

**HEATING, VENTILATION AND AIR CONDITIONING
SYMBOL SCHEDULE**

| SYMBOL | DESCRIPTION |
|--------|---|
| | AIR MOVEMENT ARROW |
| | SUPPLY AIR DUCT DOWN |
| | SUPPLY AIR DUCT UP |
| | OUTDOOR AIR DUCT DOWN |
| | OUTDOOR AIR DUCT UP |
| | RETURN AIR DUCT DOWN |
| | RETURN AIR DUCT UP |
| | EXHAUST / RELIEF AIR DUCT DOWN |
| | EXHAUST / RELIEF AIR DUCT UP |
| | EXISTING DUCT(LIGHT COLOR) |
| | EXISTING DUCT(LIGHT COLOR) |
| | CG |
| | CG |
| | CG/FG |
| | CG/FG |
| | WG |
| | WG |
| | DG |
| | TRANSFER AIR OPENING |
| | SIDEWALL EXHAUST / RETURN / SUPPLY GRILLE |
| | RECTANGULAR DUCT CONTINUATION |
| | ROUND DUCT CONTINUATION |
| | ROUND DUCT DOWN |
| | ROUND DUCT UP |
| | FLEXIBLE DUCT CONNECTION |
| | DUCT W/ ACOUSTIC INSULATION |
| | DUCT CAP-OFF |
| | ACCESS DOOR, SIDE OR BOTTOM OF DUCT |
| | AIR FILTER |
| | PARALLEL BLADE DAMPER |
| | OPPOSED BLADE DAMPER |
| | AIR BLENDER |
| | VOLUME DAMPER - MANUAL |
| | BACK DRAFT DAMPER |
| | FIRE DAMPER (VERTICAL) |
| | FIRE DAMPER (HORIZONTAL) |
| | SMOKE DAMPER (VERTICAL) |
| | SMOKE DAMPER (HORIZONTAL) |
| | BAROMETRIC RELIEF DAMPER |
| | CENTRIFUGAL FAN |
| | CENTRIFUGAL FAN |

**HEATING, VENTILATION AND AIR CONDITIONING
SYMBOL SCHEDULE (CONT'D)**

| SYMBOL | DESCRIPTION |
|--------|--|
| | AXIAL FAN |
| | PROPELLER FAN |
| | SOUND ATTENUATOR |
| | AIR FLOW STATION C/W STRAIGHTENER |
| | THERMOMETER C/W COCK |
| | THERMAL WELL |
| | HUMIDISTAT |
| | PRESSURE SENSOR |
| | PRESSURE STAT |
| | THERMOSTAT |
| | THERMOSTAT C/W GUARD AND INSULATED BACKPLATE |
| | SELF-CONTAINED THERMOSTAT C/W REMOTE BULB |
| | TEMPERATURE SENSOR |
| | SWITCH |
| | CARBON DIOXIDE SENSOR |
| | CARBON MONOXIDE SENSOR |
| | NITROGEN DIOXIDE SENSOR |
| | PRESSURE SWITCH |
| | COOLING COIL |
| | HEATING COIL |
| | ELECTRIC HEATING COIL |
| | OUTDOOR AIR INTAKE HOOD ON ROOF |
| | EXHAUST AIR HOOD ON ROOF |
| | OUTDOOR AIR FAN ON ROOF |
| | EXHAUST AIR FAN ON ROOF |
| | HVAC CONTROL PANEL |
| | UNIT HEATER |
| | ACCESS HATCH/PANEL |
| | ROOM AIR CONDITIONING EQUIPMENT |
| | AIR OUTLET OR INLET TAG |
| | EQUIPMENT TAG |
| | PERIMETER HEATING TAG |

PIPING SYMBOL SCHEDULE (CONT'D)

| SYMBOL | DESCRIPTION |
|--------|-------------------------------|
| | PRESSURE SUSTAINING VALVE |
| | CALIBRATED BALANCING VALVE |
| | FLOW SWITCH |
| | PRESSURE GAUGE C/W COCK |
| | GAS METER |
| | NATURAL GAS REGULATOR VALVE |
| | NATURAL GAS EMERGENCY SHUTOFF |

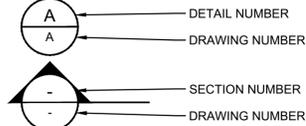
PIPING SYMBOL SCHEDULE

| SYMBOL | DESCRIPTION |
|--------|--|
| | DIRECTION OF FLOW |
| | PIPE TEE |
| | ELBOW UP |
| | TOP PIPE TAKE-OFF |
| | ELBOW DOWN |
| | BOTTOM PIPE TAKE-OFF |
| | PIPE OFFSET |
| | PIPE CONTINUATION, SINGLE LINE |
| | PIPE CONTINUATION, DOUBLE LINE |
| | FLOW METER |
| | FLEXIBLE PIPE CONNECTION |
| | EXPANSION JOINT |
| | EXPANSION LOOP |
| | PIPE SLEEVE |
| | PIPE GUIDE |
| | PIPE ANCHOR (INTERMEDIATE/MAIN) |
| | SIGHT GLASS |
| | FLOW INDICATOR |
| | FILTER AND STRAINER |
| | FLOAT AND THERMOSTATIC TRAP |
| | FLOAT TRAP |
| | VENT THRU ROOF C/W CAP |
| | AUTOMATIC AIR VENT |
| | HEAT TRACED PIPING |
| | PUMP - SCHEMATIC |
| | PUMP |
| | AIR SEPARATOR |
| | UNION - REGULAR / DIELECTRIC |
| | UNION (FLANGED) |
| | FLANGED CONNECTION |
| | BLIND FLANGE |
| | PIPE CAP-OFF |
| | STRAINER C/W SCREWED END |
| | STRAINER C/W VALVED END |
| | GATE VALVE |
| | GLOBE VALVE |
| | BALL VALVE |
| | BUTTERFLY VALVE |
| | DIAPHRAGM VALVE |
| | PLUG VALVE |
| | SNUBBER |
| | NEEDLE VALVE |
| | FUSIBLE LINK / QUICK OPENING VALVE |
| | CHECK VALVE |
| | CHECK VALVE C/W SPRING |
| | FLOAT VALVE |
| | 3-WAY CONTROL VALVE |
| | ACTUATOR, MANUAL, NON-RISING STEM |
| | ACTUATOR, MANUAL LEVER |
| | ACTUATOR, MANUAL, LOCK SHIELD |
| | ACTUATOR, MANUAL, RISING STEM AND YOKE |
| | ACTUATOR, MANUAL GEAR |
| | ACTUATOR, PNEUMATIC |
| | ACTUATOR, ELECTRIC |
| | ACTUATOR, SOLENOID |
| | INDICATING FLAG |
| | THERMOSTATIC EXPANSION VALVE |
| | ANGLE GATE VALVE |
| | PRESSURE OR SAFETY RELIEF VALVE |
| | TEMPERATURE AND PRESSURE RELIEF VALVE |
| | PRESSURE REDUCING VALVE |
| | PRESSURE REGULATING VALVE |

PLUMBING SYMBOL SCHEDULE (CONT'D)

| SYMBOL | DESCRIPTION |
|--------|---|
| | FLOOR DRAIN - OPEN FUNNEL |
| | FLOOR / HUB / FUNNEL / ROOF DRAIN - ROUND |
| | FLOOR DRAIN - SQUARE |
| | BACKWATER VALVE |
| | HOSEBIB (HB) |

DETAIL & SECTION INDICATORS



MISCELLANEOUS SYMBOLS

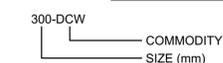
| SYMBOL | DESCRIPTION |
|--------|-------------------|
| | KEYNOTE |
| | COORDINATE MARKER |

SOFT METRIC CONVERSION CHART

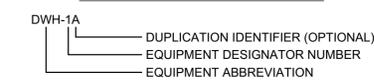
| NOMINAL DUCT SIZES | | NOMINAL PIPE SIZES | |
|--------------------|-------------|--------------------|-------------|
| IMPERIAL (IN) | METRIC (mm) | IMPERIAL (IN) | METRIC (mm) |
| 3 | 80 | 1/8 | 6 |
| 4 | 100 | 1/4 | 8 |
| 5 | 125 | 3/8 | 10 |
| 6 | 150 | 1/2 | 15 |
| 7 | 175 | 3/4 | 20 |
| 8 | 200 | 1 | 25 |
| 9 | 225 | 1-1/4 | 30 |
| 10 | 250 | 1-1/2 | 40 |
| 12 | 300 | 2 | 50 |
| 14 | 350 | 2-1/2 | 65 |
| 16 | 400 | 3 | 80 |
| 18 | 450 | 3-1/2 | 90 |
| 20 | 500 | 4 | 100 |
| 22 | 550 | 5 | 125 |
| 24 | 600 | 6 | 150 |
| 26 | 650 | 8 | 200 |
| 28 | 700 | 10 | 250 |
| 30 | 750 | 12 | 300 |
| 32 | 800 | 14 | 350 |
| 34 | 850 | | |
| 36 | 900 | | |
| 38 | 950 | | |
| 40 | 1000 | | |
| 42 | 1050 | | |
| 48 | 1200 | | |
| 60 | 1500 | | |
| 72 | 1800 | | |

- NOTE:
1. ALL WHOLE-NUMBER INCH DESIGNATIONS CONVERT TO MULTIPLES OF 25mm FOR DUCTWORK.
PIPE SIZE FROM 2" THROUGH TO 60", CONVERSION BASED ON CSA STANDARD Z245.1. PIPE SIZE 2" AND SMALLER, CONVERSION BASED ON EUROPEAN ISO STANDARD. OTHER PIPE SIZES ARE U.S. CONVERSIONS TO THE METRIC SYSTEM.

PIPE IDENTIFICATION



EQUIPMENT IDENTIFICATION



DUCT AND PIPE COMMODITY ABBREVIATIONS

| ABBREVIATION | COMMODITY |
|--------------|----------------------|
| NG | NATURAL GAS |
| E/A | EXHAUST AIR DUCT |
| O/A | OUTDOOR AIR DUCT |
| HWS | HEATING WATER SUPPLY |
| HWR | HEATING WATER RETURN |
| R | REFRIGERANT |
| R/A | RETURN AIR DUCT |
| S/A | SUPPLY AIR DUCT |
| T/A | TRANSFER AIR DUCT |
| V | VENT |
| VAC | VACUUM LINE |

HEATING, VENTILATION AND AIR CONDITIONING

| | | |
|---|-----|--------------------------------|
| — | HWR | HEATING WATER RETURN, (≤ 98°C) |
| — | HWS | HEATING WATER SUPPLY, (≤ 98°C) |
| — | H | HUMIDIFICATION |
| — | NG | NATURAL GAS |
| — | R | REFRIGERANT PIPE |

PLUMBING AND DRAINAGE

| | | |
|---|------|----------------------------------|
| — | DCW | DOMESTIC COLD WATER |
| — | DHW | DOMESTIC HOT WATER |
| — | DHWR | DOMESTIC HOT WATER RECIRCULATION |

GENERAL ABBREVIATIONS

| ABBREVIATION | COMMODITY |
|--------------|---------------------------------|
| A/C | AIR CONDITIONING |
| AAV | AUTOMATIC AIR VENT |
| ADJ | ADJUSTABLE |
| AFF | ABOVE FINISHED FLOOR |
| BDD | BACKDRAFT DAMPER |
| C/W | COMPLETE WITH |
| CD | CEILING DIFFUSER |
| CFM | CUBIC FEET PER MINUTE |
| CG | CEILING GRILLE |
| DIA | DIAMETER |
| DPS | DIFFERENTIAL PRESSURE SENSOR |
| DX | DIRECT EXPANSION(REFRIGERATION) |
| EL | ELEVATION |
| ELEC | ELECTRIC |
| ESP | EXTERNAL STATIC PRESSURE |
| EX | EXISTING |
| FD | FIRE DAMPER |
| FDC | FIRE DEPARTMENT CONNECTION |
| FE | FIRE EXTINGUISHER |
| FG | FLOOR GRILLE |
| FHC | FIRE HOSE CABINET |
| GA | GAUGE |
| GAL | GALLON |
| GPM | GALLONS PER MINUTE |
| HB | HOSEBIB |
| HD | HUB DRAIN |
| HDPE | HIGH DENSITY POLYETHYLENE |
| IN WC | INCHES OF WATER COLUMN |
| L/s | LITERS PER SECOND |
| MAX | MAXIMUM |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| N/A | NOT APPLICABLE |
| NC | NORMALLY CLOSED |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| OD | OUTSIDE DIAMETER |
| PBD | PARALLEL BLADE DAMPER |
| PRV | PRESSURE REDUCING VALVE |
| PSI | POUNDS PER SQUARE INCH |
| QTY | QUANTITY |
| SD | SMOKE DAMPER |
| SQ | SQUARE |
| T&P VALVE | TEMPERATURE AND PRESSURE VALVE |
| TK | TANK (UNSPECIFIED SERVICE) |

EQUIPMENT TAG ABBREVIATIONS

| ABBREVIATION | COMMODITY |
|--------------|---------------------------------------|
| AHU | AIR HANDLING UNIT |
| AS | AIR SYSTEM UNIT |
| AST | AIR SEPARATOR SYSTEM UNIT |
| B | BOILER |
| CC | COOLING COIL |
| CU | CONDENSING UNIT |
| DG | DOOR GRILLE |
| E | EXHAUST GRILLE |
| F | FAN |
| L | INTAKE OR EXHAUST LOUVER |
| MAU | MAKE-UP AIR UNIT |
| P | PUMP |
| R | RETURN GRILLE |
| RP | RADIANT PANEL |
| RTU | ROOF TOP UNIT |
| S | SUPPLY GRILLE OR DIFFUSER |
| T | TRANSFER GRILLE |
| VAV | VARIABLE AIR VOLUME BOX/ TERMINAL BOX |
| TK | TANK |
| UH | UNIT HEATER |



DO NOT SCALE DRAWINGS

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PUBLIC WORKS & GOVERNMENT SERVICES CANADA

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Client/client
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MECHANICAL LEGEND

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