PC PACKAGED OVEN BURNERS

MODEL: **PC**

Revision: 0

BULLETIN 8808

DESCRIPTION

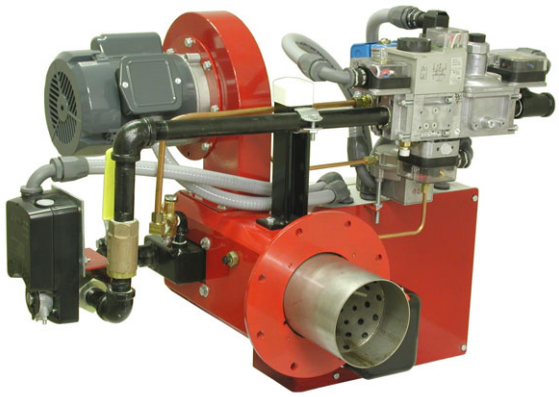
The Pyronics PC Package Burner Series is designed to offer the oven designer and user a complete pre-wired, pre-piped burner package.

The system offers the precise package required for virtually all types of low temperature gas fired process heating applications.

Available gas trains include either FM or IRI with modular components or the “traditional” individual components.

Most sizes offer a choice of firing methods: on-off, high-low, gas only modulation with constant air, or complete air and gas modulation.

A NEMA 12 electrical enclosure is standard and includes the burner management and flame safeguard components.



BENEFITS

- Pre-packaged, pre-piped assembly
- FM and IRI gas trains available
- Full air-gas modulation, gas-only modulation, high-low or on-off firing as required
- Electrical components pre-wired to electrical enclosure
- Ease of maintenance and installation
- Easy access to gas nozzle, spark plug and flame sensor

PREPACKAGED BURNERS - COMPLETE HEAT!

Each burner unit is supplied with a packaged and pre-piped valve assembly, including the safety valves and controls necessary to form a fully prepackaged combustion module. Optionally PC burners can be supplied without selected components as required by the user or OEM equipment designer.

All burners have an integral combustion air fan, air pressure switch, ignition spark plug and flame sensor. The flame sensor can be either a flame rod (flame rectification) or an optional UV sensor. All the electrical components on the burner are pre-wired to an integral terminal enclosure mounted on the burner assembly.

The NEMA 12 electrical enclosure contains an on-off switch, reset button and burner run and flame failure indication lights.

As an option, full custom-designed control panels containing temperature controls, high temperature limits and any other control equipment the user or OEM may desire are available.

Burners are supplied complete with a gas valve assembly consisting of pilot/start valve assembly, automatic shut-off valves, pressure switches and regulators. Either FM or IRI may be supplied as standard. Valve trains are supplied either with modular components or with pre-piped individual components. Other gas trains are available upon request.

Prebuilt burner packages are fully tested and the operation of all components checked before shipment from the factory.

ORDAN

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THE PC BURNER

The PC series of gas burners are prepackaged fan assisted units designed to suit virtually all types of low temperature gas fired industrial process applications.

Typical applications include box ovens, industrial drying equipment, air heaters, textile machines, food processing, baking ovens, finishing and coating lines, coffee roasters, fume incineration, heat treat draw ovens, plastics applications and paper and pulp processing and conversion.

PC Burners are widely used by many leading OEM equipment manufacturers and users.

The PC burners have been designed with ease of maintenance and installation in mind. All parts of the burner, including the gas nozzle and the combustion tube can be removed without removing the burner casing. An access panel on the back of the burner casing allows easy access to the gas nozzle, spark plug and flame sensor.

A heat resistant peepsight is fitted in the casing of all burners allowing visual inspection of the flame during operation.

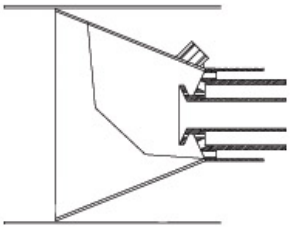
GAS NOZZLE DESIGN

The PC nozzle design (as shown to the right) is designed to provide instantaneous ignition, excellent flame retention, maximum turndown and complete combustion. The combustion air supply is split internally to accomplish these features. Direct spark ignitors are supplied to ignite a pilot flow of gas supplied to the burner. Turndown capability of the PC burner is up to 40:1 while maintaining minimal NOx and CO levels. Specific low fire capacities and burner performance levels are available from your Pyronics' representative.

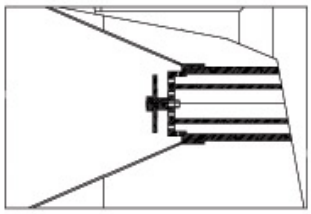
TYPES OF CONTROL

Most PC models may be fired in one of four control methods.

Nozzle design for PC4 and smaller burners:



Nozzle design for PC5 and larger burners:



Full modulation of both air and gas simultaneously. Gas only modulation with constant air.
High-low.
On-off.

See the table on page three for specific details.

UTILITY REQUIREMENTS

Gas – PC burners can fire either natural gas or propane, however, some sizes require a different nozzle for propane. Valve assemblies on the burners are sized for an inlet pressure of 8" WC natural gas or 12" WC propane. Burners and valves can be sized to handle other inlet pressures as required.

Electrical – PC burners are supplied with combustion air blower motors either 115/230/1/60 or 230/460/3/60 depending upon burner capacity and customer preference. Both TEFC (standard) and ODP motors are available.

INSTALLATION, START-UP, MAINTENANCE

A complete installation and maintenance manual is supplied for all complete packages. Commissioning should be carried out by qualified personnel using the instructions in the manual. If desired, Pyronics' representatives can arrange for installation and/or maintenance services.

Burners, parts and service are available worldwide.

CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.

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PC PACKAGED OVEN BURNERS

				Available Control Types			
BURNER MODEL	Btu/Hr	kw	Blower Motor HP	Full Air/Gas Modulating	Gas Only Modulating	High-Low	On-Off
PC0-A	239,000	70	1/3		X	X	X
PC0-B	410,000	120	1/3		X	X	X
PC1-A	512,000	150	1/3	X	X	X	
PC1-B	750,000	220	1/3	X	X	X	
PC1-C	1,000,000	300	1/3	X	X	X	
PC2-A	1,365,000	400	1/3	X	X	X	
PC2-B	1,706,000	500	1/2	X	X	X	
PC2-C	1,911,000	560	1/2	X	X	X	
PC3-A	2,047,000	600	1/2	X	X	X	
PC3-B	2,388,000	700	1/2	X	X	X	
PC3-C	2,729,000	800	3/4	X	X	X	
PC4-A	3,070,000	900	3/4	X	X	X	
PC4-B	3,412,000	1000	1	X	X	X	
PC5-A	3,753,000	1100	1	X	X	X	
PC5-B	4,094,000	1200	1	X	X	X	
PC6-A	4,606,000	1350	1-1/2	X			
PC6-B	5,118,000	1500	1-1/2	X			

Capacities and blower sizing based upon neutral to slight negative draft pressure. Capacities and/or blowers will be different with positive pressure. Consult factory.

Standard motors supplied are TEFC. 115/230/1/60 for 3/4 HP and less. 230/460/3/60 for 1 HP and greater

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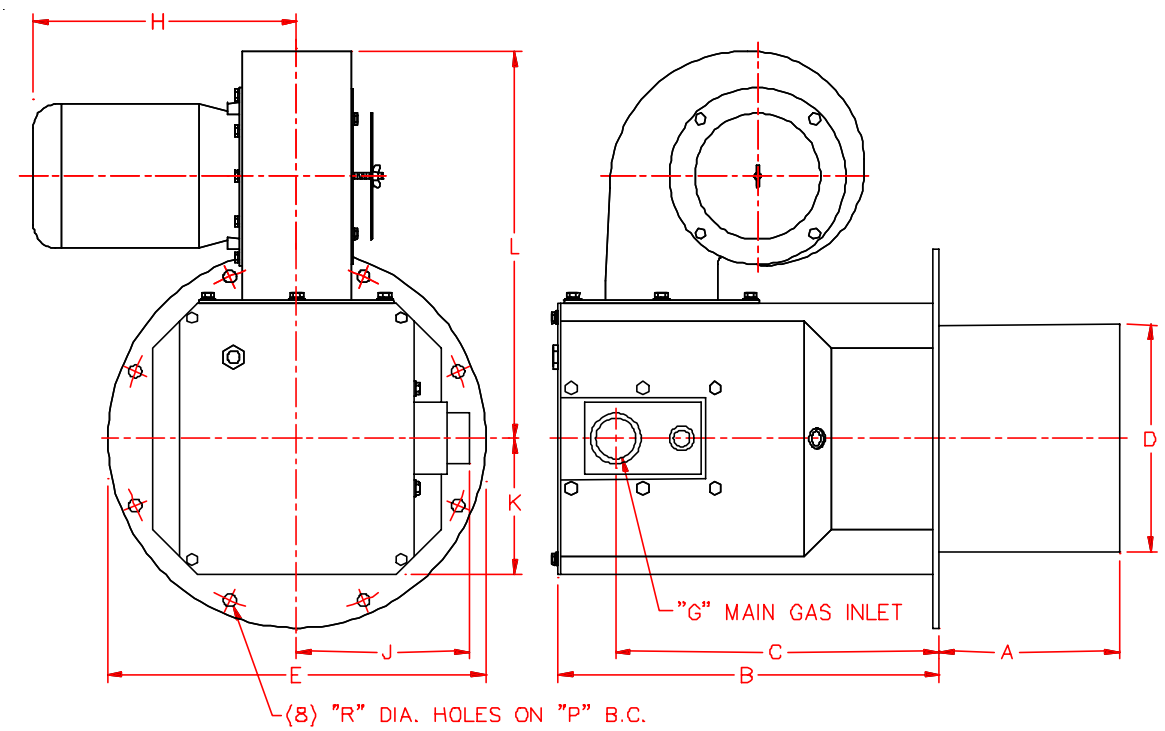
A	B	C	D	E	G	H	J	K	L	P	R
4-7/8	12-1/2	10-1/2	4-7/8	9-5/8	3/4	10	6	3-3/8	11-3/4	8-1/2	1/2
4-7/8	12-1/2	10-1/2	4-7/8	9-5/8	3/4	9-5/8	6	3-3/8	14-1/4	8-1/2	1/2
5-7/8	12-1/2	10-1/2	5-7/8	12-1/4	3/4	10-1/4	6	2-7/8	13-3/8	11	1/2
5-7/8	12-1/2	10-1/2	5-7/8	12-1/4	1	10-1/4	6-1/8	2-7/8	13-3/8	11	1/2
5-7/8	12-1/2	10-1/2	5-7/8	12-1/4	1	10-1/4	6-1/8	2-7/8	13-3/8	11	1/2
6-7/8	15	13	7-7/8	14-5/8	1-1/4	10-1/2	7-1/4	4	16-1/2	13-3/8	9/16
6-7/8	15	13	7-7/8	14-5/8	1-1/2	11-1/4	7-1/4	4	16-1/2	13-3/8	9/16
6-7/8	15	13	7-7/8	14-5/8	1-1/2	11-1/4	7-1/4	4	16-1/2	13-3/8	9/16
7-7/8	16-5/8	14-1/4	9-7/8	16-1/2	1-1/2	11-3/4	7-1/2	5-7/8	16-3/4	15-3/8	9/16
7-7/8	16-5/8	14-1/4	9-7/8	16-1/2	1-1/2	11-3/4	7-1/2	5-7/8	16-3/4	15-3/8	9/16
7-7/8	16-5/8	14-1/4	9-7/8	16-1/2	2	12-1/4	7-1/2	5-7/8	16-3/4	15-3/8	9/16
9	17-7/8	15-1/2	11-3/4	18-7/8	2	12-1/4	8-3/4	7-1/2	18-1/2	17-3/4	9/16
9	17-7/8	15-1/2	11-3/4	18-7/8	2	12-3/4	8-3/4	7-1/2	19-1/4	17-3/4	9/16
9-1/2	18-7/8	15-3/4	13	18-7/8	2	12-3/4	9-1/2	7-1/2	19-1/4	17-3/4	9/16
9-1/2	18-7/8	15-3/4	13	18-7/8	2	12-3/4	9-1/2	7-1/2	19-1/4	17-3/4	9/16
9-7/8	19-3/4	16-1/2	14-1/8	22	2-1/2	13-3/4	11-1/4	8-3/4	21-1/2	20-7/8	9/16
9-7/8	19-3/4	16-1/2	14-1/8	22	2-1/2	13-3/4	11-1/4	8-3/4	21-1/2	20-7/8	9/16



H Dimension approximate, dependent upon motor manufacturer. All dimensions subject to change without notice. Blower may be mounted in other configurations.