

MECHANICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	SUCTION DIFFUSER
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	VIBRATION ISOLATOR
	FLOAT TRAP
	FLOAT AND THERMOSTATIC TRAP
	THERMOSTATIC TRAP
	THERMO-DYNAMIC DISC TRAP
	DRYER
	FILTER
	EXPANSION VALVE (THERMOSTATIC)
	SIGHT GLASS
	BALL SHUT-OFF VALVE
	LIQUID CHARGING VALVE
	HOT GAS BYPASS VALVE
	HOT GAS TEE
	LIQUID SHUT-OFF VALVE
	THERMOMETER WITH NEEDLE VALVE
	PRESSURE OR VACUUM GAGE WITH NEEDLE VALVE
	COMPOUND PRESSURE OR VACUUM GAGE WITH NEEDLE VALVE
	LUGGED BUTTERFLY VALVE
	ANGLE GATE VALVE W/ HOSE BIB
	PRESSURE REDUCING VALVE
	3-WAY CONTROL VALVE
	FLOW MONITOR
	2-WAY CONTROL VALVE
	GATE VALVE IN RISE
	FLANGED CONNECTION
	LUGGED BUTTERFLY VALVE IN RISE
	NEEDLE VALVE
	CIRCULATING PUMP
	SHOCK ARRESTOR
	SHUT-OFF VALVE
	GLOBE VALVE
	PIPE UNION
	COMBINATION CALIBRATED BALANCING VALVE WITH MEMORY STOP AND SHUT-OFF VALVE
	TRIPLE DUTY VALVE (CALIBRATED BALANCING SHUT-OFF AND CHECK)
	PRESSURE /TEMPERATURE PLUG
	SWING CHECK VALVE
	GAS PLUG VALVE
	Y-TYPE STRAINER WITH BLOW DOWN AND VALVE
	SHUT-OFF MANIFOLD VALVE BOX
	ASME TEMPERATURE AND PRESSURE RELIEF VALVE
	SPRING CHECK VALVE
	COMBINATION MAGNETIC MOTOR STARTER
	FUSIBLE DISCONNECT SWITCH
	FLOW SWITCH

MECHANICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	90 DEGREE SQUARE ELBOW WITH TURNING VANES (DOUBLE LINE/SINGLE LINE)
	RADIUSED ELBOW WITH TURNING VANES (DOUBLE LINE/SINGLE LINE)
	DUCT TEE WITH TURNING VANES AND SPLITTER DAMPER (DOUBLE LINE/SINGLE LINE)
	NESTED RECTANGULAR BRANCH TAKE-OFF (DOUBLE LINE/SINGLE LINE)
	NESTED RADIUS BRANCH TAKE-OFF (DOUBLE LINE/SINGLE LINE)
	NESTED RADIUS TEE (DOUBLE LINE/SINGLE LINE)
	BRANCH TAKE OFF WITH SHOE FITTING (DOUBLE LINE/SINGLE LINE)
	SPIN-IN FITTING WITH VOLUME DAMPER (DOUBLE LINE/SINGLE LINE)
	CAP ON END OF DUCT (DOUBLE LINE/SINGLE LINE)
	DUCT TRANSITION (DOUBLE LINE/SINGLE LINE)
	RECTANGULAR TO ROUND TRANSITION (DOUBLE LINE/SINGLE LINE)
	RIGID TO FLEXIBLE DUCT (DOUBLE LINE/SINGLE LINE)
	VOLUME DAMPER (DOUBLE LINE/SINGLE LINE)
	FIRE DAMPER WITH ACCESS DOOR (U.O.N.)
	SMOKE DAMPER WITH ACCESS DOOR
	COMBINATION FIRE-SMOKE DAMPER WITH ACCESS DOOR
	MOTORIZED DAMPER
	BACKDRAFT DAMPER
	ACCESS DOOR IN DUCT
	ACCESS DOOR IN SIDE OF DUCT (DOUBLE LINE)
	ACCESS DOOR IN BOTTOM OF DUCT
	PIPE DOWN
	PIPE UP
	BRANCH CONNECTION OFF TOP
	BRANCH CONNECTION OFF BOTTOM
	45 DEGREE OFFSET
	PIPE ANCHOR
	PIPE EXPANSION GUIDES
	BRANCH CONNECTION OFF SIDE
	CAP ON END OF PIPE
	DIRECTION OF FLOW
	PIPE TRANSITION

MECHANICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	EQUIPMENT TAG (I.E. AIR HANDLER NUMBER 1) REFER TO MECHANICAL ABBREVIATIONS FOR REFERENCE
	AIR DEVICE TAG (I.E. DEVICE MARK "A" WITH 105 CFM) REFER TO MECHANICAL AIR DEVICE SCHEDULE FOR INFORMATION
	SECTION NUMBER DRAWING NUMBER
	DETAIL NUMBER DRAWING NUMBER
	CONNECTION POINT OF NEW TO EXISTING
	KEYED NOTE
	REVISION MARKER (I.E. REVISION 1)
	SMOKE DETECTOR IN DUCT W/ 6" x 6" ACCESS DOOR
	THERMOSTAT
	TEMPERATURE SENSOR
	HUMIDISTAT
	HUMIDITY SENSOR
	CO2 SENSOR
	EXISTING DEVICES OR EQUIPMENT TO REMAIN
	EXISTING DEVICES OR EQUIPMENT TO BE REMOVED
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	SUPPLY AIR DEVICE
	SUPPLY AIR DEVICE WITH MOTORIZED DAMPERS PROVIDED IN SHADED QUADRANTS
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
	SUPPLY AIR DUCT SECTION DOWN/UP
	RETURN AIR DUCT SECTION DOWN/UP
	EXHAUST AIR DUCT SECTION DOWN/UP
	AIR FLOW
	LOUVERED DOOR; LOUVERED DOOR SHALL BE MINIMUM 12" X 12" UNLESS OTHERWISE NOTED ON THE DRAWINGS. CONTRACTOR SHALL COORDINATE ALL DOOR LOUVERS WITH DOOR INSTALLATION CONTRACTOR PRIOR TO BID.
	UNDERCUT DOOR, DOORS SHALL HAVE A 1 INCH UNDERCUT. CONTRACTOR SHALL COORDINATE ALL DOOR UNDERCUTS WITH DOOR INSTALLATION CONTRACTOR PRIOR TO BID.
	RISE IN DUCT ELEVATION IN DIRECTION OF AIRFLOW
	DROP IN DUCT ELEVATION IN DIRECTION OF AIRFLOW

CONTROLS SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	SIGNAL TYPE (AI,AO,DI,DO)
	FUNCTIONAL DESCRIPTION
	"AND" LOGIC GATE
	THREE INPUT "AND" LOGIC GATE
	"OR" LOGIC GATE
	TWO INPUT "OR" LOGIC GATE
	SIGNAL OUT OF DIGITAL (EMCS) SOFTWARE INTO HARDWARE
	SIGNAL OUT OF HARDWARE INTO DIGITAL (EMCS) SOFTWARE
	CONTROL RELAY HOLDING COIL
	NORMALLY OPEN CONTROL RELAY CONTACT
	NORMALLY CLOSED CONTROL RELAY CONTACT
	THERMOSTAT - CLOSE ON TEMPERATURE RISE
	SINGLE POLE SWITCH
	"NOT" INPUT LOGIC

MECHANICAL ABBREVIATIONS	
GENERAL	
ABBREVIATION	DESCRIPTION
#	DIAMETER/ELECTRICAL PHASE
(E)	EXISTING
(N)	NEW
(R)	RELOCATED
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
AL	ALUMINUM
BBD	BOILER BLOW DOWN
BFW	BOILER FEED WATER
C.	COMMON (ALWAYS OPEN)
C.D.	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CU.	COPPER
DWG.	DRAWING
E	EXHAUST AIR
HS	HUMIDISTAT
N.T.S.	NOT TO SCALE
○	OUTSIDE AIR
O.B.D.	OPPOSED BLADE DAMPER
RA	RETURN AIR
S	WALL SWITCH 48" A.F.F. U.O.N.
SA	SUPPLY AIR
SS	STAINLESS STEEL
SQ.F.T.	SQUARE FEET
U.O.N.	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
EQUIPMENT TAGS	
ABBREVIATION	DESCRIPTION
AH	SPLIT SYSTEM AIR HANDLER
CU	SPLIT SYSTEM CONDENSING UNIT
DH	DEHUMIDIFIER
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
KH	KITCHEN HOOD
KHEF	KITCHEN HOOD EXHAUST FAN
KHSF	KITCHEN HOOD SUPPLY FAN
DAU	100% OUTDOOR AIR HANDLING UNIT
CONTROLS	
ABBREVIATION	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
APPROX	APPROXIMATE
AUTO	AUTOMATIC
C.	COMMON (ALWAYS OPEN)
CO2	CARBON DIOXIDE SENSOR/TRANSMITTER
CT	CURRENT TRANSDUCER WITH GO/NO GO MONITOR CAPACITY
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DP	PRESSURE DIFFERENTIAL SWITCH
DTR	DUAL TEMPERATURE RETURN
DTS	DUAL TEMPERATURE SUPPLY
E.G.	ELECTRICAL GROUND
FC	FAIL CLOSED
FF	FLOW FEEDBACK/STATUS SIGNAL
FO	FAIL OPEN
H	HUMIDITY SENSOR/TRANSMITTER
HS	HUMIDISTAT
LS	LIMIT SWITCH
M	MOTORIZED DAMPER ACTUATOR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
P	PRESSURE SENSOR/TRANSMITTER
PF	PROPORTIONAL, LINEARIZED FEEDBACK 4-20 mA SIGNAL
PID	PROPORTIONAL INTEGRAL DERIVATIVE
SP	SET POINT
SS	START/STOP SIGNAL
T	TEMPERATURE SENSOR OR TRANSMITTER 48" A.F.F. U.O.N.
TD	TIME DELAY (RELAY OR SOFTWARE LATCH)
TS	THERMOSTAT
VM	PID VALVE MODULATION
W/	WITH
W/O	WITHOUT

NOTE:
NOT ALL SYMBOLS SHOWN IN THIS LEGEND NECESSARILY APPEAR IN THESE DOCUMENTS. ADDITIONAL SYMBOLS MAY BE DEFINED ELSEWHERE IN SPECIFIC DRAWINGS.

MECHANICAL SYMBOLS LEGEND A1 WTS

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