D1 PIPING SYMBOLS LEGEND

NONE

- PIPE ELBOW TURNED DN
- PIPE ELBOW TURNED UP
- PIPING TEE DOWN
- PIPING TEE UP
- PIPE RISER
- 45° ELBOW DOWN
- PIPING TO BE REMOVED
- CAPPED PIPING
- CAPPED BELOW FINISHED FLOOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- DIRECTION OF FLOW
- PIPING PITCHES DOWN
- PIPE GUIDE
- EXPANSION JOINT
- PIPE ANCHOR
- UNION
- FLANGED CONNECTION
- BACKFLOW PREVENTER
- FLEXIBLE CONNECTION
- SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS
- GATE VALVE ~ OUTSIDE SCREW & YOKE (OS&Y)
- GLOBE VALVE
- LOCKABLE BALL VALVE
- PLUG VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- LOCK & SHIELD VALVE
- CHECK VALVE
- AIR ELIMINATOR
- BALANCING VALVE (CIRCUIT SETTER)
- AUTOMATIC AIR VENT
- MANUAL AIR VENT W/4" HIGH CHAMBER
- STRAINER
- STRAINER W/BLOWDOWN VALVE AND CAP
- EXPANSION VALVE (AUTOMATIC)
- RELIEF/SAFETY VALVE
- PRESSURE GAUGE/COCK
- SIGHT GLASS
- PRESSURE REDUCING VALVE
- FLOW SWITCH
- SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR
- STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTAT, B.T. = BUCKET TRAP)
- PUMP ~ POINT OF TRIANGLE INDICATES DIRECTION OF FLOW
- GAS SHUT-OFF VALVE
- HOSE END DRAIN VALVE W/CAP
- TEMPERATURE/PRESSURE TAP (PETE'S PLUG)
- THERMOMETER/COCK
- SOLENOID VALVE
- ORIFICE FLOWMETER
- DIFFERENTIAL PRESSURE TRANSMITTER
- HUMIDIFIER
- FINNED TUBE BASEBOARD
- HOSE BIB/WALL HYDRANT
- FLOOR CLEANOUT
- FUSIBLE LINK VALVE
- WALL CLEANOUT
- AQUASTAT
- EXPANSION LOOP
- FLOOR DRAIN
- SHOCK ABSORBER (WATER HAMMER ARRESTER)
- FIRE DEPARTMENT CONNECTION
- FREE STANDING FIRE DEPARTMENT CONNECTION
- WATER GONG
- (2) PIPES AT 45° DOWN INTO VERTICAL PIPE

D6 AIR DISTRIBUTION SYMBOLS LEGEND

SCALE

- DUCTWORK ~ FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST, FA= FRESH AIR F.O. = FLAT OVAL
- ACCOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)
- DUCTWORK TO BE REMOVED
- DUCT TRANSITION
- SQUARE TO ROUND TRANSITION
- FLEX DUCT ~ DOUBLE LINE
- FLEX DUCT ~ SINGLE LINE
- CHANGE IN ELEVATION (UP OR DOWN)
- SUPPLY DUCT TURNED UP/DN
- RETURN DUCT TURNED UP/DN
- EXHAUST DUCT TURNED UP/DN
- ROUND DUCT TURNED UP/DN
- MITERED DUCT ELBOW W/TURNING VANES
- RADIUS DUCT ELBOW
- DUCT/PIPE CAP (SINGLE/DOUBLE LINE)
- SMOKE DAMPER
- DAMPER ~ FIRE
- FIRE AND SMOKE DAMPER
- VOLUME DAMPER
- BACKDRAFT DAMPER
- DAMPER ~ MOTORIZED
- FLEXIBLE CONNECTOR
- THERMOSTAT OR TEMP. SENSOR (AS SPECIFIED)
- HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)
- SWITCH
- ACCESS PANEL
- DUCT SMOKE DETECTOR
- FAN ~ EXHAUST ROOF
- FAN ~ SUPPLY ROOF VENT
- CEILING DIFFUSER ~ 4-WAY BLOW
- CEILING DIFFUSER ~ 3-WAY BLOW
- CEILING DIFFUSER ~ 2-WAY BLOW
- CEILING DIFFUSER ~ CORNER BLOW
- CEILING RETURN GRILLE
- CEILING EXHAUST GRILLE
- POINT OF CONNECTION EXISTING TO NEW
- DIRECTION OF AIR FLOW (SUPPLY)
- DIRECTION OF AIR FLOW (RETURN)
- R, G & D TAG: DIFFUSER, REGISTER OR GRILLE No. / QUANTITY / CFM AIR FLOW
- FINTUBE TAG: FINTUBE No. / LENGTH / GPM
- VAV TAG: VAV No. / MINIMUM CFM / MAXIMUM CFM / GPM
- EQUIPMENT TAG: TYPE DESIGNATOR / NUMBER
- DETAIL No. / DETAIL REFERENCE SYMBOL / SHEET DETAIL LOCATED ON
- SECTION No. / SECTION REFERENCE SYMBOL / SHEET SECTION LOCATED ON

A1 PIPING LINETYPE LEGEND

NONE

- ACID — ACID WASTE
- AR — ARGON
- ATV — AIR RELIEF
- BBD — BOILER BLOWDOWN
- C — CONDENSATE
- C — CONDENSATE (BELOW FLOOR)
- CA — COMPRESSED AIR
- CDA — CLEAN DRY AIR
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC WATER RECIRC.
- D — DRAIN
- FOD — FUEL OIL DISCHARGE
- FOF — FUEL OIL FILL
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL TANK VENT
- GHR — GLYCOL HEATING RETURN
- GHS — GLYCOL HEATING SUPPLY
- H — HUMIDIFICATION LINE
- H2 — HYDROGEN GAS
- HPH2 — HIGH PRESSURE HYDROGEN GAS
- HCV — HOUSE CLEANING VAC.
- HE — HELIUM GAS
- HPC — HIGH-PRESSURE CONDENSATE
- HPS — HIGH-PRESSURE CONDENSATE SUPPLY
- HTWR — HIGH-TEMP. HOT WATER RETURN
- HWR — LOW-HOT. WATER RETURN
- HWS — HOT WATER SUPPLY
- IND — INDUSTRIAL WASTE
- IW — INDIRECT DRAIN
- LN — LIQUID NITROGEN
- LOX — LIQUID OXYGEN
- LPC — LOW-PRESSURE CONDENSATE
- LPG — LIQUID PETROLEUM GAS
- LPS — LOW-PRESSURE STEAM
- MA — MEDICAL AIR
- MPC — MEDIUM-PRESSURE CONDENSATE
- MPS — MEDIUM-PRESSURE STEAM
- MU — MAKEUP WATER
- N2 — NITROGEN
- NG — NATURAL GAS
- NO — NITROUS OXIDE
- NPW — NON-POTABLE WATER
- OX — OXYGEN
- PC — PUMPED CONDENSATE
- PCWR — PROCESSED COLD WATER RETURN
- PCWS — PROCESSED COLD WATER SUPPLY
- RD — REFRIGERANT DISCHARGE
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SANITARY SOIL WASTE (ABOVE FLOOR)
- SANITARY SOIL WASTE (BELOW FLOOR)
- SANITARY SOIL VENT (ABOVE FLOOR)
- SANITARY SOIL VENT (BELOW FLOOR)
- SV — SANITARY WASTE & VENT COMBINATION
- SD — STORM DRAIN ABOVE FLOOR OR GRADE
- SD — STORM DRAIN BELOW FLOOR OR GRADE
- SP — SPRINKLER MAIN PIPING
- SW — SOFT WATER
- TP — TRAP PRIMER PIPING ABOVE GRADE
- TP — TRAP PRIMER PIPING BELOW GRADE
- TWR — TEMPERED RETURN WATER
- TWS — TEMPERED SUPPLY WATER
- VAC — VACUUM (AIR)
- VC — VACUUM CLEANING
- VPD — VACUUM PUMP DISCHARGE

A4 ABBREVIATIONS

NONE

AAV	AUTOMATIC AIR VENT	DT	DROP AND TRANSITION	MBH	1000 BTU/HR.	TP	TRAP PRIMER
AC	ABOVE CEILING	DV	DRAIN VALVE	MFR	MANUFACTURER	TSP	TOTAL STATIC PRESSURE
ACC	AIR COOLED CONDENSER	DWG	DRAWING	MIN	MINIMUM	TTS	TIGHT TO STEEL
ACU	AIR CONDITIONING UNIT	EA	EXHAUST AIR	MOD	MOTOR OPERATOR DAMPER	TV	TURNING VANE
ADA	AMERICANS WITH DISABILITIES ACT	EF	EXHAUST FAN	MPG	MEDIUM PRESSURE GAS	TW	TEMPERED WATER
AD	ACCESS DOOR	EL; ELEV	ELEVATION	MPV	MULTI-PURPOSE VALVE	TYP	TYPICAL
AE	ACID EXHAUST	ELONG	ELONGATE	MTD	MOUNTED	UH	UNIT HEATER
AW	ACID WASTE	ENC	ENCLOSURE	MTG	MOUNTING	UIC	UP IN CHASE
AFF; A.F.F.	ABOVE FINISHED FLOOR	ER	EXHAUST REGISTER	MUA	MAKE UP AIR	UIW	UP IN WALL
AHU	AIR HANDLING UNIT	ET	EXPANSION TANK	N.C.	NORMALLY CLOSED	UV	UNIT VENTILATOR
AP	ACCESS PANEL	EX.;(E)	EXISTING	N.O.	NORMALLY OPEN	V	VENT
APPROX	APPROXIMATE; APPROXIMATELY	F & T	FLOAT AND THERMOSTATIC	NIC	NOT IN CONTRACT	VB	VACUUM BREAKER
APMR	AS PER MFR'S RECOMMENDATIONS	FBO	FURNISHED BY OTHERS	NPT	NATIONAL PIPE THREAD	VBF	VENT BELOW FLOOR
ATC	AUTOMATIC TEMPERATURE CONTROL	FBP	FACE AND BYPASS	NTS	NOT TO SCALE	VCFF	VALVE & CAP FOR FUTURE
AV	AIR VENT	FC	FLEXIBLE CONNECTION	OA	OUTSIDE AIR	VD	VOLUME DAMPER - MANUAL
BC	BALANCING COCK	FCO	FLOOR CLEANOUT	OBD	OPPOSED BLADE DAMPER	VLV	VALVE
BDD	BACKDRAFT DAMPER	FD-#	FLOOR DRAIN TAG	OED	OPEN ENDED DUCT	VS	VENT STACK
BG	BLAST GATE	FD	FIRE DAMPER	P-#	PLUMBING FIXTURE TAG	VTR; V.T.R.	VENT THROUGH ROOF
BF	BARRIER FREE	FIN	FINISH	PD	PUMPED DISCHARGE	W	WASTE
BFP	BACKFLOW PREVENTER	FL	FLOOR	PPE	PRE PURCHASED EQUIPMENT	W/	WITH
BLDG	BUILDING	FTG	FOOTING	PRS	PRESSURE REDUCING STATION	WB	WET BULB TEMPERATURE, °F
BOD	BOTTOM OF DUCT	FTR	FINNED TUBE RADIATION	PRV	PRESSURE REDUCING VALVE	WCO	WALL CLEANOUT
B.T.U.	BRITISH THERMAL UNIT	FS	FLOW SWITCH	RA	RETURN AIR	WH	WATER HEATER
C; CONV.	CONVECTOR	FM	FORCE MAIN	RD	ROOF DRAIN	WHYD	WALL HYDRANT
CFF	CAPPED FOR FUTURE	GC	GENERAL CONTRACTOR	REC	RECOMMENDATION	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	REG	REGULAR	12"ø	12" DIAMETER DUCT
CLG	CEILING	GV	GRAVITY VENTILATOR	RF	RETURN FAN	@	AT
C.O.	CLEANOUT	H	HUMIDIFIER	RG	RETURN GRILLE	&	AND
CM	CONSTRUCTION MANAGER	HC;HB;HDC	HOSE BIB	RHC	REHEAT COIL	%	PERCENT
CNTR	COUNTER; COUNTERTOP		HANDICAP ACCESS	RM	ROOM		
CONN	CONNECT; CONNECTION	HGT, HT.	HEIGHT	RPZ	REDUCED PRESSURE BFP		
CONT	CONTINUE; CONTINUATION	HP	HEAT PUMP	RR	RETURN REGISTER		
COORD	COORDINATE	HPT	HOSE PIPE THREAD	RV	RELIEF VALVE		
CORR	CORRIDOR	HRU	HEAT RECOVERY UNIT	S	SUPPLY AIR		
CR	CHEMICAL RESISTING	HTR	HEATER	SA-" "	SHOCK ABSORBER OF PDI SIZE (" ") AS INDICATED		
CT	COOLING TOWER	H & V	HEATING AND VENTILATION	SL	SOIL		
CTE	CONNECT TO EXISTING	HVAC	HEATING, VENTILATING, & AIR COND.	SCV	SELF CONTAINED VALVE		
CTR	CENTER	HW	HOT WATER	SD	SMOKE DAMPER		
CTRLN	CENTERLINE	HWR	HOT WATER RETURN	SF	SUPPLY FAN		
CU	COPPER	HX	HEAT EXCHANGER	SG	SUPPLY GRILLE		
CUH	CABINET UNIT HEATER	IN WG	INCHES WATER GAUGE	SGL	SINGLE		
C.V.	CONTROL VALVE	INCL	INCLUDING	SHT	SHEET		
CW	COLD WATER	INV EL	INVERT ELEVATION	SK	SINK		
DB	DRY BULB TEMPERATURE, °F	IPS	IRON PIPE SIZE	SPLR	SPRINKLER		
DC	DOUBLE CONTAINED	KE-#	KITCHEN EQUIPMENT NUMBER	SQ FT	SQUARE FEET		
DDC	DIRECT DIGITAL CONTROL	LD	LINEAR DIFFUSER	S/O	SHUT OFF		
DET	DETAIL	LE-#	SCIENCE LAB EQUIPMENT NUMBER	SR	SUPPLY REGISTER		
DIA	DIAMETER	LPG	LIQUID PETROLEUM GAS	SS; S.S.	STAINLESS STEEL		
DIC	DOWN IN CHASE	LPR	LOW PRESSURE STEAM RETURN	TG	TRANSFER GRILLE		
DIW	DOWN IN WALL	LPS	LOW PRESSURE STEAM SUPPLY	TOD	TOP OF DUCT		
DN	DOWN	MAX	MAXIMUM				
DS	DOWNSPOUT						

NOTE

ALL GENERAL NOTES, SYMBOL LEGENDS, AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL HVAC DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN.

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