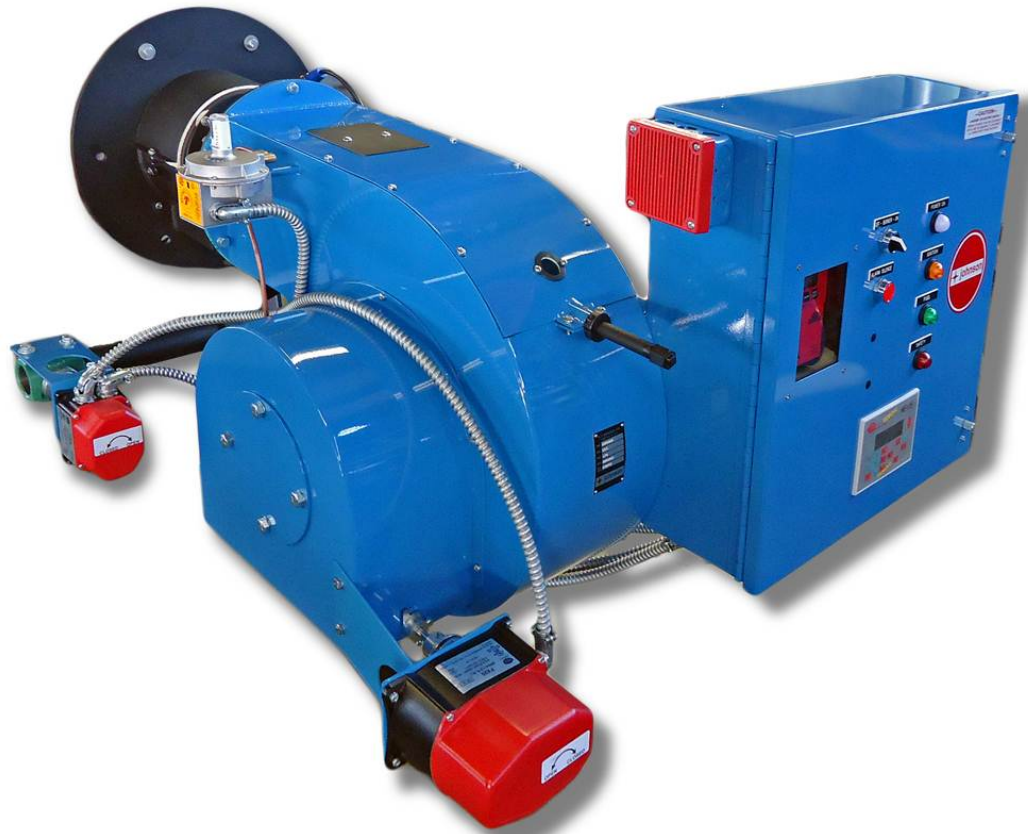


Since 1903

 **johnson burners**

# DHF Gun Type Burner



## DHF Gas and Pressure Atomizing Oil Burner

High Quality • Top Performance • Efficient Combustion  
Easy Installation • Reduced Installation Costs

### Efficient Diffuser Head

Exceptional flame retention for optimum efficiency and performance. Custom flame shaping to suit a variety of boiler and process heater applications.

### Reliable Quality

Quiet, smooth combustion from a compact packaged system. Housings are fabricated of heavy gauge steel for years of reliable service.

### Top Performance

Eleven sizes for optimum performance firing gas or pressure atomized light fuel oil. A variety of control configurations, optimized to suit any application. Available options include linkage-less parallel-positioning, VFD fan control and O2 trim.

### Reduced Installation Costs

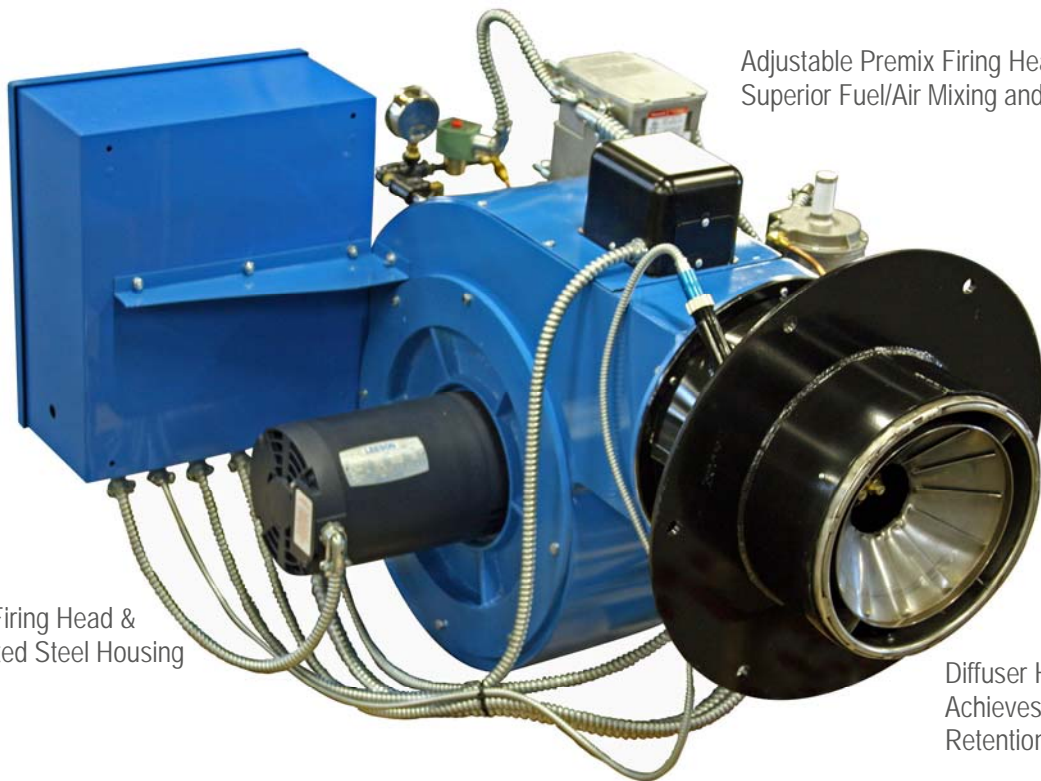
Compact package, fully assembled, pre-wired and factory tested.

### Low NOx Technology Available

30 ppm NOx or less firing Natural Gas available with the addition of flue gas recirculation (FGR) on DHF-LN models.

### System Specs

Capacities:	20 to 250 boiler HP
Fuels:	Natural Gas, LPG, Digester Gas #2 Fuel Oil, pressure atomized Combination Gas & Oil
Motor Voltages:	Sizes 20 to 60, 115/230, 1 phase Sizes 80 to 250, 208, 230/460, 3 phase
Control Modes:	Full Modulation Lo-Hi-Lo On-Off and On-Off with Low Fire Start
Applications:	Scotch Marine (firtube) Boilers Firebox, Watertube, Cast Iron Boilers Furnaces
Approvals:	UL listed in the US and Canada
Standards:	UL standard CSD-1, IRI, FM, NFPA optional
Emissions on DHF-LN Models only:	30 ppm NOx firing natural gas. 50 ppm NOx firing Amber Oil



Durable Design  
Stainless Steel Firing Head &  
Rugged Fabricated Steel Housing

Adjustable Premix Firing Head  
Superior Fuel/Air Mixing and Adaptability

Diffuser Head Design  
Achieves Excellent Flame  
Retention and Stability

# Complete Package



## Standard Equipment - All Units

- Heavy duty, steel welded burner housing
- Integral air fan with standard NEMA frame motor
- Single or double-blade air damper
- Access plate on top of blower assembly
- Stainless steel air diffuser
- Stainless steel burner blast tube

## Controls

- NEMA 1 control panel
- Flame Safeguard system with status indication
- UV flame scanner
- Starters and overloads for blower motor
- Burner on-off switch
- Lights: power on, ignition, main fuel, safety
- Manual-auto firing switch
- Manual firing rate potentiometer

## Gas Fired Units

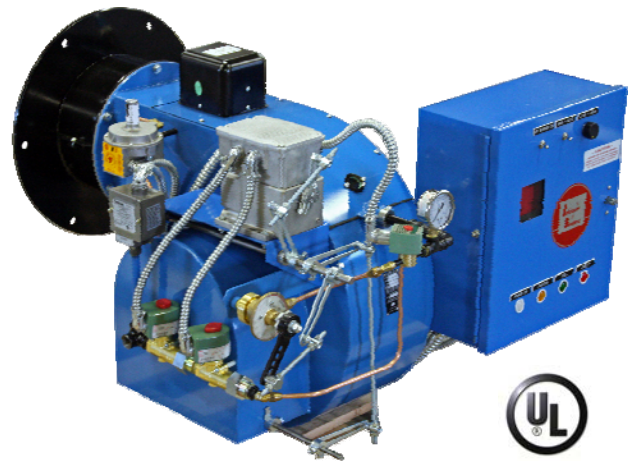
All standard equipment, plus the following:

- Main safety shut-off valve
- Main manual, leak test manual & blocking safety shut-off valve
- Low & high gas pressure switches (2501 MBH capacity and higher)
- Main gas pressure regulator

## Oil Fired Units

All standard equipment, plus the following:

- Pressure atomizing oil nozzle
- Oil shut-off, return valves and safety interlocks
- Oil pump and motor
- Oil pressure regulator
- Oil drawer assembly



US, Canada

## Modulating Units

All standard equipment, plus the following:

- Fuel-air control with linkage
- Gas metering control valve (gas fired units)
- Oil metering control valve (oil fired units)

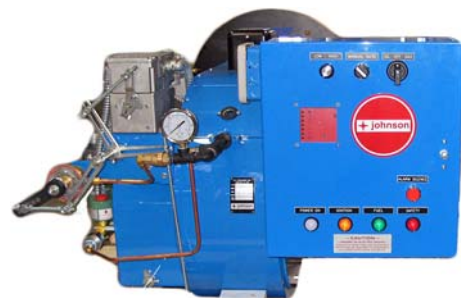
## Lo-Hi-Lo Units

All standard equipment, plus the following:

- 2-position electric actuator, auxiliary switch
- First and second stage fuel shut-off valves
- 2-stage oil drawer assembly

## On-Off & On-Off with Low Fire Start Units

- All standard equipment.



## Optional Equipment

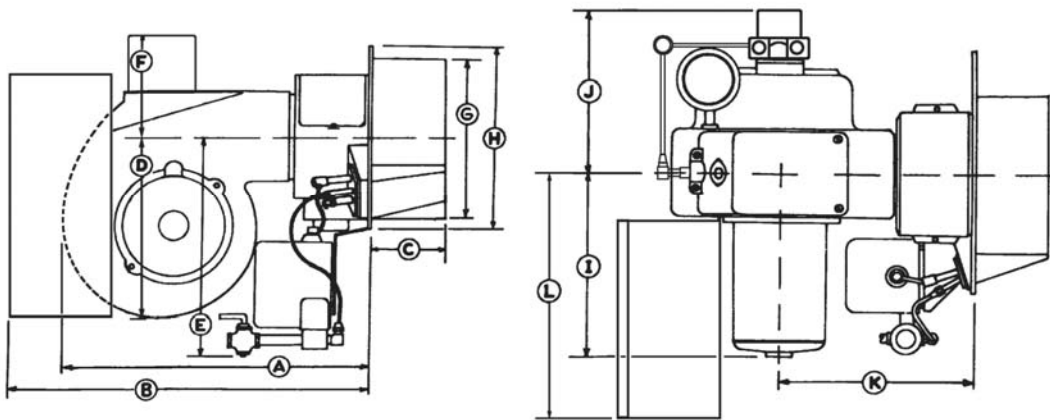
- Linkage-less parallel positioning fuel-air modulation control for higher efficiency and wider turndown
- Variable Frequency Drive on air fan motor
- Oxygen trim
- NEMA 4 control panel
- IR flame scanner
- Characterized fuel control valve

## Capacities and Specifications

Size	Burner Capacities <sup>(1)</sup>			Motor 3450 RPM HP	Gas Train Size
	Natural Gas MBH	#2 Oil GPH	Boiler HP		
20	840	6	20	1/3	1"
30	1,260	9	30	1/2	1 1/4"
40	1,680	12	40	3/4	1 1/4"
50	2,100	15	50	3/4	1 1/2"
60	2,500	18	60	3/4	1 1/2"
80	3,360	24	80	1	1 1/2"
100	4,200	30	100	2	2"
125	5,250	38	125	3	2"
150	6,300	45	150	3	2 1/2"
200	8,400	60	200	5	2 1/2"
250	10,500	75	250	5	2 1/2"

(1) Gas input based on 1,000 BTU/CF gas & 0.64 specific gravity. Oil input based on No. 2 CSG, 140,000 BTU/Gal. Boiler capacities based on minimum 80% combustion efficiency. Capacity rated against +0.75" w.c. furnace pressure. 60 cycle current at sea level.

## Dimensions (Inches)



Size	A	B	C	D	E	F	G	H	I	J	K	L*
20	16 7/8	23	4 3/8	8	9 3/4	7	6 3/4	12 1/2	11 1/4	9	17 7/8	16 1/2
30-40	17	23	4 3/8	10 3/4	11	7 3/8	9 1/8	15 1/2	13	10 7/8	12 3/8	16 1/2
50-100	23	29	4 3/8	15 1/8	12 1/2	8	11 1/8	17 1/2	15 1/2	12 1/8	14 3/8	17 1/2
125-250	30 5/8	33 3/4	4 3/8	17 1/2	15 1/2	8 3/4	14	20	14 3/4	10 7/8	19 3/8	18 1/2

\*The control panel is optional on many models, but it is shown here for maximum allowance

Note: All specifications and dimensions are subject to change without notice. Always consult factory for up to date changes and information.

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