RATIO-REGULATOR MANIFOLD

PBG1000E



NOTE: THIS MANIFOLD TO BE USED WITH PBG
FUEL-ONLY MANIFOLD OR RATIO-REGULATOR MANIFOLD

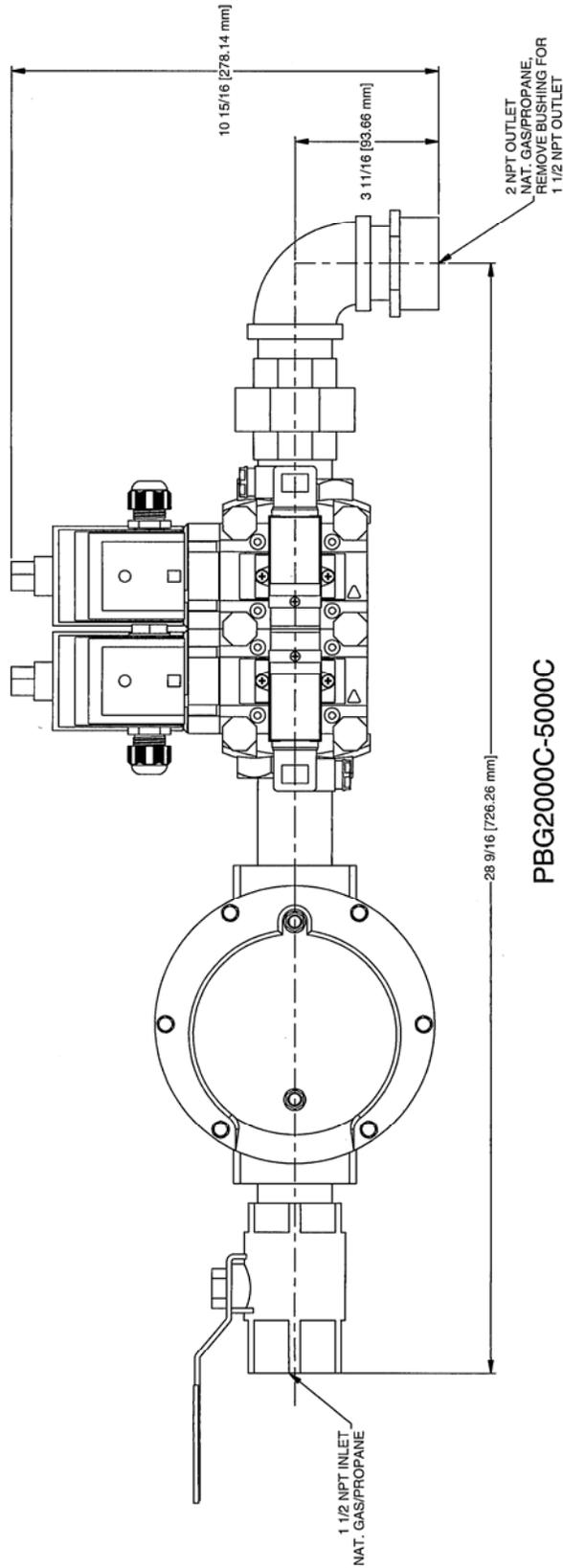
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DIMENSIONS

PBGII PACKAGED GAS BURNERS OPTIONAL NFPA GAS MANIFOLD



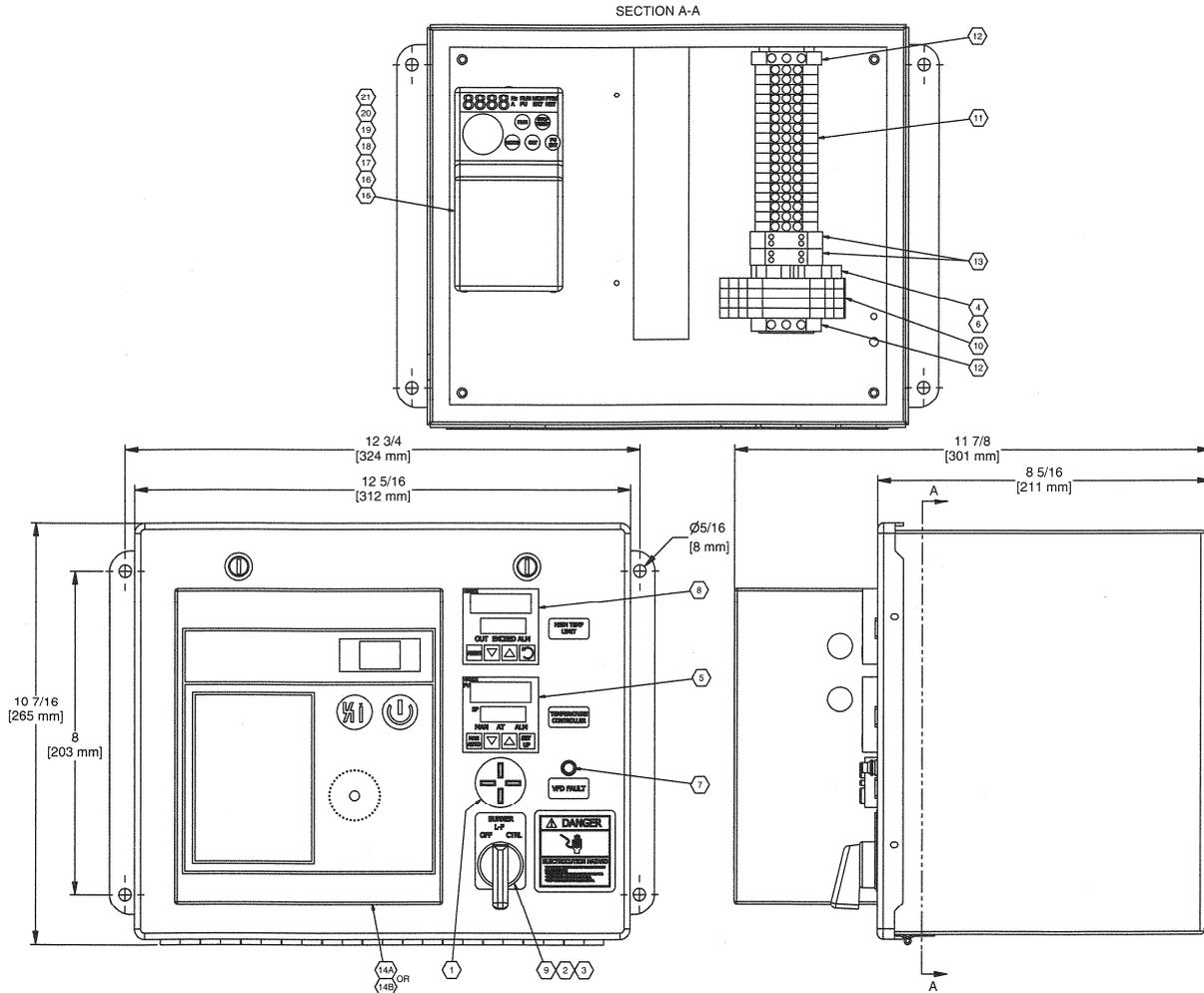
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DIMENSIONS & PARTS LIST

PBGII PACKAGED GAS BURNER BURNER CONTROL SYSTEM (PBG/BCU W/VFD OR PBG/BCS)



ITEM	STATUS	PART NUMBER	QTY	DESCRIPTION
1	STANDARD	56485	1	ALARM HORN,120V,MEDIUM CONT TONE
2	STANDARD	58877	2	BLOCK,CONTACT 1NC
3	STANDARD	58876	1	BLOCK,CONTACT 1NO
4	STANDARD	48042	1	BLOCK,FUSE 1/4 X 1 1/4,DIN RAIL MOUNT
5	BCS ONLY	303369	1	CONTROLLER,4-20MA CTRL OUTPUT
6	STANDARD	48044	1	FUSE,10 AMP FAST ACTING,1/4" X 1 1/4"
7	VFD ONLY	301632	1	INDICATOR,24V,RED,LED
8	BCS ONLY	62823	1	LIMIT,HIGH TEMP
9	STANDARD	58871	1	SWITCH,3-POS SELECTOR
10	STANDARD	62232	4	TERMINAL,1PDT RELAY INTERFACE
11	STANDARD	302942	17	TERMINAL,6.2MM DIN RAIL MOUNT
12	STANDARD	47479	2	TERMINAL,GROUND,8.2MM
13	BCS ONLY	53211	2	TERMINAL,T/C TYPE K PHOENIX
14A	STANDARD	88600883	1	UNIT, BURNER CONTROL FOR IC40,H-WELL,SQM5 OR VFD AIR CTRL
14B	STANDARD	88600985	1	UNIT, BURNER CONTROL FOR LFC FUEL ONLY CONTROL
15	VFD ONLY	303099	1	VFD,1/2HP,100-120V/1/IN,230V/3/OUT
16	VFD ONLY	303100	1	VFD,1/2HP,200-240V/1/IN,230V/3/OUT
17	VFD ONLY	303101	1	VFD,1/2HP,200-240V/3/IN,230V/3/OUT
18	VFD ONLY	303102	1	VFD,1/2HP,380-480V/3/IN,460V/3/OUT
19	VFD ONLY	303103	1	VFD,2HP,200-240V/1/IN,230V/3/OUT
20	VFD ONLY	303104	1	VFD,2HP,200-240V/3/IN,230V/3/OUT
21	VFD ONLY	303105	1	VFD,2HP,380-480V/3/IN,460V/3/OUT

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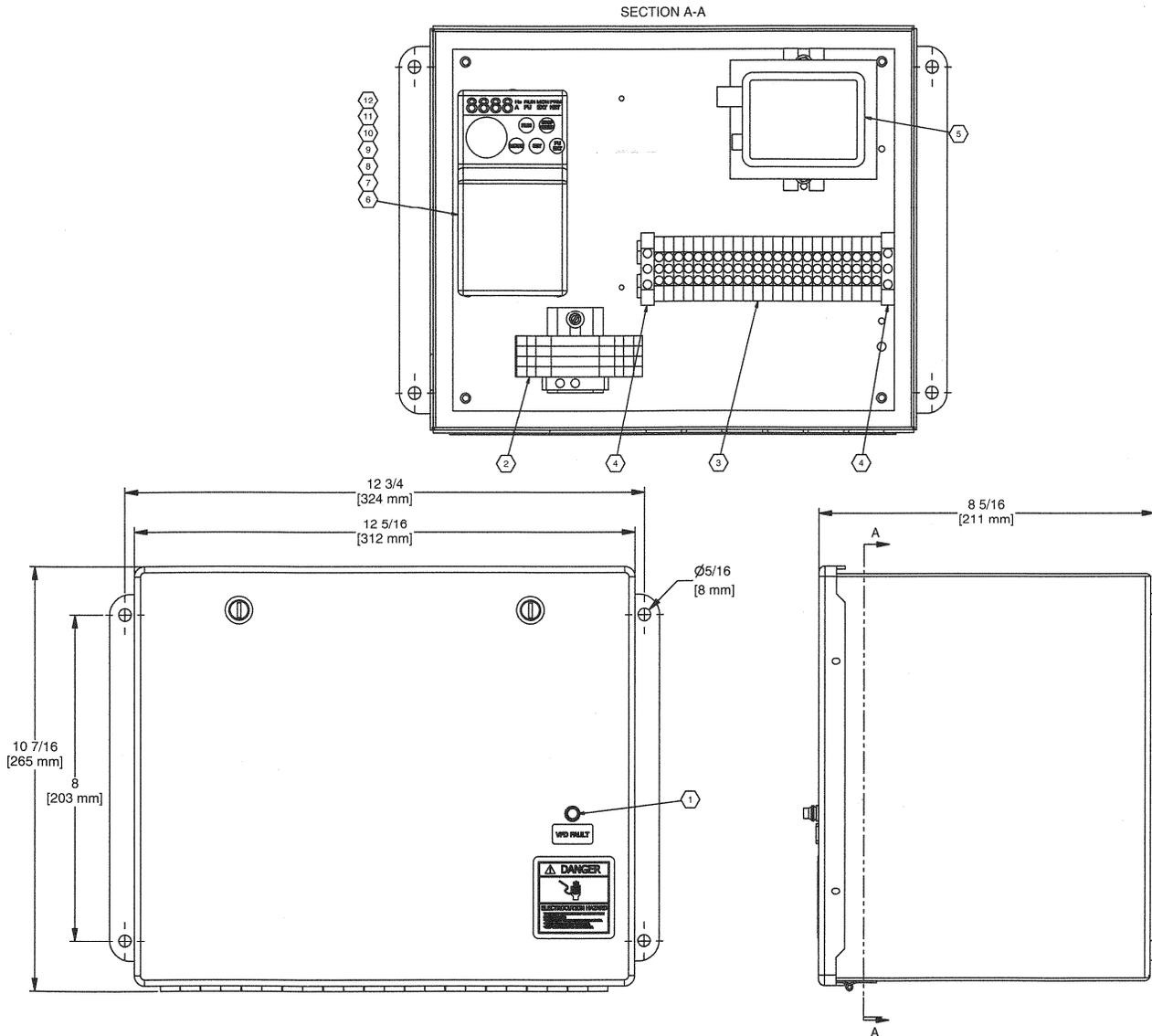
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DIMENSIONS & PARTS LIST

PBGII PACKAGED GAS BURNER JUNCTION BOX FOR REMOTE PANEL



ITEM	STATUS	PART NUMBER	QTY	DESCRIPTION
1	VFD ONLY	301632	1	INDICATOR,24V,RED,LED
2	STANDARD	62232	4	TERMINAL,1PDT RELAY INTERFACE
3	STANDARD	302942	23	TERMINAL,6.2MM DIN RAIL MOUNT
4	STANDARD	47479	2	TERMINAL,GROUND,8.2MM
5	STANDARD	84331382	1	TRANSFORMER,IGNITION,TZI 5-15/100R
6	OPTION	303099	1	VFD,1/2HP,100-120V/1/IN,230V/3/OUT
7	OPTION	303100	1	VFD,1/2HP,200-240V/1/IN,230V/3/OUT
8	OPTION	303101	1	VFD,1/2HP,200-240V/3/IN,230V/3/OUT
9	OPTION	303102	1	VFD,1/2HP,380-480V/3/IN,460V/3/OUT
10	OPTION	303103	1	VFD,2HP,200-240V/1/IN,230V/3/OUT
11	OPTION	303104	1	VFD,2HP,200-240V/3/IN,230V/3/OUT
12	OPTION	303105	1	VFD,2HP,380-480V/3/IN,460V/3/OUT

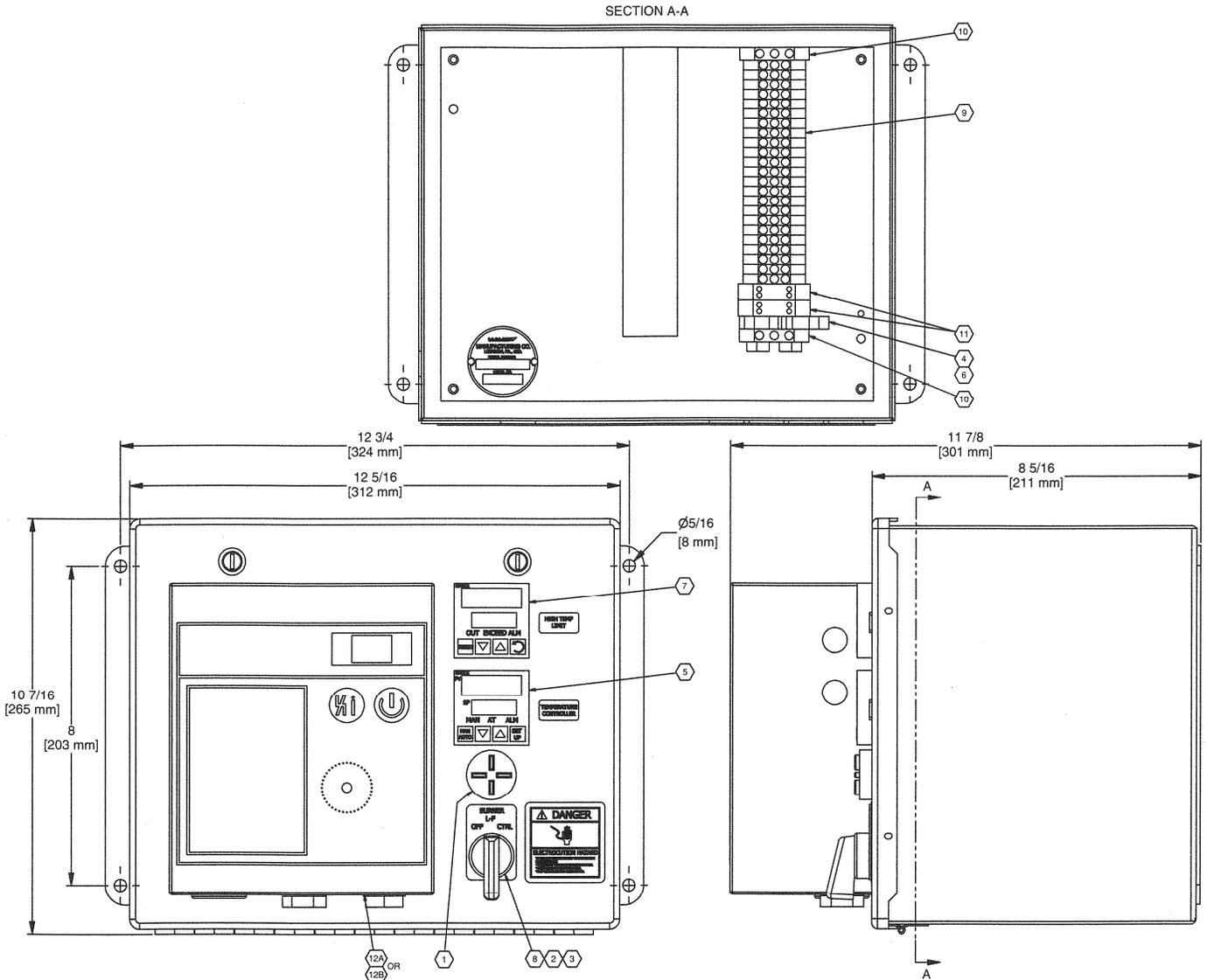
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DIMENSIONS & PARTS LIST

PBGII PACKAGED GAS BURNER REMOTE BURNER CONTROL SYSTEM (PBG WITH JUNCTION BOX)



ITEM	STATUS	PART NUMBER	QTY	DESCRIPTION
1	STANDARD	56485	1	ALARM HORN, 120V, MEDIUM CONT TONE
2	STANDARD	58877	2	BLOCK, CONTACT 1NC
3	STANDARD	58876	1	BLOCK, CONTACT 1NO
4	STANDARD	48042	1	BLOCK, FUSE 1/4 X 1 1/4, DIN RAIL MOUNT
5	BCS ONLY	303369	1	CONTROLLER, 4-20MA CTRL OUTPUT
6	STANDARD	48044	1	FUSE, 10 AMP FAST ACTING, 1/4" X 1 1/4"
7	BCS ONLY	62823	1	LIMIT, HIGH TEMP
8	STANDARD	58871	1	SWITCH, 3-POS SELECTOR
9	STANDARD	302942	23	TERMINAL, 6.2MM DIN RAIL MOUNT
10	STANDARD	47479	2	TERMINAL, GROUND, 8.2MM
11	BCS ONLY	53211	2	TERMINAL, T/C TYPE K PHOENIX
12A	STANDARD	88600983	1	UNIT, BURNER CONTROL FOR IC40, H-WELL, SQM5 OR VFD AIR CTRL
12B	STANDARD	88600987	1	UNIT, BURNER CONTROL FOR LFC FUEL ONLY CONTROL

Y8458 Sht. 21
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PBGII PACKAGED GAS BURNERS

DRYER/OVEN CONSIDERATIONS

Selection of a specific combustor tube for a PBGII Packaged Burner is dependent upon the specific dryer/oven application. Maximum application temperature for a straight combustor tube is 1900°F (1040°C) or for an elbow tube is 1300°F (740°C).

For applications where the air flow perpendicular to the exit of the burner is greater than 2000 ft/min (10m/sec), Hauck recommends use of the elbow combustor tube firing in the same direction as the air flow.

The PBGII Packaged Burner is designed to operate in a dryer/oven within a differential pressure range of 0.5 to -1 "wc (1.3 to -2.5 mbar). For dryer/oven applications operating outside this range, special considerations must be taken to compensate for chamber pressure.

GENERAL INFORMATION

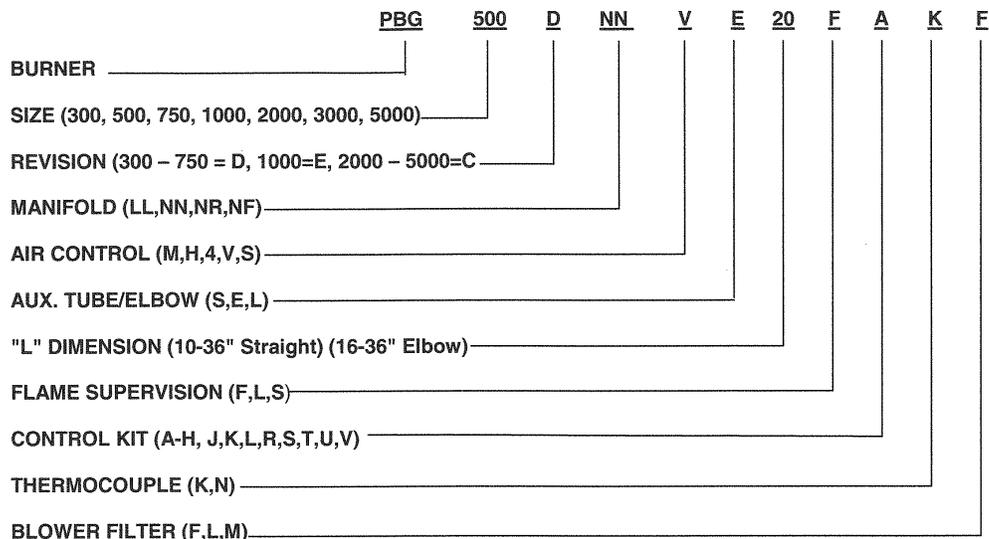
The Hauck PBGII Packaged Gas Burners are designed for applications where it is desirable to have all of the necessary components for a high turndown combustion system contained in one compact and easy-to-use assembly. Configured versions of the burner system are available with selections for fuel type, air control, fuel control, power supply and flame supervision and/or burner control. The basic burner and air pressure switch includes the burner assembly with spark igniter and flame rod, and the straight combustor alloy tile. Auxiliary tube selections are available to provide longer burner lengths or provide a 90° bend to the flame. Selections for the air control method include manual, 4-20mA controlled actuator, or VFD. Flame supervision and burner control is accommodated by the Kromschroder BCU 370. A pre-configured temperature control panel, PBGII-BCS, is also available that incorporates the BCU and customer settings to provide optimized burner control. Modifications can be made to these standard configurations to meet other customer specifications to provide a premier custom engineered product.

For further information on any components supplied with the package, see specific product literature available from Hauck.

Burner net weights are shown below; with selection for the NFPA manifold, and IC40 actuator. Weights will vary for configurable or custom engineered burners.

Basic Burner	PBGII 300D	PBGII 500D	PBGII 750D	PBGII 1000E	PBGII 2000C	PBGII 3000C	PBGII 5000C
Approx. Net Weight (lb)	165	165	165	175	250	250	310
[kg]	[75]	[75]	[75]	[80]	[114]	[114]	[140]

Sample PBGII Configuration and Model Number



(OVER)

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PBGII – CONFIGURATION OPTIONS

BASE BURNER PACKAGE

Burner, Blower, Spark Igniter, Flame Rod, Std. Firing Tube, Manual Air Control Valve and Air Pressure Switch

Menu Item	PBGII- AVAILABLE BURNER CAPACITIES	Menu Item	BURNER CONTROL OPTIONS
1	PBG-300D PBG-500D PBG-750D PBG-1000E PBG-2000C PBG-3000C PBG-5000C	6	L- LESS CONTROL KIT (STANDARD) A- BCU ONLY B- BCU w/VFD voltage 115/1/60 C- BCU w/VFD voltage 230/1/60 D- BCU w/VFD voltage 230/3/60 E- BCU w/VFD voltage 460/3/60 F- BCS w/VFD voltage 115/1/60 G- BCS w/VFD voltage 230/1/60 H- BCS w/VFD voltage 230/3/60 J- BCS w/VFD voltage 460/3/60 K- BCS LESS VFD R- Junction Box w/VFD & Transformer 115/1/50-60 S- Junction Box w/VFD & Transformer 230/1/50-60 T- Junction Box w/VFD & Transformer 230/3/50-60 U- Junction Box w/VFD & Transformer 460/3/50-60 V- Junction Box L/VFD w/Transformer NOTE: Any control kit with VFD must choose the 3 phase blower motor.
2	FUEL MANIFOLD OPTIONS LL- LESS MANIFOLD (STANDARD) NN- NFPA NR- RATIO CONTROL (GIK) NF- FUEL ONLY (LFC/IC40)		
3	AIR CONTROL OPTIONS M- MANUAL (STANDARD) H- HONEYWELL CONTROL KIT LESS ACTUATOR 4- IC40 w/ BVA & ATTACHMENT KIT V- VFD CONTROL S- SQM 5		
4a	AUXILLARY TUBE FOR EXTENDED LENGTHS L- LESS AUX. TUBE (STANDARD) S- STRAIGHT TUBES E- ELBOW TUBES		
4b	AUXILLARY TUBE LENGTH <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black;"> PBG300 – PBG1000 NA- NONE 10"- 30"- STRAIGHT 16"- 30"- ELBOW </td> <td style="width: 50%;"> PBG2000 – PBG5000 NA- NONE 18"- 36"- STRAIGHT 27"- 36"- ELBOW </td> </tr> </table>		PBG300 – PBG1000 NA- NONE 10"- 30"- STRAIGHT 16"- 30"- ELBOW
PBG300 – PBG1000 NA- NONE 10"- 30"- STRAIGHT 16"- 30"- ELBOW	PBG2000 – PBG5000 NA- NONE 18"- 36"- STRAIGHT 27"- 36"- ELBOW		
5	FLAME SUPERVISION F- FLAMEROD (STANDARD) L- LESS FLAME SUPERVISION S- KS UVS10	7	THERMOCOUPLE CHOICE (FOR BCS ONLY) N- NOT APPLICABLE (STANDARD) K- "K" TYPE
		8	BLOWER FILTER OPTIONS L- LESS FILTER (STANDARD) M- METAL MESH BLOWER FILTER F- PAPER BLOWER FILTER BLOWER (INCLUDED IN BASIC UNIT) NOTE: Specify blower voltage or less blower (w/companion flange) at time of order.

