

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

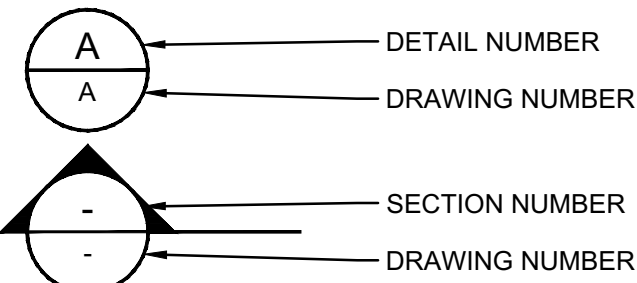
PIPING SYMBOL SCHEDULE

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

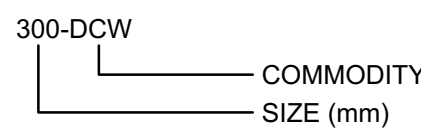
SYMBOL	DESCRIPTION
	KEYNOTE
	COORDINATE MARKER

SOFT METRIC CONVERSION CHART

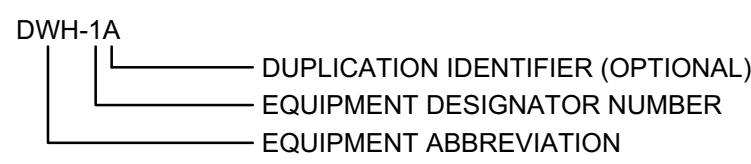
NOMINAL DUCT SIZES		NOMINAL PIPE SIZES	
IMPERIAL (IN)	METRIC (mm)	IMPERIAL (IN)	METRIC (mm)
		1/8	6
3	80	1/4	8
4	100	3/8	10
5	125	1/2	15
6	150	3/4	20
7	175	1	25
8	200	1-1/4	30
9	225	1-1/2	40
10	250	2	50
12	300	2-1/2	65
14	350	3	80
16	400	3-1/2	90
18	450	4	100
20	500	5	125
22	550	6	150
24	600	8	200
26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

- NOTE:
- 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
—DHW—	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

Revision/Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	2017.08.16

PUBLIC WORKS & GOVERNMENT SERVICES CANADA

Project title/Titre du projet

EDMONTON MAXIMUM SECURITY INSTITUTION

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PUBLIC WORKS & GOVERNMENT SERVICES CANADA

Drawing title/Titre du dessin
MECHANICAL LEGEND

Project No./No. du projet
R.078013.001

Sheet/Feuille
M1

Revision no./La Révision no.
0

OF 103