

SUBMITTAL REVIEW COMMENTS

PROJECT Verdad - The Grove
PROJECT NO 2150004838
DATE 2/15/2023
SUBMITTAL Air Devices Resubmittal
SUBMITTAL NO 230000-3.1
REVIEWER MJW
HENDERSON NO M004R1

<input type="checkbox"/> Approved	Fabrication and/or installation may be undertaken. Approval does not authorize changes to the contract sum or contract time.
<input checked="" type="checkbox"/> Approved as Corrected	
<input type="checkbox"/> Revise and Resubmit	Fabrication and/or installation may not be undertaken. In resubmitting, limit corrections to items marked.
<input type="checkbox"/> Rejected	
<input type="checkbox"/> No Action Taken	Submittal either not required for this item or provided for information only. Contract requirements should be followed in all cases.
<p>Review/approval neither extends nor alters any contractual obligations of the Engineer or Contractor. Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the general requirements of the plans and specifications. Contractor is responsible for dimensions, quantities, and coordination between trades and for coordinating approved items and accepted alternates.</p>	
<p>HENDERSON ENGINEERS, INC.</p>	

ACTION CODES

1	2	3	4	5	6
Approved	Approved as Corrected	Revise & Resubmit Items Noted	Rejected	Not Reviewed	For Information Only

(Action Item Codes 1, 2, 5 or 6 are not to be resubmitted.)

COMMENT #	ACTION CODE	DESCRIPTION	COMMENTS
1	1	CEG1	-Titus model 350RL approved. -General note: model numbers are reviewed, quantities are not reviewed, typical for all air terminals.
2	1	LSD1	-Titus model FL-10(-HT) approved.
3	1	LSD2	-Titus model FL-10(-JT) approved.
4	1	PDR1	-Titus model FBPI-10 approved.
5	1	PRD2	-Titus model FBPI-10 approved.
6	1	PSD3	-Titus model FBPI-10 approved.
7	1	SD1	-Titus model PAR-AA approved.
8	2	RG1	-Titus model PAR-AA on page 14 OF 20. From below we

COMMENT #	ACTION CODE	DESCRIPTION	COMMENTS
			have RG1 already as the model 8F for the dining return. We still need an SD2 model PAR 24"x12" supply for the wine display. Perhaps update/revised this to be the SD2 we need.
9	1	RG2	-Titus model PAR-AA approved.
10	1	RG1	-Titus model 8F approved.
11	1	WSG1	-Titus model 300RL approved.
12	6	RG-3	-This RG-3 will match the SD2 for serving the wine display. See attached floor plan.

Note: Henderson's processing of these submittals does not relieve other members of the design and construction team from reviewing submittals for coordination, compliance and performance or reviewing submittals as outlined in the contract documents or both.

FIELD VERIFICATION
 Contractor shall verify all field dimensions and conditions at the job site and notify Area Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.
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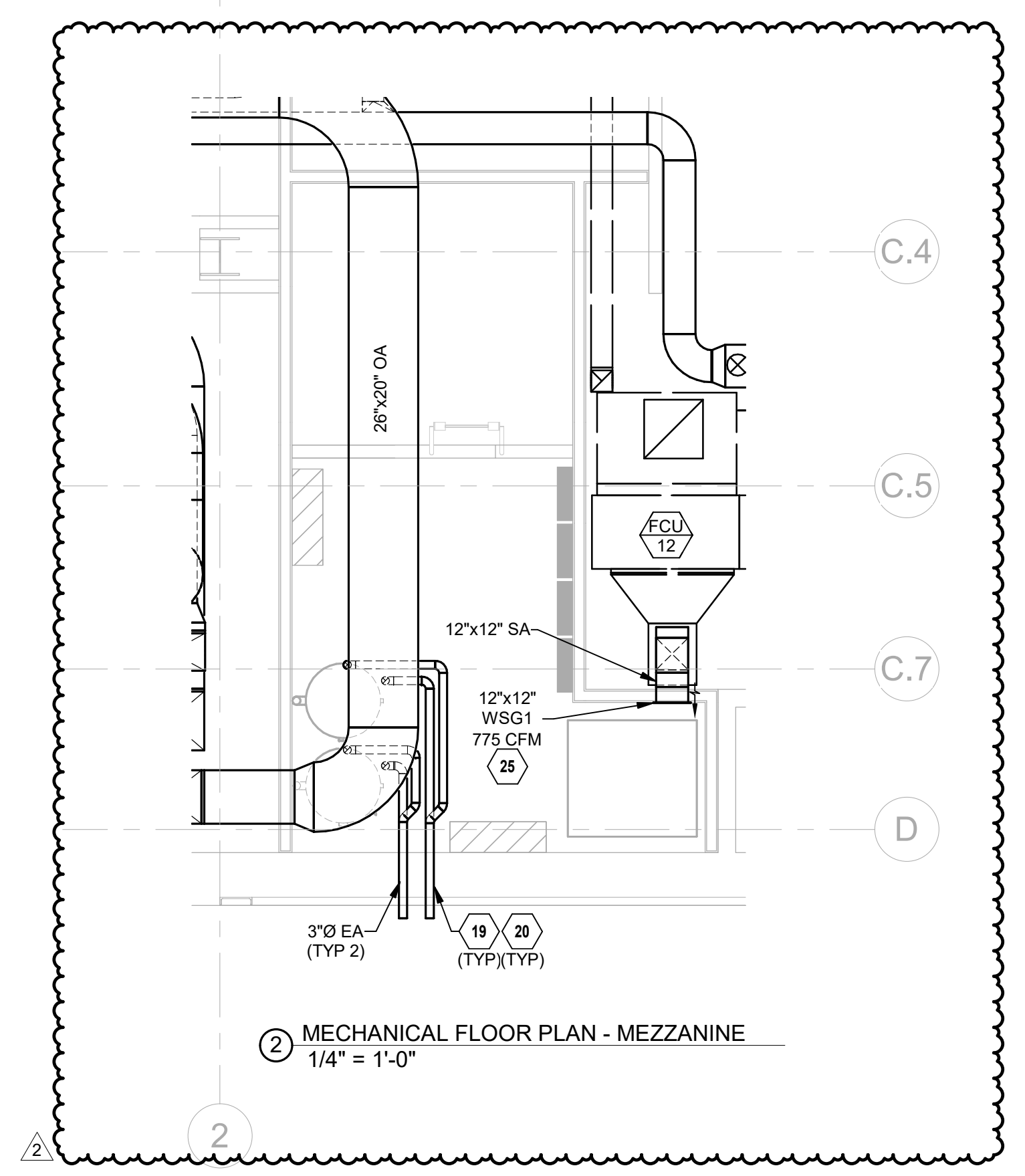
NO.	DATE	REVISIONS
2	11/17/22	ISSUED FOR CONSTRUCTION
1	08/18/22	PERMIT RESPONSE
	06/23/22	ISSUED FOR PERMIT/BID
	06/15/22	ISSUED FOR AEGB REVIEW
	06/08/22	ISSUED FOR TAS REVIEW
	05/23/22	ISSUED FOR LANDLORD REVIEW

Job No.	Drawn
214735	SK

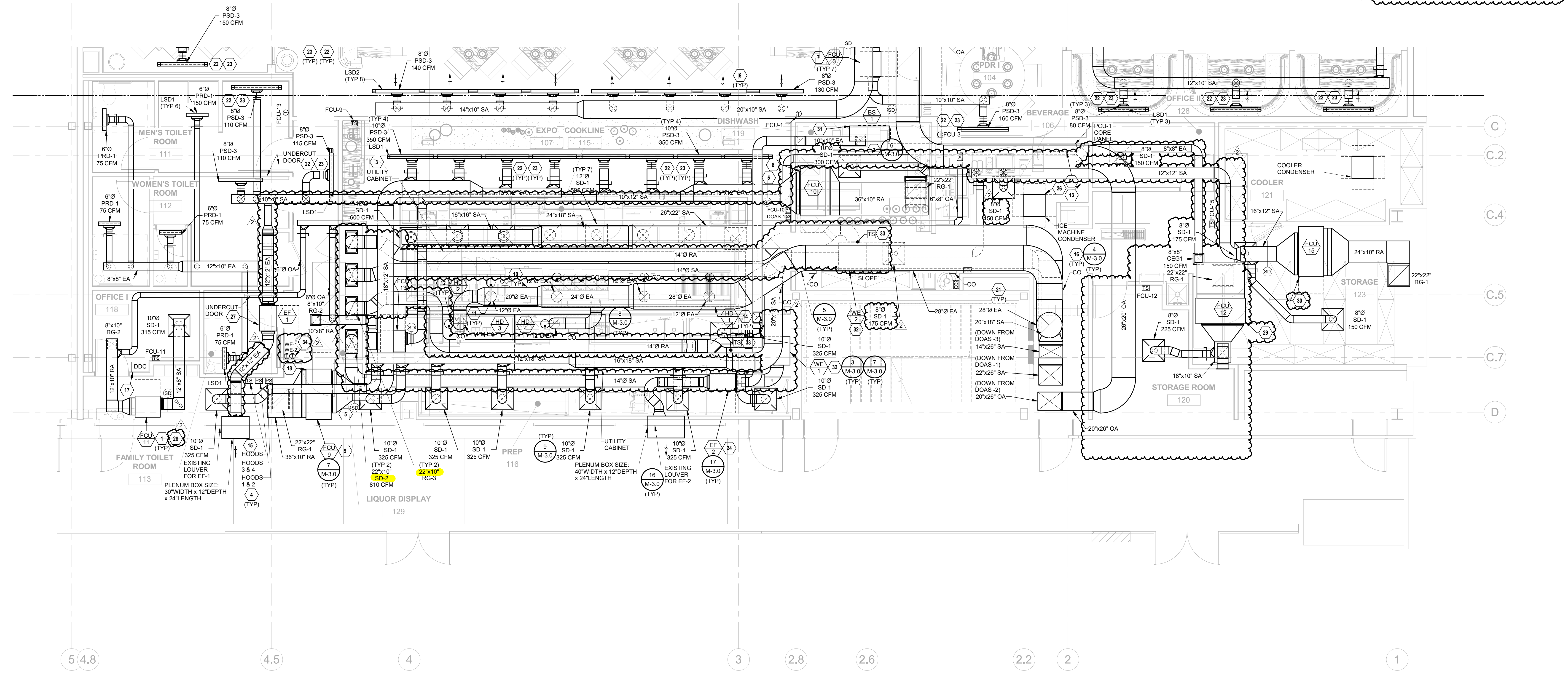
Scale	Date
1/4" = 1'-0"	Issue Date

Sheet No.
M-1.0B

- MECHANICAL PLAN NOTES:**
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN MANUFACTURERS ACCESS. COORDINATE WITH ALL TRADES ON INSTALLATION OF PIPING, CONDUIT, HANGING RODS, ETC. TO MAINTAIN SERVICE ACCESS. WHERE DUCTWORK LAYOUT AND EXISTING CONDITIONS ALLOW INSTALL BOTTOM OF MECHANICAL EQUIPMENT WITHIN 2'-0" OF CEILING.
 - COORDINATE DISHWASHER EXHAUST DUCT WITH FSEC. DISHWASHER HOOD. PROVIDE TRANSITIONS AS REQUIRED TO RIGIDLY CONNECT TO EXHAUST FAN.
 - EXHAUST HOOD FIRE EXTINGUISHING SYSTEM AND CONTROLS SHALL BE FURNISHED AND INSTALLED BY FOOD SERVICE EQUIPMENT CONTRACTOR (MECHANICAL CONTRACTOR TO COORDINATE). IN COMPLETE CONFORMANCE WITH NFPA 96, LOCAL CODES, AND SIZED TO SERVE ASSOCIATED HOODS. SEE CAPTIVEAIRE PLANS AND FOOD SERVICE PLANS FOR MORE INFORMATION. SYSTEM SHALL BE MOUNTED TO END OF HOOD.
 - INSTALL MANUAL PULL STATION FOR HOOD FIRE SUPPRESSION SYSTEM PER NFPA 96 REQUIREMENTS. PRIOR TO INSTALLATION, VERIFY LOCATION AND QUANTITY OF PULL STATIONS WITH AHJ.
 - DUCT SMOKE DETECTOR PROVIDED BY DIVISION 28.
 - PROVIDE FIELD FABRICATED PLENUM BOX EXTENDED AS NECESSARY TO ACCOMMODATE DIFFERING CEILING HEIGHTS OR OBSTRUCTIONS. COORDINATE WITH DETAIL AND ARCHITECTURAL RCP.
 - MOUNT FCU-3 15'-10" A.F.F. Δ
 - MOUNT FCU-13 13'-0" A.F.F.
 - MOUNT FCU-14 14'-0" A.F.F.
 - PROVIDE RADUS ELBOW WITHOUT TURNING VANES AS NECESSARY FOR TYPE 1 GREASE HOOD EXHAUST DUCTWORK. SLOPE GREASE DUCT TOWARDS HOODS AT MINIMUM OF 1/4" PER LINEAL FOOT. PROVIDE TRANSITIONS AS REQUIRED TO CONNECT TO HOOD AND EXHAUST FAN.
 - PROVIDE GREASE EXHAUST CONNECTION TO HOOD. TRANSITION AS NECESSARY. BALANCE EXHAUST TO MATCH CAPTIVEAIRE PLANS.
 - DUCT MOUNTED HEAT DETECTOR MOUNTED IN EXHAUST HOOD DUCT RISER, FURNISHED WITH HOOD, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
 - CONNECT HOOD CONTROL PANEL TO BAS SYSTEM.
 - HOODS SHALL HAVE CAPTIVEAIRE CAS-LINK OR EQUIVALENT CLOUD BASED MANAGEMENT PROGRAM, AND SHALL HAVE BAGNET IN INTEGRATION TO BAS SYSTEM.
 - INSTALL WALL TEMPERATURE SENSOR. TEMPERATURE SENSOR IS PART OF CAPTIVEAIRE HOOD SYSTEM. MOUNT HIGH ON WALL. COORDINATE WITH FOOD SERVICE EQUIPMENT CONTRACTOR.
 - PROVIDE GREASE DUCT CLEANOUT ACCESS DOOR AT LOCATIONS INDICATED AND AS REQUIRED TO MEET AHJ REQUIREMENTS. CLEANOUT SHALL BE AS LARGE AS DUCT HEIGHT ALLOWS. PROVIDE PROPER CLEARANCE IN FRONT OF CLEANOUT FOR ACCESS.
 - MOUNT DOAS AND VRF CONTROLLER ON WALL. COORDINATE ELECTRICAL REQUIREMENTS OF DEVICE WITH ELECTRICAL CONTRACTOR.
 - BOX OUT FRAME AS REQUIRED FOR ACCESS TO UNIT.
 - PROVIDE 3" FLUE AND 3" VENT PIPE FOR WATER HEATERS. REFER TO WATER HEATER MANUFACTURERS INSTALLATION GUIDELINES FOR COMMON VENTING. TERMINATE OUT WALL PER MANUFACTURERS REQUIREMENTS AS HIGH AS POSSIBLE.
 - INSTALL CONCENTRIC VENT KIT FURNISHED BY PLUMBING CONTRACTOR. REFER TO MANUFACTURERS INSTALLATION REQUIREMENTS.
 - UNLESS INDICATED ON PLANS, DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS. PROVIDE A MINIMUM OF 8'-0" CLEARANCE ABOVE TOP OF ELECTRICAL PANEL. PROVIDE DRAIN PAN UNDER THE DUCT OVER THE ELECTRICAL PANELS AND CLEARANCE AREA.
 - CEILING DIFFUSER INSTALLED IN INACCESSIBLE CEILING SHALL HAVE CABLE OPERATED DAMPER FOR AIR BALANCING. PROVIDE CABLE OPERATED VOLUME DAMPER BY METROPOLITAN AIR TECHNOLOGIES MODEL RT-250 WITH EXTERNAL WORM GEAR OR YOLING REGULATOR EQUIVALENT BUTTERFLY DAMPER WITH 270-275 CONTROLLER. DAMPER CABLE ACTUATOR SHALL BE ACCESSIBLE FOR BALANCING FROM THE FLANGE OF A SLOT DIFFUSER OR THE TOP OF A SQUARE OR ROUND FACE DIFFUSER AS DETAILED. INSTALL VOLUME DAMPER AT LOCATION INDICATED ON PLAN.
 - WHERE CABLE OPERATED DAMPER ACTUATORS ARE NEEDED, LINEAR SLOT SHALL BE LONG ENOUGH TO ACCOMMODATE REMOTE OPERATOR ACCESS PER DETAIL. SLOT LENGTH WILL NOT MATCH PLENUM BOX LENGTH. NO CEILING CUPS SHALL BE ALLOWED.
 - MOUNT EXHAUST FAN AT LOCATION. COORDINATE SERVICE CLEARANCE WITH CEILING GRID FOR ACCESS.
 - MOUNT WSG1 AT MEZZANINE LEVEL WITHIN 2 FEET FROM FLOOR BELOW ELECTRICAL PANELS.
 - MOUNT ICE MACHINE CONDENSER A MAXIMUM OF 2 FEET ABOVE CEILING.
 - MOUNT EXHAUST FAN AT 11'-0" AFF. COORDINATE EXACT LOCATION WITH SERVICE PANEL FOR ACCESS.
 - MOUNT FCU-11 13'-0" A.F.F.
 - MOUNT FCU-12 12'-0" A.F.F.
 - MOUNT FCU-15 13'-0" A.F.F.
 - MOUNT BRANCH SELECTOR AT APPROXIMATELY 2 FEET ABOVE CEILING SO THAT IT IS ACCESSIBLE FROM CATWALK.
 - INSTALL WE UNIT AT 12'-0" AFF. WINE EVAPORATOR LIENSEE LENGTH TO WINE CONDENSER SHALL NOT EXCEED 100' LENGTH.
 - MOUNT TEMPERATURE SENSOR IN RETURN AIR DUCTWORK. CONNECT SENSOR TO ASSOCIATED DUCTWORK.
 - PROVIDE WINE ROOM THERMOSTATS ON WALL, MINIMUM 48" AFF. POWER FROM EVAPORATOR IS 200V. WIRING TO TEMPERATURE SENSOR IS LOW VOLTAGE. INSTALL PER MANUFACTURERS INSTALLATION GUIDELINES.



2 MECHANICAL FLOOR PLAN - MEZZANINE
 1/4" = 1'-0"



1 MECHANICAL FLOOR PLAN - SEGMENT B
 1/4" = 1'-0"

DOAS UNIT CONTROL MATRIX

CONTROL FEATURE	DOAS-1 SETPOINT OR Y/N	DOAS-2 SETPOINT OR Y/N	DOAS-3 SETPOINT OR Y/N	NOTES
CONTROL STRATEGY				
DOAS SUPPLY AIR TEMPERATURE CONTROL	Y	Y	Y	
DOAS SUPPLY AIR TEMPERATURE AND MULTI-ZONE VARIABLE AIR VOLUME CONTROL	Y	Y	Y	
HEATING AND COOLING SET POINTS				
COOLING MODE ENABLE - OUTSIDE AIR TEMPERATURE	"F DB	75 < X	75 < X	75 < X
COOLING - SUPPLY AIR TEMPERATURE SETPOINT	"F DB	70	70	70
HEATING MODE ENABLE - OUTSIDE AIR TEMPERATURE	"F DB	X < 55	X < 55	X < 55
HEATING - SUPPLY AIR TEMPERATURE SETPOINT	"F DB	60	60	60
DEHUMIDIFICATION - COOLING CONTROL - COIL LEAVING AIR TEMPERATURE SETPOINT	"F DB	55	55	55
DEHUMIDIFICATION - REHEAT CONTROL - SUPPLY AIR TEMPERATURE SETPOINT	"F DB	70	70	70
PROGRAMMED CONTROL FEATURES				
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - PROGRAMMABLE THERMOSTAT	Y	N	Y	B
OPTIMUM START SEQUENCE	Y	Y	Y	
EQUIPMENT COMPONENTS, ACCESSORIES AND CONTROL FEATURES				
COOLING COIL (DX - MODULATING CAPACITY)	Y	Y	Y	K
DEHUMIDIFICATION - MODULATING HOT GAS REHEAT	Y	Y	Y	K, P
HEATING - NATURAL GAS - MODULATING	Y	Y	Y	K
OUTSIDE AIR DAMPER - MOTOR OPERATED	Y	Y	Y	J
SUPPLY FAN CONTROL METHODS				
VARIABLE VOLUME SUPPLY FAN SET TO CONSTANT SPEED	N	Y	N	K
CYCLE WITH LOADS DURING UNOCCUPIED HOURS	N	N	N	K, P
MIN/MAX SPEED BASED ON HOOD STATUS	Y	N	Y	P
SAFETIES, INTERLOCKS, AND ALARMS				
GAS VALVE SAFETY	Y	Y	Y	F
SUPPLY AIR SMOKE DETECTOR - SAFETY SHUTDOWN	Y	Y	Y	F
DIFFERENTIAL PRESSURE SWITCH - FILTER CHANGE ALARM	Y	Y	Y	F
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK	Y	Y	Y	F
HIGH SUPPLY AIR STATIC PRESSURE SENSOR - SAFETY SHUTDOWN	Y	Y	Y	F
KITCHEN EXHAUST SYSTEM INTERLOCK	Y	Y	Y	L

DIV. 23 CONTRACTOR SHALL PROVIDE CONTROL PANEL(S), WIRING, THERMOSTAT(S), TEMPERATURE SENSOR(S), HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP. REFERENCE DIVISION SPECIFICATIONS FOR INDIVIDUAL DEVICE REQUIREMENTS.

NOTES:
 B. DIVISION 23 CONTRACTOR SHALL PROVIDE DEVICE.
 F. DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE ONBOARD CONTROLLER.
 K. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED AND COIL CAPACITY SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO MAINTAIN SCHEDULED SETPOINTS.
 L. INTERLOCK RTU WITH KITCHEN EXHAUST HOOD SYSTEM(S) TO SHUT DOWN UPON SIGNAL FROM HOOD FIRE EXTINGUISHING SYSTEM. INTERLOCK RTU WITH KITCHEN EXHAUST FAN TO ENERGIZE WHEN HOOD SYSTEM IS ENERGIZED.
 P. FOR UNOCCUPIED CONTROL OF DOAS-1, NOTE THAT FAN SHALL OPERATE AT A MINIMUM CFM. FOR OCCUPIED CONTROL OF DOAS-1, NOTE THAT DURING OCCUPIED MODE, SUPPLY FAN SHALL VARY CFM BASED ON KITCHEN EXHAUST RATE. OA CFM SHALL BE 7,365 CFM WHEN HOOD IS 100% EXHAUST AND SHALL BE 2753 CFM WHEN HOOD IS 50%, AND SHALL MODULATE ACCORDINGLY BETWEEN THESE TWO VALUES

GREASE POLLUTION CONTROL UNIT

MARK	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	NOM HP	ELECTRICAL V/PH	WEIGHT (LBS)	NOTES
PCU-1	CAPTIVEAIRE	ROOF	USB90DD-RM	9225	2.5	10	4603 FUSED	4752	A-J

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE.

NOTES:
 A. FILTER STAGES SHALL BE PRE, (2) HIGH EFFICIENCY, (2) ODOOR CONTROL.
 B. PROVIDE UNIT WITH BACK INLET CONNECTION.
 C. PROVIDE 2" MERV 8 EFFICIENT PLEATED THROUGHWAY AIR FILTERS.
 D. DISCONNECT SWITCH FURNISHED BY DIVISION 26 CONTRACTOR.
 E. STARTERS SHALL BE FURNISHED BY THE MANUFACTURER INTEGRAL TO THE UNIT.
 F. SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES EXTERNAL TO UNIT.
 G. PROVIDE FACTOR PER PIPED FIRE SUPPRESSION PIPING AND NOZZLES FOR FIELD CONNECTION OF SYSTEM. SEE M8 DRAWINGS FOR SCOPE OF WORK BETWEEN SPRINKLER, PLUMBING, AND ELECTRICAL CONTRACTOR.
 H. MOUNT UNIT ON SLAB. PROVIDE BASE FOR ENOUGH HEIGHT TO ROUTE DRAINAGE PIPE.
 J. UNIT SHALL HAVE SINGLE POWER SUPPLY.

FAN SCHEDULE

MARK	SERVICE	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	BHP	NOM HP	FAN RPM	DRIVE (BELT/DIRECT)	VFD (Y/N)	V/PH	DISC TYPE	STARTER TYPE	NOTES
EF-1	RESTROOMS	CAPTIVEAIRE	INLINE	SIF110D	600	0.4	0.2	0.5	1253	DIRECT	Y	115/1	NON-FUSED	N/A	A-F, H-J
EF-2	DISHWASH	CAPTIVEAIRE	INLINE	SIF100D-SS	600	0.4	0.2	0.5	1253	DIRECT	Y	115/1	NON-FUSED	N/A	A-G, J

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:
 A. EQUIPMENT SHALL BE BACKDRAFT AND INSTALLED BY MECHANICAL CONTRACTOR.
 B. PROVIDE GRAVITY BACKDRAFT DAMPER.
 C. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
 D. NOMINAL MOTOR HP SHALL BE NO LARGER THAN THE FIRST AVAILABLE NOMINAL MOTOR SIZE GREATER THAN THE BHP.
 E. PROVIDE WITH SPRING VIBRATION ISOLATION AND ALL-THREAD HANGING RODS.
 F. PROVIDE WITH EC MOTOR AND MANUFACTURER'S FAN SPEED CONTROLLER FOR BALANCING PURPOSES.
 G. INTERLOCK FAN OPERATION WITH DISHWASHER.
 H. FAN SHALL OPERATE DURING OCCUPIED HOURS, SHALL BE DEENERGIZED DURING UNOCCUPIED HOURS.
 I. INTERLOCK FAN OPERATION WITH TIME CLOCK.
 J. REFER TO CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX NC	MAX PRESS DROP (IN W.C.)	NOTES
CEG1	TITUS	350RL	FIXED BLADE	CEILING	12"x12"	25	0.08	A, C, D
LSD-1	TITUS	FLOWBAR FL-10-HT	LINEAR SLOT	CEILING	1" SLOT (4'-0")	25	0.08	E, M, P, Q
LSD-2	TITUS	FLOWBAR FL-10-LT	LINEAR SLOT	CEILING / WALL	1" SLOT (4'-0")	25	0.08	E, M, P, Q
PRD-1	TITUS	FBP-10	1" SLOT PLENUM	CEILING	2'-0" (NOMINAL)	25	0.08	A, C, F
PRD-2	TITUS	FBP-10	1" SLOT PLENUM	CEILING	4'-0" (NOMINAL)	25	0.08	A, C, F
PSD-3	TITUS	FBP-10	1" SLOT PLENUM	CEILING	4'-0" (NOMINAL)	25	0.08	A, C, F
RG-1	TITUS	PAR-AA	PERFORATED	CEILING	24"x48"	25	0.05	A, C, D, F, G
RG-2	TITUS	PAR-AA	PERFORATED	CEILING	12"x12"	25	0.05	A, C, D, F, G
RD-3	TITUS	PAR	PERFORATED	CEILING	24"x24"	25	0.05	A, D, F, G, I
SD-1	TITUS	PAR-AA	PERFORATED	CEILING	24"x24"	25	0.08	A, C, D, F, G, I, J, K
SD-2	TITUS	PAR	PERFORATED	CEILING	24"x12"	25	0.08	A, C, D, F, G, I
WSG1	TITUS	300RL	ADJUSTABLE BLADE	WALL	12"x12"	25	0.08	A, C, D, F, H

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:
 A. NECK SIZE SHOWN ON DRAWINGS.
 B. 4-WAY THROW PATTERN UNLESS OTHERWISE SHOWN ON DRAWINGS.
 C. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
 D. BAKED ENAMEL FINISH, WHITE.
 E. PROVIDE BORDER TYPE 22 IN HARD CEILING APPLICATIONS; BORDER TYPE 14 FOR GYP TO VERTICAL FRAMING; AND BORDER TYPE 66 FOR LAY-IN TO VERTICAL FRAMING. COORDINATE WITH ARCHITECTURAL PLANS. LAY-IN CEILING MOUNTED SLOT SHALL HAVE BORDER COMPATIBLE WITH CEILING. BORDER SHALL HAVE NO FLANGES BELOW CEILING.
 F. PROVIDE NECK FOR DUCT CONNECTION.
 G. FRAME TYPE TO MATCH CEILING CONSTRUCTION. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
 H. PROVIDE OPPOSED BLADE DAMPER.
 I. PROVIDE WITH NECK FLANGE FOR DUCT CONNECTION AND 1/4 TURN FASTENERS FOR REMOVAL AND CLEANING, FILTER NOT REQUIRED.
 J. PROVIDE WITHOUT DIRECTIONAL PATTERN CONTROLLERS.
 K. PROVIDE TITUS "TRM" RAPID MOUNT FRAME TO CREATE LAY-IN APPLICATION WHEN INSTALLED IN A HARD CEILING.
 L. PROVIDE WITH MANUFACTURER'S INSULATED NARROW PLENUM FOR DUCT CONNECTION.
 M. PROVIDE FACTORY INSULATION BLANKET ON PLENUM SIDE OF SUPPLY AIR DEVICE. ATTACH TO AIR DEVICE IN APPROVED MANNER.
 N. FRONT BLADES PARALLEL TO LONG DIMENSION.
 O. PROVIDE WITH GANG OPERATED MULTICOVER DAMPER ADJUSTABLE FROM THE FACE OF THE DEVICE BY A SINGLE LEVER.
 P. PAINT ALL INTERIOR SURFACES SLOTS, GRILLES AND PLENUMS FLAT BLACK.
 Q. ON 90 DEGREE CORNERS PROVIDE TITUS FBMC MITERED CORNER OR EQUAL.

VARIABLE REFRIGERANT FLOW FAN COIL UNIT SCHEDULE

MARK	SERVICE	LOCATION	MANUFACTURER	MODEL	MOUNTING	COOLING COIL										HEAT PUMP HEATING COIL		MIN		ELECTRICAL		WEIGHT (LBS)	CONTROL METHOD	NOTES	
						DESIGN CFM	ESP (IN)	NOM (MBH)	VFD (Y/N)	REFR TYPE	TH (MBH)	SH (MBH)	EAT (°F DB)	LAT (°F WB)	MIN EFF (MBHRE)	MIN NO STAGES	MIN OUT (MBH)	NOM INPUT (MBH)	MIN EFF (%)	EAT (°F DB)	LAT (°F WB)				MIN NO STAGES
FCU-1	DINING	DINING	DAIKIN	FXMQ48	CEILING	1,050	0.4	20.2	19.2	71.1	55.6	54.3	48.2	R-410A	56.0	36.1	85.5	830	208/1	3.4	15	FUSED	101.4	1	A-Q
FCU-2	DINING	DINING	DAIKIN	FXMQ48	CEILING	1,050	0.4	20.2	19.2	71.1	55.6	54.3	48.2	R-410A	56.0	36.1	85.5	830	208/1	3.4	15	FUSED	101.4	1	A-Q
FCU-3	PDR I	DINING	DAIKIN	FXMQ07	CEILING	190	0.3	4.3	3.1	72.0	62.1	54.5	52.8	R-410A	8.8	44.5	95.5	95	208/1	0.6	15	FUSED	55.1	1	A-Q
FCU-4	PDR II	DINING	DAIKIN	FXMQ30	CEILING	750	0.3	20.5	16.2	73.8	62.1	54.1	52.6	R-410A	35.2	59.7	103.2	180	208/1	2.8	15	FUSED	101.4	1	A-Q
FCU-5	PDR III	DINING	DAIKIN	FXMQ12	CEILING	300	0.3	9.9	6.6	72.0	62.2	52.1	50.5	R-410A	14.0	44.3	90.6	180	208/1	1.4	15	FUSED	61.7	1	A-Q
FCU-6	BAR	DINING	DAIKIN	FXMQ48	CEILING	1,110	0.5	37.8	26.4	72.7	61.8	51.0	59.6	R-410A	56.0	50.1	96.8	515	208/1	3.4	15	FUSED	101.4	1	A-Q
FCU-7	BAR	DINING	DAIKIN	FXMQ48	CEILING	1,110	0.5	37.8	26.4	72.7	61.8	51.0	59.6	R-410A	56.0	50.1	96.8	515	208/1	3.4	15	FUSED	101.4	1	A-Q
FCU-8	BAR	DINING	DAIKIN	FXMQ48	CEILING	1,110	0.5	37.8	26.4	72.7	61.8	51.0	59.6	R-410A	56.0	50.1	96.8	515	208/1	3.4	15	FUSED	101.4	1	A-Q
FCU-9	KITCHEN	BOH	DAIKIN	FXMQ54	CEILING	1,400	0.4	35.9	35.9	75.0	60.5	51.6	51.3	R-410A	62.0	70.0	111.0	0	208/1	3.4	15	FUSED	101.4	2	A-Q
FCU-10	KITCHEN	BOH	DAIKIN	FXMQ54	CEILING	1,400	0.4	35.9	35.9	75.0	60.5	51.6	51.3	R-410A	62.0	70.0	111.0	0	208/1	3.4	15	FUSED	101.4	2	A-Q
FCU-11	OFFICE	BOH	DAIKIN	FXMQ07	CEILING	315	0.1	0.9	0.8	70.4	61.1	56.5	54.8	R-410A	8.8	70.0	90.0	40	208/1	0.6	15	FUSED	55.1	2	A-Q
FCU-12	MECH/ELEC	BOH	DAIKIN	FXMQ30	CEILING	750	0.1	1.1	0.9	75.0	62.5	57.5	56.1	R-410A	35.2	70.0	102.0	0	208/1	2.8	15	FUSED	101.4	2	A-Q
FCU-13	RESTROOMS	KITCHEN	DAIKIN	FXMQ07	CEILING	315	0.2	1.5	1.5	71.2	61.5	58.6	57.0	R-410A	8.8	70.0	90.0	0	208/1	0.6	15	FUSED	55.1	1	A-Q
FCU-14	VEST/LOBBY	LOBBY	DAIKIN	FXMQ18	CEILING	600	0.3	13.8	11.8	74.2	61.7	56.2	53.7	R-410A	20.7	62.9	94.8	100	208/1	1.6	15	FUSED	79.4	1	A-Q
FCU-15	BOH/BEV/DISH	KITCHEN	DAIKIN	FXMQ36	CEILING	1,100	0.3	25.0	22.3	75.0	62.5	56.6	54.8	R-410A	41.4	70.0	104.8	0	208/1	2.9	15	FUSED	101.4	2	A-Q

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- ASSOCIATED CONDENSING UNIT SHALL BE BY THE SAME MANUFACTURER.
- FOR COOLING, EQUIPMENT SIZED FOR 100°F AMBIENT TEMPERATURE. FOR HEATING, EQUIPMENT SIZED FOR 20°F AMBIENT TEMPERATURE.
- PROVIDE PRE-MANUFACTURED OR FIBER FABRICATED FILTER RACK WITH 2" MERV 8, PLEATED THROWAWAY FILTERS.
- PROVIDE FACTORY MOUNTED STARTER AND DISCONNECT SWITCH INSTALLED ON SERVICE SIDE OF UNIT.
- SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES EXTERNAL TO UNIT.
- SPECIFIED MOTOR OUTPUT SHALL BE DEFINED IN WATTS IF THE VALUE IS GREATER THAN 5 AND HORSEPOWER IF THE VALUE IS 5 OR LESS.
- DIVISION 23 SHALL PROVIDE SMOKE DETECTOR IN RETURN AIR DUCT(S).
- SUSPEND UNIT FROM STRUCTURE IN HORIZONTAL POSITION WITH ALL-THREAD ROD AND SPRING VIBRATION ISOLATION (2" MINIMUM DEFLECTION).
- EQUIPMENT SHALL BE SIZED FOR WORST CASE OF HEATING OR COOLING CAPACITY NEEDS FOR ALL ASSOCIATED VRF SYSTEMS WITHOUT DIVERSITY FACTORS APPLIED.
- EQUIPMENT MUST MEET DESIGN LEAVING AIR TEMPERATURE IN HEATING MODE AT RATED AIRFLOW. HEATING CAPACITY SHALL INCLUDE ALL APPLICABLE DERATES FOR PIPING, AMBIENT TEMPERATURE, CONNECTED LOAD AND...
 TOTAL HEATING CAPACITY INCLUDES THE HEAT PUMP HEATING COIL CAPACITY AT THE AMBIENT DUCT TEMPERATURE LISTED PLUS THE AUXILIARY HEATING COIL OUTPUT LISTED.
- PROVIDE AUXILIARY DRAIN PAN WITH FLOOD DETECTOR SWITCH TO SHUT OFF UNIT WHEN WATER IS PRESENT IN DRAIN PAN.
- REFER TO PLUMBING PLANS FOR CONDENSATE PUMP SPECIFIED BY DIVISION 22.
- PROVIDE UNIT WITH SPACE TEMPERATURE CONTROL DEVICES CONSISTENT WITH THE FOLLOWING CONTROL METHODS:
 1-THERMOSTAT OR ROOM CONTROLLER FOR LOCAL OVERRIDE OF CENTRALIZED CONTROLLER WITH INTEGRAL TEMPERATURE SENSOR.
 2-TEMPERATURE SENSOR WITHOUT LOCAL OVERRIDE. ADD BUTTON STYLE SENSOR. PAINT TO MATCH WALL FOLLOWING MANUFACTURER'S INSTALLATION GUIDELINES.

VARIABLE REFRIGERANT FLOW CONDENSING UNIT SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	REFR TYPE	COOLING CAPACITY			HEATING CAPACITY		OUTDOOR MODULE 1		OUTDOOR MODULE 2		OUTDOOR MODULE 3		DISC TYPE	OM 1 WEIGHT (LBS)	OM 2 WEIGHT (LBS)	OM 3 WEIGHT (LBS)	NOTES	
					TOTAL (MBH)	MIN EFF (IEER)	(IEER)	MIN EFF (DB)	COOP 47°F	MCA	MOCP	V/PH	MCA	MOCP	V/PH						MCA
CU-1	FCU-1-FCU-15	DAIKIN	REV0384	R410A	375.3	9.9	17.6	270.1	25	3.2	27.9	40	460/3	21.1	25	460/3	FUSED	793	727	727	A-K

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- PROVIDE LOW AMBIENT KIT FOR COOLING OPERATION DOWN TO 25°F.
- EQUIPMENT SIZED FOR 100°F AMBIENT TEMPERATURE.
- APPROXIMATE LOCATION OF REFRIGERANT COMPONENTS AND CONTROL DEVICES AND GENERAL PIPE ROUTING ARE SHOWN ON THE DRAWINGS ONLY TO CONVEY GENERAL DESIGN INTENT. COORDINATE WITH THE MANUFACTURER THE FINAL HORIZONTAL AND VERTICAL REFRIGERANT PIPE ROUTING TO DETERMINE PIPE SIZES FOR THE REFRIGERANT PIPING. MANUFACTURER SHALL PROVIDE DETAILED REFRIGERANT PIPING DIAGRAMS INCLUDING DIMENSIONAL DATA FOR ALL REFRIGERANT PIPING DEVICES. THE MANUFACTURER SHALL SIZE AND LOCATE THE ASSOCIATED...
 BASED ON THE ACTUAL ROUTING AND PROVIDE OTHER APURTENANCES TO PROVIDE A FULLY FUNCTIONAL AND OPERATIONAL SYSTEM. COORDINATE WITH THE MANUFACTURER LOCATIONS FOR ALL REFRIGERANT PIPING AND CONTROL DEVICES TO MAINTAIN SERVICEABILITY AND...
 D. PROVIDE CONDENSER HAL GUARDS.
 E. PROVIDE PRE-ENGINEERED ROOF EQUIPMENT SUPPORTS WITH MINIMUM HEIGHT REQUIRED TO MAINTAIN BOTTOM OF EQUIPMENT A MINIMUM OF 8 INCHES ABOVE FINISHED ROOF SURFACE.
 COORDINATE WITH ROOF INSULATION THICKNESS AND ROOF TAPER AT INSTALLED LOCATION.
 F. PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.
 H. COORDINATE SIZE OF CONDUCTOR TERMINATION LUGS WITH CONDUCTOR SIZES SHOWN ON ELECTRICAL DRAWINGS.
 I. PROVIDE MANUFACTURER'S VRF SYSTEM CONTROLLER FOR CONTROL OF VRF SYSTEMS AND INTERFACE TO BUILDING CONTROL SYSTEM. GATEWAY SHALL BE PROVIDED BY CONTRACTS CONTRACTOR (IF REQUIRED).
 J. EQUIPMENT SHALL BE SIZED FOR WORST CASE OF HEATING OR COOLING CAPACITY NEEDS FOR ALL ASSOCIATED VRF SYSTEMS WITHOUT DIVERSITY FACTORS APPLIED.
 K. HEATING CAPACITY SHALL INCLUDE ALL APPLICABLE DERATES FOR PIPING, AMBIENT TEMPERATURE, CONNECTED LOAD AND DEFROST.

DEDICATED OUTDOOR AIR SYSTEM - ROOFTOP UNIT (DX COOLING, NATURAL GAS HEATING)

MARK	MANUFACTURER	MODEL	NOMINAL TONS	UNIT TYPE	COOLING COIL										GAS FIRED HEAT EXCHANGER										WEIGHT (LBS)	NOTES
					DESIGN CFM																					



Submittal Transmittal

Aria Group Architects, Inc. | 830 North Blvd Oak Park IL 60301 United States

PROJECT: Perrys-Verdad The Grove 214735.000 DATE SENT: 2/8/2023
 RETURN BY: 2/10/2023

SUBJECT: 230000-3.1_Air Devices Resubmittal SUBMITTAL ID: 033r01

TYPE: Submittal TRANSMITTAL ID: 00231

PURPOSE: For Review VIA: Info Exchange

SPEC SECTION: 230000

FROM

NAME	COMPANY	EMAIL	PHONE
SHELLIE HALKYARD	Aria Group Architects, Inc.	shalkyard@ariainc.com	(708) 445-8400

TO

NAME	COMPANY	EMAIL	PHONE
Rhonda Charlett	Henderson Engineers, Inc.	Rhonda.Charlett@hendersonengineers.com	(913) 742-5367
Coy Macy	Henderson Engineers, Inc.	Coy.Macy@hendersonengineers.com	(913) 742-5611

REMARKS:

Hi Rhonda / Coy,

We received an Air Device Resubmittal from ICI. Your last review for this submittal was marked as "reviewed as noted," but they have incorporated updates based on responses provided in RFI 030. They are asking for an expedited review if possible.

Thank you,
Shellie Halkyard

NOTE: Received 2 files from Procore at 08:45 AM EST on 02/08/2023. Any changes made to the Submittal in Procore after this time are not shown in Newforma.

Procore Due Date from ICI:
02/10/2023

Submittal Transmittal

DATE: 2/8/2023

ID: 00231

Workflow Comments from ICI:
For your review. See updated submittal with RFI comments addressed
attached. Thanks

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NUMBER	NOTES
1	2/8/2023	230000-3-1 - Submittal Form.pdf		
1	2/8/2023	230000-3.1_ Air Devices Resubmittal.pdf		

COPIES:

BRIAN ZIELINSKI (Aria Group Architects, Inc.)
PAUL NAGTALON (Aria Group Architects, Inc.)
SHELLIE HALKYARD (Aria Group Architects, Inc.)



Submittal

International Contractors, Inc.
 1 Mid America Plaza, 7th Floor
 Oakbrook Terrace, Illinois 60181
 Phone: (630) 834-8043
 Fax: (630) 834-8046
 www.icibuilds.com

Project: 001223 - Verdad the Grove, Austin, TX
 2701 Perseverance Drive
 Austin, Texas 78731

230000-3.1_Air Devices Resubmittal

SPEC SECTION:	230000 - HVAC	SUBMITTAL #:	230000-3
STATUS:	Open	DATE CREATED:	02/08/2023
ISSUE DATE:	02/08/2023	REVISION:	1
RESPONSIBLE CONTRACTOR:	AiRCO Mechanical	RECEIVED FROM:	Shayne Terry
RECEIVED DATE:	02/07/2023	SUBMIT BY:	02/08/2023
FINAL DUE DATE:	02/10/2023	LOCATION:	
TYPE:	Product Information	COST CODE:	01-0011 - Project Engineer - Office
APPROVERS:	Victor Baez (International Contractors, Inc.), Shellie Halkyard (Aria Group Architects, Inc.), Paul Nagtalon (Aria Group Architects, Inc.)	CREATED BY:	Victor Baez (International Contractors, Inc.)

BALL IN COURT:
 Victor Baez (**International Contractors, Inc.**)

DISTRIBUTION:
 Brian Zielinski (**Aria Group Architects, Inc.**) , Austin Darrell (**International Contractors, Inc.**) , Jack Moore (**International Contractors, Inc.**) , Ricardo Bustos (**International Contractors, Inc.**) , Scott Leadbetter (**International Contractors, Inc.**)

DESCRIPTION:

ATTACHMENTS:

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/APPROVER	DUE DATE
1	Shayne Terry	Submitter	2/8/2023
2	Victor Baez	Approver	2/8/2023
3	Shellie Halkyard	Approver	2/10/2023
4	Paul Nagtalon	Approver	2/10/2023

INTERNATIONAL CONTRACTORS, INC.
 INTERNATIONAL CONTRACTORS REVIEW OF THIS SUBMITTAL IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. SUBCONTRACTOR IS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND VERIFYING ALL DIMENSIONS AND QUANTITIES, AND ASSURING COORDINATION WITH RESPECTIVE RELATED TRADES AND WORK.
 ICI REVIEWER: VICTOR BAEZ DATE: 12/28/2022
 TIME:

Submittal

DATE: February 7, 2023

PROJECT: PERRY'S VERDAD
Austin, Texas

CONTRACTOR: AirCo Mechanical

AIR DEVICES

Air Devices as manufactured by Titus.

Please see attached data sheets.

TEXAS AIR PRODUCTS, LTD.
By: Kevin Hopcus

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX NC	MAX PRESS DROP (IN W.C.)	NOTES
CEG1	TITUS	350RL	FIXED BLADE	CEILING	12"x12"	25	0.08	A, C,D
LSD-1	TITUS	FLOWBAR FL-10-HT	LINEAR SLOT	CEILING	1" SLOT (4'-0")	25	0.08	E, M, P,Q
LSD-2	TITUS	FLOWBAR FL-10-JT	LINEAR SLOT	CEILING / WALL	1" SLOT (4'-0")	25	0.08	E, M, P,Q
PRD-1	TITUS	FBPI-10	1" SLOT PLENUM	CEILING	2'-0" (NOMINAL)	25	0.08	A, C, F
PRD-2	TITUS	FBPI-10	1" SLOT PLENUM	CEILING	4'-0" (NOMINAL)	25	0.08	A, C, F
PSD-3	TITUS	FBPI-10	1" SLOT PLENUM	CEILING	4'-0" (NOMINAL)	25	0.08	A, C, F
RG-1	TITUS	PAR-AA	PERFORATED	CEILING	24"x48"	25	0.05	A, C,D, F,G
RG-2	TITUS	PAR-AA	PERFORATED	CEILING	12"x12"	25	0.05	A, C,D, F,G
RG-3	TITUS	PAR	PERFORATED	CEILING	24"x12"	25	0.05	A, D, F,G, I
SD-1	TITUS	PAR-AA	PERFORATED	CEILING	24"x24"	25	0.08	A, C,D, F,G, I, J, K
SD-2	TITUS	PAR	PERFORATED	CEILING	24"x12"	25	0.08	A, D, F,G, I
WSG1	TITUS	300RL	ADJUSTABLE BLADE	WALL	12"x12"	25	0.08	A, C,D, F, H

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NOTES:

- A. NECK SIZE SHOWN ON DRAWINGS.
- B. 4-WAY THROW PATTERN UNLESS OTHERWISE SHOWN ON DRAWINGS.
- C. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
- D. BAKED ENAMEL FINISH, WHITE.
- E. PROVIDE BORDER TYPE 22 IN HARD CEILING APPLICATIONS, BORDER TYPE 14 FOR GYP TO VERTICAL FRAMING, AND BORDER TYPE 66 FOR LAY-IN TO VERTICAL FRAMING. COORDINATE WITH ARCHITECTURAL PLANS. LAY-IN CEILING MOUNTED SLOT SHALL HAVE BORDER COMPATABLE WITH CEILING. BORDER SHALL HAVE NO FLANGES BELOW CEILING.
- F. PROVIDE NECK FOR DUCT CONNECTION.
- G. FRAME TYPE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- H. PROVIDE OPPOSED BLADE DAMPER.
- I. PROVIDE WITH NECK FLANGE FOR DUCT CONNECTION AND 1/4 TURN FASTENERS FOR REMOVAL AND CLEANING, FILTER NOT REQUIRED.
- J. PROVIDE WITHOUT DIRECTIONAL PATTERN CONTROLLERS.
- K. PROVIDE TITUS "TRM" RAPID MOUNT FRAME TO CREATE LAY-IN APPLICATION WHEN INSTALLED IN A HARD CEILING.
- L. PROVIDE WITH MANUFACTURER'S INSULATED NARROW PLENUM FOR DUCT CONNECTION.
- M. PROVIDE FACTORY INSULATION BLANKET ON PLENUM SIDE OF SUPPLY AIR DEVICE. ATTACH TO AIR DEVICE IN APPROVED MANNER.
- N. FRONT BLADES PARALLEL TO LONG DIMENSION.
- O. PROVIDE WITH GANG OPERATED MULTI-LOUVER DAMPER ADJUSTABLE FROM THE FACE OF THE DEVICE BY A SINGLE LEVER.
- P. PAINT ALL INTERIOR SURFACES SLOTS, GRILLES AND PLENUMS FLAT BLACK.
- Q. ON 90 DEGREE CORNERS PROVIDE TITUS FBMC MITERED CORNER OR EQUAL.

MODE

COMMENT RESPONSE

1. Air device submittal update to include PRD2, model FBPI-10.
2. Confirmed, PAR-AA will be used as supply for Mark SD1.
3. Confirmed.
4. Additional length of 4" has been added to all 24" and 48" slots. These are now 28" and 52" lengths.
5. Confirmed, linear slots located in these areaa are supplied with border 22 for gyp. ceiling.

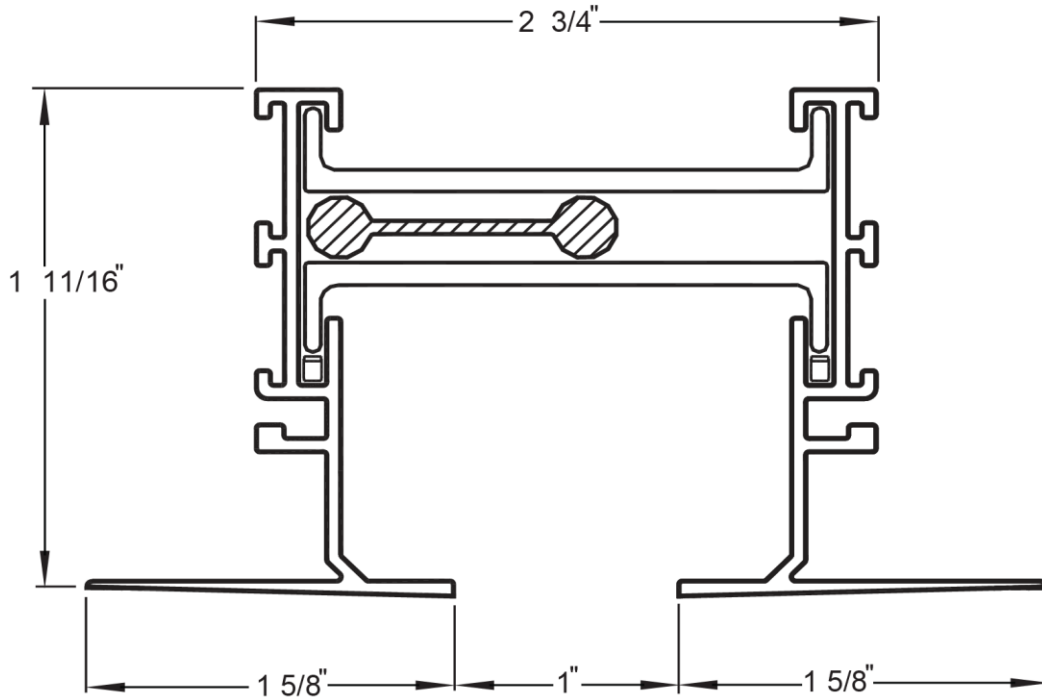
FL-10

Architectural Linear diffuser, aluminum, 1" slot.

Main Product

FL10-1

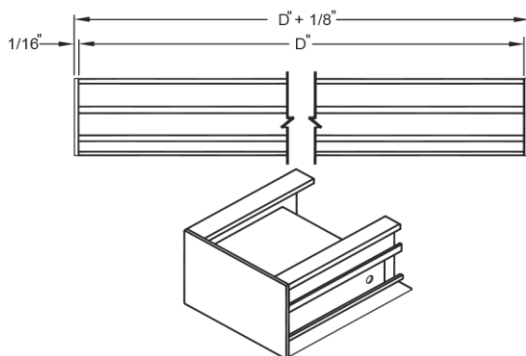
FL-10



Border Type 22

ED Border: ECXX

ECXX (Straight) End Borders



Project PERRY'S VERDAD AT THE
Architect
Engineer
Contractor
Designation

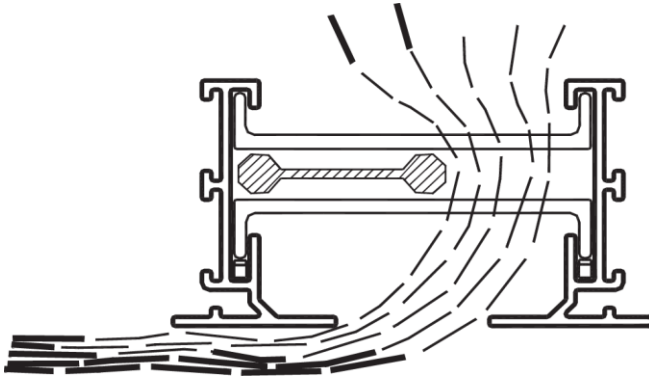


Date 02/07/2023
Office Texas Air Products
Preparer Joe Day
Version 2014.0.542

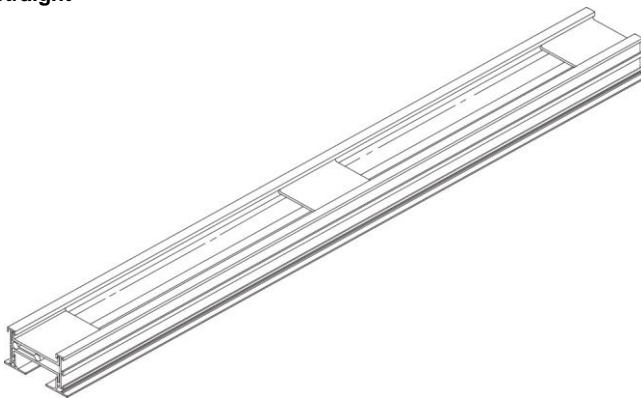
Main Product (continued) FL10-1

Overall Length (O)	C
28.125	28.125
52.125	52.125
54.125	54.125
56.125	56.125
58.125	58.125
100.125	100.125
104.125	104.125
222.125	222.125
232.125	232.125
420.125	420.125

High-Throw Pattern Controller



FlowBar is Straight



Project PERRY'S VERDAD AT THE
Architect
Engineer
Contractor
Designation



Date 02/07/2023
Office Texas Air Products
Preparer Joe Day
Version 2014.0.542

Option Schedule **FL10-1**

ID	Quantity	Tag	LINEAR LENGTH INCHES
1	5	LSD1	28
2	5	LSD1	52
3	20	LSD1	54
4	4	LSD1	56
5	1	LSD1	58
6	3	LSD1	100
7	1	LSD1	104
8	2	LSD1	222
9	2	LSD1	232
10	1	LSD1	420

FL SLOTS 1 SLOT
FL END BORDER ECXX - END CAPS
BORDER BORDER 22
FINISH 84 - Black Paint (22, 55)
PATTERN CONTROLLER HT - HIGH THROW

ANGLE CUT NO CUT (DEFAULT)
ACCESSORY 1 S72 - Straight-72 inch segment
ACCESSORY 2 H3 Clip - TAPE and SPACKLE 5/8" GYP
ACCESSORY 3 H3 Clip - TAPE & SPACKLE 5/8" GYP

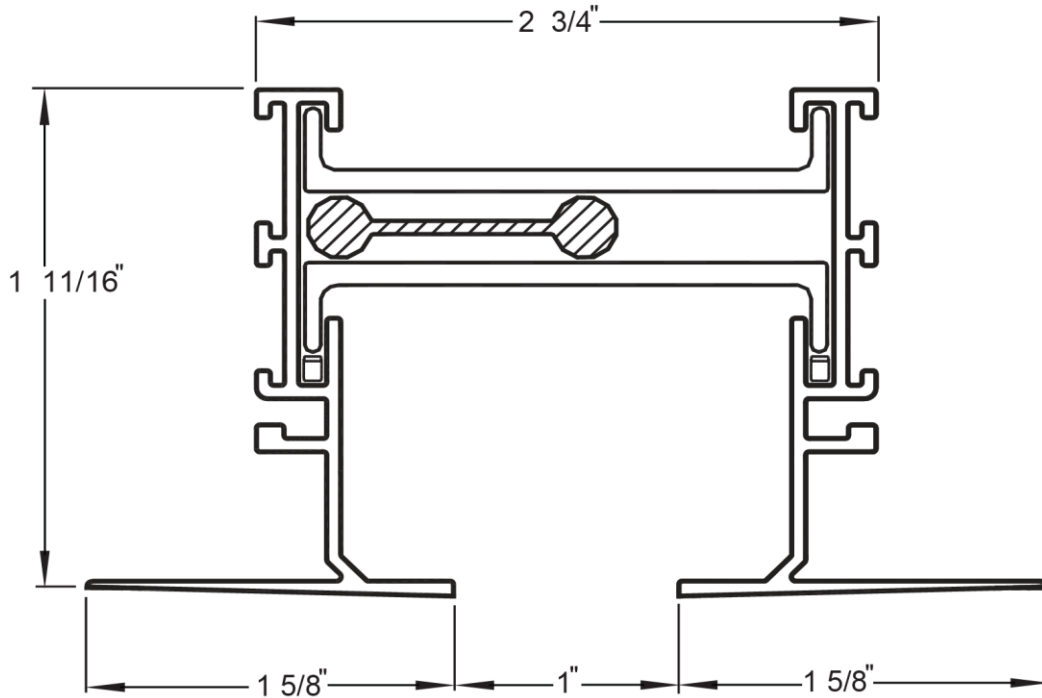
FL-10

Architectural Linear diffuser, aluminum, 1" slot.

Main Product

FL10-1 (2)

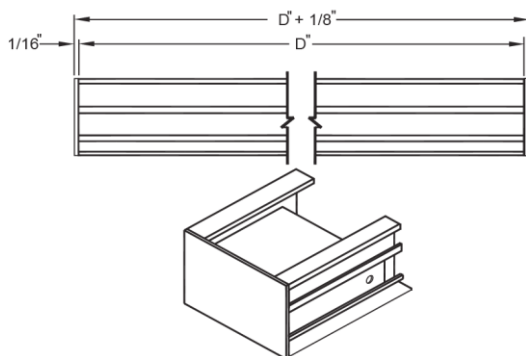
FL-10



Border Type 22

ED Border: ECXX

ECXX (Straight) End Borders



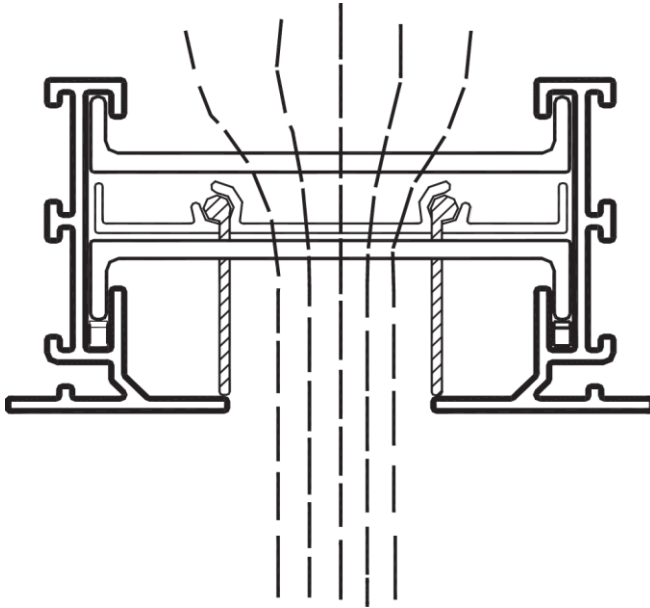
Overall Length (O)	C
56.125	56.125

Project PERRY'S VERDAD AT THE
 Architect
 Engineer
 Contractor
 Designation

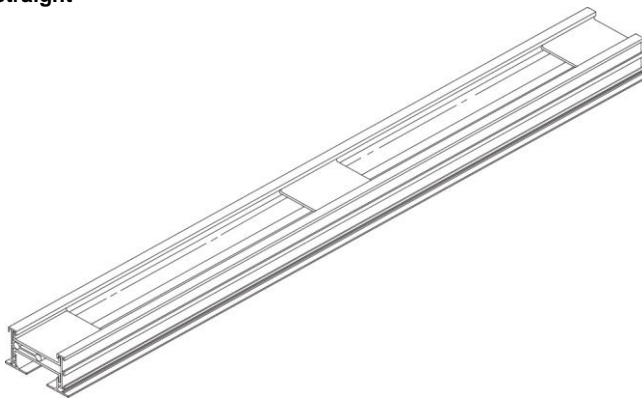


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 Version 2014.0.542

Main Product (continued) FL10-1 (2)



FlowBar is Straight



Option Schedule FL10-1 (2)

ID	Quantity	Tag	LINEAR LENGTH INCHES
11	9	LSD2	56

FL SLOTS 1 SLOT
FL END BORDER ECXX - END CAPS
BORDER BORDER 22
FINISH 84 - Black Paint (22, 55)
PATTERN CONTROLLER JT - JET THROW

ANGLE CUT NO CUT (DEFAULT)
ACCESSORY 1 S72 - Straight-72 inch segment
ACCESSORY 2 H3 Clip - TAPE and SPACKLE 5/8" GYP
ACCESSORY 3 H3 Clip - TAPE & SPACKLE 5/8" GYP

Project PERRY'S VERDAD AT THE
Architect
Engineer
Contractor
Designation



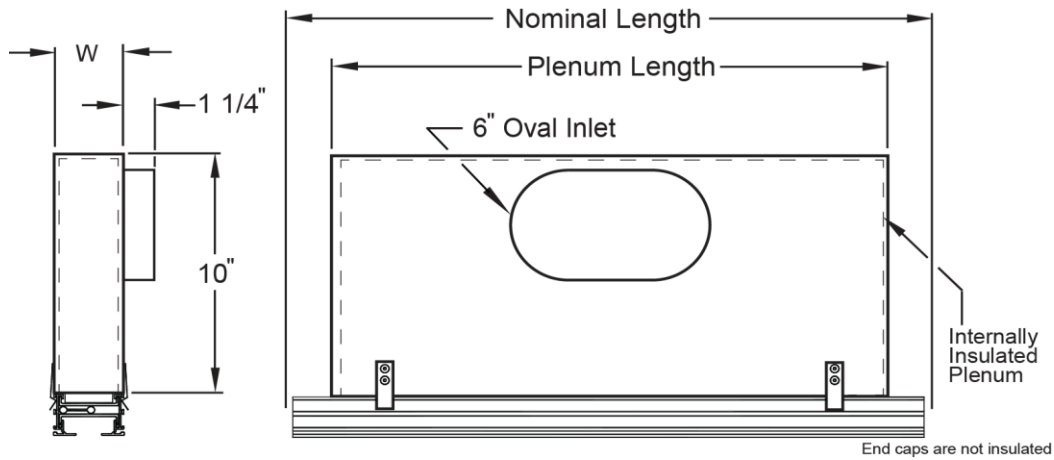
Date 02/07/2023
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Preparer Joe Day
Version 2014.0.542

FBPI-10

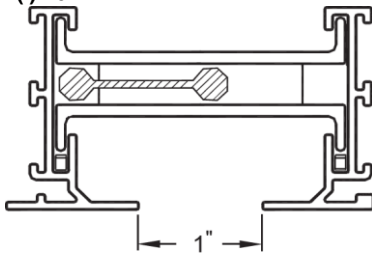
Insulated plenum for Architectural Linear diffuser, FL-10 - 1" Slot.

Main Product **FBPI10-1**

FBPI-10



1 Slot on FBPI(I)-10



1-Slot

Nominal Length	Plenum Length	Plenum Width(W)	Oval Width	Oval Height
24"	21 3/4"	2 3/4"	6 1/4"	5 1/4"

Option Schedule **FBPI10-1**

ID	Quantity	Tag	PLENUM LENGTH
1	5	PRD1	24 INCHES

FL SLOTS 1 SLOT
PLENUM INLET 6 INCH
BORDER ALL OTHER BORDERS

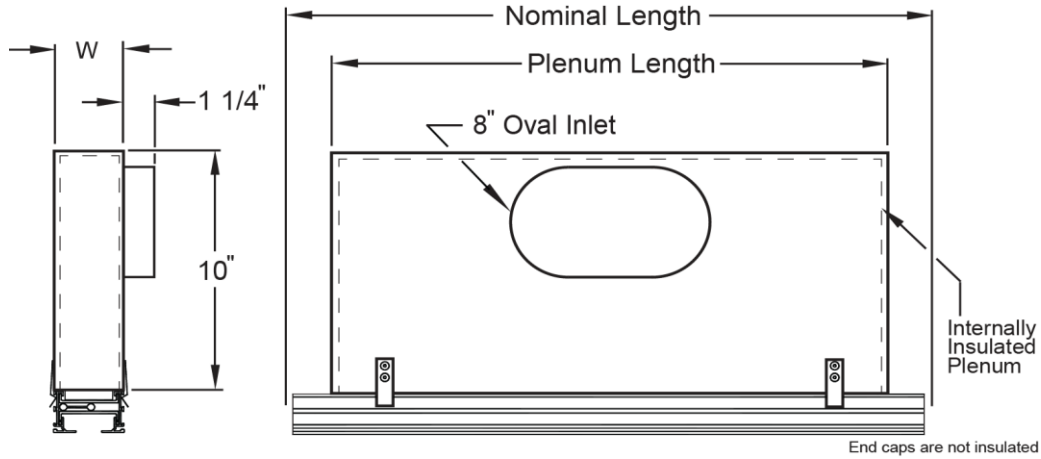
DAMPER MODEL 0 - NONE
ACCESSORY 1 S - STRAIGHT

FBPI-10

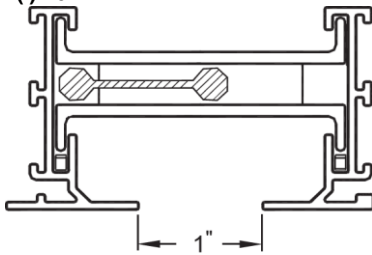
Insulated plenum for Architectural Linear diffuser, FL-10 - 1" Slot.

Main Product **FBPI10-1 (2)**

FBPI-10



1 Slot on FBP(I)-10



1-Slot

Nominal Length	Plenum Length	Plenum Width(W)	Oval Width	Oval Height
48"	45 3/4"	2 3/4"	9 3/8"	5 1/4"

Option Schedule **FBPI10-1 (2)**

ID	Quantity	Tag	PLENUM LENGTH
2	54	PSD3	48 INCHES
4	1	PRD2	48 INCHES

FL SLOTS 1 SLOT
PLENUM INLET 8 INCH
BORDER ALL OTHER BORDERS

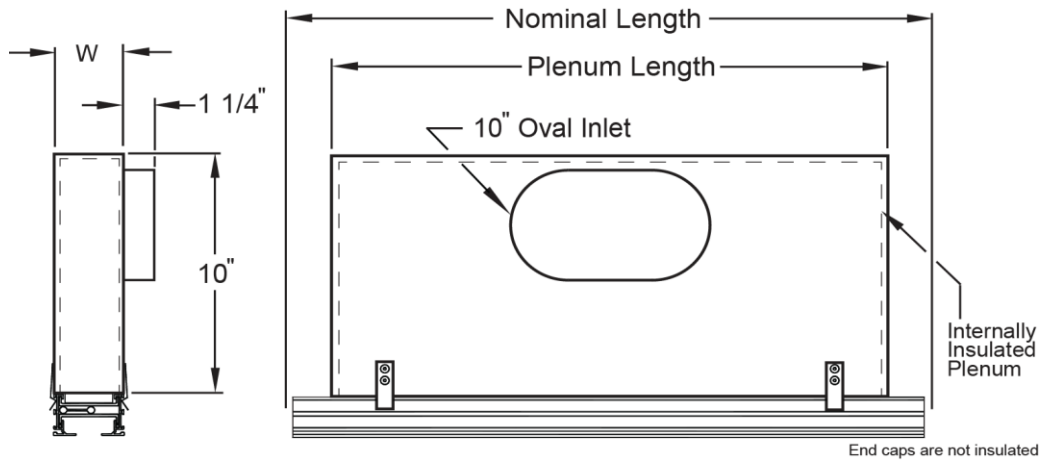
DAMPER MODEL 0 - NONE
ACCESSORY 1 S - STRAIGHT

FBPI-10

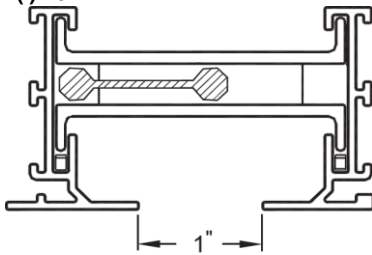
Insulated plenum for Architectural Linear diffuser, FL-10 - 1" Slot.

Main Product **FBPI10-1 (3)**

FBPI-10



1 Slot on FBP(I)-10



1-Slot

Nominal Length	Plenum Length	Plenum Width(W)	Oval Width	Oval Height
48"	45 3/4"	2 3/4"	12 1/2"	5 1/4"

Option Schedule **FBPI10-1 (3)**

ID	Quantity	Tag	PLENUM LENGTH
3	9	PSD3	48 INCHES

FL SLOTS 1 SLOT
PLENUM INLET 10 INCH
BORDER ALL OTHER BORDERS

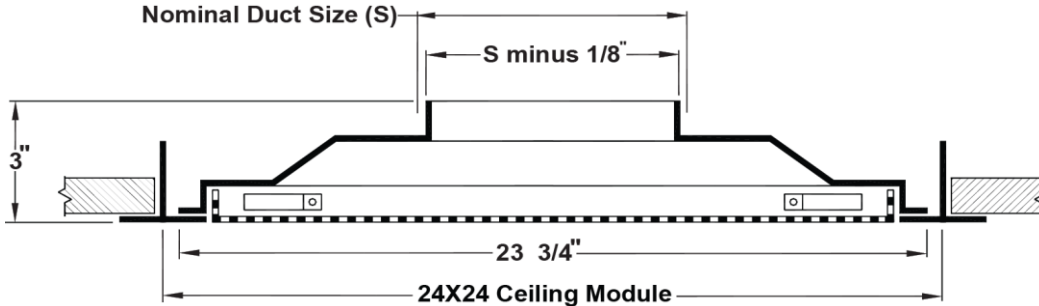
DAMPER MODEL 0 - NONE
ACCESSORY 1 S - STRAIGHT

PAR-AA

Perforated Return diffuser, aluminum face with steel backpan.

Main Product **PARAA-1**

PAR-AA



Nom. Neck Size (S)	Neck Size
6" Dia.	5 7/8" Dia.
8" Dia.	7 7/8" Dia.
10" Dia.	9 7/8" Dia.
12" Dia.	11 7/8" Dia.

General Description **PARAA-1**

Standard Finish: #26 White

- Model PAR-AA flush face perforated ceiling diffusers are designed for use as returns to match the Model PAS supply diffusers.
- Can be mounted in a plenum or connected to a return duct.
- Perforated face has 3/16" diameter holes on 1/4" staggered centers.
- Material: Heavy gauge aluminum face, steel backpan and pattern controllers.

Option Schedule **PARAA-1**

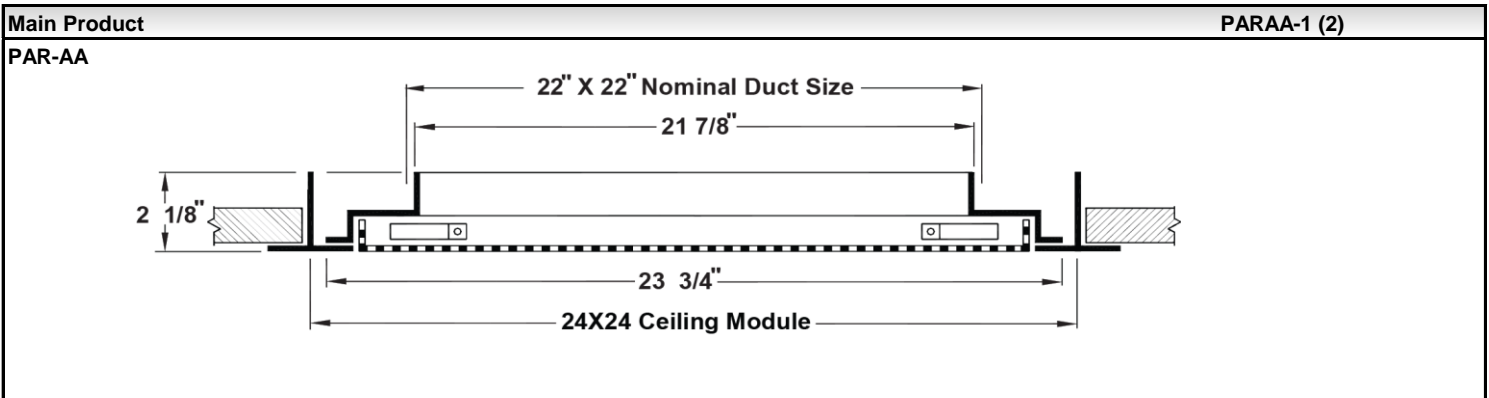
ID	Quantity	Tag	DIM 1 NECK SIZE	DIM 2 NECK SIZE
1	1	SD1	6" DIAMETER	NONE
5	5	SD1	8" DIAMETER	NONE
6	10	SD1	10" DIAMETER	NONE
7	8	SD1	12" DIAMETER	NONE

MODULE SIZE 24X24
BORDER 3 - LAY-IN
FINISH 26 - WHITE
DAMPER MODEL 0 - NONE

ACCESSORY 1 NONE
ACCESSORY 2 NONE
ACCESSORY 3 NONE

PAR-AA

Perforated Return diffuser, aluminum face with steel backpan.

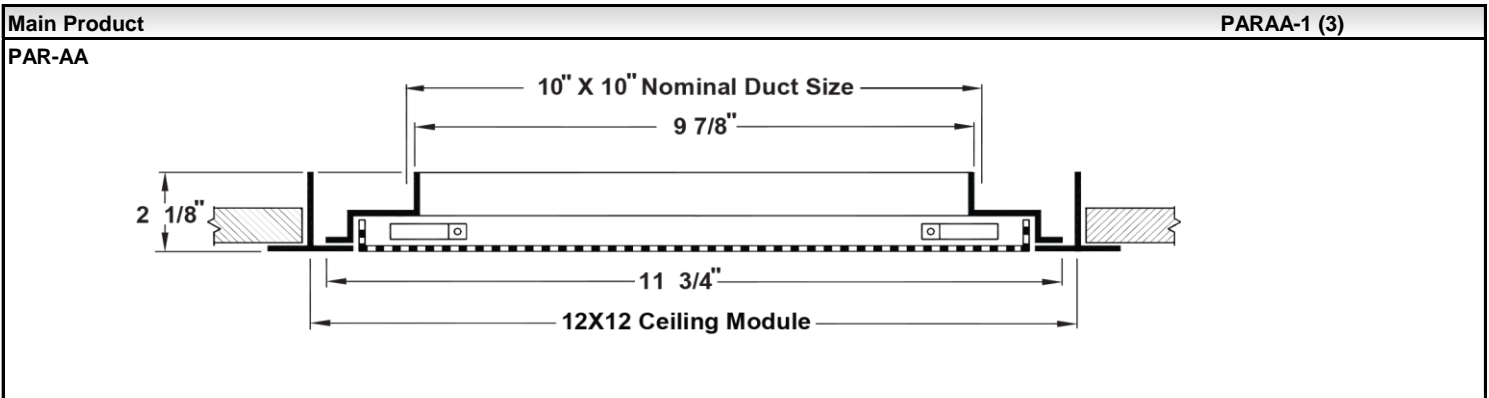


General Description	PARAA-1 (2)
<p>Standard Finish: #26 White</p> <ul style="list-style-type: none"> • Model PAR-AA flush face perforated ceiling diffusers are designed for use as returns to match the Model PAS supply diffusers. • Can be mounted in a plenum or connected to a return duct. • Perforated face has 3/16" diameter holes on 1/4" staggered centers. • Material: Heavy gauge aluminum face, steel backpan and pattern controllers. 	

Option Schedule					PARAA-1 (2)
ID	Quantity	Tag	DIM 1 NECK SIZE	DIM 2 NECK SIZE	
9	4	RG1	22 INCHES	22 INCHES	
MODULE SIZE 24X24 BORDER 3 - LAY-IN FINISH 26 - WHITE DAMPER MODEL 0 - NONE			ACCESSORY 1 NONE ACCESSORY 2 NONE ACCESSORY 3 NONE		

PAR-AA

Perforated Return diffuser, aluminum face with steel backpan.



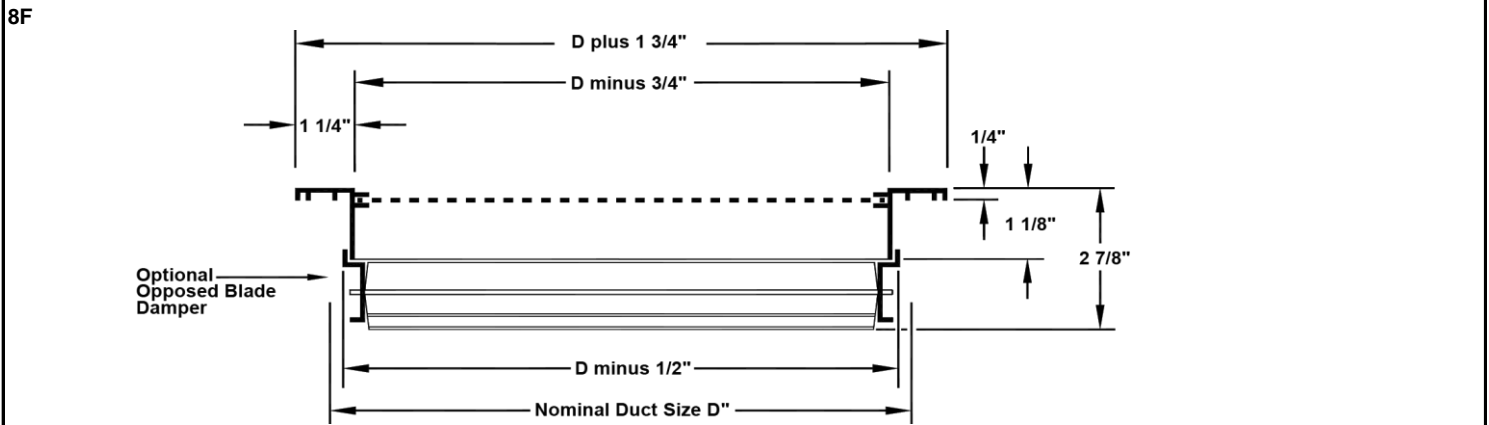
General Description	PARAA-1 (3)
<p>Standard Finish: #26 White</p> <ul style="list-style-type: none"> • Model PAR-AA flush face perforated ceiling diffusers are designed for use as returns to match the Model PAS supply diffusers. • Can be mounted in a plenum or connected to a return duct. • Perforated face has 3/16" diameter holes on 1/4" staggered centers. • Material: Heavy gauge aluminum face, steel backpan and pattern controllers. 	

Option Schedule	PARAA-1 (3)													
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 10%;">ID</th> <th style="width: 15%;">Quantity</th> <th style="width: 15%;">Tag</th> <th style="width: 20%;">DIM 1 NECK SIZE</th> <th style="width: 20%;">DIM 2 NECK SIZE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">10</td> <td style="text-align: center;">1</td> <td style="text-align: center;">RG2</td> <td style="text-align: center;">10 INCHES</td> <td style="text-align: center;">10 INCHES</td> </tr> </tbody> </table>					ID	Quantity	Tag	DIM 1 NECK SIZE	DIM 2 NECK SIZE	10	1	RG2	10 INCHES	10 INCHES
ID	Quantity	Tag	DIM 1 NECK SIZE	DIM 2 NECK SIZE										
10	1	RG2	10 INCHES	10 INCHES										
<p>MODULE SIZE 12X12</p> <p>BORDER 3 - LAY-IN</p> <p>FINISH 26 - WHITE</p> <p>DAMPER MODEL 0 - NONE</p>		<p>ACCESSORY 1 NONE</p> <p>ACCESSORY 2 NONE</p> <p>ACCESSORY 3 NONE</p>												

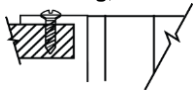
8F

Perforated return grille, 3/16" dia holes on 1/4" staggered centers, Aluminum.

Main Product **8F-1**



Screw Hole Fastening, Grille Mounting Detail



Duct Width	Duct Height	Grille OA Width	Grille OA Height
46	22	47.75	23.75

General Description **8F-1**

- Models 8F provides a smooth, perforated face that fits flush with the ceiling to blend with the room decor.
- 3/16" staggered holes on 1/4" centers.
 - 51% free area.
 - Optional opposed blade damper has screwdriver adjustment accessible through face of grille.
 - Material: Aluminum border and perforated face.

Option Schedule **8F-1**

ID	Quantity	Tag	WIDTH IN INCHES	HEIGHT IN INCHES
1	2	RG1	46	22

MODULE SIZE NONE

BORDER 1 - SURFACE MOUNT

FINISH 26 - WHITE

FASTENING A - SCREW HOLES

DAMPER MODEL 0 - NONE

ACCESSORY 1 NONE

ACCESSORY 2 NONE

ACCESSORY 3 NONE

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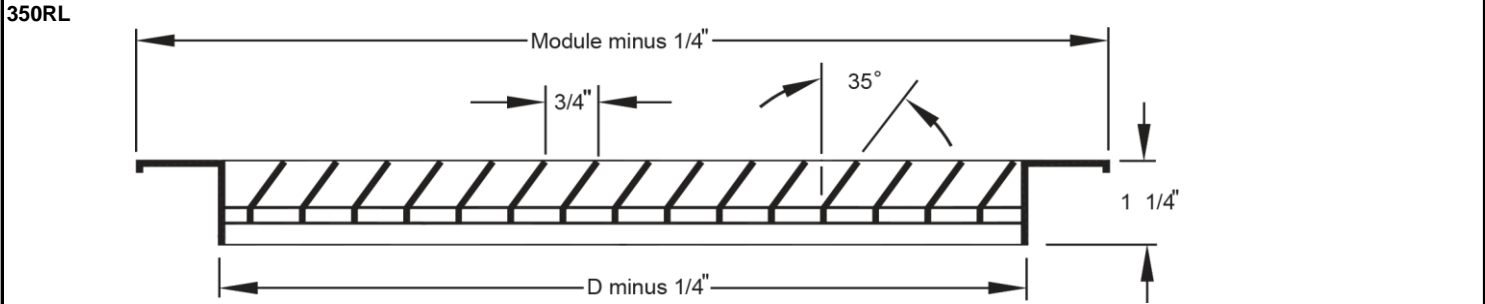


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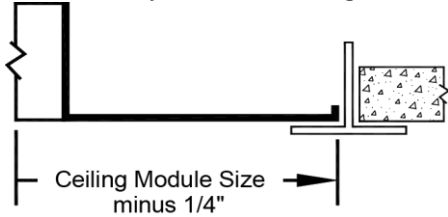
350RL

Louvered Return Grille, 35° Deflection, 3/4" Spacing, blades parallel to long dimension, Steel.

Main Product **350RL-1**



12x12 Module, Border 3-Lay-in, Grille Mounting Detail



Duct Width	Duct Height	Grille OA Size
10	10	11 3/4" x 11 3/4"

General Description **350RL-1**

- Louvers are horizontal to width with 3/4" spacing at a 35 degree deflection.
- Optional opposed blade damper has screwdriver adjustment accessible through face of register.
- Odd and fractional sizes are available at additional cost.
- Sizes larger than 48" x 48" are shipped in multiple sections with joining strips for field assembly.
- Screw hole fastening includes #8 x 1 1/4" lg. Phillip's flat head sheet metal screws painted color of grille.
- Wall or duct opening should be duct size ± 1/8".
- All dimensions are ± 1/16"
- Material: Steel

Option Schedule **350RL-1**

ID	Quantity	Tag	WIDTH IN INCHES	HEIGHT IN INCHES
1	1	CEG1	10	10

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Option Schedule (continued)	350RL-1
<p>MODULE SIZE 12X12 BORDER 3 - LAY-IN FINISH 26 - WHITE FASTENING N - NO SCREW HOLES</p>	<p>DAMPER MODEL 0 - NONE ACCESSORY 1 NONE ACCESSORY 2 NONE ACCESSORY 3 NONE</p>

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 Engineer
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 Designation



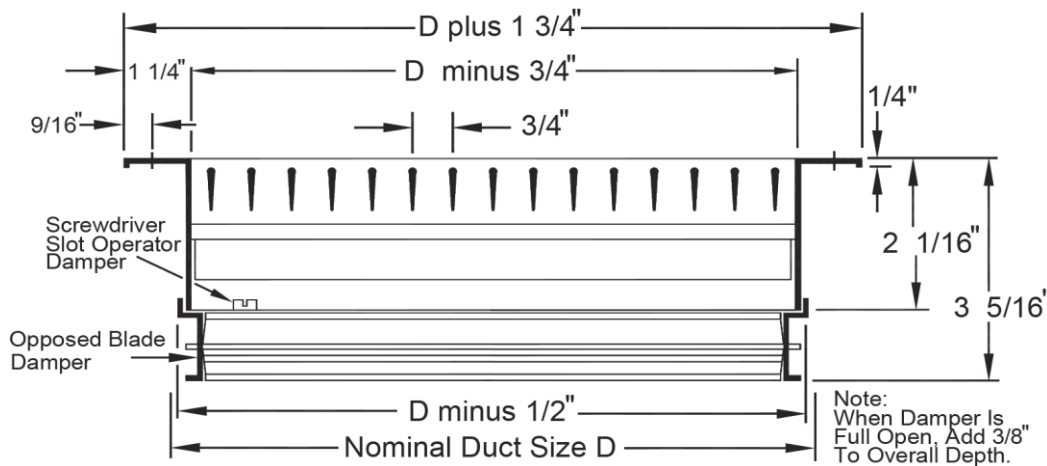
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300RL

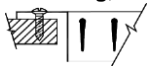
Double Deflection Supply Grille, 3/4" Spacing, front blades parallel to long dimension, Steel.

Main Product **300RL-1**

300RL



Screw Hole Fastrening, Grille Mounting Detail



Duct Width	Duct Height	Grille OA Width	Grille OA Height
10	10	11.75	11.75

General Description **300RL-1**

- Front louvers are horizontal to width.
- Front and rear louvers are individually adjustable.
- Screw hole fastening includes #8 x 1 1/4" lg. Phillip's flat head sheet metal screws painted color of grille.
- Sizes larger than 48" x 48" are shipped in multiple sections with joining strips for field assembly.
- Odd and fractional sizes are available at additional cost.
- Optional opposed blade damper has screwdriver adjustment accessible through face of register.
- Insect and debris screens are not available when dampers are fitted.
- All dimensions are ± 1/16"
- Material: Steel

Option Schedule **300RL-1**

ID	Quantity	Tag	WIDTH IN INCHES	HEIGHT IN INCHES
1	1	WSG1	10	10

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Option Schedule (continued)	300RL-1
MODULE SIZE NONE BORDER 1 - SURFACE MOUNT FINISH 26 - WHITE FASTENING A - SCREW HOLES	DAMPER MODEL AG-15 - STEEL OBD ACCESSORY 1 NONE ACCESSORY 2 NONE ACCESSORY 3 NONE

Accessories 300RL-1

Damper: AG-15 common drawing, see above for material and finish

The technical drawings show the damper's dimensions relative to the duct size. The top view shows a rectangular damper with eight vertical screws. The side view shows the damper's profile with a height dimension of 2-1/16 inches. Dimension lines indicate the width is 'Listed Duct Size minus 1/16' and the depth is 'Listed Duct Size minus 9/16'.