

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 10-1361	Date Applied For: 10/29/2010	CBL: 114A A001001
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Location of Construction: 96 FALMOUTH ST	Owner Name: UNIVERSITY OF MAINE	Owner Address: 107 MAINE AVE	Phone:
Business Name:	Contractor Name: Mechanical Services, Inc	Contractor Address: 400 Presumpscot St Portland	Phone: (207) 774-1531
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	

Proposed Use: USM - Install #3 Webster HDS 50C To change to natural gas	Proposed Project Description: Install #3 Webster HDS 50C To change to natural gas
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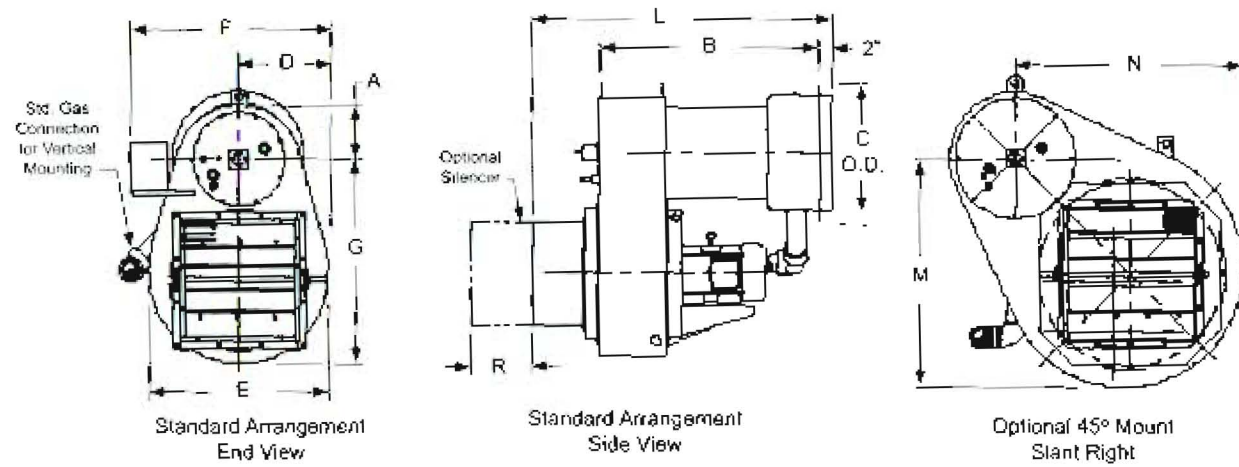
Dept: Zoning	Status: Approved	Reviewer: Ann Machado	Approval Date: 10/29/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
Dept: Building	Status: Approved with Conditions	Reviewer: Jeanine Bourke	Approval Date: 11/18/2010
Note:			Ok to Issue: <input checked="" type="checkbox"/>
1) Equipment must be installed in compliance with the UL listing, the manufacturer's specifications and IMC 2003			
2) The installation must comply with the State of Maine Gas Regulations.			

PERMIT ISSUED

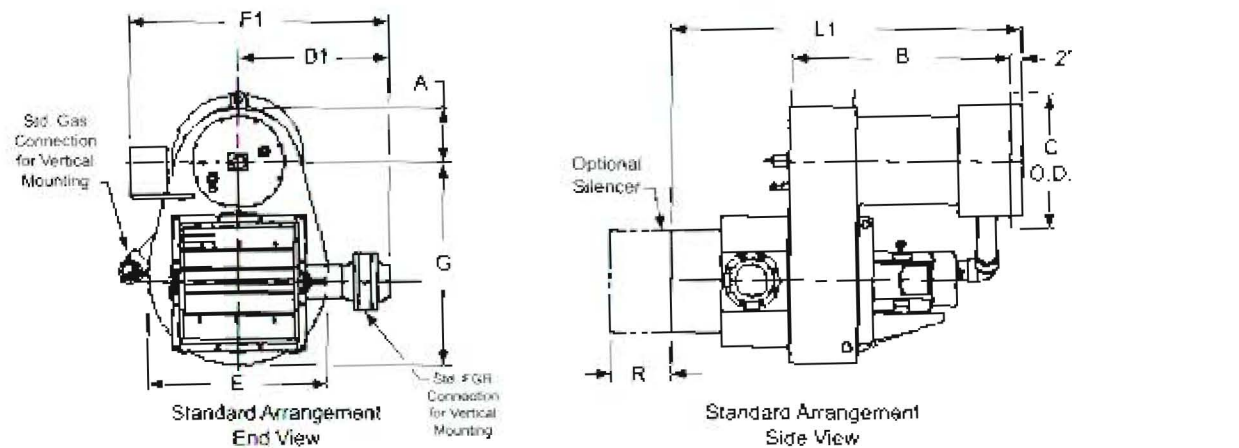
NOV 18 2010

City of Portland

HDS Burners:



HDSX Burners: FGR



Dim	200 - 350 bhp		400 - 800 bhp			900-1200
	HDS5	HDS7	HDS5	HDS7	HDS9	HDS9
HDS Dimensions (inches)						
A	10.0	10.5	10.0	10.5	12.8	12.8
B	36.0	39.6	30.0	42.4	50.4	54.4
C	22.3	22.3	26.0	26.0	26.0	28.0
D	15.0	17.8	15.0	17.8	22.8	22.8
E	30.0	35.5	30.0	35.5	45.6	45.6
F	35.0	36.0	35.0	37.5	43.3	43.4
G	34.9	39.0	34.9	39.0	52.2	52.2
L	52.8	54.4	51.6	57.1	68.9	72.8
M	NA	32.8	NA	32.8	43.1	43.1
N	NA	32.8	NA	32.8	43.1	43.1
HDSX Dimensions (inches) - (different from HDS)						
D1	25.5	29.0	25.5	29	35.6	35.6
F1	47.4	48.5	47.4	51.0	56.1	56.1
L1	62.8	64.4	61.6	67.1	78.1	83.9

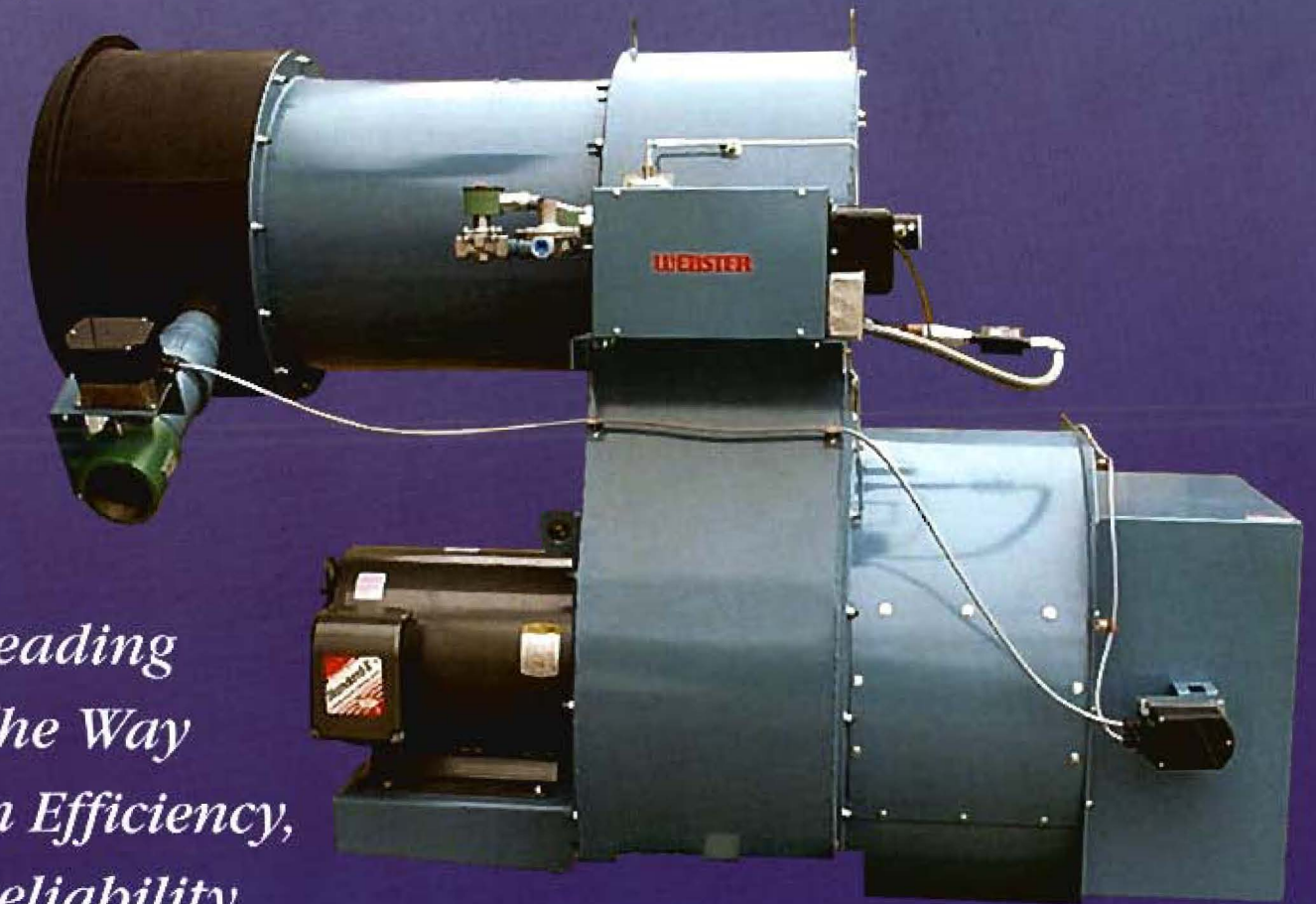
Note: Panel, Oil Piping, Pump and Air Compressor not shown.

Optional Silencer Dimensions			
BHP	200-300 HP	350-600 HP	700-1200-HP
R	6.5	7.6	12.0

WEBSTER™

HDS SERIES BURNERS

200 to 1,200 BHP
 Scotch Marine Firetube
 High Turndown / Low Emissions



*Leading
 The Way
 in Efficiency,
 Reliability
 & Safety*

Patent Pending
 UL/cUL Approved

The Leader in Combustion Innovation



WEBSTER™
 ENGINEERING & MANUFACTURING CO., LLC

619 Industrial Road - Winfield, Kansas 67156

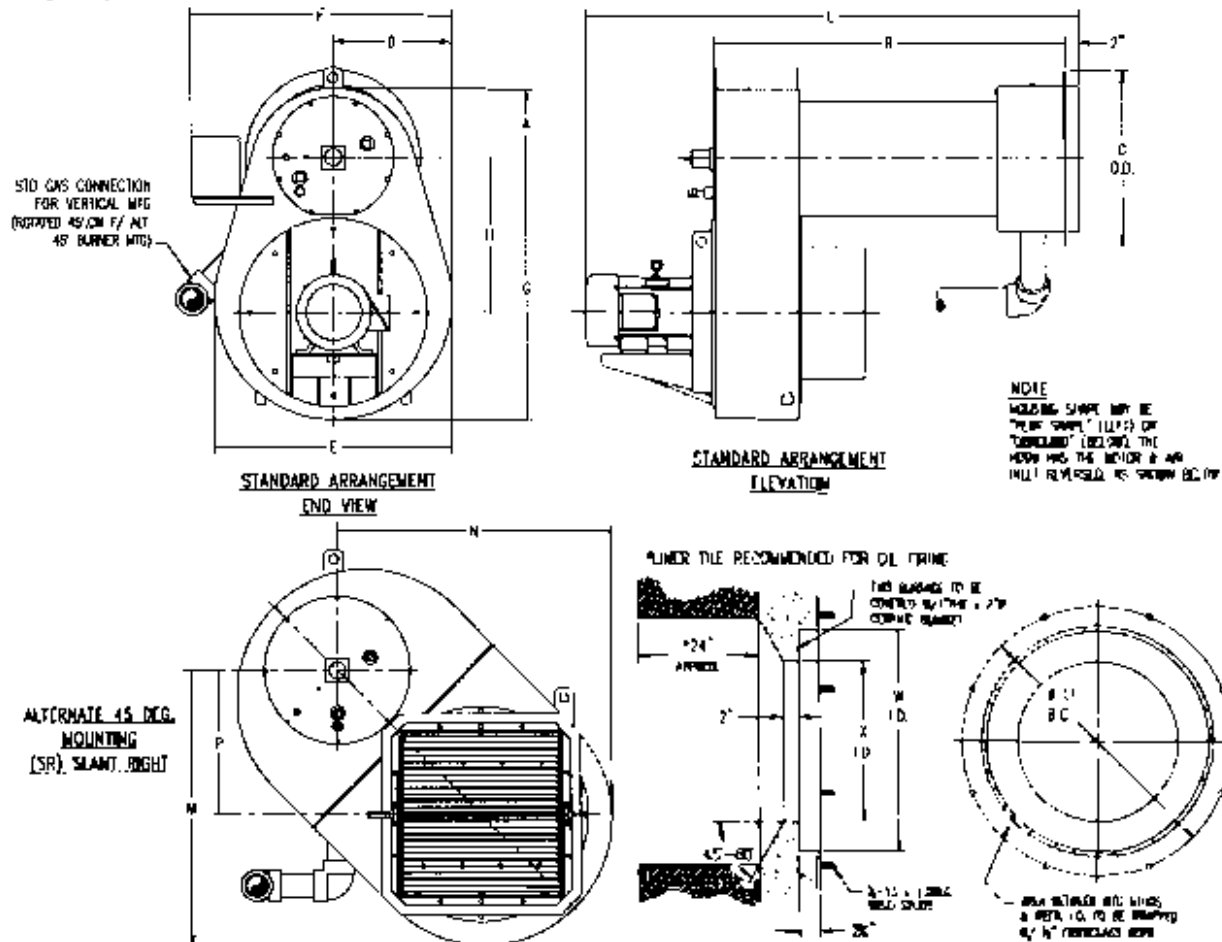
Phone 1-620-221-7464 · FAX 1-620-221-9447

email: sales@webster-engineering.com

See Our Web Page: www.webster-engineering.com

Represented by:

HDS BURNER



DIM.	200-350 BHP			400-800 BHP		
	HDS5	HDS7	HDS9	HDS6	HDS7	HDS9
A	10.00	10.50	13.75	10.00	10.50	13.75
B	44.25	52.50	51.00	50.25	52.50	51.00
C	22.25	22.25	22.25	26.00	29.00	26.00
D	13.50	17.75	19.75	13.50	17.75	19.75
E	29.00	35.50	39.50	29.00	35.50	39.50
F	29.00	21.25	39.50	29.00	21.25	39.50
G	33.75	39.00	51.75	33.75	39.00	51.75
H	21.75	23.00	32.00	21.75	23.00	32.00
L	63.00	66.50	62.50	69.00	73.80	62.50
M		32.75	42.50		32.75	42.50
N		32.75	42.50		32.75	42.50
O		N/A	N/A		N/A	N/A
P		16.25	22.25		16.25	22.25

Refractory Dimensions

DIM.	250-300 BHP	400-800 BHP
U	23.25	27.00
W	16.66	22.12
X	12.00	16.00

DIMENSION and RATINGS for HDS Burner



Model HDS Burner For Scotch Marine Firetube Boilers

Application Details

- o Natural gas and #2 oil standard fuels
- o Heavy oils, propane and diesel optional fuels
- o Pressure atomized oil standard to 400 BHP
- o Air atomized oil standard over 400 BHP
- o Optional plant air or steam atomizing
- o Air compressor provided on air atomizing
- o Trim heater standard on heavy oil
- o Available silencer (adds 12" to HDSX9 length)
- o Linkaged full modulation standard
- o Optional fuel cams
- o (Optional parallel positioning linkageless)

Boiler Horsepower

	200	250	300	350	400	500	600	700	750	800	1000
Rated Capacity MBTU/hr (1)	8371	10464	12557	14650	16743	20928	25114	29299	31392	33485	41856
Burner Firing Head ID	12	12	12	12	16	16	16	16	16	16	20
Nat gas cfm (2)	8371	10464	12557	14650	16743	20928	25114	29299	31392	33485	41856
Gas manifold pressure	4.7	7.4	10.5	14.2	11	17.5	25	34	39	44	37
#2 oil gph (3)	59.8	74.7	89.7	104.6	119.6	149.5	179.4	209.3	224.2	239.2	299.0
Press atomizing oil pump HP (4)	1.50	1.00	1.00	1.50	1.50	0.5	0.5	0.5	0.75	0.75	0.75
Optional air atom pump HP (5)	0.33	0.33	0.33	0.33	0.5	7.5	7.5	7.5	7.5	7.5	10
Air compressor HP (6)	5.5	5.5	5.5	5.5	32	35	38	41	42	43	48
Minimum Furnace ID	26	27	29	31	32	35	38	41	42	43	48
Max heat release BTU/cuft (7)	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000	185,000

Net Available

BURNER SIZE SELECTION - BASED ON FURNACE PRESSURE AND REQUIRED BOILER HP

Burner Model (1)	200	250	300	350	400	500	600	700	750	800	1000
for 1" Furnace Press	HDS5-50	HDS5-50	HDS5-75	HDS3-190	HDS5-100	HDS5-150	HDS7-200	HDS7-300	HDS7-200	HDS7-300	HDS9-500
for 3" Furnace Press	HDS5-50	HDS5-50	HDS5-75	HDS7-190	HDS5-190	HDS5-190	HDS7-200	HDS7-200	HDS7-250	HDS7-300	HDS9-750
for 5" Furnace Press	HDS5-50	HDS5-75	HDS5-75	HDS7-200	HDS5-190	HDS7-200	HDS7-200	HDS9-500	HDS7-300	HDS9-400	HDS9-750

Notes:

- (1) Based on 80% boiler efficiency. Higher efficiency will require lower inputs.
- (2) Based on natural gas with 1000 BTU/scf
- (3) Based on #2 oil of 140 KBTU/gal
- (4) Remote pump standard for pressure atomizing return flow oil firing to 400 hp
- (5) Oil pump (remove) for air atomizing oil firing is optional.
- (6) Heat release volume is furnace ID between front and rear tube sheets
- (7) The final three digits of the model number state motor hp (HDS7-300 is 30 hp).
- (8) Air compressor standard on air atomizing burners



CITY OF PORTLAND, MAINE
Department of Building Inspections

Original Receipt

_____ 10-29-2010 _____

Received from Mechanical Services

Location of Work 76 Furber

Cost of Construction \$ _____ Building Fee: _____

Permit Fee \$ _____ Site Fee: _____

Certificate of Occupancy Fee: _____

Total: 14250

Building (IL) _____ Plumbing (I5) _____ Electrical (I2) _____ Site Plan (U2) _____

Other _____

CBL: 114-A A011

Check #: 4587 Total Collected \$ 14250

**No work is to be started until permit issued.
Please keep original receipt for your records.**

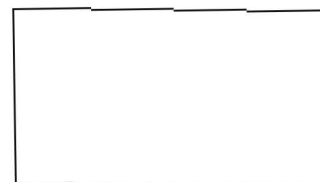
Taken by: [Signature]

WHITE - Applicant's Copy
YELLOW - Office Copy
PINK - Permit Copy



FILL IN AND SIGN WITH INK

APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT



To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL U.S.M. CENTRAL HEAT Use of Building CENTRAL HEAT Date 10-17-10
 Name and address of owner of appliance U.S.M. PORTLAND, 96 FALMOUTH ST. PORTLAND MAINE
 Installer's name and address MECHANICAL SERVICES INC, 400 PRESUMPSCOT ST, PORTLAND 04103 Telephone 774-1531

Location of appliance:

- Basement Floor
 Attic Roof

Type of Fuel:

- Gas Oil Solid

Appliance Name: #3 WEBSTER HDS50-C

U.L. Approved Yes No WE ARE ADDING NATURAL GAS AS A FUEL

Will appliance be installed in accordance with the manufacture's installation instructions? Yes No

IF NO Explain: _____

The Type of License of Installer:

- Master Plumber # _____
 Solid Fuel # _____
 Oil # MS 2000/782
 Gas # PNT 2372
 Other _____

Type of Chimney:

- Masonry Lined
 Factory built _____
 Metal FREE STANDING EXHAUSTO
 Factory Built U.L. Listing # RSU400-PLX3
 Direct Vent
 Type _____ UL# _____

Type of Fuel Tank

- Oil
 Gas

RECEIVED

Size of Tank _____
SEP 29 2010

Number of Tanks _____

Dept. of Building Inspections
City of Portland Maine

Distance from Tank to Center of Flame _____ feet.

Cost of Work: \$ 122,463.00

Permit Fee: \$ 1,250.00

Approved

Fire: _____
 Ele.: _____
 Bldg.: _____

Approved with Conditions

- See attached letter or requirement

Signature of Installer

Mark S. McGill

Inspector's Signature

MARK S. MCGILL

Date Approved