

GENERAL SPECIFICATIONS
1. GENERAL (ALL SPECIFICATIONS ON THIS SHEET AS APPLICABLE)
A. Work indicated on these drawings is diagrammatic and shall not be scaled. The drawings are intended to convey the scope of work and general arrangement of services. The Contractor shall verify all existing site conditions prior to installation and make all necessary adjustments to complete the works in accordance with the Contract Documents and UK statutory requirements.
B. Provide all labour, materials, plant, tools, equipment, and services necessary for the complete execution of the works in accordance with the Contract Documents. All incidental or supplementary items required for a complete, safe, and operational installation shall be deemed included, whether or not specifically shown or described, at no additional cost to the Employer.
C. All systems and equipment shall be fully installed, tested, commissioned, and left in a complete operational condition to the satisfaction of the Employer. The term "Provide" shall be interpreted as supply, install, test, and commission.
D. All materials and equipment shall be new, of good quality, fit for purpose, and compatible with existing systems where interfaces occur. Installation shall be in accordance with manufacturers' instructions, relevant British Standards, CIBSE guidance, and recognised good engineering practice.
E. Where existing services or building elements obstruct new works, the Contractor shall coordinate and rearrange such items as required, subject to approval by the Contract Administrator, and without additional cost.
F. Written approval shall be obtained prior to cutting or forming penetrations through slabs, walls, ceilings, roofs, or fire compartments. All disturbed finishes shall be reinstated to match existing. All fire-resisting elements shall be reinstated to maintain required fire resistance in accordance with Approved Document B.
G. Maintain the site in a clean and safe condition at all times in accordance with CDM Regulations 2015. Remove waste daily. Upon completion, clear the site of all tools, materials, and debris and leave areas clean and ready for occupation.
2. COORDINATION AND PROGRAMMING
A. The Contractor shall fully coordinate all trades and verify existing conditions to prevent clashes in routing, access, or programme.
B. The Contractor is responsible for coordination between subcontractors, suppliers, statutory authorities, utility providers, the Client, and the Design Team.
C. No installation shall commence until all site dimensions, structural constraints, existing services, and retained fixtures have been verified.
D. Works shall be programmed and phased to minimise disruption to occupied areas. A detailed programme shall be submitted for approval. Temporary partitions or protection shall be provided where required.
E. Provide a minimum of fourteen (14) days' written notice prior to any planned shutdown of utilities. Written approval shall be obtained before shutdown.
F. The Contractor shall be deemed to have inspected the site and fully understood all conditions affecting the works. No claims shall be entertained for failure to do so.
3. STATUTORY COMPLIANCE, PERMITS AND INSPECTIONS (UK)
A. All works shall comply with the latest editions of applicable UK legislation and standards, including but not limited to: Building Regulations (England/Wales)
Approved Documents A, B, F, G, L, M
BS and EN Standards
CIBSE Guides
Health and Safety at Work Act 1974
CDM Regulations 2015
B. The Contractor shall obtain all required approvals, inspections, and completion certificates from Building Control and relevant Authorities Having Jurisdiction.
C. All works shall comply with statutory utility provider requirements and local authority regulations.
D. Where Contract Documents exceed statutory minimum requirements, the Contract Documents shall take precedence. Any conflict shall be reported in writing prior to installation.
E. The Contractor shall comply with all UK health, safety, and environmental legislation, including COSHH and waste management regulations.
F. All works shall comply with the requirements of relevant utility companies and network operators.
4. WARRANTY
A. All workmanship and materials shall be warranted for a minimum period of twelve (12) months from the date of Practical Completion. Defects arising during this period shall be remedied at no cost to the Employer.
5. SHOP DRAWINGS
A. Submit electronic shop drawings, manufacturers' data sheets, and performance information for all equipment for review and approval prior to installation.
6. RECORD DRAWINGS / AS-BUILT INFORMATION
A. Maintain a complete set of marked-up drawings on site recording all changes. Upon completion, provide electronic and hard-copy as-built drawings and manuals in accordance with CIBSE TM31 / Soft Landings principles, if applicable.

DUCTWORK & INSULATION
SHEET METAL DUCTWORK
A. All ductwork shall be galvanised steel fabricated and installed in accordance with DW/144 and BS EN 1507 / BS EN 12237.
B. All ductwork routes shall be site-verified prior to fabrication.
C. Duct leakage classes shall comply with DW/143. Testing shall be carried out where required.
D. Turning vanes shall be installed in elbows as recommended by DW/144.
E. Flexible duct connections shall be limited in length and installed in accordance with BS EN 13180.
F. Exposed ductwork shall be single-skin galvanised steel with approved seams.
DUCT INSULATION & ACOUSTIC LINING
Thermal Insulation Insulation thickness shall comply with Approved Document L and CIBSE Guide A.
Insulation Materials Insulation shall achieve appropriate fire performance in accordance with BS EN 13501-1.
Acoustic Lining Acoustic lining shall comply with BS EN ISO 11654 and be mould-resistant.

PIPING & INSULATION
REFRIGERANT & CONDENSATE PIPEWORK
1. Refrigerant pipework shall comply with BS EN 378 and manufacturer requirements.
1. Pipe identification shall comply with BS 1710.
3. Pipe routing shall not obstruct equipment servicing.
4. Condensate pipework shall be PVC-U or equivalent and installed to falls per Approved Document H.
5. Traps shall be provided where required.
6. Dissimilar metals shall be isolated to prevent corrosion.
PIPE INSULATION
1. Pipe insulation shall comply with Approved Document L.
2. External insulation shall be weather-protected.
3. Fire stopping shall comply with Approved Document B and BS 476 / BS EN 1366.

MECHANICAL CODE NOTES
1. No ductwork or pipework shall be installed above electrical switchgear, distribution boards, or control panels in accordance with BS 7671 and good engineering practice.
2. Materials within air plenums shall be non-combustible or achieve Class 0 or Class 1 fire classification in accordance with Approved Document B and BS EN 13501-1.
3. Verify roof warranty status prior to works. All roof penetrations shall be carried out by approved contractors.
4. Ductwork and horizontal pipework shall be installed as high as practicable and coordinated to avoid clashes.
5. Provide adequate access for maintenance, filter replacement, valves, and electrical isolation in accordance with CIBSE Guide M.
6. Structural approval shall be obtained for equipment loads exceeding manufacturer or structural limits.
7. Motorised dampers shall be provided on all outdoor air and exhaust air ducts where required by Approved Document F.
8. Provide balancing dampers on all main and branch ducts.
9. Fire dampers shall be installed where ductwork penetrates fire compartments in accordance with BS 9999 and BS EN 1366.
10. Provide access panels for fire, smoke, and control dampers.
11. Access panels shall be provided for all concealed valves and dampers.
12. Provide remote volume control where dampers are inaccessible.
13. External vents shall be corrosion-resistant and suitable for UK environmental conditions.

CONTROLS
1. Controls installation and commissioning shall be undertaken by competent specialists.
2. Thermostats shall be insulated from cold bridging on external walls.
3. Thermostats shall be installed at appropriate heights and coordinated with the Design Team.
4. Provide all required interfaces for full system control.
5. Demonstrate and commission all systems prior to handover in accordance with CIBSE Commissioning Codes.

TESTING & BALANCING
1. Scope Testing and balancing shall be carried out by competent commissioning specialists in accordance with CIBSE Commissioning Codes A, B, and M.
2. Pre-conditions All systems shall be complete, clean, and operational prior to commissioning.
3. Documentation Provide commissioning reports demonstrating compliance with design performance.
4. Recorded Data Record airflow rates, temperatures, capacities, and electrical data.
5. Functional Testing Demonstrate heating and cooling operation and record performance results.

ABBREVIATIONS			
(E)	EXISTING TO REMAIN	IN WG	INCHES OF WATER GAUGE
(R)	EXISTING TO BE REMOVED AND RELOCATED	KW	KILOWATTS
(RE)	RELOCATED EQUIPMENT	LAT	LEAVING AIR TEMPERATURE
ACU	AIR HANDLING UNIT	LBS	POUNDS
AFF	ABOVE FINISH FLOOR	LRA	LOCKED ROTOR AMPS
AHL	AIR HANDLING UNIT	LWT	LEAVING WATER TEMPERATURE
BA	BUILDING AUTOMATION SYSTEM	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
BTU	BRITISH THERMAL UNITS PER HOUR	MCA	MINIMUM CIRCUIT AMPACITY
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CELG	CEILING	MOCP	MAX OVER-CURRENT PROTECTION
DE	DRY BULB TEMPERATURE	OA	OUTSIDE AIR
DP	DRAIN	PD	PRESSURE DROP
ENT	ENTERING AIR TEMPERATURE	PH	PHASE
EF	EXHAUST FAN	PSI	POUNDS PER SQUARE INCH
EFF	EFFICIENCY	RA	RETURN AIR
ESP	EXTERNAL STATIC PRESSURE	RH	RELATIVE HUMIDITY
EWB	ENTERING WET BULB TEMPERATURE	RLA	RUNNING LOAD AMPS
EWT	ENTERING WATER TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
°F	DEGREES FAHRENHEIT	SA	SUPPLY AIR
FLA	FULL LOAD AMPS	SL	SOUND LINING
FPB	FAN POWERED BOX	TYP	TYPICAL
FT	FOOT, FEET	TF	TRANSFER FAN
GPM	GALLONS PER MINUTE	V	VOLT, VOLTS
HP	HORSEPOWER	VAV	VARIABLE AIR VOLUME
HZ	HERTZ (CYCLES PER SECOND)	W	WITH
IN	INCH, INCHES	WB	WET BULB TEMPERATURE
		WG	WATER GAUGE

HVAC SYMBOLS	
SYMBOL	DESCRIPTION
	EXISTING DUCTWORK, EQUIPMENT OR PIPING TO REMAIN
	EXISTING DUCTWORK, EQUIPMENT OR PIPING TO BE REMOVED OR RELOCATED
	NEW OR RELOCATED DUCTWORK, EQUIPMENT OR PIPING
	DUCTWORK WITH SOUNDLINING
	SUPPLY DUCT TURNING UP
	RETURN/EXHAUST DUCT TURNING UP
	SUPPLY DUCT TURNING DOWN
	RETURN/EXHAUST DUCT TURNING DOWN
	TRANSITION IN DUCT, SQUARE TO SQUARE
	TRANSITION IN DUCT, SQUARE TO ROUND
	SQUARE THROAT DUCT ELBOW WITHOUT TURNING VANES
	SQUARE THROAT DUCT ELBOW WITH TURNING VANES
	RADIUS ELBOW
	45 DEGREE TAP
	SPIN-IN RUNOUT FITTING WITH BALANCING DAMPER AND FLEXIBLE DUCT
	CONICAL TAP
	FLEXIBLE DUCT
	FLEXIBLE DUCT CONNECTION
	RECTANGULAR SUPPLY AIR DIFFUSER
	RETURN AIR GRILLE
	HUMIDISTAT, THERMOSTAT, CO2 SENSOR
	EXHAUST FAN
	SIDE WALL/DUCT REGISTER
	CFM DESIGNATION SYMBOL & QUANTITY
	KEYED NOTE, DEMOLITION
	KEYED NOTE, NEW WORK
	POINT OF REMOVAL
	POINT OF CONNECTION TO EXISTING
	DIFFUSER OR GRILLE DESIGNATION SYMBOL
	ACCESS DOOR, SIZE ON FLOOR PLANS
	RECTANGULAR SUPPLY AIR DIFFUSER
	VOLUME DAMPER
	FD: FIRE DAMPER SD: SMOKE DAMPER MD: MOTORIZED DAMPER FSD: COMBINATION FIRE/SMOKE DAMPER BDD: BACKDRAFT DAMPER
	VAV TAG: TYPE, BOX NUMBER AIRFLOW AND KW
	VAV BOX TYPE V-SHUT-OFF TYPE VAV BOX S-SERIES FAN POWERED BOX P-PARALLEL FAN POWERED BOX



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STRUCTURES.

REFERENCE:

REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

HEALTH CARE

TITLE:

GENERAL NOTE FOR HVAC
PLAN

PROJ. NO.

PROJ. ENGR.

SCALE @ 24X36:
N/A

DATE :

August 28, 2026

DRAWING NO.
M - 0 0

REV.



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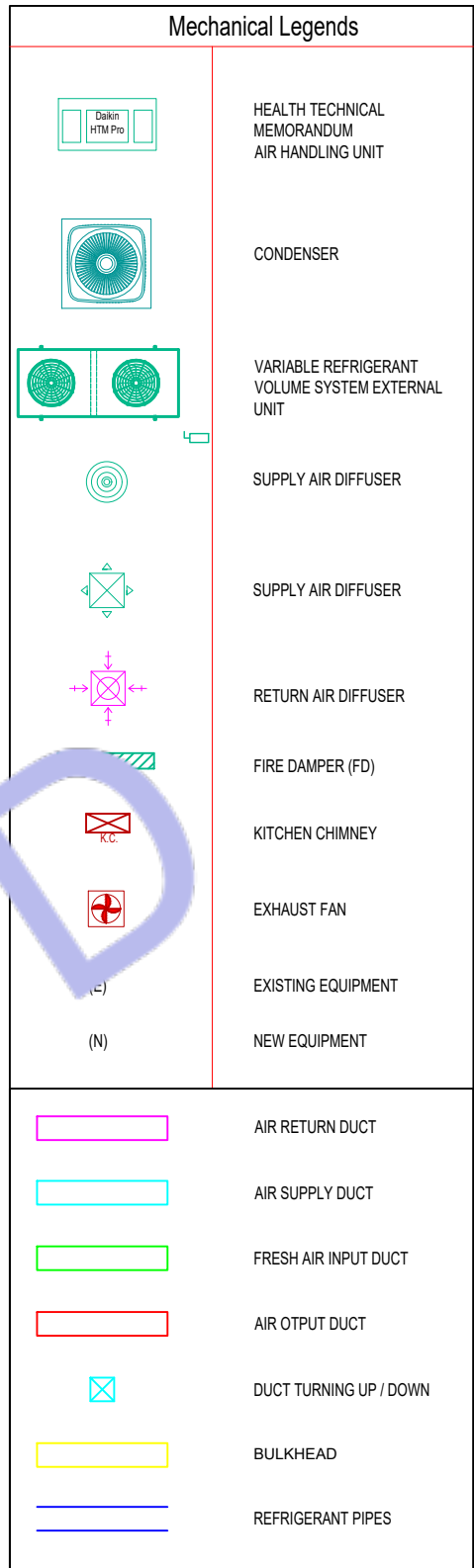
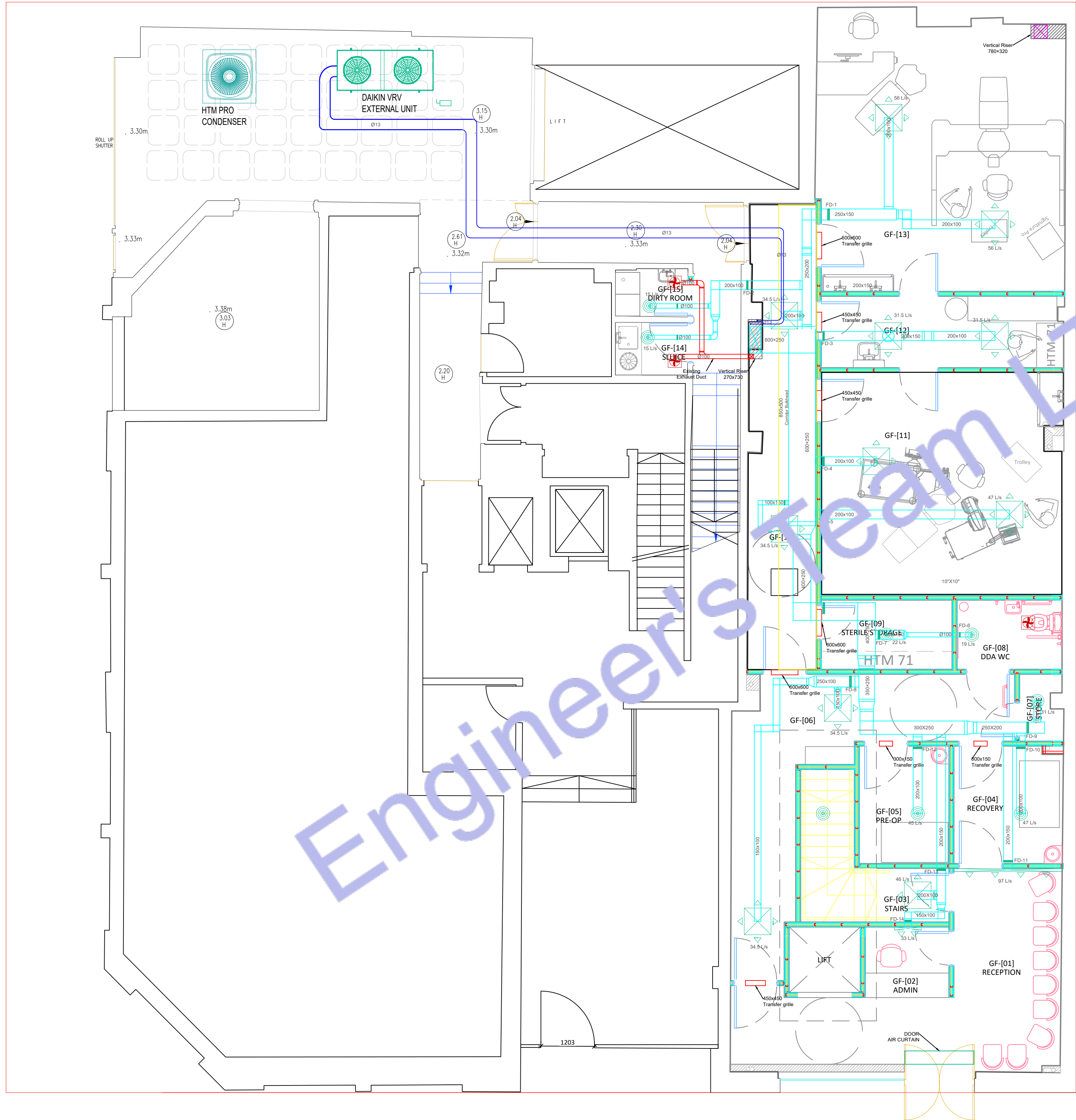
PROJECT:
HEALTH CARE

TITLE:
GROUND FLOOR HVAC PLAN

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:
1/128" = 1' 0"

DATE :
August 28, 2026

DRAWING NO. REV.
M - 0 1



Ceiling Plenum Return System:
RETURN AIR SHALL BE VIA THE CEILING PLENUM SYSTEM. AIR
SHALL TRANSFER FROM CLINICAL ROOMS THROUGH DOOR
UNDERCUTS AND/OR HIGH LEVEL TRANSFER GRILLES INTO THE
CORRIDOR CEILING VOID, THEN RETURN TO THE HTM AIR HANDLING
UNIT. NO DEDICATED RETURN AIR DIFFUSERS ARE PROVIDED
UNLESS NOTED OTHERWISE.

RETURN AIR VIA CEILING PLENUM TO HTM AHU.

Corridor Bulkhead:
PROVIDE DROPPED PLASTERBOARD BULKHEAD, 800 mm WIDE x 800
mm DEEP. TO CONCEAL MAIN SUPPLY DUCTWORK. BULKHEAD
SHALL BE COORDINATED WITH ARCHITECTURAL CEILING LEVELS
AND MAINTAIN REQUIRED CLEARANCES FOR ACCESS. FIRE
DAMPERS, AND BUILDING SERVICES. REFER TO HVAC SECTIONS
FOR DETAILS.

Fire Stopping Detail:
ALL DUCTS, PIPES, CABLES, AND SERVICES PASSING THROUGH
FIRE-RATED WALLS, FLOORS, RISERS, AND BULKHEADS SHALL BE
SEALED USING APPROVED FIRE-STOPPING SYSTEMS TO MAINTAIN
THE REQUIRED FIRE RESISTANCE RATINGS OF THE BUILDING
ELEMENT.
PROVIDE INTUMESCENT FIRE-STOPPING MATERIAL AROUND ALL
SERVICE PENETRATIONS IN ACCORDANCE WITH THE
MANUFACTURER'S TESTED SYSTEM AND PROJECT FIRE STRATEGY.
ALL GAPS BETWEEN DUCTWORK AND BUILDING OPENINGS SHALL
BE SEALED WITH APPROVED FIRE-RATED SEALANT. INSTALLATION
SHALL COMPLY WITH THE FIRE STRATEGY AND THE
MANUFACTURER'S INSTALLATION REQUIREMENTS.
INSTALL FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH
FIRE-RATED CONSTRUCTION. PROVIDE 450 x 450 mm ACCESS
PANELS ADJACENT TO EACH FIRE DAMPER FOR INSPECTION,
TESTING, AND MAINTENANCE.

WC VENTILATION
All WC exhaust fans will be new, and it will connect with the existing exhaust
duct.

General Note:
1. NO NEW SLAB PENETRATIONS SHALL BE PROVIDED. UTILIZE
THE EXISTING 200 x 800 mm STREET GRILLES AND THE
EXISTING 800 x 300 mm RISER OPENING.
2. GROUND FLOOR CLINICAL AREAS SHALL BE SERVED BY ONE
DAIRY HTM PRO SEE 2. AIR HANDLING UNIT LOCATED IN THE
BASEMENT PLANT ROOM.
3. BASEMENT NON-CLINICAL AREAS SHALL BE SERVED BY THE
DAIRY HTM SYSTEM.
4. ALL DUCTWORK SHALL BE INSULATED WITH 25 mm THERMAL
INSULATION UNLESS NOTED OTHERWISE.
5. PROVIDE APPROVED FIRE-STOPPING AT ALL SERVICE
PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
6. PROVIDE 450 x 450 mm ACCESS PANELS ADJACENT TO ALL FIRE
DAMPERS.
7. ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE
FABRICATION OR INSTALLATION OF SERVICES.
8. ALL HVAC INSTALLATION SHALL BE FULLY COORDINATED WITH
ARCHITECTURAL STRUCTURAL, FIRE, AND ELECTRICAL
DRAWINGS PRIOR TO CONSTRUCTION.
9. THE CLINICAL VENTILATION SYSTEM HAS BEEN DESIGNED TO
FOLLOW THE PROJECT VENTILATION STRATEGY AND THE
RELEVANT REQUIREMENTS OF HTM (S) FOR THE IDENTIFIED
CLINICAL AREAS. FINAL COMMISSIONING AND VALIDATION
SHALL CONFIRM COMPLIANCE WITH THE DESIGN INTENT PRIOR
TO HANDOVER.

1 GROUND FLOOR HVAC PLAN
SCALE: 1/128" = 1'-0"



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REV. NO.	DESCRIPTION	DATE	BY

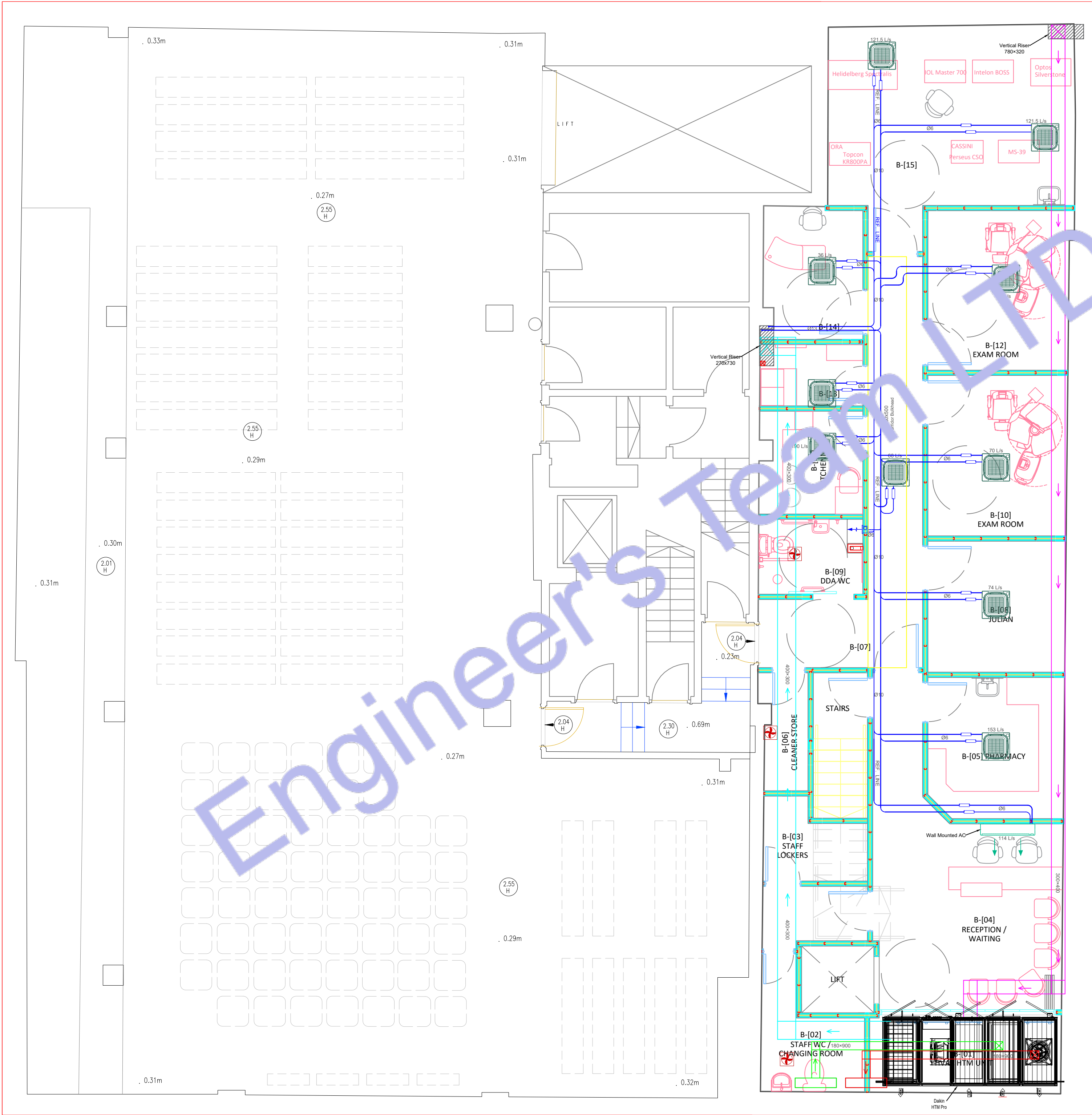
PROJECT: HEALTH CARE

TITLE: BASEMENT FLOOR HVAC
PLAN

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:
1/128" = 1' 0"

DATE : August 28, 2026

DRAWING NO. REV.
M - 0 2



2 BASEMENT FLOOR HVAC PLAN
SCALE: 1/128" = 1'-0"

Air System Information
Air System Name HTM Pro Size 2
Equipment Class SPLT AHU
Air System Type SZCAV
Number of zones 1
Floor Area 155.8 m²
Location London, Great Portla, United Kingdom

Sizing Calculation Information
Calculation Months Jan to Dec
Sizing Data Calculated
Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Central Cooling Coil Sizing Data	
Total coil load	11.5 kW
Sensible coil load	9.2 kW
Coil L/s at Jul 1900	758 L/s
Max block L/s	758 L/s
Sum of peak zone L/s	758 L/s
Sensible heat ratio	0.799
L/s (kW)	66.1
m³/kW	13.6
W/m²	73.6
Water flow @ 5.6 K rise	N/A
Load occurs at	Jul 1900
OA DB / WB	25.3 / 18.3 °C
Entering DB / WB	24.6 / 18.4 °C
Leaving DB / WB	14.6 / 13.9 °C
Coil ADP	13.2 °C
Bypass Factor	0.120
Resulting RH	56 %
Design supply temp.	12.5 °C
Zone T-stat Check	1 of 1 OK
Max zone temperature deviation	0.0 K

Central Heating Coil Sizing Data	
Max coil load	12.2 kW
Coil L/s at Des Htg	758 L/s
Max coil L/s	758 L/s
Water flow @ 11.1 K drop	N/A
Load occurs at	Des Htg
Ent. DB / Lvg DB	15.0 / 28.3 °C

Supply Fan Sizing Data	
Actual max L/s	758 L/s
Standard L/s	756 L/s
Actual max L/(s·m²)	4.87 L/(s·m²)
Fan motor BHP	0.00 BHP
Fan motor kW	0.00 kW
Fan static	0 Pa

Outdoor Ventilation Air Data	
Design airflow L/s	174 L/s
L/(s·m²)	1.12 L/(s·m²)
L/s/person	3.88 L/s/person

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Sizing Calculation Information
Calculation Months Jan to Dec
Sizing Data Calculated
Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/s (m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11.1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11.1 K	Mixing Box Fan Airflow (L/s)
Zone 1	758	758	4.87	0.0	-	0.0	-	0

Zone Name	Zone Cooling Sensible Peak (kW)	Time of Sensible Cooling Load (kW)	Zone Heating Load (kW)	Zone Floor Area (m²)
Zone 1	10.4	Jul 2100	8.1	155.8

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/s (m²)
Zone 1							
GF-01 RECEPTION	1	1.3	Jul 2000	94	1.2	18.5	5.09
GF-02 ADMIN	1	0.4	Jul 1900	32	0.3	3.0	10.83
GF-03 STAIRS	1	0.6	Jul 2100	46	0.7	6.7	6.85
GF-04 RECOVERY	1	0.6	Jul 2100	46	0.4	6.5	7.01
GF-05 PRE-OP	1	0.6	Jul 2100	44	0.3	5.3	8.31
GF-06	1	0.9	Jul 2100	67	1.1	15.4	4.35
GF-07 STORE	1	0.4	Jul 2100	30	0.2	1.4	21.26
GF-08 DDA WC	1	0.3	Jul 2100	19	0.3	3.6	5.25
GF-09 STERILE STORAGE	1	0.3	Jul 2100	21	0.3	4.6	4.63
GF-10	1	0.9	Jul 2100	67	1.1	15.7	4.27
GF-11 OT	1	1.3	Jul 2100	62	0.7	27.3	3.37
GF-12	1	0.8	Jul 2100	62	0.4	8.7	7.09
GF-13 OT	1	1.5	Jul 2100	109	0.9	35.5	3.08
GF-14 SLUICE	1	0.2	Jul 2100	15	0.2	1.9	7.94
GF-15 DIRTY ROOM	1	0.2	Jul 2100	15	0.2	1.7	8.54

Air System Information
Air System Name Daikin VRV
Equipment Class TERM
Air System Type VRF
Number of zones 1
Floor Area 104.5 m²
Location London, Great Portla, United Kingdom

Sizing Calculation Information
Calculation Months Jan to Dec
Sizing Data Calculated
Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load	Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB @ 5.6 K (°C)	Water Flow (L/s)	Time of Peak Coil Load	Zone L/s (m²)
Zone 1	14.0	11.9	24.5 / 17.7	13.9 / 13.1	-	Jun 1900	8.88

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @ 11.1 K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
Zone 1	8.5	16.6 / 24.3	-	928	0.000	0.000	161

	Cooling (kW)	Heating (kW)
Peak Coincident Indoor Unit Loads	11.9	8.5
Estimated Piping / Line Losses	0.0	0.0
Total Required ODU Capacity	11.9	8.5

Note: VRF piping / line losses are based on typical loss factors for this class of equipment. Actual line loss varies widely from one product to another. Therefore, when selecting equipment it is critical to consult manufacturer's guidance to utilize actual line loss data.

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible Peak (kW)	Time of Sensible Cooling Load (kW)	Zone Heating Load (kW)	Zone Floor Area (m²)
Zone 1	12.7	Jul 2100	3.9	104.5

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/s (m²)
Zone 1							
B-04 RECEPTION	1	1.5	Jul 2100	111	0.9	20.1	5.84
B-05 PHARMACY	1	2.1	Jul 2100	150	0.4	9.4	15.92
B-08 JULIAN	1	1.0	Jul 2100	72	0.5	20.1	3.58
B-10 EXAM ROOM	1	0.9	Jul 2100	68	0.4	10.8	6.32
B-11 KITCHENNETTE	1	2.5	Jul 2100	186	0.3	5.2	35.72
B-12 EXAM ROOM(1)	1	0.9	Jul 2100	68	0.4	10.8	6.32
B-14	1	0.5	Jul 2100	35	0.3	6.4	5.53
B-15	1	3.2	Jul 2100	237	0.7	21.7	10.92

1. Summary
Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 174 L/s

2. Space Ventilation Analysis									
Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s·m²)	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
GF-01 RECEPTION	1	18.5	10.0	94.2	2.50	0.30	0.0	0.0	30.6
GF-02 ADMIN	1	3.0	1.0	31.9	2.50	0.30	0.0	0.0	3.4
GF-03 STAIRS	1	6.7	3.0	45.9	2.50	0.30	0.0	0.0	9.5
GF-04 RECOVERY	1	6.5	2.0	45.5	2.50	0.30	0.0	0.0	7.0
GF-05 PRE-OP	1	5.3	2.0	44.0	2.50	0.30	0.0	0.0	6.6
GF-06	1	15.4	5.0	67.0	3.80	0.30	0.0	0.0	23.6
GF-07 STORE	1	1.4	1.0	29.8	2.50	0.30	0.0	0.0	2.9
GF-08 DDA WC	1	3.6	1.0	18.9	2.50	0.60	0.0	0.0	4.7
GF-09 STERILE STORAGE	1	4.6	1.0	21.3	2.50	0.30	0.0	0.0	3.9
GF-10	1	15.7	5.0	67.0	3.80	0.30	0.0	0.0	23.7
GF-11 OT	1	27.3	4.0	92.0	2.50	0.30	0.0	0.0	18.2
GF-12	1	8.7	4.0	61.7	2.50	0.30	0.0	0.0	12.6
GF-13 OT	1	35.5	4.0	109.3	2.50	0.30	0.0	0.0	20.7
GF-14 SLUICE	1	1.9	1.0	15.1	2.50	0.60	0.0	0.0	3.6
GF-15 DIRTY ROOM	1	1.7	1.0	14.5	2.50	0.60	0.0	0.0	3.5
Totals (incl. Space Multipliers)				758.2					174.4

1. Summary
Ventilation Sizing Method Sum of Space OA Airflows

2. Space Ventilation Analysis									
2.1 Zone: Zone 1									
Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s·m²)	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
B-04 RECEPTION	1	20.1	10.0	111.4	2.50	0.30	0.0	0.0	31.0
B-05 PHARMACY	1	9.4	2.0	149.6	2.50	0.90	0.0	0.0	13.5
B-08 JULIAN	1	20.1	3.0	72.0	2.50	0.30	0.0	0.0	13.5
B-10 EXAM ROOM	1	10.8	5.0	68.2	2.50	0.30	0.0	0.0	15.7
B-11 KITCHENNETTE	1	5.2	3.0	185.8	3.80	0.60	0.0	0.0	14.5
B-12 EXAM ROOM(1)	1	10.8	5.0	68.2	2.50	0.30	0.0	0.0	15.7
B-14	1	6.4	3.0	35.4	2.50	0.30	0.0	0.0	9.4
B-15	1	21.7	7.0	237.0	5.00	0.60	0.0	0.0	48.0
Totals (incl. Space Multipliers)				927.6					161.5



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REV. NO.	DESCRIPTION	DATE	BY

PROJECT:
HEALTH CARE

TITLE:
HVAC SYSTEM DESIGN
CALCULATION REPORT

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:
N/A

DATE :
August 28, 2026

DRAWING NO. REV.
M - 0 3



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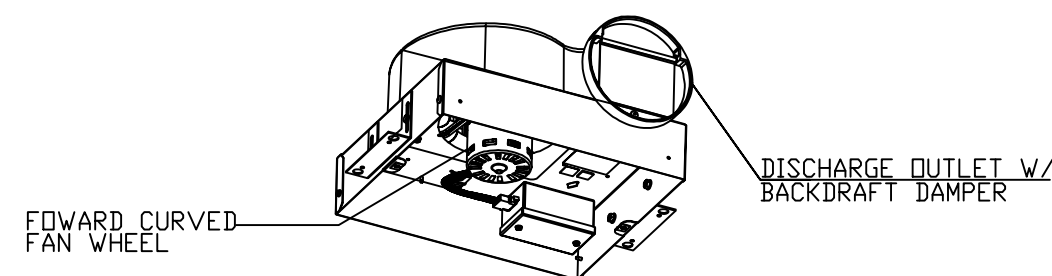
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REFERENCE:

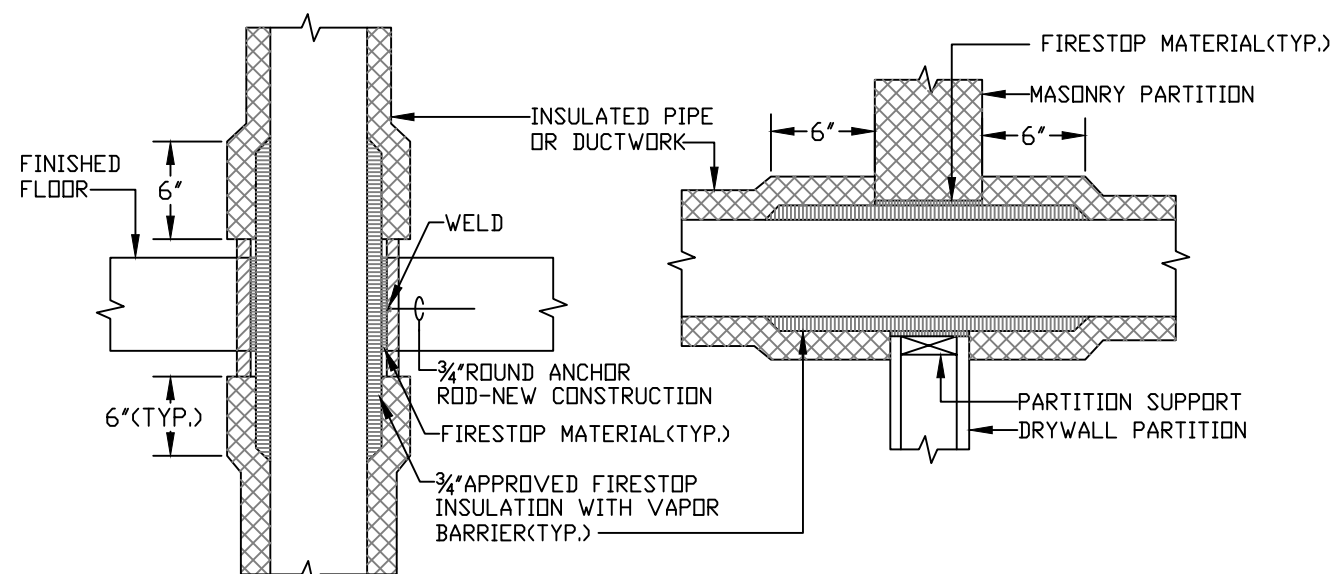
REV. NO.	DESCRIPTION	DATE	BY

PROJECT: HEALTH CARE			
TITLE: HVAC INSTALLATION INSTRUCTION			
PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36: N/A	
DATE : August 28, 2026			
DRAWING NO. M - 0 4		REV.	



CEILING FAN DETAIL

NOT TO SCALE
CEILING RADIATION DAMPERS SHALL BE
INSTALLED IN ACCORDANCE WITH UL 555C

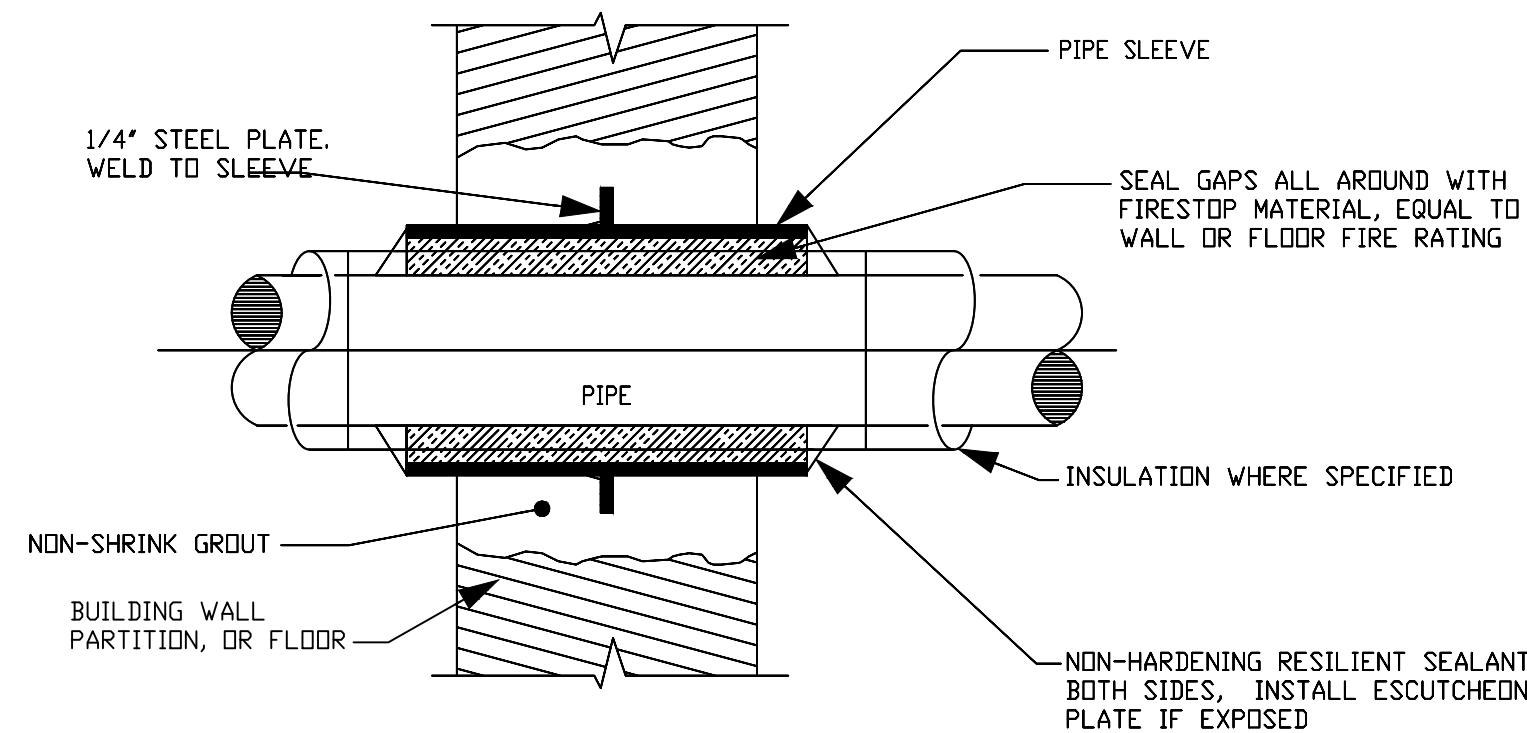


FLOOR OR DECK PENETRATION
NOTE:

APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH
2012 IBC 714. REFER UL LISTED FIRE STOPPING SYSTEMS UL-1479, UL-2043

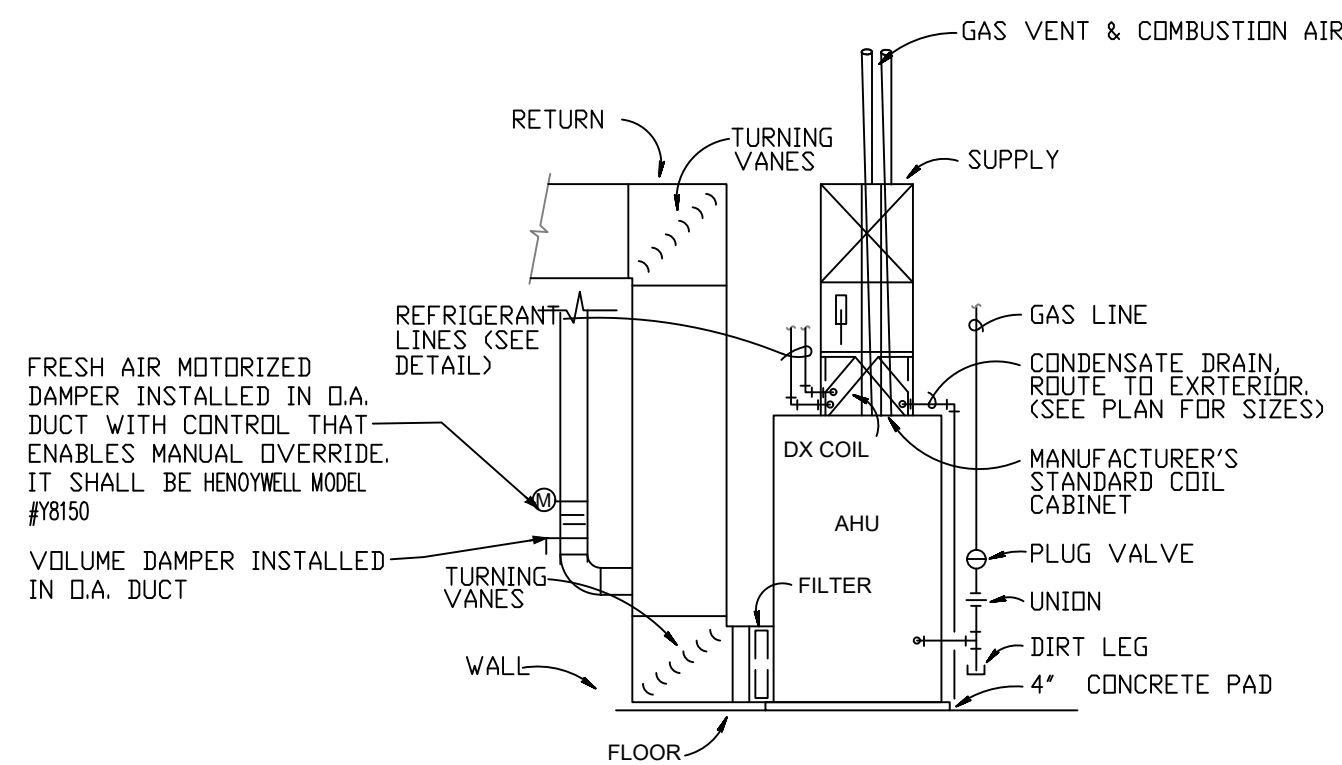
PENETRATION OF FIRE/SMOKE BARRIERS

NOT TO SCALE



INTERIOR MASONRY WALL AND FLOOR PENETRATION

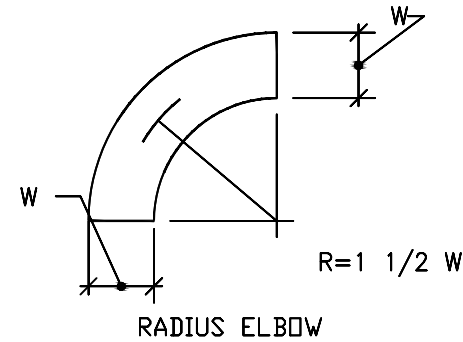
NOT TO SCALE



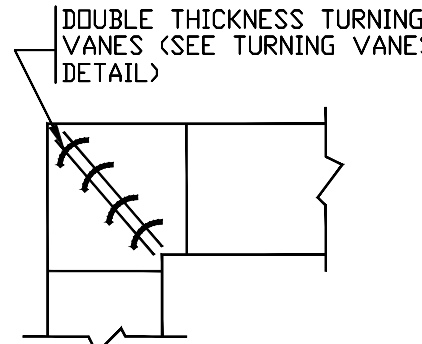
GAS-FIRED AIR HANDLING UNIT DETAIL

N.T.S.

LOW VELOCITY ELBOWS

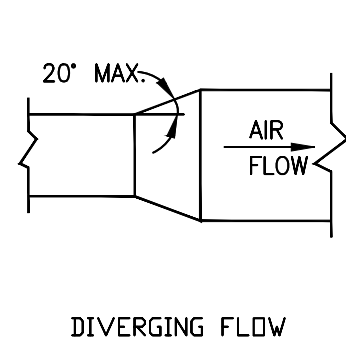


RADIUS ELBOW

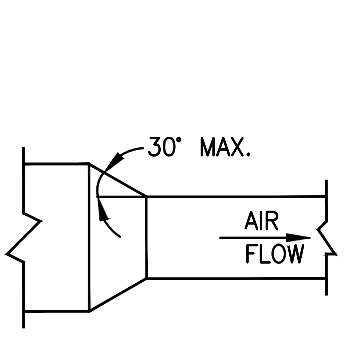


RECTANGULAR ELBOW

LOW VELOCITY TRANSITIONS

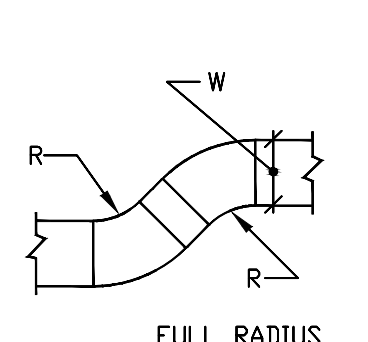


DIVERGING FLOW

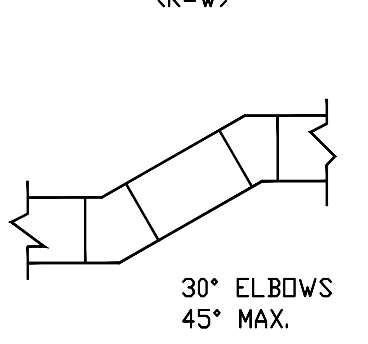


CONTRACTION FLOW

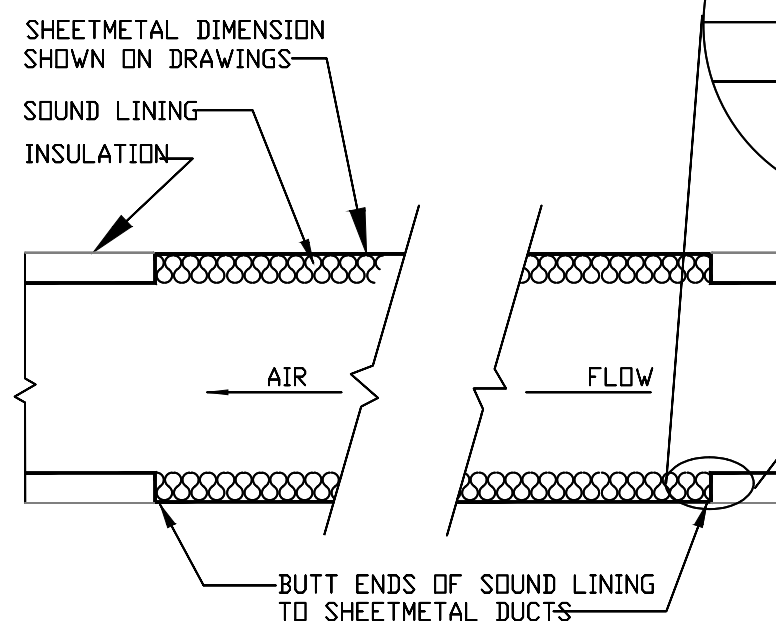
LOW VELOCITY OFFSETS



FULL RADIUS WHERE POSSIBLE (R=W)

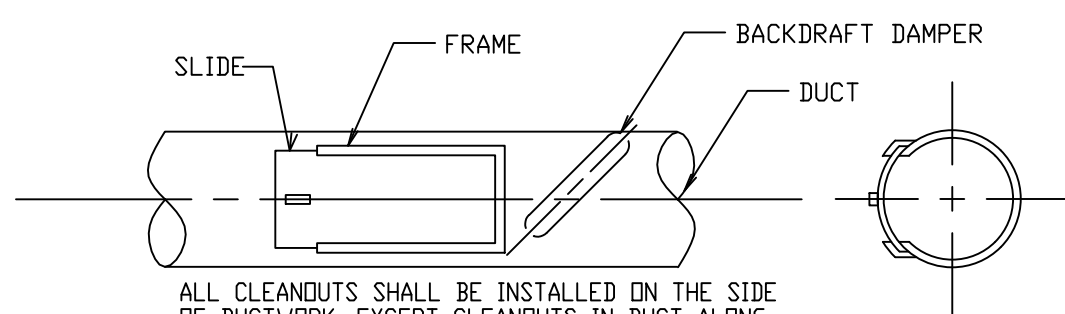


30° ELBOWS 45" MAX.



TYPICAL SOUND LINING DETAIL

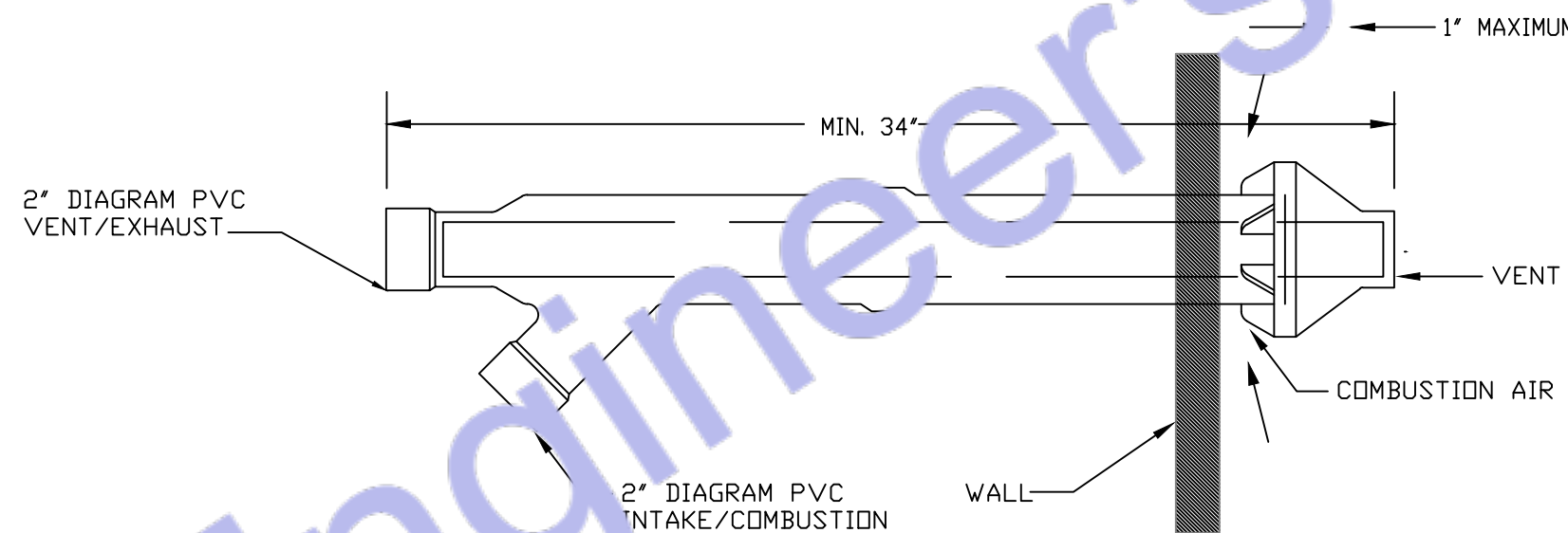
NOT TO SCALE



ALL CLEANOUTS SHALL BE INSTALLED ON THE SIDE
OF DUCTWORK, EXCEPT CLEANOUTS IN DUCT ALONG
FLOOR SHALL BE INSTALLED IN TOP OF DUCT.

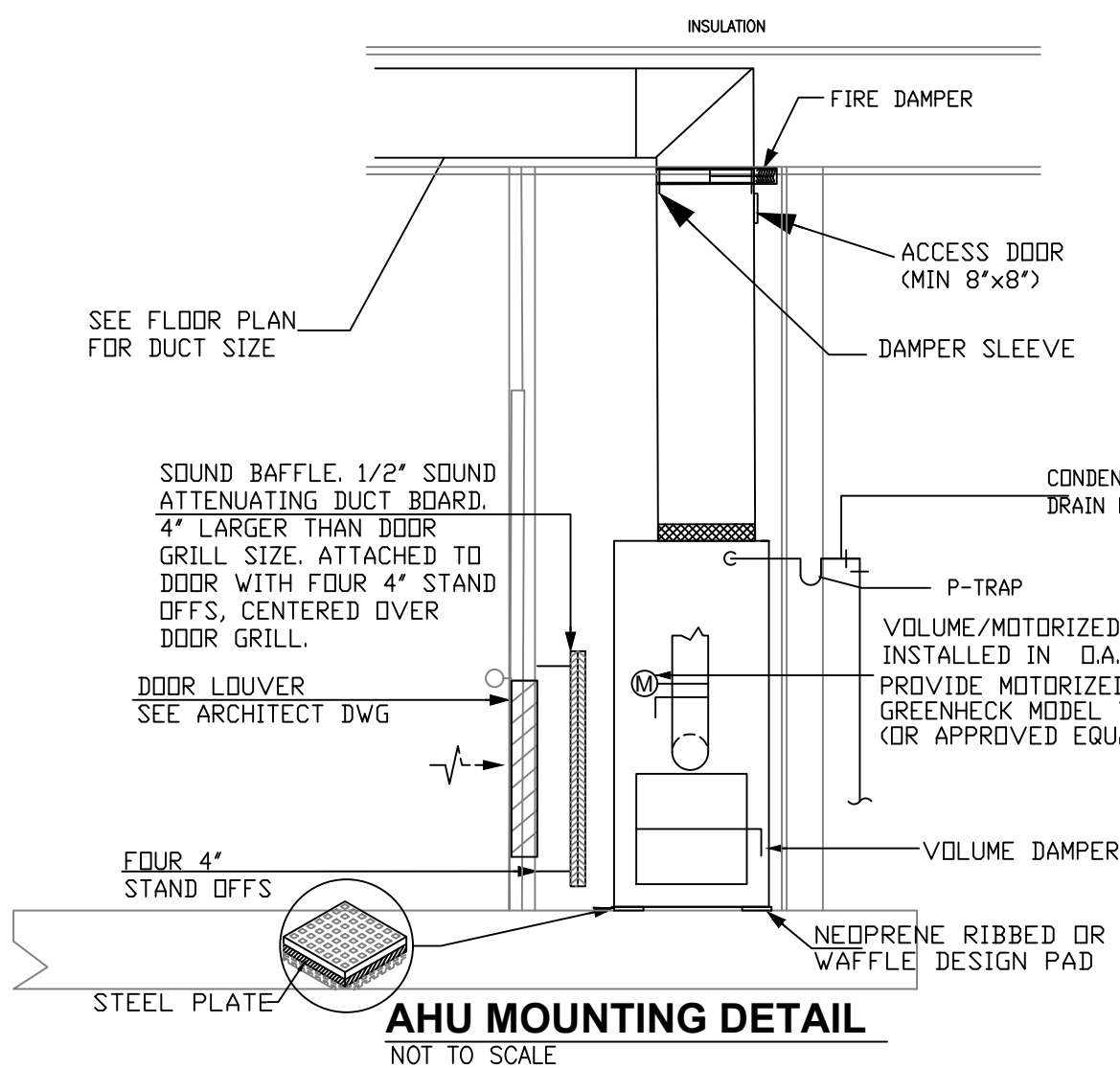
CLEAN OUT / INSPECTION DETAIL

NO SCALE



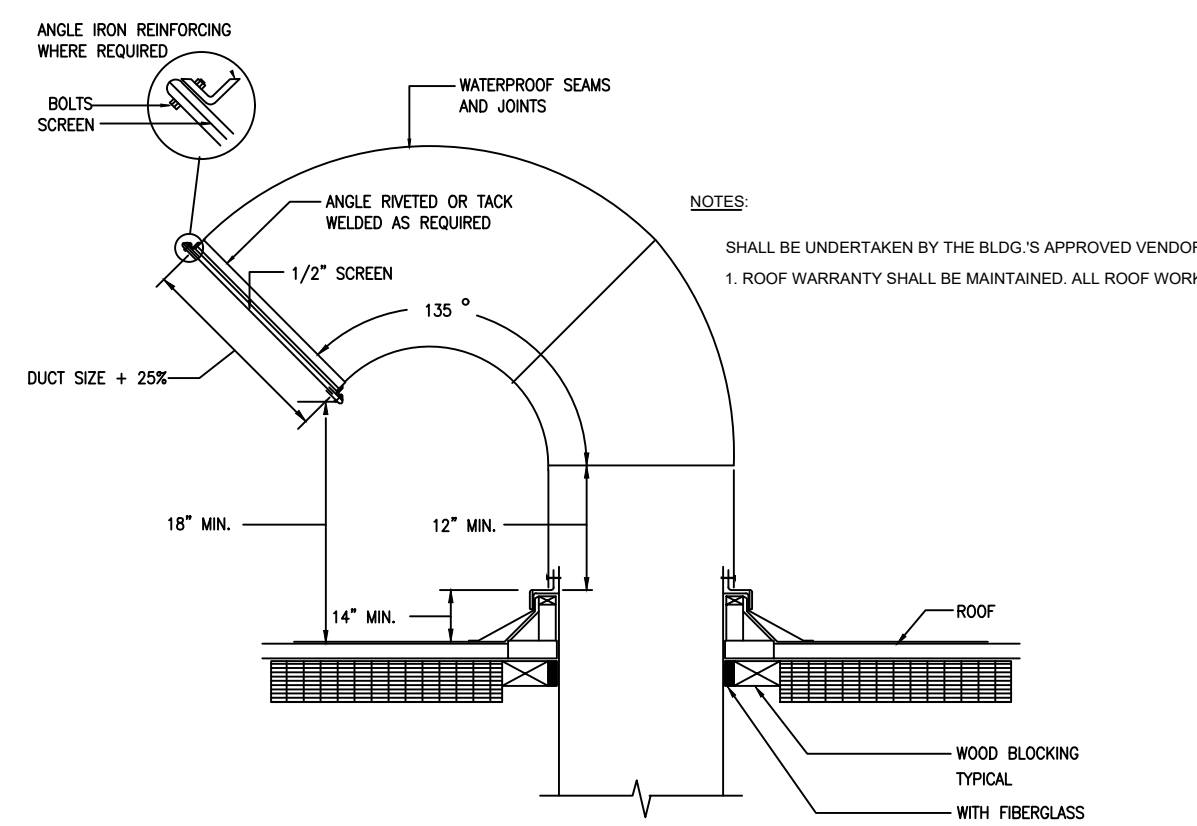
HORIZONTAL VENT TERMINAL/COMBUSTION AIR INLET

NOT TO SCALE
UL-PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN
ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING
MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN
ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING
SHALL NOT BE USED FOR COMBUSTION GAS VENTING.



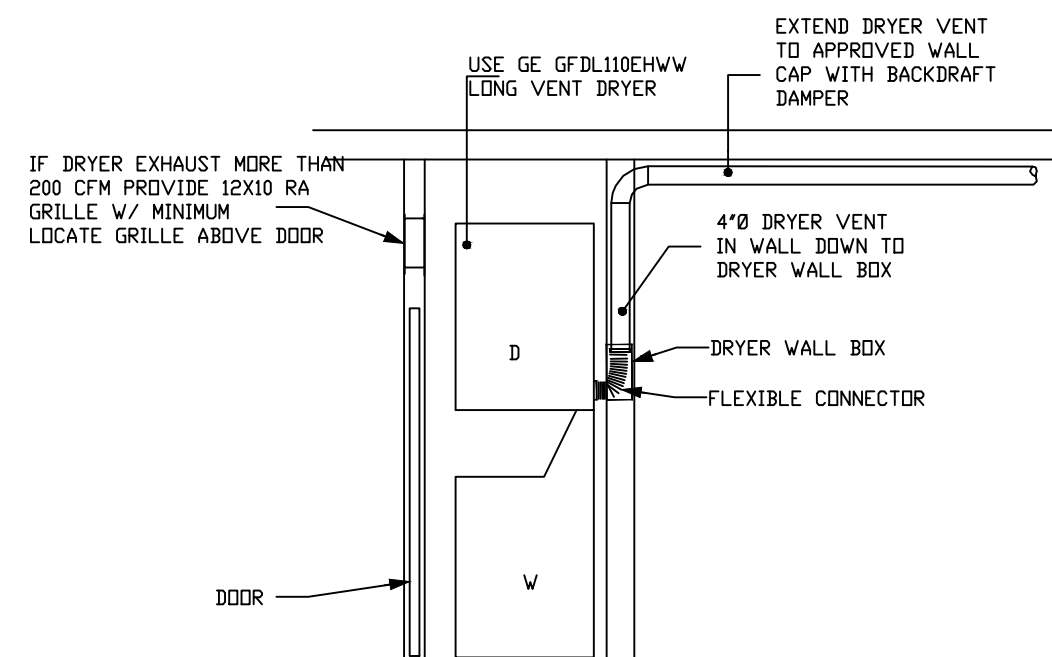
AHU MOUNTING DETAIL

NOT TO SCALE



GOOSENECK DETAIL

NOT TO SCALE



DRYER DETAIL

NOT TO SCALE

RESIDENTIAL GRILLES & REGISTERS SCHEDULE

DESIG	TYPE (REFER TO DETAILS)	SERVICE	AIR FLOW RANGE (CFM)	NOMINAL SIZE/ DESCRIPTION (INCH)	INLET/ NECK SIZE (IN)	BASIS OF DESIGN/REMARKS
A	REGISTER	SA	0-50	6x4	4"Ø	300RL, BORDER TYPE A
B	REGISTER	SA	51-100	6x6 OR 10X4	6"Ø	300RL, BORDER TYPE A
C	REGISTER	SA	101-150	10x6	7"Ø	300RL, BORDER TYPE A
D	REGISTER	SA	151-200	12x6	8"Ø	300RL, BORDER TYPE A
E	REGISTER	SA	201-250	14x6	9"Ø	300RL, BORDER TYPE A
F	RG	RA/EA	0-100	6x6	6x6	350RL, BORDER TYPE A
G	RG	RA/EA	101-200	8x8	8x8	350RL, BORDER TYPE A
H	RG	RA/EA	201-300	10x10	10x10	350RL, BORDER TYPE A
I	RG	RA/EA	301-450	12x12	12x12	350RL, BORDER TYPE A
J	RG	RA/EA	451-600	14x14	14x14	350RL, BORDER TYPE A
K	RG	RA/EA	601-800	16x16	16x16	350RL, BORDER TYPE A
L	RG	RA/EA	801-1100	18x18	18x18	350RL, BORDER TYPE A
M	RG	RA/EA	1101-1300	20x20	20x20	350RL, BORDER TYPE A
N	RG	RA/EA	1301-1600	22x22	22x22	350RL, BORDER TYPE A

NOTES:

- REFER TO ARCHITECT DRAWINGS FOR TYPE OF CEILING.
- MODEL NUMBERS IN "BASIS OF DESIGN" ARE TITUS
- PROVIDE HEAVY DUTY FRAME AND CORE WHERE MOUNTED IN FLOORS.
- PROVIDE WITH FIRE DAMPER FOR UL LISTED CEILING
- PROVIDE ROUND TO SQUARE ADAPTOR BOOT



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REFERENCE:

[illegible]

PROJECT:

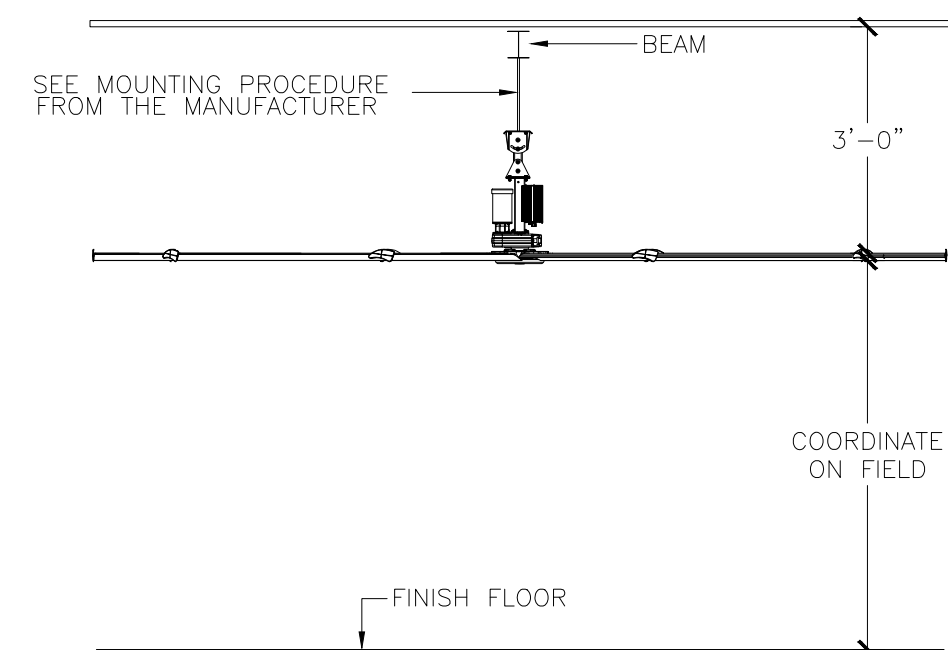
HEALTH CARE

TITLE: HVAC INSTALLATION INSTRUCTION

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36: N/A
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DATE : August 28, 2026

DRAWING NO.	REV.
M - 0 5	



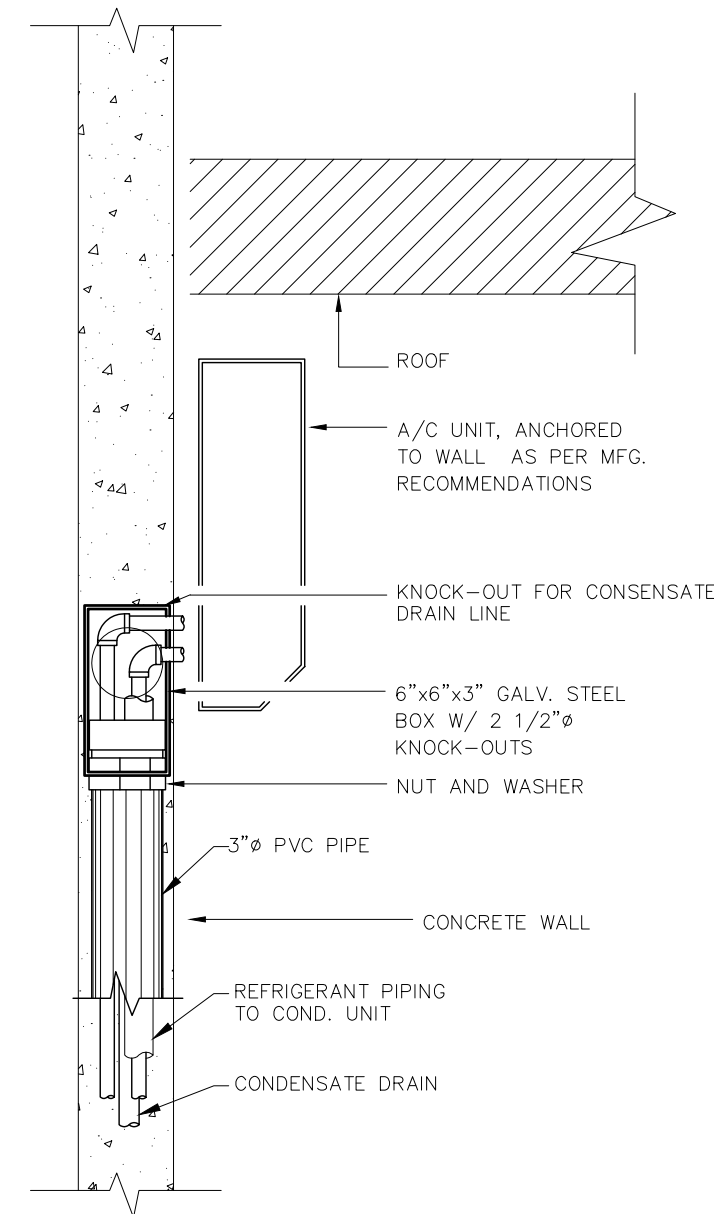
PROPELLER (HVLS) FAN INSTALLATION HALLWAY DETAIL

NOT TO SCALE



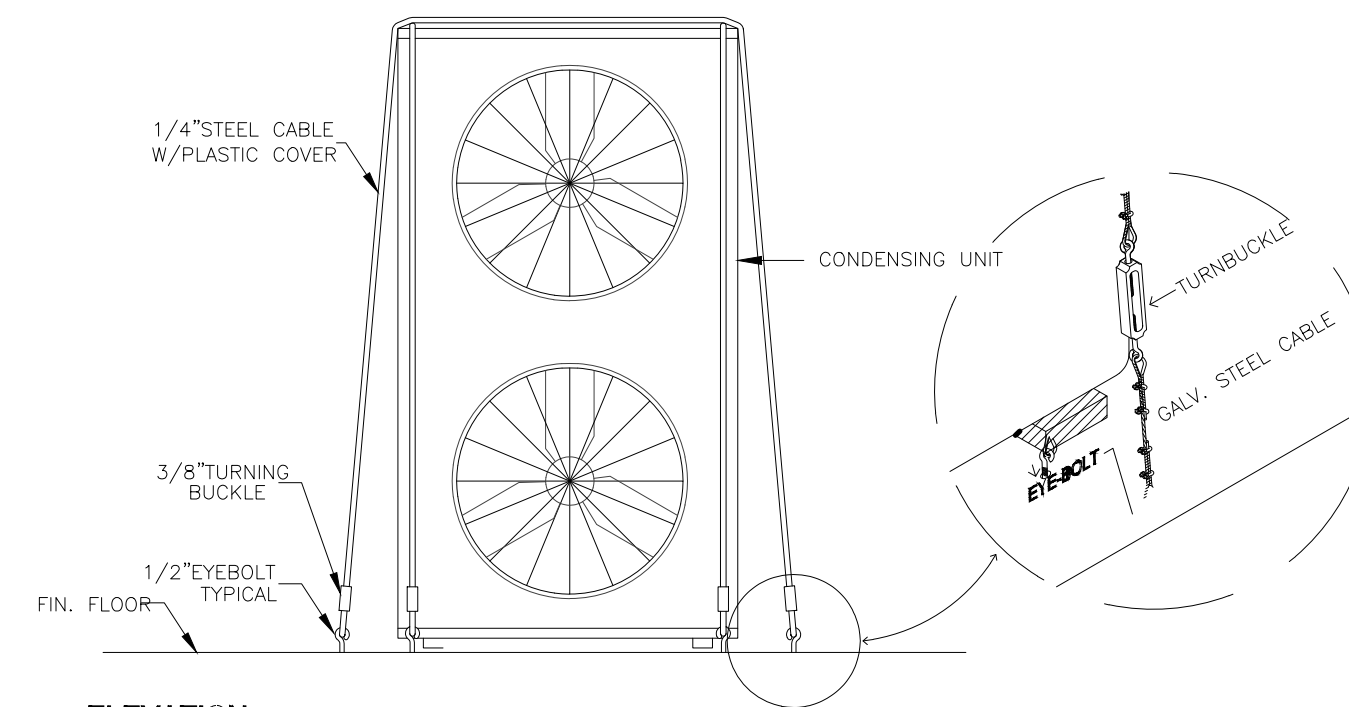
REFRIGERANTS PIPES SUPPORT

NOT TO SCALE



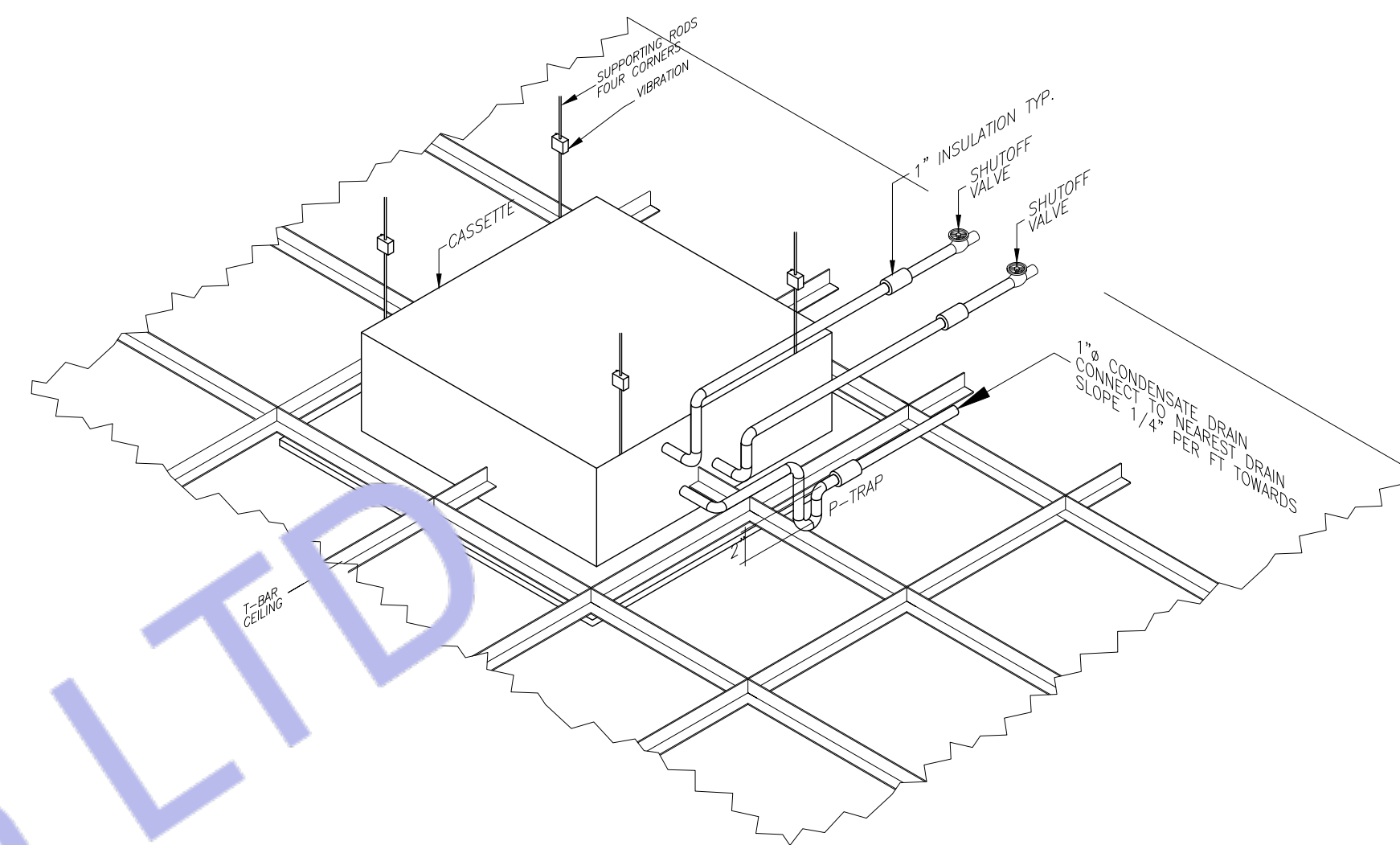
MINI SPLIT COIL UNIT WITH PLENUM INSTALLATION DETAIL

NOT TO SCALE



CONDENSING UNIT ANCHORING DETAIL

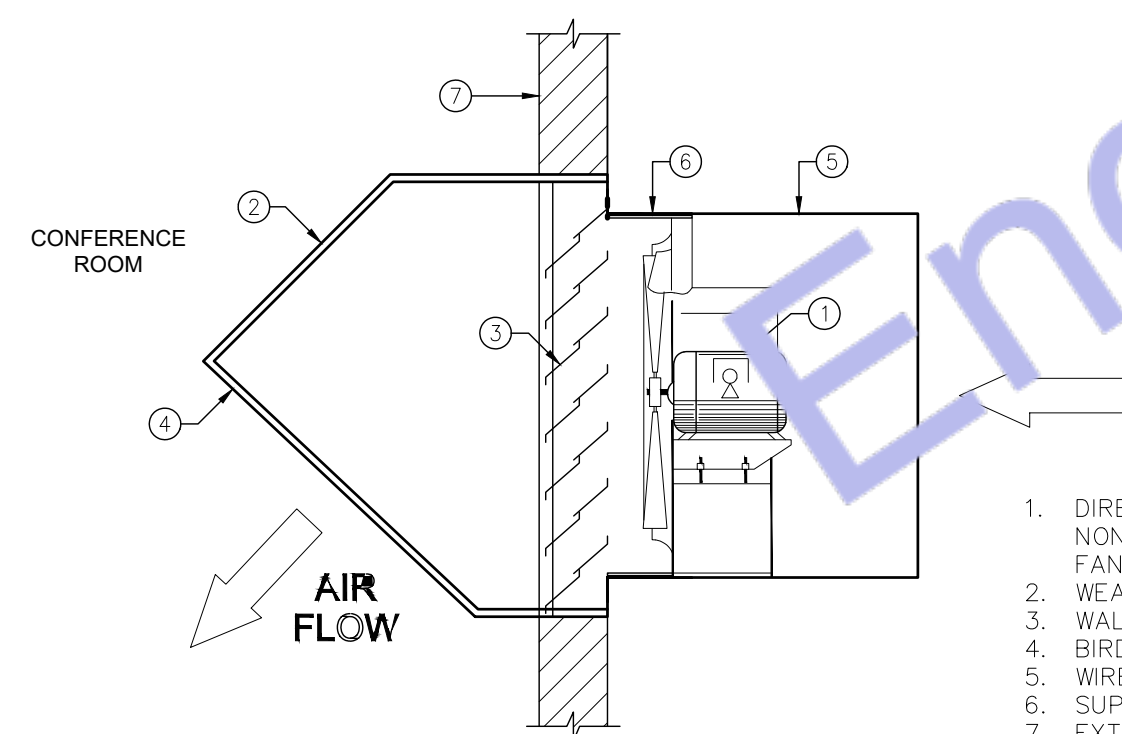
NOT TO SCALE



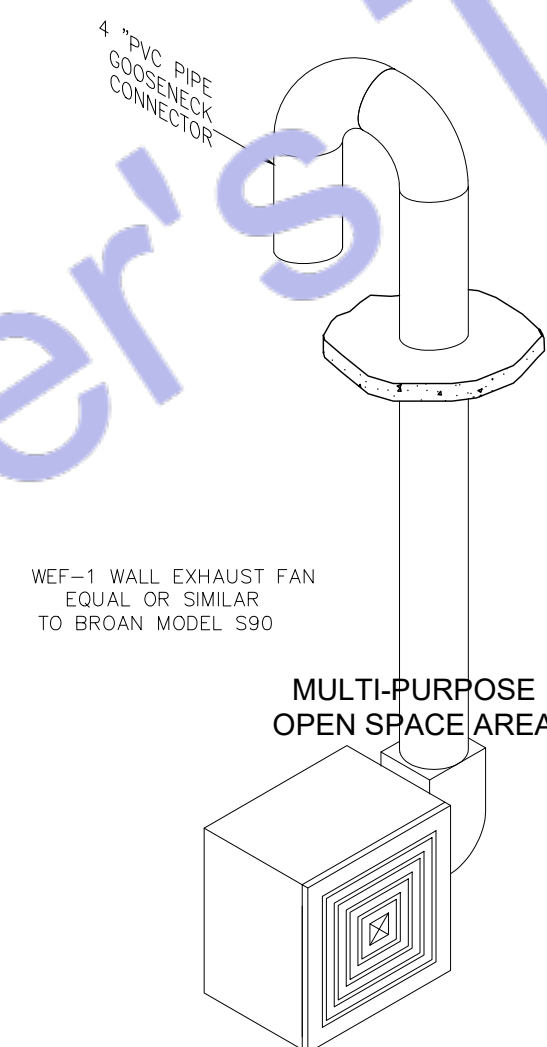
7 CASSETTE UNIT INSTALLATION DETAIL

NOTE: THE A/C UNIT SHALL BE HANGED SEISMICALLY FROM ROOF SLAB OR STEEL JOIST.

NOT TO SCALE



1. DIRECT-DRIVE NONVENTED MOTOR WITH FAN BLADE.
2. WEATHER HOOD
3. WALL SHUTTER
4. BIRD SCREEN
5. WIRE GUARD
6. SUPPORT BRACKET
7. EXTERIOR METAL SIDING



WALL VENTILATOR INSTALLATION DETAIL

NOT TO SCALE

NOTE:
1. THE FANS SHALL BE INTERLOCKED
WITH THE LIGHTING SWITCH.

4 WALL FAN DETAIL

NOTES: 1. PROVIDE DISCONNECT SWITCH TO ALL FANS.



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REFERENCE:

REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

HEALTH CARE

TITLE:

HVAC INSTALLATION
INSTRUCTION

PROJ. NO.

PROJ. ENGR.

SCALE @ 24X36:

N/A

DATE :

August 28, 2026

DRAWING NO.

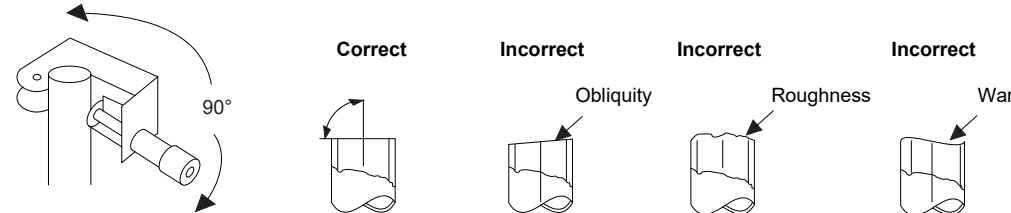
REV.

M - 0 6

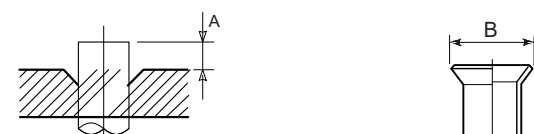
Pipe connection method

Flaring

1. Cut the pipe with a pipe cutter.



2. Remove the burr inside the pipe.
When removing the burr, be careful that the chips do not fall into the pipe.
3. Remove the flare nuts attached to the outdoor / indoor unit, then insert them into each of the pipes.
4. Flare the pipes.
See the following table for the projection margin (A) and flaring size (B).



Pipe	Outside diameter	Thickness	A		B	Flare Nut		
			Rigid (clutch type) R410A tool	Imperial (wing nut type) R410A tool		Width across flat	Tighten torque	
in	1/4"	0.03"	0 to 0.02"	0.04" to 0.06"	0.39"	0.67"	10.3 to 13.3	14 to 18
mm	6.35	0.8	0 to 0.5	1.0 to 1.5	9.9	17	14 to 18	1.4 to 1.8
in	3/8"	0.03"	0 to 0.02"	0.04" to 0.06"	0.52"	0.87"	24.3 to 31.0	33 to 42
mm	9.52	0.8	0 to 0.5	1.0 to 1.5	13.2	22	33 to 42	3.3 to 4.2
in	1/2"	0.03"	0 to 0.02"	0.04" to 0.06"	0.65"	1.02"	36.1 to 45.0	49 to 61
mm	12.7	0.8	0 to 0.5	1.0 to 1.5	16.6	26	49 to 61	4.9 to 6.1
in	5/8"	0.04"	0 to 0.02"	0.04" to 0.06"	0.78"	1.14"	46.5 to 56.8	63 to 77
mm	15.88	1.0	0 to 0.5	1.0 to 1.5	19.7	29	63 to 77	6.3 to 7.7
in	3/4"	0.05"	0 to 0.02"	0.04" to 0.06"	0.94"	1.42"	73.8 to 88.5	100 to 120
mm	19.05	1.2	0 to 0.5	1.0 to 1.5	24.0	36	100 to 120	10.0 to 12.0

Selection of pipe materials and size

Selection of pipe material

Material: Phosphorus deoxidation seam-less pipe

Capacity code of indoor and outdoor units

- For the indoor unit, the capacity code is decided at each capacity rank.
- The outdoor unit's capacity codes are decided at each capacity rank.
- The maximum No. of the connectable indoor unit and the total value of the indoor unit's capacity codes are also decided.

Minimum wall thickness for R410A application

	Soft	Half Hard or Hard	OD (inch)	OD (mm)	Minimum wall thickness (mm)
OK	OK	OK	1/4"	6.35	0.80
OK	OK	OK	3/8"	9.52	0.80
OK	OK	OK	1/2"	12.70	0.80
OK	OK	OK	5/8"	15.88	1.00
NG * (1)	OK	OK	3/4"	19.05	1.00

* (1) If the pipe size is Ø3/4" (19.05), use a suitable material.

Table 1

Indoor unit capacity type	Capacity code Equivalent to capacity	Indoor unit capacity type	Capacity code Equivalent to capacity
007 type	7.5	036 type	36
009 type	9.5	042 type	42
012 type	12	048 type	48
015 type	15.4	—	—
018 type	18	—	—
021 type	21	—	—
024 type	24	—	—
027 type	27	—	—
030 type	30	—	—

Table 2

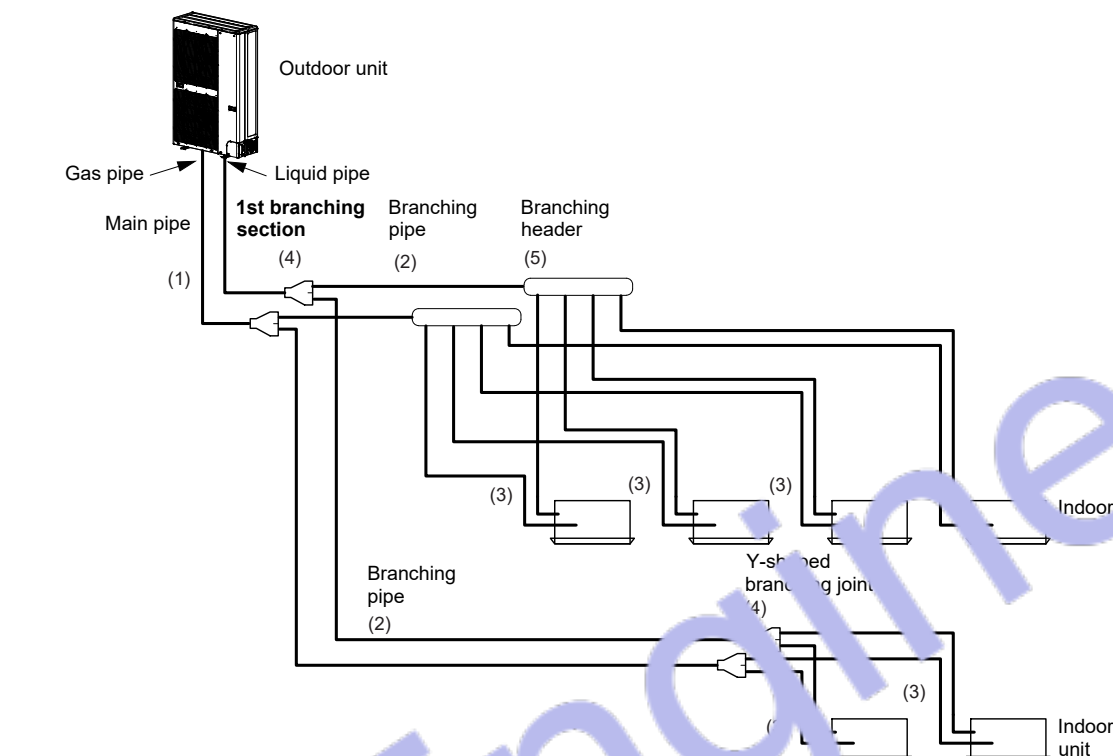
Outdoor unit capacity type	Capacity code Equivalent to capacity	No. of connectable indoor units	Total capacity code of connectable indoor units	
			Min. * (2)	Max.
036 type	36	2 to 6	18	48
048 type	48	2 to 8	24	64
060 type	60	2 to 9	30	81

Coupling size of brazed pipe

Connected section	
External size	Internal size

	Standard outer dia. of connected copper pipe	External size		Internal size		Min. depth of insertion		Oval value	Min. thickness of coupling
		CF	Standard outer dia.	CF	Standard outer dia.	K	G		
in	1/4"	1/4"±0.001	0.25"	7/32"	0.28"	0.24"	0.002"	or less	0.02"
mm	6.35	6.35±0.03	6.45	7/32"	7	6	0.06	or less	0.5
in	3/8"	3/8"±0.001	0.38"	7/16"	0.31"	0.28"	0.003"	or less	0.02"
mm	9.52	9.52±0.03	9.62	7/16"	8	7	0.08	or less	0.6
in	1/2"	1/2"±0.001	0.50"	7/8"	0.35"	0.31"	0.004"	or less	0.03"
mm	12.7	12.7±0.03	12.81	7/8"	9	8	0.10	or less	0.7
in	5/8"	5/8"±0.001	0.63"	7/8"	0.35"	0.31"	0.005"	or less	0.03"
mm	15.88	15.88±0.03	16.00	7/8"	9	8	0.13	or less	0.8
in	3/4"	3/4"±0.001	0.76"	7/8"	0.43"	0.39"	0.006"	or less	0.03"
mm	19.05	19.05±0.03	19.19	7/8"	10	10	0.15	or less	0.8

Selection of refrigerant piping



No.	Piping parts Name	Selection of pipe size	Remarks
(1)	Outdoor unit ↓ 1st branching section	Main pipe Outdoor unit capacity type 0367 type 0487 type 0607 type Gas pipe Ø5/8" Ø5/8" Ø3/4" Liquid pipe Ø3/8" Ø3/8" Ø3/8"	Same as the outdoor unit's connecting pipe size.
(2)	Branching section ↓ Branching section	Branching pipe Pipe size between branching sections Total capacity codes of indoor units at down stream side Equivalent to capacity Below 23 23 to below 61 61 or more Gas pipe Ø1/2" Ø5/8" Ø3/4" Liquid pipe Ø3/8" Ø3/8" Ø3/8"	Pipe size differs based on the total capacity code value of the indoor units at the downstream side. If the total value exceeds the capacity code of the outdoor unit, apply the capacity code of the outdoor unit. (See Table 1 and 2.)

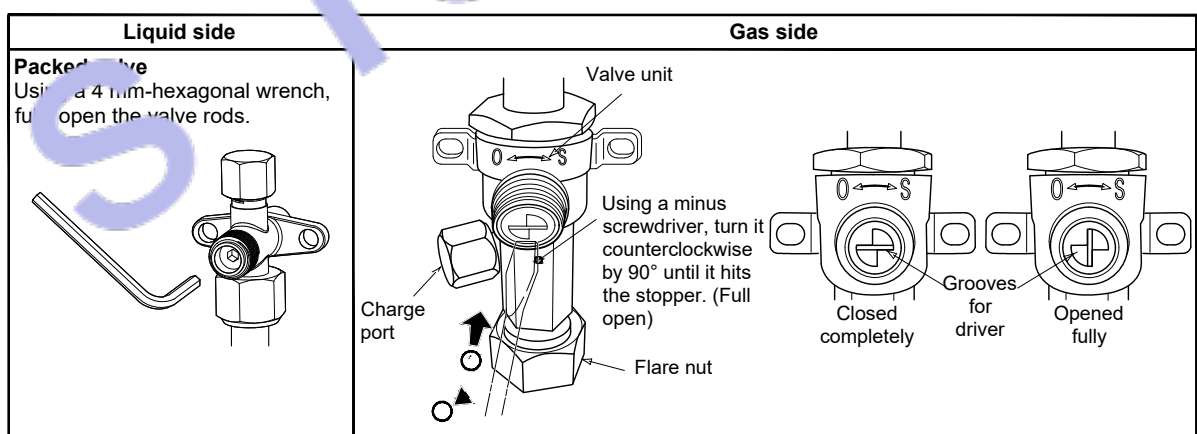
(3)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	Connecting pipe size of indoor unit	
			Capacity rank	Gas pipe Liquid pipe
(4)	Branching section	Y-shaped branching joint	007 to 012 type	Ø3/8" Ø1/4"
			015 to 018 type	Ø1/2" Ø1/4"
(5)	Branching section	Branching header	021 to 048 type	Ø5/8" Ø3/8"
			Model name	RBM-BY55UL
(5)	Branching section	Branching header	Model name	RBM-HY1043UL
			For 4 branches	RBM-HY1083UL
(5)	Branching section	Branching header	Model name	RBM-HY1083UL
			For 8 branches	RBM-HY1083UL

		Allowable value (ft (m))		Pipes
		Real length	Equivalent length	
Piping Length	Total extension of pipe (liquid pipe, real length)	591 (180)	L1 + L2 + L3 + a + b + c + d + e + f	L1 + L2 + L3
	Furthest piping length L ("1)	328 (100)	410 (125)	L1 + L3
Height Difference	Max. equivalent length of main pipe	213 (65)	L1	L1 + L3
	Max. equivalent length of furthest piping from 1st branching LI ("1)	115 (35)	L3 + f	L3 + f
Height Difference	Max. real length of indoor unit connecting pipe	49 (15)	a, b, c, d, e, f	L3 + f
	Height between indoor and outdoor units H1	Upper outdoor unit	164 (50)	L3 + f
Height Difference	Height between indoor and outdoor units H1	Lower outdoor unit	131 (40)	L3 + f
	Height between indoor units H2	49 (15)	L3 + f	L3 + f

*1 Furthest indoor unit from 1st branch to be named "A".

Full opening of the valve

Open the valves of the outdoor unit fully.



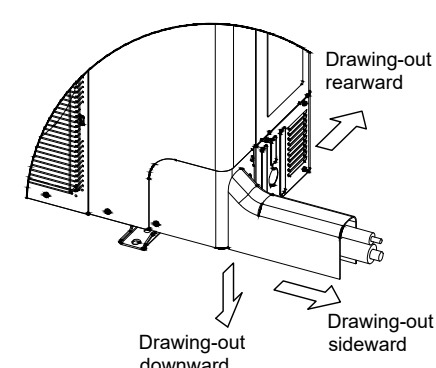
Heat insulation for pipe

- Apply the pipe's heat insulation separately at the liquid and gas sides.
- Be sure to use a thermal insulator resistant up to 248 °F (120 °C) or higher for pipes at the gas side.

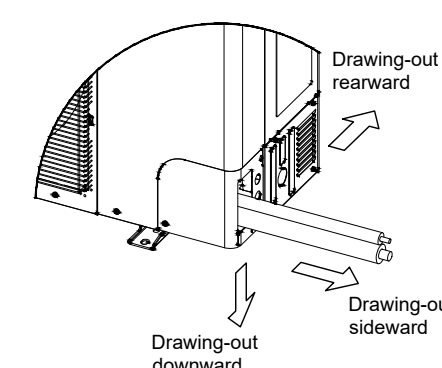
Finishing after connecting pipes

- After the piping connection work has been finished, cover the opening of the piping / wiring panel with the piping cover, or fill silicon or putty in the space between the pipes.
- In case of drawing-out the pipes downward or sideward, also close the openings of the base plate and the side plate.
- Under the opened condition, a problem may be caused due to the entering of water or dust.

When using the piping cover



When not using the piping cover

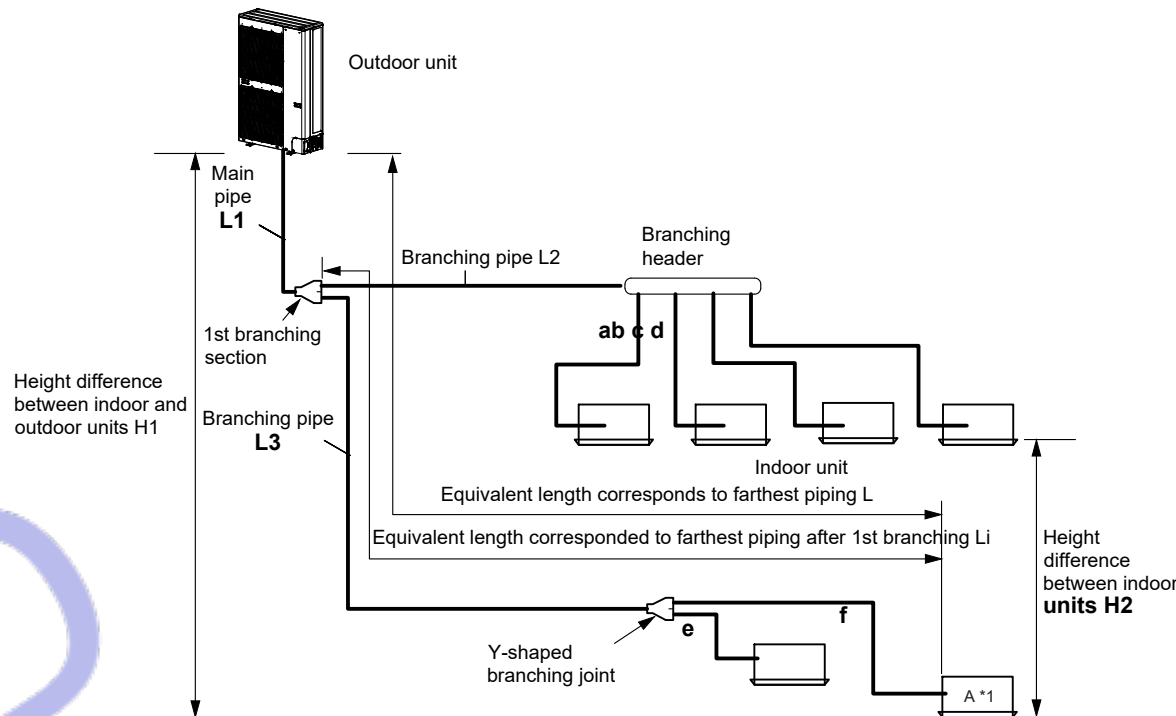


Pipe holding bracket

Attach the pipe holding brackets following the table below.

Diameter of pipe in (mm)	Interval
Ø3/4" (Ø19.05) or less	78.7" (2 m)

Allowable length / height difference of the refrigerant piping



Adding refrigerant

After vacuuming is complete, exchange the vacuum pump with a refrigerant canister and start the additional charging of refrigerant.

Calculation of additional refrigerant charge amount

The default refrigerant amount does not include the refrigerant for pipes at the local site. For refrigerant to be charged in pipes at the local site, calculate the amount and charge it additionally.

Outdoor unit type	MAP0367	MAP0487	MAP0607
Charging amount (lbs (kg))	14.8 (6.7)	14.8 (6.7)	14.8 (6.7)

Additional refrigerant charge amount at local site	= Real length of liquid pipe × Additional refrigerant charge amount per 1 ft liquid pipe (Table 1) × 1.2 + Compensation by outdoor HP (Table 2)	
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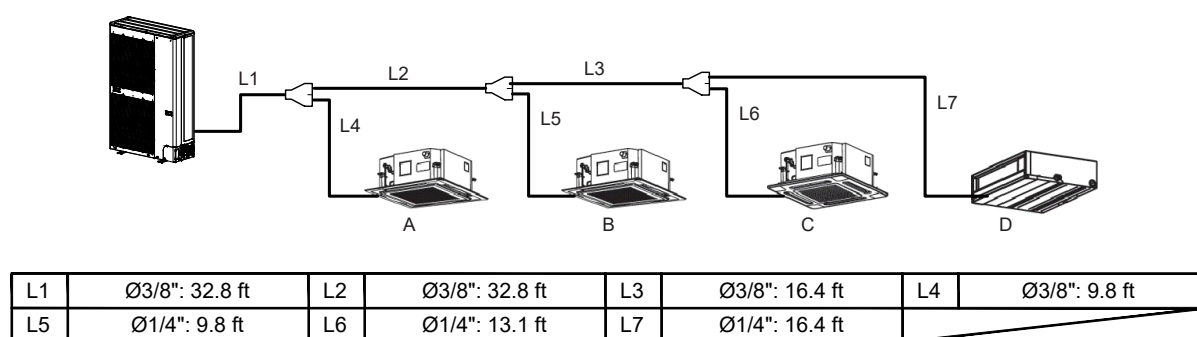
Table 1

Liquid pipe dia. (in)	Ø1/4"	Ø3/8"
Additional refrigerant amount / 1 ft liquid pipe (lbs/ft)	0.017	0.038

Table 2

Outdoor unit type	MAP0367	MAP0487	MAP0607
Compensation by outdoor capacity (lbs (kg))	0 (0)	0.88 (0.4)	1.76 (0.8)

Example: (060 type)



Additional charge amount R (kg)

Lx: Real total length of liquid pipe diameter 1/4" (ft)
Ly: Real total length of liquid pipe diameter 3/8" (ft)

$$= (Lx \times 0.017 \text{ lbs/ft}) + (Ly \times 0.038 \text{ lbs/ft}) \times 1.2 + (1.76 \text{ lbs})$$
$$= (39.3 \times 0.017 \text{ lbs}) + (91.8 \times 0.038 \text{ lbs}) \times 1.2 + (1.76 \text{ lbs})$$
$$= 6.75 \text{ lbs}$$



1-2-2. Indoor unit

Type	Appearance	Model name	Capacity type	Capacity code	Cooling capacity (kBtu/h)	Heating capacity (kBtu/h)
4-Way Cassette		MMU-AP0072H2UL	007 type	7.5	7.5	8.5
		MMU-AP0092H2UL	009 type	9.5	9.5	10.5
		MMU-AP0122H2UL	012 type	12	12	13.5
		MMU-AP0152H2UL	015 type	15.4	15.4	17
		MMU-AP0182H2UL	018 type	18	18	20
		MMU-AP0212H2UL	021 type	21	21	24
		MMU-AP0242H2UL	024 type	24	24	27
		MMU-AP0302H2UL	030 type	30	30	34
		MMU-AP0362H2UL	036 type	36	36	40
		MMU-AP0422H2UL	042 type	42	42	47.5
		*MMU-AP0072H2UL-1	007 type	7.5	7.5	8.5
Compact 4-Way Cassette		MMU-AP0071MH2UL	007 type	7.5	7.5	8.5
		MMU-AP0091MH2UL	009 type	9.5	9.5	10.5
		MMU-AP0121MH2UL	012 type	12	12	13.5
		MMU-AP0151MH2UL	015 type	15.4	15.4	17
Ceiling		MMU-AP0181MH2UL	018 type	18	18	20
		MMC-AP0181H2UL	018 type	18	18	20
		MMC-AP0241H2UL	024 type	24	24	27
		MMC-AP0361H2UL	036 type	36	36	40
High Wall		MMC-AP0421H2UL	042 type	42	42	47.5
		MMK-AP0073H2UL	007 type	7.5	7.5	8.5
		MMK-AP0093H2UL	009 type	9.5	9.5	10.5
		MMK-AP0123H2UL	012 type	12	12	13.5
		MMK-AP0153H2UL	015 type	15.4	15.4	17
		MMK-AP0183H2UL	018 type	18	18	20
Slim Ducted		MMK-AP0243H2UL	024 type	24	24	27
		MMD-AP0074SPH2UL	007 type	7.5	7.5	8.5
		MMD-AP0094SPH2UL	009 type	9.5	9.5	10.5
		MMD-AP0124SPH2UL	012 type	12	12	13.5
Medium Static Duct		MMD-AP0154SPH2UL	015 type	15.4	15.4	17
		MMD-AP0184SPH2UL	018 type	18	18	20
		MMD-AP0074BH2UL	007 type	7.5	7.5	8.5
		MMD-AP0094BH2UL	009 type	9.5	9.5	10.5
		MMD-AP0124BH2UL	012 type	12	12	13.5
		MMD-AP0154BH2UL	015 type	15.4	15.4	17
		MMD-AP0184BH2UL	018 type	18	18	20
		MMD-AP0214BH2UL	021 type	21	21	24
		MMD-AP0244BH2UL	024 type	24	24	27
		MMD-AP0304BH2UL	030 type	30	30	34
		MMD-AP0364BH2UL	036 type	36	36	40
		MMD-AP0424BH2UL	042 type	42	42	47.5
		MMD-AP0484BH2UL	048 type	48	48	54
High Static Duct		MMD-AP0304H2UL	030 type	30	30	34
		MMD-AP0364H2UL	036 type	36	36	40
		MMD-AP0484H2UL	048 type	48	48	54
Floor console exposed		MML-AP0074H2UL	007 type	7.5	7.5	8.5
		MML-AP0094H2UL	009 type	9.5	9.5	10.5
		MML-AP0124H2UL	012 type	12	12	13.5
		MML-AP0154H2UL	015 type	15.4	15.4	17
		MML-AP0184H2UL	018 type	18	18	20
Floor console recessed		MML-AP0244H2UL	024 type	24	24	27
		MML-AP0074BH2UL	007 type	7.5	7.5	8.5
		MML-AP0094BH2UL	009 type	9.5	9.5	10.5
		MML-AP0124BH2UL	012 type	12	12	13.5
		MML-AP0154BH2UL	015 type	15.4	15.4	17
		MML-AP0184BH2UL	018 type	18	18	20
		MML-AP0244BH2UL	024 type	24	24	27

* If MMU-AP0072H2UL-1 is included in the system, operation temperature is different.
Cooling operation : 14.0°F to 109.0°F 1Heating operation : 14.0°F to 60.0°F



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REFERENCE:

REV. NO.	DESCRIPTION	DATE	BY

PROJECT: HEALTH CARE

TITLE: HVAC INSTALLATION INSTRUCTION

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: N/A

DATE : August 28, 2026

DRAWING NO. REV. M - 0 7



Designed By Engr. Al Amin (MEP Engineer | Director - Engineer's Team LTD)

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