

## 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 300 CFM AIR FLOW TYP. 3
	FINNED TUBE TAG 20 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 SUPPRESSOR
	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	DIW	DOWN IN WALL	OA	OUTSIDE AIR
ACC	AIR COOLED CONDENSER	DN	DOWN	OBD	OPPOSED BLADE DAMPER
ACU	AIR CONDITIONING UNIT	DS	DOWNSPOUT	OED	OPEN ENDED DUCT
AD	ACCESS DOOR	DT	DROP AND TRANSITION	P-#	PLUMBING FIXTURE TAG
AE	ACID EXHAUST	DWG	DRAWING	PAE	PROCESS ACID EXHAUST
AFF	ABOVE FINISHED FLOOR	DWH	DOMESTIC WATER HEATER	PHE	PROCESS HEAT EXHAUST
AFMS	AIR FLOW MEASURING STATION	EA	EXHAUST AIR	PSE	PROCESS SOLVENT EXHAUST
AHU	AIR HANDLING UNIT	EF	EXHAUST FAN	PP	POLY-PROPYLENE
AP	ACCESS PANEL	ENC	ENCLOSURE	PPE	PRE PURCHASED EQUIPMENT
ATC	AUTOMATIC TEMPERATURE CONTROL	ER	EXHAUST REGISTER	PRS	PRESSURE REDUCING STATION
AV	AIR VENT	(E)	EXISTING	PRV	PRESSURE REDUCING VALVE
BA	BREATHING COMPRESSED AIR	EXIST.	EXISTING	PVD	PNEUMATIC VOLUME DAMPER
BB	BASEBOARD	FBO	FURNISHED BY OWNER	(R)	REMOVE
BDD	BACKDRAFT DAMPER	FBP	FACE AND BYPASS	RA	RETURN AIR
BG	BLAST GATE	FC	FLEXIBLE CONNECTION	RD	ROOF DRAIN
BFP	BACKFLOW PREVENTER	FCO	FLOOR CLEANOUT	(REL.)	RELOCATED
BLDG	BUILDING	FD-#	FLOOR DRAIN TAG	RF	RETURN FAN
BOD	BOTTOM OF DUCT	FD	FIRE DAMPER	RG	RETURN GRILLE
BOP	BOTTOM OF PIPE	FG	FIBERGLASS	RHC	REHEAT COIL
BTU	BRITISH THERMAL UNIT	F & T	FLOAT AND THERMOSTATIC	RM	ROOM
CBD	COUNTER BALANCED DAMPER	FO	FLAT OVAL	RPZ	REDUCED PRESSURE ZONE BFP
CD	CEILING DIFFUSER	FRHB	FREEZE RESISTANT HOSE BIBB	RR	RETURN REGISTER
CFE	CAPPED FOR FUTURE	FTR	FINNED TUBE RADIATION	RV	RELIEF VALVE
CFM	CUBIC FEET PER MINUTE	FS	FLOW SWITCH	SA	SUPPLY AIR
CG	CEILING	GC	GENERAL CONTRACTOR	SCV	SELF CONTAINED VALVE
CL	CLEANOUT	GPM	GALLONS PER MINUTE	SD	SMOKE DETECTOR
CONT	CONTINUATION	H	HUMIDIFIER	SF	SUPPLY FAN
COORD	COORDINATE	HB	HOSE BIB	SG	SUPPLY GRILLE
CP	CONDENSATE PUMP & RECEIVER	HRU	HEAT RECOVERY UNIT	SR	SUPPLY REGISTER
CT	COOLING TOWER	HTR	HEATER	SS	STAINLESS STEEL
CTE	CONNECT TO EXISTING	H & V	HEATING AND VENTILATION	TE	TEMPERATURIZED ELEMENT (SENSOR)
CU	COPPER	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	TG	TRANSFER GRILLE
CUH	CABINET UNIT HEATER	HW	HOT WATER	TOD	TOP OF DUCT
CV	CONTROL VALVE	HX	HEAT EXCHANGER	TOP	TOP OF PIPE
CW	COLD WATER	IN WG	INCHES WATER GAUGE	TTS	TIGHT TO STEEL
CW-P	CITY WATER-PROCESS	LD	LINED DUCT	TV	TURNING VANE(S)
DC	DOUBLE CONTAINED	MAU	MAKE UP AIR UNIT	TYP	TYPICAL
DDC	DIRECT DIGITAL CONTROL	MAX	MAXIMUM	UH	UNIT HEATER
DIA	DIAMETER	MBH	1000 BTU/HR.	UIC	UP IN CHASE
DIC	DOWN IN CHASE	ME	MECHANICAL ENGINEER	UIW	UP IN WALL
		MFR	MANUFACTURER	UV	UNIT VENTILATOR
		MIN	MINIMUM	VAV	VARIABLE AIR VOLUME BOX
		MD	MOTOR OPERATED DAMPER	VB	VACUUM BREAKER
		MPV	MULTI-PURPOSE VALVE	VTR	VENT THRU ROOF
		MTD	MOUNTED	VD	MANUAL VOLUME DAMPER
		MUA	MAKE UP AIR	VCFF	VALVED AND CAPPED FOR FUTURE
		NPW	NON-POTABLE WATER	VOC	VOLATILE ORGANIC COMPOUNDS
		NTS	NOT TO SCALE	VFD	VARIABLE FREQUENCY DRIVE
		P-#	PLUMBING FIXTURE TAG	W/	WITH
		PEA	ALKALI EXHAUST	WCO	WALL CLEANOUT
		PEH	HEAT EXHAUST	WH	WALL HYDRANT

## PIPING SYSTEMS

10:1 HF	10:1 HF	GCR	GRAVITY STEAM CONDENSATE RETURN	MV	MEDICAL VACUUM	TW	TEMPERED WATER
AV	ACID VENT	GLY	GLYCOL	N2NP	NON-PROCESS NITROGEN	TWS	TEMPERED CHILLED WATER SUPPLY
AD	ACID DRAIN	GV	GAS VENT	N2	PROCESS NITROGEN	TWR	TEMPERED CHILLED WATER RETURN
AD	ACID DRAIN (BELOW SLAB)	H	HYDROGEN	NG	NATURAL GAS	VAC	PLANT VACUUM
BA	BREATHING AIR	H2O2	HYDROGEN PEROXIDE	HNG	HIGH PRESSURE NATURAL GAS	ZB	ZONE VALVE BOX
CD	CONDENSATE DRAIN	HCR	HOT/ CHILLED WATER RETURN	NO2	NITROUS OXIDE	TEMP	DOMESTIC HOT WATER (TEMP °F)
CDA	COMPRESSED DRY AIR	HCS	HOT/ CHILLED WATER SUPPLY	NEG. SOLV.	NEGATIVE SOLVENT DRAIN	TEMP	RECIRC. DOMESTIC HOT WATER (TEMP °F)
CHWS	CHILLED WATER SUPPLY	HCV	HOUSE CLEAN VACUUM	NPW	NON POTABLE COLD WATER	CW	DOMESTIC COLD WATER
CHWR	CHILLED WATER RETURN	HG	HOT GAS	O2	OXYGEN	HW	DOMESTIC HOT WATER (120° F)
CWS	CONDENSER WATER SUPPLY	HPS	HIGH PRESSURE STEAM	OFA	OIL FREE COMPRESSED AIR	RHW	RECIRCULATED DOMESTIC HOT WATER (120° F)
CWR	CONDENSER WATER RETURN	HPR	HIGH PRESSURE CONDENSATE RETURN	PCWR	PROCESS COOLING WATER RETURN	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE
DB	DISTRIBUTION VALVE BOX	HWS	HOT WATER SUPPLY	PC	PUMPED STEAM CONDENSATE	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (EXIST.)
DIS	DEIONIZED WATER SUPPLY	HWR	HOT WATER RETURN	PD	PUMPED DISCHARGE	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB)
DIR	DEIONIZED WATER RETURN	IAD	ISOPROPYL ALCOHOL DRAIN	POS. SOLV.	POSITIVE SOLVENT DRAIN	S, W or KW	S SANITARY, W WASTE & KW KITCHEN WASTE (BELOW SLAB-EXIST.)
EKCD	EKC DRAIN	LP	LIQUID PROPANE GAS	PW	POTABLE WATER	SD	SD STORM DRAIN
ESEW	EYEWASH	HLP	HIGH PRESSURE LIQUID PROPANE GAS	R	RELIEF LINE	SD	SD STORM DRAIN (EXIST.)
FCS	FREE COOLING SUPPLY	LPS	LOW PRESSURE STEAM	RL	REFRIGERANT LIQUID	SD	SD STORM DRAIN (BELOW SLAB)
FCR	FREE COOLING RETURN	LPR	LOW PRESSURE RETURN	RS	REFRIGERANT SUCTION	SD	SD STORM DRAIN (BELOW SLAB-EXIST.)
FOS	FUEL OIL SUPPLY	MA	MEDICAL AIR	SLD	MIXED SOLVENT DRAIN	V	V SANITARY VENT
FOR	FUEL OIL RETURN	MPS	MEDIUM PRESSURE STEAM	SV	SOLVENT	V	V SANITARY VENT (EXIST.)
FOV	FUEL OIL VENT	MPR	MEDIUM PRESSURE RETURN	SP	SPRINKLER	V	V SANITARY VENT (BELOW SLAB)
						V	V SANITARY VENT (BELOW SLAB-EXIST.)

**GENERAL NOTE**  
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**LEGEND AND ABBREVIATIONS**

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