



De Dietrich

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GTE 500A

Four-Pass Pressurized
Eutectic Cast Iron Boilers
for Most Hot Water Central Heating Applications
From 3753 MBH to 6206 MBH Input

De Dietrich
T H E R M I Q U E



ULC Approved

Applications



Central heating



Domestic hot water
production through
independent heat exchanger

Fuel



Oil



Natural Gas
Propane Gas

Maximum Working Pressure: 68 psi

Maximum Safe Temperature: 250° F

Operating Range: 105° - 220° F

1. Introduction

The GTE 500 Series is a high efficiency, large net output, low operating temperature, pressurized eutectic cast iron sectional boiler. These boilers are specifically designed for oil, gas, and gas/oil combination firing.

KEY FEATURES:

FOUR PASS DESIGN with a large combustion chamber and horizontal flue passes with fins. The heat transfer is enhanced by the fins and cast iron turbulators.

THIS BODY DESIGN ASSURES:

High combustion efficiency that varies from 85.2% for natural/propane gas to 87.6% for oil

Low noise level

Smaller footprint

High thermal efficiency heat transfer

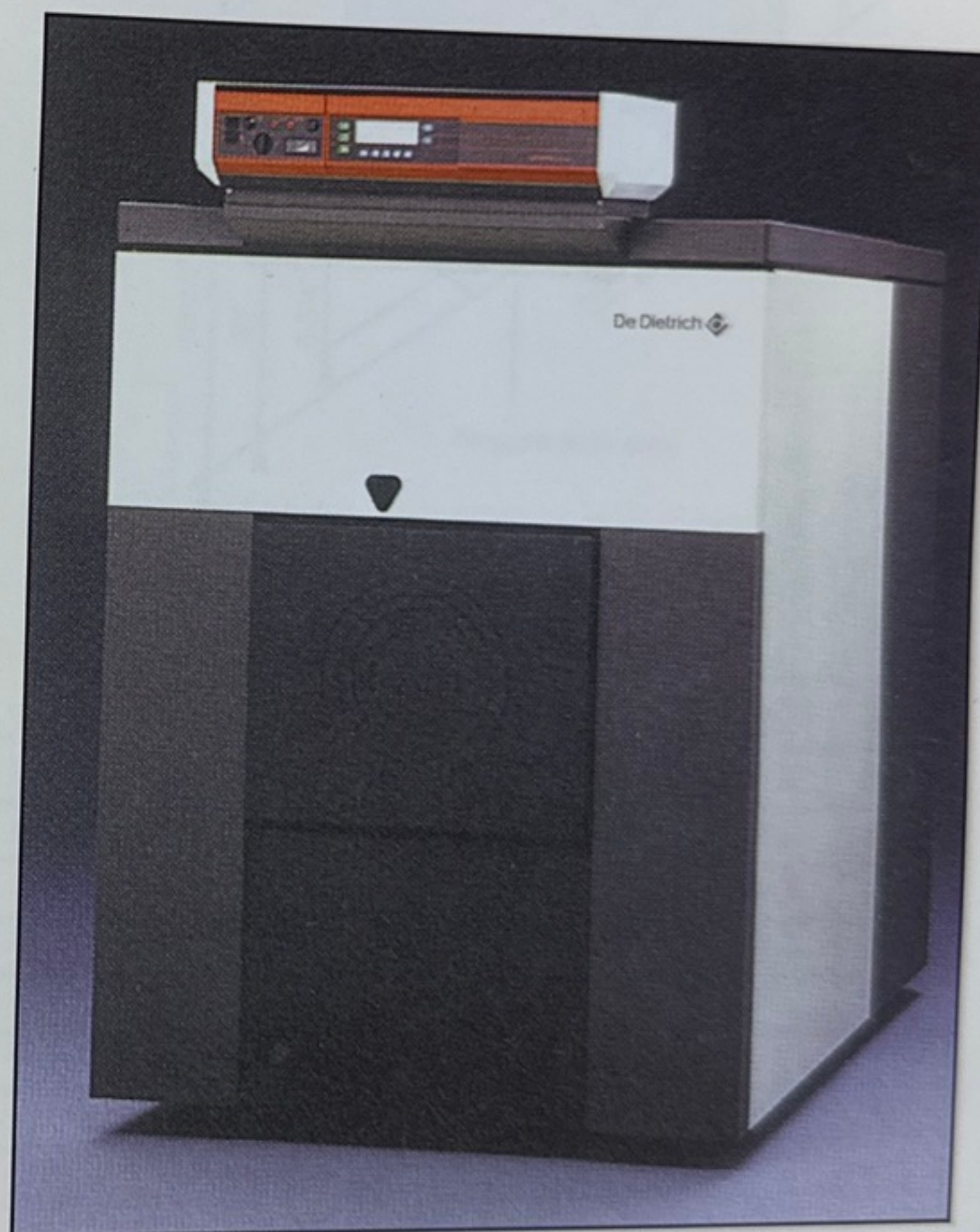
Underframe for easy field erecting

HINGED BURNER AND CLEANING DOORS (right or left handed burner mounting door; two for flue access and one for burner mounting).

EUTECTIC CAST IRON BOILER BODY allows exceptional resistance to temperature variations and thermal stress. The unit is lightweight for easy transport.

LOW MODULATED TEMPERATURE down to 105° F with BAS control reset.

REINFORCED FIBERGLASS WOOL INSULATION (4" thick) and double insulation of the boiler front allows reduced stand-by consumption and high annual thermal efficiency.



GTE 500A

STANDARD EQUIPMENT

- Burner Mounting Plate
- ASME Relief Valve
- Built-In High and Low Limit
- Combination Pressure-Temperature Gauge
- Manual Reset Limit
- Probe Type Low Water Cut-Off
- Aquastat

OPTIONAL EQUIPMENT

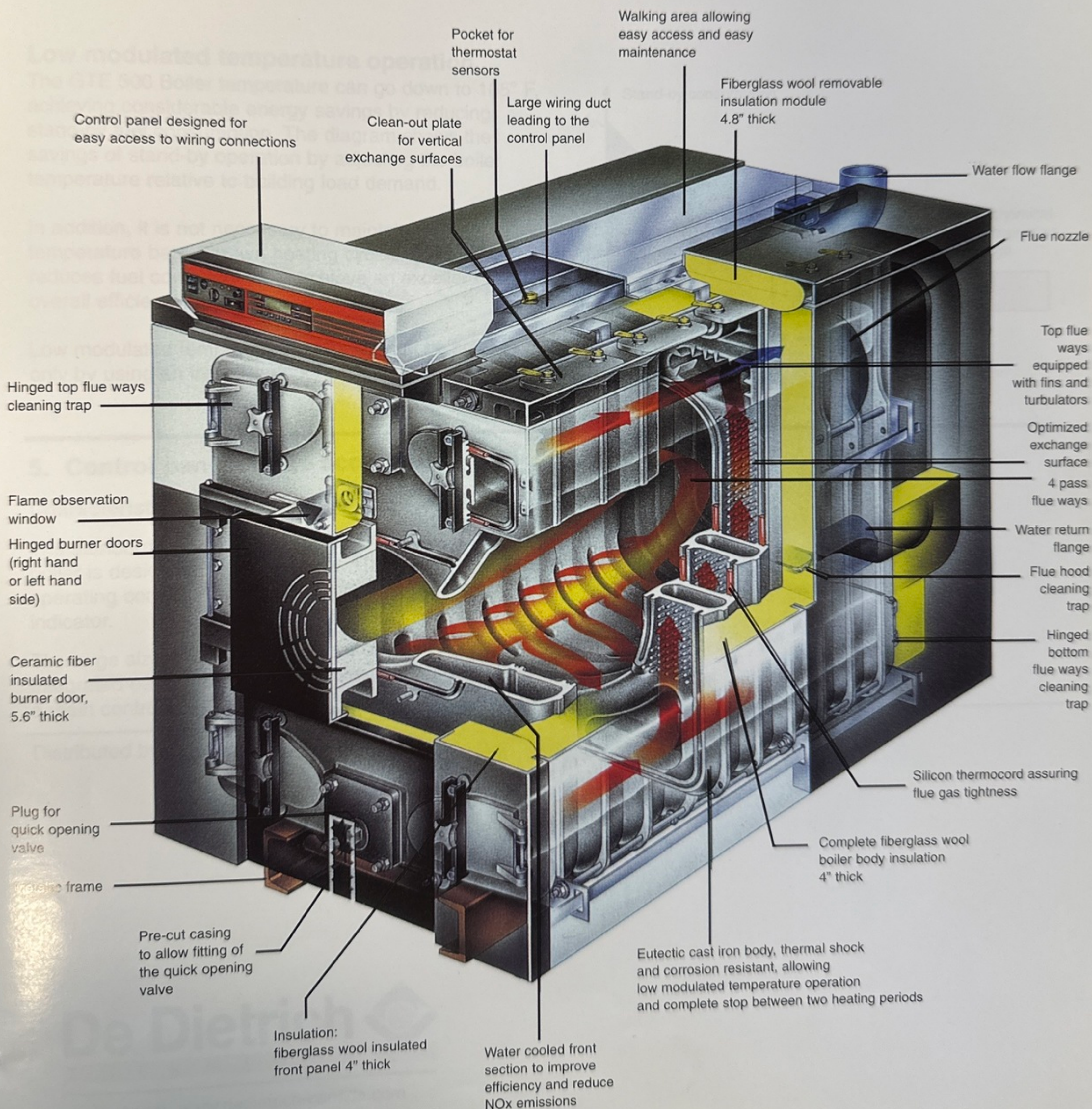
- Supply Manifold with Immersion Wells

3. GTE 500A

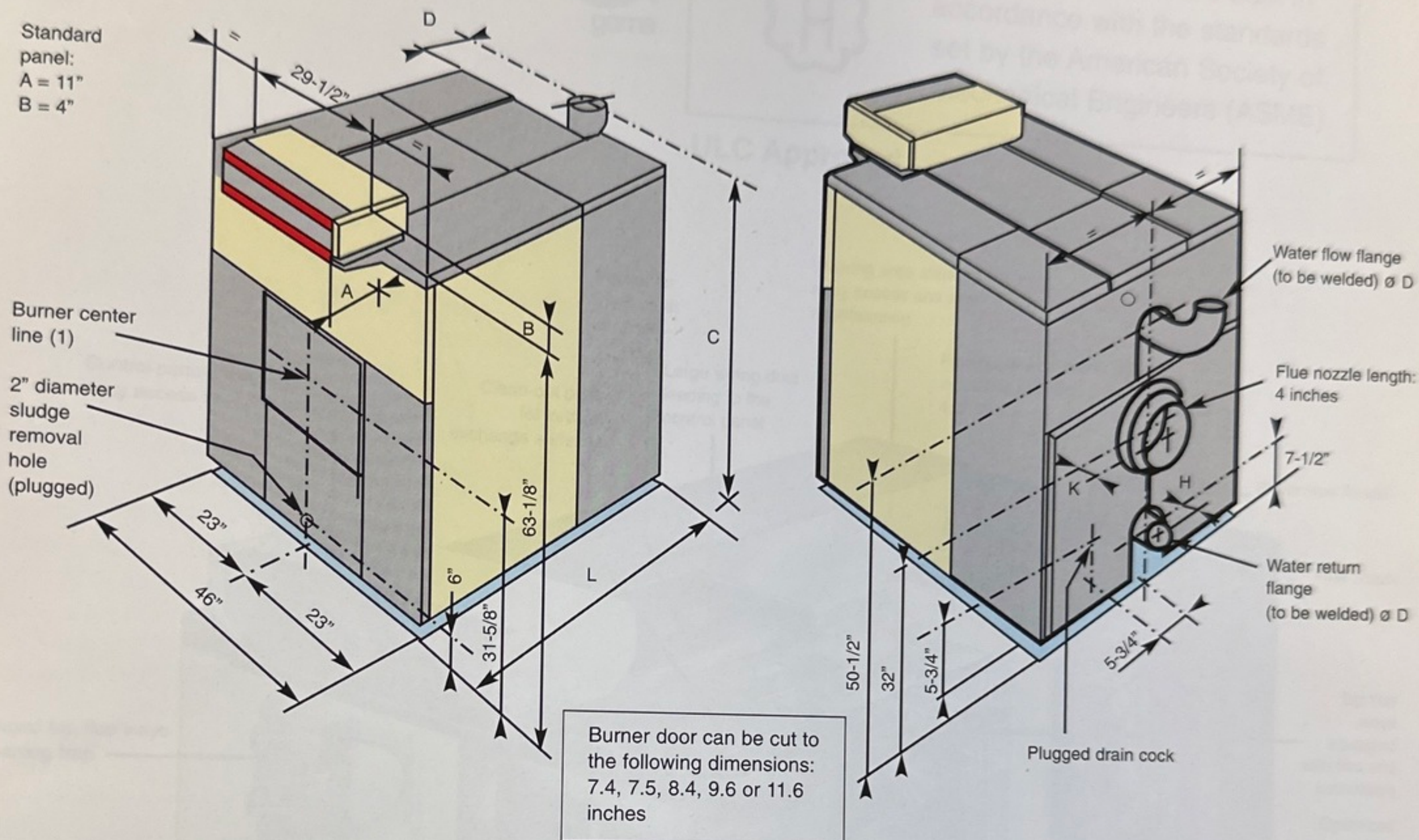


De Dietrich boilers are built in accordance with the standards set by the American Society of Mechanical Engineers (ASME).

ULC Approved



2. Boiler Dimensions and Ratings



ULC listed ANSI-Z21.13-2000 CSA 4.9-2000 CSA-B140 7.2-1967 gas/oil fired low pressure hot water boiler standard

Range and Technical Data: GTE 515 516 517 518 519 520 521 522 523 524 525												
Boiler Output Gas/Oil (MBH)	**	3209	3418	3628	3838	4048	4257	4467	4677	4886	5097	5306
Boiler Input Gas (MBH)	**	3753	3998	4243	4489	4734	4979	5225	5470	5715	5961	6206
Boiler Input Oil (GPH)	**	26.0	27.5	29.5	31.0	33.0	34.5	36.0	38.0	39.5	41.5	43.0
Boiler Thermal Eff. (Gas) %	(1)	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2
Flue Diameter	***	16"	16"	16"	16"	16"	16"	16"	18"	18"	18"	18"
C (inches)		59.25	59.25	59.25	59.25	59.25	59.25	59.25	59.25	59.25	59.25	59.25
D (inches)		17.5	17.5	18.5	18.5	19.5	17.5	17.5	18.5	18.5	19.5	19.5
Supply & Return NPT (inches)		5	5	5	5	5	5	5	5	5	5	5
H* (inches)		1.22	1.18	.35	.31	.51	1.42	1.38	.55	.51	.19	.35
K* (inches)		.75	.71	.12	.16	.98	.94	.91	.08	.04	.79	.83
L* (inches)		88.39	92.72	96.26	100.59	104.13	112.01	116.34	119.88	124.21	127.76	132.09
Water Content in Gallons		183.09	193.13	203.17	213.21	223.25	239.10	249.14	259.18	269.22	279.26	289.30
Water Resistance for 20°ΔT	*	.50	.20	.22	.25	.28	.31	.34	.38	.41	.45	.49
Combustion:	Diameter (inches)	24.17	24.17	24.17	24.17	24.17	24.17	24.17	24.17	24.17	24.17	24.17
	Height (inches)	29.17	29.17	29.17	29.17	29.17	29.17	29.17	29.17	29.17	29.17	29.17
	Length (inches)	62.76	67.13	71.50	75.87	80.24	86.18	90.55	94.92	99.29	103.66	108.03
	Volume Ft ³	21.54	22.95	24.72	26.13	27.54	29.66	31.07	32.49	33.90	35.31	37.08
Number of Sections		15	16	17	18	19	20	21	22	23	24	25
Dry Weight (Pounds)		7,163	7,544	7,939	8,333	8,706	9,218	9,601	10,077	10,379	10,781	11,160

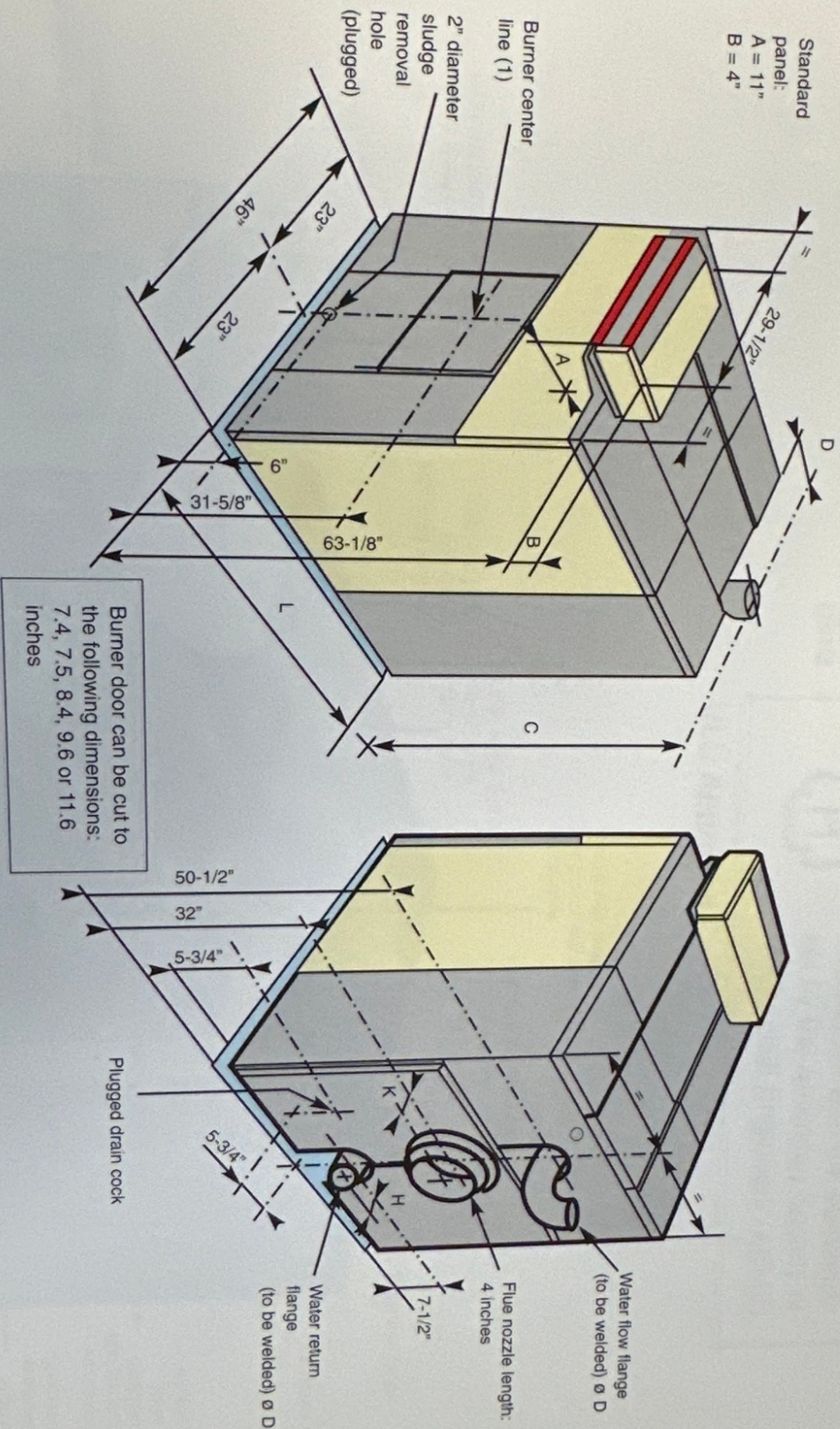
* Feet of Water

** Fuel Oil @ 13% CO₂, Natural Gas @ 10% CO₂

*** This does not indicate chimney size

(1) Below 122t/50c condensate may occur at these efficiency levels. Select proper venting materials Category II

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4. GT 500A Performance

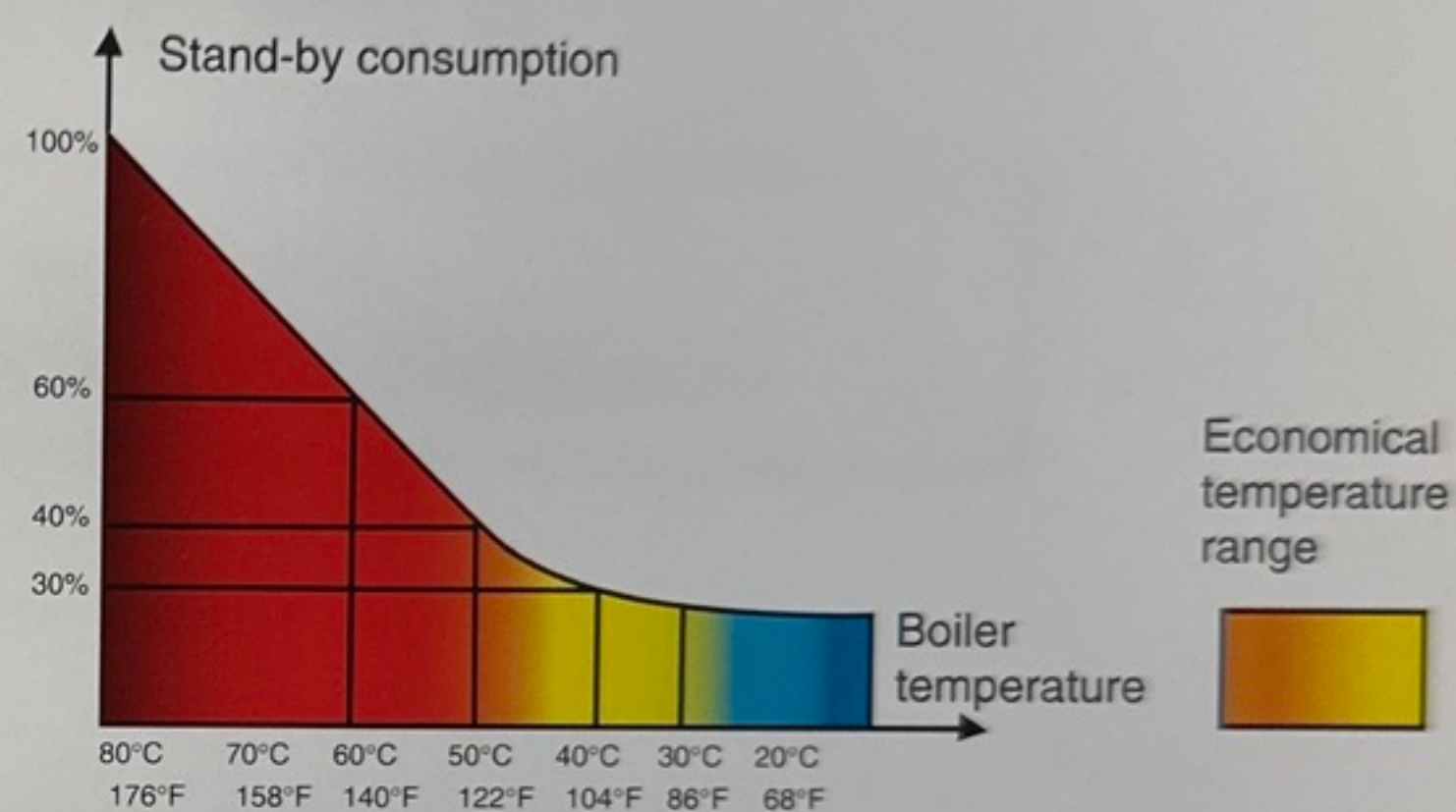
GT 500 Series	515	516	517	518	519	520	521	522	523	524	525
Loss on Stoppage	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06

Low modulated temperature operation

The GTE 500 Boiler temperature can go down to 105° F, achieving considerable energy savings by reducing stand-by fuel consumption. The diagram shows the savings of stand-by operation by adjusting the boiler temperature relative to building load demand.

In addition, it is not necessary to maintain boiler temperature between two heating cycles, which further reduces fuel consumption to achieve an excellent annual overall efficiency.

Low modulated temperature operation can be achieved only by using an indoor/outdoor reset.



5. Control panel choice according to the installation

Characteristics of the standard control panel

The standard control panel supplied with the GTE 500 Series boiler is designed for heating only. The panel is supplied with an operating control, high limit, manual reset high limit and temperature indicator.

The large size of the GTE 500 control panel permits it to be integrated easily with third party energy management systems and a main control panel.

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