

AOV PLANT

AOV Plant

AOV PLANT

Block E North Core

Block F Core

N/A AHU

Amenity AC
condensers
now located to Basement

AOV
PLANT

Block E Mid Core

Commercial
units A.C
condensers

AMENITY A.C
SYSTEM CONDENSER

AOV PLANT

PuZ-ZMI 40V KA .UK
57 dB

Commercial units
AHU'S & CONDENSERS
BY TENANTS

AOV
PLANT

AOV PLANT

Block E South Core





OUTDOOR UNITS		PUHY-P900YSNW-A1	PUHY-P950YSNW-A1	PUHY-P1000YSNW-A1	PUHY-P1050YSNW-A1	PUHY-P1100YSNW-A1
CAPACITY (kW)	Heating (nominal)	113.0	119.5	127.0	132.0	140.0
	Cooling (nominal)	101.0	108.0	113.0	118.0	124.0
	High Performance Heating (UK)	101.7	107.6	114.3	118.8	126.0
	COP Priority Heating (UK)	97.2	102.8	109.2	113.5	120.4
	Cooling (UK)	90.4	96.7	101.1	105.6	111.0
POWER INPUT (kW)	Heating (nominal)	29.12	28.38	31.05	33.08	34.22
	Cooling (nominal)	30.42	30.00	33.13	36.41	36.79
	High Performance Heating (UK)	32.91	32.07	35.09	37.38	38.67
	COP Priority Heating (UK)	28.25	27.53	30.12	32.09	33.19
	Cooling (UK)	19.47	19.20	21.20	23.30	23.55
COP / EER (nominal)		3.88 / 3.32	4.21 / 3.60	4.09 / 3.41	3.99 / 3.24	4.09 / 3.37
MAX NO. OF CONNECTABLE INDOOR UNITS		50	50	50	50	50
MAX CONNECTABLE CAPACITY		50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity	50~130% OU Capacity
AIRFLOW (m³/min)	High	305 / 305	185 / 270 / 270	185 / 270 / 300	185 / 300 / 300	270 / 270 / 300
	Gas	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")
PIPE SIZE mm (in)	Liquid	19.05 (3/4")	19.05 (3/4")	19.05 (3/4")	19.05 (3/4")	19.05 (3/4")
	Gas	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")	41.28 (1-5/8")
SOUND PRESSURE LEVEL (dBA)		Heating / Cooling	68.0 / 66.0	69.5 / 68.0	70.5 / 68.5	70.0 / 68.5
SOUND POWER LEVEL (dBA)		Heating / Cooling	87.0 / 84.0	88.0 / 85.0	90.0 / 86.0	89.0 / 86.0
WEIGHT (kg)		293 + 293	213 + 277 + 277	213 + 277 + 277	213 + 277 + 277	277 + 277 + 277
DIMENSIONS (mm)	Width	1240 + 1240	920 + 1240 + 1240	920 + 1240 + 1240	920 + 1240 + 1240	1240 + 1240 + 1240
	Depth	740	740	740	740	740
	Height	1858	1858	1858	1858	1858
(1798mm without legs)						
ELECTRICAL SUPPLY ^{*1}		380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz	380-415V, 50Hz
PHASE ^{*1}		Three	Three	Three	Three	Three
STARTING CURRENT (A) ^{*1}		8	8	8	8	8
NOMINAL SYSTEM RUNNING CURRENT (A) ^{*1}		Heating / Cooling (MAX)	46.7 / 48.7 [37.1 + 37.1]	45.5 / 48.1 [17.8 + 26.4 + 26.4]	49.7 / 53.1 [17.8 + 26.4 + 31.9]	53.0 / 58.3 [17.8 + 31.9 + 31.9]
GUARANTEED OPERATING RANGE (°C)		Heating / Cooling	-20~15.5 / -5~-52	-20~15.5 / -5~-52	-20~15.5 / -5~-52	-20~15.5 / -5~-52
FUSE RATING (MCB sizes BS EN 60947-2) - (A) ^{*1}		Heating / Cooling	1 x 40 / 1 x 40	1 x 20 / 1 x 32 / 1 x 32	1 x 20 / 1 x 32 / 1 x 32	1 x 20 / 1 x 32 / 1 x 32
MAINS CABLE No. Cores ^{*1}		Heating / Cooling	4 + earth / 4 + earth	4 + earth / 4 + earth	4 + earth / 4 + earth	4 + earth / 4 + earth
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (T) R410A (GWP 2088)		Heating / Cooling	21.6 / 45.1	26.1 / 54.5	26.1 / 54.5	26.1 / 54.5
MAX ADDITIONAL REFRIGERANT (KG) / CO ₂ EQUIVALENT (T) R410A (GWP 2088)		Heating / Cooling	46.4 / 96.9	45.9 / 95.8	45.9 / 95.8	45.9 / 95.8

Notes: *SEER/SCOP available separately in the 'City Multi VRF Seasonal Efficiency' document. Based on Ecodesign Lot 21/6 to EN14825 standard.

*1 A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules.

PUHY-P900YSNW-A1 DIMENSIONS		PUHY-P950/1000/1050YSNW-A1 DIMENSIONS		PUHY-P1100YSNW-A1 DIMENSIONS	
SIDE VIEW	FRONT VIEW	SIDE VIEW	FRONT VIEW	SIDE VIEW	FRONT VIEW



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Environmental Systems UK



Mitsubishi Electric
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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of May 2020



Service Ref.				PUZ-ZM100VKA.UK		PUZ-ZM125VKA.UK		PUZ-ZM140VKA.UK	
OUTDOOR UNIT	Power supply (phase, cycle, voltage)			Single 50 Hz, 230 V					
	Max. current		A	26.5			28		
	External finish			Munsell 3Y 7.8/1.1					
	Refrigerant control			Linear Expansion Valve					
	Compressor			Hermetic					
	Model			AVB33FADMT					
	Motor output		kW	1.7		2.6		2.9	
	Starter type			Inverter					
	Protection devices			HP switch Comp. surface thermo Discharge thermo					
	Crankcase heater		W	—					
	Heat exchanger			Plate fin coil					
	Fan	Fan(drive) × No.		Propeller fan × 2					
		Fan motor output		kW	0.060+0.060				
	Airflow		m³/min(CFM)	110 (3,880)		120 (4,230)			
	Defrost method			Reverse cycle					
	Sound pressure level	Cooling	dB	49		50			
		Heating	dB	51		52			
Dimensions	W	mm (inch)	1,050 (41-5/16)						
	D	mm (inch)	330+40 (13+1-9/16)						
	H	mm (inch)	1,338 (52-11/16)						
Weight		kg (lb)	116 (256)				118 (260)		
Refrigerant			R32						
Charge		kg (lb)	4.0 (8.8)						
Oil (Model)		L	1.40 (FW68S)						
REFRIGERANT PIPING	Pipe size O.D.	Liquid	mm (inch)	9.52 (3/8)					
		Gas	mm (inch)	15.88 (5/8)					
	Connection method	Indoor side		Flared					
		Outdoor side		Flared					
	Between the indoor & outdoor unit	Height difference		Maximum 30 m					
		Piping length		Maximum 100 m					

Service Ref.				PUZ-ZM100YKA.UK		PUZ-ZM125YKA.UK		PUZ-ZM140YKA.UK		
OUTDOOR UNIT	Power supply (phase, cycle, voltage)			3phase, 50 Hz, 400 V						
	Max. current		A	8		9.5		13		
	External finish			Munsell 3Y 7.8/1.1						
	Refrigerant control			Linear Expansion Valve						
	Compressor			Hermetic						
	Model			AVB33FACMT						
	Motor output		kW	1.7		2.6		2.9		
	Starter type			Inverter						
	Protection devices			HP switch Comp. surface thermo Discharge thermo						
	Crankcase heater		W	—						
	Heat exchanger			Plate fin coil						
	Fan	Fan(drive) × No.			Propeller fan × 2					
		Fan motor output		kW	0.060+0.060					
		Airflow		m³/min(CFM)	110 (3,880)		120 (4,230)			
	Defrost method			Reverse cycle						
	Sound pressure level	Cooling	dB	49		50				
		Heating	dB	51		52				
Dimensions	W	mm (inch)		1,050 (41-5/16)						
	D	mm (inch)		330+40 (13+1-9/16)						
	H	mm (inch)		1,338 (52-11/16)						
Weight			kg (lb)	123 (271)		125 (276)		131 (289)		
Refrigerant			R32							
	Charge		kg (lb)	4.0 (8.8)						
	Oil (Model)		L	1.40 (FW68S)						
REFRIGERANT PIPING	Pipe size O.D.	Liquid	mm (inch)	9.52 (3/8)						
		Gas	mm (inch)	15.88 (5/8)						
	Connection method	Indoor side			Flared					
		Outdoor side			Flared					
	Between the indoor & outdoor unit	Height difference			Maximum 30 m					
		Piping length			Maximum 100 m					

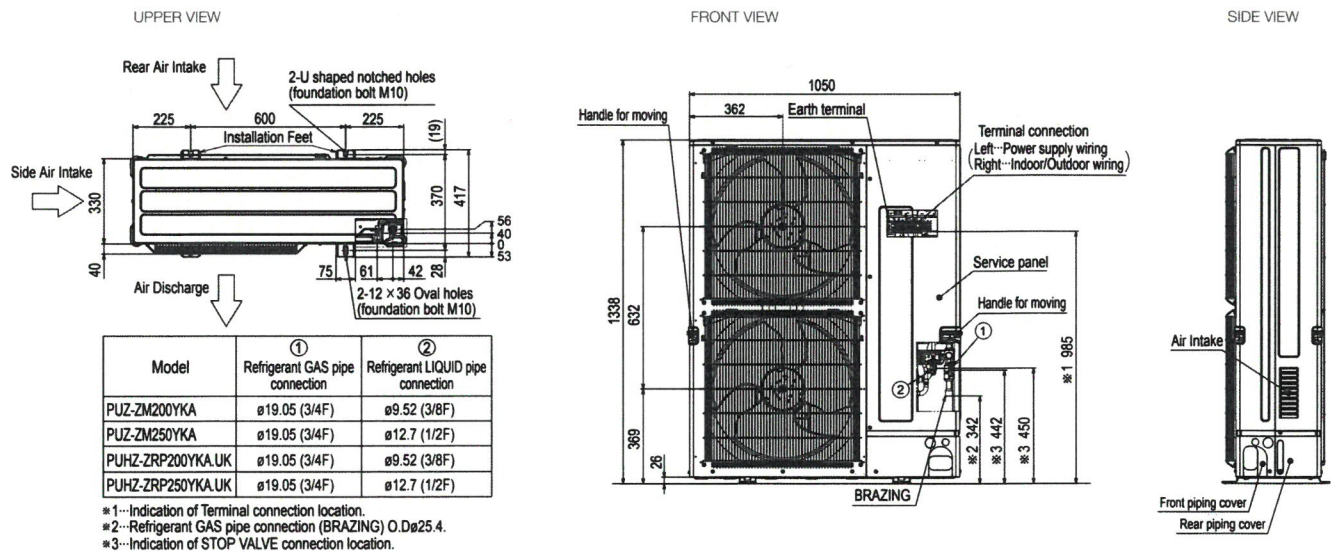
R32



PUZ-ZM200/250YKA OUTDOOR UNITS		PUZ-ZM200YKA	PUZ-ZM250YKA
Capacity (kW)	Heating (nominal)	22.4	27.0
	Cooling (nominal)	19.0	22.0
SCOP (nsh) / SEER (nsc) (BS EN14825)*1		4.50 (177.1%) / 7.49 (296.4%)	4.47 (175.7%) / 7.43 (294.3%)
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	62 / 59	62 / 59
WEIGHT (kg)		137	138
DIMENSIONS (mm)	Width x Depth x Height	1050 x 330+40 x 1338	1050 x 330+40 x 1338
PIPE SIZE mm (in)	Gas	28.58 (1 1/8")	28.58 (1 1/8")
	Liquid	9.52 (3/8")	12.7 (1/2")
ELECTRICAL SUPPLY		380-415v, 50Hz	380-415v, 50Hz
PHASE		Three	Three
SYSTEM POWER INPUT (kW)	Heating/Cooling (nominal)	5.63 / 4.95	7.81 / 6.86
	Heating/Cooling (UK)	5.07 / 4.11	7.03 / 5.69
STARTING CURRENT (A)		5	5
SYSTEM RUNNING CURRENT (A)	Heating/Cooling [MAX]	9.57 / 8.58 [22.5]	13.3 / 11.6 [22.5]
FUSE RATING (BS88) - HRC (A)		25	25
MAINS CABLE No. CORES		5	5
MAX PIPE LENGTH (m)		100	100
MAX HEIGHT DIFFERENCE (m)		30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675) - 30m	6.3 / 4.25	6.8 / 4.59
MAX ADDITIONAL REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	2.9 / 1.96	2.4 / 1.62

*1 PUZ-ZM200YKA connected to 2 x PLA-ZM100EA, PUZ-ZM250YKA connected to 2 x PLA-ZM125EA

PUZ-ZM200/250YKA DIMENSIONS



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Effective as of May 2020



MMY-MAP_6HT8P

SMMS-e



Toshiba's latest generation all inverter VRF system has continued to evolve and includes many new intelligent and innovative features that maximise end user comfort and system efficiencies.

Excellence

- Toshiba's in-house designed DC twin rotary compressor with outstanding capacity under partial load driven to improve efficiency and comfort.
- Incorporating Toshiba's latest inverter control, enables the precise modulation of the compressor, ensuring maximum performance and energy savings.
- 2 heat exchangers: outstanding 4-side heat exchanger + sub cooling heat exchanger to optimized efficiency.
- Precise refrigerant control ensures each indoor unit receives precisely the right amount of refrigerant.

Expansion

- 8 outdoor unit model line-up that can be installed in a variety of combinations, of up to a capacity of 60 HP.
- A complete range of indoor unit styles and capacity ranges, meets the demands of the customer and the room configuration.

Enhancement

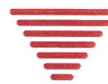
- With up to 1km total piping length; 235m in equivalent length and 70m of height difference, the system is fully adaptable for all types of projects.
- Revolutionary hands-free Wave Tool technology that allows contactless commissioning and diagnoses to be carried out using a smartphone application.

SMMS-e Physical data

Outdoor unit	CO	MMY-	MAP0806T8P-E	MAP1006T8P-E	MAP1206T8P-E	MAP1406T8P-E	MAP1606T8P-E	MAP1806T8P-E	MAP2006T8P-E	MAP2206T8P-E
Outdoor unit	HP	MMY-	MAP0806HT8P-E	MAP1006HT8P-E	MAP1206HT8P-E	MAP1406HT8P-E	MAP1606HT8P-E	MAP1806HT8P-E	MAP2006HT8P-E	MAP2206HT8P-E
Air flow	m ³ /h		9700	9700	12200	12200	12600	17300	17900	18500
Air flow	l/s		2694	2694	3389	3389	3500	4806	4972	5139
Sound Power Level	dB(A)	H	74	74	82	82	83	83	84	84
Sound pressure level	dB(A)	H	56	58	61	62	64	61	62	62
Sound Power Level	dB(A)	C	74	74	80	80	81	81	82	83
Sound pressure level	dB(A)	C	55	57	59	60	62	60	61	61
External Static pressure available	Pa		60	60	50	50	40	50	40	40
Dimensions (h x w x d)	mm		1830x990x780	1830x990x780	1830x990x780	1830x1210x780	1830x1210x780	1830x1600x780	1830x1600x780	1830x1600x780
Weight	kg	HP	242	242	242	300	300	371	371	371
Weight	kg	CO	241	241	241	299	299	370	370	370
Compressor type	Hermetic		Twin Rotary	Twin Rotary	Twin Rotary	Twin Rotary	Twin Rotary	Twin Rotary	Twin Rotary	Twin Rotary
Refrigerant charge R410A	kg	HP/CO	11.5/10.5	11.5/10.5	11.5/10.5	11.5/11.5	11.5/11.5	11.5/11.5	11.5/11.5	11.5/11.5
Gas line type - diameter			Brazed - 3/4"	Brazed - 7/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"
Liquid line type - diameter			Flare - 1/2"	Flare - 1/2"	Flare - 1/2"	Flare - 5/8"	Flare - 5/8"	Flare - 5/8"	Flare - 5/8"	Flare - 3/4"
Farthest piping equivalent length	m		235	235	235	235	235	235	235	235
Farthest piping actual length	m		190	190	190	190	190	190	190	190
Maximum pipe length ⁴	m		1000	1000	1000	1000	1000	1000	1000	1000
Maximum lift (above/below) ⁵	m		40/70	40/70	40/70	40/70	40/70	40/70	40/70	40/70
Operating range - db ⁶	°C	C	-10/46	-10/46	-10/46	-10/46	-10/46	-10/46	-10/46	-10/46
Operating range - wb ⁷	°C	H	-25/15.5	-25/15.5	-25/15.5	-25/15.5	-25/15.5	-25/15.5	-25/15.5	-25/15.5
Power supply	V-ph-Hz		380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50	380/415-3-50

1) based on an indoor air temperature of 27°C db/19°C wb and an outdoor air temperature of 35°C db
 2) based on an indoor air temperature of 20°C db and an outdoor air temperature of 7°C db/6°C wb
 3) if outdoor units are combined, refer to the installation manual
 4) Less than 34HP : 300m, Total charging refrigerant is 140kg or less.
 5) Indoor above condition: If the height difference between indoor units exceeds 3 m, set 30 m or less. Indoor below condition: If the height difference between indoor units exceeds 3 m, set 50 m or less. Also Extension up till 90m is possible. Be sure to refer the Engineering Databook for details of these conditions and requirements.
 6) The unit operates down to an outdoor temperature of -10°C, however cooling performance may decline considerably when total operating capacity of indoor units is less than 4HP while ambient temperature is below -5°C.
 7) The unit operates down to an outdoor temperature of -25°C, however considerable performance decrease will be expected below -20°C. Consider installation location/surroundings and system design when expected to operate between -20°C and -25°C.

SCOP MAX



3.70

CAPACITY



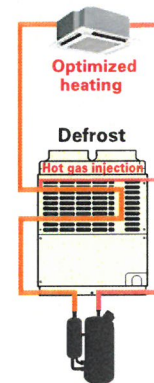
8HP > 60HP

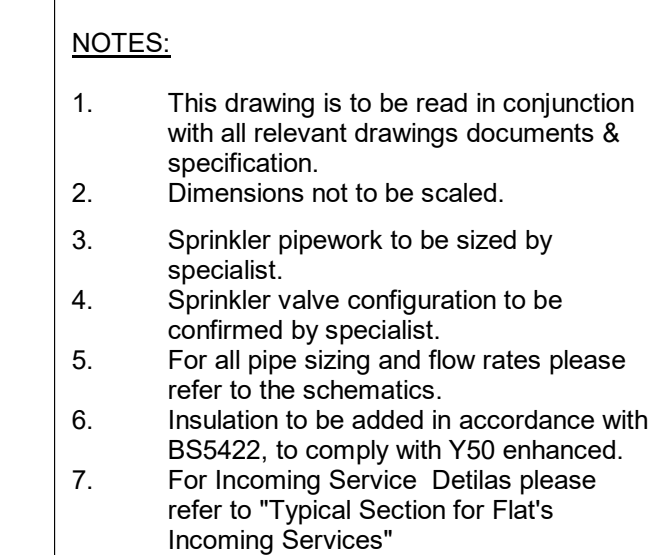
OPERATION



-25°C > +46°C

Toshiba's new continuous heating function helps to maintain the indoor room temperature and end user comfort.





	Boosted Cold Water Service - (BCWS)
	Sprinkler - (SPR)
	Gas Pipework - (GAS)
	Category 5 Water Supply - (CAT-5)
	Fire Protection Dry - (DR)

 Access Panel 300x600mm

System Abbreviation
Pipe Size [DN mm]
@ Middle Elevation from FFL [mm]

[illegible]

Rev.	Date	Seq.	BY	Description
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SH Reading (phase 1) Limited

Station Hill, Reading

BLOCK F

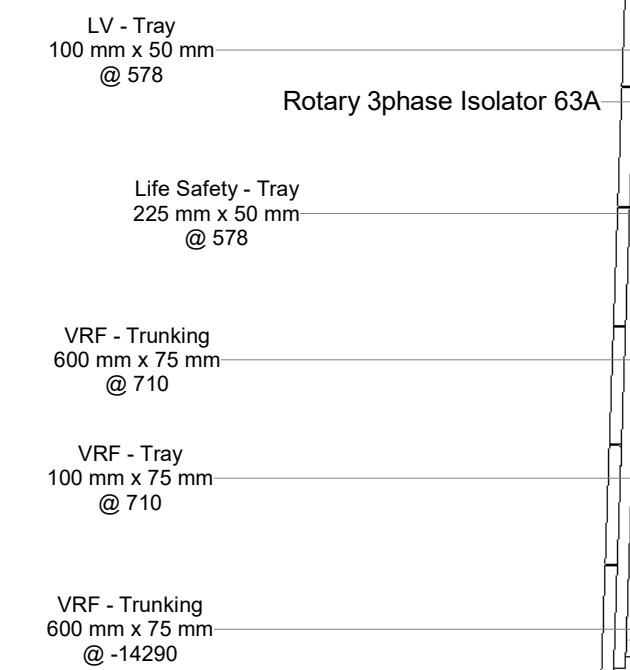
CODE: 70
ROOF COMBINED SERVICE

Approved By: A. Sinclair	Date: 30/06/2018
Checked:	

Status:

Drawing No.
SHR-ARK-BE-BE-DR-V-70-0001

[illegible]



- NOTES:**
- This drawing is to be read in conjunction with all relevant drawings documents & specification.
- Dimensions not to be scaled.
- Sprinkler pipework to be sized by specialist.
- Sprinkler valve configuration to be confirmed by specialist.
- For all pipe sizing and flow rates please refer the schematics.
- Insulation to be added in accordance with BS5422, to comply with Y50 enhanced.
- For Incoming Service Details please refer to "Typical Section for Flat's Incoming Services"

LEGEND

- | |
|-------------------------------------|
| Boosted Cold Water Service - (BCWS) |
| Sprinkler - (SPR) |
| Gas Pipework - (GAS) |
| Category 5 Water Supply - (CAT-5) |
| Fire Protection Dry - (DR) |

-  Wall Opening 150x500mm
 Access Panel 300x600mm

Pipework Annotation

- System Abbreviation
Pipe Size (DN mm)
@ Middle Elevation from FFL (m)

[illegible]

	Date	Seq.	BY	Description
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Client: _____

Station Hill, Reading

Drawing area:
LOCK E
MORE E3

Drawing Title:
CODE: 70
ROOF COMBINED SERVICES

Approved A. Sinclair	Date: 30/06/2022
Checked O. Soykuvvet	Scale: 1 : 100
Drawn M. Zalucki	Size: A0

status:
PRELIMINARY

Drawing No.	Rev.
IR-ARK-BE3-RF-DR-V-70-0001	

1. This drawing is to be read in conjunction with all relevant drawings documents & specification.
2. Dimensions not to be scaled.
3. Sprinkler pipework to be sized by specialist.
4. Sprinkler valve configuration to be confirmed by specialist.
5. For all pipe sizing and flow rates please refer to the schematics.
6. Insulation to be added in accordance with BS5422, to comply with Y50 enhanced.
7. For Incoming Service Details please refer to "Typical Section for Flat's Incoming Services"

	Boosted Cold Water Service - (BCWS)
	Sprinkler - (SPR)
	Gas Pipework - (GAS)
	Category 5 Water Supply - (CAT-5)
	Fire Protection Dry - (DR)

 Access Panel 300x600mm

System Abbreviation
Pipe Size (DN mm)
@ Middle Elevation from FFL (mm)



RMP-R 63.80

Life Safety - Tray
150 mm x 50 mm
@ 428

[illegible]

Rev.	Date	Seq.	BY	Description
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Project:
Station Hill, Reading

Drawing Title:
CODE: 70
ROOF COMBINED SERVICE:

Status: **RECEIVED**

Drawing No.	Rev.
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Print Date: 25/08/2022 08:51:43

