

Date: 30/09/2022

Ashley Road West – Planning Condition D37: CO2

Tottenham Hale Centre Development Plot D (Ashley Road West) Planning Condition D37: CO2.

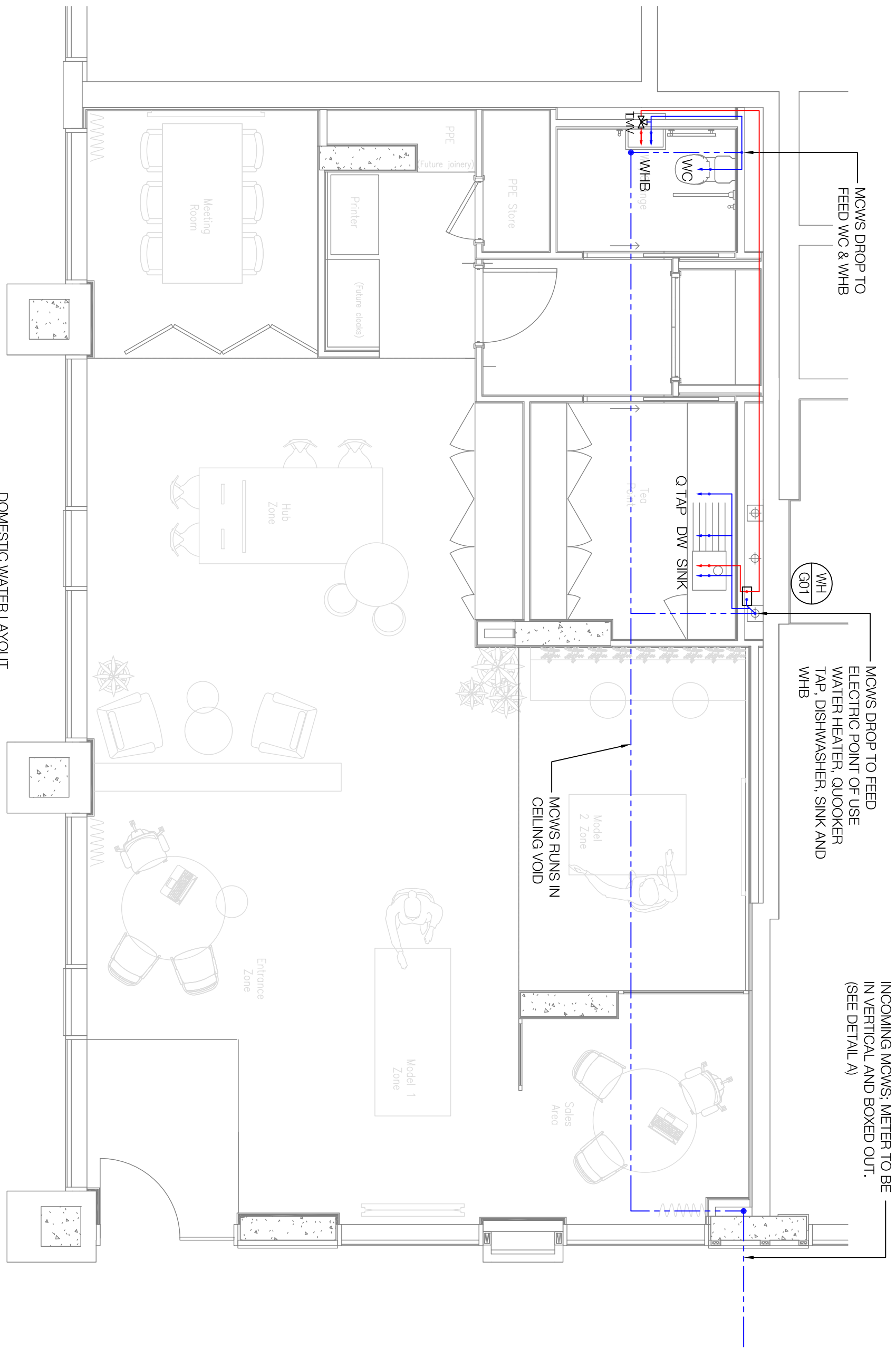
This document has been prepared to discharge condition D37 – CO2 of the Tottenham Hale Centre Planning Permission Ref: HGY/2018/2223. Condition D37 states that:

“Prior to the occupation of each non-residential unit within Plot D, details demonstrating that a Seasonal Energy Efficiency Ratio (SEER) of 7.0 can be achieved shall be submitted in writing to and for approval by the Local Planning Authority. The development shall be occupied in accordance with the approved details.”

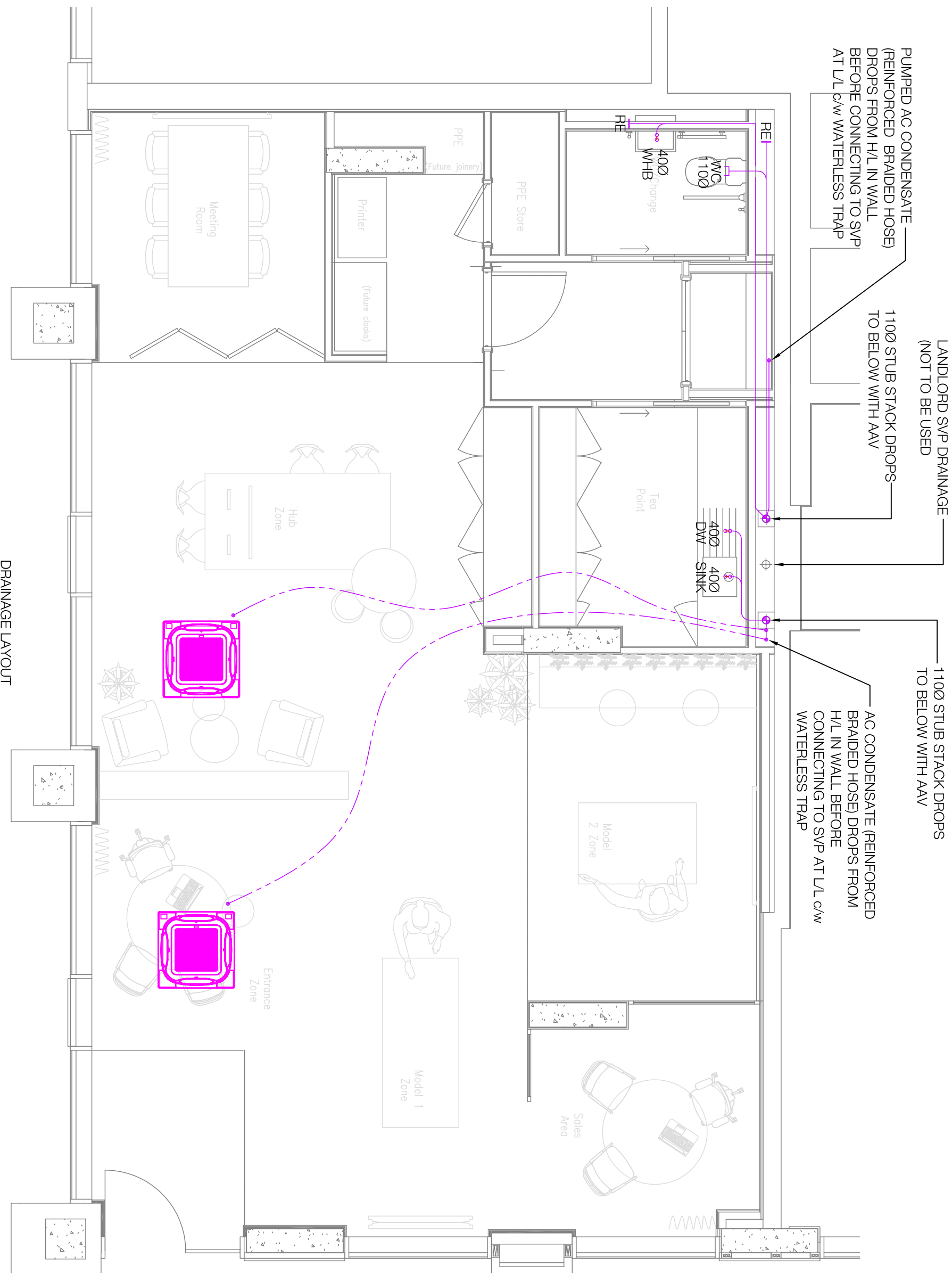
Please see enclosed as-built drawing of the systems within the retail space and the product data sheets for the units installed.



Appendices:

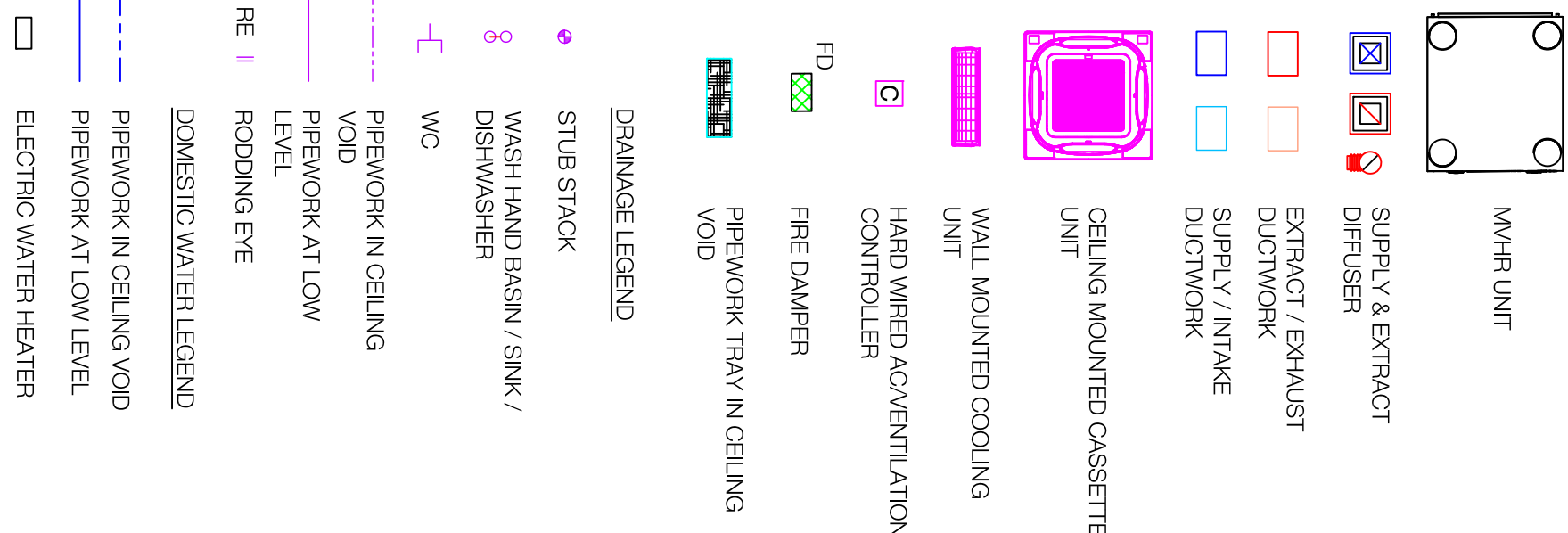


DOMESTIC WATER LAYOUT



DRAINAGE LAYOUT

VENTILATION LEGEND



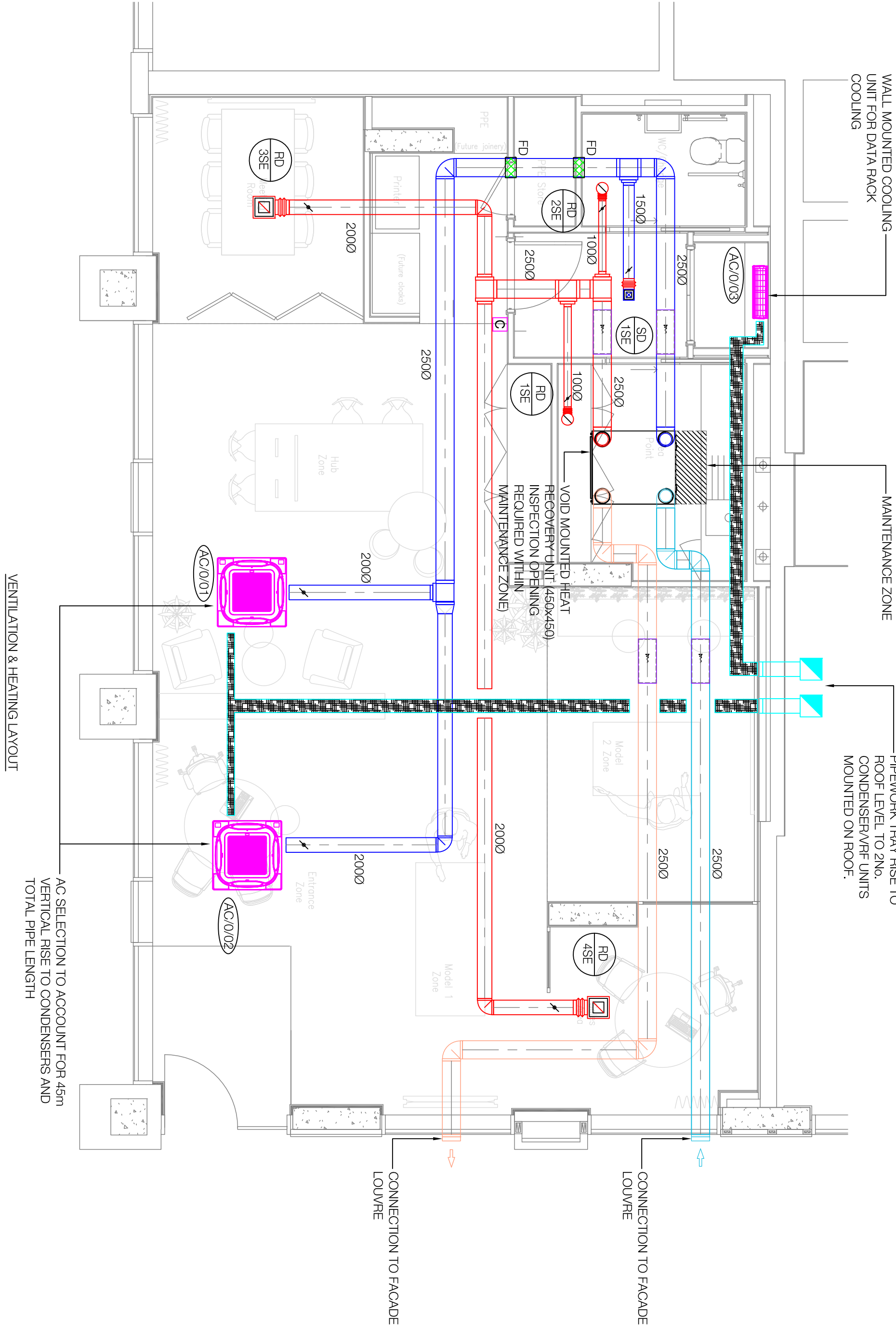
VENTILATION / HEATING NOTES

1. ALL REFRIGERANT PEPWORK & INTEGRAL CONNECTING WIRING SHALL BE RUN IN APPROPRIATELY SIZED GALVANISED CABLE TRAY. THESE SHALL FOLLOW THE ROUTES A SHOWN ON THE LAYOUT DRAWING.
2. GRAVITY DRAINAGE SHALL BE UTILISED FOR THE CONDENSATE.
3. DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH HVCA SPECIFICATION 'DM 44 SPECIFICATION FOR SHEET METAL DUCTWORK'.
4. ALL GRILLES SHALL HAVE A POWDER COATED FINISH TO A COLOUR TO BE AGREED WITH THE ARCHITECT.
5. FIRE DAMPERS WITH ACCESS DOORS SHALL BE PROVIDED WHERE DUCTWORK PASSED THROUGH FIRE RATED CONSTRUCTION.
6. ALL VENTILATION SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH OBESE COMMISSIONING CODE A.
7. ALL DOORS TO WCs TO BE UNDERPUL BY 15mm UNLESS A TRANSFER GRILLE IS INDICATED.
8. DUCTWORK ACCESS HATCHES WILL BE PROVIDED FOR INSPECTION/SERVICING & CLEANING IN ACCORDANCE WITH 'DM 44 TABLE 20'.

DOMESTIC WATER NOTES

1. INTERNAL PEPWORK MATERIAL : COPPER TABLE X (EN1057 HALF HARD).
2. ALL PEPWORK IN CEILING VOIDS, RISERS & BOXINGS TO BE INSULATED.
3. ALL EXPOSED PEPWORK TO BE INSULATED IF REQUIRED TO BE PAINTED BY OTHERS.
4. PEPWORK JOINTS TO BE CAMPED WHERE PRACTICAL, SOLDERING TO BE USED AS A LAST RESORT.
5. REMOVABLE IPS PANELS REQUIRED TO ALL WC CISTERNS & VANITY BASINS.
6. WATER TREATMENT SPECIALIST TO FLUSH & DISINFECT ALL DOMESTIC WATER SYSTEMS PRIOR TO COMMISSIONING.
7. TO COMPLY WITH BS8700.
8. TO COMPLY WITH CISE TM13 MINIMISING LEAD/INELLA RISK & ACOP L8.
9. EXTENT OF EXPECTED CHROME PEPWORK TO BE AGREED WITH ARCHITECT.

VENTILATION & HEATING LAYOUT



Supply/Return Grille Schedule

Ref	Type	System	Duty	Size	Manufacturer
SD/1SE	Ceiling Diffuser ADT	Copper	3016	150x150	TROX TECHNIK
BD/1SE	Type LUS	WC/Cage	1516	1000	TROX TECHNIK
BD/2SE	Type LUS	Tea Point	6516	3000x300	TROX TECHNIK
BD/3SE	Ceiling Diffuser ADT	Meeting Room	6516	3000x300	TROX TECHNIK
BD/4SE	Ceiling Diffuser ADT	Sales Area	6516	3000x300	TROX TECHNIK

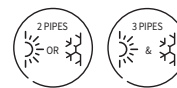
AC Equipment Schedule

REF	LOCATION	INDOOR UNIT	TYPE	OUTDOOR UNIT	SCOP	SEER
AC/1/01	Hall Zone	RQC3.0FSR	CASSETTE UNIT	RAS-8FSXNME	5.82	7.59
AC/1/02	Entrance Zone	RQC3.0FSR	CASSETTE UNIT	RAS-8FSXNME	5.82	7.59
AC/1/03	Data Rack	RPK4.0FSNM	WALL UNIT	RAS-8FSXNME	5.82	7.59

Electric Water Heaters Schedule

Ref	Type	Supplying	Make	Model	Storage temp.	Storage volume	Input
WH/001	Un-vented water heater	Tea Point	Ariston	Ardis Lux	60 °C	151	2 kW

Designed by	RG	Drawn by	RG	Approved by	
Date	30/09/22	Date	30/09/22	Date	
Rev	Description				
1	DRAWING ISSUED AS "AS BUILT"				
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					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					
129					
130					
131					
132					
133					
134					
135					
136					
137					
138					
139					
140					
141					
142					
143					
144					
145					
146					
147					
148					
149					
150					
151					
152					
153					
154					
155					
156					
157					
158					
159					
160					
161					
162					
163					
164					
165					
166					
167					
168					
169					
170					
171					
172					
173					
174					
175					
176					
177					
178					
179					
180					
181					
182					
183					
184					
185					
186					
187					
188					
189					
190					
191					
192					
193					
194					
195					
196					
197					
198					
199					
200					
201					
202					
203					
204					
205					
206					
207					
208					
209					
210					
211					
212					
213					
214					
215					
216					
217					
218					
219					
220					
221					
222					
223					
224					
225					
226					
227					
228					
229					
230					
231					
232					
233					
234					
235					
236					
237					
238					
239					
240					
241					
242					
243					
244					
245					
246					
247					
248					
249					
250					
251					
252					
253					
254					
255					
256					
257					
258					
259					
260					
261					
262					
263					
264					
265					
266					
267					
268					
269					
270					
271					
272					
273					
274					
275					
276					
277					
278					
279					
280					
281					
282					
283					
284					
285					
286					
287					
288					
289					
290					
291					
292					
293					
294					
295					
296					
297					
298					
299					
300					
301					
302					
303					
304					
305					
306					
307					
308					
309					
310					
311					
312					
313					
314					
315					
316					
317					
318					
319					
320					
321					
322					
323					
324					
325					
326					
327					
328					
329					
330					
331					
332					
333					
334					
335					
336					
337					
338					
339					
340					
341					
342					
343					
344					
345					
346					
347					
348					
349					
350					
351					
352					
353					
354					
355					
356					
357					
358					
359					
360					
361					
362					
363					
364					
365					
366					
367					
368					
369					
370					
371					
372					
373					
374					
375					
376					
377					
378					
379					
380					
381					
382					
383					
384					
385					
386					
387					
388					
389					
390					
391					
392					
393					
394					
395					
396					
397					
398					
399					
400					
401					
402					
403					
404					
405					
406					
407					
408					
409					
410					
411					
412					
413					
414					
415					
416					
417					
418					
419					
420					
421					
422					
423					
424					
425					
426					
427					
428					
429					
430					
431					
432					
433					
434					
435					
436					
437					
438					
439					
440					
441					
442					
443					
444					
445					
446					
447					
448					
449					
450					
451					
452					
453					

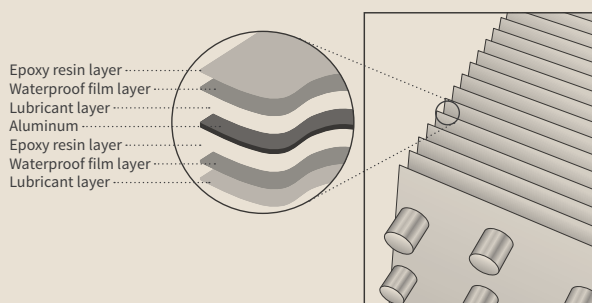


VRF SET FREE Mini



Advanced anti-corrosion treatment

With its triple coating, the SET FREE MINI offers the best protection on the market for use in tough environments.



Precise temperature control is maintained with Smooth Drive Control

Ultra-precise compressor frequency control (0.1Hz) ensures optimum outdoor unit performance under partial loads and a consistent indoor temperature. This new feature allows a single 1.1kW (0.4Hp) unit to operate on its own if required.

Smart Defrost

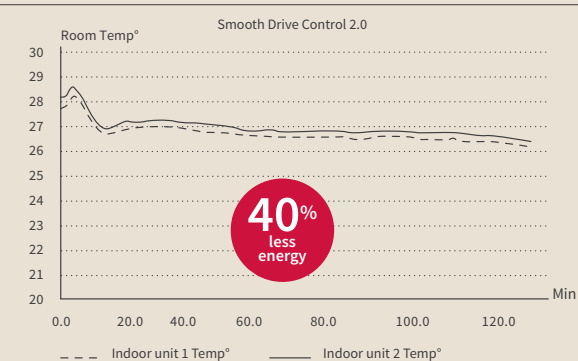
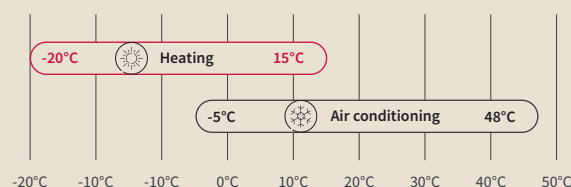
The smart defrost feature ensures a longer heating period without defrosting. This period automatically adjusts to the defrosting time of previous cycles and can extend up to 240 minutes, improving the comfort level as well as the heating capacity.

Easier maintenance

Direct access to the 7-segment display to perform tests and diagnostics. Real-time operating conditions and installation error codes are displayed for ease of servicing.

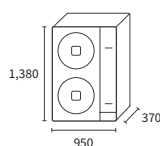
Large operating range

Outside temperature operating range

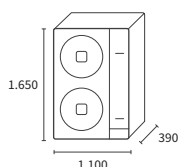


Performance at 25% partial load
Cooling capacity = 7.88 kW
Power input = 1.13kW
EER = 6.96

Outdoor units



SET FREE Mini S
RAS-4FS(V)NME
RAS-5FS(V)NME
RAS-6FS(V)NME



SET FREE Mini L
RAS-8FSXNME
RAS-10FSXNME
RAS-12FSXNME

VRF SET FREE Mini S and L

VRF outdoor units

Performance, cooling	Unit	S RAS-4FS(V)NME	S RAS-5FS(V)NME	S RAS-6FS(V)NME	L RAS-8FSXNME	L RAS-10FSXNME	L RAS-12FSXNME
Nominal Cooling capacity	kW	12.10	14.00	16.00	22.40	28.00	33.50
Rated power input cooling	kW	2.97	3.26	4.35	6.25	7.27	9.36
EER	-	4.07	4.29	3.68	3.60	3.85	3.58
SEER Three-phase / Single-phase	-	6.61 / 6.67	6.61 / 6.64	6.37 / 6.40	7.59	8.31	8.26
Working range in Cooling	-	-5°C / 48°C (DB)					

Performance, heating

Nominal Heating capacity	kW	12.50	16.00	18.00	25.00	31.50	37.50
Rated power input heating	kW	2.89	3.57	4.30	5.32	6.89	9.15
Heating capacity at -7°C	kW	8.6	10.8	12.0	18.6	21.5	25.5
Heating capacity at -15°C	kW	7.3	8.7	10.0	16.2	17.7	21.1
COP	-	4.33	4.48	4.19	4.70	4.57	4.10
SCOP	-	4.15	4.40	4.25	5.62	4.72	4.66
Working range in heating	-	-20°C / 15°C (WB)					

Technical features

Airflow	m³/h	8,700			9,900	11,100	
Available static pressure	Pa	30					
Number of fans	-	2					
Sound power in Cooling mode	dB(A)	69	72	74	76	77	
Sound pressure in Cooling mode	dB(A)	52		53	55	59	60
Dimensions (H x L x D)	mm	1380 x 950 x 370			1650 x 1100 x 390		
Net weight of single-phase / three-phase	kg	114 / 115	118 / 119		- / 188	- / 194	- / 196
Type of compressor	-	Scroll Inverter					
Compressor number	-	1					
Max. number of connectible units	-	13	16	18	26	32	39
Connection ratio (min - max)	%	50-130					

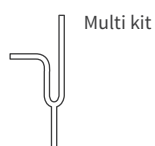
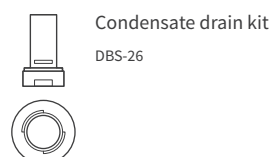
Refrigeration characteristics

Refrigerant	-	R410A					
Refrigerant charge	kg	3.7	4.1	4.1	4.2	5.5	
Diameter of pipes	Liquid	inches	3/8				1/2
	Low pressure gas	inches	-		3/4	7/8	1 1/8
	High pressure gas	inches	5/8		5/8	3/4	7/8

Electrical features

Power supply	Three-phase (Single-phase)	-	3N ~400V 50 Hz (1 ~230V 50 Hz)		3N ~400V 50 Hz		
Max. current	Three-phase (Single-phase)	A	16 (23.5)		18	19	23
Recommended fuse size		A	20 (25)		20		25
Indoor/outdoor connection (shielded)		mm	2 x 0.75				

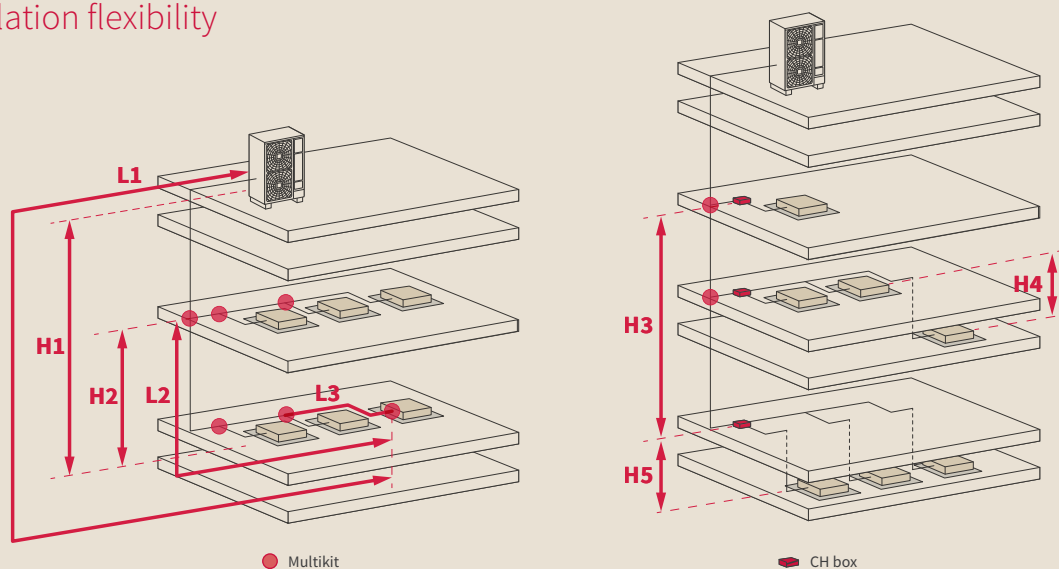
controls and compatible accessories



Piping rules

VRF SET FREE Mini

Installation flexibility



		4 to 6 Hp		8 to 12 Hp	8 to 12 Hp (heat recovery)
Max. length of piping	Total	-	180	500	500
	Between outdoor unit and the furthest indoor unit	L1	85	125	125
	Between the first multikit branch and the furthest indoor unit	L2	40	90*	90*
	Between the multikit and the indoor unit	L3	15	40	40
	Between the CH box and the indoor unit	-	-	-	40
Max. level difference	Between the outdoor unit and the indoor unit	H1	30	50	50
	Outdoor unit above the indoor unit	-	30	40	40
	Indoor unit above the outdoor unit	-	-	-	-
	Between indoor units	H2	15	15	15
	Between CH boxes	H3	-	-	15
	Between indoor units connected to a CH box (same branch)	H4	-	-	4
	Between the CH box and the indoor unit	H5	-	-	15

(*) 40 m over the recommended number of indoor units.

Part numbers of piping accessories

Multikit



2P

3P

E-102SN4

E-102XN3

E-162SN4

E-162XN3

Header



2P

3P

MH-84AN1

MH-108XN

MH-108AN

-