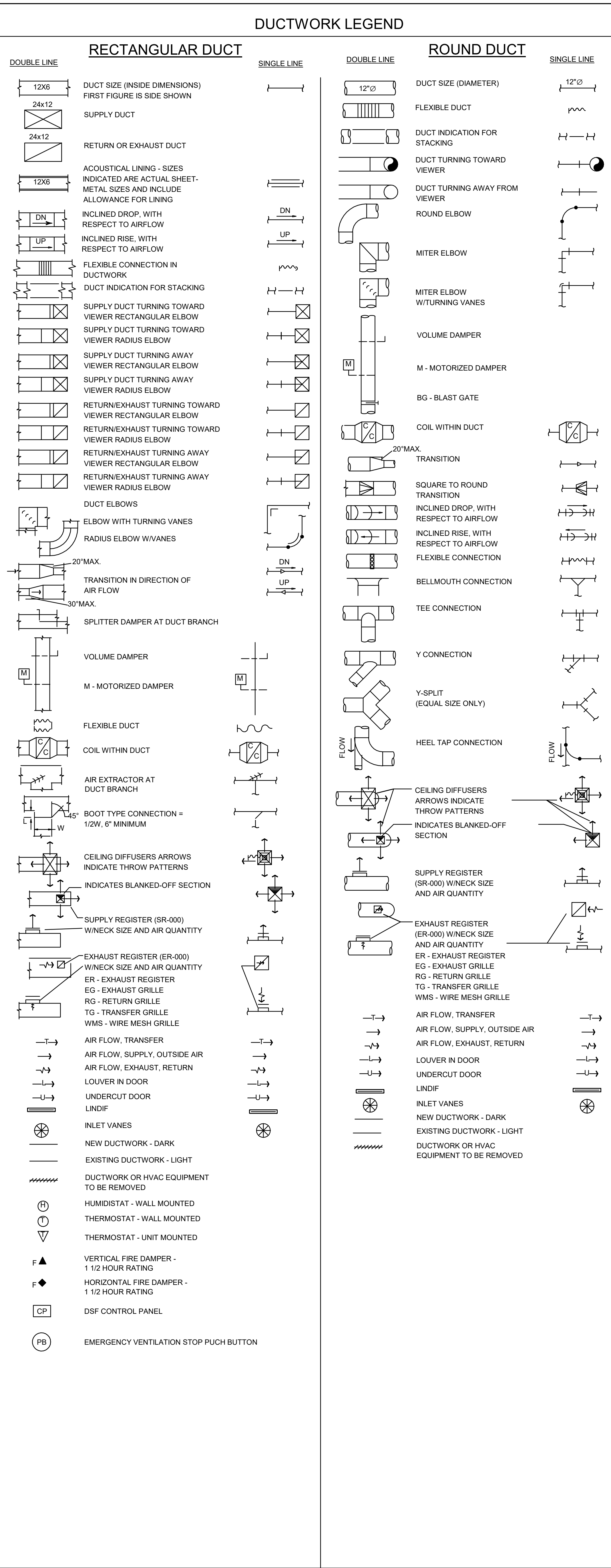


ABBREVIATIONS FOR DRAWINGS	
ABBREV	DESCRIPTION
ADF	ABOVE FINISHED FLOOR
AD	ACCESS DOOR
AD/PR	ACCESS DOOR/ PRESSURE RELIEF
ACP	ACCESS PANEL
AH	AIR HANDLING UNIT
ACU	AIR COMPRESSOR UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
APD	AIR PRESSURE DROP
AS	AIR SEPARATOR
AP	ALARM PANEL
AUX	AIR ROTATION UNIT
AU	AUXILIARY
BACNET	BUILDING AUTOMATION & CONTROLS NETWORK
BFP	BOILER FEED PUMPS
BF	BOOSTER FAN
BOT	BOTTOM
BOD	BOTTOM OF DUCT
BI	BOTTOM OF INSULATION
BOP	BOTTOM OF PIPE
CAD	COMPRESSED AIR DRYER
CUH	CABINET UNIT HEATER
CLG	CEILING
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMP
CTS	CHEMICAL TREATMENT SYSTEM
CO	CLEANOUT
CONN	CONNECTION
CONTR	CONTRACTOR
C	COMPRESSION TANK
CONC	CONCRETE
CRU	CONDENSATE RETURN UNIT
CU	CONDENSING UNIT
CONT.	CONTINUATION
CC	CONTROL VALVE
CV	COOLING COIL
CTP	COOLING TOWER PUMP
%RH	RELATIVE HUMIDITY
DAC	DOOR AIR CURTAIN
DER	DEARATOR
DB	DECEBEL
DIA	DIAMETER
D	DIFFUSER
DX	DIRECT EXPANSION
DG	DOOR GRILLE
DH	DOOR HEATER
DN	DOWN
DSF	DESTATIFICATION FAN
DWG.	DRAWING
DC	DUCT COIL
DF	DUCT FURNACE(GAS FIRED)
ELECT	ELECTRICAL
EBR	ELECTRIC BASEBOARD
RAD	RADIATION
ECO	EXTERIOR CLEAN OUT
EDH	ELECTRIC DUCT HEATER
EHC	ELECTRIC HEATING COIL
EH	EXHAUST HOOD
EUH	ELECTRIC UNIT HEATER
EL	ELEVATION
ELV	EXHAUST AIR LOUVER
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EHT	ENTERING WATER TEMP.
EWB	ENTERING WATER TEMPERATURE DIFFERENCE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EA	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EL	EXHAUST LOUVER
ER	EXHAUST REGISTER
EP	EXHAUST PLENUM
EJ	EXPANSION JOINT
ET	EXPANSION TANK
ESP	EXTERNAL STATIC PRESSURE
FU	FAN COIL UNIT
F	FILTER
FAT	FINAL AIR TEMPERATURE
FFE	FINISHED FLOOR ELEVATION
FT	FINNED TUBE RADIATION
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FL	FLOOR
FD	FLOOR DRAIN
FO	FLOOR OPENING
FM	FLOOR METER
FS	FREEZE STAT
FOP	FUEL OIL PUMP
FWH	FORCED WALL HEATER
GAP	Gauge Alarm Panel
GUH	GAS FIRED UNIT HEATER
GV	GRAVITY VENTILATOR
HD	HEAT DETECTOR
HTEXC	HEAT EXCHANGER
HV	HEATING AND VENTILATING UNIT
HVAC	HEATING, VENTILATING & AIR CONDITIONING UNIT
HC	HEATING COIL
HCO	HORIZONTAL CLEANOUT
HCU	HEATING & COOLING UNIT
HWP	HEATING WATER PUMP
HWPP	HEATING WATER PUMP PRIMARY
HWPS	HEATING WATER PUMP SECONDARY
HRC	HEAT RECOVERY COIL
HRP	HEAT RECOVERY PUMP
HRU	HEAT RECOVERY UNIT
HX	HEAT RECOVERY UNIT BLOWDOWN
HZ	HERTZ
HORIZ	HORIZONTAL
HWB	HOT WATER BOILER
HUH	HOT WATER UNIT HEATER
HUM	HUMIDIFIER

ABBREV	DESCRIPTION
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
KW	KILOWATT
LAT	LATENT
LDB	LEAVING DRY BULB
LWT	LEAVING WATER TEMP.
LWB	LEAVING WET BULB
LD	LINEAR DIFFUSER
MAU	MAKE-UP AIR UNIT
MAX.	MAXIMUM
MID	MIDDLE
MIN.	MINIMUM
MB	MIXING BOX
MCC	MOTOR CONTROL CENTER
MCV	MOTORIZED CONTROL VALVE
MOD	MOTOR OPERATED DAMPER
NC	NORMALLY CLOSED
NK	NECK SIZE
N.O.	NORMALLY OPEN
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PH	PHASE
PC	PLUMBING CONTRACTOR
PG	PRESSURE GAUGE
PHC	PREHEAT COIL
PRV	PRESSURE REDUCING VALVE
P	PUMP
RCP	RADIANT CEILING PANEL
RAD	REFRIGERATED AIR DRYER
RCMP	REFRIGERANT COMPRESSOR
REG	REGENERATIVE THERMAL OXIDIZER
RHO	RELATIVE HUMIDITY
RHT	RELIEF HOOD
RV	RELIEF VALVE
RA	RETURN AIR
RF	RETURN GRILLE
RG	RETURN REGISTER
ROW	REVERSE OSMOSIS WATER
SST	SATURATED SUCTION TEMP.
SM	SHEET METAL
SDI	SMOKE DETECTOR
SDI	IONIZATION
SWP	SOFT WATER PUMP
SPEC	SPECIFICATIONS
SQ	SQUARE
SSF	SIDE STREAM FILTER
SS	STAINLESS STEEL
SP	STATIC PRESSURE
SCP	STEAM CONDENSATE PUMP
SPRN	SPRINKLER
SUH	STEAM UNIT HEATER
SUMP	SUMP PUMP
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SR	SUPPLY FAN
SF	SUPPLY REGISTER
TEMP	TEMPERATURE
TD	TEMPERATURE DIFFERENCE
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TSP	TOTAL STATIC PRESSURE
TA	TRANSFER AIR
TG	TRANSFER GRILLE
TYP.	TYPICAL
UH	UNIT HEATER
VB	VALVE BOX
VB	VARIABLE AIR VOLUME
VEL	VELOCITY
VP	VELOCITY PRESSURE
VRF	VARIABLE REFRIGERANT FLOW
VU	VENTILATING UNIT
VTR	VENT THRU ROOF
VERT	VERTICAL
WO	WALL OPENING
WC	WATER CHILLER
WCD	WATER PRESSURE DROP
WS	WATER SOFTENER
WTD	WATER TEMP DROP
W	WIDTH
WMS	WIRE MESH SCREEN



### PIPING LEGEND

UTILITY PIPING SYMBOLS		UTILITY PIPING SYMBOLS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ANC ANCHOR		GLV GAUGE GLASS
	AV ANGLE VALVE		GLV GLOBE VALVE
	AAV AUTOMATIC AIR VENT		MAV MANUAL AIR VENT
	CV-3 AUTO CONTROL VALVE 3-WAY W/ELECTRIC OPERATOR		WHOSE END METER
	CV-3 AUTO CONTROL VALVE 3-WAY W/NEUMATIC OPERATOR		MBUTT MOTORIZED BUTTERFLY VALVE
	CV-2 AUTO CONTROL VALVE 2-WAY W/ELECTRIC OPERATOR		ORI ORIFICE
	CV-2 AUTO CONTROL VALVE 2-WAY W/NEUMATIC OPERATOR		OUTLET
	CV-2 AUTO CONTROL VALVE 2-WAY W/NEUMATIC OPERATOR		OUTLET (TEE) DOWN
	CV-2 AUTO CONTROL VALVE 2-WAY W/NEUMATIC OPERATOR		OUTLET (TEE) UP
	BALNCV BALANCE VALVE		CAP PIPE CAP
	BKVA BALL CHECK VALVE		FLS PIPE FLANGES
	BV BALL VALVE		PIPE OFFSETTING UP IN RESPECT TO ARROW
	BKSTR BASKET STRAINER		
	BF BLIND FLANGE		
	BFV BUTTERFLY VALVE		PI PRESSURE GAUGE W/ GAUGE COCK
	BFV BUTTERFLY VALVE		PI PRESSURE GAUGE W/ WIPHON & GAUGE COCK
	N.C. CALIBRATED BALANCING VALVE		PRV PRESSURE REDUCING VALVE PILOT OPERATED
	CV CHECK VALVE		PRV PRESSURE REDUCING VALVE SELF CONTAINED
	CS CIRCUIT SETTER		PRVV PRESSURE REGULATING VALVE W/VENT
	CON RED CONCENTRIC REDUCER OR INCREASER		RBPFP REDUCED PRESSURE BACKFLOW PREVENTER
	DPOC DIRT POCKET		PSV RELIEF OR SAFETY VALVE
	CSTR CONSTRUCTION OR SAFETY STRAINER		SOL-3 SOLENOID VALVE 3-WAY
	DV DRAIN VALVE WHOSE END		SOL-2 SOLENOID VALVE 2-WAY
	DRPAN DRIP PAN ELBOW		F&T OR STEAM TRAP
	ZBKSTR DUPLX BASKET STRAINER		STR STRAINER (WYE TYPE)
	EC RED ECCENTRIC REDUCER OR INCREASER 90° ELBOW DOWN		STR STRAINER (WYE TYPE) W/ BALL VALVE BLOW DOWN & HOSE END SECTION DIFFUSER
	EC RED ECCENTRIC REDUCER OR INCREASER 90° ELBOW UP		STR STRAINER (WYE TYPE) W/ GATE VALVE BLOW DOWN & HOSE END TEE BRANCH
	GUIDE EXPANSION GUIDE		TI TEMPERATURE INDICATOR
	EXP.JT. EXPANSION JOINT W/ GUIDES		TC TEST CONNECTION
	FT FINNTUBE		THERM THERMOMETER
	FC FLEXIBLE CONNECTOR		TAV THERMOSTATIC AIR VENT WHOSE END
	FH FLEXIBLE HOSE		TW THERMOWELL
	FD FLOOR DRAIN		UN UNION
	FL ARR FLOW ARROW		VB VACUUM BREAKER
	FMO FLOW MEASURING ORIFICE		VABX VALVE BOX
	FTV FOOT VALVE		VALVE IN PIPING RISE
	GCK GAGE COCK		WCKVA WAFER CHECK VALVE
	VALVE (SEE SPECIFICATIONS FOR EQUAL TYPE)		
	GA GAUGE		
	PIPING OR EQUIPMENT TO BE REMOVED		

### UTILITY PIPING ABBREVIATIONS

ABBREV.	DESCRIPTION	SYMBOL	ABBREV.	DESCRIPTION
DTW	DOMESTIC TEPID WATER		DCP	DOMESTIC CIRCULATING PUMP
DHW	DOMESTIC HOT WATER		DW	DOMESTIC COLD WATER
DHWR	DOMESTIC HOT WATER RETURN		DHW	DOMESTIC HOT WATER
DW	DOMESTIC COLD WATER		DHWR	DOMESTIC HOT WATER RETURN
NPW	NON-POTABLE WATER		CO	CLEAN OUT, HORZ. ABOVE SLAB
SAN	SANITARY (GRAVITY)		SAN	SANITARY DRAIN ABOVE SLAB
SAN-F	SANITARY (FORCED)		SAN	SANITARY DRAIN ABOVE SLAB
SANV	SANITARY VENT		SAN-F	SANITARY DRAIN ABOVE SLAB
HORIZ.	HORIZONTAL		SAN	SANITARY VENT
VERT.	VERTICAL		SAN-F	FORCED SANITARY
AD	ACCESS DOOR		SANV	SANITARY VENT
CLG.	CEILING			
CONN.	CONNECTION			
CONC.	CONCRETE			
ADF	ABOVE FINISHED FLOOR			
BOP	BOTTOM OF PIPE			
FFE	FINISHED FLOOR ELEVATION			
IE	INVERT ELEVATION			
CONT.	CONTINUATION			
CONTR.	CONTRACTOR			
DIA	DIAMETER			
DN	DOWN			
DWG.	DRAWING			
EL	ELEVATION			
EX	EXPANSION TANK			
EJ	EXPANSION JOINT			
FL	FLOOR			
FM	FLOOR METER			
HZ	HERTZ			
PH	PHASE			
KW	KILO WATT			
NC	NORMALLY CLOSED			
NO	NORMALLY OPEN			
SQ	SQUARE			
SPEC.	SPECIFICATION			
VOLT.	VOLTAGE			
AAV	AIR ADMITTANCE VALVE			
VTR	VENT THRU ROOF			
TYP.	TYPICAL			
TEMP.	TEMPERATURE			
PC	PLUMBING CONTRACTOR			
MAX.	MAXIMUM			
MIN.	MINIMUM			
NA	NOT APPLICABLE			
NIC	NOT IN CONTRACT			
LWT	LEAVING WATER TEMP			
EWT	ENTERING WATER TEMP			
CA	CHILLED WATER RETURN			
CHWR	CHILLED WATER RETURN			
CHWS	CHILLED WATER SUPPLY			
COND	CONDENSATE			
WWR	WELD WATER RETURN			
WWS	WELD WATER SUPPLY			