



BURNER SPEC & DATA SHEET

SERIES TC™ **POWER FLAME MODEL “C” BURNER** **FOR LIGHT OIL, GAS, AND GAS/LIGHT OIL**

STANDARD EQUIPMENT

Oil Burners:

1. On-off operation on Model TC-04 boiler.
2. Low-high-off operation on Models TC-05 through TC-18 boilers.
3. Burner mounted control panel with on/off control switch, power-on and main fuel lights and terminal strip.
4. 15 second valve-on delay/30 second burner motor off delay – Models TC-04 through TC-09 boilers.
5. 30 second pre-purge/15 second post-purge – Models TC-10 through TC-18.
6. Direct spark ignition.

Gas Burners:

1. On-off operation on Model TC-04 and TC-05 boilers.
2. Low-high-off operation on Models TC-06 through TC-18 boilers.
3. Burner mounted control panel with on/off control switch, power-on and main fuel lights and terminal strip.
4. 30 second pre-purge/0 second post-purge – Model TC-04 and TC-05 boilers.
5. 90 second pre-purge/0 second post-purge – Model TC-06 through TC-08 boilers.
6. 90 second pre-purge/15 second post-purge – Model TC-09 through TC-18 boilers.
7. Spark ignited gas pilot.
8. Air flow safety switch.

Combination Gas/Oil Burners:

1. On-off operation on Model TC-04 boilers.
2. On-off (Gas) and reduced air low fire start (RALFS) on oil – Model TC-05 boilers.
3. Low-high-off operation on Models TC-06 through TC-18 boilers.
4. Burner mounted control panel with on/off control switch, power-on and main fuel lights and terminal strip.
5. 30 second pre-purge/0 second post-purge – TC-04 and TC-05 boilers.
6. 90 second pre-purge/0 second post-purge – TC-06 through TC-09 boilers.
7. 90 second pre-purge/15 second post-purge – TC-10 through TC-18 boilers.
8. Spark ignited gas pilot.
9. Air flow safety switch.
10. Manual fuel changeover switch.

OPTIONAL EQUIPMENT

1. Proven low fire start for low-high-off burner operation.
2. Low-high-off burner operation for boilers with standard on-off operation.
3. Low-high-low and full modulation burner operation for boilers with standard low-high-off or on-off operation.
4. Automatic fuel changeover on combination gas/oil burners.
5. Air flow switch on oil burners.
6. Step-down control circuit transformer and control circuit fuse.
7. Controls to comply with FM, IRI, CSD-1, and other codes. Contact your local Peerless® Representative or Peerless® Boilers for availability.
8. Various combustion controls. Contact your local Peerless® Representative or Peerless® Boilers for availability.
9. Various burner motor voltages: 120/1/60, 230/1/60, 208-230/460/3/60.

POWER FLAME MODEL "C" BURNER FOR OIL, GAS, AND GAS/LIGHT OIL

BOILER MODEL	I=B=R INPUT (1)		OVERFIRE PRESSURE IN. W.C. (2)	STANDARD BURNER MODEL			INITIAL AIR SETTINGS (3) INCHES		
	GAS MBH	OIL GPH		GAS	OIL	GAS/OIL	DIFF.	TOP	BOTTOM
TC-04	1154	8.0	0.34	J30A-12	C1-O	C1-GO-12	1/4	7/8	7/8
TC-05	1491	10.4	0.35	J50A-15	C1-O	C1-GO-12	1/2	1	1
TC-06	1827	12.6	0.36	J50A-15	C2-OA	C2-GO-15	3/8	3/8	3/8
TC-07	2163	15.0	0.37	J50A-15	C2-OA	C2-GO-15	3/8	3/8	3/8
TC-08	2499	17.4	0.38	C2-G-20A	C2-OB	C2-GO-20A	3/8	3/8	3/8
TC-09	2836	19.6	0.39	C2-GO-20B	C2-OB	C2-GO-20B	3/8	3/8	3/8
TC-10	3172	22.0	0.40	C2-GO-20B	C2-OB	C2-GO-20B	1/2	3/8	3/8
TC-11	3508	24.5	0.41	C3-G-20	C3-O	C3-GO-20	5/8	3/8	3/8
TC-12	3844	26.5	0.43	C3-G-25	C3-O	C3-GO-25	5/8	3/8	3/8
TC-13	4180	29.0	0.44	C3-G-25	C3-O	C3-GO-25	5/8	3/8	3/8
TC-14	4517	31.5	0.45	C3-G-25	C3-O	C3-GO-25	5/8	3/8	3/8
TC-15	4583	33.5	0.46	C3-G-25B	C3-OB	C3-GO-25B	1/4	1/4	1/4
TC-16	5189	36.0	0.47	C3-G-25B	C3-OB	C3-GO-25B	5/16	1/4	1/4
TC-17	5525	38.5	0.48	C4-G-25	C4-OA	C4-GO-25	1/2	1/4	1/4
TC-18	5862	40.5	0.49	C4-G-25	C4-OA	C4-GO-25	1/2	1/4	1/4

(1) Based on Commercial Standard Number 2 fuel oil with a heating value of 140,000 BTU/gal. and Natural Gas with a heating value of 1000 BTU/cubic foot and 0.60 specific gravity at a maximum altitude of 2000 feet above mean sea level. Consult the factory for higher altitudes.

(2) With 0.10 inch W.C. at flue outlet and at I=B=R Input.

(3) Start-up settings only. Final settings are to be determined using combustion analysis equipment.

POWER FLAME MODEL "C" BURNER FOR OIL, GAS, AND GAS/LIGHT OIL

BOILER MODEL	STANDARD COMBUSTION CONTROL			3450 RPM MOTOR HP		STANDARD VOLTAGE VOLTS/PHASE/HERTZ
	GAS	OIL	GAS/OIL	GAS	OIL, GAS/OIL	
TC-04	RM7897A	R7184P	RM7897C	1/3	1/2	115/1/60
TC-05	RM7897A	R7184P	RM7897C	1/3	1/2	115/1/60
TC-06	RM7897A	R7184P	RM7897C	1/3	3/4	115/1/60
TC-07	RM7897A	R7184P	RM7897C	1/2	3/4	115/1/60
TC-08	RM7897A	R7184P	RM7897C	3/4	1	230/1/60
TC-09	RM7897C	R7184P	RM7897C	1	1-1/2	230/1/60
TC-10	RM7897C	RM7897A	RM7897C	1	1-1/2	230/1/60
TC-11	RM7897C	RM7897A	RM7897C	1-1/2	2	230/3/60
TC-12	RM7897C	RM7897A	RM7840L	1-1/2	2	230/3/60
TC-13	RM7897C	RM7840L	RM7840L	1-1/2	2	230/3/60
TC-14	RM7897C	RM7840L	RM7840L	1-1/2	2	230/3/60
TC-15	RM7840L	RM7840L	RM7840L	3	3	230/3/60
TC-16	RM7840L	RM7840L	RM7840L	3	3	230/3/60
TC-17	RM7840L	RM7840L	RM7840L	3	5	230/3/60
TC-18	RM7840L	RM7840L	RM7840L	3	5	230/3/60

POWER FLAME MODEL "C" BURNER - BURNER CHARACTERISTICS FOR GAS FIRING

BOILER MODEL	GAS ORIFICE			GAS CONTROL TRAIN			GAS MANIFOLD PRESSURE (IN. W.C.)	GAS TRAIN PRESSURE DROP (IN. W.C.)
	QTY	SIZE INCH	SIDE INCH	SIZE NPS'	INLET PRESSURE (IN. W.C.)			
					MINIMUM	MAXIMUM		
TC-04	30	9/64	7/8	1.25	5.94	14.00	3.9	2.04
TC-05	30	9/64	1	1.25	7.11	14.00	3.3	3.81
TC-06	40	11/64	1-1/4	1.50	6.82	14.00	3.1	3.72
TC-07	40	11/64	None	1.50	8.71	14.00	3.0	5.71
TC-08	40	11/64	None	2.00/1.50	6.34	14.00	4.0	2.34
TC-09	40	#1	1-5/16	2.00/1.50	5.60	14.00	2.6	3.00
TC-10	40	#1	1-5/8	2.00/1.50	7.04	14.00	3.3	3.74
TC-11	50	#10	None	2.00	6.28	14.00	3.4	2.88
TC-12	50	#10	None	2.00	7.37	14.00	3.9	3.47
TC-13	50	#10	None	2.50/2.00	6.80	14.00	3.6	3.20
TC-14	50	#10	None	2.50/2.00	7.90	14.00	4.2	3.70
TC-15	50	9/32	None	2.50/2.00	7.35	14.00	3.0	4.35
TC-16	50	9/32	None	2.50/2.00	8.28	14.00	3.3	4.98
TC-17	50	1/4	None	2.50	6.29	14.00	3.0	3.29
TC-18	50	1/4	None	2.50	7.00	14.00	3.3	3.70

(1) On dual size gas train, first number is the main gas valve, aux. gas valve, and leakage test cock. The second number is the main shutoff cock and gas pressure regulator.

POWER FLAME MODEL "C" BURNER - BURNER CHARACTERISTICS FOR OIL FIRING

BOILER MODEL	OIL NOZZLES - DELAVAN			OIL PRESSURE PSIG		STANDARD FUEL UNIT		
	QTY	SIZE GPH	PATTERN	LOW FIRE	HIGH FIRE	MODEL	MANUFACTURER	GEARSET GPH
TC-04	1	4.5	45B	100-150	300	CV4-RR25	Combu	35
TC-05	1	6.0	80B	100-150	300	BTA-8850	Suntec	29
TC-06	1	7.0	80B	100-150	300	BTA-8851	Suntec	35
TC-07	1	8.5	80B	100-150	300	BTA-8851	Suntec	35
TC-08	1	10.0	80B	100-150	300	BTA-8852	Suntec	42
TC-09	1	11.0	80B	100-150	300	BTA-8852	Suntec	42
TC-10	1	12.0	80B	100-150	300	BTA-8852	Suntec	42
TC-11	1	16.0	VF 80BPS	—	260	BTA-8852	Suntec	42
TC-12	1	16.0	VF 80BPS	—	295	22R322	Webster	105
TC-13	1	18.0	VF 80BPS	—	295	22R322	Webster	105
TC-14	1	20.0	VF 80BPS	—	295	22R322	Webster	105
TC-15	1	35.0	VF 80BPS	—	280	22R623	Webster	135
TC-16	1	37.5	VF 80BPS	—	260	22R623	Webster	135
TC-17	1	40.0	VF 80BPS	—	300	22R623	Webster	135
TC-18	1	45.0	VF 80BPS	—	250	22R623	Webster	135

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BSDS-TC-PFC R2 (10/11-2C)

Printed in U.S.A.

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