H.V.A.C. LEGEND:

WD-20 — DIFFUSER DESIGNATION
600 CFM — DIFFUSER C.F.M.

CD — CEILING DIFFUSER W/ C.F.M. - 4 WAY

CD — PERFORATED CEILING DIFFUSER

CD — CEILING DIFFUSER W/ C.F.M. - 3 WAY

CD — CEILING DIFFUSER W/ C.F.M. - 2 WAY

RG — RETURN DIFFUSER - SUSP. CEILING

EG — EXHAUST GRILLE

PRV — POWER ROOF VENT

ECH — ELECTRIC CEILING HEATER

WD - WALL OR BULKHEAD SUPPLY GRILLE - LINEAR

TG - TRANSFER GRILL

SH - SENSOR HUMIDITY

ST - SENSOR TEMPERATURE

GENERAL NOTES:

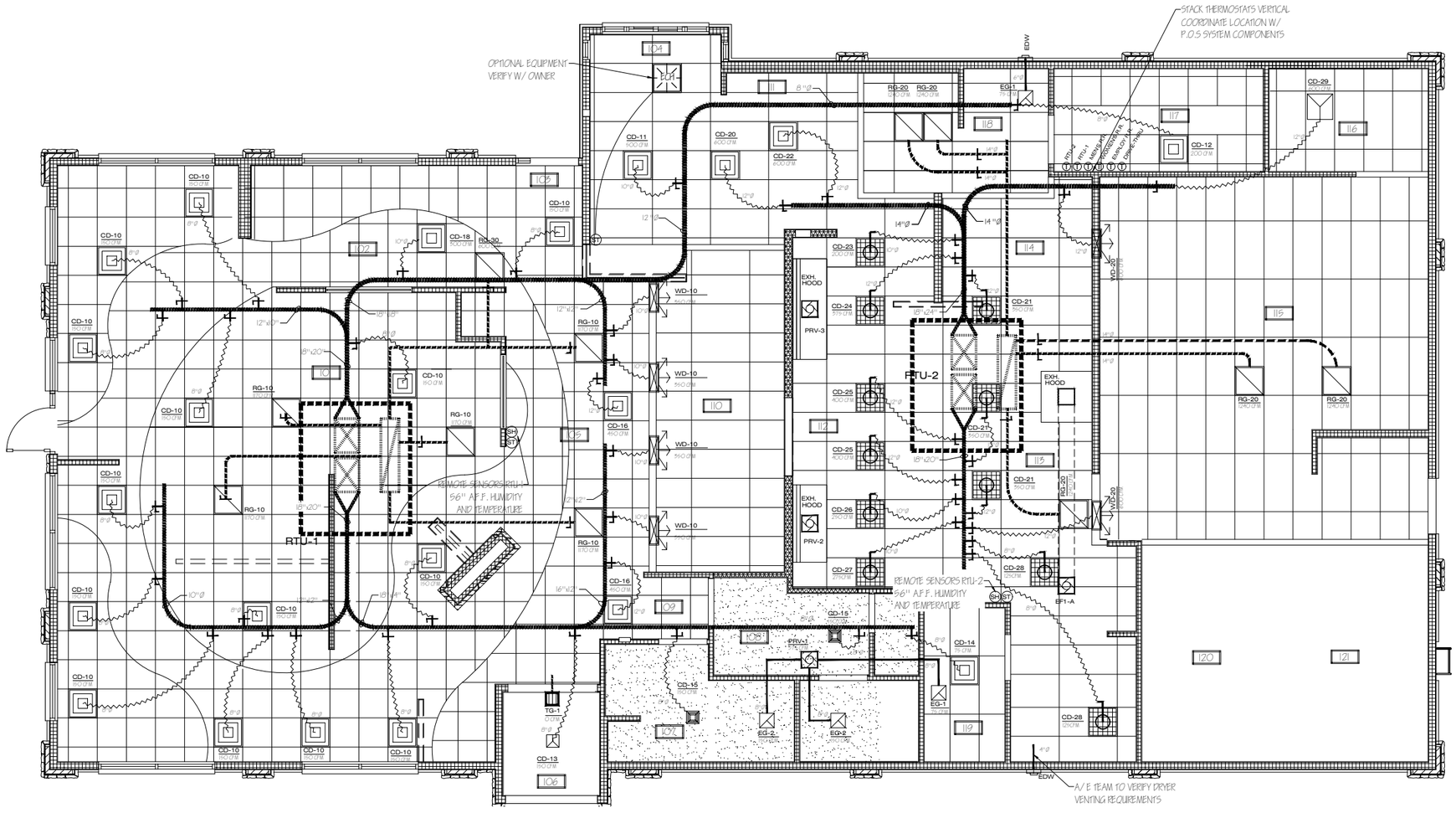
1. VERIFY ALLOWABLE FLEX DUCT LENGTHS WITH LOCAL CODES AND MODIFY ACCORDINGLY. ATTACH FLEXIBLE AIR CONNECTOR TO RIGID DUCT w/ STEEL DRAW BANDS N-ONLY. CLASS 1 FLEXIBLE AIR CONNECTOR PER UL 181 - MAX LENGTH 8'-0". PROVIDE SUPPORT AT 4'-0" O.C.
2. VENTING OF ANY COMBUSTIBLE BY-PRODUCTS IS PROHIBITED WITHIN 10 FEET OF ROOF TOP UNITS. VERIFY WITH LOCAL BUILDING INSPECTOR.
3. ALL SUPPLY AND RETURN DUCTWORK TO BE LOCATED IN TRUSS SPACE. COORDINATE WITH TRUSS SUPPLIER.
4. DIFFUSERS AND RETURN GRILLES IN BLACK ACT TO BE BLACK, ALL OTHERS TO BE WHITE.

RECOMMENDED HVAC SET POINTS:

1. DINING HEATING 70°, COOLING 72°
2. KITCHEN HEATING 68°, COOLING 74°

WARNING:

THESE ARE PROTOTYPE PLANS AND MAY NOT BE VALID FOR CONDITIONS AND CODES APPLICABLE IN YOUR AREA. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT AND THEIR CONSULTANT TO VERIFY THE HEATING, VENTILATING, AND AIR CONDITIONING REQUIREMENTS FOR EACH PROJECT. DESIGN MUST BE ADJUSTED TO MEET LOCAL CONDITIONS AND CODES. CULVER FRANCHISING SYSTEM, LLC ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE CORRECTNESS OF THESE PLANS OR THEIR APPLICABILITY TO ANY PARTICULAR PROJECT OR SITE.



HVAC PLAN - METRO M - 2021 PROTOTYPE

SCALE: ¼" = 1'-0"

LEFT SIDE · FRONT · REAR · RIGHT SIDE — SEE SITE PLAN FOR NORTH ORIENTATION

HENDRICKSON ARCHITECTURE + PLANNING
2325 Belmont Center Dr., Ste. B
Belmont, MI. 49306
616.458.5554

4045 Barden S.E. Grand Rapids, MI. 49512
616.949.3360

Culver's

Metro M - 2021 - Customized

BROWN AVE.
LAKE ORION, MICHIGAN

BID/PERMIT	• 02.01.22
PERMIT	• 03.17.22
DRAWN BY:	• JMV
CHECKED:	• DSH

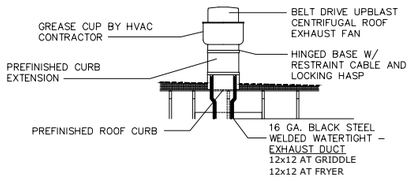
HVAC PLAN

PROJECT No. • 210303

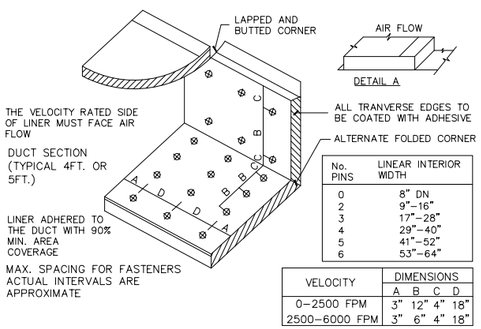
M-1

GENERAL NOTES

1. DEVIATIONS FROM THE HVAC PLANS ARE THE RESPONSIBILITY OF THE HVAC CONTRACTOR & WILL NOT RESULT IN ADDITIONAL COSTS TO THE OWNER UNLESS WRITTEN CHANGE ORDERS ARE APPROVED BY THE OWNER.
2. ALL WORK TO BE PERFORMED TO STATE AND LOCAL CODES & SMACNA GUIDELINES.
3. INSTALL UNITS ACCORDING TO MANUFACTURERS GUIDELINES.
4. PROVIDE OWNER w/OPERATION & MAINTENANCE MANUALS & SYSTEM SCHEMATICS.
5. CONTRACTOR TO CONFIRM VOLTAGES & PHASES OF EQUIPMENT PRIOR TO INSTALLATION
6. EXHAUST FANS AND FURNACE FANS TO RUN CONTINUOUSLY DURING OCCUPIED MODE.
7. VERIFY w/ OWNER EXACT HEATER LOCATION TO AVOID BUILDING FUNCTION INTERFERENCE.
8. NIGHT SET BACK THERMOSTATS TO BE INSTALLED ON ALL HVAC EQUIPMENT.
9. INSULATE DUCT WORK TO SMACNA GUIDELINES AND STATE CODES.
10. INSTALL VOLUME CONTROL DAMPERS AS INDICATED ON PLANS.
11. MAINTAIN AT LEAST 10 FEET CLEARANCE FROM INTAKES OR WINDOWS ON ALL EXHAUST VENTS
12. RETURN AIR DUCT WORK TO BE LINED FOR SOUND ATTENUATION
13. FLEXIBLE ROUND DUCT WORK NOT TO EXCEED 8 FEET IN LENGTH. AVOID UNNECESSARY. TURNS & SLACK.
14. DUCT WORK TO BE STANDARD GAUGE SHEET METAL (FIBROUS DUCT NOT ALLOWED).
15. COORDINATE WORK & GENERAL CONTRACTOR & OWNER TO MAXIMIZE CEILING HEIGHT & AVOID CONFLICTS
16. TEST, ADJUST & CALIBRATE CONTROL SYSTEMS AS REQUIRED. PROVIDE SCHEMATICS & DESCRIPTION TO THE OWNER PRIOR TO INSTALLATION.
17. INSULATE EXHAUST DUCT FOR EXHAUST FAN TO EXTERIOR TERMINATION.
18. CONTRACTOR TO VERIFY GAS METER CAPACITY WITH LOCAL GAS SUPPLIER.
19. VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION (DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT REFLECT EXACT LOCATIONS OF EQUIPMENT OR OTHER APPARATUSES.)
20. PROVIDE SHOP DRAWINGS TO THE ARCHITECT/DESIGNER FOR EQUIPMENT, FANS, REGISTERS ETC. PRIOR TO PROCUREMENT
21. PROVIDE OWNER WITH COLOR CHOICES FOR SWITCHES AND OTHER APPARATUSES WHERE APPLICABLE
22. VENT WATER HEATER AS REQUIRED
23. VENT DRYER TO EXTERIOR AS REQUIRED. MAINTAIN CLEARANCES FROM INTAKES AS NOTED ABOVE.
24. HANG AND SUPPORT MATERIALS SHALL BE INSTALLED THE LATEST EDITION OF THE ASHRAE HANDBOOK OF FUNDAMENTALS
25. HVAC CONTRACTOR RESPONSIBLE FOR A COMPLETE AND FULLY WORKING SYSTEM
26. REPLACE ALL AIR FILTERS PRIOR TO TURNING SYSTEM OPERATIONS OVER TO OWNER.
27. INSTALLER IS RESPONSIBLE FOR FINAL TEST & BALANCING DURING TRAINING WEEK & PROVIDE A WRITTEN REPORT TO OWNER.
28. HVAC CONTRACTOR TO INSTALL #2 GAS w/ 14" WATER COLUMN MAX. PER STATE CODE & AGA GUIDELINES (LABEL AS REQUIRED).
29. DUCT DIMENSIONS LISTED ARE NET FREE – CLEAR INSIDE DIMENSIONS.
30. VERIFY DUCT LOCATIONS PRIOR TO FABRICATION. VERIFY LIMITED AREA FOR DUCTWORK & OTHER APPARATUSES.
31. **S/S WALL PANELS FOR THE KITCHEN AREA ARE TO BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR.** PANELS ARE TO BE 18 GA. TYPE 304 S/S. SEE DETAILS AND LOCATIONS ON THE A–6 AND A–8.1 DRAWING.
32. COMMERCIAL KITCHEN HOOD VENTILATION DUCTS AND EXHAUST EQUIPMENT SHALL BE IN COMPLIANCE WITH NFPA–96–2014, WHICH IS THE STANDARD OF THE NATIONAL FIRE PROTECTION ASSOCIATION LISTED IN CHAPTER 15 OF THE CODE.



KITCHEN HOOD EXHAUST FAN DETAIL
N.T.S.



No. PINS	LINEAR INTERIOR WIDTH
0	8" DN
2	9"–16"
3	17"–28"
4	29"–40"
5	41"–52"
6	53"–64"

VELOCITY	DIMENSIONS A	B	C	D
0–2500 FPM	3"	12"	4"	18"
2500–6000 FPM	3"	6"	4"	18"

DUCT LINER INSTALLATION DETAIL
N.T.S.

NOTE: USE ONLY ON VERTICAL DROP FROM RTU TO WITHIN 9'–10" A.F.F., DUCT LINER WILL NOT BE PERMITTED ON ANY HORIZ. RUNS.

MECHANICAL EQUIPMENT SPECIFICATIONS

RTU - 1 **LENNOX ENERGENCE SERIES PACKAGED ROOFTOP UNITS WITH PRODIGY CONTROLLER**

COMBINATION GAS WITH HIGH TWO STAGE HEATING AND COOLING ROOFTOP UNIT WITH HUMIDITROL AND S/S HEAT EXCHANGERS. LOW HEAT 135,000 BTU/HR AND HIGH HEAT 208,000 BTU/HR OUTPUT HEATING CAPACITY. 80%V AFUE THERMAL EFF. 180,000 NET COOLING CAPACITY. 12.0 EER MINIMUM. BLOWER MOTOR SET FOR NOMINAL 6,150 CFM & FRESH AIR INTAKE DAMPER SET FOR MINIMUM 1,900 CFM. UNIT TO BE 208/3, 71 MCA, 80 MOCP & DRIVE KIT 1. VERIFY AMPERAGE AND COORDINATE WITH ELECTRICAL CONTRACTOR. IN ADDITION TO OPTIONS LISTED ABOVE INCLUDE THE FOLLOWING FACTORY INSTALLED OPTIONS: TWO STAGE CONTROL, WEATHERPROOF DISCONNECT SWITCH, FACTORY INSTALLED/FIELD POWERED GFCI, RETURN SMOKE DETECTOR, DRAIN PAN OVERFLOW SWITCH, SINGLE ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF AND HOODS, BLOWER BELT AUTO TENSIONER. INCLUDE THE FOLLOWING FIELD INSTALLED OPTIONS: 2" MERV8 FILTERS, SPARE BELT, DOWN FLOW HYBRID CURB, PVC DRAIN TRAP KIT, REMOTE HUMIDITY SENSOR, MESH HAIL GUARD, LENNOX MODEL 13H15 PROGRAMMABLE THERMOSTAT.
NO SUBSTITUTIONS.

RTU - 2 **LENNOX ENERGENCE SERIES PACKAGED ROOFTOP UNITS WITH PRODIGY CONTROLLER**

COMBINATION GAS WITH HIGH TWO STAGE HEATING AND COOLING ROOFTOP UNIT WITH HUMIDITROL AND S/S HEAT EXCHANGER. LOW HEAT 135,000 BTU/HR AND HIGH HEAT 208,000 BTU/HR OUTPUT HEATING CAPACITY. 80%V AFUE THERMAL EFF. 210,000 NET COOLING CAPACITY. 12.0 EER MINIMUM. BLOWER MOTOR SET FOR NOMINAL 6,150 CFM & FRESH AIR INTAKE DAMPER SET FOR MINIMUM 1,900 CFM. UNIT TO BE 208/3, 87 MCA, 100 MOCP & DRIVE KIT 1. VERIFY AMPERAGE AND COORDINATE WITH ELECTRICAL CONTRACTOR. IN ADDITION TO OPTIONS LISTED ABOVE INCLUDE THE FOLLOWING FACTORY INSTALLED OPTIONS: TWO STAGE CONTROL, WEATHERPROOF DISCONNECT SWITCH, FACTORY INSTALLED/FIELD POWERED GFCI, RETURN SMOKE DETECTOR, DRAIN PAN OVERFLOW SWITCH, SINGLE ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF AND HOODS, BLOWER BELT AUTO TENSIONER. INCLUDE THE FOLLOWING FIELD INSTALLED OPTIONS: 2" MERV8 FILTERS, SPARE BELT, DOWN FLOW HYBRID CURB, PVC DRAIN TRAP KIT, REMOTE HUMIDITY SENSOR, MESH HAIL GUARD, LENNOX MODEL 13H15 PROGRAMMABLE THERMOSTAT.
NO SUBSTITUTIONS.

PRV - 1 **ACCUREX MODEL XRED-090-D** DOWNBLAST EXHAUST FAN WITH ROOF CURB AND BACKDRAFT DAMPER. 375 CFM AT .5" SP, .0667 HP MOTOR, 115 VOLTS, SINGLE PHASE. FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE. **NO SUBSTITUTIONS.**

PRV - 2 (ITEM #49) **ACCUREX MODEL XRUB-161XP-15 KITCHEN FAN** UPBLAST EXHAUST FAN W/CLEAN–OUT PORT, MOUNTED HINGE BASE, & AUTO BELT TENSIONER, SPARE BELT, & ROOF CURB WITH CURB EXTENSION. 1500 CFM AT 2.33" SP, 1.5 HP MOTOR, 208 VOLTS THREE PHASE FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE. **NO SUBSTITUTIONS.**

PRV - 3 (ITEM #99) **ACCUREX MODEL XRUB-141-7 KITCHEN FAN** UPBLAST EXHAUST FAN W/CLEAN–OUT PORT, MOUNTED HINGE BASE, & AUTO BELT TENSIONER, SPARE BELT, & ROOF CURB WITH CURB EXTENSION. 1500 CFM AT 1.00" SP, .75 HP MOTOR, 208 VOLTS THREE PHASE FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE. **NO SUBSTITUTIONS.**

EF1-A (ITEM #29) **ACCUREX MODEL XRED-090-D** CONDENSATE DOWNBLAST EXHAUST FAN WITH ROOF CURB AND BACKDRAFT DAMPER. 350 CFM AT .6" SP, .0667 HP MOTOR, 115 VOLTS, SINGLE PHASE. FAN TO RUN w/STARTING OF DISHWASHER & FOR ONE MINUTE AFTER THE CYCLE IS COMPLETE. **NO SUBSTITUTIONS.**

EF - 1 **ACCUREX MODEL XCR-B80** CEILING EXHAUST FAN, SPEED CONTROL & MODEL WC–4 HOODED WALL CAP. PAINT WALL CAP TO MATCH EXTERIOR FINISH. 75 CFM AT .125"SP, 115 VOLT, SINGLE PHASE. FAN TO RUN CONTINUOUSLY DURING OCCUPIED MODE.
NO SUBSTITUTIONS.

ITEM #49 **GRIDDLE EXHAUST HOOD - ACCUREX MODEL XGEP-5.33S** 64" X 26" X 36" HIGH, LOW PROXIMITY w/FLUE BYPASS. 1500 CFM AT 1.918" SP, 12" x 12" DUCT COLLAR. INCLUDES THE 3" INTEGRAL AIR SPACE ON BACK OF HOOD & AN ADDITIONAL 3" REAR FILLER PANEL. STAINLESS STEEL WHERE EXPOSED, w/GREASE GRABBER TWO–STAGE FILTRATION SYSTEM. 26" HIGH ENCLOSURE PANELS, FRONT, LEFT AND RIGHT SIDES. GREASE TROUGH SHALL BE PITCHED TO THE LEFT END OF THE HOOD. APPROVALS SHALL INCLUDE UL LISTING AND THE NSF SEAL. THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF NFPA–96 & TO ALL PREVAILING LOCAL CODE REQUIREMENTS.
NO SUBSTITUTIONS.

ITEM #59 **FRYER EXHAUST HOOD - ACCUREX MODEL XXEP-FB-6.92-S** 83" X 26" X 36" HIGH, LOW PROXIMITY w/FLUE BYPASS. 1500 CFM AT .518" SP, 12" x 12" DUCT COLLAR. INCLUDES THE 3" INTEGRAL AIR SPACE ON BACK OF HOOD & AN ADDITIONAL 3" REAR FILLER PANEL. STAINLESS STEEL WHERE EXPOSED, w/X–TRACTOR STAINLESS STEEL FILTERS TWO–STAGE FILTRATION SYSTEM. 26" HIGH ENCLOSURE PANELS, FRONT, LEFT AND RIGHT SIDES. GREASE TROUGH SHALL BE PITCHED TO THE LEFT END OF THE HOOD. APPROVALS SHALL INCLUDE UL LISTING AND THE NSF SEAL. THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF NFPA–96
NO SUBSTITUTIONS.

ITEM #25A **DISHWASHER CONDENSATE HOOD - ACCUREX MODEL XD3-3.5-S** CONDENSATE HOOD w/BAFFLE, 42" X 42" X 24" HIGH, STAINLESS STEEL WHERE EXPOSED. 350 CFM AT .127 SP, 7 x 7 DUCT COLLAR. APPROVALS SHALL INCLUDE THE NSF SEAL. (UL LABEL NOT REQUIRED FOR NON–GREASE APPLICATION). THE VENTILATOR SHALL CONFORM TO THE REQUIREMENTS OF NFPA–96 & TO ALL PREVAILING LOCAL CODE REQUIREMENTS. **NO SUBSTITUTIONS.**

ECH **ELECTRIC CEILING HEATER -** Q–MARK OR EQUAL CDF–548 ELECTRIC CEILING HEATER & CDF RECESSED MOUNTING FRAME, CDF–TR4 TRANSFORMER & THERMOSTAT. 208/240 VOLT SINGLE PHASE. 19.2 AMPS. **(SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR)**

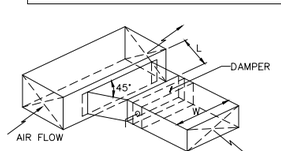
AIR BALANCE TABLE

Mark	Vent. Air CFM	Exh. Air CFM	Net Balance
RTU–1	+1900	––	+1900
RTU–2	+1900	––	+3800
PRV–1	––	–300	+3500
PRV–2	––	–1500	+2000
EF1–A	––	–1500	+500
PRV–4	––	–350	+150
EF–1	––	–75	+75

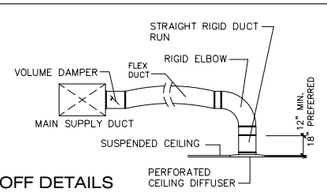
NATIONAL ACCOUNT PROGRAM

1. **LENNOX INDUSTRIES, INC. - ROOFTOP HVAC EQUIPMENT**
   National Accounts Sales: (800) 367–6285 Option #1 lennoxind.com
   National Account Technical Support: (800) 367–6285 Option #2 lennoxind.com
2. **ACCUREX/ GREENHECK FAN CORPORATION - KITCHEN HOODS, EXHAUST FANS, ROOF CURBS, ANSUL SYSTEMS, AND ACCESSORIES**
   CONTACT Andy Jacobs @ 1–715–301–6022 or andrew.jacobs@accurex.com
   Secondary contact Sara Block @ 1–877–377–2548
3. **CARNES COMPANY - DIFFUSERS AND GRILLES**
   National Accounts Sales: Chris Stratton @ (608) 845–6411 cstratton@carnes.com
   National Accounts Rep: Brian Baker @ (608) 845–6411 bbaker@carnes.com

NOTE : KITCHEN HOODS AND FANS SUPPLIED AND INSTALLED BY HVAC CONTRACTOR - - MINUMUM FOUR WEEK LEAD TIME.



NOTE : L= 1/4W (4" MIN.)



BRANCH DUCT TAKEOFF DETAILS
N.T.S.

DIFFUSER/GRILLE SCHEDULE

QNTY	Mark	Manuf.	Model	Type	Mounting	Diffuser	Neck	CFM	Zone	Notes
14	CD–10	CARNES	SFTB24	SUPPLY	GRID	4–WAY	8"	150	RTU–1	2
1	CD–11	CARNES	SJTB24	SUPPLY	GRID	4–WAY	10"	500	RTU–1	1
1	CD–12	CARNES	SJTB24	SUPPLY	GRID	4–WAY	8"	200	RTU–1	1
1	CD–13	CARNES	SKSA	SUPPLY	CEILING	3–WAY	8"	150	RTU–1	3
1	CD–14	CARNES	SFTB24	SUPPLY	GRID	4–WAY	8"	75	RTU–1	
2	CD–15	CARNES	SKSA	SUPPLY	CEILING	4–WAY	8"	150	RTU–1	3
2	CD–16	CARNES	SFTB24	SUPPLY	GRID	4–WAY	12"	450	RTU–1	
1	CD–18	CARNES	SFTB24	SUPPLY	GRID	4–WAY	10"	300	RTU–1	6
1	CD–20	CARNES	SFTB24	SUPPLY	GRID	4–WAY	12"	600	RTU–2	
3	CD–21	CARNES	SPRB22412	SUPPLY	GRID	PERFORATED	12"	350	RTU–2	7
1	CD–22	CARNES	SFTB24	SUPPLY	GRID	4–WAY	12"	600	RTU–2	
1	CD–23	CARNES	SPRB22410	SUPPLY	GRID	PERFORATED	10"	200	RTU–2	7
1	CD–24	CARNES	SPRB22412	SUPPLY	GRID	PERFORATED	12"	375	RTU–2	7
2	CD–25	CARNES	SPRB22412	SUPPLY	GRID	PERFORATED	12"	400	RTU–2	7
1	CD–26	CARNES	SPRB22410	SUPPLY	GRID	PERFORATED	10"	250	RTU–2	7
1	CD–27	CARNES	SPRB22410	SUPPLY	GRID	PERFORATED	10"	275	RTU–2	7
2	CD–28	CARNES	SPRB22408	SUPPLY	GRID	PERFORATED	8"	125	RTU–2	
1	CD–29	CARNES	SKEA	SUPPLY	GRID	3–WAY	12"	600	RTU–2	
2	EG–1	CARNES	RAPAH	EXHAUST	GRID	12" x 12"	6"	75	RTU–1	
2	EG–2	CARNES	RTLAH	EXHAUST	CEILING	12" x 12"	6"	150	RTU–1	4
5	RG–10	CARNES	RAPMF	RETURN	GRID	RETURN	12 x 12"	1170	RTU–1	8
5	RG–20	CARNES	RAPMF	RETURN	GRID	RETURN	14"	1240	RTU–2	8
1	RG–30	CARNES	RAPMF	RETURN	GRID	RETURN	10"	600	RTU–1	6,8
1	TG–1	CARNES	RSABH	TRANSFER	WALL	12 x 4"	12" x 4"	0	RTU–1	5
4	WD–10	CARNES	RTDBH	SUPPLY	WALL	12 x 6"	10"	350	RTU–1	
2	WD–20	CARNES	RTDBH	SUPPLY	WALL	24 x 6"	12"	600	RTU–2	

DIFFUSER NOTES:

1. PROVIDE KXDA EXTENSION ROD WITH KNOB
2. 5 OF THE CD–10 DIFFUSERS ARE TO BE FLAT BLACK. SEE REFLECTED CEILING PLAN FOR LOCATIONS. ALL OTHERS TO BE WHITE
3. 12X12 NOMINAL PANEL SIZE.
4. PROVIDE WITH ADJUSTABLE OPPOSED BLADE DAMPER
5. MOUNT SO THE OCCUPANT CAN NOT SEE INTO THE DUCT
6. FLAT BLACK FINISH
7. DESIGN CFM MUST BE MAINTAINED FOR PROPER HOOD OPERATION
8. REMOVABLE CORE DIFFUSERS

CONTROL NOTES

1. WIRE RTU–1, RTU–2 TO SHUT–DOWN & EXHAUST HOOD FANS TO CONTINUE TO RUN UPON ACTIVATION OF THE ANSUL SYSTEM.
2. WIRE RTU–1 & RTU–2 TO SHUT–DOWN UPON ACTIVATION OF ANY IN–DUCT SMOKE DETECTOR.
3. OCCUPIED MODE: FANS IN RTU–1 & RTU–2, EXHAUST FANS PRV–1, 2 & 3 AND EF–1 TO RUN CONTINUOUSLY.
4. UNOCCUPIED MODE: FANS IN RTU–1 & RTU–2 TO RUN ONLY WHEN COOLING OR HEATING IS CALLED FOR.

LENNOX SETTINGS FOR CULVERS

Kitchen Unit

Parameter 3.01 HEAT DELAY NEEDS TO BE SET TO "DISABLED". CONTROL PARAMETER 3.01=0 Pg. 92
ECONOMIZER DIP SWITCHES A56 (EM1) NEED TO BE SET TO "GLOBAL" MODE. 1=ON 2=OFF (PG. 5 FIG 8)
ECONOMIZER MIN POSITION POTENTIOMETER NEEDS TO BE DETERMINED AND SET BY AIR BALANCER. (Pg. 52 FIG 33)
BOTH THE THERMOSTAT AND THE HOOD FANS MUST BE TIED INTO TB1 TERMINAL 8&9 FOR OCC/UNOCC CONTROL.
FRESH AIR TEMPERING (HEATING) CONTROL PARAMETER 6.20=160 "–55F" (KITCHEN IS USUALLY IN COOLING MODE)
(PARAMETER 6.20 Pg 99; x CHARTS Pg 109)

Dining Room Unit

PARAMETER 3.01 HEAT DELAY NEEDS TO BE SET TO "DISABLED". CONTROL PARAMETER 3.01=0 Pg 92
ECONOMIZER DIP SWITCHES A56 (EM1) NEED TO BE SET TO ECONOMIZER TYPE PURCHASED/INSTALLED. 1=? 2=?
(Pg 5 FIGURE 8)
ECONOMIZER MIN POSITION POTENTIOMETER NEEDS TO BE DETERMINED AND SET BY AIR BALANCER. (Pg 52 FIGURE 33)
THE THERMOSTAT MUST BE TIED INTO TB1 TERMINAL 8&9 FOR OCC/UNOCC CONTROL
FRESH AIR TEMPERING (HEATING) CONTROL PARAMETER 6.20=142 "68F" (ROOM NEUTRAL)
(PARAMETER 6.20 PAGE 99; x CHARTS PAGE 109)

OTHER PARAMETERS THAT WE DIDN'T SET, BUT ARE PART OF START–UP:
ROOM SET POINT
REMOTE SENSOR OPERATION
TEMP DEADBANDS

CHECK FOR CORRECT OPERATION AND WIRING OF ALL SENSORS.

TEST AND BALANCE NOTE:

ACCUREX WILL PROVIDE BALANCED AIRFLOW AND FUNCTIONAL CHARACTERISTICS OF THE HVAC AS THEY RELATE TO AIRFLOW AND RESISTANCE ONLY. SERVICES TO BE PERFORMED BY A CERTIFIED NEBB FIRM AND ITS MANAGING GROUP – NATIONAL TAB

HENRICKSON ARCHITECTURE + PLANNING
2325 Belmont Center Dr., Ste. B
Belmont, MI. 49306
616.458.5554

4045 Barden S.E. Grand Rapids, MI. 49512
616.949.3360

Culver's Metro M - 2021 - Customized
BROWN AVE.
LAKE ORION, MICHIGAN

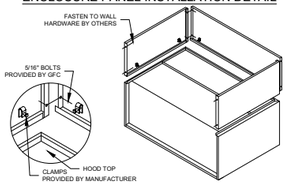
BID/PERMIT	02.01.22
PERMIT	03.17.22
DRAWN BY:	JMV
CHECKED:	DSH

HVAC NOTES

PROJECT No. 210303

M-2

ENCLOSURE PANEL INSTALLATION DETAIL



HOOD HANGING HEIGHT FOR FIRE SYSTEMS

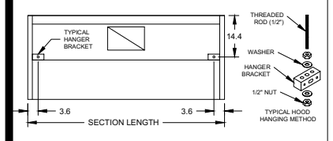
VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

☐ RECOMMENDED HANGING HEIGHT = 60" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.

☐ OTHER HANGING HEIGHT = _____" FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

HOOD HANGER BRACKET DETAIL

FOR BACKSHELF HOODS



GENERAL DRAWING NOTES

Verify building entry conditions or limitations for equipment access to space.

Verify type and height of finished ceiling and if hood(s) may extend above finished ceiling (if required).

Seismic installation and bracing of equipment is by others.

Greenheck will not accept liability for problems that result from sub-standard installation. Including field electrical wiring that deviate from supplied diagrams, jobsite conditions (ductwork, fuel types and structural conditions) that GFC has not been notified of at the time of ordering. Or use of this equipment other than that for which it is designed.

It is the responsibility of the purchaser to hire qualified personnel for installation and start-up of all equipment. Installation and start-up information is shipped with all equipment via the Installation, Operation and Maintenance Manual (IOM), also included is a troubleshooting guide. Have all start-up info available prior to any warranty claims and/or factory technical support.

VENTILATION SYSTEM NOTES

Greenheck ventilators are designed in compliance with all national codes: NFPA # 96, national electric code, BOCA, uniform mechanical code, international mechanical code, and southern building conference. See national evaluation report #436 for allowable values, and/or conditions of use concerning material presented in this document. Local codes may vary. It is the responsibility of the purchaser to submit drawings to local authorities.

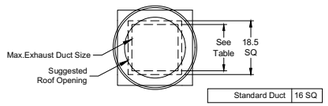
Exhaust and supply air volumes are to be maintained within -5% to +10% tolerance of values indicated. Static pressure(s) indicated are for the ventilator at the duct connection(s) only.

The grease filter face velocities are based on the filter manufacturers recommendations for maximum greaseextraction. Inlet opening air velocities for waterwash, dry cartridge and high velocity cartridge filters manufactured by Greenheck are designed to deliver maximum grease extraction.

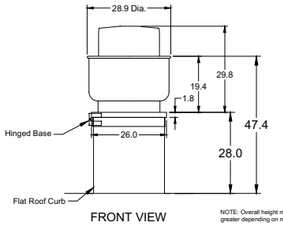
Hoods installation (by others unless otherwise noted) shall be in accordance with NFPA # 96 and applicable building codes.

PROPRIETARY INFORMATION NOTICE

PRV-2 Griddle Fan



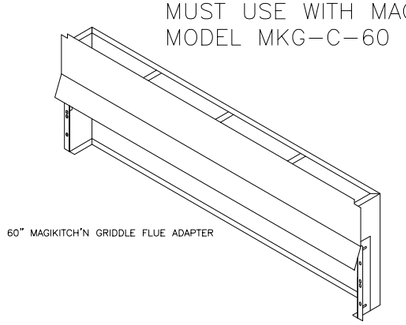
TOP VIEW



FRONT VIEW

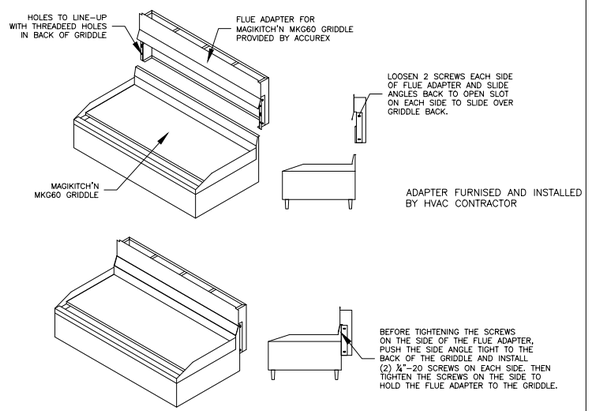
NOTE: Overall height may be greater depending on motor

MUST USE WITH MAGIKITCH'N MODEL MKG-C-60

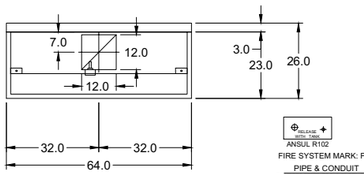


60" MAGIKITCH'N GRIDDLE FLUE ADAPTER

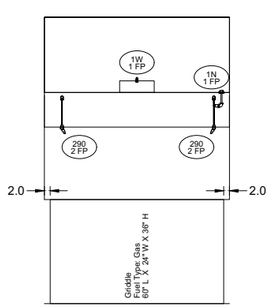
MAGIKITCH'N MKG-C-60 GRIDDLE FLUE ADAPTER MOUNTING INSTRUCTIONS



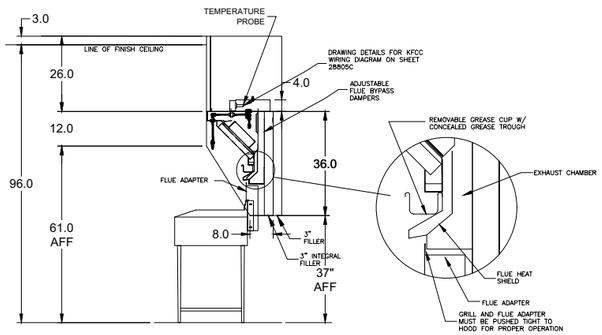
FOOD SERVICE EQUIPMENT #49



MARK: ITEM #49
PLAN VIEW



MARK: ITEM #49
ELEVATION VIEW



MARK: ITEM #49
SECTION VIEW

EQUIPMENT SCHEDULE

TYPE 1 KITCHEN HOOD — MARK: ITEM#49

HOOD NO.	ACCUREX MODEL STYLE / CONFIGURATION	HOOD DIMENSIONS: SECTION LENGTH	WIDTH	HEIGHT	GREASE CUP OR DRAIN	HOOD TEMP. RATING	TOTAL WEIGHT	SECTION LOCATION
1	XGEP-84-S SINGLE WALL EXHAUST ONLY LOW PROXIMITY	64 IN.	TOP 23 IN. BOT 8 IN.	FRONT 12 IN. BACK 36 IN.	RIGHT	600 DEG F	136.0 LBS.	SINGLE

HOOD NO.	ILLUMINATION DETAILS: FIXTURE TYPE BULB / LAMP INFO	QTY	INTENSITY FT CANDLES	GREASE FILTRATION DETAILS: TYPE / MODEL MATERIAL	QTY	LENGTH	HEIGHT
1	NONE	NA	0 / 0 IN. OC	GREASE GRABBER STAINLESS STEEL	4 0	16 IN. 20 IN.	16 IN.

HOOD SECTION # COLLAR #	EXHAUST PLENUM COLLARS: DISTANCE TO END (IN.)	WIDTH (IN.)	LENGTH (IN.)	DIAMETER (IN.)	VOLUME (CFM)	S.P. (IN. WC)	VELOCITY (FT/MIN)
1 / 1	32	12	12	NA	1500	1.918	1500

TOTAL EXHAUST CFM - SECTION 1: 1500 = 281 CFM / FT

OPTIONS AND ACCESSORIES

430 STAINLESS STEEL WHERE EXPOSED
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625
BACK NON-INTEGRAL AIR SPACE - 3 IN WIDE
26 IN HIGH CEILING ENCLOSURES - FRONT LEFT RIGHT - FIELD INSTALLED
FACTORY MOUNTED EXHAUST COLLAR(S)
THIS HOOD IS PART OF A TEMPERATURE INTERLOCK CONTROL SYSTEM
INCLUDES PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH
EMBOSSED STAINLESS STEEL FINISH FOR HIGH CORROSION RESISTANCE
EQUIPMENT SPECIFIC S/S FLUE ADAPTER

SPECIAL DESIGN REQUESTS

SDR #K1100145 - FLUE BYPASS HOOD

FIRE SUPPRESSION SYSTEM — MARK: FS FOR GRILL HOOD

MANUFACTURER / MODEL SUPPRESSANT TYPE	FLOW POINTS	SUPPLY LINE	DETECTION	MOUNTING
ANSUL R-102 WET CHEMICAL	6 UTILIZED 11 AVAILABLE	CONTINUOUS	FUSIBLE LINK	RIGHT END REMOTE MOUNTED

FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
SUPPRESSION AGENT - INCLUDED - 3 GAL. - [1] 3 TANK(S)]
GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, SUPPLIED UP TO 2"
REMOTE PULL STATION - STANDARD - INSTALLATION AT SINGLE POINT OF EGRESS
METAL BLOW-OFF CAPS - INCLUDED
FIRE SYSTEM PERMIT - REQUIRED - FEE INCLUDED
360°F. FUSIBLE LINK OR AS TESTED AND INSTALLED BY LOCAL INSTALLER PER UL MANUAL

FIRE SYSTEM PROTECTED HOOD(S) (UL-300) (MARK:NAME / SECTION#)

GRILL HOOD SECTION 1 - (LENGTH 64.0 IN.) - LOW PROXIMITY HOOD - GREASE GRABBER FILTRATION SYSTEM

Belt Drive Upblast Centrifugal Roof Exhaust Fan — MARK: PRV-2

Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information: Size (hp)	V/C/P	Encl.	Motor RPM	Windings	FLA
1	XRUB-160XP-15	1500	2.337	2,411	1.29	171	1.5	208/60/3	OP	1725	1	6.6

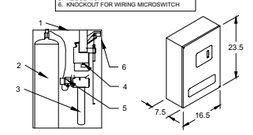
OPTIONS AND ACCESSORIES

UL/cUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances"
Switch, NEMA-1, (PN:N1TSNO-3-30) Toggle, Shipped with unit
Larger curb cap size - 26" Square
Roof curb-Galv., GPF-26-G28, Under sized 1.5" Total
Hinged Base (Attached)
High Temp Curb Seal Rated for Continuous duty at 2000F (Attached)
Clean-out Port
Grease Trap with Drain Connection (PN 475538)
Heat Baffle (Attached)
Bearings with Grease Fittings, L10 life of 100,000 hrs (L50 avg. life 500,000 hrs)

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE
2. AGENT STORAGE TANK
3. EXPELLENT GAS CARTRIDGE
4. ANSUL AUTOMAN RELEASE
5. REGULATOR
6. KNOCKOUT FOR WIRING MICROSWITCH



NOT TO SCALE

NOTES:

Wet chemical fire protection system to be Ansul R-102, designed in compliance with UL 300 requirements.
-Verification of all cooking equipment make, model and location required for all fire protection systems.
-All fire system piping is standardly to the right end of the hood unless a wall is located on the right end.
-Ansul Automan Release to be located within 60" of hood.

The basic fire system will include the following:
-Gas shut-off valve, if required, to be supplied by Manufacturer (up to 2" diameter as standard), and installed by a licensed plumber.
-Micro switch to be supplied by Manufacturer for connection to, but not limited to, building alarm system(s), exhaust and supply fans and electrical power shut down. Field wiring and connections to be performed by a licensed electrician.

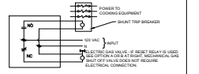
The basic fire system does NOT include the following:
-Full dump test other than what is specified per the installation manual, or to satisfy a state or local code. Permit and testing fees are not included unless noted under the equipment schedule for the fire system.
-More then two trips to the jobsite or special transportation, or overnight lodging requirements in remote areas. Normal travel distance is first 50 mi. (80.5 km) from office.
- Special classes or additional labor for access to security sensitive areas.
-Installation of gas shut-off valve.
-Special drawings required to satisfy state or local code. Plan examination fees, PE or FS Approval Stamp.
-Union labor, Government labor, or Prevailing wages required for final field hook-up.
-Any and all electrical components/connections required to shut down fans, shut off device for electric cooking equipment (shunt trip breaker), or activate an alarm system, etc.
-Any dismantling or reassembly required to gain access to the fire suppression piping located on the top of the hood.
-Rough-in hidden conduit for remote pull station or gas valve (flush mounted pull station).
-Installation of more than (1) remote pull stations or distances greater than 20 ft (6.1M.).
-Parts or labor required to correct piping due to cooking equipment changes or deviation from plans. OR Any charges for missing or additional parts other then those indicated on the Fire Suppression Detail.

WIRING DIAGRAMS W/DPDT MICRO SWITCH

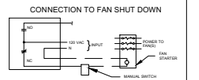
DPDT SWITCHES PROVIDED BY MANUFACTURER MAY BE WIRED PER TYPICAL EXAMPLES SHOWN. VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.

CONNECTION TO BUILDINGS ALARM

CONNECTION TO COOKING EQUIPMENT SHUT DOWN



CONNECTION TO FAN SHUT DOWN



DO NOT SHUT DOWN EXHAUST FANS WITH THIS METHOD IF ARSING, IF PROHIBITED BY LOCAL CODES.

NOTES:
1. —— DENOTES FIELD INSTALLATION.
2. - - - - DENOTES FACTORY INSTALLATION.
3. DO NOT USE BLACK WIRE ON SNAP-ACTION SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRANEOUS ALARM, LIGHT CIRCUITS, ETC.

UL NSF
CONSTRUCTION COMPLIES WITH NFPA 96

Thank you for your interest in Accurex

SUBMITTAL

Please return one approved print to your Greenheck Representative including signature, date, and answers to all submittal "verify" notes and questions. Fabrication will not begin until after approved drawings are received.

☐ APPROVED AS SUBMITTED
☐ APPROVED AS NOTED
☐ REJECTED – REVISE AND RESUBMIT

SIGNATURE DATE

REV	DESCRIPTION	DATE

ACCUREX

TITLE: CULVER'S MASTER TEMPLATE

DRAWN BY: GNH | ECO | DATE | CHK. REF. | SUPERSEDES | SCALE: 1/24 | CAD DRAWING NO.: C28805A | REV

HENRICKSON ARCHITECTURE + PLANNING
2325 Belmont Center Dr., Ste. B
Belmont, MI. 49306
616.458.5554

4045 Barden S.E. Grand Rapids, MI. 49512
616.949.3360

Culver's Metro M - 2021 - Customized

BROWN AVE.
LAKE ORION, MICHIGAN

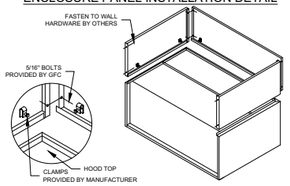
BID/PERMIT	• 02.01.22
PERMIT	• 03.17.22
DRAWN BY:	• JMV
CHECKED:	• DSH

HVAC HOOD, FAN & FIRE SUPPRESSION

PROJECT No. • 210303

M-3

ENCLOSURE PANEL INSTALLATION DETAIL



HOOD HANGING HEIGHT FOR FIRE SYSTEMS

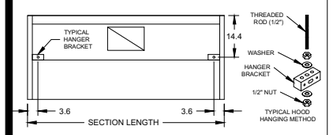
VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

☐ RECOMMENDED HANGING HEIGHT = 60" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.

☐ OTHER HANGING HEIGHT = _____" FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

HOOD HANGER BRACKET DETAIL

FOR BACKSHELF HOODS



GENERAL DRAWING NOTES

Verify building entry conditions or limitations for equipment access to space.

Verify type and height of finished ceiling and if hood(s) may extend above finished ceiling (if required).

Seismic installation and bracing of equipment is by others.

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VENTILATION SYSTEM NOTES

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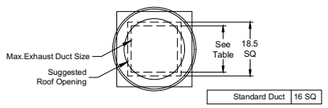
The grease filter face velocities are based on the filter manufacturers recommendations for maximum greaseextraction. Inlet opening air velocities for waterwash, dry cartridge and high velocity cartridge filters manufactured by Greenheck are designed to deliver maximum grease extraction.

Hoods installation (by others unless otherwise noted) shall be in accordance with NFPA # 96 and applicable building codes.

PROPRIETARY INFORMATION NOTICE

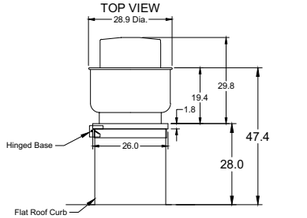
This document is and contains confidential trade secret information of the company and remains property of the company and is to be returned upon request. Neither it nor information is contains may be reproduced or disclosed to persons not having a need−to−know consistent with the purpose of the loan document without written permission.

PRV-3 Fryer Fan



Standard Duct	16 SQ

TOP VIEW



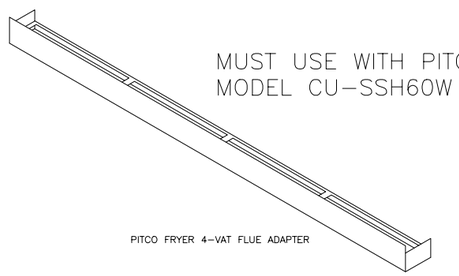
FRONT VIEW

NOTE: Overall height may be greater depending on motor

FOOD SERVICE EQUIPMENT #59

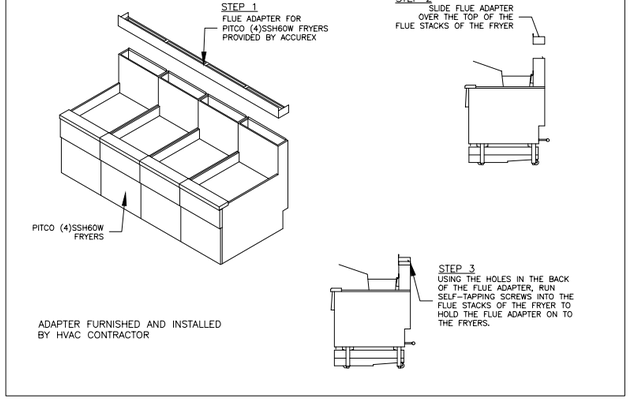
4−VAT FRYER BATTERY

MUST USE WITH PITCO MODEL CU−SSH60W

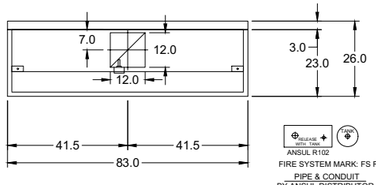


PITCO FRYER 4−VAT FLUE ADAPTER

PITCO CU−SSH60W FRYERS FLUE ADAPTER MOUNTING INSTRUCTIONS



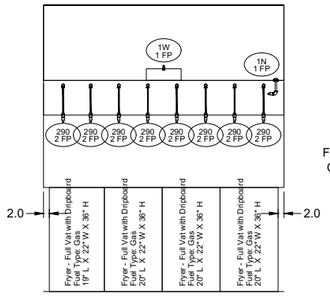
ADAPTER FURNISHED AND INSTALLED BY HVAC CONTRACTOR



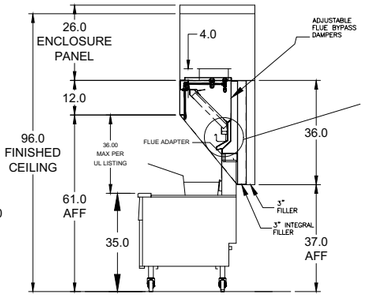
FIRE SYSTEM MARK: FS FOR FRYER HOOD

PIPE & CONDUIT BY ANSUL DISTRIBUTOR

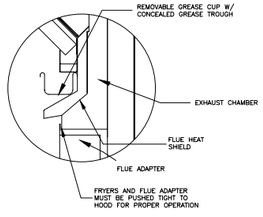
MARK: ITEM #59
PLAN VIEW



MARK: ITEM #59
ELEVATION VIEW



MARK: ITEM #59
SECTION VIEW



EQUIPMENT SCHEDULE

TYPE 1 KITCHEN HOOD — MARK: ITEM #59

HOOD NO.	ACCUREX MODEL STYLE / CONFIGURATION	HOOD DIMENSIONS: SECTION LENGTH	WIDTH	HEIGHT	GREASE CUP OR DRAIN	HOOD TEMP. RATING	TOTAL WEIGHT	SECTION LOCATION
1	XXEP-83-S SINGLE WALL EXHAUST ONLY LOW PROXIMITY	83 IN.	TOP 23 IN. BOT 3 IN.	FRONT 12 IN. BACK 36 IN.	RIGHT	600 DEG F	169.0 LBS.	SINGLE

HOOD NO.	ILLUMINATION DETAILS: FIXTURE TYPE BULB / LAMP INFO	QTY	INTENSITY FT CANDLES	GREASE FILTRATION DETAILS: TYPE / MODEL MATERIAL	QTY	LENGTH	HEIGHT
1	NONE	NA	0 / 0 IN. OC	X-TRACTOR STAINLESS STEEL	5 0	16 IN. 20 IN.	16 IN.

HOOD SECTION # COLLAR #	EXHAUST PLENUM COLLARS: DISTANCE TO END (IN.)	WIDTH (IN.)	LENGTH (IN.)	DIAMETER (IN.)	VOLUME (CFM)	S.P. (IN. WC.)	VELOCITY (FT/MIN.)
1 / 1	41.5	12	12	NA	1500	0.518	1500
TOTAL EXHAUST CFM - SECTION 1					1500	=	217 CFM / FT

OPTIONS AND ACCESSORIES

430 STAINLESS STEEL WHERE EXPOSED
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625
BACK NON-INTEGRAL AIR SPACE - 3 IN WIDE
26 IN HIGH CEILING ENCLOSURES - FRONT LEFT RIGHT - FIELD INSTALLED
FACTORY MOUNTED EXHAUST COLLAR(S)
THIS HOOD IS PART OF A TEMPERATURE INTERLOCK CONTROL SYSTEM
INCLUDES PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH
EMBOSSED STAINLESS STEEL FINISH FOR HIGH CORROSION RESISTANCE
EQUIPMENT SPECIFIC S/S FLUE ADAPTER

SPECIAL DESIGN REQUESTS

SDR #K1100559 - NEW 4L FRYER SYSTEM

FIRE SUPPRESSION SYSTEM — MARK: FS FOR FRYER HOOD

MANUFACTURER / MODEL SUPPRESSANT TYPE	FLOW POINTS	SUPPLY LINE	DETECTION	MOUNTING
ANSUL R-102 WET CHEMICAL	18 UTILIZED 22 AVAILABLE	CONTINUOUS	FUSIBLE LINK	RIGHT END REMOTE MOUNTED

FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
SUPPRESSION AGENT - INCLUDED - 6 GAL - [(2) 3.0 TANK(S)]
GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, SUPPLIED UP TO 2"
REMOTE PULL STATION - STANDARD - INSTALLATION AT SINGLE POINT OF EGRESS
METAL BLOW-OFF CAPS - INCLUDED
FIRE SYSTEM PERMIT - REQUIRED - FEE INCLUDED
500°F. FUSIBLE LINK OR AS TESTED AND INSTALLED BY LOCAL INSTALLER PER UL MANUAL

FIRE SYSTEM PROTECTED HOOD(S) (UL-300) (MARK NAME / SECTION#)

FRYER HOOD SECTION 1 - (LENGTH 83.0 IN.) - LOW PROXIMITY HOOD

EQUIPMENT SCHEDULE

Belt Drive Upblast Centrifugal Roof Exhaust Fan — MARK: PRV-3

Qty	Accurex Model	Volume (CFM)	SP (in wg.)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information: Size (hp)	V/C/P	Encl:	Motor RPM	Windings	FLA
1	XRUB-140-7	1500	1	1377	0.5	160	0.75	208/60/3	OP	1725	1	3.5

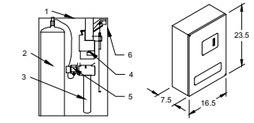
OPTIONS AND ACCESSORIES

UL/cUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances"
Switch, NEMA-1, Toggle, Shipped with unit
Larger curb cap size - 26" square
Roof curb-Galv., GPF-26-G28, Undersized 1.5" total
Hinged Base (Attached)
Curb Seal (Attached)
Clean-out Port
Grease Trap with Drain Connection (PN 475538)
Heat Baffle (Attached)

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE
2. 450°F FUSIBLE LINK
3. AGPELLENT GAS CARTRIDGE
4. ANSUL AUTOMAN RELEASE
5. REGULATOR
6. KNOCKOUT FOR WIRING MICROSWITCH



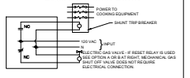
NOT TO SCALE

WIRING DIAGRAMS W/DPDT MICRO SWITCH

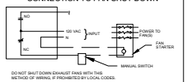
DPDT SWITCHES PROVIDED BY MANUFACTURER MAY BE WIRED PER TYPICAL EXAMPLES SHOWN. VERIFY WITH LOCAL CODES AND EQUIPMENT SUPPLIED AS THE CONNECTION NEEDED FOR YOUR INSTALLATION.

CONNECTION TO BUILDINGS ALARM

CONNECTION TO COOKING EQUIPMENT SHUT DOWN



CONNECTION TO FAN SHUT DOWN



NOTES:

Wet chemical fire protection system to be Ansul R-102, designed in compliance with UL 300 requirements.
-Verification of all cooking equipment make, model and location required for all fire protection systems.
-All fire system piping is standardly to the right end of the hood unless a wall is located on the right end.
-Ansul Automan Release to be located within 60" of hood.

The basic fire system will include the following:
-Gas shut-off valve, if required, to be supplied by Manufacturer (up to 2" diameter as standard), and installed by a licensed plumber.
-Micro switch to be supplied by Manufacturer for connection to, but not limited to, building alarm system(s), exhaust and supply fans and electrical power shut down. Field wiring and connections to be performed by a licensed electrician.

The basic fire system does NOT include the following:
-Full dump test other than wht is specified per the installation manual, or to satisfy a state or local code. Permit and testing fees are not included unless noted under the equipment schedule for the fire system.
-More then two trips to the jobsite or special transportation, or overnight lodging requirements in remote areas. Normal travel distance is first 50 mi. (80.5 km) from office.
- Special classes or additional labor for access to security sensitive areas.
-Installation of gas shut-off valve.
-Special drawings required to satisfy state or local code. Plan examination fees, PE or FS Approval Stamp.
-Union labor, Government labor, or Prevailing wages required for final field hook-up.
-Any and all electrical components/connections required to shut down fans, shut off device for electric cooking equipment (shunt trip breaker), or activate an alarm system, etc.
-Any dismantling or reassembly required to gain access to the fire suppression piping located on the top of the hood.
-Rough-in hidden conduit for remote pull station or gas valve (flush mounted pull station).
-Installation of more than (1) remote pull stations or distances greater than 20 ft (6.1M.)
-Parts or labor required to correct piping due to cooking equipment changes or deviation from plans, OR Any charges for missing or additional parts other then those indicated on the Fire Suppression Detail.

NOTES:
1. —— DENOTES FIELD INSTALLATION.
2. - - - DENOTES FACTORY INSTALLATION.
3. DO NOT USE BLACK WIRE ON SNAP-ACTION SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRANEOUS ALARM, LIGHT CIRCUITS, ETC.

CONSTRUCTION COMPLIES WITH NFPA 96

Thank you for your interest in Accurex

SUBMITTAL

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☐ APPROVED AS SUBMITTED
☐ APPROVED AS NOTED
☐ REJECTED − REVISE AND RESUBMIT

SIGNATURE DATE

REV	DESCRIPTION	DATE

ACCUREX

TITLE: CULVER'S MASTER TEMPLATE

DRAWN BY: GNH | ECO | DATE | ENG. REV. | SUPERSEDES | SCALE: 1/24

CAD DRAWING NO.: C28805B | REV: D

HENRICKSON ARCHITECTURE + PLANNING
2325 Belmont Center Dr., Ste. B
Belmont, MI. 49306
616.458.5554

4045 Barden S.E., Grand Rapids, MI. 49512
616.949.3360

Culver's Metro M - 2021 - Customized

BROWN AVE.
LAKE ORION, MICHIGAN

BID/PERMIT	• 02.01.22
PERMIT	• 03.17.22
DRAWN BY:	• JMV
CHECKED:	• DSH

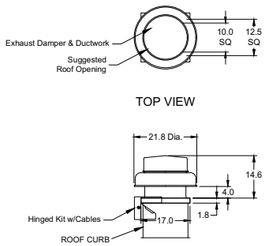
HVAC HOOD, FAN & FIRE SUPPRESSION

PROJECT No. • 210303

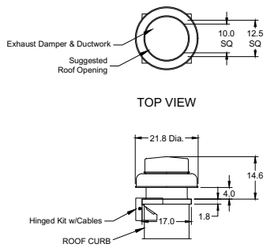
M-4

P:\2021\202121352 Culver's - Lake Orion\Working Drawings\2021352 M-4.dwg, 3/17/2022 12:14:23 PM, mdekora

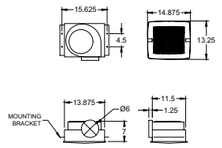
MARK: PRV-1 Restroom



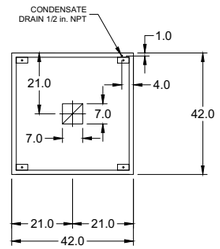
MARK: PRV-4 Condensate Fan



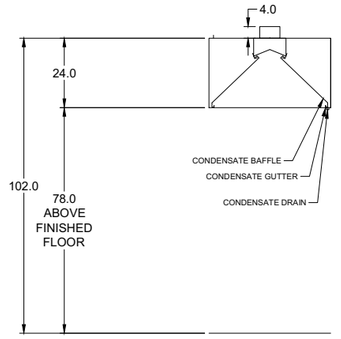
EF-1A



MARK:ITEM #25A PLAN VIEW



MARK: ITEM #25 SECTION VIEW



EQUIPMENT SCHEDULE

ELECTRICAL CONTROL BOX — MARK: KFCC

DESCRIPTION / ACCUREX MODEL MOUNTING LOCATION (CONTROL PANEL / SWITCHES)	EXHAUST FAN QTY	SUPPLY FAN QTY	POWER FREQUENCY
KITCHEN FAN CONTROL CENTER / XFCC SHIP LOOSE / SHIP LOOSE FOR REMOTE MOUNTING	2	0	60 CYCLE

CONTROL PANEL ENCLOSURE - 16 GA 304 STAINLESS STEEL ENCLOSURE (NEMA-1) - DIMENSIONS 12 X 18 X 6
WIRING DIAGRAM #: T100- 2 - 20
STARTERS PROVIDED IN CONTROL PANEL - QTY 2
2 POSITION FAN SWITCH - QTY 1
INTEGRATED EXHAUST TEMPERATURE INTERLOCK SYSTEM
-FACTORY MOUNTED EXHAUST TEMPERATURE SENSORS - QTY 2
-COMPLIES WITH INTERNATIONAL MECHANICAL CODE 2006 SECTION 507.2.1.1
TURN ON EXHAUST IN FIRE
THERMAL OVERLOADS IN CABINET
1 SPEED FAN(S)

SPECIAL DESIGN REQUESTS

SDR #K0800240 - USE KIT #852883, WIRING DIAG. #ZZ905336

TYPE 2 KITCHEN HOOD — MARK: ITEM #25

HOOD NO.	ACCUREX MODEL STYLE / CONFIGURATION	HOOD DIMENSIONS: SECTION LENGTH	WIDTH	HEIGHT	GREASE CUP OR DRAIN	HOOD TEMP. RATING	TOTAL WEIGHT	SECTION LOCATION
1	XD3-42-S CONDENSATE HOOD - DOUBLE BAFFLE	42.0 IN.	42 IN.	24 IN.	RIGHT	NA	224.0 LBS.	NA

HOOD SECTION # / COLLAR #	EXHAUST PLENUM COLLARS: DISTANCE TO END (IN.)	WIDTH (IN.)	LENGTH (IN.)	DIAMETER (IN.)	VOLUME (CFM)	S.P. (IN. WC)	VELOCITY (FT/MIN)
1 / 1	21	7	7	NA	350	0.127	1029
TOTAL EXHAUST CFM - SECTION 1					350.0	=	100.0 CFM / FT

OPTIONS AND ACCESSORIES

304 STAINLESS STEEL 100% CONSTRUCTION
FACTORY MOUNTED EXHAUST COLLAR(S)

EQUIPMENT SCHEDULE

Direct Drive Centrifugal Roof Exhaust Fan — MARK: PRV-1 Restroom

Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information: Size (hp)	V/C/P	Encl.	Motor RPM	Windings	FLA
1	XRED-095-D	375	0.5	1479	0.060	43	0.0667	115/60/1	OP	1550	1	NA

OPTIONS AND ACCESSORIES

UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-1, Toggle, Shipped with unit
Hinged Curb Cap Kit w/Cables (PN 851018) (Shipped Loose)
Curb Seal (Attached)
Damper, WD-100-PB-10X10, Gravity Operated (Loose)
Solid State Speed Control, Mounted and Wired (PN SWSSC)
Roof Curb-Galv., GPI-17-10-G12, Undersized 1.5" total

EQUIPMENT SCHEDULE

Direct Drive Centrifugal Roof Exhaust Fan — MARK: PRV-4 Condensate Fan

Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information: Size (hp)	V/C/P	Encl.	Motor RPM	Windings	FLA
1	XRED-095-D	350	0.5	1455	0.07	43	0.0667	115/60/1	OP	1550	1	NA

OPTIONS AND ACCESSORIES

UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-1, Toggle, Shipped with unit
Hinged Curb Cap Kit w/Cables (PN 851018) (Shipped Loose)
Curb Seal (Attached)
Damper, WD-100-PB-10X10, Gravity Operated (Loose)
Solid State Speed Control, Mounted and Wired (PN SWSSC)
Roof Curb-Galv., GPI-17-10-G12, Undersized 1.5" total

EQUIPMENT SCHEDULE

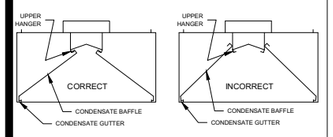
Ceiling Exhaust Fan — MARK: EF-1 Condensate Fan

Qty	Accurex Model	Volume (CFM)	SP (in wg)	FRPM	Operating Power (hp)	Weight (Lb.)	Motor Information: Size (hp)	V/C/P	Encl.	Motor RPM	Windings	FLA
2	XCR-880	75	0.125	885	0.01	10	0.0	115/60/1	OP	900	1	NA

OPTIONS AND ACCESSORIES

UL/cUL 705 Listed - Electric fan
Solid State Speed Control, 6.0 amp, mounted and wired
Round Hooded Wall cap, (PN: WC-6) Shiped loose)
Designer Grille
Round duct connection
Polypropylene Wheel Material
Energy Star Rated

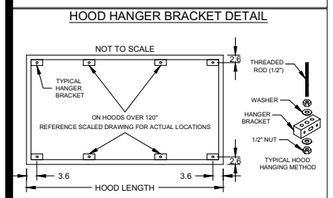
CONDENSATE HOOD BAFFLE INSTALLATION DETAIL



NOTES:
1. THE CONDENSATE BAFFLES MUST HOOK ONTO THE UPPER HANGER AND REST IN THE CONDENSATE GUTTER FOR PROPER OPERATION.

HOOD HANGER BRACKET DETAIL

NOT TO SCALE



GENERAL DRAWING NOTES

Verify building entry conditions or limitations for equipment access to space.

Verify type and height of finished ceiling and if hood(s) may extend above finished ceiling (if required).

Seismic installation and bracing of equipment is by others. Accurex will not accept liability for problems that result from sub-standard installation. Including field electrical wiring that deviate from supplied diagrams, jobsite conditions (ductwork, fuel types and structural conditions) that Accurex has not been notified of at the time of ordering. Or use of this equipment other than that for which it is designed.

It is the responsibility of the purchaser to hire qualified personnel for installation and start-up of all equipment. Installation and start-up information is shipped with all equipment via the installation, Operation and Maintenance Manual (IOM), also included is a troubleshooting guide. Have all start-up info available prior to any warranty claims and/or factory technical support.

VENTILATION SYSTEM NOTES

Greenheck ventilators are designed in compliance with all national codes: NFPA # 96, national electric code. BOCA, uniform mechanical code, international mechanical code, and southern building conference. See national evaluation report #436 for allowable values, and/or conditions of use concerning material presented in this document. Local codes may vary. It is the responsibility of the purchaser to submit drawings to local authorities.

Exhaust and supply air volumes are to be maintained within -5% to +10% tolerance of values indicated. Static pressure(s) indicated are for the ventilator at the duct connection(s) only.

The grease filter face velocities are based on the filter manufacturers recommendations for maximum greaseextraction. Inlet opening air velocities for waterwash, dry cartridge and high velocity cartridge filters manufactured by Greenheck are designed to deliver maximum grease extraction.

Hoods installation (by others unless otherwise noted) shall be in accordance with NFPA # 96 and applicable building codes.

PROPRIETARY INFORMATION NOTICE

ACCUREX

MARK: CONTROLS

CAUTION

UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

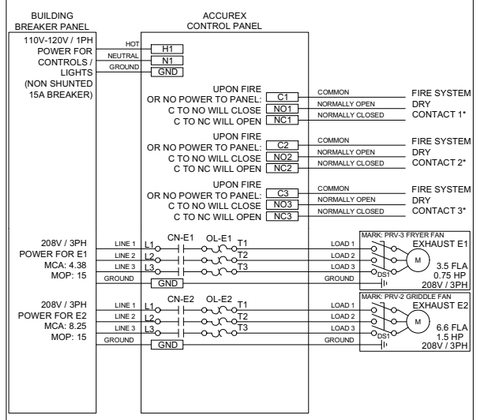
LISTED 43BM

COMMERCIAL APPLIANCE OUTLET CENTER
ELECTRICAL RATINGS: 120V, 1PHASE, 60HZ, 15A
BASE FILE #E200616, ML FILE #E313951

THESE DRAWINGS SHALL NOT BE REMOVED FROM THIS EQUIPMENT. USE COPPER CONDUCTORS RATED TO 90°C UNLESS SPECIFIED. TORQUE CONTROL & GROUND BLOCKS TO 8 LBS. IN. TORQUE POWER LUGS/SCREWS TO COMPONENT RATINGS LISTED. FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM. SEE IOM FOR ADDITIONAL INFORMATION, OR CALL ACCUREX AT 1-800-371-6858.
PRG VERSION: V2.00
FIELD WIRED
FACTORY SUPPLIED AND WIRED

WIRING DIAGRAM CODE:
JOB NAME: CULVERS-METRO L NEW CONTROLS
MODEL: XKC-CV-S-21-2-1-0
SERIAL NUMBER:

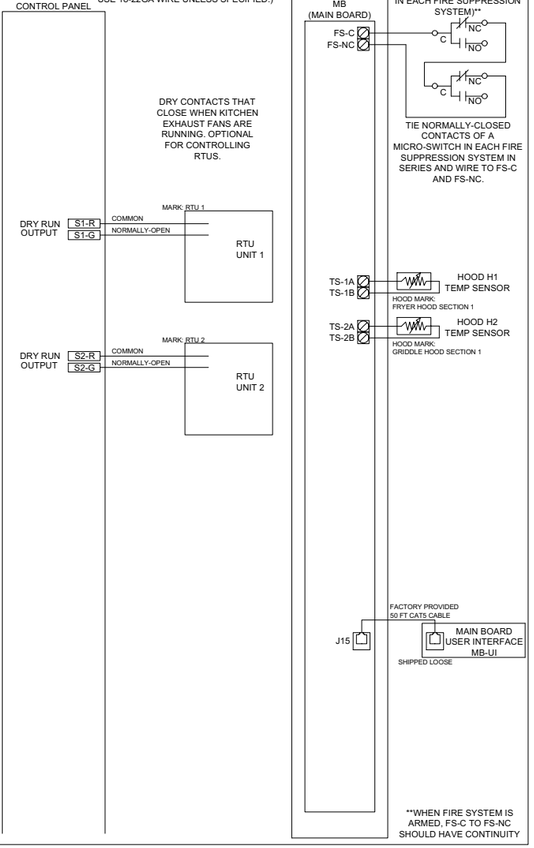
POWER WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN)



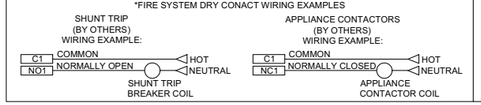
POWER WIRING FROM BREAKER PANEL DIRECT TO FANS
(WIRING TO BE DONE BY ELECTRICIAN)

WIRE RTU POWER DIRECTLY FROM BUILDING BREAKER PANEL TO RTU DISCONNECTS

CONTROL WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN, IF NO CONTROLS CONTRACTOR. USE 18-22GA WIRE UNLESS SPECIFIED.)



*FIRE SYSTEM DRY CONACT WIRING EXAMPLES



FOR TECHNICAL SUPPORT ON ACCUREX CONTROLS PLEASE CALL
ACCUREX TECHNICAL SUPPORT:
1-800-371-6858
SECONDARY CONTACTS ARE:
AARON VAN KREY 715.841.8521
TYLER SCHILLING 715.841.8749

Thank you for your interest in Accurex

CONSTRUCTION COMPLIES WITH NFPA 96

SUBMITTAL

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☐ REJECTED – REVISE AND RESUBMIT

SIGNATURE DATE

REV	DESCRIPTION	DATE

ACCUREX

TITLE: CULVER'S MASTER TEMPLATE

DRAWN BY: GNH
ECD
DATE
CHG. REV.
SUPERSEDES
SCALE: 1/24
CAD DRAWING NO.: C28805C

HENRICKSON ARCHITECTURE + PLANNING
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Metro M - 2021 - Customized

BROWN AVE.
LAKE ORION, MICHIGAN

Culver's

BID/PERMIT	• 02.01.22
PERMIT	• 03.17.22
DRAWN BY:	• JMV
CHECKED:	• DSH

HVAC HOOD, FAN & FIRE SUPPRESSION

PROJECT No. • 210303

M-5

CONSTRUCTION COMPLIES
WITH NFPA 96

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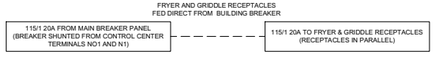
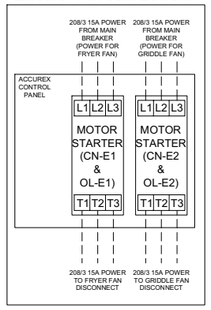
SIGNATURE DATE

GREENHECK
P.O. BOX 410, SCHOFIELD WI 54476-0410

CULVER'S ELECTRICAL FIELD CONNECTION INSTALLATION INSTRUCTIONS



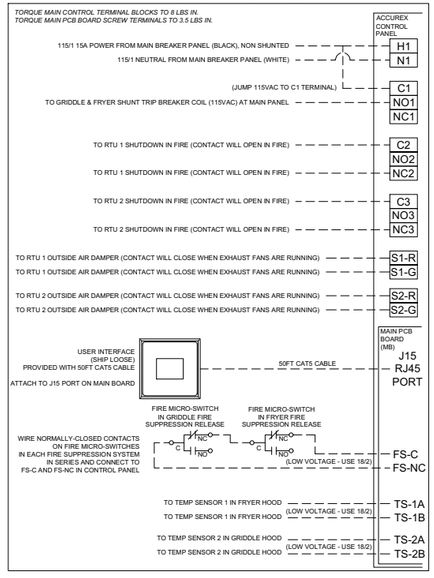
ACCUREX CONTROL PANEL CONNECTIONS - EXHAUST FAN CONNECTIONS



KEY

DESIGNATES FIELD CONNECTION

ACCUREX CONTROL PANEL CONNECTIONS - CONTROL AND POWER WIRING



CULVER'S INSTALLATION AND OPERATION GUIDE

Accurex Control Panel, Fans, Appliance Receptacles

Mechanical Scope of Work

1) Mechanical Contractor to mount Accurex Control Panel (Model XKC, 18" W x 20" H x 6" D) in specified location above drop ceiling.
2) Assuming all electrical has been completed by Electrical Contractor, Mechanical Contractor to start up fans by pressing "Fans" button on user interface. Verify power to exhaust fans.

Electrical Scope of Work

1) Electrical Contractor shall provide one 115VAC 20A circuit with shunt trip breaker (115VAC trip coil) for fryer and griddle receptacles. This circuit will have two receptacles, one for the fryer and one for the griddle. Circuit to be powered directly from circuit breaker.
2) Electrical Contractor to install Accurex user interface on wall (user interface provided by Accurex, recess into wall). Connect user interface back to Accurex control panel using factory-provided CAT5 cable (connect to J15 port on main board in Accurex control panel).
3) Electrical Contractor to run a separate 115VAC 15A circuit (from non-shunted breaker) to Accurex control panel terminal blocks H1 and N1 to power controls.
4) Electrical Contractor to run two 208/60/3 15A circuits from main breaker panel to each motor starter in the Accurex control panel (L1, L2, L3). Run power from T1, T2, T3 on each motor starter in Accurex control panel to kitchen exhaust fan disconnects.
5) Electrical Contractor to connect jumper wire from terminal block H1 to terminal block C1 in Accurex control panel, and then run wires from NO1 and N1 in Accurex control panel back to 115VAC shunt-trip breaker coil for fryer and griddle receptacles.
6) Electrical Contractor to wire a normally-closed contact off of a micro-switch in each fire suppression system release (one FS for fryer hood, and one FS for griddle hood) in series, and tie this series circuit loop back to FS-C and FS-NC on the main control board (MB) in the Accurex control panel.
7) Electrical Contractor to wire RTU 1 & 2 damper control to Accurex control panel terminal blocks S1-R / S1 - G and S2-R / S2-G as indicated on wiring diagram.
8) Electrical Contractor to wire RTU 1 & 2 control (8 amp max) circuits to Accurex control panel terminal blocks C2 and NC2 for RTU1 and C3 and NC3 for RTU 2 to shut down units in a fire.
9) Electrical Contractor to wire temp sensor in fryer hood collar back to Accurex control panel and land on TS-1A / TS-1B on main PCB board (use 18 to 22ga plenum rated cable)
10) Electrical Contractor to wire temp sensor in griddle hood collar back to Accurex control panel and land on TS-2A / TS-2B on main PCB board (use 18 to 22ga plenum rated cable)

Sequence of Operation

1) Make sure fryer and griddle receptacles are receiving power (breaker feeding appliance outlets is on).
2) Make sure RTU 1 & RTU 2 are both receiving power (breaker feeding RTUs are on and RTU disconnects are on).
3) Turn fans on via "Fans" button on user interface. Both fryer and griddle fans should turn on, and RTU 1 & 2 outside air dampers should open/adjust to bring in design OA.
4) Before fire system agent tanks are installed, manually trigger fire system while fan switch is on. This should accomplish the following:
   - Display on user interface should stated "FIRE DETECTED"
   - Shunt trip breaker will trip causing a loss of pwoer to fryer and griddle receptacles
   - Gas valve will close shutting gas off to the fryer and griddle
   - Exhaust fans will remain on
   - RTU 1 & 2 will shut down
5) Put fire system in the "cocked" position and reset shunt trip breaker. Breakers feeding appliance outlets should be able to be reset manually, and RTU's power should be restored.
6) Press "Fans" button on the user interface to turn the fans off. This will shut down power to the fans. RTU outside air dampers will close. RTUs will remain operational providing 100% return air only.

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HVAC HOOD, FAN & FIRE SUPPRESSION

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