



BURNER SPEC & DATA SHEET

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

STANDARD EQUIPMENT

Oil Burners:

1. Lo-Hi-Lo operation on Models TCII-04 through TCII-09 boilers.
2. Modulation operation on Models TCII-10 through TCII-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 TCII-04 through TCII-09 boilers.
5. 30 second pre-purge/15 second post-purge – Models TCII-10 through TCII-18.
6. Direct spark ignition.

Gas Burners:

1. Lo-Hi-Lo operation on Model TCII-04 through TCII-09 boilers.
2. Modulation operation on Models TCII-10 through TCII-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 – Models TCII-04 and TCII-05 boilers.
5. 90 second pre-purge/0 second post-purge – Models TCII-06 through TCII-08 boilers.
6. 90 second pre-purge/15 second post-purge – Models TCII-09 through TCII-18 boilers.
7. Spark ignited gas pilot.
8. Air flow safety switch.

Combination Gas/Oil Burners:

1. Lo-Hi-Lo operation on Models TCII-04 through TCII-09 boilers.
2. Modulation operation on Models TCII-10 through TCII-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 – Models TCII-04 and TCII-05 boilers.
5. 90 second pre-purge/0 second post-purge – Models TCII-06 through TCII-09 boilers.
6. 90 second pre-purge/15 second post-purge – Models TCII-10 through TCII-18 boilers.
7. Spark ignited gas pilot.
8. Air flow safety switch.
9. Manual fuel changeover switch.

OPTIONAL EQUIPMENT

1. Full modulation burner operation for boilers with standard Lo-Hi-Lo.
2. Automatic fuel changeover on combination gas/oil burners.
3. Air flow switch on oil burners.
4. Step-down control circuit transformer and control circuit fuse.
5. Controls to comply with FM, Former IRI, CSD-1, and other codes. Contact your local Peerless® Representative or PB Heat, LLC for availability.
6. Various combustion controls. Contact your local Peerless® Representative or PB Heat, LLC for availability.
7. 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/OIL

BOILER MODEL	INPUT (1)		OVERFIRE PRESSURE IN. W.C. (2)	STANDARD BURNER MODEL			INITIAL AIR SETTINGS (3) INCHES		
	OIL MBH	GAS MBH		OIL	GAS	GAS/OIL	DIFF.	TOP	BOTTOM
TCII-04	7.9	1143	0.36	C1-O	C1-G-12	C1-GO-12	1/4	7/8	7/8
TCII-05	10.2	1458	0.59	C1-O	C1-G-12	C1-GO-12	1/2	1	1
TCII-06	12.2	1773	0.82	C2-OA	C2-G-15	C2-GO-15	3/8	3/8	3/8
TCII-07	14.4	2088	0.46	C2-OA	C2-G-15	C2-GO-15	3/8	3/8	3/8
TCII-08	16.6	2403	0.61	C2-OB	C2-G-20A	C2-GO-20A	3/8	3/8	3/8
TCII-09	18.8	2718	0.45	C2-OB	C2-G-20B	C2-GO-20B	3/8	3/8	3/8
TCII-10	21.0	3033	0.60	C2-OB	C2-G-20B	C2-GO-20B	1/2	3/8	3/8
TCII-11	23.0	3348	0.55	C3-O	C3-G-20	C3-GO-20	5/8	3/8	3/8
TCII-12	25.5	3663	0.61	C3-O	C3-G-25	C3-GO-25	5/8	3/8	3/8
TCII-13	27.5	3978	0.62	C3-O	C3-G-25	C3-GO-25	5/8	3/8	3/8
TCII-14	29.5	4293	0.69	C3-O	C3-G-25	C3-GO-25	5/8	3/8	3/8
TCII-15	32.0	4608	0.73	C3-OB	C3-G-25B	C3-GO-25B	1/4	1/4	1/4
TCII-16	34.0	4923	0.82	C3-OB	C3-G-25B	C3-GO-25B	5/16	1/4	1/4
TCII-17	36.5	5238	0.79	C4-OA	C4-G-25	C4-GO-25	1/2	1/4	1/4
TCII-18	38.5	5553	0.68	C4-OA	C4-G-25	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 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
	OIL	GAS	GAS/OIL	GAS	OIL, GAS/OIL	
TCII-04	R7284P	RM7897A	RM7897C	1/3	1/2	115/1/60
TCII-05	R7284P	RM7897A	RM7897C	1/2	1/2	115/1/60
TCII-06	R7284P	RM7897A	RM7897C	1/2	3/4	115/1/60
TCII-07	R7284P	RM7897A	RM7897C	1/2	3/4	115/1/60
TCII-08	R7284P	RM7897A	RM7897C	3/4	1	230/1/60
TCII-09	R7284P	RM7897C	RM7897C	1	1-1/2	230/1/60
TCII-10	RM7897A	RM7897C	RM7897C	1	1-1/2	230/1/60
TCII-11	RM7897A	RM7897C	RM7897C	1-1/2	2	230/3/60
TCII-12	RM7897A	RM7897C	RM7840L	1-1/2	2	230/3/60
TCII-13	RM7840L	RM7840L	RM7840L	1-1/2	2	230/3/60
TCII-14	RM7840L	RM7840L	RM7840L	1-1/2	2	230/3/60
TCII-15	RM7840L	RM7840L	RM7840L	3	3	230/3/60
TCII-16	RM7840L	RM7840L	RM7840L	3	3	230/3/60
TCII-17	RM7840L	RM7840L	RM7840L	3	5	230/3/60
TCII-18	RM7840L	RM7840L	RM7840L	3	5	230/3/60

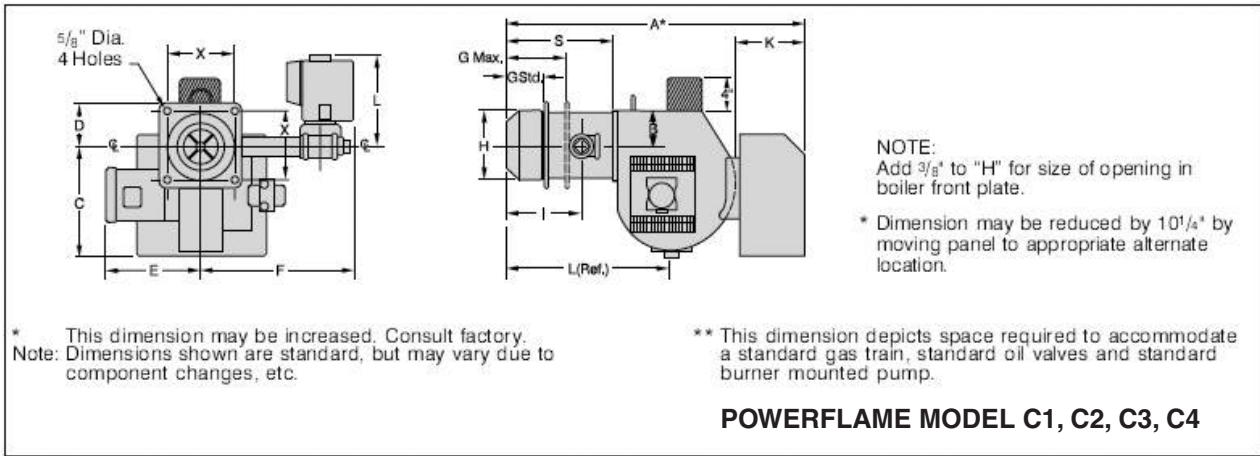
POWER FLAME MODEL "C" BURNER - BURNER CHARACTERISTICS FOR GAS FIRING

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 (1)	INLET PRESSURE (IN. W.C.)			
					MINIMUM	MAXIMUM		
TCII-04	30	9/64	7/8	1.25	5.0	14.00	3.9	2.04
TCII-05	30	9/64	1	1.25	6.6	14.00	3.3	3.81
TCII-06	40	11/64	1-1/4	1.50	6.5	14.00	3.1	3.72
TCII-07	40	11/64	None	1.50	8.7	14.00	3.0	5.71
TCII-08	40	11/64	None	2.00/1.50	6.3	14.00	4.0	2.34
TCII-09	40	#1	1-5/16	2.00/1.50	5.6	14.00	2.6	3.00
TCII-10	40	#1	1-5/8	2.00/1.50	7.4	14.00	3.3	3.74
TCII-11	50	#10	None	2.00	6.8	14.00	3.4	2.88
TCII-12	50	#10	None	2.00	7.7	14.00	3.9	3.47
TCII-13	50	#10	None	2.50/2.00	7.2	14.00	3.6	3.20
TCII-14	50	#10	None	2.50/2.00	8.3	14.00	4.2	3.70
TCII-15	50	9/32	None	2.50/2.00	7.8	14.00	3.0	4.35
TCII-16	50	9/32	None	2.50/2.00	8.8	14.00	3.3	4.98
TCII-17	50	1/4	None	2.50	6.8	14.00	3.0	3.29
TCII-18	50	1/4	None	2.50	7.4	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
TCII-04	1	4.5	45B	100-150	300	B2TA-8249	Suntec	21
TCII-05	1	6.0	80B	100-150	300	B2TA-8249	Suntec	21
TCII-06	1	7.0	80B	100-150	300	B2TA-8852	Suntec	39
TCII-07	1	8.5	80B	100-150	300	B2TA-8852	Suntec	39
TCII-08	1	10.0	80B	100-150	300	B2TA-8852	Suntec	39
TCII-09	1	11.0	80B	100-150	300	B2TA-8852	Suntec	39
TCII-10	1	12.0	80B	100-150	300	B2TA-8852	Suntec	39
TCII-11	1	16.0	VF 80BPS	N/A	260	22R322	Webster	105
TCII-12	1	16.0	VF 80BPS	N/A	295	22R322	Webster	105
TCII-13	1	18.0	VF 80BPS	N/A	295	22R322	Webster	105
TCII-14	1	20.0	VF 80BPS	N/A	295	22R322	Webster	105
TCII-15	1	35.0	VF 80BPS	N/A	280	22R623	Webster	135
TCII-16	1	37.5	VF 80BPS	N/A	260	22R623	Webster	135
TCII-17	1	40.0	VF 80BPS	N/A	300	22R623	Webster	135
TCII-18	1	45.0	VF 80BPS	N/A	250	22R623	Webster	135



BURNER MODEL	DIMENSIONS, INCHES																	
	A	B	B (R)	C	C (R)	D	E	F		G			H	I	K	L	S	X
								GAS/OIL	ST OIL	STD	MAX*	CAD ST OIL						
C1	34-1/8"	13-13/16"	5-9/16"	14-1/2"	14-1/2"	4-5/8"	12-1/4"	20"	12-3/4"	3-1/4"	4-3/4"	11"	7-1/4"	7-3/8"	10-1/4"	17-1/8"	12-5/8"	7-1/4"
C2	39-1/8"	4-1/2"	6-1/8"	14-7/8"	14"	5-1/4"	14"	20"	13"	4"	6-3/4"	11-1/2"	8-3/8"	8-1/2"	10-1/4"	18-7/8"	13-3/8"	8-1/2"
C3	44"	5-1/2"	7"	16-5/8"	15-1/4"	6"	16"	22-3/8"	14-1/2"	4-1/2"	8"	N/A	10-1/8"	11-1/2"	10-1/4"	22"	15-1/2"	10"
C4	50"	6-1/4"	7-5/16"	18-7/8"	17-11/16"	7"	18-1/2"	28"	18"	6"	9"	N/A	12-1/8"	14-1/4"	10-1/4"	26-5/8"	19-1/8"	12"

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