

HVAC SYMBOLS	
	CENTRIFUGAL BLOWER
	CENTRIFUGAL FAN
	CENTRIFUGAL FAN WITH INLET VANES
	ROTARY FAN
	VANE AXIAL FAN
	AXIAL FAN
	PROPELLER FAN
	UPBLAST ROOF VENTILATOR
	CENTRIFUGAL ROOF VENTILATOR
	POWER ROOF/WALL VENTILATOR (EXHAUST FAN)
	GRAVITY ROOF VENTILATOR (RELIEF)
	DUCTED AIR FLOWS
	AIR MOVEMENT (NON-DUCTED)
	FLOW (CFM) DUCTED AIR FLOW TO SPACE

HVAC SYMBOLS - CONTINUED	
	EXHAUST HOOD
	FLOW (CFM) DUCTER AIR FLOW FROM SPACE
	OPPOSED BLADE DAMPER
	PARALLEL BLADE DAMPER
	BACKDRAFT OR GRAVITY RELIEF DAMPER
	SINGLE BLADE OR BUTTERFLY DAMPER
	MANUAL BALANCE DAMPER
	FIRE DAMPER OR FIRE DOOR
	FIXED LOUVER
	ADJUSTABLE LOUVER
	LOW-EFFICIENCY ROUGHING FILTER
	LOW-EFFICIENCY ROLL TYPE FILTER
	MODERATE EFFICIENCY FILTER
	HIGH-EFFICIENCY PRE-FILTER
	HIGH-EFFICIENCY PARTICULATE AIR FILTER

HVAC SYMBOLS - CONTINUED	
	IMPREGNATED ACTIVATED CHARCOAL FILTER
	ELECTROSTATIC PRECIPITATOR
	LOW-EFFICIENCY FILTER (START-UP)
	BIRD SCREEN FOR VACUUM RELIEF DAMPER
	MS - MOISTURE SEPARATOR
	H - HEATING COIL PH - PRE-HEATING COIL HW - HOT WATER S - STEAM E - ELECTRIC
	C - COOLING COIL CH - REFRIG. COOLED CHILLED WATER CW - COOLING WATER DX - REFRIGERANT DIRECT EXPANSION
	HUMIDIFIERS G - LOW PRESSURE STEAM GRID S - STEAM PAN H - HOT WATER PAN E - ELECTRIC PAN
	GUILLOTINE

PIPING CLASS DESIGNATORS	
THE SYSTEM TO BE USED TO DEFINE PIPE (AND VALVE) CLASSES CONSISTS OF THREE-CHARACTER CODE. THE FIRST CHARACTER INDICATES THE TYPE OF MATERIAL; THE SECOND CHARACTER, THE PRESSURE CLASS OR PRESSURE-TEMPERATURE RATING; THE THIRD CHARACTER, THE CODE TO WHICH THE PIPING IS DESIGNED. REFER TO PIPING CLASS SHEETS (99999-000-30S-P72G-G0001) FOR DETAILS ABOUT EACH CLASS.	
1ST CHARACTER MATERIAL TYPE	1ST CHARACTER MATERIAL TYPE
1 CAST IRON - HIGH SILICON	I CAST IRON
2 CARBON STEEL - CEMENT LINED	J DUCTILE IRON - CEMENT LINED
3 POLYVINYL CHLORIDE (PVC)	K ALLOY STEEL (2-1/4 Cr) P22
4 ALLOY STEEL (1-1/4 Cr) P11	L CARBON STEEL - LOW TEMPERATURE
5 PRESTRESSED CONCRETE CYLINDAR PIPE (PCCP)	M MONEL
6 ALLOY STEEL (5 Cr)	N NICKEL ALLOY
7 POLYETHYLENE	O (NOT USED)
8 AS SPECIFIED	P CHLORINATED POLYVINYL CHLORIDE (CPVC)
9 ALLOY STEEL (9 Cr - 1 Mo - V), P91	Q CONCRETE
A ALUMINUM	R CARBON STEEL - RUBBER LINED
B COPPER/COPPER ALLOY	S STAINLESS STEEL
C CARBON STEEL	T TITANIUM
D DUCTILE IRON	U ALLOY 20
E HIGH DENSITY POLYETHYLENE (HDPE)	V VITRIFIED CLAY
F FIBERGLASS	W CARBON STEEL - COAL TAR EPOXY LINED
G CARBON STEEL - GALVANIZED	X CARBON STEEL - COPPER BEARING
H CAST IRON - CEMENT LINED	Y CARBON STEEL - IMPACT TESTED
	Z CARBON STEEL - PLASTIC LINED
2ND CHARACTER RATING	2ND CHARACTER RATING
1 CLASS 150	I (NOT USED)
2 CLASS 250	J CLASS 1500
3 CLASS 300	K 2000 PSI
4 CLASS 400	L CLASS 2500
5 VICTAULIC RATING	M 3000 PSI
6 CLASS 600	N CLASS 4500
7 PRESSFIT RATING	O (NOT USED)
8 CLASS 800	P 6000 PSI
9 CLASS 900	Q 9000 PSI
A CLASS 25	R 10000 PSI
B CLASS 50	S AS SPECIFIED
C CLASS 75 (MANUFACTURER'S RATING)	T AS SPECIFIED
D 100 PSI (MANUFACTURER'S RATING)	U SMACNA - AS SPECIFIED
E CLASS 125	V AS SPECIFIED
F 175 PSI (UL RATING)	W AS SPECIFIED
G 200 PSI (MANUFACTURER'S RATING)	X AS SPECIFIED
H 1000 PSI	Y AS SPECIFIED
	Z SPECIAL CLASS 2500
3RD CHARACTER CODE	3RD CHARACTER CODE
1 ASME B31.1, POWER PIPING CODE	L ASME B31.1, ASTM A691, GR 91, CLASS 42 WELDED
2 ASME B31.1, POWER PIPING CODE	M ASME B31.1, POWER PIPING CODE
3 ASME B31.1, POWER PIPING CODE	N ASME B31.1, POWER PIPING CODE
4 ASME B31.1, POWER PIPING CODE	O (NOT USED)
5 ASME SECTION I, POWER BOILER CODE	P ASME B31.4, LIQUID HYDROCARBON (ET AL) CODE
6 ASME B31.1, POWER PIPING CODE	Q APPLICABLE PLUMBING CODE (PROJECT - SPECIFIC)
7 ASME SECTION I, POWER BOILER CODE	R ASME B31.5, REFRIGERATION PIPING CODE
8 ASME B31.1, POWER PIPING CODE	S ASME B31.9, BUILDING SERVICES PIPING CODE
9 ASME SECTION I, POWER BOILER CODE	T ASME B31.11, SLURRY PIPING CODE
A (NOT USED)	U (NOT USED)
B (NOT USED)	V (NOT USED)
C (NOT USED)	W ASME B31.1, POWER PIPING CODE
D ASME B31.1, POWER PIPING CODE	X ASME B31.1, POWER PIPING CODE
E ASME B31.3, PROCESS PIPING CODE	Y ASME B31.1, POWER PIPING CODE
F NFPA, FIRE PROTECTION CODE	Z SMACNA, HVAC DUCTWORK CODE
G ASME B31.8, GAS TRANS/DIST CODE	
H ASME SECTION I, POWER BOILER CODE	
I (NOT USED)	
J AWWA, AMERICAN WATER WORKS CODE	
K ASME B31.1, POWER PIPING CODE, SEAMLESS	
"AS SPECIFIED" PIPE CLASSES (PROJECT TO LIST ANY UNIQUE CLASSES HERE)	
PIPE CLASS	AS SPECIFIED RATING
9SD	LATER
ESD	LATER
ESQ	LATER
ETT	LATER
FSD	LATER
FTD	LATER
ISQ	LATER
PSD	LATER

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NO.	DATE	REVISIONS	BY	CHK	MECH SUPV	CIV SUPV	PID SUPV	PROJ ENGR
15	12/06	ISSUED FOR USE	W	J	J	J	J	J
SCALE			DESIGNED	DRAWN	PM			
BECHTEL POWER CORPORATION FREDERICK, MARYLAND								
CO2 KARSTO PROJECT								
PIPING & INSTRUMENT DIAGRAM SYMBOLS AND LEGENDS								
GASSNOVA			OWNER DOCUMENT NUMBER 10112936-PB-P-PID-0005			JOB NO. 25474-000 DRAWING NO. M6J-YA-00005 REV 0		

LEVELS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100