

AIR DISTRIBUTION SYMBOLS

	RECTANGULAR DUCT, (FIRST NUMBER IS SIDE SHOWN) DIMENSIONS IN INCHES
	12 INCH ROUND DUCT
	MOTORIZED DAMPER
	FLEXIBLE DUCT
	DUCT FLEXIBLE CONNECTOR (FC)
	DUCT DROPS AND RISES IN DIRECTION OF AIR FLOW
	RETURN DUCT TURNED UP OR DOWN (DASHED)
	SUPPLY DUCT TURNED UP OR DOWN (DASHED)
	EXHAUST DUCT TURNED UP OR DOWN (DASHED)
	ACOUSTICAL LINING (DUCT DIM. FOR NET FREE AREA)
	ROUND DUCT ELBOW DOWN
	ROUND DUCT ELBOW UP
	SQUARE TO ROUND TRANSITION
	CAP (DUCT AND/OR PIPE)
	INDICATES DUCT, PIPING, EQUIPMENT TO BE REMOVED.
	EXHAUST AIR
	RETURN AIR
	SUPPLY AIR
	VOLUME DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	COMBINATION SMOKE/FIRE DAMPER
	RECTANGULAR ELBOW W/TURNING VANES
	DIRECTION OF AIR FLOW (IN)
	DIRECTION OF AIR FLOW (OUT)
	HUMIDISTAT OR HUMIDITY SENSOR
	THERMOSTAT (T'STAT) OR TEMP. SENSOR
	SMOKE DETECTOR
	DIFFUSER, REGISTER OR GRILLE TAG
	CFM AIR FLOW
	QUANTITY
	FINNED TUBE TAG
	LENGTH OF FINNED ELEMENT
	DETAIL NO.
	SHEET NO. WHERE DETAIL IS LOCATED
	EQUIPMENT TAG
	EQUIPMENT NO.

PIPING SYMBOLS

	UNION		ORIFICE FLOWMETER
	FLANGE		FLEXIBLE PIPE CONNECTOR
	PIPE ANCHOR		EXPANSION JOINT
	PIPE GUIDE OR SLEEVES		STEAM TRAP (FLOAT AND THERMOSTATIC INDICATED T.T., THERMOSTAT, B.T. BUCKET TRAP, T.D. THERMODYNAMIC TRAP)
	PIPE ELBOW TURNED DOWN		CONCENTRIC REDUCER/INCREASER
	PIPE ELBOW TURNED UP		ECCENTRIC REDUCER/INCREASER
	PIPING TEE-DOWN		HOSE BIBB
	PIPING TEE-UP		WALL HYDRANT
	PIPE RISER		DIRECTION OF FLOW
	FLOOR CLEAN OUT		FIRE DEPARTMENT CONNECTION
	CLEAN OUT		PUMP
	WALL CLEAN OUT		WATER HAMMER SUPPRESSER
	PIPE PITCHES DOWN		FINNED TUBE BASEBOARD
	GENERIC VALVE, SEE SPECIFICATIONS FOR TYPE		HUMIDIFIER
	GATE VALVE		DIFFERENTIAL PRESSURE TRANSMITTER
	BALL VALVE		SPRINKLER HEAD
	BUTTERFLY VALVE (MANUAL)		GAS TURRET
	2-WAY CONTROL VALVE		MEDICAL OXYGEN OUTLET
	3-WAY CONTROL VALVE		MEDICAL VACUUM INLET
	BALANCING VALVE (CIRCUIT SETTER)		MEDICAL AIR OUTLET
	CHECK VALVE		NITROUS OXIDE OUTLET
	PLUG VALVE		
	GLOBE VALVE		
	NEEDLE VALVE		
	BACK FLOW PREVENTER		
	SOLENOID VALVE		
	PRESSURE REDUCING OR REGULATING VALVE		
	PRESSURE RELIEF VALVE		
	STRAINER		
	STRAINER W/BLOWDOWN		
	MANUAL AIR VENT		
	AUTOMATIC AIR VENT		
	PRESSURE SWITCH		
	FLOW SWITCH		
	PRESSURE GAUGE AND COCK		
	THERMOMETER AND WELL		
	TEMPERATURE & PRESSURE TAP (PETE'S PLUG)		
	HOSE END DRAIN VALVE WITH CAP		

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	EA	EXHAUST AIR	PAE	PROCESS ACID EXHAUST
ACC	AIR COOLED CONDENSER	EF	EXHAUST FAN	PHE	PROCESS HEAT EXHAUST
ACU	AIR CONDITIONING UNIT	ENC	ENCLOSURE	PSE	PROCESS SOLVENT EXHAUST
AD	ACCESS DOOR	ER	EXHAUST REGISTER	PP	POLY-PROPYLENE
AE	ACID EXHAUST	(E)	EXISTING	PPE	PRE PURCHASED EQUIPMENT
AFF	ABOVE FINISHED FLOOR	EXIST.	EXISTING	PRS	PRESSURE REDUCING STATION
AFMS	AIR FLOW MEASURING STATION	FBO	FURNISHED BY OWNER	PRV	PRESSURE REDUCING VALVE
AHU	AIR HANDLING UNIT	FBP	FACE AND BYPASS	PVD	PNEUMATIC VOLUME DAMPER
ATC	AUTOMATIC TEMPERATURE CONTROL	FC	FLEXIBLE CONNECTION	(R)	REMOVE
AV	AIR VENT	FCO	FLOOR CLEANOUT	RA	RETURN AIR
BA	BREATHING COMPRESSED AIR	FD-#	FLOOR DRAIN TAG	(REL.)	RELOCATED
BB	BASEBOARD	FD	FIRE DAMPER	RD	ROOF DRAIN
BDD	BACKDRAFT DAMPER	FG	FIBERGLASS	RF	RETURN FAN
BG	BLAST GATE	F & T	FLOAT AND THERMOSTATIC	RG	RETURN GRILLE
BFP	BACKFLOW PREVENTER	FO	FLAT OVAL	RHC	REHEAT COIL
BLDG	BUILDING	FRHB	FREEZE RESISTANT HOSE BIBB	RM	ROOM
BOD	BOTTOM OF DUCT	FTR	FINNED TUBE RADIATION	RPZ	REDUCED PRESSURE ZONE BFP
BOP	BOTTOM OF PIPE	FS	FLOW SWITCH	RR	RETURN REGISTER
BTU	BRITISH THERMAL UNIT	GC	GENERAL CONTRACTOR	RV	RELIEF VALVE
CB	COUNTER BALANCED DAMPER	GPM	GALLONS PER MINUTE	SA	SUPPLY AIR
CD	CEILING DIFFUSER	H	HUMIDIFIER	SCV	SELF CONTAINED VALVE
CF	CAPPED FOR FUTURE	HB	HOSE BIB	SD	SMOKE DETECTOR
CFM	CUBIC FEET PER MINUTE	HRU	HEAT RECOVERY UNIT	SF	SUPPLY FAN
CLG	CEILING	HTR	HEATER	SG	SUPPLY GRILLE
CO	CLEANOUT	H & V	HEATING AND VENTILATION	SR	SUPPLY REGISTER
CONT	CONTINUATION	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	SS	STAINLESS STEEL
COORD	COORDINATE	HW	HOT WATER	TE	TEMPERATURIZED ELEMENT (SENSOR)
CP	CONDENSATE PUMP & RECEIVER	HX	HEAT EXCHANGER	TG	TRANSFER GRILLE
CT	COOLING TOWER	IN WG	INCHES WATER GAUGE	TOD	TOP OF DUCT
CTE	CONNECT TO EXISTING	LD	LINED DUCT	TOP	TOP OF PIPE
CU	COPPER	MAU	MAKE UP AIR UNIT	TTS	TIGHT TO STEEL
CUH	CABINET UNIT HEATER	MAX	MAXIMUM	TV	TURNING VANE(S)
CV	CONTROL VALVE	MBH	1000 BTU/HR.	TYP	TYPICAL
CW	COLD WATER	ME	MECHANICAL ENGINEER	UH	UNIT HEATER
CW-P	CITY WATER-PROCESS	MFR	MANUFACTURER	UIC	UP IN CHASE
DC	DOUBLE CONTAINED	MIN	MINIMUM	UIW	UP IN WALL
DDC	DIRECT DIGITAL CONTROL	MD	MOTOR OPERATED DAMPER	UV	UNIT VENTILATOR
DIA	DIAMETER	MPV	MULTI-PURPOSE VALVE	VAV	VARIABLE AIR VOLUME BOX
DIC	DOWN IN CHASE	MTD	MOUNTED	VB	VACUUM BREAKER
DIW	DOWN IN WALL	MUA	MAKE UP AIR	VTR	VENT THRU ROOF
DN	DOWN	NPW	NON-POTABLE WATER	VD	MANUAL VOLUME DAMPER
DS	DOWNSPOUT	NTS	NOT TO SCALE	VCFF	VALVED AND CAPPED FOR FUTURE
DT	DROP AND TRANSITION	OA	OUTSIDE AIR	VFD	VARIABLE FREQUENCY DRIVE
DWG	DRAWING	OB	OPPOSED BLADE DAMPER	VOC	VOLATILE ORGANIC COMPOUNDS
DWH	DOMESTIC WATER HEATER	OED	OPEN ENDED DUCT	W/	WITH
		P-#	PLUMBING FIXTURE TAG	WCO	WALL CLEANOUT
		PEA	ALKALI EXHAUST	WH	WALL HYDRANT
		PEH	HEAT EXHAUST		

PIPING SYSTEMS

10:1 HF	10:1 HF	HCV	HOUSE CLEAN VACUUM	PW	POTABLE WATER
AV	ACID VENT	HG	HOT GAS	R	RELIEF LINE
AD	ACID DRAIN	HPS	HIGH PRESSURE STEAM	RL	REFRIGERANT LIQUID
AD	ACID DRAIN (BELOW SLAB)	HPR	HIGH PRESSURE CONDENSATE RETURN	RS	REFRIGERANT SUCTION
BA	BREATHING AIR	HWS	HOT WATER SUPPLY	SLD	MIXED SOLVENT DRAIN
CD	CONDENSATE DRAIN	HWR	HOT WATER RETURN	SV	SOLVENT
CDA	COMPRESSED DRY AIR	IAD	ISOPROPYL ALCOHOL DRAIN	SP	SPRINKLER
CHWS	CHILLED WATER SUPPLY	LP	LIQUID PROPANE GAS	TWS	TEMPERED CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN	HLP	HIGH PRESSURE LIQUID PROPANE GAS	TWR	TEMPERED CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY	LPS	LOW PRESSURE STEAM	VAC	PLANT VACUUM
CWR	CONDENSER WATER RETURN	LPR	LOW PRESSURE RETURN	ZB	ZONE VALVE BOX
DB	DISTRIBUTION VALVE BOX	MA	MEDICAL AIR	TEMP	DOMESTIC HOT WATER (TEMP °F)
DIS	DEIONIZED WATER SUPPLY	MPS	MEDIUM PRESSURE STEAM	TEMP	RECIRC. DOMESTIC HOT WATER (TEMP °F)
DIR	DEIONIZED WATER RETURN	MPR	MEDIUM PRESSURE RETURN	CW	DOMESTIC COLD WATER
EKCD	EKC DRAIN	MV	MEDICAL VACUUM	HW	DOMESTIC HOT WATER
ESEW	EYEWASH	N2NP	NON-PROCESS NITROGEN	RCW	RECIRCULATED DOMESTIC HOT WATER
FCS	FREE COOLING SUPPLY	N2	PROCESS NITROGEN	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE
FCR	FREE COOLING RETURN	NG	NATURAL GAS	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (EXIST.)
FOS	FUEL OIL SUPPLY	HNG	HIGH PRESSURE NATURAL GAS	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB)
FOR	FUEL OIL RETURN	N2O	NITROUS OXIDE	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB-EXIST.)
FOV	FUEL OIL VENT	NEG. SOLV.	NEGATIVE SOLVENT DRAIN	SD	STORM DRAIN
GCR	GRAVITY STEAM CONDENSATE RETURN	NPW	NON POTABLE COLD WATER	SD	STORM DRAIN (EXIST.)
GLY	GLYCOL	O2	OXYGEN	SD	STORM DRAIN (BELOW SLAB)
GV	GAS VENT	OFA	OIL FREE COMPRESSED AIR	SD	STORM DRAIN (BELOW SLAB-EXIST.)
H	HYDROGEN	PCWR	PROCESS COOLING WATER RETURN	V	SANITARY VENT
H2O2	HYDROGEN PEROXIDE	PC	PUMPED STEAM CONDENSATE	V	SANITARY VENT (EXIST.)
HCR	HOT/ CHILLED WATER RETURN	PD	PUMPED DISCHARGE	V	SANITARY VENT (BELOW SLAB)
HCS	HOT/ CHILLED WATER SUPPLY	POS. SOLV.	POSITIVE SOLVENT DRAIN	V	SANITARY VENT (BELOW SLAB-EXIST.)

GENERAL NOTE

1. ALL GENERAL NOTES, SYMBOL LISTS, 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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