

POWERED BURNER MODELS LARGE-VOLUME POWERED BURNER FEATURES

The large-volume powered burner line includes the largest, most powerful A. O. Smith tank-type gas water heaters. With tank capacities up to 600 gallons and firing capacities up to 2.5 million BTUs per hour, these large-volume high-output water heaters are capable of producing over 3,000 gallons (GPH) of hot water per hour at an 80°F rise. These heavy-duty industrial-grade water heaters are designed and built to handle the most demanding hot water heating requirements of large commercial and industrial users.

POWERED GAS BURNER

- Suitable for natural or propane gas
- Electronic flame safeguard control with intermittent spark ignition
- Main and pilot automatic gas valves with gas pressure regulators
- Diaphragm air switch for proof of blower operation
- Flame inspection port

FULLY AUTOMATIC CONTROLS WITH SAFETY SHUTOFF

- High-temperature limit control (manual reset)
- CSA certified and ASME rated T&P relief valve
- Hinged-door control compartment for easy access
- Upper and lower thermostats for accurate temperature control
- Standard control is for 120°-180°F water service
- Factory-installed low-water cutoff

BLUE DIAMOND® GLASS LINING

- Proprietary A. O. Smith glass lining provides superior coverage and unmatched durability
- Equipped with multiple anode rods for additional corrosion protection

HEAVY-DUTY JACKET

- Heavy-gauge steel jacket with baked powder-coated finish for durability
- Two 3" handhole inspection openings

MAXIMUM HYDROSTATIC WORKING PRESSURE

- All models: 160 psi

PROFESSIONAL START-UP SERVICE

- **FACTORY START-UP INCLUDED**
 - Required for activating warranty and assuring maximum operating performance. Contact your local sales representatives or Authorized Start-Up Agent to arrange a FREE certified start-up.
- Assures proper installation and adjusts burner for clean combustion and most efficient operation

CODES AND STANDARDS

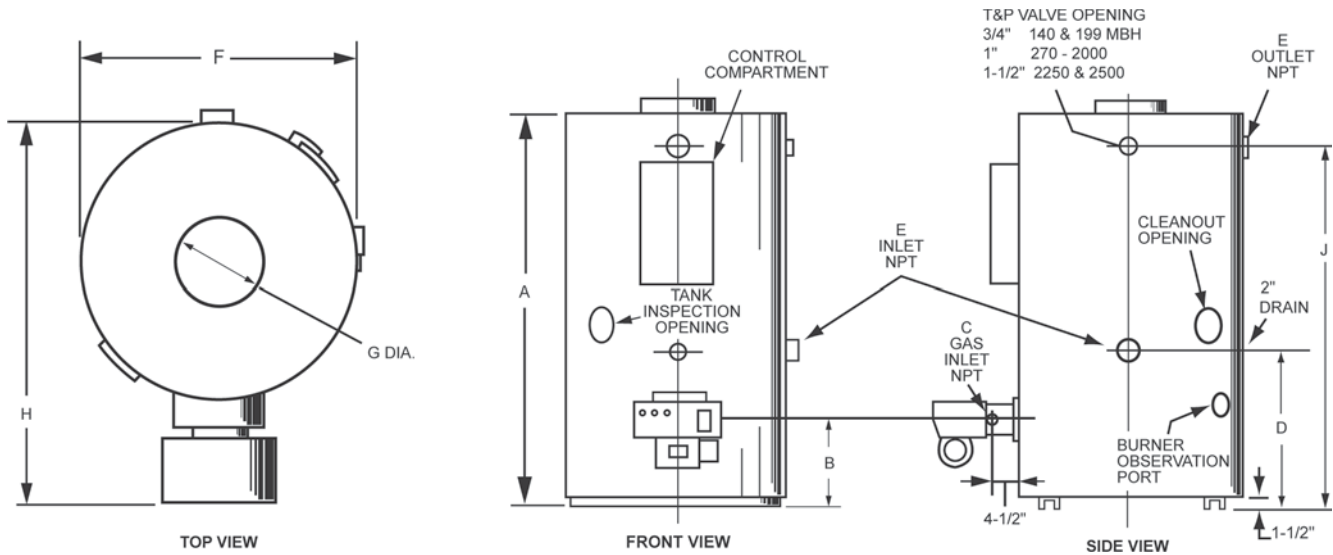
- Design-certified by UL (Underwriters Laboratories), according to ANSI Z21.10.3-4.3 CSA Standards
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1

OPTIONAL LOW NO_x BURNERS

- Low NO_x burners from 400,000 BTUH up to 2 million BTUH
- Complies with Texas Low NO_x and Air Quality Management Districts with requirements of less than 30 ng/j

MODELS BTP 150-140 through BTP 600-2000





DIMENSIONS AND SHIPPING WEIGHTS

MODEL NUMBER	INCHES OR CM	DIMENSIONS									SHIPPING WEIGHT WITH BURNER
		A	B	C	D	E	F	G	H	J	
BTP-150-140	INCHES	82 1/4	13 1/2	1/2	29 1/4	1 1/4	36 1/2	5	47†	73 1/2	1292 Lbs.
	CM	208.9	34.3	1.3	74.3	3.2	92.7	12.7	119.4	186.7	586 Kg
BTP-150-199	INCHES	82 1/4	13 1/2	1/2	29 1/4	1 1/4	36 1/2	6	47†	73 1/2	1292 Lbs.
	CM	208.9	34.3	1.3	74.3	3.2	92.7	15.2	119.4	186.7	586 Kg
BTP-150-255	INCHES	82 1/4	13 1/2	1/2	29 1/4	1 1/4	36 1/2	6	47†	73 1/2	1292 Lbs.
	CM	208.9	34.3	1.3	74.3	3.2	92.7	15.2	119.4	186.7	586 Kg
BTP-150-270	INCHES	82 1/4	13 1/2	1	29 1/4	1 1/4	36 1/2	6	57 1/2	73 1/2	1397 Lbs.
	CM	208.9	34.3	2.5	74.3	3.2	92.7	15.2	146.1	186.7	633.7 Kg
BTP-150-400	INCHES	82 1/4	13 1/2	1	29 1/4	1 1/4	36 1/2	7	57 1/2	73 1/2	1397 Lbs.
	CM	208.9	34.3	2.5	74.3	3.2	92.7	17.8	146.1	186.7	633.7 Kg
BTP-150-540	INCHES	82 1/4	13 1/2	1	29 1/4	1 1/4	36 1/2	8	57 1/2	73 1/2	1505 Lbs.
	CM	208.9	34.3	2.5	74.3	3.2	92.7	20.3	146.1	186.7	682.7 Kg
BTP-150-720	INCHES	82 1/4	13 1/2	1 1/4	29 1/4	1 1/4	36 1/2	10	57 1/2	73 1/2	1510 Lbs.
	CM	208.9	34.3	3.2	74.3	3.2	92.7	25.4	146.1	186.7	684.9 Kg
BTP-200-300	INCHES	84 1/2	17 1/2	1	34 3/4	1 1/2	44 3/4	6	66 1/2	74 3/4	2098 Lbs.
	CM	214.6	44.5	2.5	88.3	3.8	113.7	15.2	168.9	189.9	951.6 Kg
BTP-200-600	INCHES	84 1/2	17 1/2	1	34 3/4	1 1/2	44 3/4	8	66 1/2	74 3/4	2098 Lbs.
	CM	214.6	44.5	2.5	88.3	3.8	113.7	20.3	168.9	189.9	951.6 Kg
BTP-200-800	INCHES	84 1/2	17 1/2	1 1/4	34 3/4	1 1/2	44 3/4	10	66 1/2	74 3/4	2103 Lbs.
	CM	214.6	44.5	3.2	88.3	3.8	113.7	25.4	168.9	189.9	953.9 Kg
BTP-200-1000	INCHES	84 1/2	17 1/2	1 1/4	34 3/4	1 1/2	44 3/4	10	66 1/2	74 3/4	2103 Lbs.
	CM	214.6	44.5	3.2	88.3	3.8	113.7	25.4	168.9	189.9	953.9 Kg
BTP-200-1250	INCHES	84 3/4	13 1/2	1 1/4	29 1/2	1 1/2	44 3/4	12	66 1/2	75	2467 Lbs.
	CM	215.3	34.3	3.2	74.9	3.8	113.7	30.5	168.9	190.5	1119 Kg
BTP-200-1500	INCHES	84 3/4	13 1/2	1 1/2	29 1/2	1 1/2	44 3/4	12	81 1/2	75	2757 Lbs.
	CM	215.3	34.3	3.8	74.9	3.8	113.7	30.5	207	190.5	1250.6 Kg

†Indicates model equipped with "Wayne" burner.

All other "H" dimensions are for models equipped with "Power Flame" Power Burner.



Commercial Gas Water Heaters

DIMENSIONS AND SHIPPING WEIGHTS (continued)

MODEL NUMBER	INCHES OR CM	DIMENSIONS									SHIPPING WEIGHT WITH BURNER
		A	B	C	D	E	F	G	H	J	
BTP-300-300	Inches	92	14	1	29 1/4	1 1/2	44 3/4	6	66 1/2	81 1/2	2150 Lbs.
	CM	233.7	35.6	2.5	74.3	3.8	113.7	15.2	168.9	207	975.2 Kg
BTP-300-600	Inches	92	14	1	29 1/4	1 1/2	44 3/4	8	66 1/2	81 1/2	2150 Lbs.
	CM	233.7	35.6	2.5	74.3	3.8	113.7	20.3	168.9	207	975.2 Kg
BTP-300-800	Inches	92	14	1 1/4	29 1/4	1 1/2	44 3/4	10	66 1/2	81 1/2	2308 Lbs.
	CM	233.7	35.6	3.2	74.3	3.8	113.7	25.4	168.9	207	1046.9 Kg
BTP-300-1000	Inches	92	14	1 1/4	29 1/4	1 1/2	44 3/4	10	66 1/2	81 1/2	2308 Lbs.
	CM	233.7	35.6	3.2	74.3	3.8	113.7	25.4	168.9	207	1046.9 Kg
BTP-300-1250	Inches	92	14	1 1/4	29 1/4	1 1/2	44 3/4	12	66 1/2	81 1/2	2584 Lbs.
	CM	233.7	35.6	3.2	74.3	3.8	113.7	30.5	168.9	207	1172.1 Kg
BTP-300-1500	Inches	92	14	1 1/2	29 1/4	1 1/2	44 3/4	12	81 1/2	81 1/2	2774 Lbs.
	CM	233.7	35.6	3.8	74.3	3.8	113.7	30.5	207	207	1258.3 Kg
BTP-400-600	Inches	89	17 1/2	1	33 1/4	2	55	8	76 1/2	78 3/4	3207 Lbs.
	CM	226.1	44.5	2.5	84.5	5.1	139.7	20.3	194.3	200	1454.7 Kg
BTP-400-800	Inches	89	17 1/2	1 1/4	33 1/4	2	55	10	76 1/2	78 3/4	3212 Lbs.
	CM	226.1	44.5	3.2	84.5	5.1	139.7	25.4	194.3	200	1456.9 Kg
BTP-400-1000	Inches	89	17 1/2	1 1/4	33 1/4	2	55	10	76 1/2	78 3/4	3212 Lbs.
	CM	226.1	44.5	3.2	84.5	5.1	139.7	25.4	194.3	200	1456.9 Kg
BTP-400-1250	Inches	89	17 1/2	1 1/4	33 1/4	2	55	12	76 1/2	78 3/4	3212 Lbs.
	CM	226.1	44.5	3.2	84.5	5.1	139.7	30.5	194.3	200	1456.9 Kg
BTP-400-1500	Inches	89	17 1/2	1 1/2	33 1/4	2	55	12	91 1/2	78 3/4	3402 Lbs.
	CM	226.1	44.5	3.8	84.5	5.1	139.7	30.5	232.4	200	1543.1 Kg
BTP-400-1750	Inches	89	17 1/2	2	33 1/4	2	55	14	91 1/2	78 3/4	3528 Lbs.
	CM	226.1	44.5	5.1	84.5	5.1	139.7	35.6	232.4	200	1600.2 Kg
BTP-400-2000	Inches	96 1/4	17 1/2	2	33 1/4	2	55	14	91 1/2	86 1/2	3669 Lbs.
	CM	244.5	44.5	5.1	84.5	5.1	139.7	35.6	232.4	219.7	1664.2 Kg
BTP-500-2250	Inches	108	17 1/2	2	33 1/4	2	55	16	91 1/2	98 1/2	4277 Lbs.
	CM	274.3	44.5	5.1	84.5	5.1	139.7	40.6	232.4	250.2	1940 Kg
BTP-500-2500	Inches	108	17 1/2	2	33 1/4	2	55	16	91 1/2	98 1/2	4419 Lbs.
	CM	274.3	44.5	5.1	84.5	5.1	139.7	40.6	232.4	250.2	2004.4 Kg
BTP-600-720	Inches	114	17 1/2	1 1/4	33 1/4	2	55	10	76 1/2	105	3667 Lbs.
	CM	289.6	44.5	3.2	84.5	5.1	139.7	25.4	194.3	266.7	1663.3 Kg
BTP-600-1000	Inches	114	17 1/2	1 1/4	33 1/4	2	55	10	76 1/2	105	3667 Lbs.
	CM	289.6	44.5	3.2	84.5	5.1	139.7	25.4	194.3	266.7	1663.3 Kg
BTP-600-1250	Inches	114	17 1/2	1 1/4	33 1/4	2	55	12	76 1/2	105	3667 Lbs.
	CM	289.6	44.5	3.2	84.5	5.1	139.7	30.5	194.3	266.7	1663.3 Kg
BTP-600-1500	Inches	114	17 1/2	1 1/2	33 1/4	2	55	12	91 1/2	105	3837 Lbs.
	CM	289.6	44.5	3.8	84.5	5.1	139.7	30.5	232.4	266.7	1740.4 Kg
BTP-600-1750	Inches	114	17 1/2	2	33 1/4	2	55	14	91 1/2	105	3837 Lbs.
	CM	289.6	44.5	5.1	84.5	5.1	139.7	35.6	232.4	266.7	1740.4 Kg
BTP-600-2000	Inches	114	17 1/2	2	33 1/4	2	55	14	91 1/2	105	3837 Lbs.
	CM	289.6	44.5	5.1	84.5	5.1	139.7	35.6	232.4	266.7	1740.4 Kg
BTP-600-2250	Inches	114	17 1/2	2	33 1/4	2	55	16	91 1/2	105	4477 Lbs.
	CM	289.6	44.5	5.1	84.5	5.1	139.7	40.6	232.4	266.7	2030.7 Kg
BTP-600-2500	Inches	114	17 1/2	2	33 1/4	2	55	16	91 1/2	105	4619 Lbs.
	CM	289.6	44.5	5.1	84.5	5.1	139.7	40.6	232.4	266.7	2030.7 Kg

†Indicates model equipped with "Wayne" burner.

All other "H" dimensions are for models equipped with "Power Flame" Power Burner.

Certified Minimum Installation Clearances to Combustibles:

Front: 18 inches

Back: 0 inches

Sides: 0 inches

Top: 5 inches

A clearance of 24 inches is recommended from serviceable parts such as relief valve, power burner, drain valve and anodes (anodes are located on side above cold water inlet).

Minimum gas supply pressure: 7 inches W.C.

Maximum gas supply pressure: 13 inches W.C.

BTP models are Category I appliances (Fan Assisted) and require a negative draft. These units should only be commonly vented with other Category I negative draft appliances per the latest addition of the National Fuel Gas Code. An approved/listed Type "B" venting material is recommended. A negative draft of -0.02" to -0.07" is required in the vent.



Commercial Gas Water Heaters

CAPACITY, INPUT, RECOVERY AND MOTOR HP

MODEL NUMBER	BTU INPUT PER HOUR	GALLON OR LITRES	TANK SIZE	GPH OR LPH	RECOVERY - GALLONS OR LITRES PER HOUR AT DEGREE RISE*			MOTOR HP 120 Volts 60 HZ 1
					80°F	100°F	140°F	
					27°C	56°C	78°C	
BTP-150-140	140,000	U.S. Gallons	150	GPH	170	136	97	1/7 HP 2.5 AMPS
		Litres	568	LPH	643.5	514.8	367.1	
BTP-150-199	199,000	U.S. Gallons	150	GPH	241	193	138	
		Litres	568	LPH	912.3	730.5	522.3	
BTP-150-255	255,000	U.S. Gallons	150	GPH	359	247	176	1/4 HP 4.6 AMPS
		Litres	568	LPH	1359	93	666.2	
BTP-150-270	270,000	U.S. Gallons	150	GPH	327	262	187	
		Litres	568	LPH	1237.8	991.7	707.8	
BTP-150-400	400,000	U.S. Gallons	150	GPH	485	387	277	1/3 HP 5.5 AMPS
		Litres	568	LPH	1835.9	1464.8	1048.4	
BTP-150-540	540,000	U.S. Gallons	150	GPH	654	524	374	
		Litres	568	LPH	2475.7	1983.3	1415.6	
BTP-150-720	720,000	U.S. Gallons	150	GPH	873	698	499	1/4 HP 4.6 AMPS
		Litres	568	LPH	3304.7	2641.9	1888.7	
BTP-200-300	300,000	U.S. Gallons	200	GPH	364	291	208	
		Litres	757	LPH	1377.9	1101.4	787.3	
BTP-200-600	600,000	U.S. Gallons	200	GPH	727	582	416	1/3 HP 5.5 AMPS
		Litres	757	LPH	2752	2202.9	1574.6	
BTP-200-800	800,000	U.S. Gallons	200	GPH	970	776	554	
		Litres	757	LPH	3671.8	2937.2	2096.9	
BTP-200-1000	1,000,000	U.S. Gallons	200	GPH	1212	970	693	1/2 HP 7.4 AMPS
		Litres	757	LPH	4587.9	3671.5	2623	
BTP-200-1250	1,250,000	U.S. Gallons	200	GPH	1515	1212	866	
		Litres	757	LPH	5734.9	4587.4	3277.8	
BTP-200-1500	1,500,000	U.S. Gallons	200	GPH	1818	1455	1039	1/4 HP 4.6 AMPS
		Litres	757	LPH	6881.9	5507.2	3932.6	
BTP-300-300	300,000	U.S. Gallons	300	GPH	364	291	208	
		Litres	1135	LPH	1377.9	1101.4	787.3	
BTP-300-600	600,000	U.S. Gallons	300	GPH	727	581	416	1/3 HP 5.5 AMPS
		Litres	1135	LPH	2752	2202.9	1574.6	
BTP-300-800	800,000	U.S. Gallons	300	GPH	970	776	554	
		Litres	1135	LPH	3671.8	2937.2	2096.9	
BTP-300-1000	1,000,000	U.S. Gallons	300	GPH	1212	970	693	1/2 HP 7.4 AMPS
		Litres	1135	LPH	4587.9	3671.5	2623	
BTP-300-1250	1,250,000	U.S. Gallons	300	GPH	1515	1212	866	
		Litres	1135	LPH	5734.9	4587.4	3277.8	
BTP-300-1500	1,500,000	U.S. Gallons	300	GPH	1818	1455	1039	1/4 HP 4.6 AMPS
		Litres	1135	LPH	6881.9	5507.2	3932.6	
BTP-400-600	600,000	U.S. Gallons	400	GPH	727	582	416	
		Litres	1514	LPH	2752	2202.9	1574.6	
BTP-400-800	800,000	U.S. Gallons	400	GPH	970	776	554	1/3 HP 5.5 AMPS
		Litres	1514	LPH	3671.8	2937.2	2096.9	
BTP-400-1000	1,000,000	U.S. Gallons	400	GPH	1212	970	693	
		Litres	1514	LPH	4587.9	3671.5	2623	
BTP-400-1250	1,250,000	U.S. Gallons	400	GPH	1515	1212	866	1/2 HP 7.4 AMPS
		Litres	1514	LPH	5734.9	4587.4	3277.8	
BTP-400-1500	1,500,000	U.S. Gallons	400	GPH	1818	1455	1039	
		Litres	1514	LPH	6874.3	5507.2	3932.6	
BTP-400-1750	1,750,000	U.S. Gallons	400	GPH	2121	1697	1212	3/4 HP 10.2 AMPS
		Litres	514	LPH	8028.9	6423.1	4587.4	
BTP-400-2000	2,000,000	U.S. Gallons	400	GPH	2424	1939	1385	
		Litres	1514	LPH	9175.8	7339.1	5242.2	
BTP-500-2250	2,250,000	U.S. Gallons	500	GPH	2727	2182	1558	1/3 HP 5.5 AMPS
		Litres	1892	LPH	10,322.8	8258.9	5897	
BTP-500-2500	2,500,000	U.S. Gallons	500	GPH	3030	2424	1732	
		Litres	1892	LPH	11,469.8	9174.8	6555.6	
BTP-600-720	720,000	U.S. Gallons	600	GPH	873	698	499	1/2 HP 7.4 AMPS
		Litres	2271	LPH	3304.7	2641.9	1888.7	
BTP-600-1000	1,000,000	U.S. Gallons	600	GPH	1212	970	693	
		Litres	2271	LPH	4587.9	3671.5	2623	
BTP-600-1250	1,250,000	U.S. Gallons	600	GPH	1515	1212	866	3/4 HP 10.2 AMPS
		Litres	2271	LPH	5734.9	4587.4	3277.8	
BTP-600-1500	1,500,000	U.S. Gallons	600	GPH	1818	1455	1039	
		Litres	2271	LPH	6874.3	5507.2	3932.6	
BTP-600-1750	1,750,000	U.S. Gallons	600	GPH	2121	1697	1212	3/4 HP 10.2 AMPS
		Litres	2271	LPH	8028.9	6423.1	4587.4	
BTP-600-2000	2,000,000	U.S. Gallons	600	GPH	2424	1939	1385	
		Litres	2271	LPH	9175.8	7339.1	5242.2	
BTP-600-2250	2,250,000	U.S. Gallons	600	GPH	2727	2182	1558	3/4 HP 10.2 AMPS
		Litres	2271	LPH	10,322.8	8258.9	5897	
BTP-600-2500	2,500,000	U.S. Gallons	600	GPH	3030	2424	1732	
		Litres	2271	LPH	11,469.8	9174.8	6555.6	

* Recovery ratings are based on 80% thermal efficiency.



HIGH-VOLUME POWERED BURNER

THREE-YEAR LIMITED TANK WARRANTY

- **FACTORY START-UP REQUIRED** - Included for activating warranty and assuring maximum operating performance. Contact your local sales representative or Authorized Start-Up Agent to arrange a FREE certified start-up.
- For complete information, consult written warranty or contact A. O. Smith

OTHER BTP FEATURES:

TWO LAYERS OF HIGH-TEMPERATURE CERAMIC FIBER INSULATION IN COMBUSTION CHAMBER
FLAME INSPECTION PORT OPENING
MOUNTED ON RUGGED CHANNEL IRON SKIDS
NATIONAL BOARD STAMPING
ASME-RATED TEMPERATURE AND PRESSURE GAUGE
LOW-WATER CUTOFF
CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE
BAROMETRIC DRAFT REGULATOR
120-VOLT CONTROL CIRCUIT
DRAIN VALVE
180°F WATER SERVICE THERMOSTATS

BTP OPTIONS:

- **FACTORY MUTUAL APPROVED CONTROL ARRANGEMENT**
- **HIGH OR LOW WATER PRESSURE CONTROL**
- **CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE**
- **MODULAR GRAPHIC BURNER SYSTEMS MANAGEMENT ON HEATERS WITH 270,000 BTU INPUT AND OVER**
- **LOW-NOX BURNER**

OPTIONAL LOW NO _x BURNERS		BTPN/NMPR MOTOR HP
Available Low NO _x Burner BTU Input Sizes (Nat. Gas Only)	BTUH	1/4 HP
	400,000	
	540,000	1/4 HP
	600,000	
	720,000	
	800,000	1/2 HP
	1,000,000	
	1,250,000	
	1,500,000	1 HP
	1,750,000	
	2,000,000	

Add N to Model Number for low NO_x Burner.
Example: BTPN-150-720

HIGH-VOLUME POWERED BURNER**SUGGESTED SPECIFICATION**

Gas water heater(s) shall be A. O. Smith model BTP _____, with a storage capacity of _____ gallons, an input rating of _____ BTU/hr and a recovery rating of _____ gallons per hour (gph) at a temperature rise of 100°F. Maximum gas supply pressure to heater(s) shall be 13" W.C., and ASME working pressure shall be 160 psi.

The tank shall be glasslined with alkaline borosilicate composition and fused to the steel by firing at 1600°F, and shall be insulated with fiberglass insulation. The heater will also be equipped with multiple anodes for cathodic protection. Heater(s) shall be equipped with _____ NPT water inlet and outlet openings, and two 3" handhole cleanouts. The heater(s) shall be constructed in accordance with ASME code, and the entire unit listed by Underwriters Laboratories.

Heater(s) shall be equipped with a powered gas burner with electronic flame safeguard, intermittent electronic ignition, main and pilot automatic gas valves, redundant solenoid gas valve, gas pressure regulator, diaphragm switch for proof of boiler operation, and flame inspection port.

Controls and other components shall include manual-reset high-temperature limit control, upper and lower thermostats, combination temperature and pressure gauge, low-water cutoff, CSA certified and ASME rated T&P relief valve, drain valve and draft regulator. Control compartment door shall be hinged for easy access.

The heater(s) shall meet the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1. The tank shall have a 3-year limited warranty against failure as outlined in the written warranty. Professional start-up service shall be included and is required to activate warranty.

Professional Start-Up Included - required for activating warranty and assuring maximum operating performance.