

Large Plenum Rated Heater CKL Series



Model Code:

CKL	48	24	3	8	10
A	B	C	D	E	F

A: Series
 B: 20 - 208V 24 - 240V
 48 - 480V
 C: Kilowatts
 D: 1 or 3-phase
 E: Stages
 F: CFM



- Spiral finned element
- Dual inlet blower
- Totally enclosed motor
- N.E.M.A. 12 construction
- Filter racks
- 208/240/480 volt
- Fixed louver hood
- 16GA enclosure
- Element step control
- Can be ducted
- 24V control
- 3-year limited warranty

The CKL Series Plenum Heater

This special application unit heater is approved for use in concealed areas of buildings. It is specifically designed for highrise and office buildings, factories, auto body shops, food processing plants, plating shops and machine shops. This heater may be installed in inaccessible areas such as between a concrete ceiling and a drop tile ceiling, in an open plenum or ducted system. The heater is designed to withstand a dirty, dusty, moist or mildly corrosive environment. The heater is not intended for use where flammable vapors, gases, liquids or other combustibles are, or may be, present.

Factory Installed Options

- 120 Volt Control:** Control components modified to accept 120V control. A circuit outboard supply is customer provided.
- Element Step Control:** For improved energy management additional steps can be added (refer to table).
- Disconnect Switch:** Available with a 3-Pole non-fused disconnect with door interlocking feature and a padlock provision.

- Motor HP Upgrades:** Standard models are listed with motors that will provide sufficient CFM for the kW they are designed for. Where additional CFM is required a larger motor can be provided. Up to 7.5 HP.
- Remote Fuse Panel:** Available when heater is mounted in an inaccessible area allowing fuses to be located in an electrical closet where they can be easily serviced.

Engineering Specifications

Contractor shall supply and install CKL Series plenum heaters manufactured by King Electrical Mfg. Company. Heaters shall be of the wattage and voltage as indicated on the plans.

Construction: The heater case is fabricated from 16 gauge high tensile electro-galvanized Steel forming a durable unibody cabinet. Heater is finished with a rust inhibiting epoxy coating.

Air Outlet Louver: Fixed louvers

Intake and Discharge Screen: Heavy gauge Steel screen protects against foreign objects entering the heater. A filter is provided to prevent dirt and dust build-up in the heater.

Air Filter: Convenient access for replacement of standard filter. Filter not included.

N.E.M.A. 12 Wiring Compartment: The wiring compartment is sealed with a 1/4" high density polyurethane gasket. This provides excellent protection against moisture, dust and dirt from invading the electrical components and wiring. All optional control accessories are N.E.M.A. 12 rated.

Spiral Fin Elements: The metal sheath element is brazed with spiral fins then molded in to a coil configuration. This combination produces the best heat transfer while eliminating the potential for hot spots by positioning the element in the maximum airflow stream.

Blower & Motor: Totally enclosed outdoor ball bearing fan motor. Permanently lubricated, class B insulation, auto-protected, permanent split capacitor and 60° C ambient. Large capacity dual inlet blower handles high static pressure and moves large air volume.

Motor leads are enclosed in a sealtight raceway to prolong equipment life and reduce maintenance.

Air Intake Temperature Control: A built-in thermostat located at the intake blower is factory set at 100°F which prevents the heater from operating when the ambient temperature exceeds this limit. This will prevent the heater from wasting energy and is an extra measure of safety.

Auto-Reset Thermal Cutout: Power is disconnected from the heater if an overheated condition occurs. The element is re-energized automatically when the normal operating temperature returns.

Internal Controls: Magnetic contactors are standard on all units. A transformer is provided for 24 Volt control. This enables the customer to use a standard low voltage thermostat. Sub circuit fusing is provided when the heater ampacity exceeds 48 Amps to comply with UL standards. A fan delay is provided standard on all models to dissipate residual heat from the heating elements.

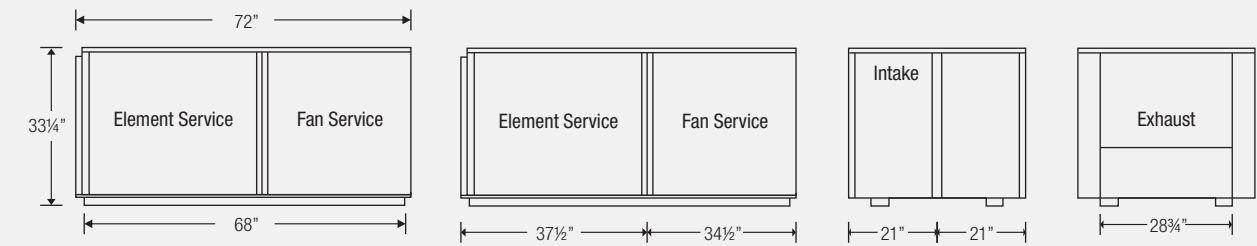
Easy Wiring: A large wiring compartment with easy access allows for quick installation.

Mounting: The CKL heater comes with frame mounts.

Approvals: ETL Certified to comply with standard for Heating and Cooling Equipment ANSI/UL 1995 fourth edition. Meets stringent City of Chicago codes for plenum use.

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Dimensional Data



Ordering Information

	MODEL	PHASE	KILO WATTS	BTUH(000)	VOLTS	AMPS	STAGES	CFM	STATIC PRESSURE	MOTOR HP	MOTOR AMPS	TEMP. RISE °F	WEIGHT lbs
208V	CKL2030-1-3-3	1	30	102.4	208	144.2	3	3000	.25"	2	3.1	31.6°	600
	CKL2040-1-4-3	1	40	136.5	208	192.3	4	3000	.25"	2	3.1	42.1°	650
	CKL2060-1-6-3	1	60	204.8	208	288.5	6	3000	.45"	2	3.1	63.2°	650
	CKL2080-1-8-3.3	1	80	273	208	384.6	8	3000	.5"	2	3.1	76.6°	700
240/208V	CKL2430-1-3-3	1	30/22.5	102.4	240/208*	125/108.2	3	3000	.25"	2	3.1	31.6°	600
	CKL2440-1-4-3	1	40/30	136.5	240/208*	166.7/144.2	4	3000	.25"	2	3.1	42.1°	650
	CKL2460-1-6-3	1	60/45	204.8	240/208*	250/216.3	6	3000	.45"	2	3.1	63.2°	650
	CKL2480-1-8-3.3	1	80	273	240/208*	333.3/288.5	8	3000	.5"	2	3.1	76.6°	700
480V	CKL4830-1-3-3	1	30	102.4	480	62.5	2	3000	.25"	2	3.1	31.6°	600
	CKL4840-1-2-3	1	40	136.5	480	83.3	2	3000	.25"	2	3.1	42.1°	650
	CKL4860-1-3-3	1	60	204.8	480	125	3	3000	.45"	2	3.1	63.2°	650
	CKL4880-1-4-3.3	1	80	273	480	166.7	4	3000	.5"	2	3.1	76.6°	700
208V	CKL2030-3-2-3	3	30	102.4	208	83.3	2	3000	.25"	2	3.1	31.6°	600
	CKL2040-3-3-3	3	40	136.5	208	111	3	3000	.25"	2	3.1	42.1°	650
	CKL2060-3-4-3	3	60	204.8	208	166.5	4	3000	.45"	2	3.1	63.2°	650
	CKL2080-3-5-3.3	3	80	273	208	222.1	5	3300	.5"	2	3.1	76.6°	700
240/208V	CKL20100-3-6-4.1	3	100	241.3	208	277.6	6	4100	.6"	3	4.4	77.1°	850
	CKL20120-3-7-5	3	120	409.6	208	333.1	7	5000	.7"	3	4.4	75.8°	850
	CKL2430-3-2-3	3	30/22.5	102.4	240/208*	72.2/62.4	2	3000	.25"	2	3.1	31.6°	600
	CKL2440-3-2-3	3	40/30	136.5	240/208*	96.2/83.2	2	3000	.25"	2	3.1	42.1°	650
480V	CKL2460-3-3-3	3	60/45	204.8	240/208*	144.3/125	3	3000	.25"	2	3.1	63.2°	650
	CKL2480-3-4-3.3	3	80/60	273	240/208*	192.5/166.4	4	3300	.5"	2	3.1	76.6°	700
	CKL24100-3-5-4.1	3	100/75	341.3	240/208*	240.6/208.1	5	4100	.6"	3	4.4	77.1°	850
	CKL24120-3-6-5	3	120/90	409.6	240/208*	288.7/250	6	5000	.7"	3	4.4	75.8°	850
480V	CKL24140-3-7-5.8	3	140/105	477.8	240/208*	336.8/291.3	7	5800	.75"	3	4.4	76.3°	900
	CKL24160-3-8-6.6	3	160/120	546.1	240/208*	384.9/332.9	8	6600	.8"	3	4.4	76.6°	950
	CKL4830-3-1-3	3	30	102.4	480	36.1	1	3000	.25"	2	3.1	31.6°	600
	CKL4840-3-2-3	3	40	136.5	480	48.1	2	3000	.25"	2	3.1	42.1°	650
480V	CKL4860-3-2-3	3	60	204.8	480	72.2	2	3000	.45"	2	3.1	63.2°	650
	CKL4880-3-3-3.3	3	80	273	480	96.2	3	3300	.5"	2	3.1	76.6°	700
	CKL48100-3-4-4.1	3	100	341.3	480	120.3	4	4100	.6"	3	4.4	77.1°	850
	CKL48120-3-4-5	3	120	409.6	480	144.3	4	5000	.7"	3	4.4	75.8°	850
480V	CKL48140-3-5-5.8	3	140	477.8	480	168.4	5	5800	.75"	3	4.4	76.3°	900
	CKL48160-3-6-6.6	3	160	546.1	480	192.5	6	6600	.8"	3	4.4	76.6°	950
	CKL48180-3-6-7.5	3	180	614.3	480	216.5	6	7500	.9"	5	6.9	75.8°	1000
	CKL48200-3-7-8.3	3	200	682.6	480	240.6	7	8300	.95"	5	6.9	76.2°	1000
480V	CKL48220-3-8-9.2	3	220	750.9	480	264.6	8	9200	1"	5	6.9	75.5°	1000
	CKL48240-3-8-10	3	240	819.1	480	288.7	8	10000	1.2"	5	6.9	75.8°	1000

*Dual rated heaters will draw 13% less amps and 25% less wattage when operated at 208V.

**When placing an order, make sure to add ND (No Diffuser) to the model# if connecting to ductwork. * Does not include motor load.

KW rating load tolerance is plus 5% and minus 10%. Consult factory for special wattages and voltages

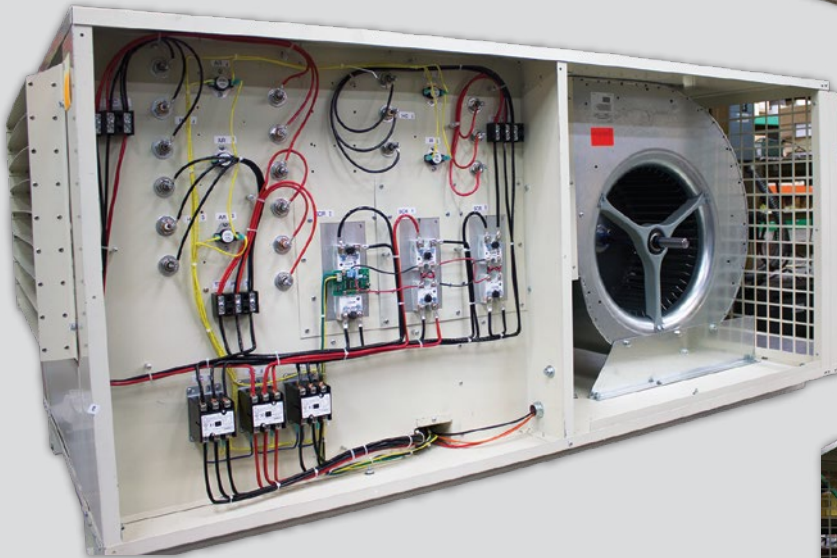
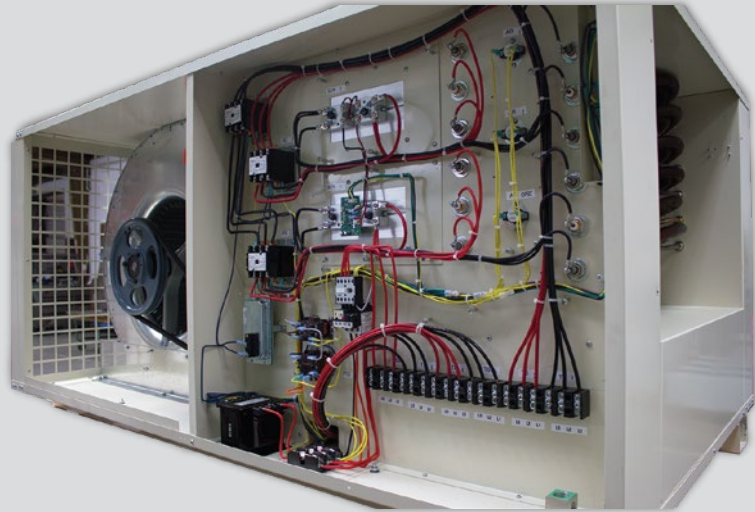
BLOWER SPECIFICATIONS

- 1) Quiet forward curve, double inlet, dynamically balanced wheels.
- 2) Galvanized housing and wheels for increased corrosion resistance.
- 3) Keyed wheels, keyed shaft extensions and sealed ball bearings for higher horsepower motors.
- 4) 18" wheel for a maximum of 7.5 HP motor.
- 5) Airflows up to 10,000 CFM (see performance data chart above for SP up to 3.75" WG)
- 6) Galvanized mounting supports, vibro-pads and heavy duty mounting hardware.
- 7) Belt drive allows field adjustment of blower RPM to adjust for changes in system SP.

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Internal View

Front View



Motor & Blower



OPTIONS

STAGES Increase # of Stages on Model Number

CFM Increase CFM on Model Number

ADD SUFFIX: DESCRIPTION

STEP CONTROL 8 Stage Step Controller

SOLID STATE RELAY STEP CONTROL 8 Stage Step Controller w/ Vernier Control

CKL-RFP100 100 Amp Remote Fuse Panel

CKL-RFP200 200 Amp Remote Fuse Panel

CKL-RFP400 400 Amp Remote Fuse Panel

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Air Performance Data CKL Plenum Heater - STATIC PRESSURE (inches. WG)

	.25	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75																					
CFM	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP																				
3,000	298	.25	411	.45	508	.69	588	.93	660	1.19	724	1.47	785	1.74	836	2.04	858	2.25	889	2.55	929	2.82	977	3.04	968	3.16	988	3.25	1,028	3.50	1,067	3.82	4.20	4.58		
3,500	310	.32	414	.54	504	.79	684	1.06	656	1.35	724	1.74	785	1.95	836	2.25	889	2.55	929	2.82	977	3.04	968	3.16	988	3.25	1,028	3.50	1,067	3.82	4.20	4.58				
4,000	322	.42	419	.65	505	.91	582	1.21	652	1.52	719	1.66	780	1.95	836	2.25	889	2.55	929	2.82	977	3.04	968	3.16	988	3.25	1,028	3.50	1,067	3.82	4.20	4.58				
4,500	337	.53	428	.78	509	1.06	582	1.37	650	1.70	714	1.88	776	2.17	831	2.49	884	2.82	935	3.10	929	3.46	977	3.82	4.20	4.58	4.96	5.38	5.84	6.30	6.76	7.24	7.72	8.20	8.68	
5,000	353	.67	439	.93	515	1.23	585	1.55	651	1.09	712	2.09	771	2.41	826	2.76	879	3.10	929	3.41	925	3.78	972	4.17	4.56	4.96	5.37	5.81	6.25	6.70	7.15	7.60	8.05	8.50	8.95	9.40
5,500	369	.84	452	1.12	524	1.43	591	1.76	654	2.12	712	2.35	769	2.69	823	3.04	875	3.41	925	3.75	921	4.14	968	4.54	4.95	5.38	5.81	6.25	6.70	7.15	7.60	8.05	8.50	8.95	9.40	
6,000	387	1.03	465	1.33	535	1.65	599	2.00	659	2.38	715	2.64	769	2.99	822	3.36	872	3.75	921	4.12	919	4.53	965	4.95	5.38	5.81	6.25	6.70	7.15	7.60	8.05	8.50	8.95	9.40		
6,500	x	x	480	1.58	547	1.82	608	2.28	666	2.67	719	2.97	772	3.34	823	3.72	872	4.12	919	4.53	919	4.96	964	5.38	5.84	6.25	6.70	7.15	7.60	8.05	8.50	8.95	9.40			
7,000	x	x	496	1.86	560	2.22	619	2.59	676	2.00	726	3.33	777	3.72	826	4.12	873	4.53	919	4.96	919	4.96	964	5.38	5.84	6.25	6.70	7.15	7.60	8.05	8.50	8.95	9.40			
7,500	x	x	513	2.17	575	2.55	631	2.95	685	3.36	735	3.74	783	4.15	831	4.56	876	4.99	921	5.43	921	5.43	964	5.88	6.30	6.70	7.15	7.60	8.05	8.50	8.95	9.40				
8,000	x	x	x	x	590	2.93	645	3.34	696	3.77	745	4.19	792	4.62	837	5.05	881	5.49	925	5.92	925	5.92	967	6.30	6.70	7.15	7.60	8.05	8.50	8.95	9.40					
8,500	x	x	x	x	605	3.05	659	3.78	700	4.23	758	4.69	801	5.13	845	5.58	888	5.92	930	6.30	930	6.30	971	6.70	7.15	7.60	8.05	8.50	8.95	9.40						
9,000	x	x	x	x	622	3.81	674	4.29	722	4.73	768	5.23	812	5.69	855	6.07	896	6.46	937	6.85	937	6.85	976	7.25	7.60	8.05	8.50	8.95	9.40							
9,500	x	x	x	x	x	x	689	4.79	730	5.28	781	5.81	824	6.19	866	6.58	908	6.97	949	7.36	949	7.36	976	7.75	8.10	8.50	8.95	9.40								
10,000	x	x	x	x	x	x	705	5.37	751	5.88	795	6.39	837	6.89	877	7.07	920	7.46	959	7.85	959	7.85	976	8.25	8.60	8.95	9.40									

AIR PERFORMANCE CHART SYMBOLS

- x Performance is below 10% static efficiency
- + Performance is unstable, not recommended

† Exceeds 5 HP Motor