

Heavy Commercial Oil and Dual Fuel Water Heaters

COF Oil Fired - COBT Gas/Oil Fired

Storage Capacity
600 to 2,200 Litres

Range of Output
28,000 Kcal/hr to 500,000 Kcal/hr



Meets or exceeds current standard of ASHRAE/IES-90.1-1999.

FEATURES

UL	Entire unit UL listed.
GLASS-LINED TANK	Exclusive corrosion protection with glass-lining on all interior surfaces. Multiple anodes provide cathodic protection.
ASME CONSTRUCTION STANDARD	11 Bar design pressure on all models.
FULLY AUTOMATIC CONTROLS WITH SAFETY SHUTOFF	High temperature limit control (manual reset). ASME rated temperature and pressure relief valve. Hinged door control compartment with key lock for ease of access. Two thermostats, upper and lower, for accurate temperature control.
JACKET & INSULATION	Heavy gauge steel jacket with baked powder coat finish. Insulated with high-density foam insulation that meets or exceed all required standards.

PROFESSIONAL START-UP SERVICE FURNISHED TO ASSURE MOST EFFICIENT COMBUSTION AND SAFE INITIAL START-UP.

OTHER FEATURES

- Two layers of high temperature ceramic fiber insulation in combustion chamber • Flame inspection port opening
- Mounted on rugged channel iron skids • ASME Stamping • Combination temperature and pressure gauge • Low water cutoff • Barometric draft regulator • 120 volt control circuit • Drain valve • Removable lifting lugs • Two 75 mm handhole inspection openings.

COF — Oil Fired Models :

- 3450 RPM Motor • Multi-annular fuel containment combustor head • Available for firing fuels like diesel • Oil ignition transformer • Integral 2-stage fuel unit • Squirrel cage blower • Oil safety valve.

COBT — Combination Gas/Oil:

- Natural Gas & Diesel Oil • 3450 RPM Motor • Multi-annular fuel containment combustor head • Gas electric pilot and gas ignition transformer • Pilot and main pressure regulators • Air safety switch • Manual fuel selector switch • Integral 2-stage fuel unit • Squirrel cage blower.

OPTIONS

- Factory Mutual approved control arrangement
- Industrial Risk Insurance (Formerly FIA)
- 5 year or 10 year limited warranty
- High or low water pressure switch
- 82°C water service thermostats
- A.G.A. rated T & P valve
- Modular graphic burner systems management on heaters with 68,044 Kcal input and over.

ASME



COBT

Models*	Actual Storage Capacity Litres	Output Kcal/Hour	Firing Rate LPH	Recovery Capacity 45°C Rise [LPH]	Recovery Capacity 56°C Rise [LPH]	Recovery Capacity 78°C Rise [LPH]	COBT Motor HP 1ø 120V	COF Motor HP 1ø 120V
COF/COBT-150-140	617	28,226	3.2	643	515	367	1/3 HP	1/7 HP
COF/COBT-150-199	617	40,121	4.6	912	731	522	5.5 Amp	4.4 Amp
COF/COBT-150-255	617	51,411	5.9	1,170	935	666	1/3 HP	
COF/COBT-150-270	617	54,435	6.2	1,238	992	708	5.5 Amp	
COF/COBT-150-400	572	80,645	9.3	1,836	1,465	1,048		1/4 HP
COF/COBT-150-540	572	108,871	12.5	2,475	1,983	1,416		4.6 Amp
COF/COBT-150-720	549	145,161	16.7	3,304	2,642	1,575		
COF/COBT-200-300	837	60,484	6.9	1,378	1,101	787		
COF/COBT-200-600	837	120,968	13.9	2,752	2,203	1,575		
COF/COBT-200-800	837	161,290	18.6	3,671	2,937	2,097		1/3 HP
COF/COBT-200-1000	761	201,613	23.2	4,587	3,671	2,623		5.5 Amp
COF/COBT-200-1250	761	252,016	29.0	5,734	4,587	3,278		
COF/COBT-200-1500	761	302,419	34.8	6,881	5,507	3,933	3/4 HP	3/4 HP
							10.2 Amp	
COF/COBT-300-300	1136	60,484	6.9	1,378	1,101	787		
COF/COBT-300-600	1136	120,968	13.9	2,752	2,203	1,575		
COF/COBT-300-800	1136	161,290	18.6	3,671	2,937	2,097		1/3 HP
COF/COBT-300-1000	1136	201,613	23.2	4,587	3,671	2,623		5.5 Amp
COF/COBT-300-1250	1136	252,016	29.0	5,734	4,587	3,278		
COF/COBT-300-1500	1136	302,419	34.8	6,881	5,507	3,933	3/4 HP	3/4 HP
							10.2 Amp	
COF/COBT-400-600	1556	120,968	13.9	2,752	2,203	1,575	1/3 HP	1/4 HP
							4.6 Amp	
COF/COBT-400-800	1556	161,290	18.6	3,671	2,937	2,097	5.5 Amp	
COF/COBT-400-1000	1556	201,613	23.2	4,587	3,671	2,623		1/3 HP
COF/COBT-400-1250	1556	252,016	29.0	5,734	4,587	3,278		5.5 Amp
COF/COBT-400-1500	1503	302,419	34.8	6,874	5,507	3,933	3/4 HP	3/4 HP
COF/COBT-400-1750	1503	352,823	40.6	8,028	6,423	4,587	10.2 Amp	10.2 Amp
COF/COBT-400-2000	1503	403,226	46.5	9,175	7,339	5,242		
COF/COBT-500-2250	1874	453,629	52.3	10,322	8,259	5,897	1 HP	1 HP
COF/COBT-500-2500	1874	504,032	58.1	11,469	9,175	6,556	16 Amp	16 Amp
COF/COBT-600-720	2249	145,161	16.7	3,304	2,642	1,889	1/3 HP	1/4 HP
COF/COBT-600-1000	2249	201,613	23.2	4,587	3,671	2,623	5.5 Amp	4.6 Amp
COF/COBT-600-1250	2249	252,016	29.0	5,734	4,587	3,278		1/3 HP
							5.5 Amp	
COF/COBT-600-1500	2249	302,419	34.8	6,874	5,507	3,933	3/4 HP	3/4 HP
COF/COBT-600-1750	2249	352,823	40.6	8,028	6,423	4,587	3/4 HP	3/4 HP
COF/COBT-600-2000	2249	403,226	46.5	9,175	7,339	5,242	10.2 Amp	10.2 Amp
COF/COBT-600-2250	2177	453,629	52.3	10,322	8,259	5,897	1 HP	1 HP

Recovery ratings are based on 85% thermal efficiency on NCV of HSD (10,200 Kcal per kg)

*Specify whether COF (Oil Fired only) or COBT (Combination Oil/Natural Gas) Model.

Example: COF-150-140 or COBT-150-140

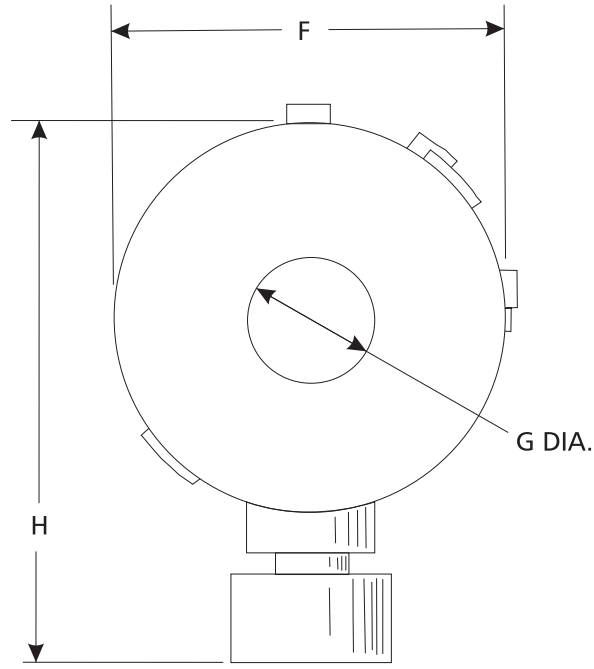
For high altitude areas above 600 m, please advise altitude when ordering.

Certified Minimum Installation Clearances to Combustibles:

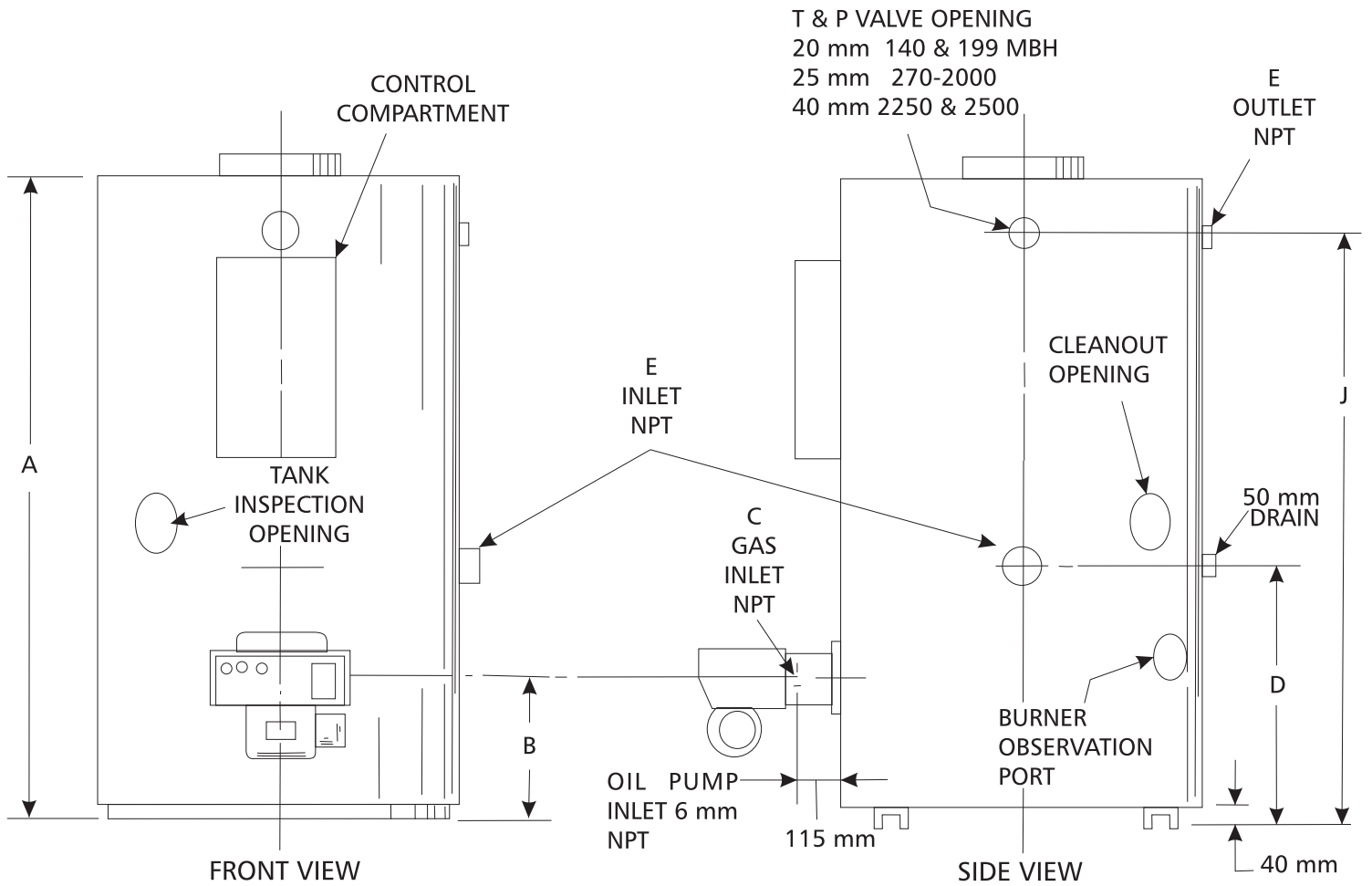
Front:	460 mm
Back:	0 mm
Sides:	0 mm
Top:	125 mm

A clearance of 600 mm should be maintained from serviceable parts such as relief valve, power burner, drain valve and anodes (anodes are located on side above cold water inlet).

COF/COBT 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 edition of the National Fuel Gas Code. An approved/listed Type "B" venting material is recommended. A negative draft of -0.5 to -1.8 mm is required in the vent.



TOP VIEW



FRONT VIEW

SIDE VIEW

COBT

Models*	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Ship. Wt. w/Burner [Kgs]
COF/COBT-150-140	2,121	356	13	705	32	927	127	1,194	1,854	581
COF/COBT-150-199	2,121	356	13	705	32	927	152	1,194	1,854	581
COF/COBT-150-255	2,121	356	13	705	32	927	152	1,194	1,854	581
COF/COBT-150-270	2,121	356	25	705	32	927	152	1,461	1,854	629
COF/COBT-150-400	2,121	356	25	705	32	927	178	1,461	1,854	629
COF/COBT-150-540	2,121	356	25	705	32	927	203	1,461	1,854	677
COF/COBT-150-720	2,121	356	32	197	32	927	254	1,461	1,854	680
COF/COBT-200-300	2,121	381	25	826	38	1,137	152	1,689	1,854	944
COF/COBT-200-600	2,121	381	25	826	38	1,137	203	1,689	1,854	944
COF/COBT-200-800	2,121	381	32	826	38	1,137	254	1,689	1,854	946
COF/COBT-200-1000	2,121	381	32	826	38	1,137	254	1,689	1,854	946
COF/COBT-200-1250	2,121	381	32	826	38	1,137	305	1,689	1,854	1110
COF/COBT-200-1500	2,121	381	38	826	38	1,137	305	2,070	1,854	1241
COF/COBT-300-300	2,324	356	25	673	38	1,137	152	1,689	2,108	968
COF/COBT-300-600	2,324	356	25	673	38	1,137	203	1,689	2,108	968
COF/COBT-300-800	2,324	356	32	673	38	1,137	254	1,689	2,108	1039
COF/COBT-300-1000	2,324	356	32	673	38	1,137	254	1,689	2,108	1039
COF/COBT-300-1250	2,324	356	32	673	38	1,137	305	1,689	2,108	1163
COF/COBT-300-1500	2,324	356	38	673	38	1,137	305	2,070	2,108	1248
COF/COBT-400-600	2,324	381	25	826	51	1,397	203	1,943	2,057	1443
COF/COBT-400-800	2,324	381	32	826	51	1,397	254	1,943	2,057	1445
COF/COBT-400-1000	2,324	381	32	826	51	1,397	254	1,943	2,057	1445
COF/COBT-400-1250	2,324	381	32	826	51	1,397	305	1,943	2,057	1445
COF/COBT-400-1500	2,324	381	38	826	51	1,397	305	2,324	2,057	1531
COF/COBT-400-1750	2,324	381	51	826	51	1,397	356	2,324	2,057	1588
COF/COBT-400-2000	2,527	381	51	826	51	1,397	356	2,324	2,261	1651
COF/COBT-500-2250	2,794	381	51	826	51	1,397	406	2,324	2,540	1925
COF/COBT-500-2500	2,794	381	51	826	51	1,397	406	2,324	2,540	1989
COF/COBT-600-720	3,023	381	32	826	51	1,397	254	1,943	2,769	1650
COF/COBT-600-1000	3,023	381	32	826	51	1,397	254	1,943	2,769	1650
COF/COBT-600-1250	3,023	381	32	826	51	1,397	305	1,943	2,769	1650
COF/COBT-600-1500	3,023	381	38	826	51	1,397	305	2,324	2,769	1727
COF/COBT-600-1750	3,023	381	51	826	51	1,397	356	2,324	2,769	1727
COF/COBT-600-2000	3,023	381	51	826	51	1,397	356	2,324	2,769	1727
COF/COBT-600-2250	3,023	381	51	826	51	1,397	406	2,324	2,769	2015
COF/COBT-600-2500	3,023	381	51	826	51	1,397	406	2,324	2,769	2079

SUGGESTED SPECIFICATION

Water heater(s) shall be Model _____ as manufactured by the A.O. SMITH or an approved equal. Heater(s) shall have a minimum oil firing rate of _____ litres per hour, an output rating of _____ Kcal/Hr. The heater(s) shall have a recovery rate of _____ LPH at a 38°C rise and a storage capacity of _____ litres. The 11 bar design pressure tank shall be glass-lined with an alkaline borosilicate composition and fused to the steel by firing at 870°C. The heater(s) shall be equipped with _____ NPT water inlet and outlet openings, (2) 75mm handhole cleanouts. The heater(s) shall be ASME and the entire unit listed by Underwriters Laboratories. Controls shall include: high temperature limit control (manual reset), upper and lower thermostats, combination temperature and pressure gauge, low water cutoff, ASME rated temperature and pressure relief valve, and barometric draft regulator. Control compartment door shall be hinged for easy access and include cam locks for security. The heater(s) shall be equipped with multiple anodes for cathodic protection. The heater(s) shall be insulated with glass fiber insulation and meet or exceed current standard of ASHRAE 90.1-1999 for standby loss and recovery efficiency. The heater(s) shall include a drain valve and flame observation port. The jacket shall be baked powder coat finish. Heater(s) vessel shall have a 3, 5 or 10 year limited warranty against failure as outlined in the written warranty.

The COF models shall have a UL listed burner with two-stage pump, oil safety valve, electronic flame safeguard, intermittent ignition and diaphragm air switch for proof of flame operation.

The COBT models shall include a dual fuel burner with two-stage oil pump, oil safety valve, electronic flame safeguard, intermittent ignition, diaphragm air switch, main and pilot automatic gas valves, gas pressure regulator and manual crossover switch.

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