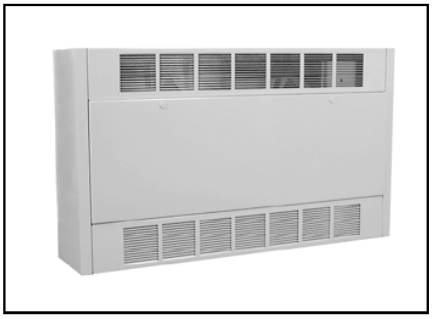
QMARK®
A Marley Engineered Products Brand

CU900 SERIES
CABINET UNIT HEATER

- Attractive cabinet enclosure blends into the decorative schemes of commercial areas.
- Used in offices, stores, schools, churches, hospitals, dormitories, airport terminals, reception rooms, entrance lobbies, corridors, and stairways.
- Basic cabinet can be mounted on the ceiling, floor or wall.
- Heaters can be mounted on the surface, full recessed or semi-recessed.
- Heater can be mounted for air discharge up or down or with the heater mounted on end the air can be discharged either left or right, to provide an air door affect.
- Cabinet constructed of heavy 16 gauge cold-rolled steel structurally formed to provide strength and rigidity for normal heavy wear and usage. Cabinet is finished in Neutral Grey epoxy. (Decorator colors optional.)
- Nineteen capacities - 2Kw to 32Kw; five cabinet styles - 35", 45", 58", 68" and 78" lengths (26-3/8" height x 9-3/4" deep).
- 1/8 hp, PSC, motors are two-speed (1550/1450 rpm).
- Motors are resilient mounted with automatic thermal overload protection. Motor fuse protection is provided on all heaters to meet UL, cUL and NEC requirements.
- Plate fin element - steel fins are copper brazed to low watt density, steel-sheathed tubular heating elements. (80/20 NiCh resistance wire). Element is finished with aluminized paint for corrosion resistance. Fins and elements are arranged in a uniform grid pattern and fit closely into the discharge area to assure that all outgoing air passes through the heating element.
- Thermal safety cutout - installed in direct contact with the heating element. Automatically shuts off the heater in the event of overheating due to any cause and reactivates the heater when operating temperature returns to normal.
- Optional - manual reset thermal safety cutout available.
- Heaters over 48 amperes have sub-divided (circuit breaker protected) circuits.
- Circuit breakers are available as an option on heaters of less than 48 amps.
- Built-in thermostat - single pole, snap-action thermostat with remote bulb sensor located directly in the air intake. (Optional - built-in two stage thermostat available). Easy and low cost field installation of a completely packaged heater.
- Optional - architectural styled grille. Standard heaters are equipped with stamped louvered grilles as shown in photograph. As an option, the heater can be ordered with architectural styled extruded aluminum grilles for that "professional" appearance.
- 24 volt control system - all internal controls, including the thermostat, are operated from a built-in prewired transformer with a 24 volt secondary. (Optional - 120 volt built-in control available.)
- Heaters have a tamper-resistant, two position selector switch to select full heat at high fan speed and reduced heat at low fan speed.
- Optional built-in fan auto-continuous (Summer fan) switch provides continuous fan operation with or with-out heat, or automatic fan cycling as the elements cycle on and off.
- Automatic fan delay eliminates cold drafts on start-up and discharges residual heat from the heater body during shut down.
- Silent relays, instead of conventional contractors, eliminate the noise of contactor opening and closing.
- Optional - low voltage, electronically controlled outside air damper with rear mounted duct collar or vinyl seal permits infinite adjustment of outside air from 0% to 100%. Damper closes automatically in event of power failure or if the "On - Off" switch is in the off position. Also closes when the "Open - Closed" switch on the control panel is in the closed position. (When ordered with night set back relay, damper will be factory wired to close automatically when night set back is in effect).

NOTE: Front inlet only - not available with bottom inlet.

- An aluminum wall louver option provides a finished touch to the exterior of masonry or panel walls with thickness of 2-3/4" or greater.



- Optional - inlet and discharge duct collars - UL listed - provide easy field connection to field supplied duct work. We do not recommend exceeding 0.15" wg external static pressure.
- Each CU9000 heater is supplied with a throw-away air filter mounted in the inlet air stream. Optional permanent (washable) aluminum filters are available.
- A front cover interlock is a standard safety feature that de-energizes the heater when the front cover is removed.
- Optional - dead front disconnect switch or fused dead front disconnect switch, disconnects power to the heater. Control panel access door can not be opened until power is turned off.
- Terminals are provided for BAS/EMS tie-in of dry contacts for night set back.
- Optional - built-in night set back relay provides ability to set back heater from energy management systems that supply 24 volts to the relay for day operation.
- Optional - built-in on - off switch allows the heater to be de-energized when not in use.
- An optional trim kit is available for a neat finish to semi-recessed or full recessed applications.
- A 16 gauge optional kick plate in muted black, which is recessed from the heater front and sides by one inch, makes an attractive and practical off-the-floor installation.
- Optional - inlet and/or discharge duct collars. .

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HOW TO ORDER

PRODUCT		SERIES	LENGTH		KW		VOLTS		PHASE	INLET AIR	DISCHARGE AIR	MODEL	T' STAT		CONTROL SUPPLY	CIRCUIT BREAKER	MANUAL RESET	SUMMER FAN SWITCH	DISCONNECT SWITCH	HEAT ON-OFF SWITCH	NIGHT SETBACK RELAY	FILTER	OUTSIDE AIR DAMPER	FRONT COVER KEY LOCK	DUCT COLLARS/GRILLES
C	U	9										B													

Cabinet Unit Heater

900 Series

35 = 35" Cabinet Length
45 = 45" Cabinet Length
58 = 58" Cabinet Length
68 = 68" Cabinet Length
78 = 78" Cabinet Length

See Chart (2 KW = 02, 32 KW = 32)

20 = 208 Volt Supply Power
24 = 240 Volt Supply Power
27 = 277 Volt Supply Power
34 = 347 Volt Supply Power
38 = 380 Volt Supply Power (3-Phase Only)
48 = 480 Volt Supply Power (3-Phase Only)
60 = 600 Volt Supply Power (3-Phase Only)

1 = Single Phase Supply Power
3 = Three Phase Supply Power

F = Front Inlet Air Configuration
B = Bottom Inlet Air Configuration

F = Front Discharge Air Configuration
T = Top Discharge Air Configuration

Series Model Number

1B = Standard Single Pole, Single Stage Built-In Thermostat
1R = Single Pole, Single Stage Remote (Wall Thermostat)
2B = Two Stage Built-In Thermostat
2R = Two Stage Remote (Wall Thermostat)

2 = Standard Internal Generated 24 Volt Control
1 = Internal Generated 120 Volt Control

0 = No Circuit Breaker(s)
C = Circuit Breaker(s), Required or Optional

0 = Standard, No Manual Reset
M= Manual Reset

0 = Standard, No Summer Fan Switch
S = Summer Fan Switch

0 = Standard, No Disconnect Switch
S = Disconnect Switch
F = Fused (Circuit Breaker) Disconnect Switch

0 = Standard, No ON - OFF Switch
S = ON - OFF Switch

0 = Standard, No Night Setback Relay
1 = Night Setback Relay (120 Volt Holding Coil)
2 = Night Setback Relay (24 Volt Holding Coil)

0 = Standard Throw-away Filter
P = Permanent "Washable" Filter

0 = Standard, No Outside Air Damper (must be Ø for bottom inlet)
A = Motorized 100% Outside Air Damper

0 = Standard Lock
K = Key Lock

A = Architectural Extruded Aluminum Grille
0 = Standard Louver Grille
I = Inlet Duct Collars/Discharge Louver Grille
D = Inlet Louver Grille/Discharge Duct Collar
B = Inlet Duct Collar/Discharge Duct Collar

Clearance:

Heater Wall Mounted

Front Discharge, No obstruction within 24" of discharge.
Top Discharge, No obstruction within 24" of discharge.

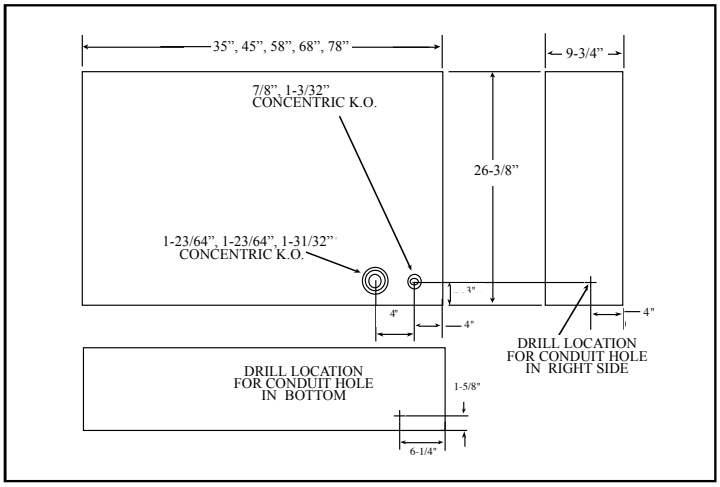
Front Intake, Zero or greater to base of heater.
Bottom Intake, No obstruction within 24" of discharge.

Heater Ceiling Mounted

Front Discharge, No obstruction within 24" of discharge.
Top Discharge, No obstruction within 24" of discharge.

Front Intake, Zero or greater to base of heater.
Bottom Intake, No obstruction within 24" of discharge.

Minimum 2" to side wall.



SELECTION CHART

SERIES	HEATING T CAPACITY KW	BTU/Hr	HI LO	CFM	TOTAL LINE AMPERAGE (INCLUDING MOTOR AMPS)Approx. 208 1 PH 60 HZ	208 3 PH 60 HZ	240 1 PH 60 HZ	240 3 PH 60 HZ	277 1 PH 60 HZ	347 1 PH 60 HZ	380 3 PH 60 HZ	480 3 PH 60 HZ	600 3 PH 60 HZ	Ship. Weight (lbs.)
	2	6826	85		10	6	9	6	8	7	4	3	3	
CU935	3	10239	98	High	15	9	13	8	12	9	5	4	4	
	4	13652	111	250	20	12	17	10	15	12	7	6	5	120
Cabinet	5	17065	123		25	15	22	13	19	15	8	7	6	
Length	6	20478	136	Low	30	17	26	15	22	18	10	8	7	
35 in.	7	23891	148	200	34	20	30	18	26	21	11	9	7	
	8	27304	161		39	23	34	20	30	24	13	10	8	
	4	13652	85		20	12	18	11	16	13	7	6	5	
CU945	6	20478	98	High	30	18	26	16	23	18	10	8	7	
	8	27304	111	500	40	23	34	20	30	24	13	11	9	160
Cabinet	10	34130	123		48	29	43	25	37	30	16	13	11	
Length	12	40956	136	Low	59	34	51	30	44	36	19	16	13	
45 in.	14	47782	148	400	68	40	59	35	52	41	22	18	15	
	16	54608	161		78	46	68	40	59	47	25	20	17	
CU958	6	20478	85	High	30	18	26	16	23	18	10	8	7	
	8	27304	96	750	40	23	34	20	30	24	13	11	9	
Cabinet	10	34130	103		48	29	43	25	37	30	16	13	11	200
Length	12	40956	111	Low	59	34	51	30	44	36	19	16	13	
58 in.	14	47782	118	600	68	40	59	35	52	41	22	18	15	
	16	54608	128		78	46	68	40	59	47	25	20	17	
	6	20478	85		31	19	27	16	24	19	11	9	8	
CU968	9	30717	98	High	45	27	39	24	34	28	16	13	11	
	12	40956	111	750	60	35	52	31	45	36	20	16	13	
Cabinet	15	51195	123		74	44	64	38	56	45	25	20	16	260
Length	18	61434	136	Low	88	52	77	45	67	N/A	29	24	19	
68 in.	21	71673	148	600	N/A	60	89	52	78	N/A	34	27	22	
	24	81912	161		N/A	69	N/A	60	N/A	N/A	38	31	25	
	8	27304	85		41	24	36	21	31	25	14	12	10	
CU978	12	40956	98	High	60	36	52	31	46	37	20	17	14	
	16	54608	111	1000	79	47	69	41	60	48	27	21	18	
Cabinet	20	68260	123		N/A	58	86	50	74	N/A	33	26	21	300
Length	24	81912	136	Low	N/A	69	N/A	60	N/A	N/A	39	34	25	
78 in.	28	95564	148	800	N/A	80	N/A	70	N/A	N/A	45	36	29	
	32	109216	161		N/A	91	N/A	79	N/A	N/A	N/A	41	33	

+ Based on 60 degree F inlet air temperature. CIRCUIT BREAKERS or FUSED DISCONNECT REQUIRED

OPTIONAL (Field Installed) ACCESSORIES

DESCRIPTION	FUNCTION
REMOTE MOUNTED SINGLE STAGE THERMOSTAT	Remote mounted single stage wall thermostat replaces standard built-in thermostat.
2 STAGE THERMOSTAT (Built-or Remote)	Built-in (or remote mounted) two stage thermostat that the elements for 2/3 heat for stage one and full heat for second stage. Fan cycles on high speed only.
120 VOLT CONTROL (Internally generated)	120 volt internally generated control voltage is available. Field supplied 120 volt control supply can be applied to heater. (Requires removing only one jumper wire in the control panel.)
MANUAL RESET	Manual Reset over temperature cutout wired into control circuit. Supplied in addition to auto-reset cutout.
DEAD FRONT DISCONNECT SWITCH	A three pole non-fused disconnect switch disconnects power to the heater. Design prevents entry into the control compartment until disconnect switch is turned to the OFF position.
DEAD FRONT FUSED DISCONNECT SWITCH	A three pole non-fused disconnect switch and circuit breaker(s) sized to the heater load protects heater and disconnects power to the heater. Design prevents entry into the control compartment until disconnect switch is turned to the OFF position.
SUMMER FAN SWITCH	Built-in switch provides continuous fan operation with or without heat, or automatic fan cycling as the heat cycles on and off.
ON-OFF SWITCH	Built-in switch provides continuous fan operation with or without heat, or automatic fan cycling as the heat cycles on and off.
NIGHT SET-BACK RELAY	Provides ability to set-back heater from energy management system that supplies (Specify - 24 volts or 120 volts) to the relay holding coil for day operation.
MOTORIZED 100% OUTSIDE AIR DAMPER	24 volt electronically controlled damper with rear mounted duct collar permits infinite adjustment of outside air from 0% to 100%. Damper closes automatically in event of power failure or if the “OPEN - CLOSED” switch is in the closed position. (Available only with heaters having 24 volt control supply. Can not be used with 120 volt control supply.)
KEY LOCK for FRONT COVER	Two (2) toolhead key lock style spring latches prevent unauthorized adjustment of controls and provide additional safety from injury due to contact with internal components.
INLET or DISCHARGE DUCT COLLAR(S) (ea.)	Collars provide easy connection of field supplied duct work. We do not recommend exceeding 0.2” wg external static pressure. Heater with duct collars are with a single speed high static motor.

OPTIONAL (Field Installed) ACCESSORIES

DESCRIPTION	FUNCTION
Recess Trim Kit	Provides a neat finish to semi-recessed or full recessed applications.
Base Kit	16 gauge, muted black base is recessed from the heater front and sides to provide an attractive and practical floor mounting application.
Aluminum Wall Louver	Used on exterior of masonry or panel walls of 2-3/4” or greater to provide a finished exterior. For heaters with 100% outside Air Damper.
Washable Filter	Permanent - Replaces standard filter. Washable filter can be cleaned and reused.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The electric cabinet unit heaters shall be as manufactured by QMark, a Marley Engineered Products Brand.

Heaters shall be UL/cUL Listed, designed for mounting in any position, including on-end, fully recessed, semi-recessed or surface mounted. All capacities, voltages, physical sizes be as specified in the heater schedule. All three phase heaters shall have a balanced heating load. Control voltage is to be internally generated 24 VAC (Optional 120 VAC).

CABINET - The cabinet shall be of heavy duty 16 gauge cold-rolled steel. The heater front covers shall be securely attached to the cabinet with a maximum of two slotted head style spring latches (optional Toolhead Key Lock) and easily removable for access to elements, filters and control panel. Cabinet shall be finished in Neutral Cabinet shall be finished in Neutral Gray (Optional - Color by Architect) baked enamel.

HEATING ELEMENTS - The heating elements shall be warranted for five years and shall be of non-glowing design consisting of 80/20 NiChi resistance wire enclosed in a steel sheath to which steel plate fins are brazed. The heating element shall be located directly in front of the blower discharge air for uniform heating.

SAFETY THERMAL CUTOUTS - Thermal safety cutouts shall be built into the system to automatically shut off heater in event of overheating due to any cause. The safety cutouts shall directly interrupt power to the elements and not depend on relays to interrupt the power. (Optional backup manual reset thermal safety cutout in the control circuit shall prevent heater reenergizing until cause of overheating has been cleared by a qualified service technician).

MOTOR AND BLOWER ASSEMBLY - The motor(s) and blower(s) shall be direct drive and resiliently mounted on a rigid heavy gauge frame for quiet operation and long life. The motor(s) shall be two sped 1/8 H.P. with automatic reset overload protection. The motor shall be vented and mounted in the air stream to provide maximum cooling of the motor. Motor fuse protection shall be provided to meet UL, cUL and NEC requirements. The blower(s) shall be forward curved, double inlet, centrifugal type with discharge directly on the full length of the elements to provide uniform discharge air temperatures.

AIR FILTERS - The filter shall be located ahead of the motor and blower assembly to assure clean air circulation. The filter shall filter both the returning room air or the outside air if the optional outside air damper assembly is provided. Filter shall be easily removed for changing or cleaning by removing the front panel and pulling on the filter. A disposable filter is standard and a permanent washable filter is optional.

FRONT COVER INTERLOCK - Heater shall be provided with an electrical interlock to shut down the heater when the front cover is opened to provide safety to the maintenance personnel during filter cleaning (replacement) or other maintenance.

FAN DELAY CONTROL - Fan control shall delay fan start up of the fan motor(s) until the heating elements have warmed up. It shall maintain motor operation after heating elements have been de-energized to dissipate residual heat.

TEMPERATURE CONTROL - Thermostat shall be built-in, snap-action single stage with remote bulb sensor located in the return air stream. (Optional - Built-in two stage remote bulb snap action thermostat, Remote mounted single stage wall thermostat, Remote mounted two stage wall thermostat), terminals shall be proved in the control panel for direct connection of the remote wall mounted thermostats. Silent time delay relays shall be provided, rather than contactors, to eliminate the noise of contactor opening and closing.

TERMINALS FOR REMOTE INTER LOCK - Terminals shall be provided in the control panel for connection to Building Automation or Energy Management Systems.

HEAT SELECTION/FAN SPEED - Two fan speeds and high-low heat ranges shall be selectable by means of a single rocker switch located behind the front cover.

CIRCUIT BREAKERS - Circuit breakers shall be provided for branch circuit protection where required by UL, cUL and NEC (Optional - Circuit breakers shall be supplied on all heaters).

INTERCHANGEABLE INTAKE AND DISCHARGE LOUVERS - Heater shall be provided with intake louver that can be changed from front to bottom by removing a maximum of two screws. Discharge louvers shall be able to be changed from front to top by removing a maximum of two screws.

The Following Factory Installed/Prewired Optional Equipment Shall Be Supplied -

- Manual Reset Thermal Cutout
- Circuit Breakers
- Fan Auto-On (Summer Fan) Switch
- 120 Volt Control Supply
- Dead Front Disconnect Switch
- Dead Front Fused (Non Fused Disconnect Switch & Circuit Breaker) Disconnect Switch
- On-Off Switch
- Night Set-Back Relay
- 100% Outside Air Damper
- Inlet/Discharge Duct Collars
- Permanent (Washable) Filter

The Following Field Installed Optional Equipment Shall Be Supplied -

- Recess Trim Kit
- Base Kit
- Aluminum Wall Louver