AIR DISTRIBUTION SYMBOLS

- 12x16 — RECTANGULAR DUCT. (FIRST NUMBER IS SIDE SHOWN) DIMENSIONS IN INCHES
- 12"Ø — 12 INCH ROUND DUCT
- SHADE INDICATES NO AIR DISTRIBUTION IN THIS DIRECTION
- CEILING DIFFUSER (3-WAY SHOWN)
- MD — MOTORIZED DAMPER
- FLEXIBLE DUCT
- DUCT FLEXIBLE CONNECTOR (FC)
- D R — 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)
- EA — EXHAUST AIR
- RA — RETURN AIR
- SA — SUPPLY AIR
- VOLUME DAMPER
- F — FIRE DAMPER
- S — SMOKE DAMPER
- C — COMBINATION SMOKE/FIRE DAMPER
- RECTANGULAR ELBOW W/TURNING VANES
- DIRECTION OF AIR FLOW (IN)
- DIRECTION OF AIR FLOW (OUT)
- S-3 / 300 / TYP. 3 — IDENTIFICATION # (SEE SCHEDULE) S=SUPPLY, R=RETURN, E=EXHAUST T=TRANSFER; DIFFUSER, REGISTER OR GRILLE TAG; CFM AIR FLOW; QUANTITY
- VAV-A-S / 500/125 — EQUIPMENT ABBREVIATION; TERMINAL UNIT SIZE (SEE SCHEDULE) (S=SUPPLY, R=RETURN); EQUIPMENT TAG (VAV TERMINAL BOX); CFM (HIGH/LOW)

PIPING SYMBOLS

- UNION
- FLANGE
- PIPE ANCHOR
- PIPE GUIDE OR SLEEVES
- PIPE ELBOW TURNED DOWN
- PIPE ELBOW TURNED UP
- PIPING TEE-DOWN
- PIPING TEE-UP
- PIPE RISER
- PIPE PITCHES DOWN
- GENERIC VALVE, SEE SPECIFICATIONS FOR TYPE
- GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE (MANUAL)
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- BALANCING VALVE (CIRCUIT SETTER)
- CHECK VALVE
- PLUG VALVE
- GLOBE VALVE
- NEEDLE VALVE
- BACK FLOW PREVENTER
- SOLENOID VALVE
- PRESSURE REDUCING OR REGULATING VALVE
- PRESSURE RELIEF VALVE
- PIPE ELBOW-DOWN WITH VALVE
- STRAINER
- STRAINER W/BLOWDOWN
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- PS — PRESSURE SWITCH
- FS — FLOW SWITCH
- PG — PRESSURE GAUGE AND COCK
- THERMOMETER AND WELL
- TEMPERATURE & PRESSURE TAP (PETE'S PLUG)
- HOSE END DRAIN WITH CAP
- ORIFICE FLOWMETER
- FLEXIBLE PIPE CONNECTOR
- EXPANSION JOINT
- F&T — STEAM TRAP (FLOAT AND THERMOSTATIC INDICATED T.T. THERMOSTAT, B.T. BUCKET TRAP, T.D. THERMODYNAMIC TRAP)
- CONCENTRIC REDUCER/INCREASER
- ECCENTRIC REDUCER/INCREASER
- DIRECTION OF FLOW
- PUMP
- FINNED TUBE BASEBOARD
- FT-1 / 10'-0" / 0.5 — FINNED TUBE TAG; LENGTH OF FINNED ELEMENT; FLOW (GPM)
- VAV-A-S / 0.5 GPM — EQUIPMENT ABBREVIATION TERMINAL UNIT SIZE (SEE SCHEDULE) (S=SUPPLY, R=RETURN); EQUIPMENT TAG (VAV TERMINAL BOX); GPM FLOW

GENERAL SYMBOLS

- INDICATES DUCT, PIPING, EQUIPMENT TO BE REMOVED.
- LIMITS OF DEMOLITION
- CONNECT TO EXISTING
- EF-1 — EQUIPMENT ABBREVIATION (EF=EXHAUST FAN); EQUIPMENT NO.; EQUIPMENT TAG
- A1 / M-401 — DETAIL NO.; SHEET NO. WHERE DETAIL IS LOCATED
- H — HUMIDIFIER
- DP — DIFFERENTIAL PRESSURE TRANSMITTER
- CO — CARBON MONOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- H — HUMIDISTAT OR HUMIDITY SENSOR
- SD — SMOKE DETECTOR
- SP — STATIC PRESSURE SENSOR
- T — THERMOSTAT (T'STAT) OR TEMP. SENSOR

CONTROL SYMBOLS

- CO — CARBON DIOXIDE SENSOR
- C — CARBON MONOXIDE SENSOR
- CS — CURRENT SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- LD — LEAK DETECTOR
- H — MOISTURE (HUMIDITY) SENSOR
- OC — OCCUPANCY SENSOR
- O2 — OXYGEN SENSOR
- SD — SMOKE DETECTOR
- SP — STATIC PRESSURE SENSOR
- TS — TEMPERATURE SENSOR
- TS — TEMPERATURE SENSOR - WITH AVERAGING ELEMENT
- T — THERMOSTAT - ROOM / SPACE TEMPERATURE SENSOR
- WL — WATER LEVEL SENSOR
- DP — DIFFERENTIAL PRESSURE SWITCH
- EPT — ELECTRONIC TO PNEUMATIC TRANSDUCER
- FMS — FLOW MONITORING STATION
- FS — (FREEZESTAT) TEMPERTURE SWITCH
- FL — FLOW SWITCH
- H — HUMIDIFIER
- C — FIRE / SMOKE DAMPER (COMBINATION)
- MD — MOTORIZED DAMPER
- PSH — PRESSURE SWITCH - HIGH LIMIT
- PSL — PRESSURE SWITCH - LOW LIMIT
- S — SMOKE DAMPER
- S / S — START / STOP SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- EA — EXHAUST AIR
- MA — MIXED AIR
- OA — OUTDOOR AIR
- RA — RETURN AIR
- SA — SUPPLY AIR
- CONTROL VALVE - MODULATING
- CONTROL VALVE - TWO POSITION
- CONTROL VALVE THREE WAY - MODULATING
- CONTROL VALVE THREE WAY - TWO POSITION
- SOLENOID VALVE
- FAN
- PUMP
- MOTOR STARTER
- PRE-FILTER (MERV 8)
- MID-FILTERS (MERV 13)
- FINAL FILTERS (MERV 14 OR 15)
- H / C — HEATING COIL
- C / C — COOLING COIL
- D / X — DIRECT EXPANSION COIL
- P / H — PRE HEAT COIL
- E / C — ELECTRIC COIL
- ER / C — ENERGY RECOVERY COIL

ABBREVIATIONS

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

PIPING SYSTEMS

CD	CONDENSATE DRAIN	FOV	FUEL OIL VENT	LPS	LOW PRESSURE STEAM	R	RELIEF LINE
CHWS	CHILLED WATER SUPPLY	GCR	GRAVITY STEAM CONDENSATE RETURN	LPR	LOW PRESSURE RETURN	RL	REFRIGERANT LIQUID
CHWR	CHILLED WATER RETURN	GLY	GLYCOL	MPS	MEDIUM PRESSURE STEAM	RS	REFRIGERANT SUCTION
CWS	CONDENSER WATER SUPPLY	HCR	HOT/ CHILLED WATER RETURN	MPR	MEDIUM PRESSURE RETURN	TWS	TEMPERED CHILLED WATER SUPPLY
CWR	CONDENSER WATER RETURN	HCS	HOT/ CHILLED WATER SUPPLY	NPW	NON POTABLE COLD WATER	TWR	TEMPERED CHILLED WATER RETURN
DB	DISTRIBUTION VALVE BOX	HG	HOT GAS	PCWS	PROCESS COOLING WATER SUPPLY	ZB	ZONE VALVE BOX
FCS	FREE COOLING SUPPLY	HPS	HIGH PRESSURE STEAM	PCWR	PROCESS COOLING WATER RETURN		
FCR	FREE COOLING RETURN	HPR	HIGH PRESSURE CONDENSATE RETURN	PC	PUMPED STEAM CONDENSATE		
FOS	FUEL OIL SUPPLY	HWS	HOT WATER SUPPLY	PD	PUMPED DISCHARGE		
FOR	FUEL OIL RETURN	HWR	HOT WATER RETURN	PW	POTABLE WATER		

GENERAL NOTE

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

NOT FOR CONSTRUCTION
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SMRT Architects and Engineers
144 Fore Street / P.O. Box 618
Portland, Maine 04104
1.877.700.7678
www.smrtinc.com
ARCHITECTURE | ENGINEERING | PLANNING | INTERIORS | ENERGY

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Togus VA Medical Center
1 VA Center
Augusta, ME 04330

Department of Veterans Affairs