$\left(\frac{EC}{1}\right)\left(\frac{EC}{2}\right)$ AC-K1 & K2 SYMBOL * EXISTING AC-K3 HVAC BREEZAIR REZNOR REZNOR MAKE MAKE STINO RDH-B-DT-ECC 150 RDH-B-D-MX 150 TBA 450 7 MODEL MODEL REMAIN * AIR VOLUME (CFM) 700 2,100 6,000 3 RELIEF 2,500 2,500 SHE SE EXT. S.P. 0.5* 0.5* DISCHARGE SP IN. W.G. 150,000 150,000 REFRIGERANT 0.37" R22 VENT SCHEDULE 122,000 OUTPUT 122,000 FAN PUMP (
AMPS WATTS AMPS WATTS HEATING CAPACITY - BTUH COOLING 4.5 * * HULB 550 AIR INLET(T) 32 43.2 CAPACITY AMB. TEMP. 104 F 104 F ₽R 30 208.1.60
OPER'G TOTAL
WATTS OUTLET(F) 77 88.2 992 FULL SPEED 80.5 ENT. BB $\widehat{\mathbf{T}}$ 64.0 64.0 BLOWER 0.35 0.35* ESP DIMENSIONS 46"X33"X46" W X H X L HEATING INPUT 푹 * * 2 2 120.1.60 104 COOLING CAPACITY

AIR ENTERING T AIR LEAVING T WEIGHT

DB WB RH DB WB RH LBS. DRIVE BELT BELT CAPACITY TUTTUO * 70 18% 2,500 **EVAPORATIVE COOLER** 77 VOLUME × FAN HP SUPPLY * * AIR CONDITIONING SCHEDULE COOLING CAPACITY -70 MINIMUM CIRCUIT AMPS 104 70% * * **HEATER SCHEDULE** AIR LVF 188 74.8 208V-1ø-60HZ 460V-3ø-71.6 HUTB EXTRUDED PLASTIC CALIFORNIA ENERGY COMMISION CERTIFIED, MUL ELECTRICAL CONTRACTOR. PROVIDE W/ BREEZAIR DIFFUSER #SPR05 -60HZ R.H. 86% 12" THICK EVAP FILTERS NO. & SIZE FILTERS MERV SCHEDULE * * 1,000 1,185 SEER * * DOUBLE WALL ON RAIL, EVAP COOLER SECTION, SINGLE PASS, ROOM MOUNTED TSTAT, MOTOR STARTER, DISC TRANSFORMER PROVIDED & INSTALLED BY ELECTRICAL CONTRACTOR. DOUBLE WALL ON RAIL, RETURN AIR SECTION ROOM MOUNTED PROVIDED & INSTALLED BY ELECTRICAL CONTRACTOR. COMB. * UNIT OPER. WEIGHT LBS. * * REMARKS EXISTIN **EXISTING** TI-SPEED MOTOR, WATER, DRAIN & 5110D1. EXACT LOCATION ON ROOF ਨ る ಠ REMAIN, REMAIN, **ADJUST** ADJUST OSA FOR AS0 TSTAT, MOTOR STARTER W/ 24VAC COIL FOR 450CFM 150CFM OSA TO BE DETERMINED ON SITE, REFER TO BOTH MECHANICAL **OSA** 8-DISCONNECT & TRANSFORMER & 24VAC COIL 8-& STRUCTURAL DETAILS FOR MOUNTING 490 490 OSA OSA

PROMDE W/ CURB, BDD, MOUNT LEVEL, INTERLOCK CONTROL W/ AC-K1 UNIT OPERATION.	46	60	-	120	.05*	200	GB 081	GREENHECK	KT THE STATE OF TH
REMARKS	HP	НΖ	PH	VOLTS	SP	CFM	MODEL	MAKE	SYMBOL
			ELECTRICAL	ELE					
)ULE	SCHEDULE		JST F,	EXHAUST FAN			

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N

 $\left(\begin{array}{c} RV \\ 1 \end{array}\right) \left(\begin{array}{c} RV \\ 2 \end{array}\right)$

GREENHECK

FGR-30/78

9,100

.05

49"X26"X96"

225

MODEL

RATED AIR FLOW CFM

STATIC PRESS. IN. W.G.

DIMENSIONS

TOTAL WT. W/ACCESSORIES LBS

EQUIPMENT ANCHORAGE NOTES

GENERAL

NOTES AND REQUIREMENTS

MECHANICAL LEGEND

DESCRIPTION

VERIFY LOCATION OF BEFORE ROUGH-IN

IF FIELD ALTERATIONS TO DUCT SYSTEMS HAVE TO BE MADE DUE TO JOB SITE CONDITIONS, THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL PREPARE HIS OWN SHOP AND INSTALLATION DRAWINGS AND SUBMIT FOR APPROVAL.

COORDINATE LOCATION OF CEILING DIFFUSERS, GRILLES, REGISTERS AND SIDEWALL REGISTERS WITH ARCHITECTURAL, STRUCTURAL AND ELECTRICAL ELEMENTS.

COORDINATE UNIT LOCATIONS AND ROOF PENETRATIONS GENERAL TRADE TO ASSURE PROPER ROOF OPENINGS.

GREENHECK

FGR-12/12

500

.05

22"X14"X24"

50

PROVIDE W/ INSECT SCREEN & BACK DRAFT DAMPER, 5" TALL BASE, ALUMINUM CONSTRUCTION, PREFAB CURB, MAX 8" HIGH.

PROVIDE W/ INSECT SCREEN & BACK DRAFT DAMPER, 5" TALL BASE, ALUMINUM CONSTRUCTION, PREFAB CURB, MAX 8" HIGH.

	1 C COMPANY CONTROL CO
	. ALL MECHANICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA PER ASCE 7-05, SECTION 13.3 AND TABLE 13.6-1.
	$F_{p} = 0.4 \text{ apSdsWp} \left(1 + 2 \frac{7}{hr}\right)$ $\left(\frac{R_{p}}{I_{p}}\right)$
	WHERE: FP = HORIZONTAL SEISMIC FORCE AT SERVICE LOAD LEVEL
	q_0 = PER ASCE 7-05 TABLE 13.6-1
·	Sds = SPECTRAL ACCELERATION, SHORT PERIOD
	Ip = 1.5 IF THE COMPONENT IS REQUIRED TO FUNCTION FOR LIFE-SAFETY PURPOSE AFTER AN EARTHQUAKE. 1.0 TYPICAL MECHANICAL EQUIPMENT.
	Rp = PER ASCE 7-05 TABLE 13.6-1
	z = HEIGHT OF EQUIPMENT ATTACHEMENT ABOVE GRADE
	h = AVERAGE HEIGHT OF ROOF ABOVE GRADE
	Wb = OPERATION WEIGHT OF EQUIPMENT
2	Fp SHALL NOT BE LESS THAN 0.3 Sds Tp Wp
	Fp NEED NOT EXCEED 1.6 Sds Ip Wp 1.4
n;	FOR LOAD COMBINATIONS, SEE 2007 CBC, 1605A.3.
	WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL

THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS DOORS AND/OR ACCESS PANELS AT LOCATIONS AS NECESSARY TO SERVICE FIRE DAMPERS AND CONTROL EQUIPMENT, ALL ACCESS DOOR AND PANELS LOCATIONS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION. ACCESS DOORS AND PANELS SHALL BE FIRE RATED TO MATCH ENCLOSURE FIRE RATING.

DUCT DROP
DUCT LINER INSULATION (NET DUCT DIMENSION)
DUCT LINER INSULATION (NET DUCT DIMENSION)
DUCT BRANCH TAKE-OFF WITH EXTRACTOR
DUCT RISER OR DUCT DROP (SUPPLY AIR)
DUCT RISER OR DUCT DROP (SUPPLY AIR)
DUCT RISER OR DUCT DROP (RETURN AIR)
DUCT RISER OR DUCT DROP (RETURN AIR)
DUCT RISER OR DUCT DROP (RETURN AIR)
COMBUSTION AIR
COMBUSTION AIR
EXHAUST AIR
RETURN AIR REGISTER
R. PERIMETER FLOOR REGISTER
R. SUPPLY WALL REGISTER
R. SUPPLY WALL REGISTER
R. SUPPLY WALL REGISTER
R. EXHAUST AIR REGISTER
G. EXHAUST AIR GRILLE

CILING GRILLE

CILING GRILLE

CCESS AND WORKING SPACE MUST BE PROVIDED AND AINTAINED ABOUT ALL AIR CONDITIONING UNIT, ELECTRICAL ND CONTROL EQUIPMENT TO PERMIT READY AND SAFE PERATION, EXAMINATION AND MAINTENANCE.

7	ALL DUCTS, PLENUMS, FLASHINGS, EQUIPMENT AND WORK EXPOSED TO THE WEATHER MUST BE WATERTIGHT.
o	HANGER FOR SUSPENDED EQUIPMENT AND DUCTWORK SHALL BE SWAY BRACED IN TWO DIRECTIONS PER "GUIDELINES" FOR SEISMIC RESTRAINTS OF MECHANICAL EQUIPMENT" BY SMACNA.
SMACNA &	FLEXIBLE DUCTWORK AND INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
10.	10. ALL WORK SHALL CONFORM WITH TITLE 24 & 2007 CMC. MECHANICAL CODE.
OF 25. FLEX 11.	11. PROVIDE EXTRACTORS AT ALL S.A. DUCTS "T" CONNECTIONS AND MANUAL VOLUME DAMPERS IN ALL SUPPLY AIR AND REGISTERS.
REQUIRED IN 12.	12. PROVIDE ROUND TO RECTANGULAR DUCT COLLARS FOR DUCT CONNECTION TO DIFFUSERS, GRILLES AND REGISTERS, AND FOR CONNECTIONS TO SMOKE/FIRE DAMPER SLEEVES.
JINTS WEATHER 13.	13. ALL PIPES, DUCTS, AND CONDUITS WHICH CROSS BLDG. SEPARATION SPACES SHALL BE DESIGNED AND DETAILED TO
ODE, LATEST	ACCOMMODATE DISPLACEMENTS CAUSED BY EARTHQUAKE MOTION. COORDINATE WITH STRUCTURAL ENGINEER OF RECORD FOR THE MAGNITUDE OF THE MAXIMUM EXPECTED RELATIVE DISPLACEMENT.
WHEN BOOT	BETWEEN THE BUILDINGS.

CEILING GRILLE

BAROMETRIC RELIEF DAMPER

DUCT OR PIPE FLEXIBLE CONNECTION

VENT THRU ROOF

OUTSIDE AIR DAMPER

EXHAUST AIR DAMPER

AUTOMATIC FIRE DAMPER

COMBINATION SMOKE FIRE DAMPER

VOLUME DAMPER

ACCESS PANEL

ACCESS DOOR

CEILING DIFFUSER

nawn by

ARPO3 112817
AC FLS ATTSS [72 DATE FLS ARR 18 2010

IDENTIFICATION STAMP DIV OF THE STATE ARCHITECT

PATCH AND REFINISH ALL BUILDING SURFACES THAT ARE DISTURBED BY THIS CONSTRUCTION WITH FINISHES TO MATCH EXISTING.	CORE DRILL AND CUT OPENINGS AS NECESSARY FOR ALL PIPE AND DUCT PENETRATIONS, CUTTING OF STRUCTURAL WALL AND FRAMING MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND ARCHITECT.	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE EXISTING PROJECT SITE, ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS, AND ASCERTAIN THE EXTENT OF WORK INVOLVED IN REMOVING EXISTING EQUIPMENT AND INSTALLING NEW EQUIPMENT, DUCTWORK, AIR DISTRIBUTION DEVICES, PIPING CONTROLS, AND ALL OTHER APPURTENANCES PERTAINING TO THE ABOVE. HE SHALL PROVIDE ALL LABOR, MATERIALS, ETC., FOR THE COMPLETIE, NEW INSTALLATION, ALTERATIONS ETC., FOR THE COMPLETION OF THE PROJECT. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH AN EXAMINATION, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING HIS FIGURE.
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Use of the PIRANHA Restaurant system is limited to interior applications only. The regulated release and tank assemblies must be mounted in an area where the air temperature will not fall below 32 °F (0 °C) or exceed 130 °F (54 °C). The system must be designed and installed within the guidelines of the UL Listed Design, Installation, Recharge, and Maintenance Manual.

The system is capable of automatic detection and actuation and/or remote manual actuation. Additional equipment is available for mechanical or electrical gas line shut-off applications.

The detection portion of the fire suppression system allows for automatic detection by means of specific alloy rated fusible link detectors, which, when the temperature exceeds the rating of the link, the link separates, allowing the regulated release to actuate.

A system owner's guide is available containing basic information pertaining to system operation and maintenance. A detailed technical manual is also available including system description, design, installation, recharge, and maintenance procedures, plus additional equipment installation and resetting instructions.

The system is installed and serviced by authorized distributors that are trained by the manufacturer.

Regulated Release Mechanism
The regulated release mechanism is a spring-loaded, mechanical/pneumatic type capable of providing the expellant gas supply to the agent tank, it contains a factory installed regulator deadset at 150 psi (10.3 bar) with an internal relief of approximately 190 psi (13.1 bar). It has automatic actuation capabilities by a fusible link detection system and remote manual actuation by a mechanical pull station.

The regulated release mechanism contains a release assembly, regulator, and expellant gas hose in a stainless steel enclosure with cover. The enclosure contains knock-outs for 1/2 in, conduit. The cover contains an opening for a visual status indicator.

The regulated release assembly also contains an anti-siphon valve (not required with self-contained option) which is designed to prevent back-siphonage of possible contaminated water into a potable water supply. It is compatible with mechanical gas shut-off devices; or, when equipped with a field or factory installed switch, it is compatible with electric gas line or appliance shut-off devices.

Water Supply Tank – (Self Contained Option)

A 40 gallon (151 L) water supply tank is available for the PIRANHA 7, 10, and 13 systems. The water tank is constructed of mild steel with a nust-inhibitive coating, both internal and external. The Self-Contained Water Supply Tank is equipped with a brass outlet adaptor and an internal pick-up tube.

Water Tank Expellant Gas Assembly – (Self Contained Option)

The Water Tank Expellant Gas Assembly consists of two (2) pneumatic actuators, one (1) 75 psi (5,2 bar) regulator, and a stainless steel hose and fittings for actuator connection. These components are housed in a stainless steel enclosure. This assembly requires two (2) LT-A-101-30 nitrogen cartridges.

The system design for appliance protection under the hood allows the nozzles to be positioned uniformly from one end of the appliance line to the other. Most appliances under the hood can be protected in this overlapping manner, therefore, it is not necessary to protect each appliance individually. Appliances are free to be shifted around under the hood. The only exception to this overlapping type coverage are upright broilers, salamanders, and chain broilers.

These type appliances requires dedicated nozzle protection.

The water spray portion of the system is provided by a connection to the potable water supply or by means of a PIRANHA self-contained water tank.

e significantly aids in increasing and rated by the wet chemical agent. The et allows the hot grease to cool well e.

Then, immediately following the agent discharge, the valve will automatically allow the water to flow through the piping and out the system nozzles. Nozzle blow-off caps, detectors, cartridges, agent, fusible links, and pulley elbows are supplied in separate packages in the quantities needed for the fire suppression system arrangement.

Additional equipment includes remote manual pull station, mechanical and electrical gas valves, pressure switches, and electrical switches for automatic equipment and gas line shut-off. Accessories can be added such as warning lights, etc., to installation where required.

The water supply piping includes a lockable valve (for domestic and

basic system consists of an ANSUL AUTOMAN® regulated release mbly which includes a regulated release mechanism and a wet incal storage tank housed within a single enclosure. The tank valve signed to allow the wet chemical agent to discharge onto the rd area first.

MOUNTING

HEIGHTS

OVER OBSTRUCTION

`MIN.

34" MAX.

46" MAX AT
PARALLEL APPROACH
44" MAX AT
FORWARD APPROACH

REMOVE EXISTING CEILING SYSTEM AS NECESSARY
TO PERFORM ALTERATION WORK AND CONSTRUCTION WORK, AFTER
COMPLETION OF WORK, REINSTALL CEILING STSTEM TO MATCH EXIS
SURROUNDINGS. REPLACE DAMAGED TILES AND GRID TO MATCH SU

48" MAX.

THERMOSTAT, SWITCH, OUTLET, CONTROL

TOP OF
THERMOSTAT,
SWITCH, OUTL

MOUNTING HEIGHT OVER OBSTRUCTI

ON N

PROVIDE PLYWOOD FLOOR COVERING TO PROTECT FLOORING DURING CONSTRUCTION AND ALTERATION WORK.

CUT ROOFING FOR INSTALLATION OF PIPING ROOF PENETRATIONS AND REFINSH ALL ROOFING AT REMOVED AND ADDED PIPING, CONDUIT AND EQUIPMENT TO MATCH EXISTING SURROUNDINGS.

PERFORM FINAL CLEANUP OF ALL AREAS INSIDE AND OUTSIDE OF BUILDING PRIOR TO FINAL FIELD OBSERVATION.

FOR INSTALLATION OF CONDUITS IN WALL TO ROOM THERMOSTAT AND SENSOR LOCATION CUT, PATCH AND REFINISH WALLS TO MATCH EXISTING SURROUNDINGS.

New Proprietary Agent With Increased Performance
Fifteen Times Faster Than Existing Agents in Reducing
Temperature of the Grease Below the Reflash Point
Reliable Cartridge Operated
Aesthetically Appealing
Self-Contained Water Tank Option Available

PIRANHA. RESTAURANT FIRE SUPPRESSION SYSTEMS
Data/Specifications

11 ANSUL.

xinguishing agent is a specially-formulated, aqueous solutions and the second form it is although and foam it is although and foam figrease related fires. It is available in 5.0 gallon (18.9 L) there with instructions for wet chemical handling and usage

Water Shutdown Device (Domestic and Sprinker water Supply Option Only)

The water shutdown device is an optional component which can be field installed in the ANSUL AUTOMAN release. With the device installed, the water flow to the discharge nozzles will automatically shutdown approximately 10 minutes after system actuation.

FLEX DUCT TO BE MAX SMOKE DEVELOPED LENGTH OF DUCT LIMITED TO 6' LENGTHS.

EACH DUCT

BRANCH TO INCLUDE A BALANCE DAMPER.

ALL DUCT SHOWN IS LOW VELOCITY DUCT WORK. ALL MATERIALS CITY OF LOS ANGELES MECHANICAL CODE.

WATER LINE: TO DOMESTIC, SPRINKLER, OR SELF-CONTA WATER SUPPLY

Agent Tank

The agent tank is installed in a stainless steel enclosure. The tank is deep drawn carbon steel finished in red enamel.

Tanks are available in three (3) sizes:

PIRANHA-7:

1.5 gallon (5.7 L) capacity

PIRANHA-10:

2.25 gallon (8.5 L) capacity

PIRANHA-13:

3.0 gallon (11.4 L) capacity

The tanks have a working pressure of 50 psi (10.3 bar), a test pressure of 450 psi (31.0 bar), and a minimum burst pressure of 900 psi (62.1 bar).

The tank includes an adaptor/tube assembly. The adaptor is chrome-plated steel with 1/4 in. NPT female low pressure gas inlet port and a 3/8 in. NPT female agent outlet port. The adaptor also contains a bursting disc seal which prevents the siphoning of agent up the pipe during extreme temperature variations.

Underwriters Laboratory of Canada (ULC): Standard ORD-C1254. Pre-Engineered Wet Chemical Extinguishing System Units.

National Fire Protection Association (NFPA): Standard 17A – Wet

USE A FLEX CONNECTOR BOOT FOR DUCT CONNECTIONS TO ROOFTOP AC UNITS. EXPOSED, PROVIDE A S/M SUN SCREEN OVER THE TOP TO BLOCK DIRECT SUNLI

ALL HVAC WORK PER CMC, EDITION.

2007 EDITION & CITY OF LOS ANGELES MECH

Fire Testing or rant Cooking

EACH SA & RA DUCT TO BE INSULATED PER CEC T-24. DUCT INSULATION OF R8 REQUIRED NON CONDITIONED AREAS. (INSULATION TO BE MAX SMOKE DEVELOPED LENGTH \leq 50, MAX FLAME SPREAD \leq 25.

INSULATE WITH RIGID R8

ne adaptor/tube assembly is the water flow valve. Note: design option does not require a water flow valve. This ed to allow the wet chemical agent to flow first and then utomatically switch internally to allow the water to start creasing the foam blanket and providing additional

Society of Sanitary Engineers (ASSE): Standard 1001 – nection Protection Devices: Guidelines for Selection of Type of Backflow Preventor – Piped Applied Atmospherieskers

				
1	S		•	
	SYMBOL ABBREV.		POD	
	ABBRE			
LINE VOLTAGE WIRING & CONDUIT IN MECHANICAL WORK	V. DESCRIPTION	CONTROL LEGEND	POINT OF DISCONNECT	

EXISTING
REMOVE EXISTING

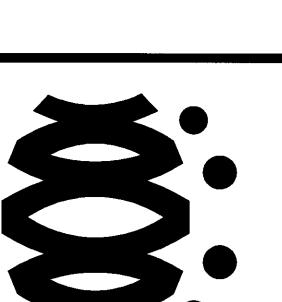
*
MBT
DPST
SPST
DISC
H-0-A
MAG.
S) SW.
Θ
3
©
3
1
SYMBOL ABBREV.

MODERNIZATION PROJECT AT EVERGREEN ELEMENTARY SCHOOL	All dimensions must be checked at the job by the contractor who accepts full responsibility for their accuracy under the contract. These plans it the specifications in connection therewith have been prepared for a specific site. Any and all responsibility for their use in whole or in part on any other site is hereby disclaimed by Fleveling it Moody.	

MECHANICAL SCHEDULES

<u> </u>
9

-2010



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