

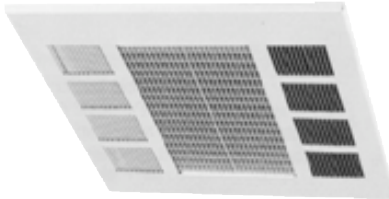


## CDF SERIES

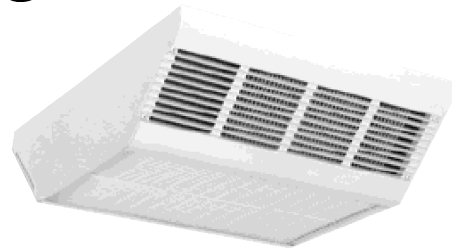
# COMMERCIAL DOWNFLOW CEILING MOUNTED HEATERS

## APPLICATIONS

Type CDF ceiling-mounting fan-forced heaters are designed for commercial and industrial areas requiring electric fan-forced heat. Capacities are 2,000 to 5,000 watts. Type CDF-SE surface enclosures are designed to mount flat on the ceiling and extend only six inches into the room. Type CDF-RE enclosures have no protrusions outside the recess box, allowing the heater to recess only seven inches into ceiling space. Mounts into permanent ceiling with trim ring.



**In the ceiling. . .**



**or on it!**

## FEATURES

**BUILT-IN FAN DELAY** — Space temperature is controlled by a wall or unit-mounted thermostat. When the thermostat calls for heat, the heating elements and fan energize. When the thermostat is satisfied, the elements shut off, but the fan continues to operate until all of the heated air is discharged. This feature avoids exposing the heater to residual heat, thus achieving a high comfort level and longer component life.

**AUTOMATIC THERMAL CUTOUT** — A thermal cutout shuts off the heater in the event of over-heating and reactivates the heater when the temperature returns to normal.

**MULTIPLE PHASE HEATERS** — The 208 and 240 volt heaters can be field converted from single to three-phase operation. 277 volt single-phase heater is also available.

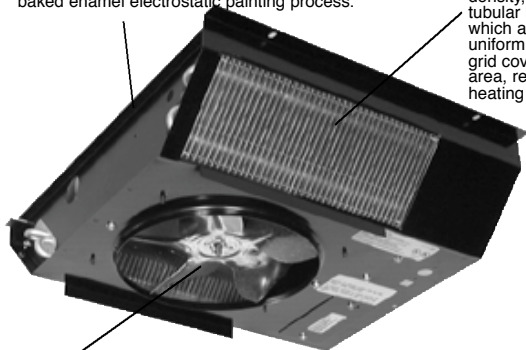
**MULTIPLE WATTAGE HEATER SECTIONS** — The 5,000 watt heater can be field converted to 3,800 watts or 2,500 watts, and the 4,000 watt heater is convertible to 3,000 or 2,000 watts.

**THUMB PINS** align and temporarily hold the enclosure cover to the heating section freeing both hands to finish installation.



**Phosphatized, Baked Enamel Finish:** All sheet metal and extruded aluminum parts, except the back box, are phosphatized, then finished by a baked enamel electrostatic painting process.

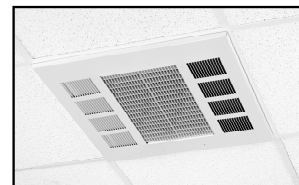
**Elements:** Steel fins are copper-brazed to low-watt density, steel-sheathed, tubular heating elements which are arranged in a uniform grid pattern. The grid covers the entire intake area, resulting in uniform heating of all discharged air.



**Efficient Operation:** The five-bladed aluminum fan and the rugged impedance-protected, totally-enclosed motor, achieve efficient operation.

**Deliver heat where you want it...  
In vestibules, hallways, work-shops, restrooms and entry ways.**

**Type CDF-RE enclosures also mount easily into standard 2 x 2 ceiling grids**



# Totally adjustable airflow...even from 14 ft. ceilings!

**Wide pattern**  
In standard ceiling applications (8' to 10'), heater disperses the air to give a gentle, less pronounced pattern while circulating all the air from floor to ceiling.

**Asymmetrical pattern**  
Heated air is directed in a specific direction, allowing the heater to be located where space allows, with the heated air delivered to where it is required.

**Narrow pattern**  
For high ceiling applications (11' to 14'), fan concentrates the heated air to ensure full penetration to the floor level.

## SELECTION CHART

CATALOG #	VOLTS	PHASE <sup>2</sup>	KW <sup>1</sup>	BTU/HR	AMPS <sup>3</sup>	WIRE SIZE	CFM	°FΔT	WEIGHT (LBS.)
<b>CDF-548</b>	208	1-3	4/3/2	13.7/10.2/6.8	19.2/14.4/9.6	AWG 10	150	50	27
<b>CDF-542</b>	240	1-3			16.7/12.5/8.3				
<b>CDF-547</b>	277	1			14.4/10.8/7.2				
<b>CDF-558</b>	208	1-3	5/3.8/2.5	17.1/13.0/8.5	24.0/18.3/12.0	AWG 10	280	58	27
<b>CDF-552</b>	240	1-3			20.8/15.8/10.4				
<b>CDF-557</b>	277	1			18.1/13.7/9.0				
<b>CDF-SE</b>	Surface Mounting Enclosure only — To be used with above heater sections. Dimensions: 20"L x 16 1/2"W x 5 1/4"D.								10
<b>CDF-RE</b>	Recess Mounting Enclosure only — To be used with above heater sections. Dimensions: 23 3/4"L x 23 3/4"W x 7"D.								18

## ACCESSORIES

CATALOG NO.	FIELD INSTALLED KITS
<b>CDF-T</b>	Thermostat SPST Range 45° to 98°F
<b>CDF-24R</b>	Relay (Time Delay 45-60 sec. to close when energized) required 24 volt supply from remote source.
<b>CDF-R12</b>	Relay (Time Delay 45-60 sec. to close when energized) required 120 volt supply from remote source.
<b>CDF-DS</b>	Power Disconnect Switch (3-Pole) 30 amps, 600 volts, 3Ø, 60Hz.
<b>CDF-TK</b>	Trim Kit for mounting on permanent ceiling (cannot be factory installed).
<b>CDF-TR4</b>	208/240V Primary Transformer/24V sec. and 24V holding coil control relay.
<b>CDF-TR7</b>	277V Primary Transformer/24V sec. and 24V holding coil control relay.

<sup>1</sup>Factory wired for highest wattage, field convertible to lower wattages. <sup>2</sup>Factory wired 1Ø, field convertible to 3Ø. <sup>3</sup>On dual-phase units, maximum amp draw is listed.

## **ARCHITECT'S & ENGINEER'S SPECIFICATIONS\***

The heating equipment shall include an electric, ceiling-mounted type CDF, Series 500 fan-forced air heater suitable for large area heating as manufactured by QMark, A Marley Engineered Products Brand, Bennettsville, SC. The heater shall be UL Listed. The heater shall be designed for surface, recess or T-Bar mounting. For surface mounting a QMark CDF-SE surface enclosure shall be used. For T-Bar mounting a QMark CDF-RE recess enclosure shall be used. For recessed mounting in a permanent ceiling a QMark CDF-RE recess enclosure and CDF-TK trim kit shall be used. The heaters shall be factory wired for single-phase operation and field convertible to three-phase operation by removing one jumper wire, and relocating one wire. The heaters should be factory wired for full wattage and field convertible to 75% or 50% wattage by the removal of one or two wires respectively.

**HEATER SECTION:** The heater section shall consist of 20 gauge steel chassis on which are mounted the heating elements, fan motor and blade, fan control, thermal cutout and 3-pole contactor. Heater section shall be completely prewired.

**HEATING ELEMENTS:** The heating element shall be guaranteed for five years and shall be non-glowing design consisting of 80/20 NiCh resistance wire, enclosed in a steel sheath, to which steel plate fins are brazed. The elements shall cover the entire air intake area to ensure uniform heating of all discharged air.

**MOTOR AND CONTROLS:** The fan motor shall be impedance-protected, permanently lubricated and with totally-enclosed rotor. Fan control shall be bi-metallic, snap-action type and shall activate fan after the heating element reaches operating temperature, and continue to operate the fan after the thermostat is satisfied and until all heated air has been discharged. Thermal cutout shall be bi-metallic snap-action type designed to automatically shut off the heater in the event of overheating and reactivate the heater when the temperature returns to normal.

**OPERATIONAL CONTROLS:** Thermostat, disconnect switch and all interlock relays shall be installed within the heater enclosure.

**RECESS ENCLOSURE:** The back box shall be designed for duty as a recessed rough-in box in masonry, T-Bar or frame ceiling construction. The back box shall be 20 gauge galvanized steel and shall contain knockouts through which field wiring leads are brought. Enclosure to recess into a maximum 7 inches of ceiling space. The louvered recess faceplate shall be 20 gauge cold rolled steel, phosphatized, then electrostatically painted Navajo White by a baked enamel process.

**SURFACE ENCLOSURE:** The surface mounting plate shall be designed for duty as a rough-in box on masonry, T-Bar or frame ceiling construction. The surface mounting plate shall be 20 gauge galvanized steel and shall contain knockouts through which field wiring leads are brought. Enclosure to extend a maximum of 6 inches into the heated space.

The louvered surface wrapper shall be a contoured aluminum extrusion and 20 gauge sheet metal combination with rounded corners. The surface wrapper shall be electrostatically painted Navajo White by a baked enamel process.

\*QMark reserves the right to change specifications without prior notice.

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**QMARK**<sup>®</sup>  
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Bennettsville, SC 29512



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