

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

D1 PIPING SYMBOLS LEGEND

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

A1 PIPING LINETYPE LEGEND

DUCTWORK ~ FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST, FA= FRESH AIR F.O. = FLAT OVAL	SMOKE DAMPER	CEILING DIFFUSER ~ 2-WAY BLOW
ACOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)	DAMPER ~ FIRE	CEILING DIFFUSER ~ CORNER BLOW
***** DUCTWORK TO BE REMOVED	FIRE AND SMOKE DAMPER	CEILING RETURN GRILLE
DUCT TRANSITION	VOLUME DAMPER	CEILING EXHAUST GRILLE
SQUARE TO ROUND TRANSITION	BACKDRAFT DAMPER	POINT OF CONNECTION EXISTING TO NEW
FLEX DUCT ~ DOUBLE LINE	DAMPER ~ MOTORIZED	DIRECTION OF AIR FLOW (SUPPLY)
FLEX DUCT ~ SINGLE LINE	FLEXIBLE CONNECTOR	DIRECTION OF AIR FLOW (RETURN)
CHANGE IN ELEVATION (UP OR DOWN)	THERMOSTAT OR TEMP. SENSOR (AS SPECIFIED)	R, G & D TAG DIFFUSER, REGISTER OR GRILLE No. QUANTITY CFM AIR FLOW
SUPPLY DUCT TURNED UP/DN	HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)	FT-1 FINTUBE TAG FINTUBE No. LENGTH GPM
RETURN DUCT TURNED UP/DN	SWITCH	VAV-1 VAV TAG VAV No. MINIMUM CFM MAXIMUM CFM GPM
EXHAUST DUCT TURNED UP/DN	ACCESS PANEL	AHU-1 EQUIPMENT TAG TYPE DESIGNATOR NUMBER
ROUND DUCT TURNED UP/DN	DUCT SMOKE DETECTOR	A1 DETAIL No. DETAIL REFERENCE SYMBOL
MITERED DUCT ELBOW W/TURNING VANES	FAN ~ EXHAUST ROOF	M-3 SHEET DETAIL LOCATED ON
RADIUS DUCT ELBOW	FAN ~ SUPPLY ROOF VENT	A SECTION No. SECTION REFERENCE SYMBOL
DUCT/PIPE CAP (SINGLE/DOUBLE LINE)	CEILING DIFFUSER ~ 4-WAY BLOW	MH-100 SHEET SECTION LOCATED ON
	CEILING DIFFUSER ~ 3-WAY BLOW	

D6 AIR DISTRIBUTION SYMBOLS LEGEND

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	FA	FRESH AIR	NPT	NATIONAL PIPE THREAD	VCF	VALVE & CAP FOR FUTURE
ATC	AUTOMATIC TEMPERATURE CONTROL	FBO	FURNISHED BY OTHERS	NTS	NOT TO SCALE	VD	VOLUME DAMPER - MANUAL
AV	AIR VENT	FBP	FACE AND BYPASS	OA	OUTSIDE AIR	VLV	VALVE
BC	BALANCING COCK	FC	FLEXIBLE CONNECTION	OB	OPPOSED BLADE DAMPER	VSD	VENT STACK
BDD	BACKDRAFT DAMPER	FCO	FLOOR CLEANOUT	OED	OPEN ENDED DUCT	VTR; V.T.R.	VENT THROUGH ROOF
BG	BLAST GATE	FD-#	FLOOR DRAIN TAG	P-#	PLUMBING FIXTURE TAG	W	WASTE
BF	BARRIER FREE	FD	FIRE DAMPER	PD	PUMPED DISCHARGE	W/	WITH
BFP	BACKFLOW PREVENTER	FIN	FINISH	PPE	PRE PURCHASED EQUIPMENT	WB	WET BULB TEMPERATURE, °F
BLDG	BUILDING	FL	FLOOR	PRS	PRESSURE REDUCING STATION	WCO	WALL CLEANOUT
BOD	BOTTOM OF DUCT	FTG	FOOTING	PRV	PRESSURE REDUCING VALVE	WH	WATER HEATER
B.T.U.	BRITISH THERMAL UNIT	FTR	FINNED TUBE RADIATION	RD	ROOF DRAIN	WHYD	WALL HYDRANT
C; CONV.	CONVECTOR	FS	FLOW SWITCH	REC	RECOMMENDATION	NTS	NOT TO SCALE
CFF	CAPPED FOR FUTURE	FM	FORCE MAIN	REG	REGULAR	12"φ	12" DIAMETER DUCT
CFM	CUBIC FEET PER MINUTE	GC	GENERAL CONTRACTOR	RF	RETURN FAN	⊙	AT
CLG	CEILING	GPM	GALLONS PER MINUTE	RG	RETURN GRILLE	&	AND
C.O.	CLEANOUT	GV	GRAVITY VENTILATOR	RHC	REHEAT COIL	%	PERCENT
CM	CONSTRUCTION MANAGER	H	HUMIDIFIER	RM	ROOM		
CNTR	COUNTER; COUNTERTOP	HB	HOSE BIB	RPZ	REDUCED PRESSURE BFP		
CONN	CONNECT; CONNECTION	HC; HDC	HANDICAP ACCESS	RR	RETURN REGISTER		
CONT	CONTINUE; CONTINUATION	HGT, HT.	HEIGHT	RV	RELIEF VALVE		
COORD	COORDINATE	HP	HEAT PUMP	SA	SUPPLY AIR		
CORR	CORRIDOR	HPT	HOSE PIPE THREAD	SA-"	SHOCK ABSORBER OF PDI SIZE (" ") AS INDICATED		
CR	CHEMICAL RESISTING	HRV	HEAT RECOVERY VENTILATOR	SL	SOIL		
CT	COOLING TOWER	HTR	HEATER	SCV	SELF CONTAINED VALVE		
CTE	CONNECT TO EXISTING	H & V	HEATING AND VENTILATION	SD	SMOKE DAMPER		
CTR	CENTER	HVAC	HEATING, VENTILATING, & AIR COND.	SF	SUPPLY FAN		
CTRLN	CENTERLINE	HW	HOT WATER	SG	SUPPLY GRILLE		
CU	COPPER	HWR	HOT WATER RETURN	SGL	SINGLE		
CUH	CABINET UNIT HEATER	HX	HEAT EXCHANGER	SHT	SHEET		
C.V.	CONTROL VALVE	IN WG	INCHES WATER GAUGE	SK	SINK		
CW	COLD WATER	INCL	INCLUDING	SPLR	SPRINKLER		
DB	DRY BULB TEMPERATURE, °F	INV EL	INVERT ELEVATION	SO FT	SQUARE FEET		
DC	DOUBLE CONTAINED	IPS	IRON PIPE SIZE	S/O	SHUT OFF		
DDC	DIRECT DIGITAL CONTROL	KE-#	KITCHEN EQUIPMENT NUMBER	SR	SUPPLY REGISTER		
DET	DETAIL	LD	LINEAR DIFFUSER	SS; S.S.	STAINLESS STEEL		
DIA	DIAMETER	LE-#	SCIENCE LAB EQUIPMENT NUMBER	TG	TRANSFER GRILLE		
DIC	DOWN IN CHASE	LPG	LIQUID PETROLEUM GAS	TOD	TOP OF DUCT		
DIW	DOWN IN WALL	LPR	LOW PRESSURE STEAM RETURN				
DN	DOWN	LPS	LOW PRESSURE STEAM SUPPLY				
DS	DOWNSPOUT	MAX	MAXIMUM				

A4 ABBREVIATIONS

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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