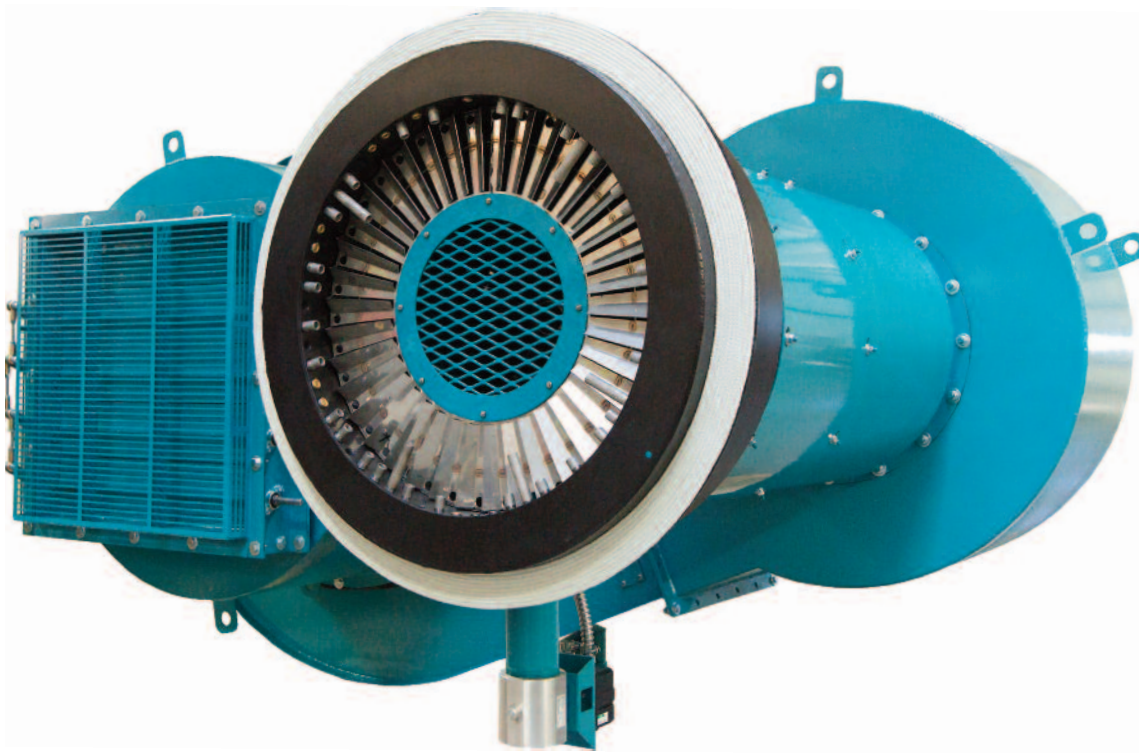


# HDR(X)-RF Series Burners

**Multi-Fuel, Register Burners for High Efficiency and Low Emissions**

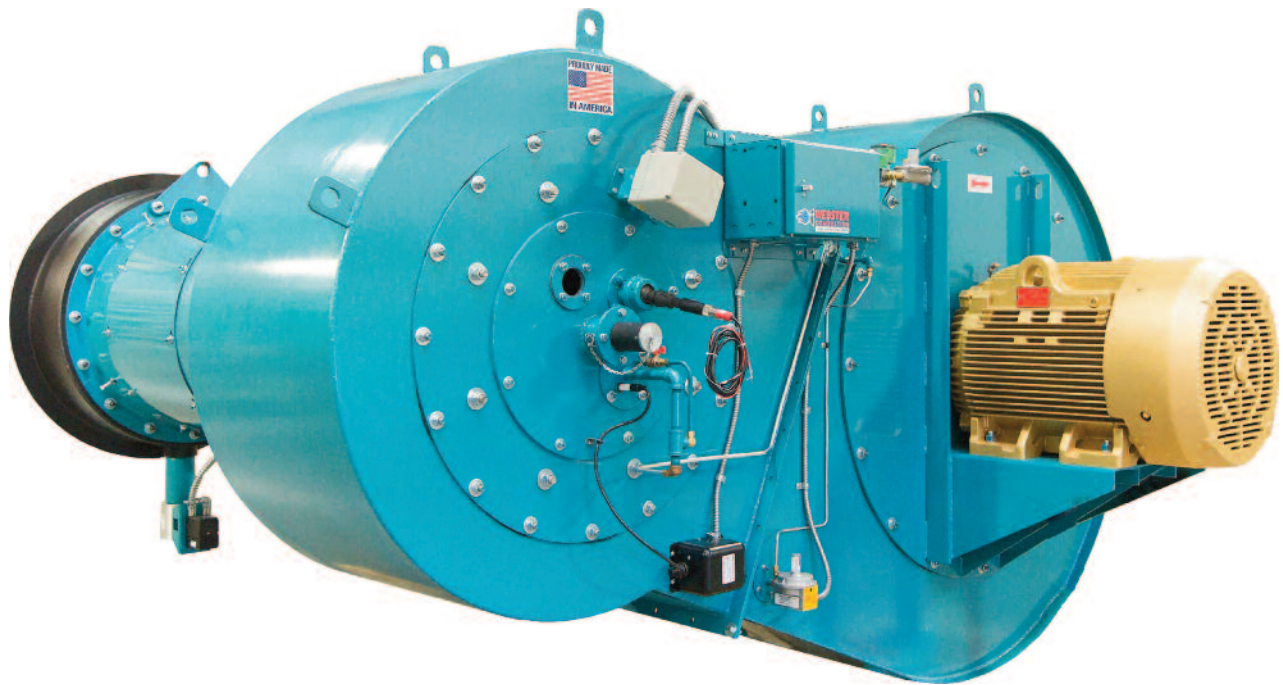


For Firing Rates up to 200,000,000 Btu/Hr

## Benefits Of The HDR(X)-RF Register Burners

Webster's HDR(X)-RF burners readily adapt to most available boiler and furnace configurations. The HDR(X)-RF burner housing and fan can be installed in multiple ways depending upon the application, and is capable of burning a wide range of fuels, either separately or simultaneously, including: Natural, LP, and low BTU gas, all commercially available grades of fuel oil, and qualified waste oils. A dual-manifold combustion head is available for applications firing multiple gas fuels.

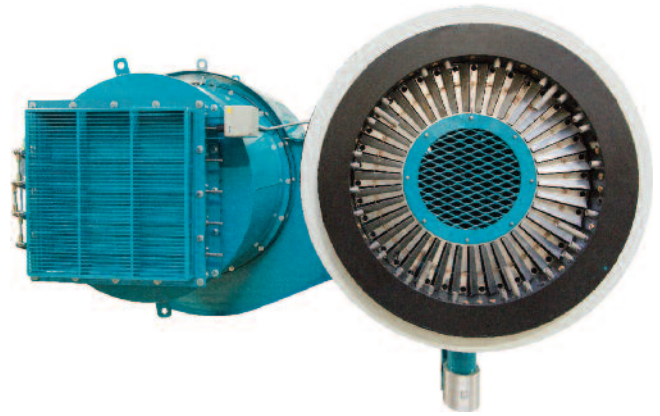
The model HDR-RF is a full register style burner that can be applied to both watertube and firetube boiler applications. The register design allows for flame shaping capabilities to fit many different types of furnace configurations and the addition of Induced Flue Gas Recirculation (IFGR) allows the HDR(X)-RF to achieve less than 30ppm NO<sub>x</sub> levels. In addition, the HDR(X)-RF will operate efficiently to reduce cycling and save energy by operating at low excess air levels, thus providing a great option for total energy savings.



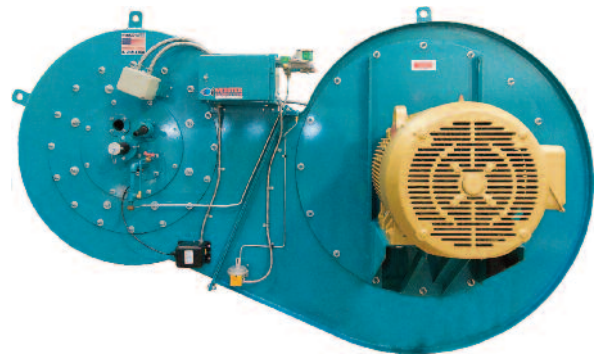
**A wide choice of burner arrangements is available with the HDR(X)-RF package burner system. Webster's engineering team will assist you in designing the best arrangement for your application. Flexibility in design and assembly means that the HDR-RF can be applied to a wide variety of installations, including firetube boilers, package watertube boilers, field erected boilers, dryers and heaters.**

## HDR(X)-RF Features

- Excellent flame stability for reliable low NOx performance
- Low excess air for extremely efficient operation
- Fully modulating register for flame shaping
- High turndown rates
  - ✦ Up to 10 to 1 on gas firing
  - ✦ Up to 8 to 1 on oil firing
- High combustion efficiency
- Fire multiple fuels
  - ✦ Natural, LP or digester gas
  - ✦ No. 2 through No. 6 oils
- Configurable blower housing to match application requirements
- Field-proven ignition system with an extremely stable pilot
- High efficiency combustion air fans to optimize electrical needs
- IFGR system with a shutoff valve in the flue gas recirculation duct to prevent flue gas from re-entering the burner during the purge cycle
- Access doors for easy service of firing head, fan and FGR duct for maintenance
- Remote mounted combustion air fan and motor
- Fire all types of boilers: Scotch-Marine Firetube, Watertube, Flextube, Firebox, as well as heaters and other vessels



HDR(X)-RF Front View

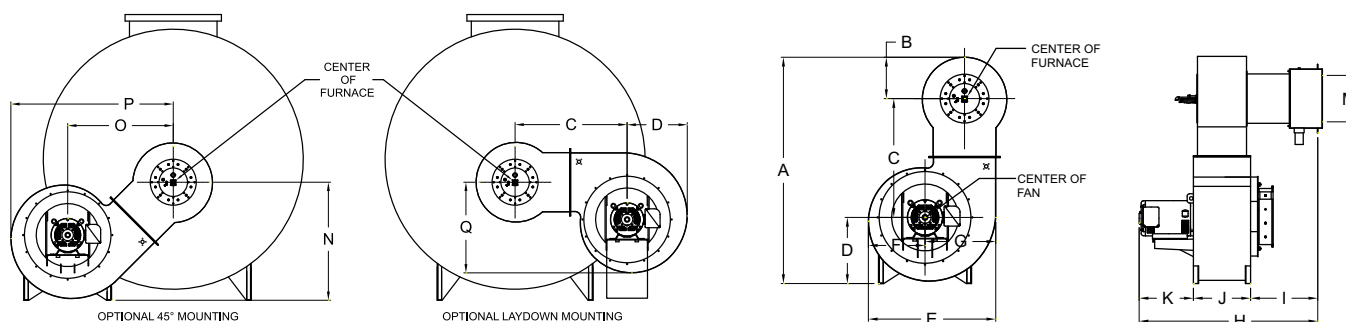


HDR(X)-RF Back View

**Webster Combustion has the best lead times in the industry. To configure the perfect HDR(X)-RF burner for your application and obtain current scheduling information, contact Webster or visit [www.webster-engineering.com](http://www.webster-engineering.com) to locate a sales office in your area.**

# HDR(X)-RF Series Typical Dimensions and Ratings

## HDR(X)-RF STANDARD ARRANGEMENT



BURNER MODEL	MIN REQ'D GAS PRESS (PSIG)	STD GAS TRAIN SIZE	MAX FIRING RATE (MBH) STD	MAX FIRING RATE (MBH) W/ FGR	FAN MOTOR HP	DIMENSIONS – INCHES																
						A	B	C	D	E	F	G	H	I	J	K	M	N	O	P	Q	
HDR(X)-RF21*-250	5	3"	46,040	39,134	25	87.3	18.2	46.5	22.6	45.3	20.2	25.1	68.3	22	21.1	16.6	21	50.4	39	62	34	
HDR(X)-RF21*-300	5	3"	50,220	42,687	30	92.9	18.2	48.6	26.1	52.1	23.2	28.9	70.4	22	21.1	18.7	21	51	41	67	39	
HDR(X)-RF21*-400	5	3"	50,220	42,687	40	96.7	18.2	51	27.5	55	24.5	30.5	70.4	22	21.1	18.7	21	53	43	71	42	
HDR(X)-RF21*-600	5	3"	50,220	42,687	60	102.5	18.2	53.9	30.4	60.5	26.9	33.6	75.9	22	21.1	24.2	21	53.7	46	76	46	
HDR(X)-RF23*-300	6	3"	62,780	53,363	30	98.3	24.1	49.3	24.9	49.8	22.2	27.6	73.8	22	24.5	18.7	23	54.3	42	67	38	
HDR(X)-RF23*-500	6	3"	62,780	53,363	50	103.7	24.1	52.1	27.5	55	24.5	30.5	75.4	22	24.5	20.3	23	55	44	72	42	
HDR(X)-RF23*-600	6	3"	62,780	53,363	60	109.3	24.1	55	30.2	60.5	26.9	33.6	79.3	22	24.5	24.2	23	55.9	47	77	46	
HDR(X)-RF23*-750	6	3"	62,780	53,363	75	115.4	24.1	57.8	33.5	67	29.8	37.2	79.4	22	24.5	24.3	23	56.9	49	83	51	
HDR(X)-RF25*-500	6	4"	83,700	71,145	50	104.2	24.2	52.5	27.5	54.9	24.4	30.5	75.4	22	24.5	20.3	25	59.3	44	72	41	
HDR(X)-RF25*-750	6	4"	83,700	71,145	75	109.5	24.2	55.1	30.2	60.5	26.9	33.6	77.2	22	24.5	22.1	25	60	47	77	46	
HDR(X)-RF25*-1000	6	4"	83,700	71,145	100	130.2	24.2	72.5	33.5	67	29.8	37.2	80.3	22	24.5	25.5	25	61	61	94	51	
HDR(X)-RF27*-500	7	4"	92,070	78,260	50	117.9	24.2	66.2	27.5	54.9	24.4	30.5	85.1	22	32.8	21.5	27	59.3	55	83	41	
HDR(X)-RF27*-750	8	4"	104,600	88,910	75	123.7	24.2	69.3	30.2	60.5	26.9	33.6	87.9	22	32.8	24.3	27	60	58	88	46	
HDR(X)-RF27*-1250	8	4"	104,600	88,910	125	130.2	24.2	72.5	33.5	67	29.8	37.2	88.8	22	32.8	25.2	27	61	61	94	51	
HDR(X)-RF27*-1500	8	4"	104,600	88,910	150	136.7	24.2	75.6	36.9	73.7	32.8	40.9	89.5	22	32.8	25.9	27	62	64	101	56	
HDR(X)-RF29*-1000	10	4"	120,000	102,000	100	131.4	31.9	69.3	30.2	60.5	26.9	33.6	88.8	22	32.8	25.2	29	60	58	88	46	
HDR(X)-RF29*-1250	10	4"	120,000	102,000	125	137.9	31.9	72.5	33.5	67	29.8	37.2	88.8	22	32.8	25.2	29	61	61	94	51	
HDR(X)-RF31*-1250	14	4"	140,000	119,000	125	131.4	31.9	69.3	30.2	60.5	26.9	33.6	88.8	22	32.8	25.2	31	49.4	58	88	46	
HDR(X)-RF31*-1500	14	4"	140,000	119,000	150	144.4	31.9	75.6	30.2	73.7	32.8	40.9	89.5	22	32.8	25.9	31	51.3	64	94	56	
HDR(X)-RF33*-1500	5	6"	150,000	127,500	150	137.9	31.9	72.5	33.5	67	29.8	37.2	89.5	22	32.8	25.9	33	50.3	61	94	51	
HDR(X)-RF33*-2000	5	6"	160,000	136,000	200	144.4	31.9	75.6	36.9	73.8	32.8	41	93.3	22	32.8	25.9	33	51.3	64	101	56	
HDR(X)-RF35*-2000	8	6"	190,000	161,500	200	137.9	31.9	72.5	33.5	67	29.8	37.2	89.5	22	32.8	25.9	35	50.3	61	94	51	
HDR(X)-RF35*-2500	8	6"	200,000	170,000	250	144.4	31.9	75.6	36.9	73.7	32.8	40.9	89.5	22	32.8	25.9	35	51.3	64	101	56	

\* Can be "G" (Gas), "O" (Oil) or "C" (Combination Gas/Oil)



**The Better Boiler Burner.**

Represented By

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