

Model JBS2 Forced Draft Burners

Specification & Dimensional Data

(40 - 170 BHP Input) - High Turndown Forced Draft

- Turndowns to 10:1 gas, 8:1 oil
- Natural Gas, Propane, Digester, Waste Gas or Mixed Gas Firing
- #2 - #6 Oil Firing (#6 oil starts at 100 HP)
- Pressure (return flow nozzle) or Air Atomized (Above 80 HP) Oil Firing
- Linkage or Parallel Positioning Controls



Sizing Details

- The JBS2 size can be estimated from the boiler HP and furnace pressure below.
- Sizing is based on a max air temperature of 90^o F, 60 Hz, altitude under 1000 ft.
- Higher altitude can be corrected by adding 1" furnace pressure for each 1500 feet over 1000 feet, up to 5500 ft.
- For furnace pressures higher than shown, altitudes over 5500 ft, 50 Hz or smaller furnaces, contact factory.
- Adding a silencer will reduce the available furnace pressure by about 1/2" on the JBS.

The JBS2 is available with two different combustion heads, a "R" (7") and "S" (9") head. These can be used with any of the five fan and motor size combination as needed. The chart below shows how these can be applied.

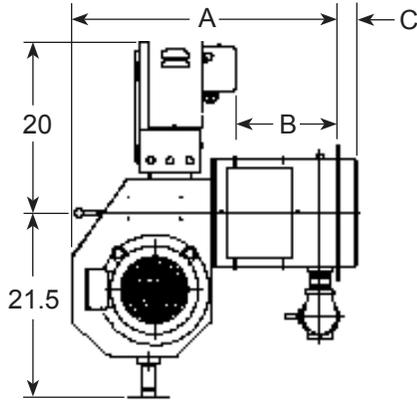
JBS Model #	BHP	Rated Input		Standard Turndown			Maximum Turndown			Std Motor		Larger Motor		Larger Motor	
		Gas MBH	Oil GPH	#2 Oil			#2 Oil			Std Motor HP	Max Furn Press	Larger Motor HP	Max. Furn Press	Larger Motor HP	Max Furn Press
		Gas	Press Atom	Air Atom	Gas	Press Atom	Air Atom								
JBS2* - R	40	1674	12	5	3	NA	5.0	3	NA	1.5	3	NA	NA	NA	NA
	48	2000	14.3	5	3	NA	6.0	3	NA	1.5	2.6	NA	NA	NA	NA
	50	2092	14.9	5	3	NA	6.2	3	NA	1.5	2.4	NA	NA	NA	NA
	60	2511	17.9	5	3	NA	7.5	3	NA	1.5	1.6	3	2.5	NA	NA
	70	2929	20.9	5	3	NA	8.7	3	NA	1.5	0.7	3	1.8	5	2.5
	72	3000	21.4	5	3	NA	8.9	3	NA	3	1.7	5	2.4	NA	NA
	75	3138	22.4	5	3	NA	9.3	3	NA	3	1.5	5	2.2	NA	NA
	76	3200	22.9	5	3	NA	9.5	3	NA	3	1.4	5	2.2	NA	NA
80	3348	24.0	5	3	NA	10.0	3	NA	3	1	5	1.9	NA	NA	
JBS2* - S	80	3348	24.0	5	3	5	8.4	3	6	2	3.6	3	3.8	NA	NA
	84	3500	25.0	5	3	5	8.8	3	6.3	2	3.4	3	3.7	NA	NA
	90	3766	26.8	5	3	5	9.4	3	6.7	2	3.2	3	3.5	NA	NA
	96	4000	28.6	5	3	5	10	3	7.2	2	2.8	3	3.3	NA	NA
	100	4184	30.0	5	3	5	10	3	7.5	2	2.6	3	3.2	5	4.4
	108	4500	32.1	5	3	5	10	3	8	2	2.3	3	2.9	5	4.1
	110	4603	32.9	5	3	5	10	3	8	2	2.2	3	2.8	5	4
	120	5021	35.7	5	3	5	10	3	8	2	1.6	3	2.3	5	3.7
	125	5230	37.5	5	3	5	10	3	8	2	1.4	3	2	5	3.5
	130	5440	38.9	5	3	5	10	3	8	3	1.8	5	3.3	NA	NA
	131	5500	39.3	5	3	5	10	3	8	3	1.7	5	3.3	NA	NA
	140	5858	41.8	5	3	5	10	3	8	5	2.7	NA	NA	NA	NA
	143	6000	42.9	5	3	5	10	3	8	5	2.5	NA	NA	NA	NA
	150	6277	45.0	5	3	5	10	3	8	5	2.2	NA	NA	NA	NA
	160	6695	47.8	5	3	5	10	3	8	5	1.5	NA	NA	NA	NA
167	7000	50.0	5	3	5	10	3	8	5	1	NA	NA	NA	NA	
170	7113	50.8	5	3	5	10	3	8	5	0.8	NA	NA	NA	NA	

- Gas input based on HHV = 1000, 0.64 specific gravity. Gas Train requirements will vary with insurance and job site conditions.
- Oil input based on #2 oil at 140,000 BTU/gal. Heavy oil rates will be lower, based on 150,000 BTU/gal.

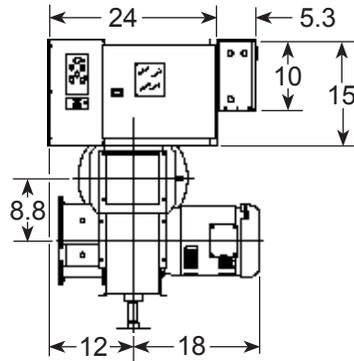
Model Number Designation: JBS2 * - S 30

└─ Motor HP 07=3/4HP, 15=1.5HP, 20=2HP, 30=3HP, & 50=5HP
 └─ R= 7" Head, S= 9" Head
 └─ G = Gas, O = Oil, C = Combination

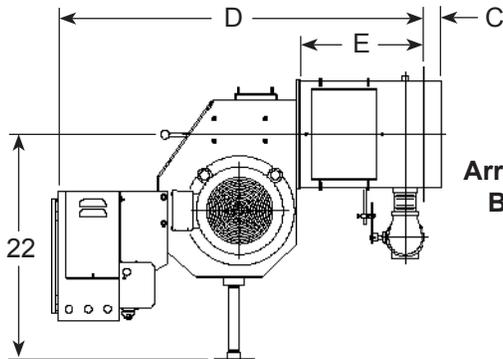
All Dimensions are in Inches



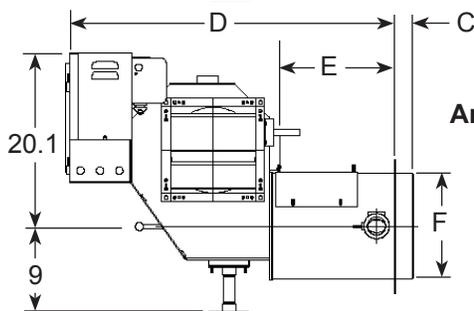
Standard JBS2 Arrangement Side View



Standard JBS2 Arrangement End View



JBS2 Arrangement With Back Mounted Panel



JBS2 Inverted Arrangement With Back Mounted Panel

	A	B	C	D	E	F
7" Head (R), 2" Insert	28.7	10.0	2.0	37.3	12.5	10.0
7" Head (R), 5.5" Insert	25.2	6.5	5.5	33.8	9.0	10.0
9" Head (S), 2" Insert	30.7	12.0	2.0	39.3	14.5	12.3
9" Head (S), 5.5" Insert	30.7	12.0	7.0	39.3	14.5	12.3

(1) STANDARD UL EQUIPMENT AND IMPORTANT OPTIONS	Gas	No. 2 Oil	
		Pressure Atomized	Air Atomized
Motor, Fan and Air Inlet Control	X	X	X
Air Flow Switch	X	X	X
(2) Burner Mounted Control Panel, Switch and Indicator Lights	X	X	X
Flame Safety Control	X	X	X
Ultra Violet Scanner	X	X	X
Motor Controller (single phase voltage)	X	X	X
Motor Starter w/overloads (3 PH volt)	X	X	X
Fuel Selector Switch	Duel Fuel Burners Only		
Proven Gas Pilot Ignition	X	X	X
Pilot Solenoid Gas Valve	X	X	X
Pilot Gas Regulator & Manual Valve	X	X	X
Pilot Gas Ignition Transformer	X	X	X
Inverted Housing	X	X	X
Alternate Control Cabinet Positioning	X	X	X
Remote Control Panel	X	X	X
Fuel Metering CAM-NETICS II	X	X	X
Silencer	X	X	X
Main Manual Shutoff Valve	X		
Main Safety Shutoff Valve	X		
Second Safety Shutoff Valve	X		
Main Gas Regulator	X		
Gas Checking Valve	X		
High and Low Gas Pressure Switches	X		
Metering Valve	X		
Normally Open Vent Valve	Opt.		
Leak Test Ports (CSD-1)	X		
Oil Drawer Assembly with Diffuser		X	X
Oil Nozzles		X	X
Remote Oil Pump		X	Opt.
Two Safety Shutoff Valves		X	X
Low Air Atomizing Switch			X
Low Oil Pressure Switch		X	X
Oil Pressure Gauge		X	X
Oil Metering Valve		X	X
Future Gas Combustion Head		Opt.	Opt.
Air Compressor			X

1. The configuration of each unit will vary with specific job requirements such as input rating, electrical specification and special agency approval codes. The above chart shows those items standard to a basic burner plus a few options that may be added.
 2. Indicator lights are "Power On", "Call for Heat", "Fuel On" and "Flame Fail" for hard wired panels. "Alarm", "Low Water", "Power", "Call for Heat", "Ignition On" and "Fuel On" for circuit board light panels.

Essential Ordering Information and Data:

- Power Supply - Confirm 120-60-1 for control circuit and electrical supply for burner motor(s) (voltage, frequency and phase).
- Describe Boiler or Heater to be Fired - Including the manufacturer, model number, furnace pressure and furnace size.
- Firing Rate - Define firing rates in MBH for gas and GPH for oil.
- Fuel to be Burned - Type of gas and/or oil, including the BTU value.
- Approval Agency - UL, FM, IRI (GE GAP), CSD-1, NFPA, Mil spec and local codes, if applicable.
- Flame Safety Control Preferred - Honeywell or Fireye controls. Gas Train Components Preferred - ASCO / ITT, Honeywell or Siemens
- Required Options - Mounting plate, limit controls, etc.