
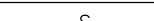














240 SPARKS STREET, OTTAWA, ONTARIO
MECHANICAL







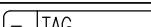
DRAWING LIST	
SYMBOL	DESCRIPTION
M1	MECHANICAL DRAWING LIST, LEGEND, DETAILS & SCHEDULES
M2	MECHANICAL FIRE PROTECTION & PLUMBING DEMOLITION
M3	MECHANICAL FIRE PROTECTION & PLUMBING NEW WORK
M4	MECHANICAL HVAC DEMOLITION
M5	MECHANICAL HVAC NEW WORK
M6	MECHANICAL CONTROLS NEW WORK

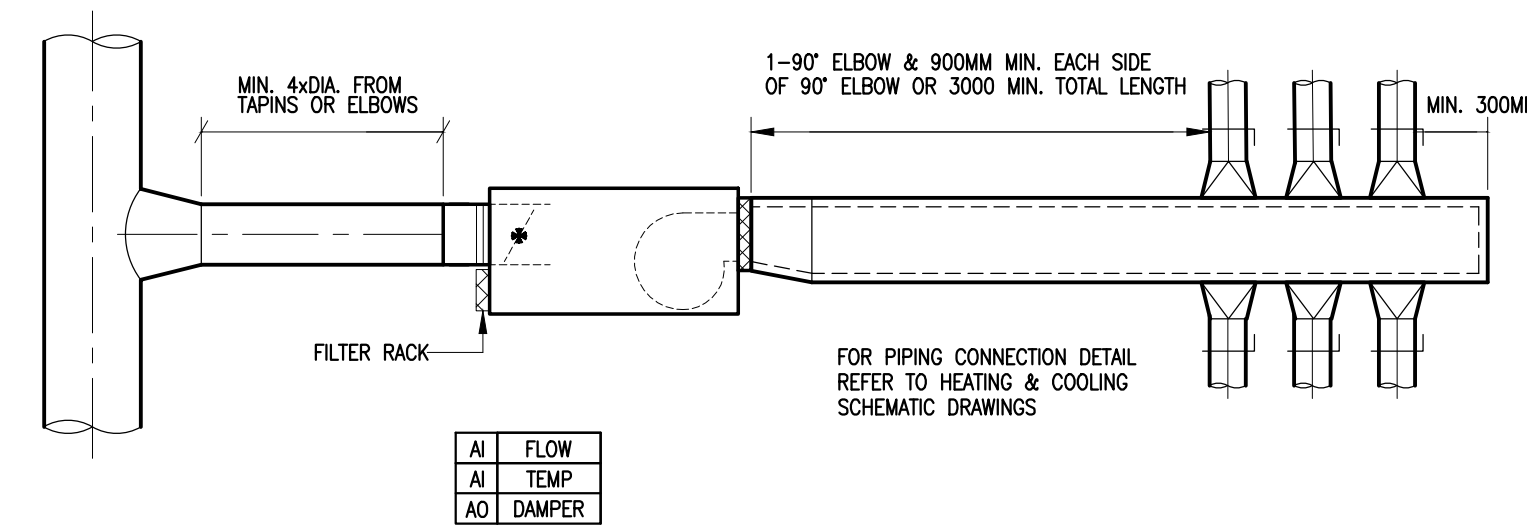
GENERAL LEGEND	
SYMBOL	DESCRIPTION
—————	EXISTING PIPING/DUCTWORK/EQUIPMENT
-----	EXISTING PIPING/DUCTWORK/EQUIPMENT TO BE REMOVED/RELOCATED
—————	NEW/RELOCATED PIPING/DUCTWORK/EQUIPMENT
(E)	DENOTES EXISTING EQUIPMENT
(R)	DENOTES RELOCATED EQUIPMENT
(N)	DENOTES NEW EQUIPMENT
(X)	DENOTES EQUIPMENT TO BE REMOVED

FIRE PROTECTION LEGEND	
SYMBOL	DESCRIPTION
	FIRE STANDPIPE
	SPRINKLER PIPE
	SEMI-RECESSED SPRINKLER
	CONCEALED SPRINKLER
	DRY SPRINKLER
	UPRIGHT SPRINKLER
	HIGH TEMPERATURE UPRIGHT SPRINKLER
	WINDOW SPRINKLER
	SIDEWALL SPRINKLER
	FIRE EXTINGUISHER
	FIRE HOSE CABINET
	FLOW SENSOR
	SUPERVISED VALVE
	INSPECTOR TEST STATION

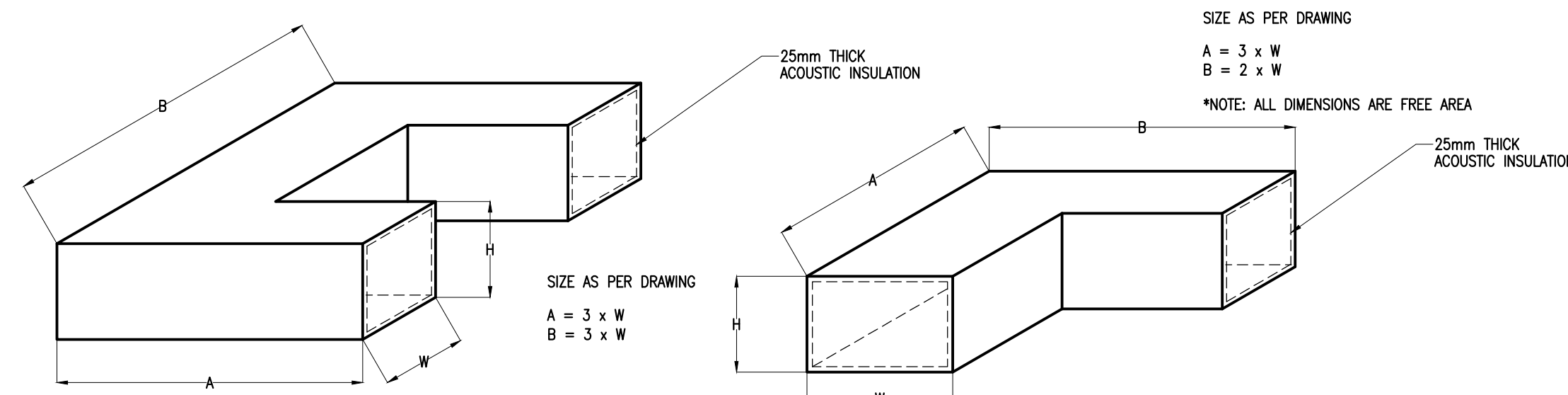
PLUMBING/UTILITIES LEGEND	
SYMBOL	DESCRIPTION
— — — — —	PIPING BELOW GRADE/SLAB
— DOW —	DOMESTIC COLD WATER PIPING
— DHW —	DOMESTIC HOT WATER PIPING
— DHWR —	DOMESTIC HOT WATER RECIRCULATION PIPING
— SAN —	SANITARY PIPING
— ST —	STORM PIPING
— COND —	CONDENSATE PIPING
— V —	VENT PIPING
— HWS —	HEATING WATER SUPPLY
— HWR —	HEATING WATER RETURN
— S —	SPRINKLER PIPING
— F —	FIRE STANDPIPE PIPING
— RL —	REFRIGERANT LIQUID
— RS —	REFRIGERANT SUCTION
— CCS —	CHILLED GLYCOL SUPPLY PIPING
— CSR —	CHILLED GLYCOL RETURN PIPING
— CHWS —	CHILLED WATER SUPPLY PIPING
— CHWR —	CHILLED WATER RETURN PIPING
FD1	FLOOR DRAIN (TYPE)
— O —	PIPING OFFSET
— B —	BRANCH PIPING DOWN
— D —	PIPING DOWN
— U —	PIPING UP
⌈	CAP
⌋	P-TRAP
— HD —	CLEAN OUT
— BCO —	FLOOR CLEAN OUT
— IS —	ISOLATION VALVES
BA	CIRCUIT BALANCING VALVE
BFV	BACK FLOW PREVENTER
PRV	PRESSURE REGULATING VALVE
U	SCREWED UNION
AV	AUTOMATIC AIR VENT C/W VALVE
T	THERMOMETER
PG	PRESSURE GAUGE C/W VALVE
P	PUMP (P)
AC	A/C UNIT
CU	CONDENSER UNIT (CU)
RH	REHEAT COIL (RH)
S	STRAINER
CV	CHECK VALVE
COV	CONTROL VALVE
RV	RELIEF VALVES

HVAC LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR DUCTWORK
	ROUND DUCTWORK
	ACOUSTICALLY LINED DUCTWORK (RETURN OR SUPPLY)
	SILENCER (SIL)
	ROUND DUCTWORK OFFSET
	RECTANGULAR DUCTWORK OFFSET
	DUCTWORK UP
	DUCTWORK DOWN
	RECTANGULAR TO ROUND TRANSITION
	TAKE-OFF C/W BALANCING DAMPER
	TAKE-OFF
	ANNULAR JET DIFFUSER
	SQUARE SUPPLY DIFFUSER (TYPE)
	LINEAR SUPPLY DIFFUSER (TYPE)
	SUPPLY GRILLE (SG)
	RETURN GRILLE (RG)
	EXHAUST GRILLE (EG)
	TRANSFER GRILLE (TG)
	TRANSFER OPENING (TO)
	ACOUSTICALLY LINED TRANSFER DUCT (TD)
	BALANCE DAMPER (BD)
	MOTORIZED DAMPER
	FIRE DAMPER (FD)
	FLEXIBLE CONNECTION
	VARIABLE AIR VOLUME BOX (VAV)
	MULTI-OUTLET ATTENUATOR
	TURNING VANES
	INLINE CABINET FAN (TYPE)
	DIFFUSER TAG
	DIFFUSER TYPE
	AIRFLOW TYPE
	NECK SIZE

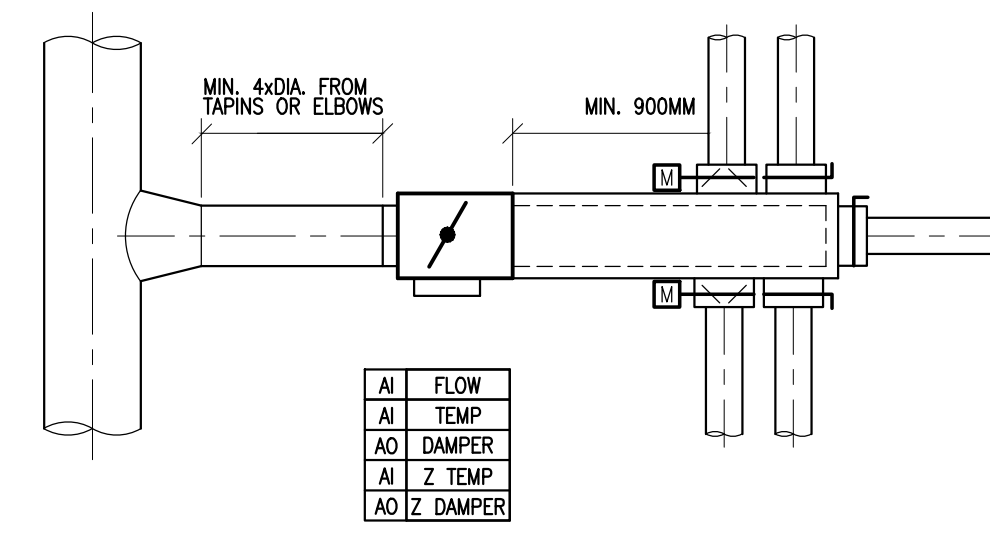
CONTROLS LEGEND	
SYMBOL	DESCRIPTION
	LOW VOLTAGE CONTROL WIRING
	THERMOSTAT
	THERMOSTAT (CEILING MOUNTED)
	SPEED CONTROLLER
	LIGHTING AND INTEGRATED CONTROL (LIC) MODULE
	SOLAR SENSOR
	DDC CONTROL POINT



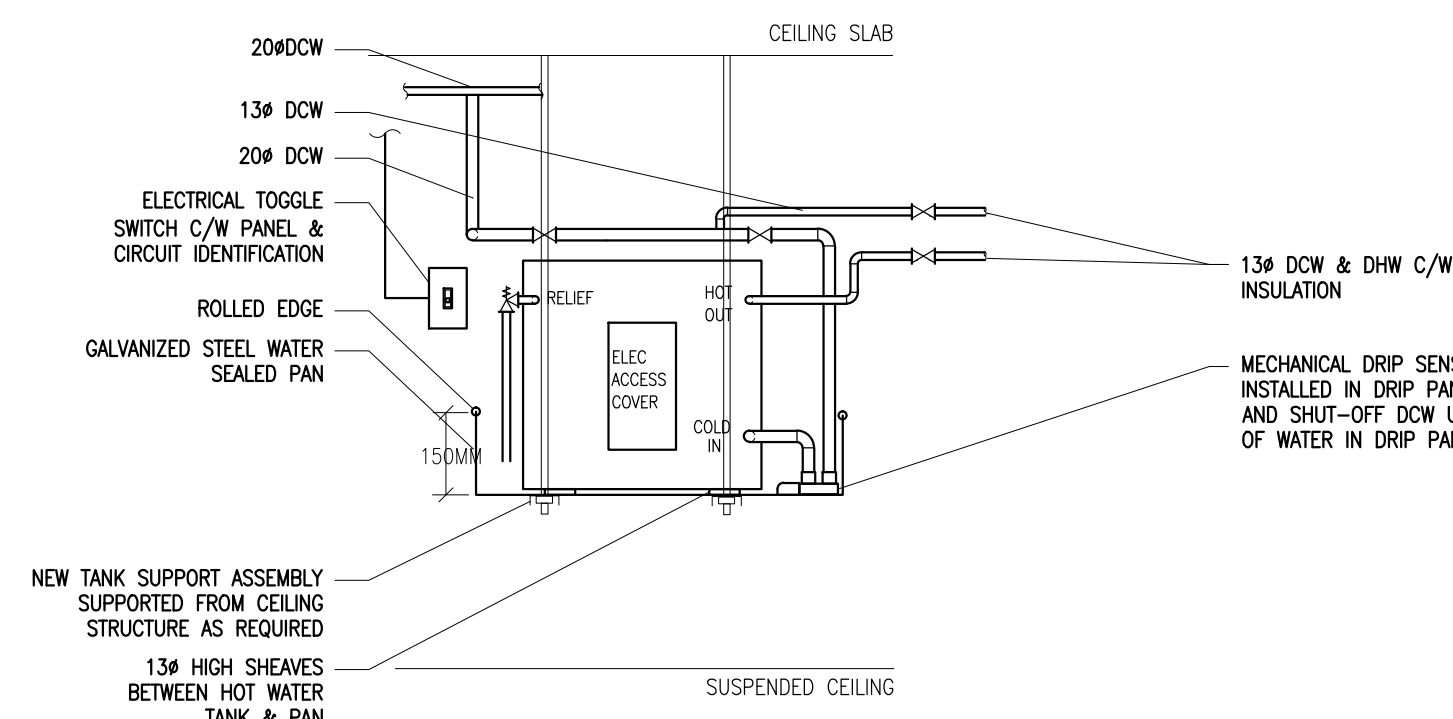
HVAC
TYPICAL FAN POWERED BOX WITH REHEAT



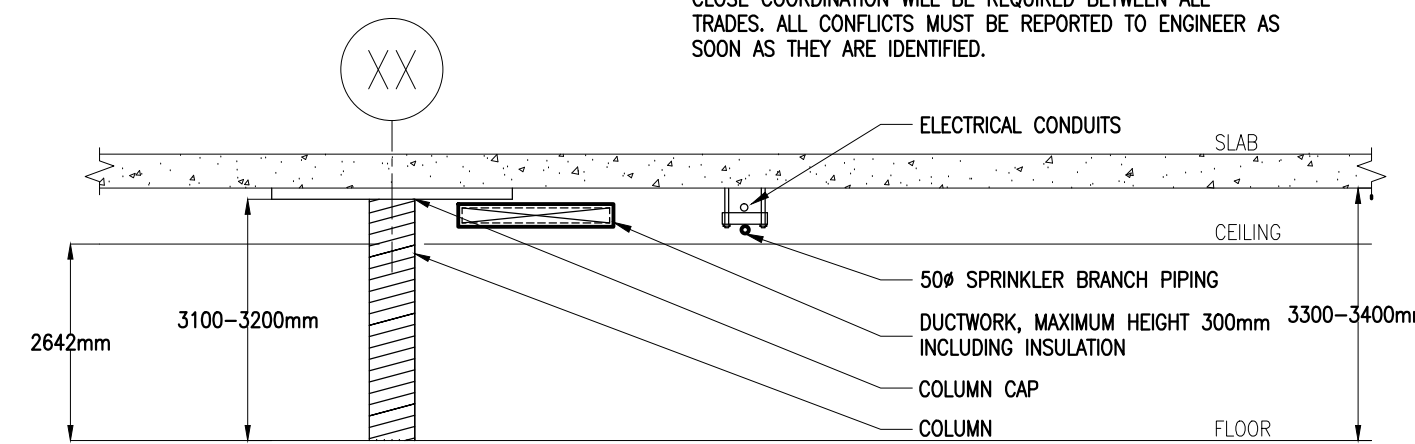
2
M1



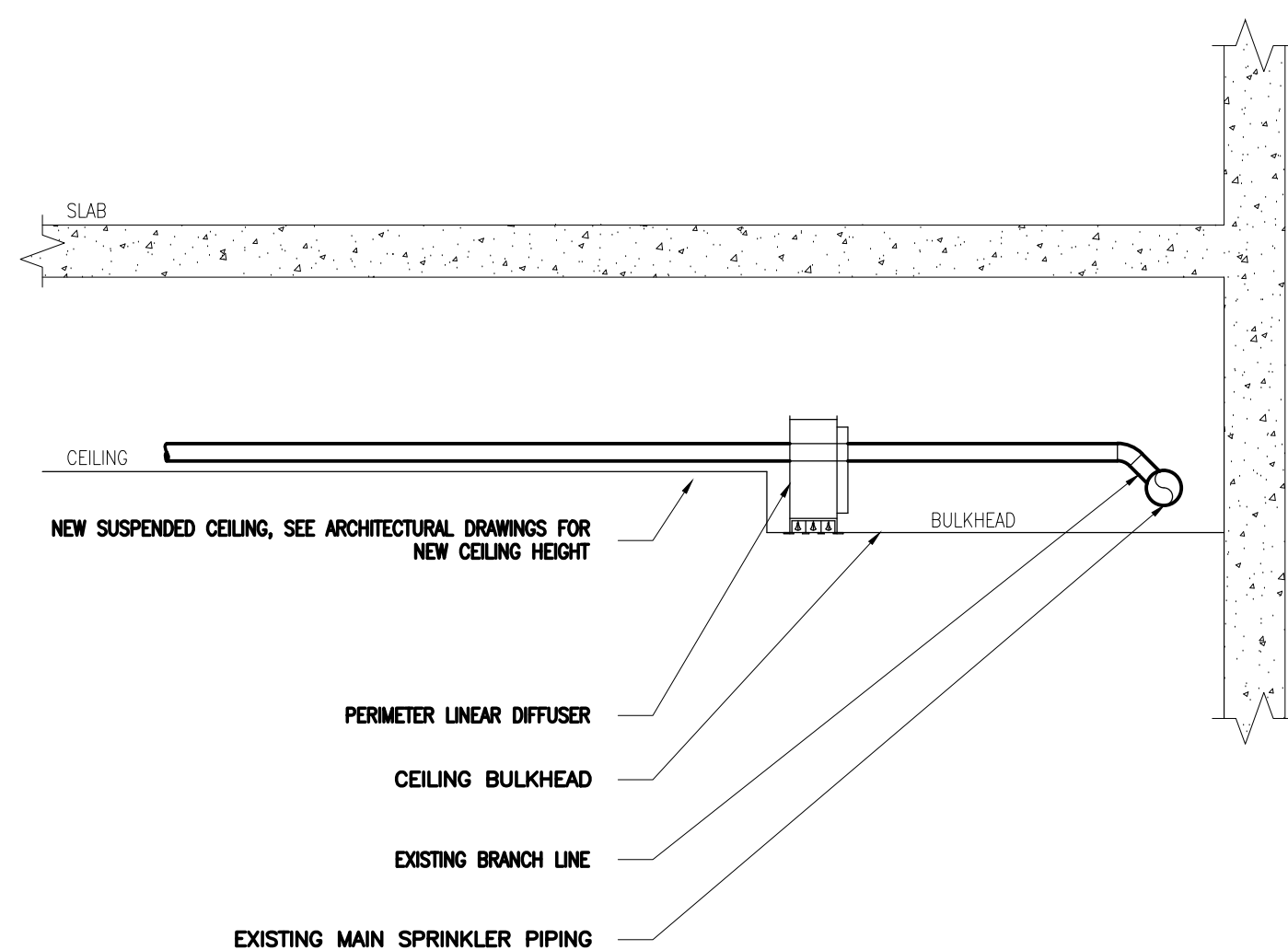
HVAC
TYPICAL VAV BOX



CEILING MOUNTED
DOMESTIC HOT WATER TANK (DHWT)



ELEVATION
GENERAL TRADE COORDINATION



ELEVATION
TYP. PERIMETER BULKHEAD

UNIT NO.	WIDTH (mm)	HEIGHT (mm)	REMARKS
TD1/T.O1	200	200	-
TD2/T.O2	300	250	-
TD3/T.O3	450	250	-

VAV TERMINAL UNIT SCHEDULE				
UNIT NO.	INLET (mm)	MAX. AIR FLOW (L/s)	OUTLET (mm x mm)	REMARKS
VAV-6	150	150	300 x 200	-
VAV-8	200	350	300 x 250	-
VAV-10	250	500	350 x 300	-
VAV-12	300	750	400 x 350	-
NOTES: 1. BALANCE VAV BOX MAXIMUM FLOWS TO TOTAL OF CONNECTED DIFFUSERS 2. AIR FLOW COEFFICIENT (Kv) = 1.0				

FAN POWERED TERMINAL UNIT SCHEDULE												
UNIT NO.	LOCATION	MAX. PRIMARY AIR (L/s)	MIN. PRIMARY AIR (L/s)	MAX. RETURN AIR (L/s)	TOTAL SUPPLY AIR (L/s)	INLET DIAMETER (mm)	MOTOR SIZE (HP)	FILTERS	ELECTRICAL DATA		CONTROL TYPE (PNEU/EL/DC)	REMARKS
									V/Ph/Hz	FLA		
FPB01A6B	ROOM 1W 117B	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
FPB02	ROOM 1W 130	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
FPB03	ROOM 1W 142	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS. 2. ALL FPB SHALL HAVE A SINGLE POINT POWER SUPPLY.												

FAN SCHEDULE												
UNIT NO.	LOCATION	FUNCTION	FAN DATA						ELECTRICAL DATA			REMARKS
			TYPE	DRIVE (BELT/DIRECT)	AIR FLOW (L/s)	ESP (Pa)	FAN SPEED (RPM)	SONES	V/PH/Hz	MOTOR (WATTS)	BHP	
TF1	KITCHENETTE 1W 122	EXHAUST	CEILING	DIRECT	100	125	1000	2.5	120/1/60	83.1	—	C/W SPEED CONTROLLER
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS. 2. EQUIPMENT SHALL BE AS SPECIFIED.												

ELECTRIC DOMESTIC WATER HEATER SCHEDULE						
UNIT NO.	LOCATION	INPUT (KW)	STORAGE CAPACITY (LITRES)	RECOVERY RATE (L/s) @ 38 ΔC	ELECTRICAL DATA V/PH/Hz AMPS	REMARKS
DHW1	KITCHENETTE 1W 122	1.5	25	—	120/1/60	—
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.						

UNIT NO.	LOCATION	TOTAL CAPACITY (kW)	SENSIBLE CAPACITY (kW)	ENTERING WATER TEMP (°C)	CHILLED WATER FLOW RATE (L/s)	SUPPLY AIR (L/s)	SUPPLY FAN ESP (Pa)	HWM CAPACITY (kg/hr)	FAN MOTOR (HP)	ELECTRICAL DATA		REMARKS
										V/Ph/Hz	MCA/MGP	
AC1	ELECTRICAL ROOM	7.1	6.5	5.5	0.33	590(HIGH) 472(LLOW)	75	-	1/2	208/1/60	-	CEILING MOUNTED, C/W AIR DISTRIBUTION PLENUM
AC2	TELECOM ROOM 1W 12B	17.0	14.6	-	1.03 (2.0/0.0)	1180	125	3.6	1.5	208/3/60	-	CEILING MOUNTED, C/W ELECTRIC REHEAT 11.5kW (ONE STAGE), CANISTER STEAM HUMIDIFIER BO SUPPLY DUCTING, SWEAT ADAPTER KIT, SPLIT CO/COL COOLED CONDENSING UNIT.
AC3	ELECTRICAL ROOM	7.9	5.5	5.5	0.24	345	75	-	1/5	208/1/60	-	FLOOR MOUNTED C/W AIR DISTRIBUTION PLENUM

NOTES:

1. FOR DETAILS REFER TO SPECIFICATIONS.
2. ALL AC UNITS TO HAVE BAGNET INTERFACE.
3. ALL AC UNITS TO HAVE WALL MOUNTED THERMOSTAT/CONTROLLER.

PUMP SCHEDULE												
UNIT NO.	LOCATION	FUNCTION	TYPE	PUMP DATA					ELECTRICAL DATA		REMARKS	
				DESIGN FLOW (l/s)	DESIGN HEAD (kPa)	2nd FLOW POINT (l/s)	2nd HEAD POINT (kPa)	RPM	MIN. EFFICIENCY (%)	HP		V/PH/Hz
P1	HITCHENETTE TW 122	DRAIN PUMP	WET ROTOR	1.0	45	1.5	30	3450	-	1/3	120/1/60	LOCATED UNDER S1
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.												

FAN POWERED TERMINAL UNIT SCHEDULE												
UNIT NO.	LOCATION	MAX. PRIMARY AIR (L/s)	MIN. PRIMARY AIR (L/s)	MAX. RETURN AIR (L/s)	TOTAL SUPPLY AIR (L/s)	INLET DIAMETER (mm)	MOTOR SIZE (HP)	FILTERS	ELECTRICAL DATA		CONTROL TYPE (PNEU/EL/DOC)	REMARKS
									V/Ph/Hz	FLA		
FPB01A6B	ROOM 1W 117B	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
FPB02	ROOM 1W 130	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
FPB03	ROOM 1W 142	250	50	250	300	200	1/2	25mm THICK	120/1/60	5.8	DDC	C/W DISCONNECT SWITCH, ECM MOTOR, INLET & DISCHARGE SILENCER, HANGER BRACKETS & RETURN FILTER ASSEMBLY
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS. 2. ALL FPB SHALL HAVE A SINGLE POINT POWER SUPPLY.												

FAN SCHEDULE												
UNIT NO.	LOCATION	FUNCTION	FAN DATA						ELECTRICAL DATA			REMARKS
			TYPE	DRIVE (BELT/DIRECT)	AIR FLOW (L/s)	ESP (Pa)	FAN SPEED (RPM)	SONES	V/PH/Hz	MOTOR (WATTS)	BHP	
TF1	KITCHENETTE 1W 122	EXHAUST	CEILING	DIRECT	100	125	1000	2.5	120/1/60	83.1	—	C/W SPEED CONTROLLER
NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS. 2. EQUIPMENT SHALL BE AS SPECIFIED.												