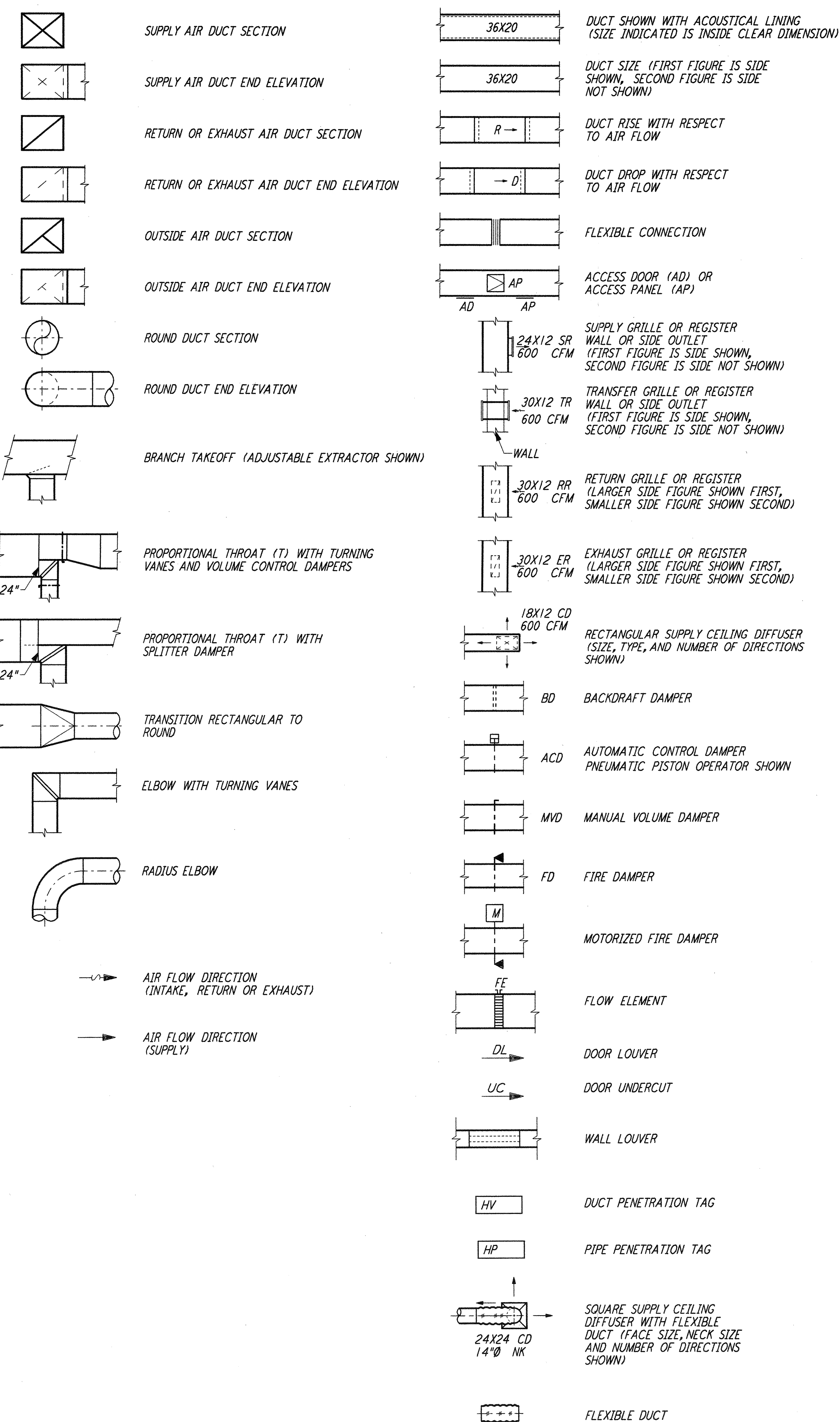
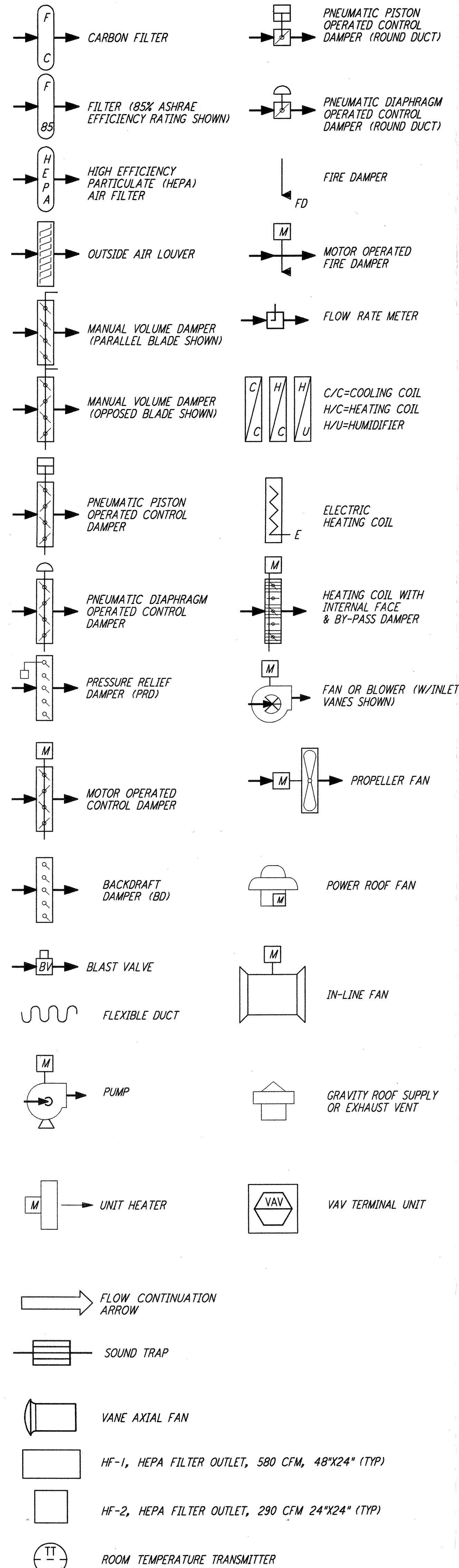


HEATING, VENTILATING AND AIR CONDITIONING LEGEND, SYMBOLS AND ABBREVIATIONS

DOUBLE LINE



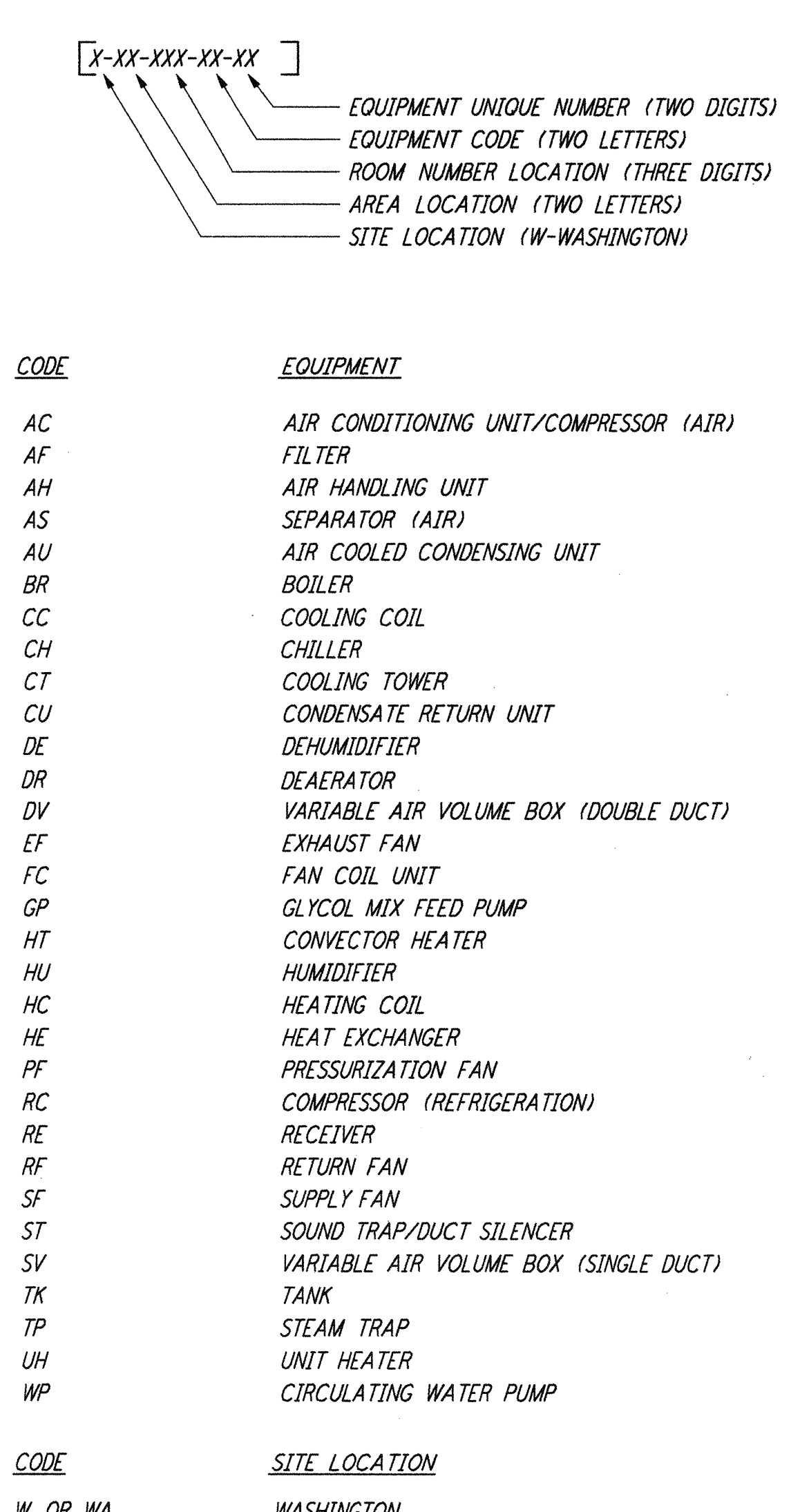
SINGLE LINE



ABBREVIATIONS

ABBREV	WORD OR TERM	ABBREV	WORD OR TERM
ABV	ABOVE	IN	INCH
AC	AIR CONDITIONING	INFL	INFILTRATION
ACFM	ACTUAL CUBIC FEET PER MINUTE	INSTR	INSTRUMENT
ACH	AIR CHANGES/HR	INSUL	INSULATION
AFF	ABOVE FINISHED FLOOR	IN WC	INCHES WATER COLUMN
AIFS	AIR FLOW MEASURING STATION	IN WG	INCHES WATER GAUGE
AI	ANALOG IN	KW	KILOWATT
AO	ANALOG OUT	L	LONG
APPROX	APPROXIMATE	LB	POUND
ARCH	ARCHITECTURAL	LG	LEVEL GAUGE
ATM	ATMOSPHERE	LGTH	LENGTH
AUTO	AUTOMATIC	LRA	LOCKED ROTOR AMPERES
BD	BACKDRAFT DAMPER	LVG	LEAVING
BEL	BELOW	MAIN	MAINTENANCE
BF	BOTTOM FLAT	MAX	MAXIMUM
BHP	BRAKE HORSEPOWER	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
BLDG	BUILDING	MCC	MOTOR CONTROL CENTER
BOD	BOTTOM OF DUCT	MECH	MECHANICAL
BGG	BOTTOM OF GRILLE	MFR	MANUFACTURER
BOL	BOTTOM OF LOUVER	MIN	MINIMUM
BOP	BOTTOM OF PIPE	MTD	MOUNTED
BOT	BOTTOM	MTG	MOUNTING
BOU	BOTTOM OF UNIT	MTR	MOTOR
BTUH	BRITISH THERMAL UNITS PER HOUR	NC	NORMALLY CLOSED
CL	CENTER LINE	NEG	NEGATIVE
C	DEGREES CENTIGRADE	NIC	NOT IN CONTRACT
CAP	COMPRESSED AIR	NK	NO
CMS	CAPACITY	NEC	NORMALLY OPEN
CCW	CENTRAL CONTROL MONITORING SYSTEM	NO. (*)	NUMBER
CD	COUNTERCLOCKWISE	NTS	NOT TO SCALE
CFM	CEILING DIFFUSER	OA	OUTSIDE AIR
CFM	CUBIC FEET PER HOUR	OB	OPPOSED BLADE DAMPER
CFM	CUBIC FEET PER MINUTE	OC	ON CENTER
CG	CEILING GRILLE	OD	OUTSIDE DIAMETER
CHR	CHILLED WATER RETURN	ODP	OPEN DRIP PROOF
CHS	CHILLED WATER SUPPLY	OPR	OPERATING / OPERATOR
CLG	COOLING	OPNG	OPENING
CLFGL	CENTRIFUGAL	ORD	ORDER
COL	CONCRETE	PD	PRESSURE DROP
CONC	CONDENSATE	PNET	PENETRATIONS
CONN	CONNECTION	PH	PHASE
CONT	CONTINUATION OR CONTROL	PL	PLATE
CONT	CEILING REGISTER/CONDENSATE RETURN	PNEU	PNEUMATIC
CS	CARBON STEEL (GALVANIZED)	PNL	PANEL
CW	CLOCKWISE	POC	POINT OF CONNECTION
CWR	CONDENSER WATER RETURN	POS	POSITIVE
CWS	CONDENSER WATER SUPPLY	PRESS	PRESSURE
D	DRAIN	PSIG	POUNDS PER SQUARE INCH GAUGE
DA	DIRECT ACTING	Δ P	PRESSURE DIFFERENTIAL
DDC	DIRECT DIGITAL CONTROL	QTY	QUANTITY
DDCP	DIRECT DIGITAL CONTROL PANEL	R	ROWS
DET	DETAIL	RA	RETURN AIR
DINCH	DIGITAL IN	RD	REFRIGERANT DISCHARGE
DISCH	DISCHARGE	REF	REFERENCE
DN	DOWN	REG	REGISTER
DO	DIGITAL OUT	REQD	REQUIRED
DP	DRIP PROOF	RET	RETURN
DWG	DRAWING	RFT	REFRIGERANT
Ø/DIA	DIAMETER	RG	RETURN GRILLE
EA	EACH	RH	RELATIVE HUMIDITY
EFF	EFFICIENCY	RHC	REHEAT COIL
EG	EXHAUST GRILLE	RL	REFRIGERANT LIQUID
EL	ELEVATION	RLA	RATED LOAD AMPERES
ELB	ELBOW	RM	ROOM
ELECT	ELECTRICAL	RPM	REVOLUTIONS PER MINUTE
ENT	ENTERING	RR	RETURN REGISTER
EP	EXPLORATION PROOF	RS	REFRIGERANT SUCTION
EQUIP	EQUIPMENT	RV	REFRIGERANT VENT
ER	EXHAUST REGISTER	SA	SUPPLY AIR
ESP	EXTERNAL STATIC PRESSURE	SCFM	STANDARD CUBIC FEET PER MINUTE
EXFIL	EXFILTRATION	SCHED	SCHEDULE
EXH	EXHAUST	SD	SMOKE DETECTOR
*F	DEGREES FAHRENHEIT	SEC	SECONDARY
*F DB	DEGREES FAHRENHEIT, DRY BULB (AIR)	SF	SUPPLY FAN
*F WB	DEGREES FAHRENHEIT, WET BULB (AIR)	SG	SUPPLY GRILLE
FC	FAIL CLOSED	SHT	SHEET
FD	FIRE DAMPER	SL	SOUND LINING
FIN	FINISHED	SP	STATIC PRESSURE
FL	FAIL LOCKED	SPEC	SPECIFICATION
FLA	FULL LOAD AMPERES	SR	SUPPLY REGISTER
FLEX	FLEXIBLE	SS	STAINLESS STEEL
FLG	FLANGE	STD	STANDARD
FLOOR	FLOOR	STL	STEEL
FLTR	FILTER	STM	STEAM
FO	FAIL OPEN	STRUCT	STRUCTURAL
FP	FIRE PROTECTION	SV	SOLENOID VALVE
FPI	FINS PER INCH	SW	SWITCH
FPM	FEET PER MINUTE	TA	THROW AWAY
FT	FEET	TEFC	TOTALLY ENCLOSED FAN COOLED
FT ²	SQUARE FEET	TEMP	TEMPERATURE
FT ³	CUBIC FEET	TG	TRANSFER GRILLE
FURN	FURNISHED	TOC	TOP OF CONCRETE
FWD CRV	FORWARD CURVED	TOD	TOP OF DUCT
GA	GAUGE	TOS	TOP OF STEEL
GAL	GALLON	TR	TRANSFER REGISTER
GALV	GALVANIZED	TRNSF	TRANSFER
GFE	GOVERNMENT FURNISHED EQUIPMENT	TSP	TOTAL STATIC PRESSURE
GPM	GALLONS PER MINUTE	TYP	TYPICAL
H	HIGH	UC	UNDERCUT DOOR
HD	HEAD	UG	UNDERGROUND
HOR	HEADER	UV	UNIT VENTILATOR
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER	V	VENT
HEPA	HEPA FILTER OUTLET	VEL	VELOCITY
HOA	HAND/OFF/AUTO	VERT	VERTICAL
HORIZ	HORIZONTAL	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	VIV	VARIABLE INLET VANES
HR	HOUR	W	WIDE
HGT	HEIGHT	W/	WITH
HTG	HEATING	WC	WATER COLUMN
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	WG	WATER GAUGE
HWR	HEATING HOT WATER RETURN	WK	WORK
HWS	HEATING HOT WATER SUPPLY	WN	WELD NECK
HZ	HERTZ	WP	WORKING POINT
ID	INSIDE DIAMETER	WT	WEIGHT
I.E.	THAT IS	WTR	WATER

EQUIPMENT IDENTIFICATION



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DRAWN	AA	7/3/96
CHECKED	AA	7/3/96
ENGINEER	AA	7/3/96
PROJ	MDW	7/8/96

AS-BUILT DRAWINGS

NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION
1	5-15-98	CP	AA	AA	AA	ISSUED FOR AS-BUILT

100 WEST WALNUT STREET
PASADENA, CALIFORNIA

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LASER INTERFEROMETER
GRAVITATIONAL-WAVE OBSERVATORY
SITE NO. 1 - HANFORD, WASHINGTON

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