



DIMENSIONS and RATINGS for Webster Model HDR-RF



For Firetube Applications (see Specification Sheet 950050 for Watertube applications)

Select the Head Size to obtain the required input. Select the fan size to overcome the furnace pressure.

- o Low NOx available to 50 ppm on natural gas.
- o Plant air and steam atomization for oil firing available.
- o Oil Firing available to 1000 BHP (#2 through #6 oil)
- o Natural gas, propane, digester gas and No. 2 - 6 oil firing available
- o Linkage with fuel cams standard, parallel positioning controls available

Head Size I.D.	11	13	13	13	15	17	17	17	19	19	19	21	21	23	25	25	27	27		
Boiler HP	250	300	350	400	500	600	700	750	800	900	1000	1100	1200	1500	1800	2000	2200	2500		
Maximum MBH	10463	12555	14648	16740	20925	25110	29295	31387.5	33480	37665	41850	46035	50220	62775	75330	83700	92070	104625		
Natural gas CFH	10463	12555	14648	16740	20925	25110	29295	31387.5	33480	37665	41850	46035	50220	62775	75330	83700	92070	104625		
Net Gas manifold Press "w.c.	17.9	10.8	15.0	19.3	21.8	24.8	33.8	38.8	33.9	42.9	53.0	50.7	60.3	54.7	78.8	97.3	65.3	84.3		
#2 oil GPH	74.7	89.7	104.6	119.6	149.5	179.4	209.3	224.2	239.1	269.0	298.9	328.8	358.7	448.4	538.0	597.8	657.6	747.3		
Oil pump motor HP	0.33	0.33	0.33	0.50	0.50	0.50	0.75	0.75	0.75	1.00	1.00	Oil firing not available in these sizes								
Air compressor motor HP	2	2	5	5	5.5	5.5	5.5	7.5	7.5	7.5	7.5									
Minimum furnace dia	36	37	38	39	41	42	44	45	45	47	49	50	52	57	61	65	68	73		
Minimum furnace length	122	127	133	138	149	160	170	176	181	192	203	213	224	248	258	265	270	275		
Max heat release Kbtu/cf ⁽³⁾	142	156	167	176	188	195	198	198	198	196	193	189	184	174	170	166	163	158		
Combustion air CFM	2093	2511	2930	3348	4185	5022	5859	6278	6696	7533	8370	9207	10044	12555	15066	16740	18414	20925		
Fan selections with maximum furnace pressure and motor HP																				
13.5" fan @ 3450 RPM	Max furn "wc		2	0																
	Motor HP		5	5																
15" fan @ 3450 RPM	Max furn "wc	0	3	2	0															
	Motor HP	5	7.5	7.5	7.5															
16.5" fan @ 3450 RPM	Max furn "wc	5	4	4	3	2														
	Motor HP	10	7.5	7.5	10	15														
18.2" fan @ 3450 RPM	Max furn "wc				5	5	5													
	Motor HP				15	15	15													
The 13.5" through 18.2" fans operate at 3450 RPM																				
22.2" fan @ 1745 RPM	Max furn "wc		0																	
	Motor HP		3																	
24.5" fan @ 1745 RPM	Max furn "wc		2.5	0																
	Motor HP		5	5																
27" fan @ 1745 RPM	Max furn "wc		4	3	0	0	0	0			0									
	Motor HP		7.5	7.5	7.5	7.5	7.5	10			10									
The 22.2" through 49" fans operate at 1745 RPM																				
30" fan @ 1745 RPM	Max furn "wc				3	3	4	3	0	3	2			0						
	Motor HP				10	15	15	15	15	15	20			15						
33" fan @ 1745 RPM	Max furn "wc				5	5	5	5	4	5	5	3	6	4	0					
	Motor HP				15	20	20	20	20	20	25	25	30	30	30					
36.5" fan @ 1745 RPM	Max furn "wc								7	9	8	6.6	9	8	6	4	2	2		
	Motor HP								30	30	30	40	40	40	50	40	50	50		
40.2" fan @ 1745 RPM	Max furn "wc											10	13	12	10	10	8	9.5	4	
	Motor HP											50	50	60	60	75	75	75	75	
44.5" fan @ 1700 RPM	Max furn "wc														13	15	13.5	15.5	12	
	Motor HP														75	100	100	125	125	
49" fan @ 1745 RPM	Max furn "wc																			16.5
	Motor HP																			150

Notes: (1) Natural gas based on 1000 Btu/cf (3) Heat release based on furnace diameter and length with turnaround
 (2) #2 oil flow based on 140000 Btu/gal

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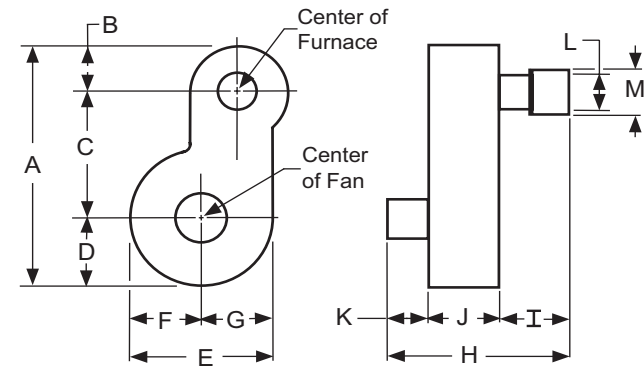
For Firetube Applications

Firing Head Size (ID) and Fan size (diameter)

HEAD	11		13					15					17					19								
RPM	3450	3450	3450	3450	3450	3450	1745	1745	1745	1745	1745	3450	3450	1745	1745	1745	3450	1745	1745	1745	1745	1745	1745	1745	1745	1745
FAN	15	16.5	13.5	15	16.5	18.2	22.2	24.5	27	30	33	16.5	18.2	27	30	33	18.2	27	30	33	36.5	27	30	33	36.5	40.2
A	55.1	57.9	52.1	55.1	57.9	61	65.8	69.3	73	77	81.2	65.1	68.6	82.8	87.3	92.9	73.1	82.2	86.7	92.9	97.2	82.2	86.7	92.9	96.7	102.4
B	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
C	28.5	30.2	26.6	28.5	30.2	32	33.8	35.6	37.4	39.2	41.1	34.4	36.6	44.2	46.5	48.6	41.1	43.6	45.9	48.6	51.5	43.6	45.9	48.6	51	53.9
D	11.4	12.5	10.3	11.4	12.5	13.8	16.8	18.5	20.4	22.6	24.9	12.5	13.8	20.4	22.6	26.1	13.8	20.4	22.6	26.1	27.5	20.4	22.6	26.1	27.5	30.3
E	22.9	25.1	20.6	22.9	25.1	27.6	33.3	36.9	38.6	45.2	49.8	25.1	27.6	40.8	45.3	52.1	27.6	40.8	45.3	49.8	54.9	40.8	45.2	52.1	55	60.5
F	10.2	11.2	9.2	10.2	11.2	12.3	14.8	16.3	18.2	20.1	22.2	11.2	12.3	18.2	20.2	23.2	12.3	18.2	20.2	22.2	24.4	18.2	20.1	23.2	24.5	26.9
G	12.7	13.9	11.4	12.7	13.9	15.3	18.5	20.6	20.4	25.1	27.6	13.9	15.3	22.6	25.1	28.9	15.3	22.6	25.1	27.6	30.5	22.6	25.1	28.9	30.5	33.6
H	59.6	59.6	59.6	59.6	59.6	63.1	56.7	58.5	59.6	63.1	63.1	65.7	65.7	62.2	65.7	66.5	65.8	62.3	65.8	66.6	67.9	64.8	68.3	69.1	70.4	73.2
I	22.0	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
J	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
K	13.1	13.1	13.1	13.1	13.1	16.6	10.2	12	13.1	16.6	16.6	16.6	16.6	13.1	16.6	17.4	16.6	13.1	16.6	17.4	18.7	13.1	16.6	17.4	18.7	21.5
L	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	8.6	8.6	8.6	8.6	8.6
M	11.0	11.0	13	13	13	13	13	13	13	13	13	15	15	15	15	15	17	17	17	17	17	19	19	19	19	19
N	38.1	38.4	37.8	38.1	38.4	38.8	39.6	40.1	40.6	40.9	41.5	46.1	46.5	49.6	50.2	50.9	44.4	47.5	48.1	50.9	53.0	47.5	48.1	50.9	53.0	55.8

Firing Head Size (ID) and Fan size (diameter)

HEAD	21				23				25				27			
RPM	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745	1745
FAN	30	33	36.5	40.2	33	36.5	40.2	44.5	36.5	40.2	44.5	49	36.5	40.2	44.5	49
A	87.3	92.9	96.7	102.5	98.3	103.7	109.3	115.4	104.2	109.5	130.2	117.9	123.7	130.2	136.7	
B	18.2	18.2	18.2	18.2	24.1	24.1	24.1	24.1	24.2	24.2	24.2	24.2	24.2	24.2	24.2	
C	46.5	48.6	51	53.9	49.3	52.1	55	57.8	52.5	55.1	72.5	66.2	69.3	72.5	75.6	
D	22.6	26.1	27.5	30.4	24.9	27.5	30.2	33.5	27.5	30.2	33.5	27.5	30.2	33.5	36.9	
E	45.3	52.1	55	60.5	49.8	55	60.5	67	54.9	60.5	67	54.9	60.5	67	73.7	
F	20.2	23.2	24.5	26.9	22.2	24.5	26.9	29.8	24.4	26.9	29.8	24.4	26.9	29.8	32.8	
G	25.1	28.9	30.5	33.6	27.6	30.5	33.6	37.2	30.5	33.6	37.2	30.5	33.6	37.2	40.9	
H	68.3	70.4	70.4	75.9	73.8	75.4	79.3	79.4	75.4	77.2	80.3	85.1	87.9	88.8	89.5	
I	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
J	21.1	21.1	21.1	21.1	24.5	24.5	24.5	24.5	24.5	24.5	24.5	32.8	32.8	32.8	32.8	
K	16.6	18.7	18.7	24.2	18.7	20.3	24.2	24.3	20.3	22.1	25.2	21.5	24.3	25.2	25.9	
L	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.8	8.8	8.8	8.8	
M	21	21	21	21	23	23	23	23	25	25	25	27	27	27	27	
N	50.4	51.0	53.0	53.7	54.3	55.0	55.9	56.9	59.3	60.0	61.0	59.3	60.0	61.0	62.0	



Application Notes

- o The burner can be rotated from the position shown, to fit the space available.
- o The dimensions given are approximate, and can vary with options and mounting variations
- o Control panels, junction boxes, Fuel-Air-Ratio controls not included in dimensions
- o Fuel trains not shown
- o Air compressor and pump for oil firing are mounted separately
- o Fan can be mounted remotely (optional)
- o BHP shown above is approximate, as burner can operate through a wide range of inputs.

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