

### DUCTWORK SYMBOL LIST

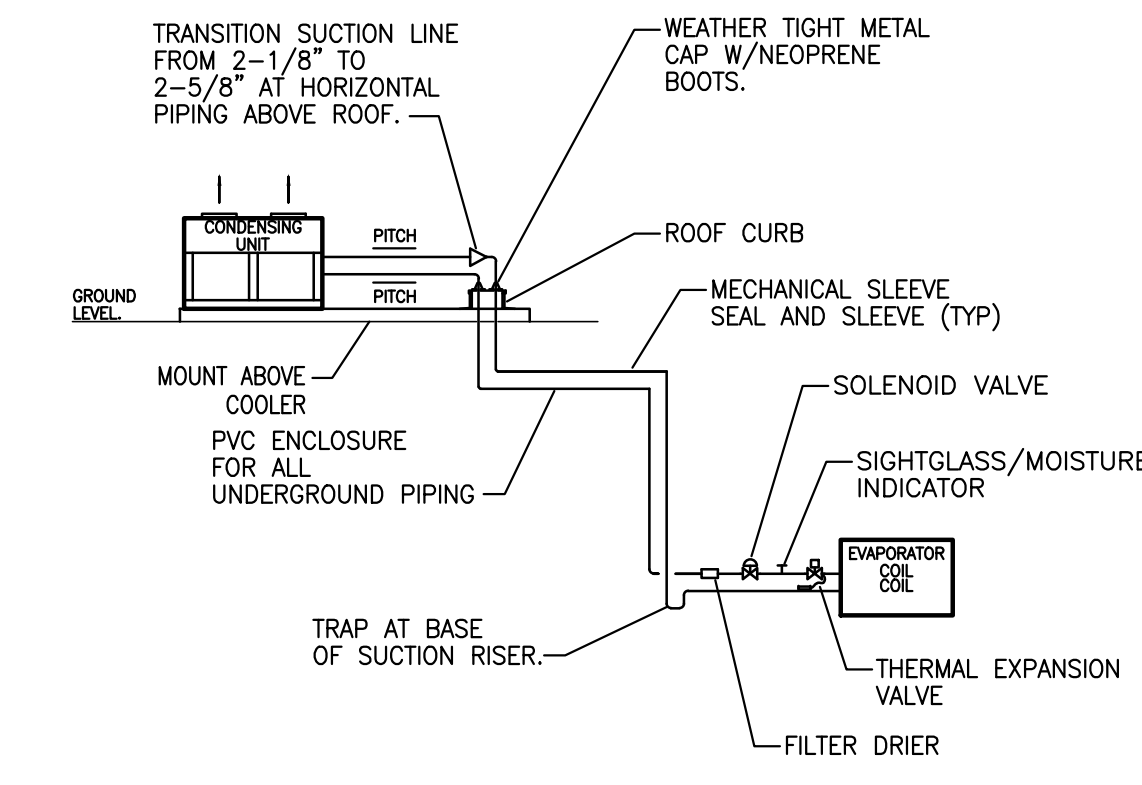
	DOUBLE LINE TO SINGLE LINE TRANSITION. FIRST NUMBER IN DIMENSION IS SIDE SHOWN.		ROUND NECK SUPPLY AIR DIFFUSER WITH VOLUME DAMPER AT TAKE-OFF
	ROUND FLEXIBLE DUCT, DOUBLE LINE AND SINGLE LINE SHOWN.		SQUARE OR RECTANGULAR NECK SUPPLY AIR REGISTER WITH VOLUME DAMPER AT TAKE-OFF
	SUPPLY AND RETURN AIR DUCT SECTIONS, ROUND AND RECTANGULAR. FIRST NUMBER IN DIMENSION IS SIDE ARROW POINTS TO.		ROUND NECK RETURN OR EXHAUST AIR DIFFUSER WITH VOLUME DAMPER AT TAKE-OFF
	90 DEGREE SQUARE ELBOWS WITH TURNING VANES, UP AND DOWN. SUPPLY AND RETURN AIR DUCTS SHOWN.		SQUARE OR RECTANGULAR NECK RETURN OR EXHAUST AIR REGISTER WITH VOLUME DAMPER AT TAKE-OFF
	90 DEGREE ROUND ELBOWS, UP AND DOWN. SUPPLY AND RETURN AIR DUCTS SHOWN.		RECTANGULAR DUCT TO ROUND DUCT TRANSITION.
	LONG RADIUS ELBOWS, R = W AS PER SMACNA, AND RECTANGULAR ELBOWS WITH TURNING VANES, CONSTRUCTED AS PER SMACNA		MANUAL VOLUME DAMPER, "D" TEXT DESIGNATION MAY OR MAY NOT BE PRESENT
	THERMOSTAT		

### DIFFUSER, REGISTER, & GRILLE DESIGNATION

COMMERCIAL	
DIFFUSERS, REGISTERS, & GRILLES	FOR LINEAR DIFFUSERS
<p>THROW IS 4-WAY UNLESS INDICATED OTHERWISE</p>	<p>THROW IS 2-WAY UNLESS INDICATED OTHERWISE</p>

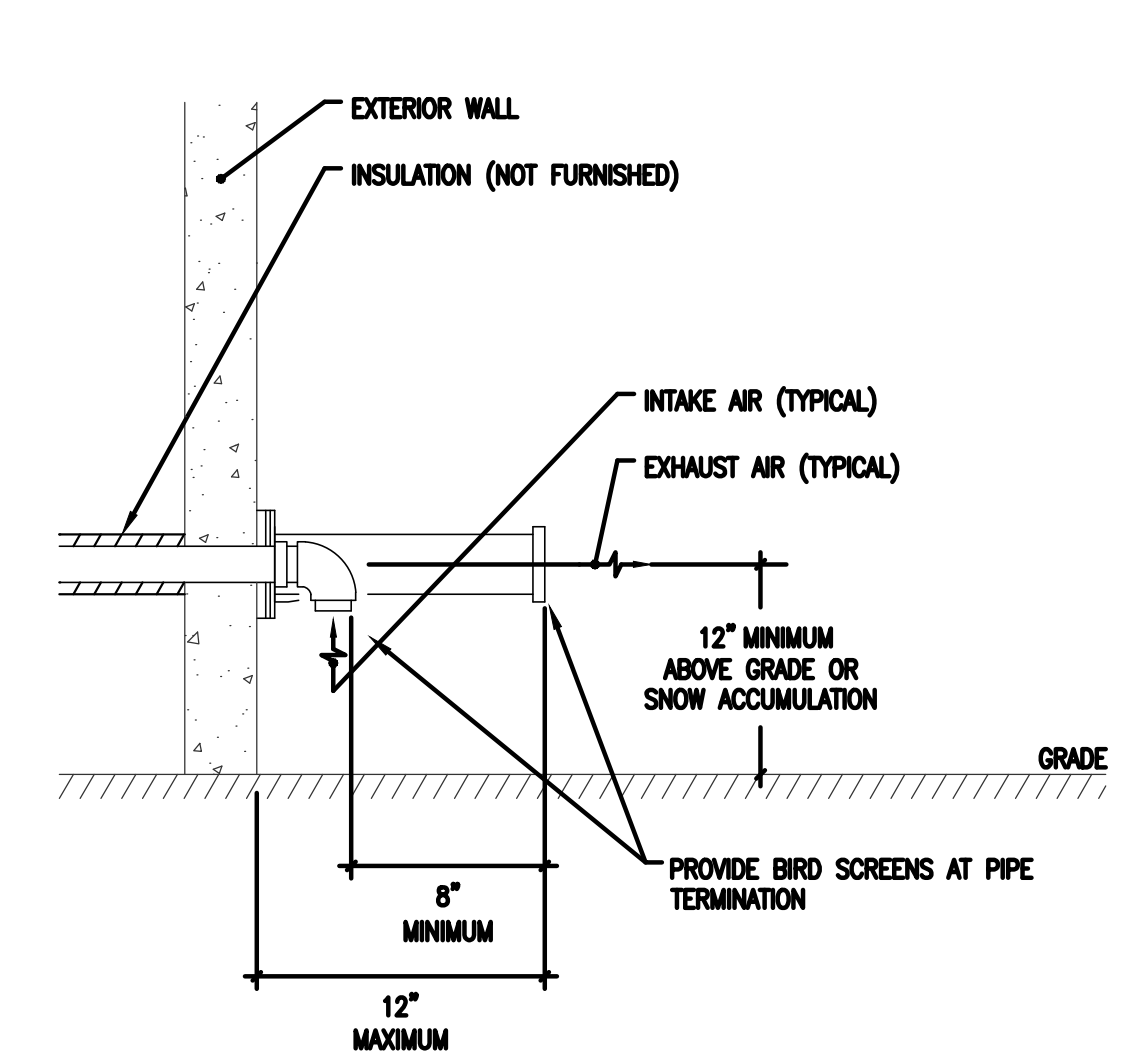
### PIPING SYMBOL LIST

	ELBOWS/RISERS UP AND ELBOW/RISER DOWN
	TEES, POINTING UP AND TEE, POINTING DN
	90 DEGREE ELBOW
	TEE
	UNION
	CAPPED PIPE
	FLOW DIRECTION ARROW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	BALL VALVE
	BUTTERFLY VALVE
	GATE OR GENERIC VALVE
	GLOBE VALVE
	GAS COCK/PLUG VALVE
	BALANCING VALVE
	GAS COCK
	BALANCING VALVE WITH PRE-SET BALANCING CAPABILITY
	CHECK VALVE
	PETE'S PLUG
	VARIABLE FLOW VALVE
	FILTER
	PRESSURE GAUGE
	STEAM TRAP
	PRESSURE/TEMPERATURE RELIEF VALVE
	STRAINER
	SUCTION DIFFUSER
	STRAINER WITH BLOW-OFF VALVE
	NATURAL GAS PRESSURE REGULATOR OR PRESSURE REDUCING VALVE
	STRAINER WITH BLOW-OFF VALVE, NIPPLES, AND CAPPED HOSE ADAPTER
	ELECTRICALLY OPERATED 2-WAY VALVE
	ELECTRICALLY OPERATED 3-WAY VALVE

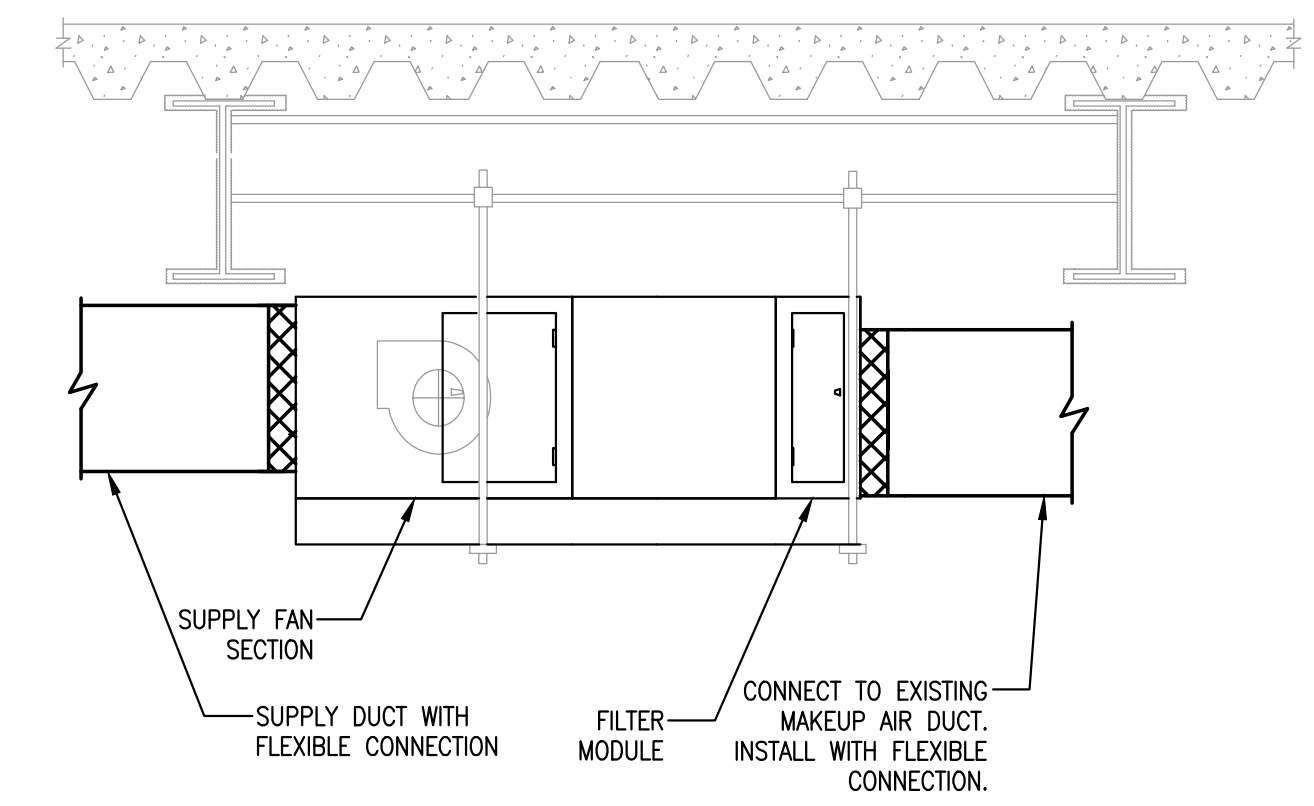


NOTES:  
 1. PIPING DIAGRAM IS TYPICAL FOR EACH COMPRESSOR CIRCUIT.  
 2. PIPING SIZES GIVEN ARE FOR SCHEDULED EQUIPMENT AND INDICATED ROUTING. CONFIRM ACTUAL SIZING WITH UNIT MANUFACTURER BASED ON ACTUAL INSTALLATION.

1 REFRIGERATION PIPING DIAGRAM  
 M1.1 SCALE: NTS



2 FLUE WALL PENETRATION DETAIL  
 M1.1 SCALE: NTS



3 MAKEUP AIR UNIT DETAIL  
 M1.1 SCALE: NONE

### DIFFUSERS, REGISTERS, AND GRILLES

TAG	SERVICE	TYPE	DAMPER AT AIR TERMINAL	BLADE ANGLE OR CORE	CONSTRUCTION MATERIAL	FINISH	MANUFACTURER	MODEL (BASIS OF DESIGN)	NOTES
D-1	SUPPLY	REGISTER	OPPOSED BLADE	ADJUSTABLE	ALUMINUM	#26 WHITE	TITUS	300FL	1, 2, 3, 4, 5
D-2	SUPPLY	12"x12" SQ. DIFFUSER	SEE NOTES	N.A.	STEEL	#26 WHITE	TITUS	TMS	1, 2, 3, 4, 5
D-3	EXHAUST	12"x12" SQ. DIFFUSER	SEE NOTES	N.A.	STEEL	#26 WHITE	TITUS	OMNI	1, 2, 3, 4, 5
D-4	RETURN	REGISTER	OPPOSED BLADE	ADJUSTABLE	ALUMINUM	#26 WHITE	TITUS	350FL	1, 2, 3, 4, 5

NOTES:  
 1. FURNISH AND INSTALL VOLUME DAMPER FOR AIR FLOW BALANCING PURPOSES IN EACH DUCT TAKE-OFF TO A DIFFUSER, REGISTER OR GRILLE.  
 2. PROVIDE OPPOSED BLADE DAMPER OR REMOTELY OPERATED VOLUME DAMPER PER THE SPECIFICATIONS, FOR DIFFUSERS LOCATED IN CEILINGS THAT WILL NOT ALLOW ACCESS TO THE VOLUME DAMPER IN THE DUCT TAKE-OFF (SEE NOTE 1).  
 3. COORDINATE BORDER TYPES, PLASTER FRAMES, & MOUNTING METHODS WITH THE CEILING TYPE/WALL CONSTRUCTION AT EACH DIFFUSER, REGISTER, & GRILLE LOCATION.  
 4. FURNISH AND INSTALL DIFFUSERS, REGISTERS, AND GRILLES MANUFACTURED BY ONE OF THE FOLLOWING MANUFACTURERS: TITUS, PRICE, CARNES, KRUEGAR, METALAIR, OR NAILOR.  
 5. FINAL DIFFUSER COLORS SHALL BE AS INDICATED ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

### VENTILATION SCHEDULE

ROOM NO.	ROOM NAME	FLOOR AREA (SF)	CODE REQUIRED MECHANICAL VENTILATION		ACTUAL MECHANICAL VENTILATION		ROOM FUNCTION	SYSTEMS	
			SUPPLY AIR (CFM)	EXHAUST AIR (CFM)	SUPPLY AIR (CFM)	EXHAUST AIR (CFM)		SUPPLY	EXHAUST
101	DINING AREA	825	1240	1240	1247	NOTE 1	DINING ROOM - PUB. - NO EQUIP.	AHU-1	KEF-1
102	SERVICE AREA	135	162	162		NOTE 2	WORK ROOM	MAU-1	KEF-1
103	COOKING AREA	155	190	620	3125	3800	KITCHEN - PUBLIC	MAU-1	KEF-1
104	PREP AREA	180	216	216	NOTE 3	525	WORK ROOM	MAU-1	KEF-1
105	STORAGE AREA	110	N.R.	N.R.	0	0	STORAGE - INACTIVE	-	-
106	CLEANING AREA	100	120	120	203	NOTE 4	WORK ROOM	AHU-1	KEF-1
108	OFFICE AREA	105	65	50		NOTE 5	OFFICE	AHU-1	KEF-1
109	MENS TOILET	60	N.R.	120	0	120	RESTROOM	-	TEF-1
110	WOMENS TOILET	65	N.R.	130	0	130	RESTROOM	-	TEF-1
111	HALL	65	N.R.	N.R.	0	0	CORRIDOR	-	-
<b>TOTALS:</b>			<b>1,800</b>	<b>1,993</b>	<b>2,658</b>	<b>4,575</b>			

NOTES:  
 1. 1247 CFM EXHAUST TRANSFER TO COOKING AREA 103.  
 2. 162 CFM SUPPLY RELIEF FROM COOKING AREA 103 & 162 CFM EXHAUST TRANSFER TO COOKING AREA 103.  
 3. 216 CFM SUPPLY RELIEF FROM COOKING AREA 103.  
 4. 120 CFM EXHAUST TRANSFERRED TO PREP AREA 104.  
 5. 65 CFM SUPPLY TRANSFERRED FROM CLEANING AREA 106 & 65 CFM EXHAUST TRANSFERRED TO PREP AREA 104.

### PRESSURIZATION SCHEDULE

CODE VENTILATION CFM:	1,993
ACTUAL OUTSIDE AIR CFM (MIN. 33-1/3% OF ABOVE):	4,575
TOTAL ACTUAL CONTINUOUS EXHAUST CFM:	4,575
TOTAL CONTINUOUS RELIEF CFM:	-
COMPLIES?	YES

The total actual continuous exhaust cfm must be between 90% and 100% of the code required outside air.

### HEATING SCHEDULE

CODE VENTILATION CFM:	1,993
ACTUAL OUTSIDE AIR CFM (MIN. 33-1/3% OF ABOVE):	4,575
VENTILATION LOAD (MBH):	397
BUILDING LOAD (MBH):	68.7
TOTAL HEATING LOAD (MBH):	466
HEATING EQUIPMENT OUTPUT CAPACITY (MBH):	
AHU-1	128
MAU-1	304
WSHP-1	104
WSHP-2	104
TOTAL HEATING EQUIP. OUTPUT CAPACITY:	638

### HEATING CERTIFICATION STATEMENT

The heating system is certified to heat all rooms regularly occupied by humans to a min inside temperature of 70° when the outside temperature is minus 10° F.  
 Signed:  
 Owner, Contractor or Owner's licensed engineer representative.

### MAKE UP AIR UNIT (MUA) SCHEDULE

TAG	AREA SERVED	HEATING - NATURAL GAS					SUPPLY FAN				FILTER			ELECTRICAL			WEIGHT	MANUFACTURER	MODEL (BASIS OF DESIGN)	NOTES		
		MBH INPUT	MBH OUTPUT	EAT DB	LAT DB	STAGES	AGA EFF (%)	CFM	MIN OA CFM	TYPE	DRIVE TYPE	E.S.P. (IN. WC)	MOTOR (H.P.)	TYPE	THICKNESS (IN.)	VOLTS/PH/Hz					MCA	MOCP
MUA-1	KITCHEN	550.0	332.0	-10.0	77.4	2	60%	3,500	3,500	FC	BELT	1.00	3.00	DISPOSABLE	2	208-3-60	12.0	15	915	RUPP AIR	D500-G15	1

NOTES:  
 1. PROVIDE MAKE UP AIR UNITS WITH 2 POSITION OUTSIDE AIR DAMPERS (OPEN-CLOSE) AND WEATHER HOODS.

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**Qdoba MEXICAN GRILL**  
 20 E. Chicago Avenue  
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REVISIONS:	DATE:	DESCRIPTION:
#	1/8/10	ISSUED FOR PERMIT
Δ	1/8/10	ISSUED FOR PERMIT

PROJECT NUMBER: 09-116  
 DRAWN BY: LEM  
 CHECKED BY: JKN

SHEET TITLE:  
**MECHANICAL SYMBOLS DETAILS & SCHEDULES**

SHEET NUMBER:

**M1.1**