CADDY CORPORATION

Food Service Equipment Air Systems

Control Cabinets for Water-Wash Ventilators

Model CPE

CADDY Air Systems

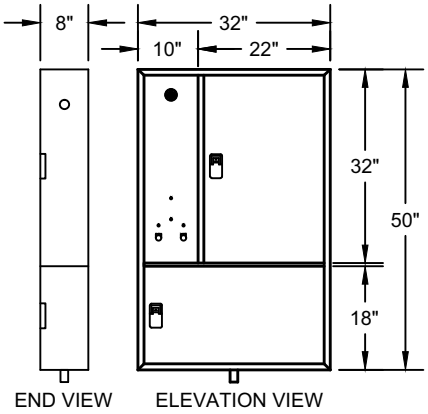
ITEM NO:

PROJECT:

LOCATION:

Model CPE

Control Cabinets for Water-Wash Ventilators



MODEL CPE-1.25-RP-TC

General Description (Non-sequential)

The CADDY***AirSystems*** Model **CPE** waterwash control panel is designed to work in conjunction with series"SH-W" ventilator. This panel houses all necessary plumbing and electrical components required to manually control the exhaust fan, operate the wash cycle, and control the internal fire protection system. Panel to include____vacuum breaker and check valve shipped loose for installation by the Plumbing Contractor ____ a built-in reduced pressure (RP) type backflow preventor as required by the Uniform Plumbing Code (UPC), state and/or codes.

General Description (Sequential)

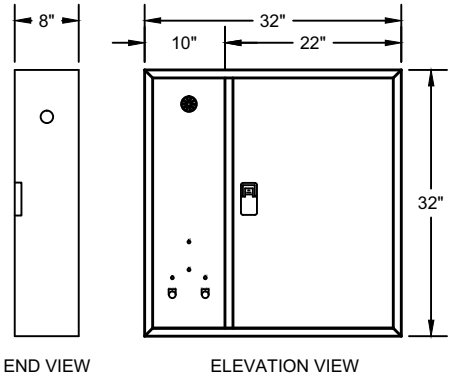
The CADDY***AirSystems*** Model **CPE** waterwash control panel is designed to work in conjunction with series"SH-W" ventilator. This the of panel is typically required when the building hot water system is not capable of delivering enough hot water to wash hoods during a single period of time. This panel houses all necessary plumbing and electrical components required to manually control the exhaust fan, operate the wash cycle, and control the internal fire protection system. Panel to include built-in reduced pressure (RP) type backflow preventor as required by the Uniform Plumbing Code (UPC), state and/or codes. This panel is designed to wash two or more groups of ventilators in sequence (up to four groups maximum), with a programmable delay period between each group to allow for hot water regeneration. Upon wash sequence activation, the exhaust fan shuts down automatically, and the first wash cycle is initiated. At the end of the first wash cycle, there is a programmable delay of up to 120 minutes. The wash cycle for the next group begins at the end of the previous delay period. This sequence of operation continues of up to four groups. The wash cycle length is factory set at 5 minutes for optimal cleaning. Each wash cycle duration can be field adjusted from 1-14 minutes, depending upon internal grease accumulations.

Time Clock Operation (Optional)

Model CPE and CPE-S will include a 24 hour per day, seven day operation is required. This clock is located within the electrical compartment of the panel, where it is not subject to tampering. Features include: LCD digital display, independent daily programming capability, multiple start fan and start wash times, Holiday skip feature, power back-up for holding clock setting and daily programming requirements.

Number of Panels Required

One control panel can be used for multiple hood sections as long as the total lineal footage of ventilator does not exceed the pipe size limitations of the panel. (Non-sequential). One control panel can be used for multiple hoods in a group wash configuration up to four groups,as long as the total lineal footage of ventilator in each group does no exceed the pipe size limitations of the panel. (Sequential). See "Hot Water Pipe Inlet Size" chart below for panel limitations. Any number of exhaust fans can be interconnected to these panels if simultaneous operation of fans single control panel, consult factory for wiring details.



MODEL CPE-1.25-TC

Model Number Designation

In order to determine the exact panel model number, it is first necessary to identify which of the following options are desired. Each selected option becomes an identitiable suffix int eh model number.

1. Number of groups in sequence (if applicable).. 2,3 or 4
2. Built-in backflow preventor (if applicable)..... RP
3. Programmable time clock..... TC
4. Low detergent alarm..... LD
5. Cold water mist..... CM
6. Pipe inlet size (inches)..... 75,1.00,1.25 or 1.50

Once options are selected, identify the exact panel model number as illustrated by the following example:

CPE -	**S___ -**	**RP -**	**TC -**	**LD -**	**CM -**	**___**
Prefix	No. of Groups in Sequence (if Applicable)	Built-in Backflow Preventor (if Applicable)	Time Clock	Low Detergent Alarm	Cold Water Mist	Pipe Size

Installation

The CPE control panel is shipped as a separate component and is to be installed, wired and plumbed by the applicable field trades. This panel can be either surface or flush mounted. When flush mounted, specify panel with stainless steel trim ring.

Hot Water Requirements

140 Deg. F. minimum - 180 Deg. F. maximum
40psi minimum - 80 psi maximum
Average wash cycle duration - minutes per 24 hour period
1.00 FPM per lineal foot of ventilator at 40 psi
1.25 GPM per lineal foot of ventilator at 80 psi

Control Panel Dimensions

All non-sequential panels without built-in backflow preventor are 32" W x 32" H x 8" D
All non-sequential panels with built-in backflow preventor are 32" W x 50" H x 8" D
All sequential panels up to a three sequence configuration (S-3) are 32" W x 50" H x 8" D
All sequential panels with a four sequence configuration (S-4) are 32" W x 54" H x 8" D

Control Panel Weights

All non-sequential panels : 100 LBS.
All sequential panels: 150 LBS.

Electrial Requirments

120 volt, 60 HZ, 15 amp (minimum) non-interrupted service.

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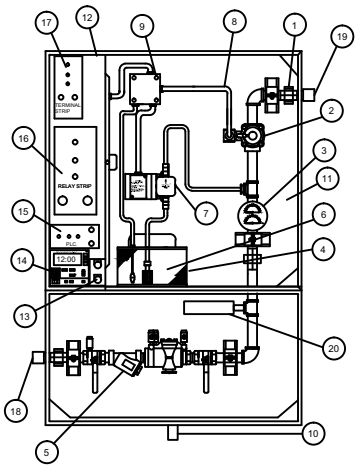
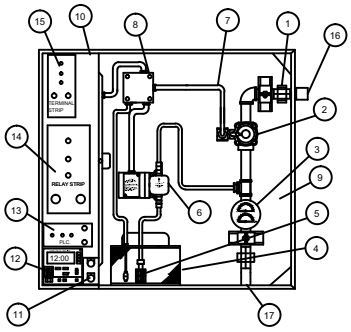
COMPONENT DETAILS (NON- SEQUENTIAL)



MODEL CPE-1.25-RP-TC

LEGEND

1. UNION (TYPICAL)
2. WATER SOLENOID VALVES (S)
3. PRESSURE/TEMPERATURE GAUGE
4. DETERGENT RESERVOIR
5. BACKFLOW PREVENTER (RP DEVICE) WITH 1/4 TURN SHUT OFF VALVE
6. DETERGENT LINE WITH FOOT VALVE
7. DETERGENT PUMP
8. WATERTIGHT FLEX CONDUIT (TYPICAL)
9. WATERTIGHT POWER DISTRIBUTION JUNCTION BOX
10. 1" "RP" DRAIN
11. PLUMBING COMPARTMENT
12. ELECTRICAL COMPARTMENT
13. FIRE TEST STATION
14. PROGRAMMABLE TIME CLOCK (OPTIONAL)
15. PROGRAMMABLE LOGIC CONTROLLER
16. INTERNAL RELAY STRIP
17. FIELD WIRING TERMINAL STRIP
18. HOT WATER INLET
19. HOT WATER OUTLET (TYPICAL)
20. WATER HAMMER



MODEL CPE-1.25-TC

LEGEND

1. UNION (TYPICAL)
2. WATER SOLENOID VALVES (S)
3. PRESSURE/TEMPERATURE GAUGE
4. DETERGENT RESERVOIR
5. DETERGENT LINE WITH FOOT VALVE
6. DETERGENT PUMP
7. WATERTIGHT FLEX CONDUIT (TYPICAL)
8. WATERTIGHT POWER DISTRIBUTION JUNCTION BOX
9. PLUMBING COMPARTMENT
10. ELECTRICAL COMPARTMENT
11. FIRE TEST STATION
12. PROGRAMMABLE TIME CLOCK (OPTIONAL)
13. PROGRAMMABLE LOGIC CONTROLLER
14. INTERNAL RELAY STRIP
15. FIELD WIRING TERMINAL STRIP
16. HOT WATER OUTLET
17. HOT WATER INLET

General Specifications (Sequential)

CADDY***AirSystems*** control panel model **CPE-S-RP_____** to be furnished with "SH-W" Series waterwash ventilators. This panel shall house all plumbing and electrical components required to service the ventilators. The panel shall be constructed of minimum 18 gauge type 304 stainless steel with a number 4 finish, with welded corners and hinged doors to the plumbing and electrical compartments. The electrical compartment shall be water tight to protect against direct hose spray. Electrical controls shall include a programmable logic controller (PLC) for control of the exhaust fan, wash cycle and internal fire protection system. The face of the panel shall be equipped with system status indicator lights which include "Fan On", "Wash On", and "Fire Mode". An audio alarm to indicate "Fire Mode" is also standard. The control panel shall be capable of washing up to four groups of ventilators in sequence, with a delay period for hot water regeneration between each group. The length of each cycle shall be factory pre-set at five minutes per group. The length of each delay period shall be field variable. Panel shall also be equipped with volt-free contacts to allow for connection to a remote exhaust and supply fan motor control center. Contacts are also provided to allow for interconnection between the internal and system. Plumbing components to include a water shut-off valve, pressure/ temperature gauge, normally closed water solenoid valve, detergent pump with extended foot valve, detergent tank and built-in reduced pressure (RP) principle device back flow preventor. Panel shall be equipped with a catch basin compartment with a 1" drain connection to facilitate required testing of the "RP" device as required by code. All components shall be pre-wired and pre-plumbed for field connection by applicable trades. Control cabinet shall be U.L. listed.

General Specifications (Non-sequential)

CADDY***AirSystems*** control panel model **CPE-_____** to be furnished with "SH-W" Series waterwash ventilators. This panel shall house all plumbing and electrical components required to service the ventilators. The panel shall be constructed of minimum 18 gauge type 304 stainless steel with a number 4 finish, with welded corners and hinged doors to the plumbing

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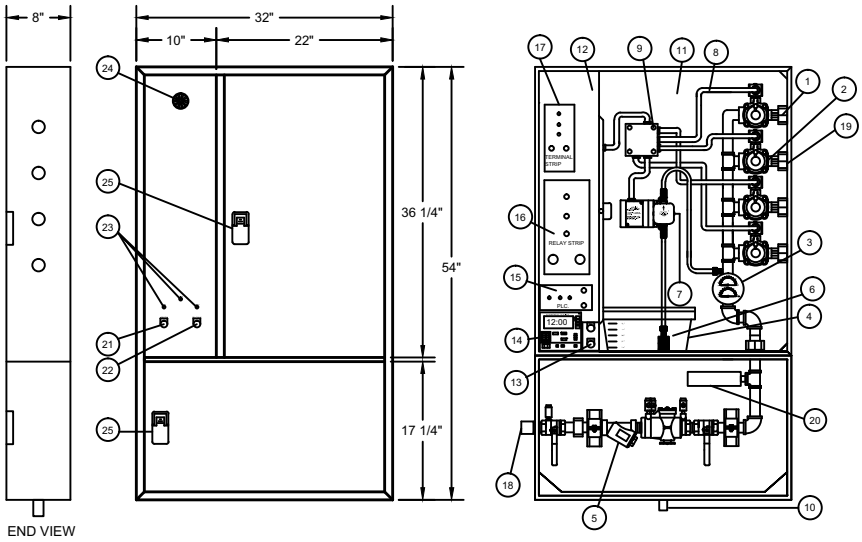
COMPONENT DETAILS (SEQUENTIAL)



MODEL CPE-S-4-1.25-RP-TC

LEGEND

1. UNION (TYPICAL)
2. WATER SOLENOID VALVES (S)
3. PRESSURE/TEMPERATURE GAUGE
4. DETERGENT RESERVOIR
5. BACKFLOW PREVENTER (RP DEVICE) WITH 1/4 TURN SHUT OFF VALVE
6. DETERGENT LINE WITH FOOT VALVE
7. DETERGENT PUMP
8. WATERTIGHT FLEX CONDUIT (TYPICAL)
9. WATERTIGHT POWER DISTRIBUTION JUNCTION BOX
10. 1" "RP" DRAIN
11. PLUMBING COMPARTMENT
12. ELECTRICAL COMPARTMENT
13. FIRE TEST STATION
14. PROGRAMMABLE TIME CLOCK (OPTIONAL)
15. PROGRAMMABLE LOGIC CONTROLLER
16. INTERNAL RELAY STRIP
17. FIELD WIRING TERMINAL STRIP
18. HOT WATER INLET
19. HOT WATER OUTLET (TYPICAL)
20. WATER HAMMER
21. START FAN SWITCH
22. START WASH SWITCH
23. SYSTEM STATUS INDICATOR LIGHTS
24. SON ALERT AUDIBLE ALARM
25. RECESSED HANDLE FOR PLUMBING COMPARTMENT ACCESS

and electrical compartments. The electrical compartment shall be water tight to protect against direct hose spray. Electrical controls shall include a programmable logic controller (PLC) for control of the exhaust fan, wash cycle and internal fire protection system. The face of the panel shall be equipped with system status indicator lights which include "Fan On", "Wash On", and "Fire Mode". An audio alarm to indicate "Fire Mode" is also standard. Panel shall also be equipped with volt-free contacts to allow for connection to a remote exhaust and supply fan motor control center. Contacts are also provided to allow for interconnection between the internal and system. Plumbing components to include water shut-off valve, pressure/ temperature gauge, normally closed water solenoid valve, detergent pump with extended foot valve, detergent tank and _____ vacuum breaker/check valve shipped loose for installation by the Plumbing Contractor (standard), ____ built-in reduced pressure (RP) principle device back flow preventor (optional). When specified with an "RP" device as required by cold. All components shall be pre-wired and pre-plumbed for field connection by applicable trades. Control cabinet shall be U.L. listed.

Optional Features (Non-Sequential and Sequential)

__**Time Clock**-- To include a 24 hour, 7 day solid state LCD programmable time clock for automatic operation. Program options to include starting and stopping the exhaust fan and starting the wash cycle automatically at a pre-determined time of day. Time clock to be equipped with an internal battery back-up to hold the programmed time and programmed memory fuctions.
__**Low Detergent Alarm**-- To include a low detergent flow switch to initiate a visual alarm when detergent drops below a pre-set level in the reservoir.
__**Continuous Cold Water Mist**-- To include provisions for continuous cold water mist for use over solid fuel burning cooking equipment. Components of manifold to include shut-off valve, solenoid valve, pressure requlator and pressure gauge.
__**Remote Fire Switch**-- To include a remote break-glass type fire switch for installation at the nearest exit as indicated on the plans.
__**Security Package**-- To include a keyed latch to prevent unauthorizedaddess inthe control panel.

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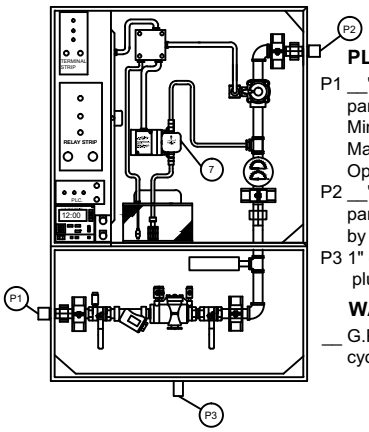
TYPICAL PLUMBING AND ELECTRICAL INFORMATION

PLUMBING REQUIREMENTS-NON "RP" TYPE



(SHOWN WITH DOOR REMOVED FRONT ELEVATION)

PLUMBING NOTES

P1 __" Hot water connection to CPE panel by plumbing contractor.
Minimum water temp. = 140° F
Maximum water temp. = 180° F
Operating pressure between 40-80 PSI.

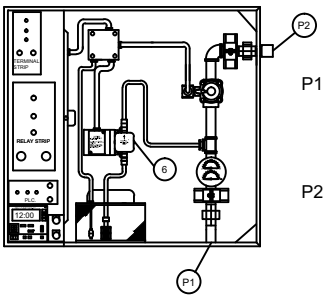
P2 __" Hot water connection(s) from CPE panel to hood connection(s) by plumbing contractor.

P3 1" drain connection to fllor sink by plumbing contrctor.

WATER CONSUMPTION

__ G.P.M. @ 40 P.S.I. 5 min. wash cycle per 24 hr. period.

PLUMBING REQUIREMENTS- "RP" TYPE



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Minimum water temp. = 140° F
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P2 __" Hot water connection(s) from CPE panel to hood connection(s) by plumbing contractor.

WATER CONSUMPTION

__ G.P.M. @ 40 P.S.I. 5 min. wash cycle per 24 hr. period.

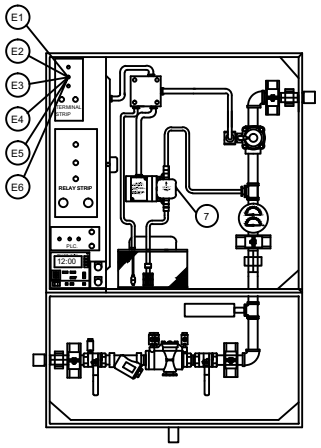
NOTE: Vacuum breaker and check valve assembly shipped loose for installation by plumbing contractor.

HOT WATER PIPE INLET SIZE CHART

Total Linear Feet of Ventilator	NPT Size
3'-0" to 12'-0"	3/4"
12'-0" to 22'-0"	1"
22'-0" to 44'-0"	1 1/4"
44'-0" to 60'-0"	1 1/2"

IMPORTANT NOTE: The pipe inlet size for a sequential control panel is to be the same size as the pipe size required for the largest wash group.

TYPICAL ELECTRICAL INFORMATION



ELECTRICAL INFORMATION

E1 120/1/60 15A. (min.) service by electrical contractor.

E2* 4 wires from control panel to hood exhaust damper control boxes by electrical contractor.

E3 2 wires from control panel to exhaust fan magnetic starter holding coil by electrical contractor. Holding coil to be 120v /1 phase. Supply fan to be wired in parallel with exhaust fan.

E4 2 wires from alarm terminal dry contacts (N.O. or N.C.) located in control panel to building alarm system by alarm contractor or electrical contractor.

E5 2 wires from remote fire pull station (if required) to FS1 and FS2 terminals in control panel by electrical contractor.

E6 2 wires from Ansul micro switch (N.O. contacts) to Ansul 1 and Ansul 2 terminals in control panel by electrical contractor (if required).

*- 5 wire loop between hood damper controls only by electrical contractor. See damper wiring control circuit diagram.

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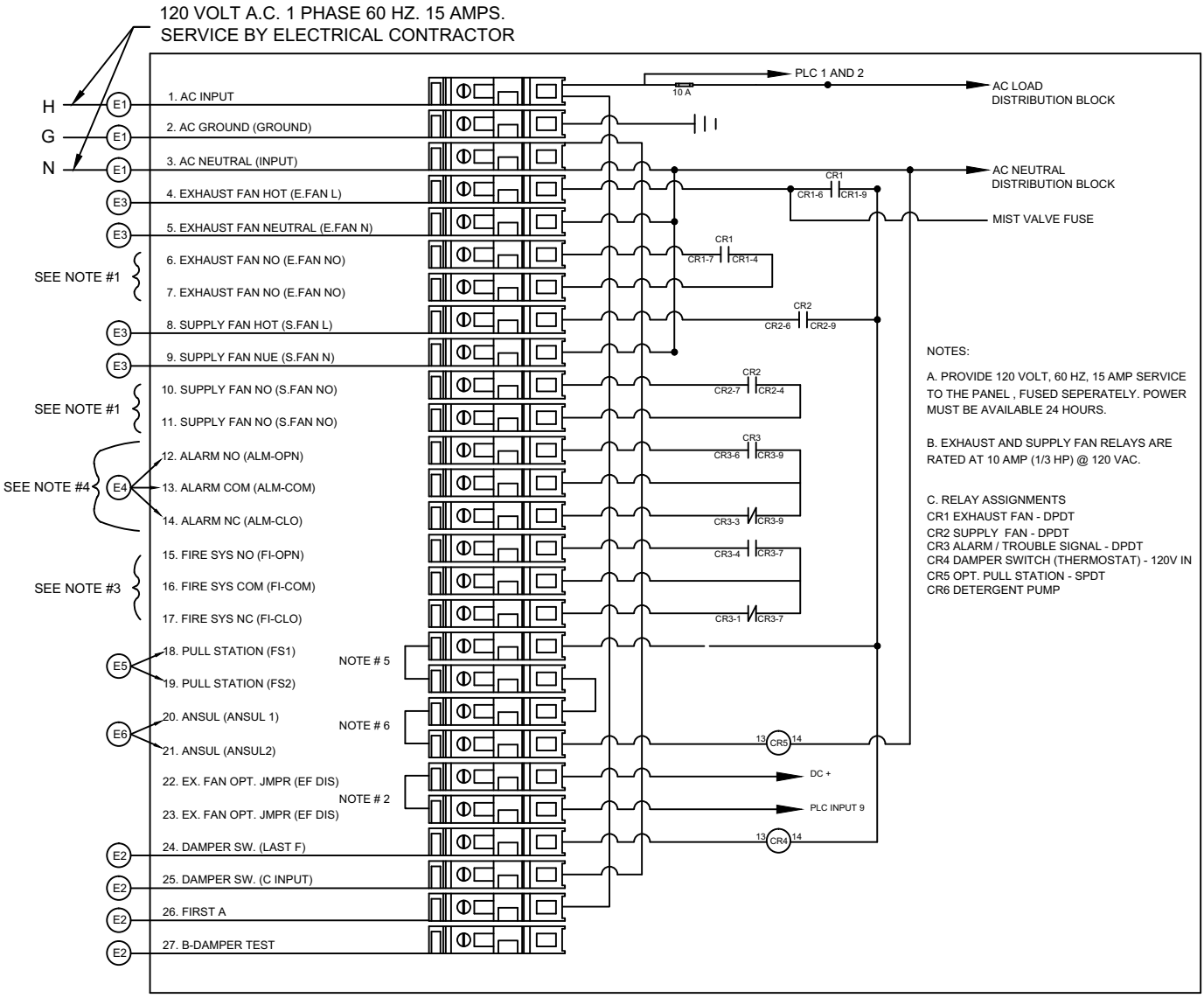
WIRING DIAGRAM AND NOTES



1. Exhaust fan N/O and supply fan N/O terminals are voltage free N/O sets of contacts for use with a remote motor control station.

SEQUENCE OF OPERATIONS

"FAN ON" - contacts close to start exhaust and supply fans.
"Wash on" - Contacts open to stop exhaust and supply fans.
"External fire" (fire switch pulled, fire system discharged)
Exhaust fan N/O contacts close to start exhaust fan.
Supply fan N/O contacts open to stop supply fan.
"Internal fire" (ventilator thermostat closure) contacts open to stop exhaust and supply fan.

2. Unit is shipped with a factory installed jumper across exhaust fan disable terminals. With jumper installed "external fire" condition will result in exhaust and supply fan shutdown. Removal of jumper will cause exhaust fan to start, if off, or remain running if on, and supply fan to stop during external fire condition.

3. Alarm com,. alarm N/C, alarm N/O-voltage free contacts for connection to building alarm system. Contacts transfer during either internal or external fire mode.

4. Alarm com,. alarm N/C, alarm N/O-voltage free contacts for connection to building alarm system. Contacts transfer during either internal or external fire mode. (Optional)

5. Factory installed jumper. Removed jumper and install N/C remote fire switch if required. Pulling switch will initiate external fire mode.

6. Factory installed jumper. Removed jumper and connect to N/C micro switch in Ansul, Kidde, or Pyrochem system. Fire system discharge will initiate external fire mode.

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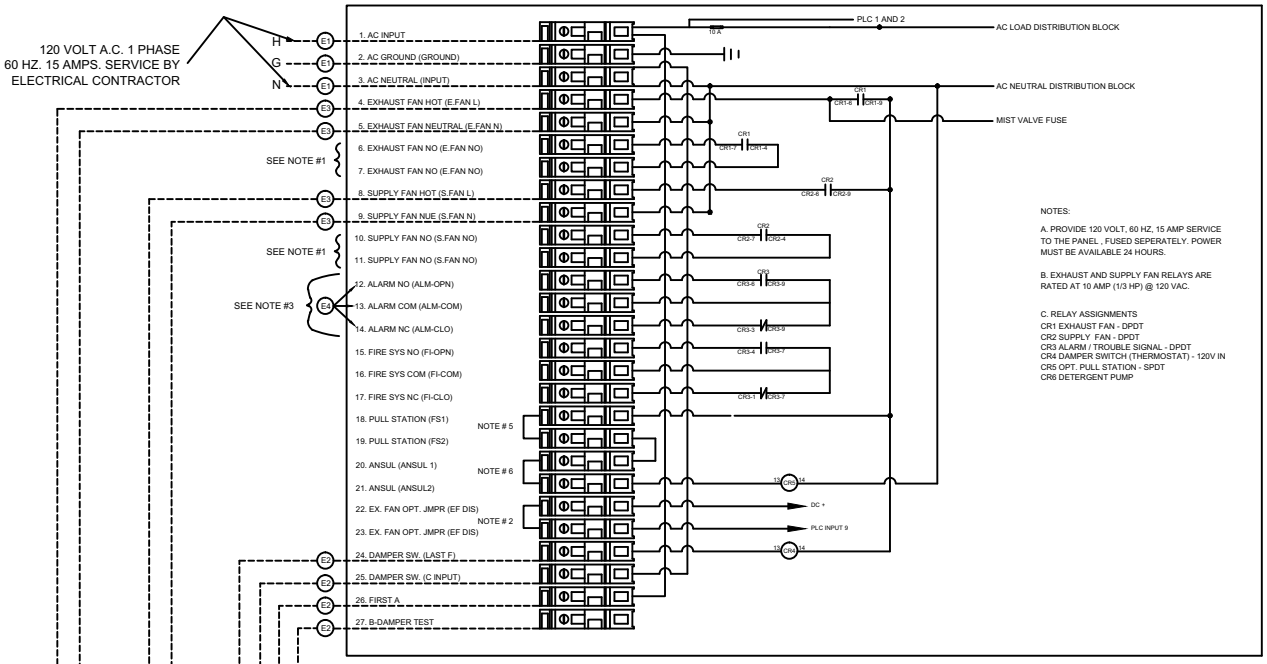

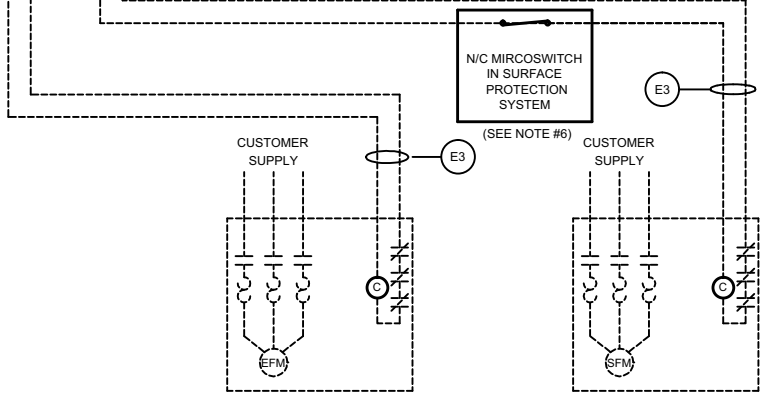

EXHAUST FAN

MOTOR STARTER
MAGNETIC STARTER
WIRING DIAGRAM MAY
VARY ACCORDING TO
MAKE OF STARTER
HOWEVER, COIL MUST
BE 115 VOLTS.

SUPPLY FAN

MOTOR STARTER
MAGNETIC STARTER
WIRING DIAGRAM MAY
VARY ACCORDING TO
MAKE OF STARTER
HOWEVER, COIL MUST
BE 115 VOLTS.

BY CADDY AIR SYSTEMS

BY ELECTRICAL CONTRACTOR

GENERAL CONTRACT CONDITIONS

ELECTRICAL WORK DONE BY CADDY CORPORATION OF AMERICA IS EXECUTED IN COMPLIANCE WITH STANDARDS PUBLISHED BY THE UNDERWRITER'S LABORATORIES,INC. INSOFAR AS APPLICABLE, AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE(NEC), CADDY CORPORATION OF AMERICA DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE REQUIREMENTS OF ANY REGIONAL AND/OR LOCAL CODES THAT ADD OR DEVIATE FROM THE ACCEPTED STANDARDS OF THE ABOVE AGENCIES.

ANY FIELD WORK RELATING TO THE MODIFICATION OF ELECTRIC OR PLUMBING SYSTEMS,TO MEET REGIONAL OR LOCAL CODE REQUIREMENTS IS TO BE DONE BY OTHERS AND WITHOUT BACK CHARGE TO CADDY CORPORATION OF AMERICA, UNLESS THESE CONDITIONS WERE PREVIOUSLY BROUGHT TO OUR ATTENTION AND ARE EXPRESSLY INCLUDED IN OUR WRITTEN QUOTATION.

ALL WIRING AND PLUMBING AT THE JOB SITE IS THE RESPONSIBILITY OF OTHERS. EQUIPMENT WILL BE CONSTRUCTED IN ACCORDANCE WITH OUR DRAWING(S) WHICH MUST BE APPROVED PRIOR TO FABRICATION. ANY SUBSEQUENT CHANGES REQUIRED MUST BE SUBMITTED TO US IN WRITING AND ACKNOWLEDGED ON OUR STANDARD FORM.

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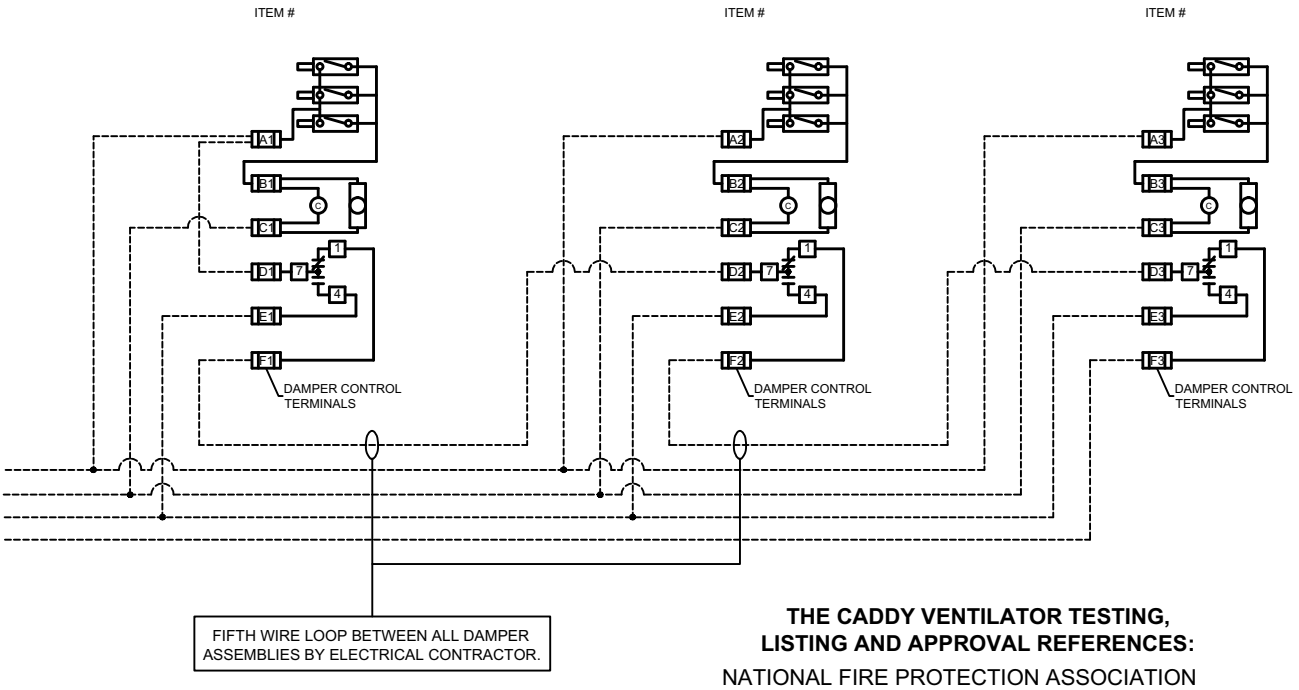

NOTES:

1. Exhaust fan N/O and supply fan N/O terminals are voltage free N/O sets of contacts for use with a remote motor control station.

SEQUENCE OF OPERATIONS

"FAN ON" - contacts close to start exhaust and supply fans.
"Wash on" - Contacts open to stop exhaust and supply fans.
"External fire" (fire switch pulled, fire system discharged)
Exhaust fan N/O contacts close to start exhaust fan.
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"Internal fire" (ventilator thermostat closure) contacts open to stop exhaust and supply fan.

2. Unit is shipped with a factory installed jumper across exhaust fan disable terminals. With jumper installed "external fire" condition will result in exhaust and supply fan shutdown. Removal of jumper will cause exhaust fan to start, if off, or remain running if on, and supply fan to stop during external fire condition.
3. Alarm com,. alarm N/C, alarm N/O-voltage free contacts for connection to building alarm system. Contacts transfer during either internal or external fire mode.
4. Alarm com,. alarm N/C, alarm N/O-voltage free contacts for connection to building alarm system. Contacts transfer during either internal or external fire mode. (Optional)
5. Factory installed jumper. Removed jumper and install N/C remote fire switch if required. Pulling switch will initiate external fire mode.
6. Factory installed jumper. Removed jumper and connect to N/C micro switch in Ansul, Kidde, or Pyrochem system. Fire system discharge will initiate external fire mode.

THE CADDY VENTILATOR TESTING, LISTING AND APPROVAL REFERENCES:

NATIONAL FIRE PROTECTION ASSOCIATION
In Accordance with Recommendation of National Fire Protection Association's NFPA NO. 96 "Vapor Removal From Cooking Equipment"
NATIONAL SANITATION FOUNDATION
Standard #2 - "Food Service Equipment"
UNDERWRITERS LABORATORIES, INC
Tested under standard U.L. 710 "Exhaust Hoods for Commercial Cooking Equipment". U.L. Listed under file number MH8215 and MH12264
UNIFORM MECHANICAL CODE
Section 507 - Commercial Kitchen Hoods and Kitchen Ventilation Systems
THE BOCA NATIONAL MECHANICAL CODE
Chapter 5 - Kitchen Exhaust Equipment
STANDARD MECHANICAL CODE (SBCCI)
Section 504 - Commercial Hoods
UNIFORM BUILDING CODE (ICBO)
INTERNATIONAL MECHANICAL CODE (IMC)

FILE NO. MH82155P

REVISIONS			
REV	DATE	BY	REMARKS

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EQUIPMENT SCHEDULE

MASTER WIRING DIAGRAM FOR CPE AND CPE-RP WATER WASH CONTROL PANELS.

DATE	SCALE	DWG#	SHT 1
	AS NOTED		OF 1
DR BY	APP'D BY		
DRA			

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