

Model "400" OVENPAK® Gas Burner

Design and Application Details

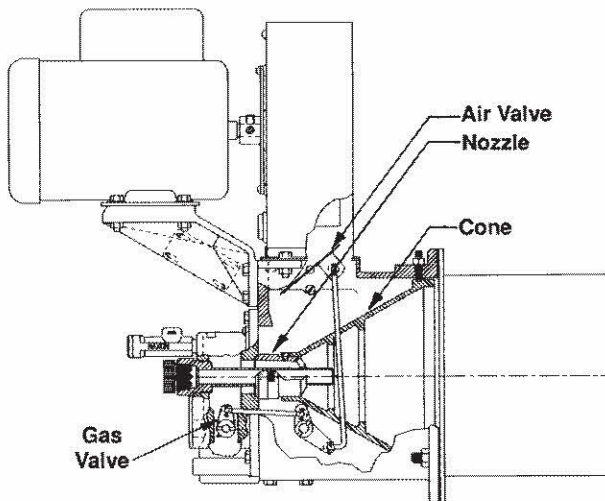
OVENPAK® Burners are nozzle-mixing gas burners for many industrial direct-fired applications where clean combustion and high turndown are required. They are simple and versatile for use on a variety of heating applications.

The Model "400" OVENPAK® Burner (shown at right) includes a combustion air blower with non-sparking paddle wheel-type impeller, pilot, spark ignitor, stainless steel discharge sleeve, mixing cone, self-contained internal air and gas proportioning valves, and provision for your flame safeguard sensor.



Right: Model 415 OVENPAK® Gas Burner with optional:

- combustion air filter
- connecting base and linkage assembly
- electrical control motor (by others)



Cross sectional view of a Model "400" OVENPAK® Gas Burner

Principle of operation (illustrated at left)

The OVENPAK® Burner is designed for industrial air heating applications. It is available in two basic versions: 1) packaged with integral combustion air blower, or 2) for use with an external blower. Both versions include a gas and air valve, internally linked together to control the gas-air ratio over the full operating range. The gas flows through the nozzle, then along the inside of the burner cone where combustion air is progressively and tangentially mixed with the gas. This produces a very wide turndown range and a highly stable flame under a variety of operating conditions.

Model "400" OVENPAK® Gas Burners

Capacities and Specifications – 60 Hertz

Capacities and Operating Data – Model 425 through 487M

Burner Model		425	432M	435	442M	445	456M	470M	487M	
Motor Specification	Horsepower:	3/4	3/4	3/4	1 or 1-1/2 [1]	1 or 1-1/2 [1]	1-1/2	2	3	
	Frame Number:	56	56	56	56	56	143T	145T	182T	
Maximum Capacities (1000's Btu/hr) with Natural Gas Pressures ("wc)	DUCT STAIRS	-5.0 to -0.5" wc	2750 2.7"	---	3850 2.2"	---	5175 3.4"	6400 3.6"	8050 3.7"	10060 4.6"
		±0" wc	2500 2.2"	3200 3.6"	3500 1.8"	4150 2.5"	4500 2.6"	5600 2.8"	7000 2.8"	8700 3.4"
		+1.0" wc	2375 2.0"	3000 3.2"	3325 1.6"	4000 2.4"	4280 2.3"	5340 2.5"	6570 2.5"	8400 3.2"
		+2.0" wc	2250 1.8"	2800 2.8"	3150 1.4"	3800 2.1"	4125 2.2"	5200 2.4"	6300 2.3"	8200 3.0"
		+3.0" wc	---	2650 2.5"	---	3650 1.9"	---	5000 2.2"	5500 1.7"	7500 2.5"
		+4.0" wc	---	2500 2.2"	---	3500 1.8"	---	4600 1.9"	5000 1.4"	6200 1.7"
		+5.0" wc	---	2250 1.8"	---	3300 1.6"	---	4100 1.5"	4500 1.2"	5500 1.4"
		+6.0" wc	---	---	---	---	---	---	3500 0.7"	5000 1.1"
Minimum Capacities (1000's Btu/hr)	Main plus pilot	60		87		110	125	150	175	
	Pilot only	35		45		90	105	115	117	
Required natural gas differential pressure to burner inlet ("wc)		3.6	4.9	3.8	4.9	4.5	5.1	5.2	7.6	
Approximate flame length in still air		2-1/2 to 3-1/2 ft.		3-1/2 to 5 ft.	4 to 5 ft.	4 to 6 ft.	5 to 7 ft.	6 to 8 ft.	8 to 10 ft.	

[1] Horsepower will be either 1 HP or 1-1/2 HP, depending upon motor voltage