



PBGII

Packaged Gas Burner

PBGII-1
Edition 08-11



- Many standard and configurable options available to suit a wide variety of applications
 - Choose from three standard fuel manifolds for natural gas and vaporous propane
 - Three options available for air flow control including low cost VFD for energy savings and quiet operation
 - Choice of straight and 90° firing tubes in customer specified lengths
 - Choice of flame rod or UV scanner flame supervision
 - Additional options include flame management controller or a fully integrated control panel with temperature control and high temperature limit
 - Multiple mounting configurations
- High thermal turndown
- Low CO and NOx emissions
- Direct spark ignition
- Factory pre-set for ease of start-up and operation

www.hauckburner.com





The Hauck PBGII Packaged Gas Burner is designed for simple installation and factory set for ease of operation. The burner is suitable for a wide variety of process heating applications. With high thermal turndown capability, it is an ideal choice for heat processes that require rapid heat ramp rates with no temperature overshoot. Four different models are available ranging from 300,000 Btu/hr to 1,000,000 Btu/hr. Designed for applications up to 1900°F (1040°C), the PBGII uses high temperature alloy combustor tubes.

The burner can be ordered with a variety of configurable options. This includes a selection from three fuel manifolds consisting of a compact, prewired NFPA manifold

(with regulating function); a basic ratio regulator or a fuel-only manifold. Air flow can be controlled via an integrated manual butterfly valve; 4-20 mA input direct-coupled actuator and butterfly valve; or through use of VFD.

The PBGII burner can be operated with any clean industrial fuel gas with a calorific value of 2500 Btu per cubic foot or less. Cross connection of the air pressure to the gas ratio regulator allows for low excess air at high fire capacity, while use of a bypass thru the regulator enables high excess air at low fire capacity.

The burner comes with a variety of control options. Even the most basic option provides for the

Applications

- Paint baking ovens
- Indirect heat exchangers
- Meat smokehouses
- Paper drying systems
- Glass tempering
- Textile dryers
- Air heating
- And many more...

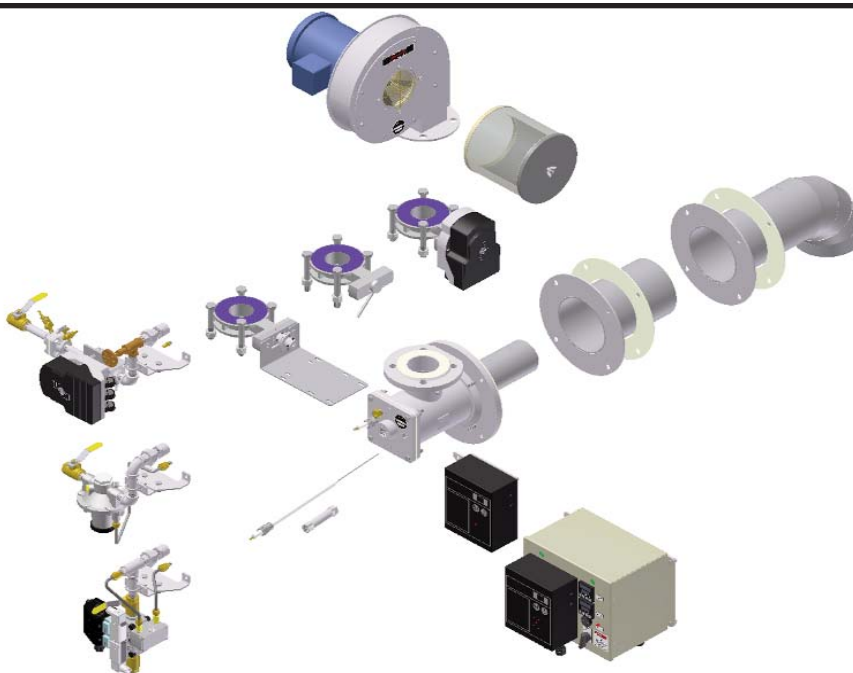
ability to monitor air and control purge, monitor high and low gas pressures, and display troubleshooting data.

Since each burner is factory pre-set, all you have to do is **pipe, wire and fire**. As with all Hauck products, the burner is backed by our nationally recognized service department.

PBGII Product Configuration Options

Select from the basic burner, configurable options, or the custom engineered package to meet your specific requirements.

NFPA compliant packages are also available.



For additional information on this product, visit our website at:

www.hauckburner.com

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PBGII PACKAGED GAS BURNERS

		PBGII-300	PBGII-500	PBGII-750	PBGII-1000
Blower Horsepower	(hp)	1/3	1/3	1/3	1/3
Ratio Regulator Gas Manifold Minimum Supply Pressure	(in w.c.)	14	14	21	14
BURNER SPECIFICATIONS - HIGH FIRE					
Body Pressure	(in. w.c.)	6.5	5.2	5.9	5.9
Blower Amp Draw	(A)	0.6	0.7	1.1	1.1
Air Flow	(scfh)	3250	5400	8000	11050
Natural Gas Flow	(scfh)	300	500	750	1000
Flame Length	(in)	12	14	24	32
Maximum Excess Air	(%)	3200	3600	5300	3600
BURNER SPECIFICATIONS - LOW FIRE					
Body Pressure	(in w.c.)	0.1	0.1	0.1	0.3
Blower Amp Draw	(A)	0.2	0.2	0.2	0.2
Air Flow	(scfh)	400	750	1040	1580
Min. Gas Flow (NFPA)	(scfh)	10	15	15	30
Min. Gas Flow (Ratio Reg.)	(scfh)	16	16	32	32
Flame Length	(in)	Tile	Tile	Tile	Tile

Metric Capacities

		PBGII-300	PBGII-500	PBGII-750	PBGII-1000
Blower Horsepower	(kW)	0.25	0.25	0.25	0.25
Ratio Regulator Gas Manifold Minimum Supply Pressure	(mbar)	35	35	52	35
BURNER SPECIFICATIONS - HIGH FIRE					
Body Pressure	(mbar)	16.2	12.9	14.7	14.7
Blower Amp Draw	(A)	0.6	0.7	1.1	1.1
Air Flow	(Nm ³ /hr)	87	145	214	296
Natural Gas Flow	(Nm ³ /hr)	8	13	20	27
Flame Length	(cm)	30	36	61	81
Maximum Excess Air	(%)	3200	3600	5300	3600
BURNER SPECIFICATIONS - LOW FIRE					
Body Pressure	(mbar)	0.25	0.25	0.25	0.75
Blower Amp Draw	(A)	0.2	0.2	0.2	0.2
Air Flow	(Nm ³ /hr)	10.7	20	27.9	42.3
Min. Gas Flow (NFPA)	(Nm ³ /hr)	0.3	0.4	0.4	0.8
Min. Gas Flow (Ratio Reg.)	(Nm ³ /hr)	0.4	0.4	0.4	0.8
Flame Length	(in)	Tile	Tile	Tile	Tile

Notes:

1. Capacities based on integral blower with 230/3/60 power supply. Amp Draw is based on use with VFD. Without VFD, the amp draw is equivalent to high fire requirements.
2. Air and gas flows based on 60°F, 0°C.
3. Flame lengths are based on the straight combustor tube firing into a chamber without forced air flow.
4. For operation at altitude, consult Hauck for re-rated capacity.
5. For chambers operating above 1 inch w.c. of back pressure or vacuum, consult Hauck for re-rated capacity.
6. Minimum gas flow on the fuel-only control manifold is dependent on valve port adjustment and supply pressure. 2 psig minimum supply pressure is suggested.
7. Additional gas pressure required for additional upstream components, such as optional manifolds.

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

HAUCK MANUFACTURING CO., P.O. Box 90 Lebanon, PA 17042-0090 717-272-3051



PBGII PACKAGED GAS BURNERS

		PBGII-2000	PBGII-3000	PBGII-5000
Blower Horsepower	(hp)	2	2	2
Ratio Regulator Gas Manifold Minimum Supply Pressure	(in w.c.)	14	14	28
BURNER SPECIFICATIONS - HIGH FIRE				
Body Pressure	(in. w.c.)	5.5	5.5	5.5
Blower Amp Draw	(A)	4.3	4.8	5.5
Air Flow	(scfh)	22250	33000	55000
Natural Gas Flow	(scfh)	2000	3000	5000
Flame Length	(in)	60	66	72
Maximum Excess Air	(%)	1000	4000	2500
BURNER SPECIFICATIONS - LOW FIRE				
Body Pressure	(in w.c.)	0.3	0.3	0.3
Blower Amp Draw	(A)	2.3	2.4	2.6
Air Flow	(scfh)	4875	5500	13750
Min. Gas Flow (NFPA)	(scfh)	N/A	N/A	N/A
Min. Gas Flow (Ratio Reg.)	(scfh)	60	70	90
Flame Length	(in)	Tile	Tile	Tile

Metric Capacities

		PBGII-2000	PBGII-3000	PBGII-5000
Blower Horsepower	(kW)	1.50	1.50	1.50
Ratio Regulator Gas Manifold Minimum Supply Pressure	(mbar)	14	35	52
BURNER SPECIFICATIONS - HIGH FIRE				
Body Pressure	(mbar)	13.7	13.7	13.7
Blower Amp Draw	(A)	4.3	4.8	5.5
Air Flow	(Nm3/hr)	596	884	1473
Natural Gas Flow	(Nm3/hr)	54	80	134
Flame Length	(cm)	152	168	183
Maximum Excess Air	(%)	1000	4000	2500
BURNER SPECIFICATIONS - LOW FIRE				
Body Pressure	(mbar)	0.75	0.75	0.75
Blower Amp Draw	(A)	2.3	2.4	2.6
Air Flow	(Nm3/hr)	131	147	368
Min. Gas Flow (NFPA)	(Nm3/hr)	N/A	N/A	N/A
Min. Gas Flow (Ratio Reg.)	(Nm3/hr)	2	2	2
Flame Length	(in)	Tile	Tile	Tile

Notes:

- Capacities based on integral blower with 230/3/60 power supply. Amp Draw is based on use with VFD. Without VFD, the amp draw is equivalent to high fire requirements.
- Air and gas flows based on 60°F, 0°C.
- Flame lengths are based on the straight combustor tube firing into a chamber without forced air flow.
- For operation at altitude, consult Hauck for re-rated capacity.
- For chambers operating above 1 inch w.c. of back pressure or vacuum, consult Hauck for re-rated capacity.
- Minimum gas flow on the fuel-only control manifold is dependent on valve port adjustment and supply pressure. 2 psig minimum supply pressure is suggested.
- Additional gas pressure required for additional upstream components, such as optional manifolds.

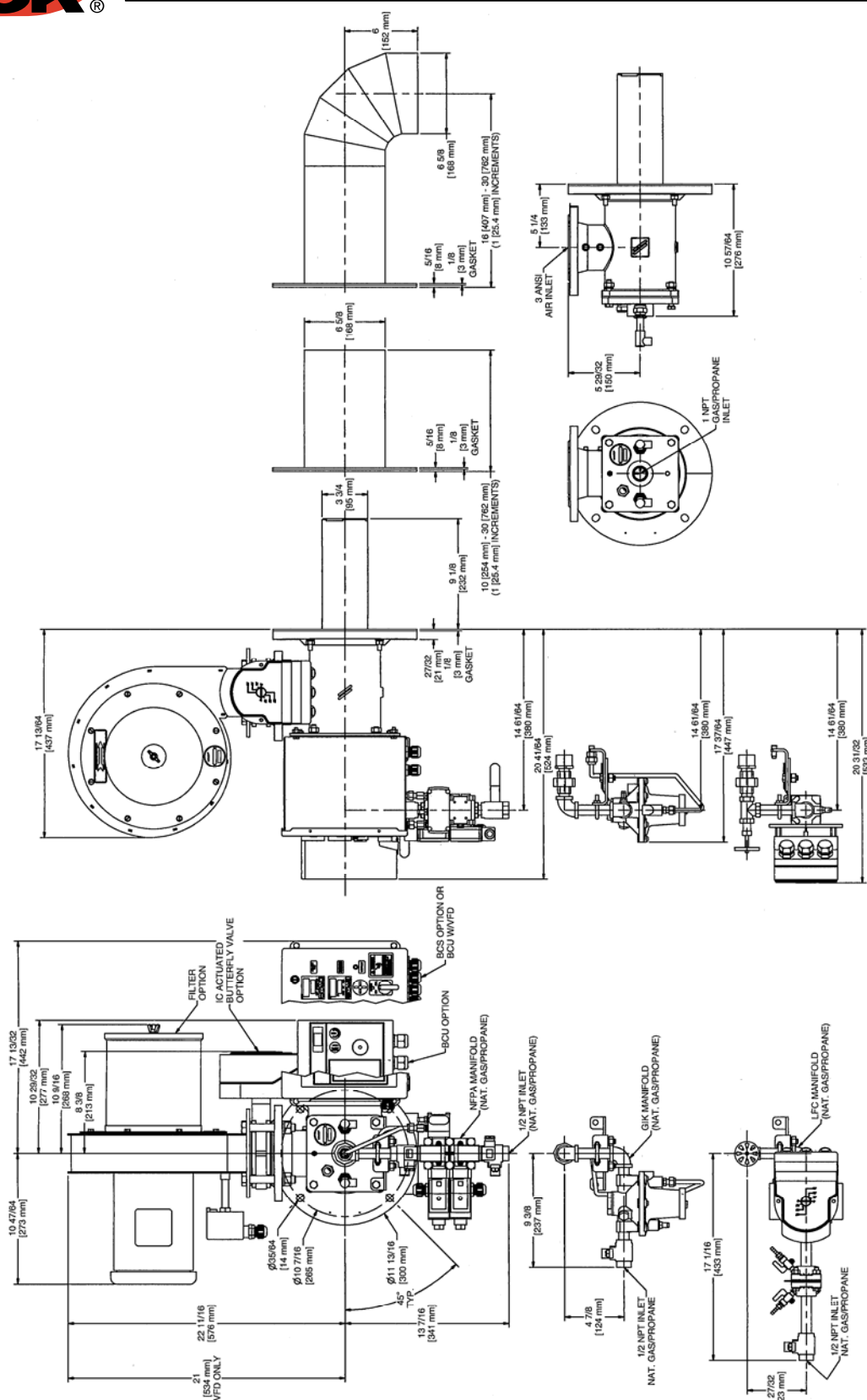
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DIMENSIONS

PBGII PACKAGED GAS BURNERS

PBGII-300D



Y8458 Sht. 2
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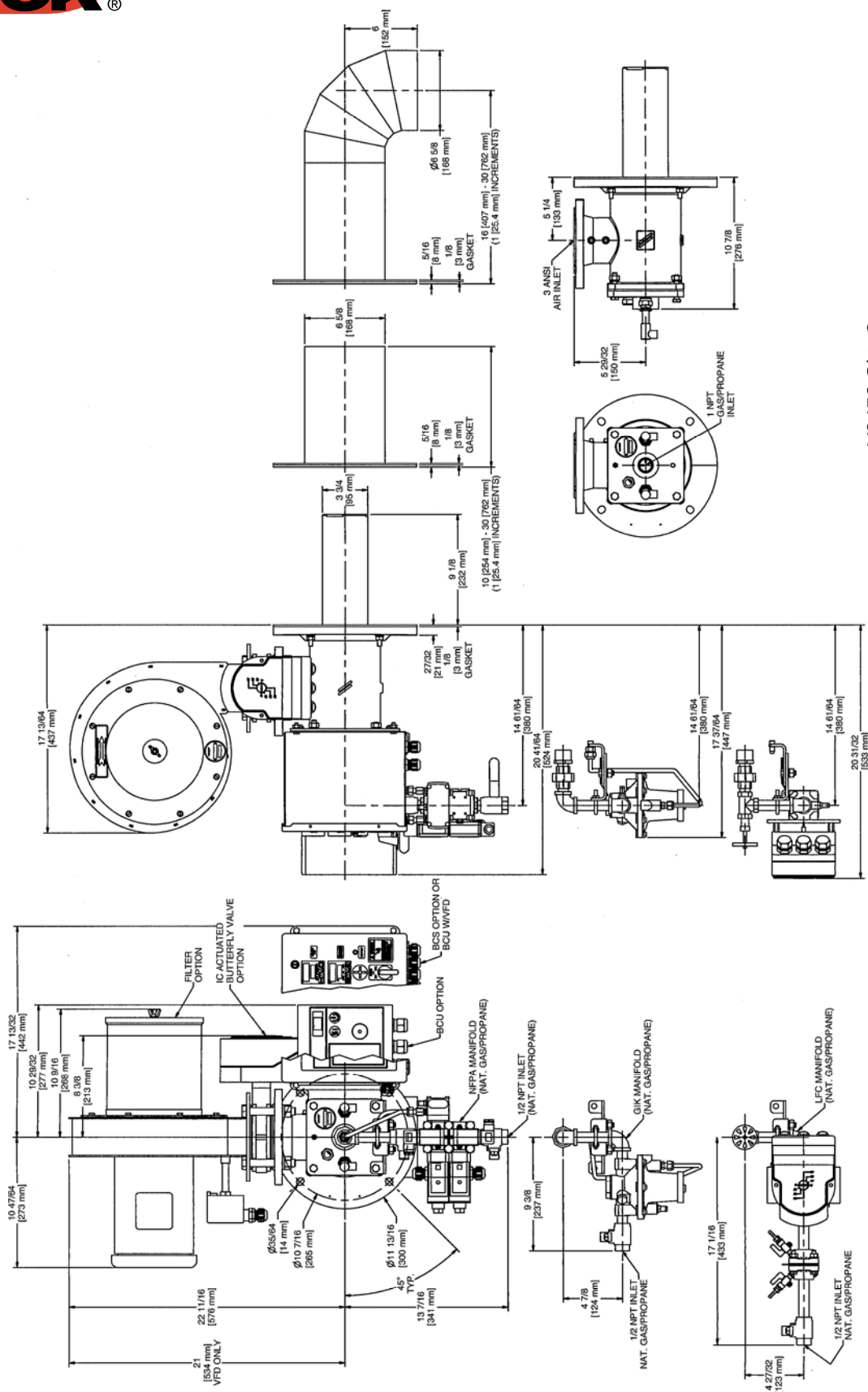
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DIMENSIONS

PBGII PACKAGED GAS BURNERS

PBGII-500D



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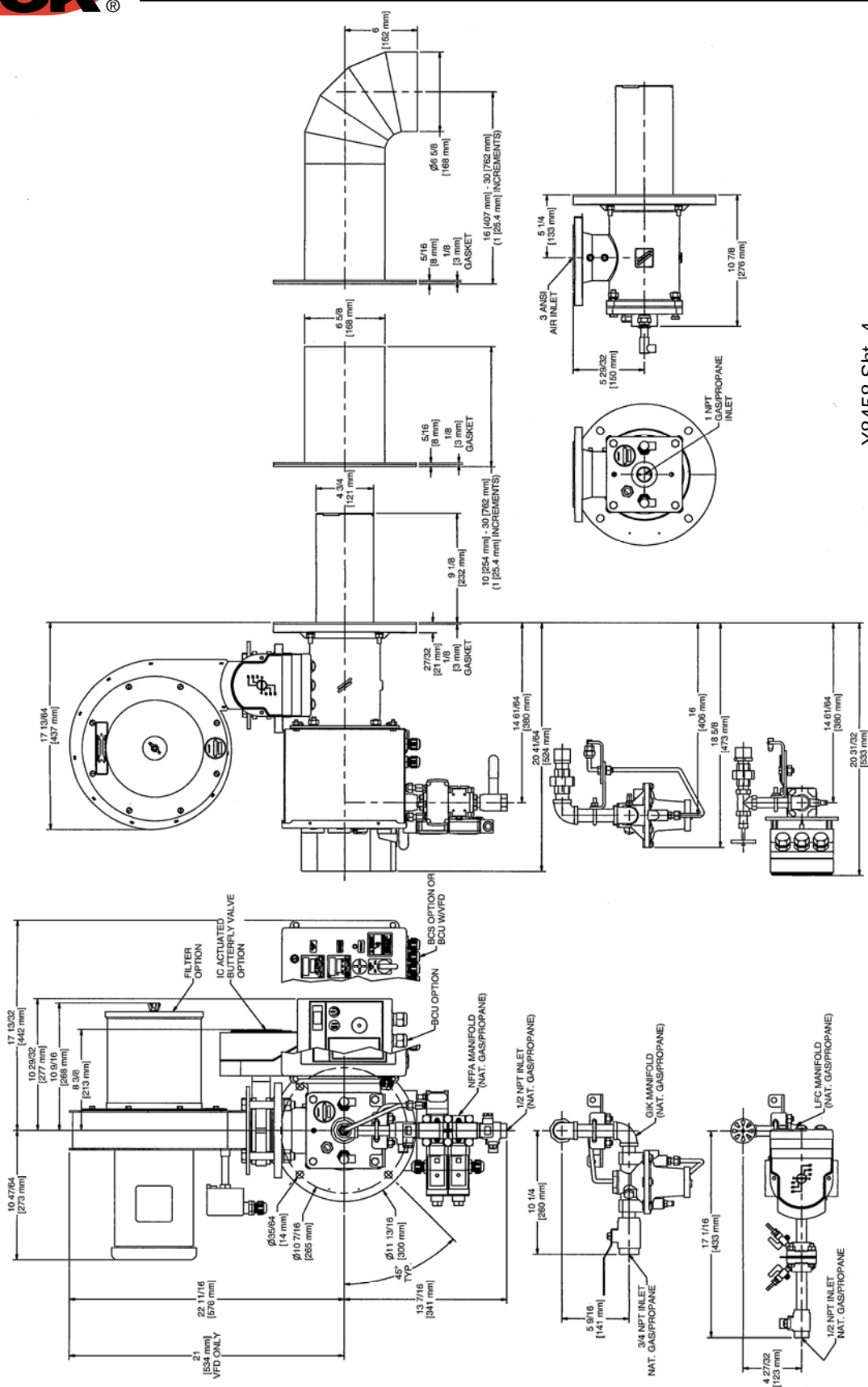
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DIMENSIONS

PBGII PACKAGED GAS BURNERS

PBGII-750D



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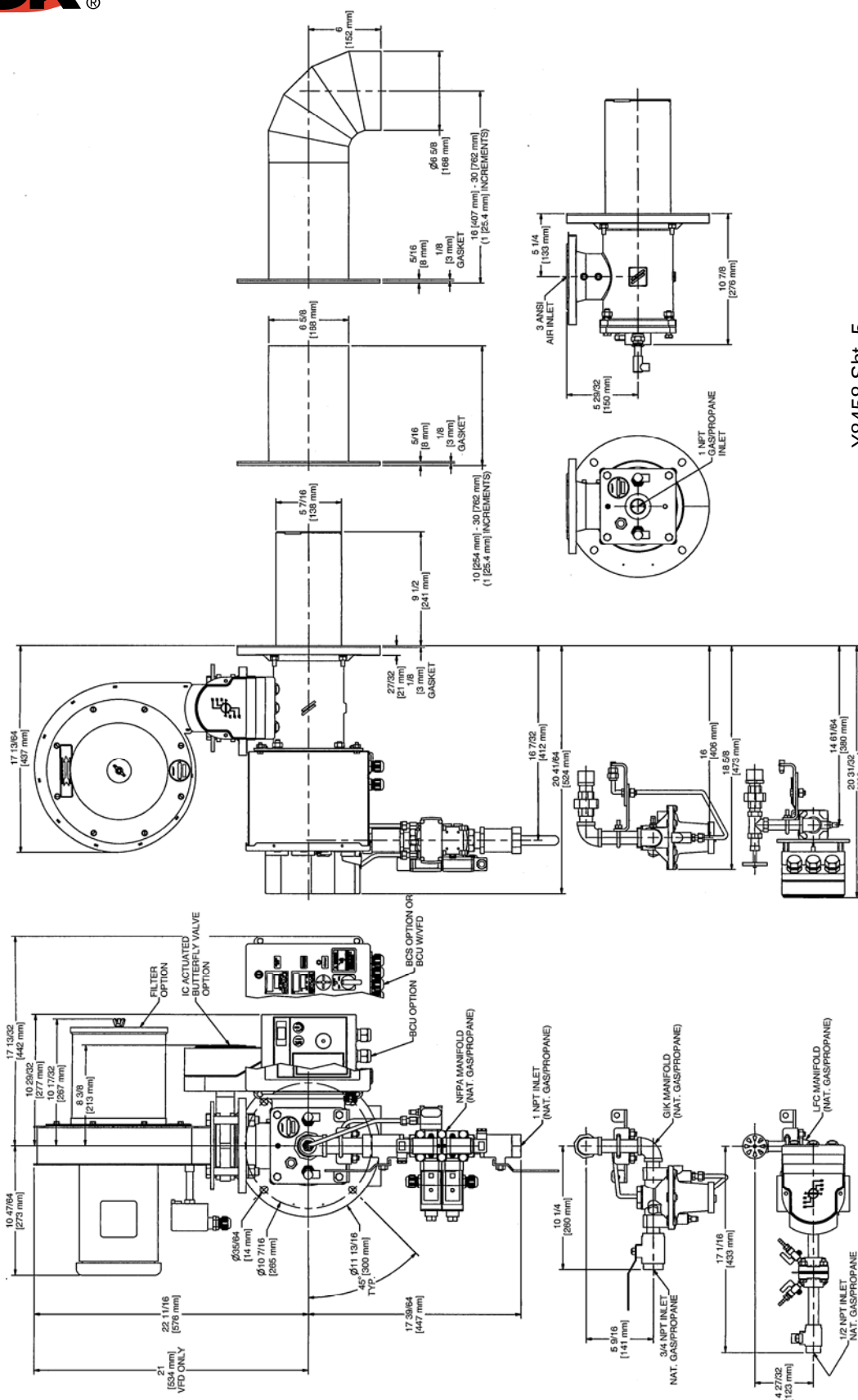
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DIMENSIONS

PBGII PACKAGED GAS BURNERS

PBGII-1000E



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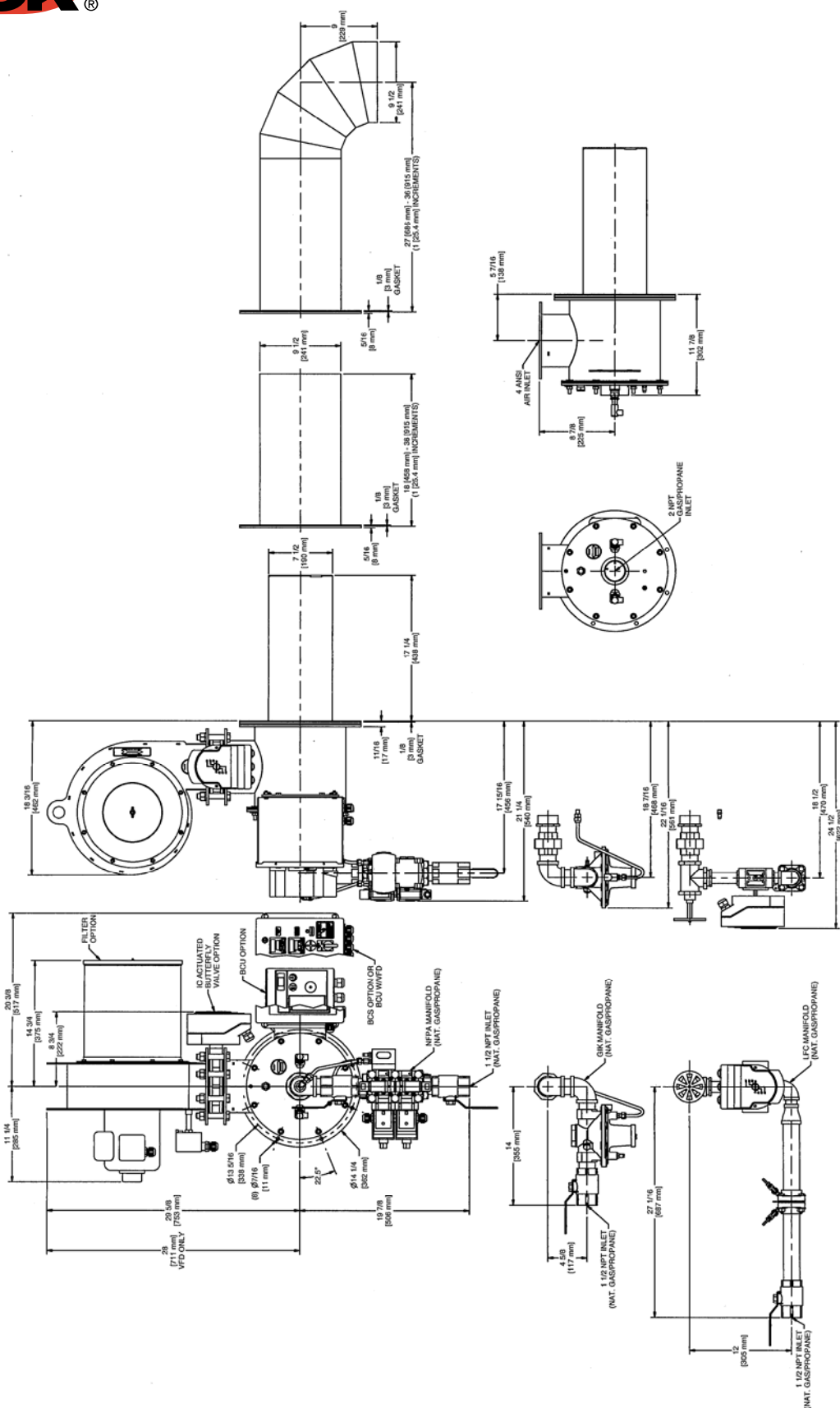
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PBGII-3.3



DIMENSIONS

PBGII PACKAGED GAS BURNERS
PBGII-2000C



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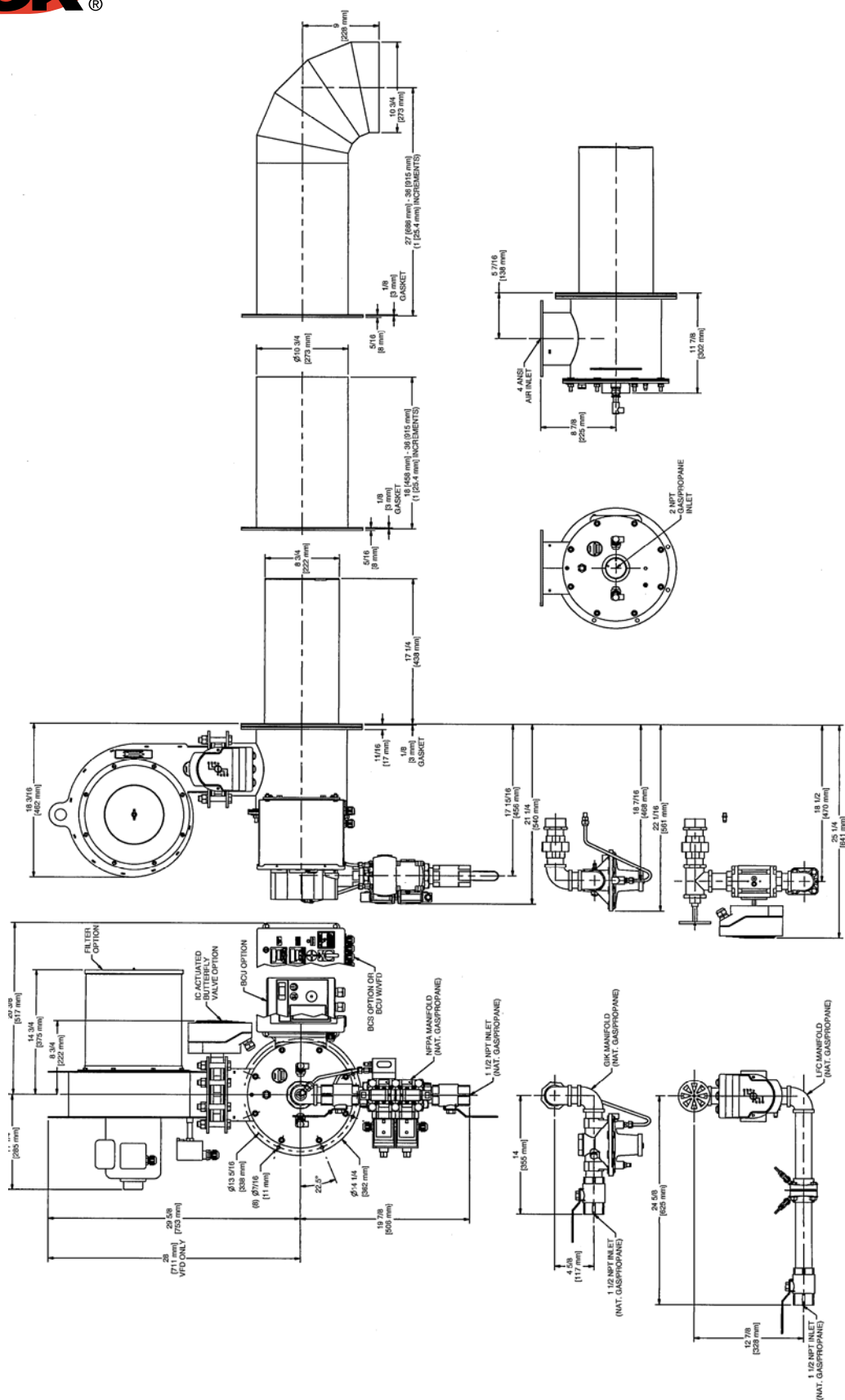
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DIMENSIONS

PBGII PACKAGED GAS BURNERS
PBGII-3000C



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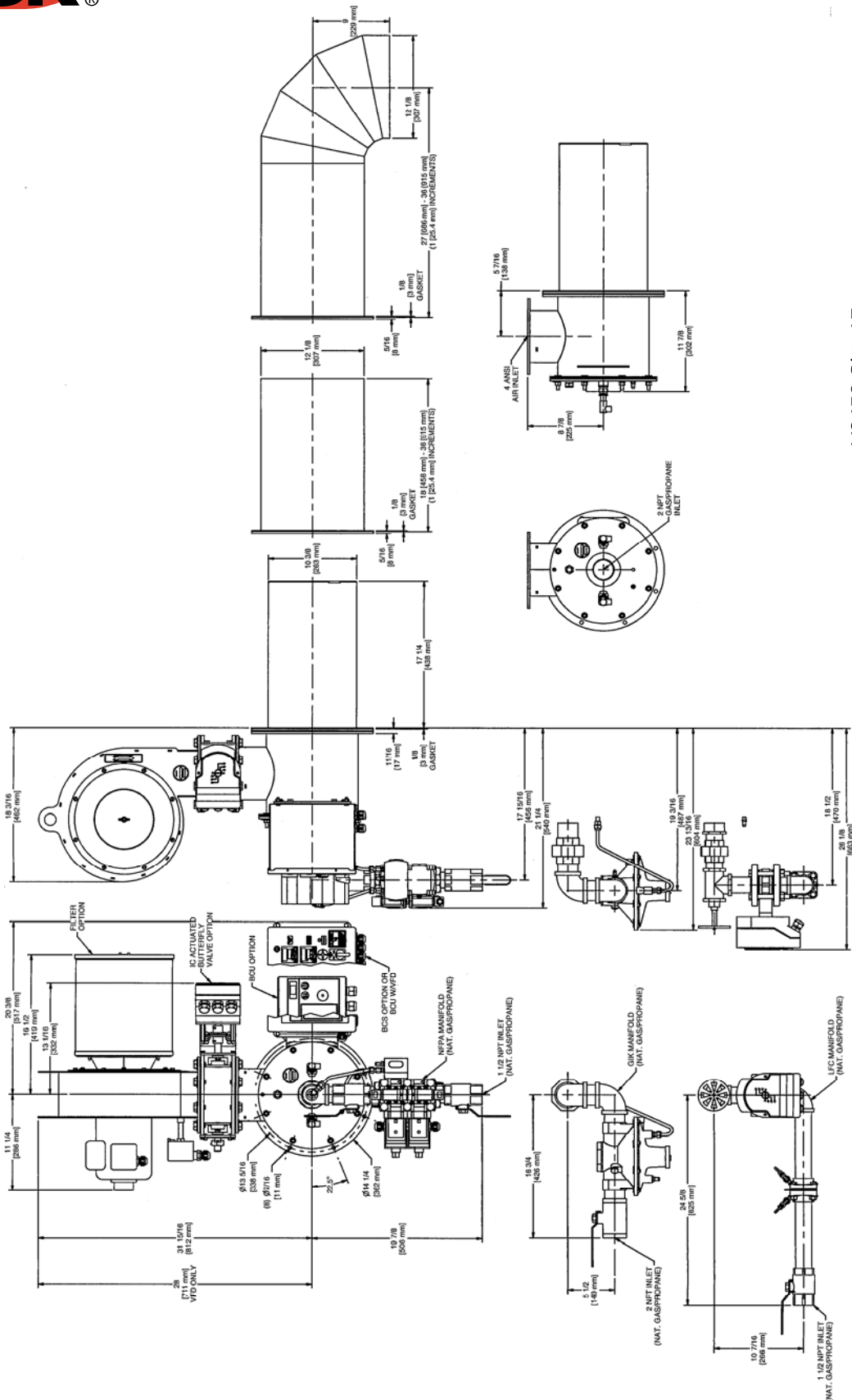
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MORTERA Y COMPAÑÍA, S. A DE C. V.

DIMENSIONS

PBGII PACKAGED GAS BURNERS PBGII-5000C



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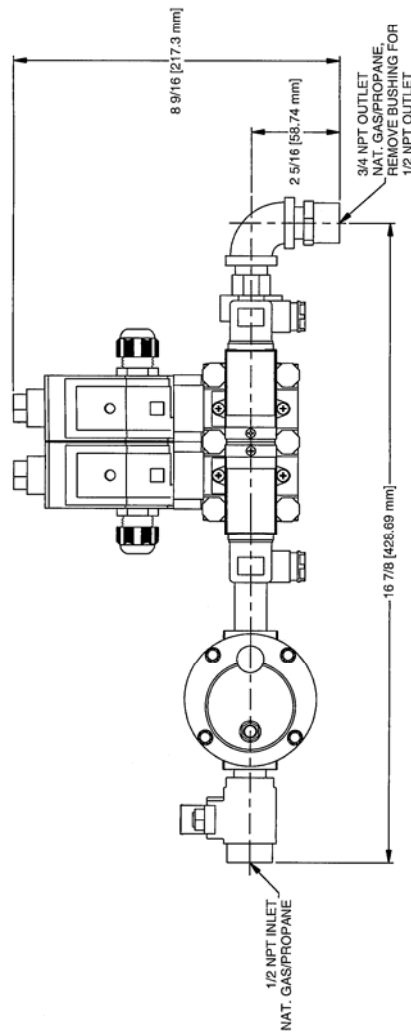
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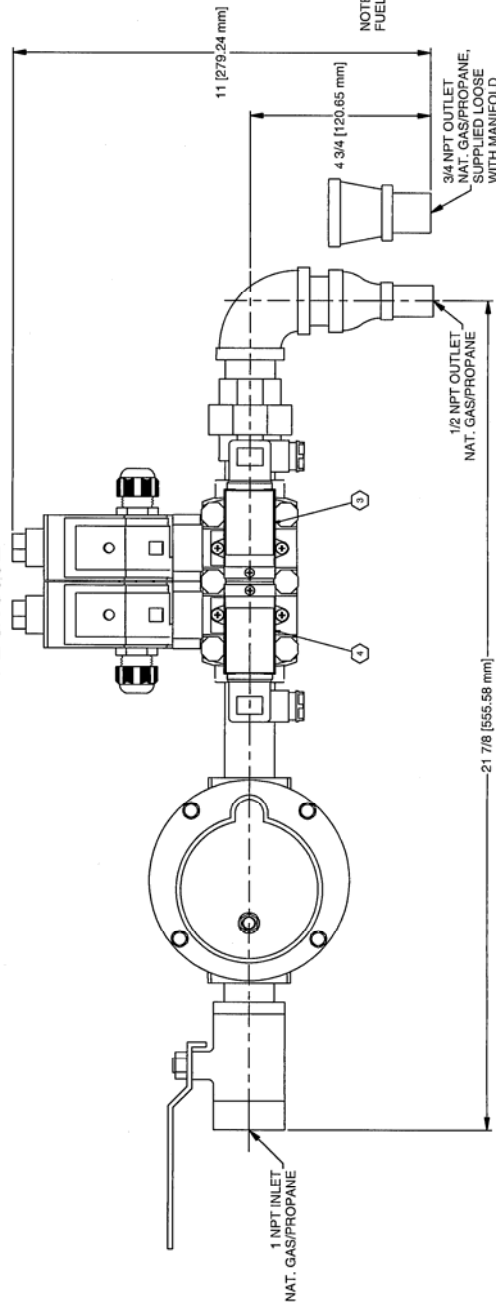
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PBGII PACKAGED GAS BURNERS OPTIONAL NFPA GAS MANIFOLD



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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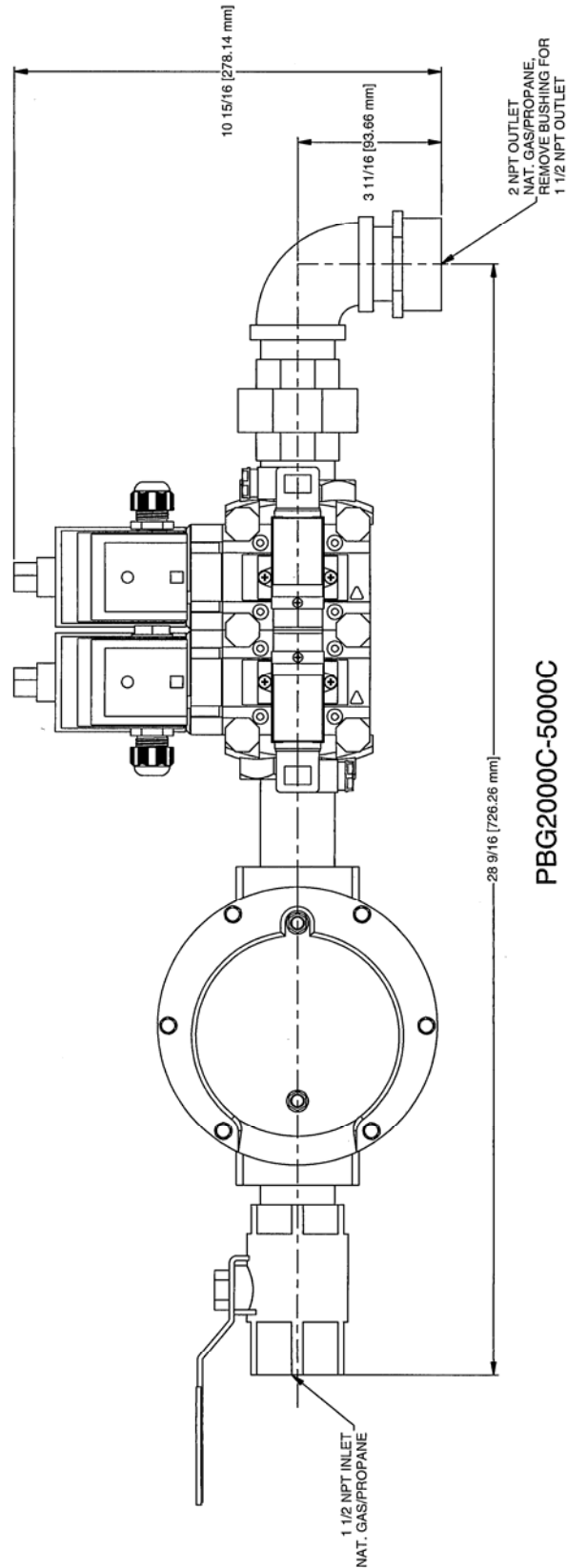
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PBGII PACKAGED GAS BURNERS OPTIONAL NFPA GAS MANIFOLD



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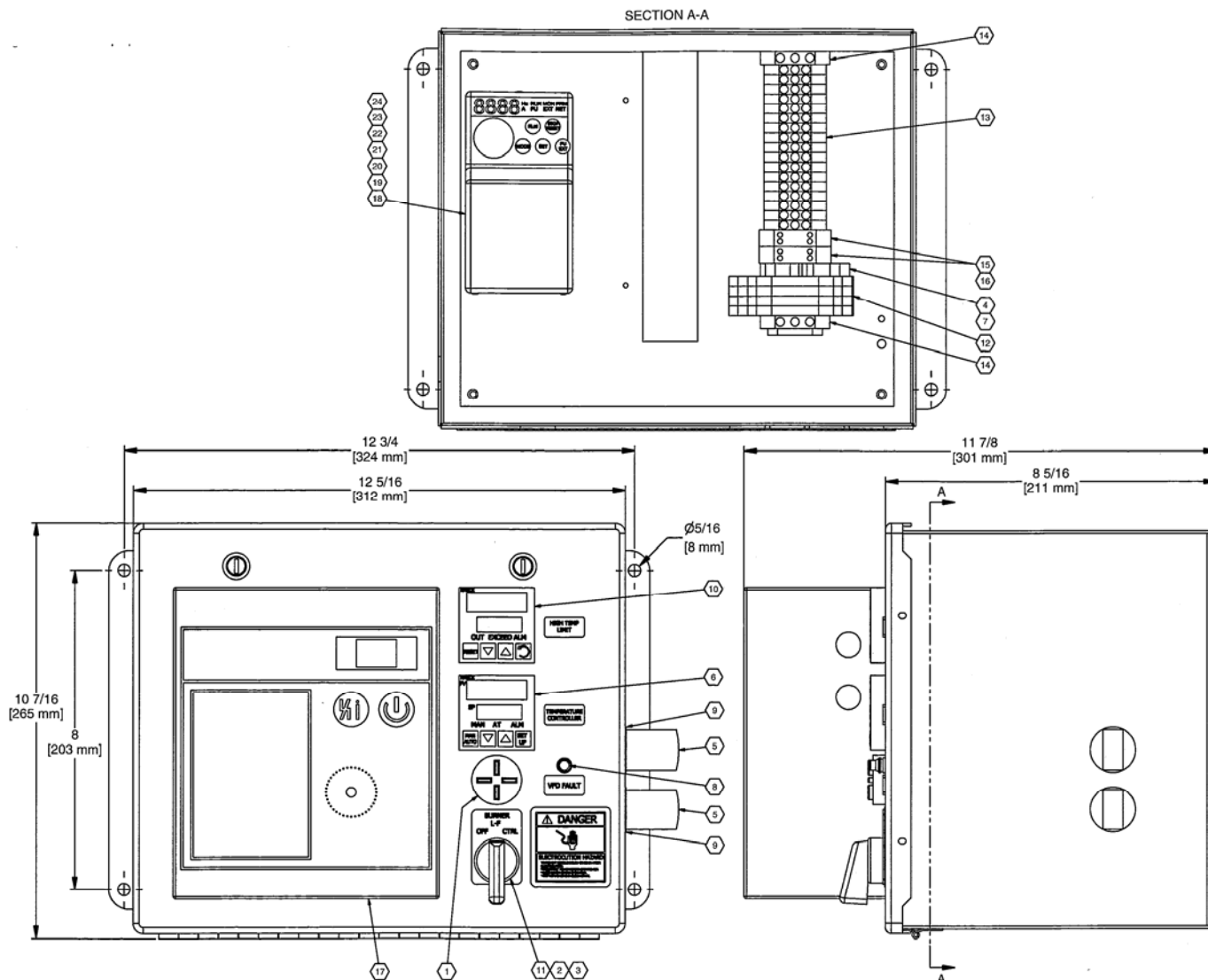
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MORTERA Y COMPAÑÍA, S. A. DE C. V.

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	OPTION	303086	2	CONNECTOR,THERMOCOUPLE TYPE "J" W/CLAMP
6	BCS ONLY	62824	1	CONTROLLER,4-20MA CTRL OUTPUT
7	STANDARD	48044	1	FUSE,10 AMP FAST ACTING,1/4" X 1 1/4"
8	VFD ONLY	301632	1	INDICATOR,24V,RED,LED
9	OPTION	303036	2	JACK,PANEL TYPE J THERMOCOUPLE
10	BCS ONLY	62823	1	LIMIT,HIGH TEMP
11	STANDARD	58871	1	SWITCH,3-POS SELECTOR
12	VFD OR H-WELL ONLY	62232	4	TERMINAL,1PDT RELAY INTERFACE
13	STANDARD	302942	17	TERMINAL,6.2MM DIN RAIL MOUNT
14	STANDARD	47479	2	TERMINAL,GROUND,8.2MM
15	OPTION	54386	2	TERMINAL,T/C TYPE "J" THERMO
16	OPTION	53211	2	TERMINAL,T/C TYPE K PHOENIX
17	STANDARD	88600249	1	UNIT, BURNER CONTROL
18	OPTION	303099	1	VFD,1/2HP,100-120V/1IN,230V/3/OUT
19	OPTION	303100	1	VFD,1/2HP,200-240V/1IN,230V/3/OUT
20	OPTION	303101	1	VFD,1/2HP,200-240V/3IN,230V/3/OUT
21	OPTION	303102	1	VFD,1/2HP,380-480V/3IN,460V/3/OUT
22	OPTION	303103	1	VFD,2HP,200-240V/1IN,230V/3/OUT
23	OPTION	303104	1	VFD,2HP,200-240V/3IN,230V/3/OUT
24	OPTION	303105	1	VFD,2HP,380-480V/3IN,460V/3/OUT

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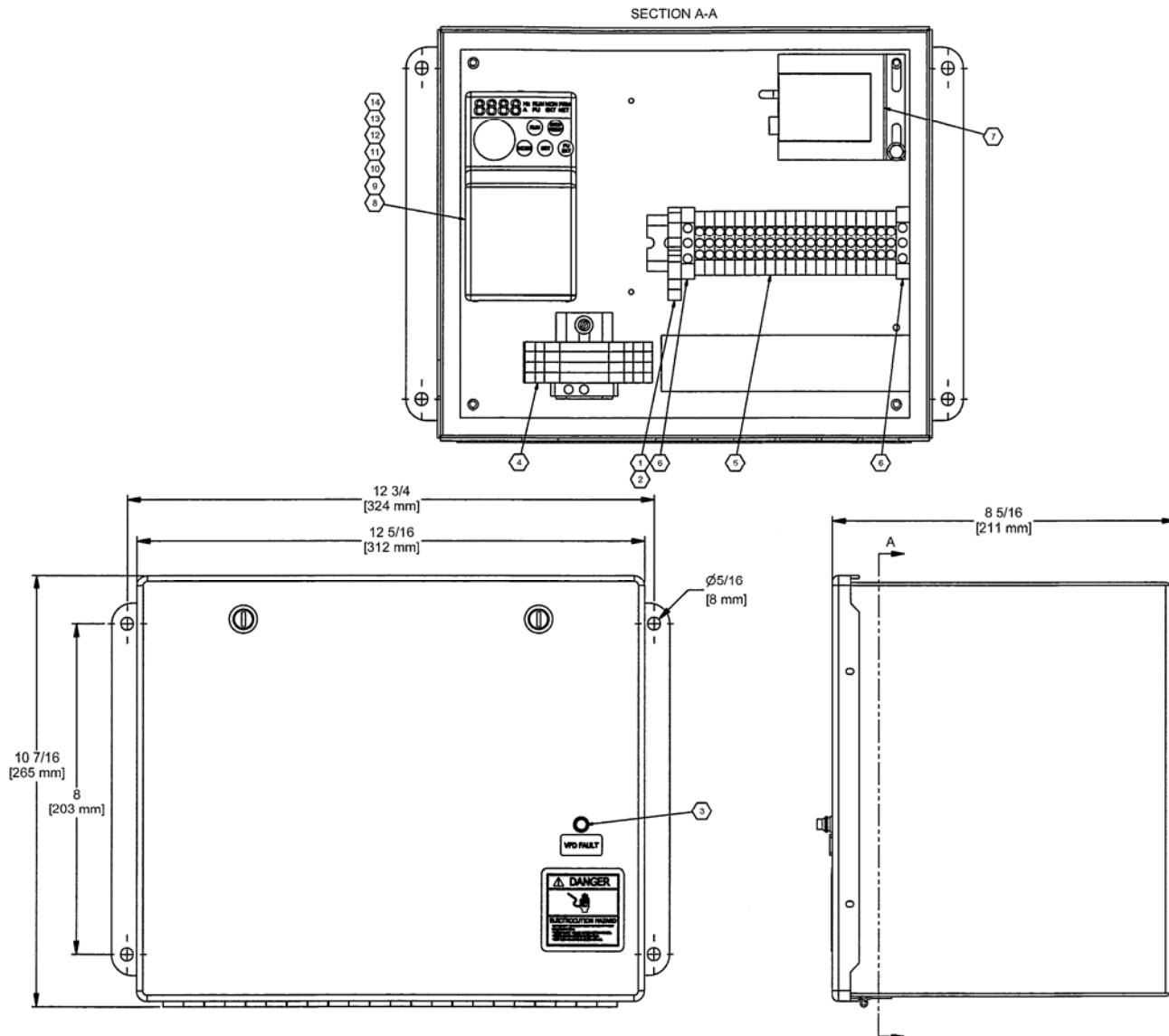
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DIMENSIONS & PARTS LIST

PBGII PACKAGED GAS BURNER JUNCTION BOX FOR REMOTE PANEL



ITEM	STATUS	PART NUMBER	QTY	DESCRIPTION
1	STANDARD	48042	1	BLOCK, FUSE 1/4 X 1 1/4, DIN RAIL MOUNT
2	STANDARD	48044	1	FUSE, 10 AMP FAST ACTING, 1/4" X 1 1/4"
3	VFD ONLY	301632	1	INDICATOR, 24V, RED, LED
4	VFD OR H-WELL ONLY	62232	4	TERMINAL, 1PDT RELAY INTERFACE
5	STANDARD	302942	20	TERMINAL, 8.2MM DIN RAIL MOUNT
6	STANDARD	47479	2	TERMINAL, GROUND, 8.2MM
7	STANDARD	84335615	1	TRANSFORMER, IGNITION, TZI 5-15/20R
8	OPTION	303099	1	VFD, 1/2HP, 100-120V/1/IN, 230V/3/OUT
9	OPTION	303100	1	VFD, 1/2HP, 200-240V/1/IN, 230V/3/OUT
10	OPTION	303101	1	VFD, 1/2HP, 200-240V/3/IN, 230V/3/OUT
11	OPTION	303102	1	VFD, 1/2HP, 380-480V/3/IN, 460V/3/OUT
12	OPTION	303103	1	VFD, 2HP, 200-240V/1/IN, 230V/3/OUT
13	OPTION	303104	1	VFD, 2HP, 200-240V/3/IN, 230V/3/OUT
14	OPTION	303105	1	VFD, 2HP, 380-480V/3/IN, 460V/3/OUT

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PBGII-3.10



SUPPLEMENTAL DATA

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 (610m/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 +1 "wc (2.5 mbar). For dryer/oven applications operating outside this range, special considerations must be taken to compensate for chamber pressure.

GENERAL INFORMATION

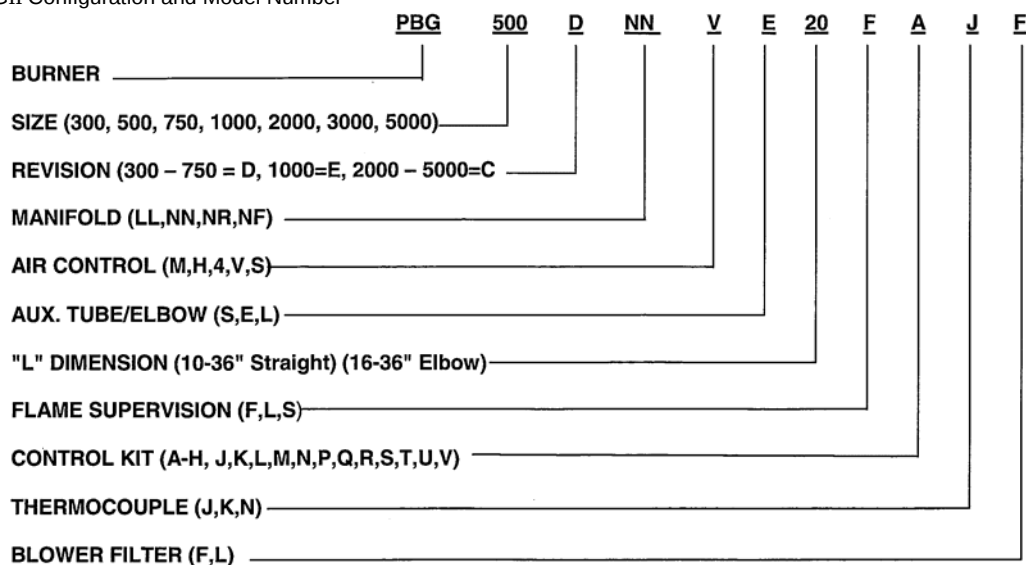
The Hauck PBGII Packaged Gas Burners are designed for applications where it is desirable to have all of the necessary components for a high turndown combustion system contained in one compact and easy-to-use assembly. Configured versions of the burner system are available with selections for fuel type, 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



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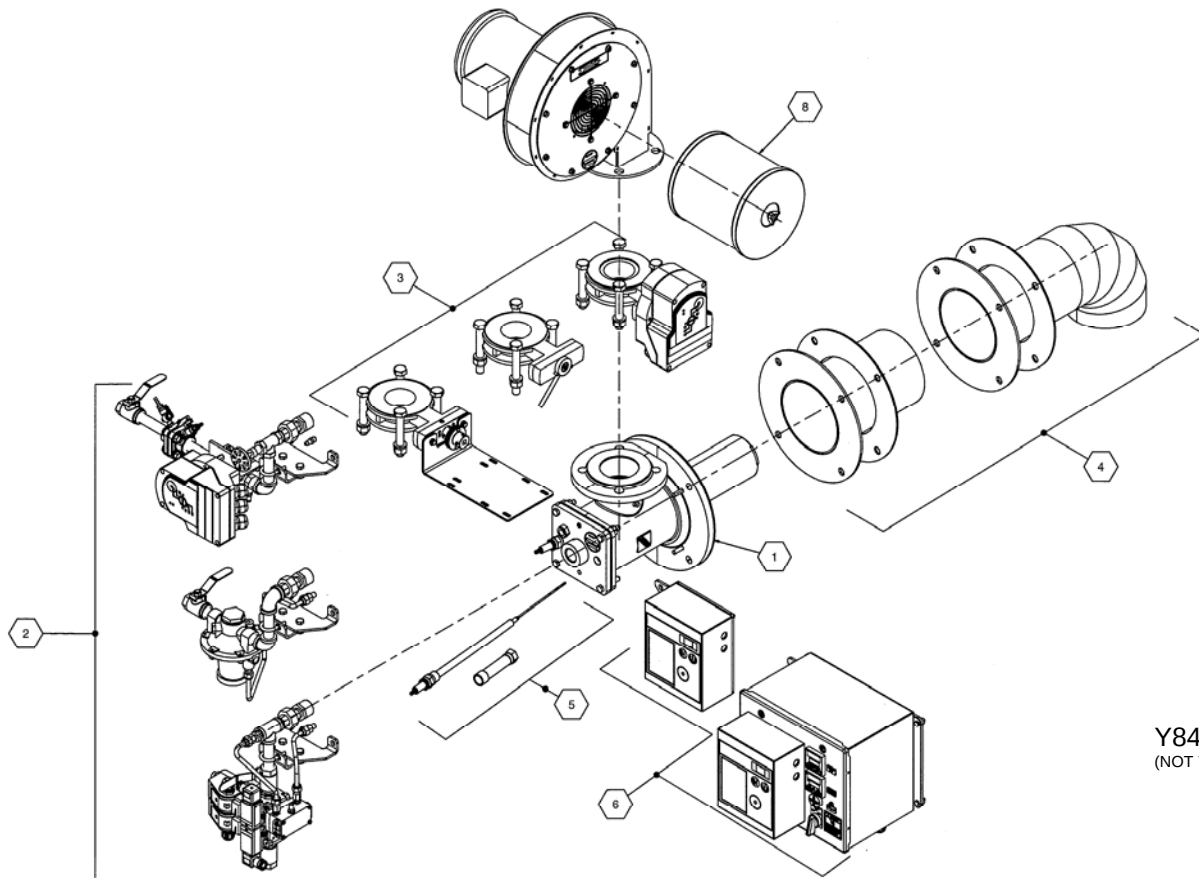
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**PBGII – CONFIGURATION OPTIONS****BASE BURNER PACKAGE**

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 - 300,000 BTU/HR PBG-500D - 500,000 BTU/HR PBG-750D - 750,000 BTU/HR PBG-1000E - 1,000,000 BTU/HR PBG-2000C - 2,000,000 BTU/HR PBG-3000C - 3,000,000 BTU/HR PBG-5000C - 5,000,000 BTU/HR		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 M- BCS w/VFD voltage 115/1/60 w/Receptacle N- BCS w/VFD voltage 230/1/60 w/Receptacle P- BCS w/VFD voltage 230/3/60 w/Receptacle Q- BCS w/VFD voltage 460/3/60 w/Receptacle 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)			
	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 10" - 30" E- ELBOW TUBES 16" - 30"			
	AUXILLARY TUBE LENGTH PBG300 – PBG1000 NA- NONE 10"- 30"- STRAIGHT 16"- 30"- ELBOW			
4b	PBG2000 – PBG5000 NA- NONE 18"- 36"- STRAIGHT 27"- 36"- ELBOW		7	THERMOCOUPLE CHOICE (FOR BCS ONLY) N- NOT APPLICABLE (STANDARD) J- "J" TYPE K- "K" TYPE
			8	BLOWER FILTER OPTIONS L- LESS FILTER (STANDARD) F- WITH FILTER
5	FLAME SUPERVISION F- FLAMEROD (STANDARD) L- LESS FLAME SUPERVISION S- KS UVS10		BLOWER (INCLUDED IN BASIC UNIT) NOTE: Specify blower voltage or less blower	

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(NOT TO SCALE)