



66.540 m
▼ NB 07

61.970 m
▼ NB 06

57.400 m
▼ NB 05

52.830 m
▼ NB 04



1 East Elevation Fire Strategy
1 : 150

Copyright of this drawing is vested in Saba Architect and it must not be copied or reproduced without written consent.
All dimensions are to be taken from this drawing. DO NOT SCALE OFF THIS DRAWING. ... IF IN DOUBT
ASK.
All contractors must read this drawing and be responsible for verifying and checking all dimensions relative to their work.
Take care to ensure that all dimensions are taken from the correct drawing and the correct level.
Electronic data drawings should be read only and should not be interpreted for measurement.
All dimensions and levels should be taken only from the drawings.
CONSTRUCTION: It is considered that the proposed works are within the scope of a competent
Professional Designer's Design.
KEY PLAN:

- Cavity Barrier/Firestopping**
Firestopping (Internal) to match the fire resistance of the associated wall/floor
Cavity Barriers (External) to achieve a fire resistance of 30 minutes integrity and insulation
- Cavity Barrier Around Openings**
Acceptable materials include 0.5mm steel, 12mm gypsum based board, or mineral wool slab under compression

These Fire Strategy drawings are to be read in conjunction with the Fire Strategy Report and the Access Strategy drawings.
Structural elements including roofs supporting plant to have 90 minutes fire resistance on New Build and 120 minutes on Link Bridge. For additional requirements refer to the Fire Strategy Report.

For location and extent of external wall cavity barriers around openings, compartment wall junctions, other cavity barrier junctions, protected escape routes, subdivisions, etc. refer to the 2003 fire elevations and to the Facade Designer drawings.
Roof covering materials to be rated minimum of BA, BB, BC.
For escape stairs widths to existing and new staircases refer to the Fire Strategy Report.
Existing building elements with 'no works' are retained as existing. Fire resistance of existing elements has not been verified. Further investigations to be undertaken.
These drawings do not show the position of loose firefighting equipment. Positions for this equipment to be provided by Client and agreed with BC.
Cavity barriers to be installed in accordance with section 33 of BS 9999.
All concealed voids in excess of 20m and around all window openings to be provided with cavity barriers and where external cavity crosses over compartment line of all fire resisting walls. Provide cavity barriers at all compartment walls and in cavities at every 20m (Vertically & horizontally). All in accordance with Building Regulations and Fire Strategy.
All Ductwork & Services that pass through Protected Escape Routes to be 120min fire rated construction & be fully fire stopped to achieve 120min.
Ductwork & services that do not pass through Protected Escape Routes, but pass through fire separating elements are to be of a fire rated construction & fire stopped to achieve the same rating as the element it passes through.

FINAL

REVIEWED
By Darren Smethurst at 1:59 pm, Feb 03, 2023

P01 - First Issue

Manchester
Metropolitan
University
**BOWMER
+ KIRKLAND**
5plus architects

Manchester: 0161 228 0211
Fourth Floor, The Hive, 47 Lever Street,
Manchester M1 1FN
London: 0207 253 7644
Third Floor, 25 Chart Street,
London N1 6FA
www.5plusarchitects.com
PROJECT:
Science and Engineering
Building
TITLE:
East Elevation - Fire Strategy
New Build
SCALE: As indicated@A1
ORIGIN DATE: 24/01/23
DRAWN: JC
CHECKED: AP
STATUS:
Preliminary
PROJECT: 05894 - 1338B-5PA-NB-ZZ-DR-A-290303
DRAWING NO:
REV: P01

- Cavity Barrier/Firestopping**
Firestopping (Internal) to match the fire resistance of the associated wall/floor.
Cavity Barriers (External) to achieve a fire resistance of 30 minutes integrity and insulation.
- Cavity Barrier Around Openings**
Acceptable materials include 0.5mm steel, 12mm gypsum based board, or mineral wool slab under compression.

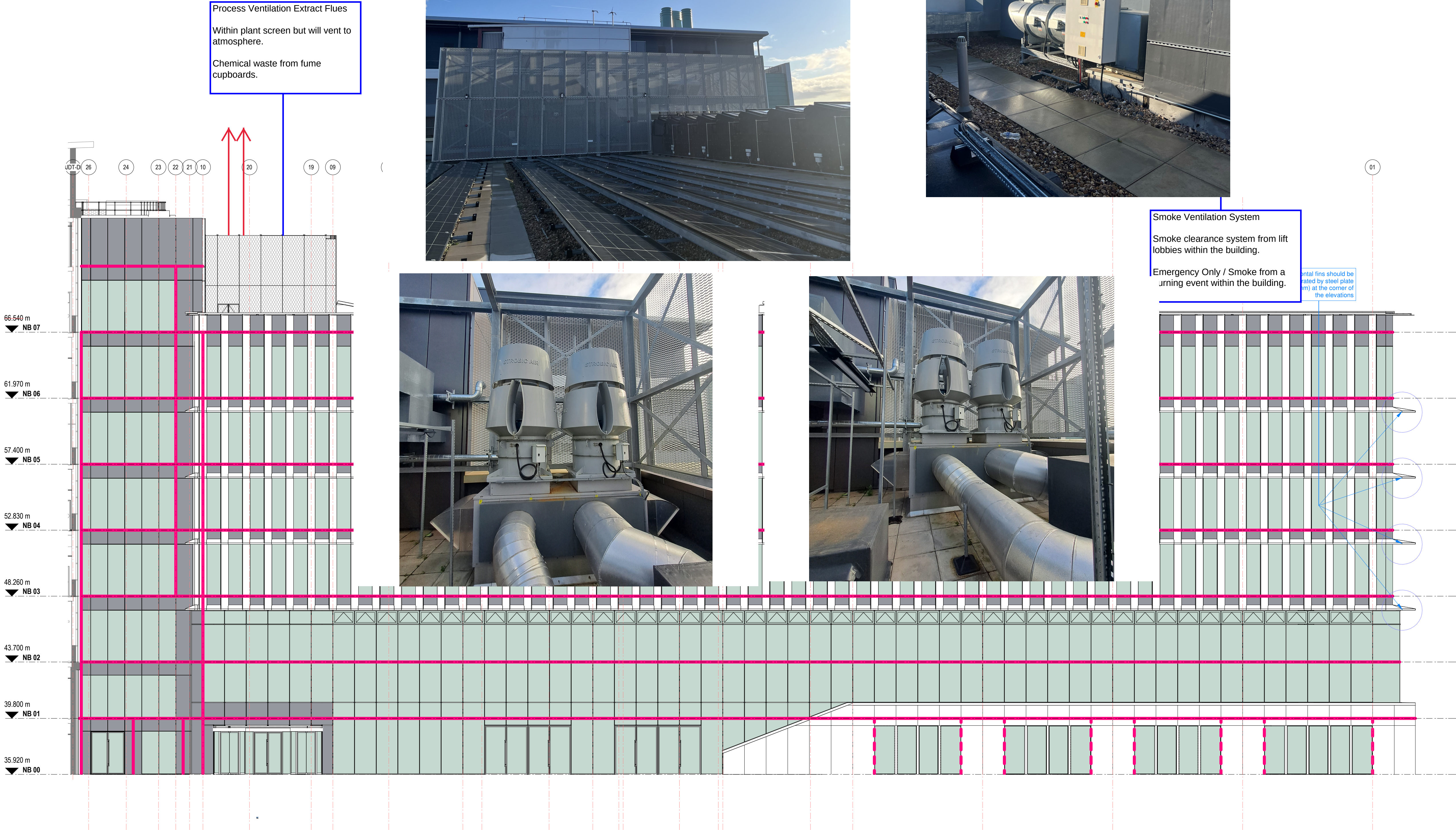
These Fire Strategy drawings are to be read in conjunction with the Fire Strategy Report and the Access Strategy drawings.
Structural elements including roofs supporting plant to have 90 minutes fire resistance on New Build and 120 minutes on Link Bridge. For additional requirements refer to the Fire Strategy Report.

For location and extent of external wall cavity barriers around openings, compartment wall junctions, other cavity barrier junctions, protected escape routes, subdivisions, etc. refer to the 2003 fire elevations and to the Facade Designer drawings.
Roof covering materials to be rated minimum of BA, BB, BC.
For escape stairs widths to existing and new staircases refer to the Fire Strategy Report.
Existing building elements with 'no works' are retained as existing. Fire resistance of existing elements has not been verified. Further investigations to be undertaken.
These drawings do not show the position of loose firefighting equipment. Positions for this equipment to be provided by Client and agreed with BC.
Cavity barriers to be installed in accordance with section 33 of BS 9999.
All concealed voids in excess of 20m and around all window openings to be provided with cavity barriers and where external cavity crosses over compartment line of all fire resisting walls. Provide cavity barriers at all compartment walls and in cavities at every 20m (Vertically & horizontally). All in accordance with Building Regulations and Fire Strategy.
All Ductwork & Services that pass through Protected Escape Routes to be 120min fire rated construction & be fully fire stopped to achieve 120min.
Ductwork & services that do not pass through Protected Escape Routes, but pass through fire separating elements are to be of a fire rated construction & fire stopped to achieve the same rating as the element it passes through.



Smoke Ventilation System
Smoke clearance system from lift lobbies within the building.
Emergency Only / Smoke from a burning event within the building.

Internal fins should be protected by steel plate 1mm at the corner of the elevations



FINAL

REVIEWED

By Darren Smethurst at 2:57 pm, Feb 03, 2023

P01 - First Issue



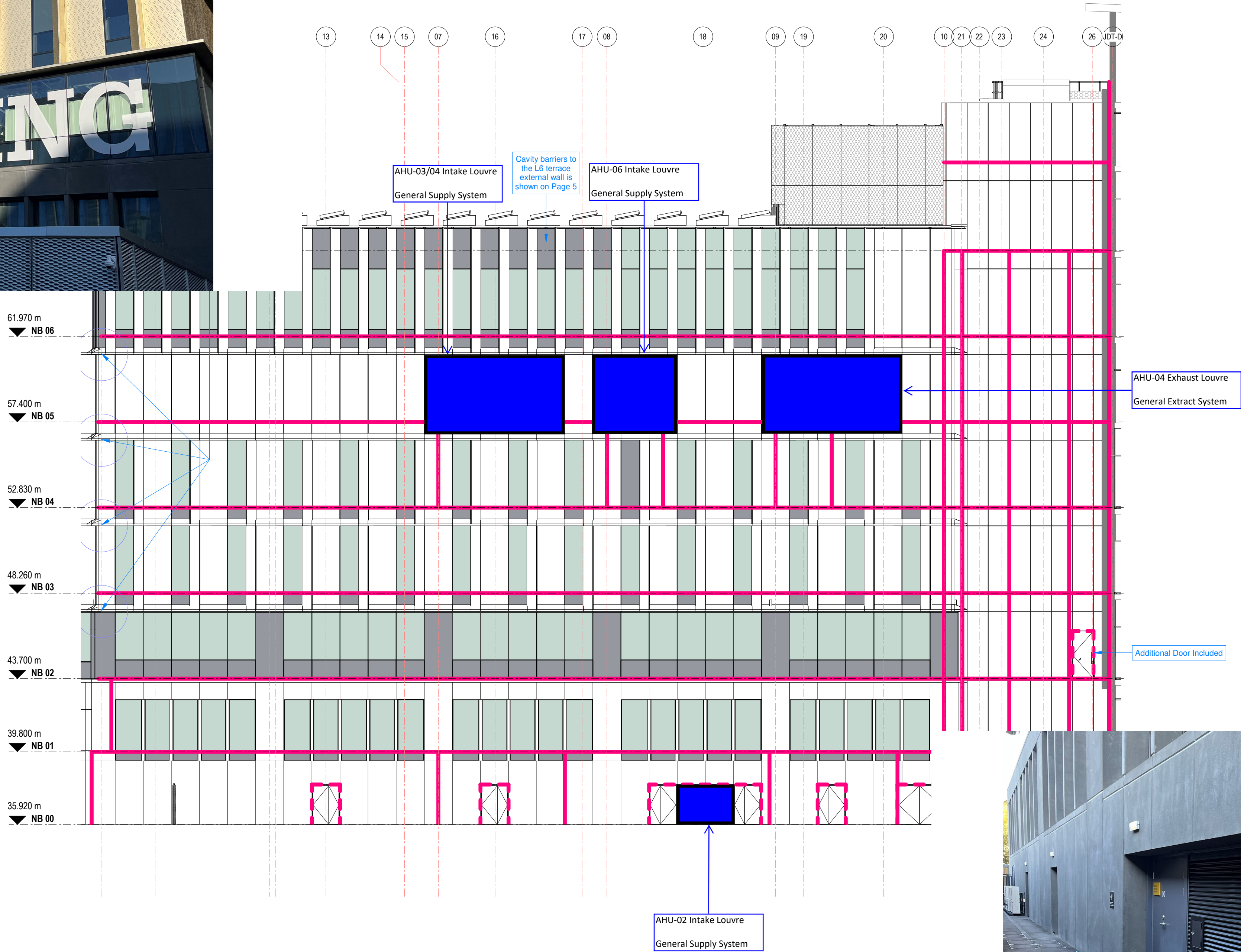
**BOWMER
+ KIRKLAND**
5plus architects

Manchester: 0161 228 0211
Fourth Floor, The Hive, 47 Lever Street,
Manchester M1 1FN
London: 0207 253 7644
Third Floor, 25 Chart Street,
London N1 6FA
www.5plusarchitects.com

PROJECT:
Science and Engineering
Building
TITLE:
North Elevation - Fire Strategy
New Build
SCALE: As indicated@A1
ORIGIN DATE: 24/01/23
DRAWN: JC
CHECKED: AP
STATUS:
Preliminary
PROJECT: 05894 - 1338B-5PA-NB-ZZ-DR-A-290300
DRAWING NO:
REV: P01

1 North Elevation Fire Strategy

1: 150



1 South Elevation Fire Strategy
1:150



Copyright of this drawing is vested in Saba Architect and it must not be copied or reproduced without written consent. All dimensions are to be taken from this drawing. DO NOT SCALE OFF THIS DRAWING. ... IF IN DOUBT ASK.
All contractors must read this drawing and be responsible for using and checking all dimensions relative to their work. Take care to ensure that all dimensions are taken from the correct reference point and are consistent.
Electronic data drawings should be read only and should not be interpreted for measurement. All dimensions and levels should be taken only from the drawings.
CONSTRUCTION: It is considered that the proposed works are within the scope of a competent person's design and construction.
KEYPLAN:

- Cavity Barrier/Firestopping**
Firestopping (Internal) to match the fire resistance of the associated wall/floor
Cavity Barriers (External) to achieve a fire resistance of 30 minutes integrity and insulation
- Cavity Barrier Around Openings**
Acceptable materials include 0.5mm steel, 12mm gypsum based board, or mineral wool slab under compression

These Fire Strategy drawings are to be read in conjunction with the Fire Strategy Report and the Access Strategy drawings.
Structural elements including roofs supporting plant to have 90 minutes fire resistance on New Build and 120 minutes on Link Bridge. For additional requirements refer to the Fire Strategy Report.

For location and extent of external wall cavity barriers around openings, compartment wall junctions, other cavity barrier junctions, protected escape routes, subdivisions, etc. refer to the 2003 fire elevations and to the Facade Designer drawings.
Roof covering materials to be rated minimum of BA, BB, BC.
For escape stairs widths to existing and new staircases refer to the Fire Strategy Report.
Existing building elements with 'no works' are retained as existing. Fire resistance of existing elements has not been verified. Further investigations to be undertaken.
These drawings do not show the position of loose firefighting equipment. Positions for this equipment to be provided by Client and agreed with BC.
Cavity barriers to be installed in accordance with section 33 of BS 9999.
All concealed voids in excess of 20m and around all window openings to be provided with cavity barriers and where external cavity crosses over compartment line of all fire resisting walls. Provide cavity barriers at all compartment walls and in cavities at every 20m (Vertically & horizontally). All in accordance with Building Regulations and Fire Strategy.
All Ductwork & Services that pass through Protected Escape Routes to be 120min fire rated construction & be fully fire stopped to achieve 120min.
Ductwork & services that do not pass through Protected Escape Routes, but pass through fire separating elements are to be of a fire rated construction & fire stopped to achieve the same rating as the element it passes through.

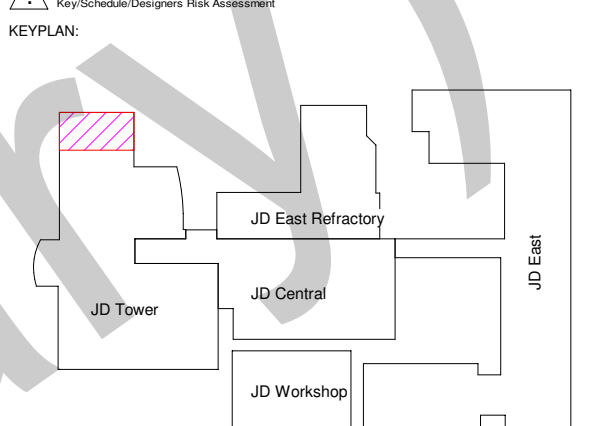
FINAL

REVIEWED
By Darren Smethurst at 2:34 pm, Feb 03, 2023

P01 - First Issue

Manchester Metropolitan University
BOWMER KIRKLAND
5plus architects

Manchester: 0161 228 0211
Fourth Floor, The Hive, 47 Lever Street,
Manchester M1 1FN
London: 0207 253 7644
Third Floor, 25 Chart Street,
London N1 6FA
www.5plusarchitects.com
PROJECT: Science and Engineering Building
TITLE: South Elevation - Fire Strategy
New Build
SCALE: As indicated@A1
ORIGIN DATE: 24/01/23
DRAWN: JC
CHECKED: AP
STATUS: Preliminary
PROJECT: 05894 - 1338B-5PA-NB-ZZ-DR-A-290302
DRAWING NO: P01



- Vertical Cavity Barriers in plan. Rating as adjacent fire rating.
- Vertical Cavity Barriers in Elevation. Rating as adjacent fire rating.
- Horizontal Cavity Barriers in Elevation. Rating as adjacent fire rating.
- Cavity Barriers in ceiling void (30 min Fire Resistance).
- Fire Escape Stair.
- Fire Fighting Lift / Evacuation Lift.
- Stair Lobby.
- Final Exit.
- Line of 30 min Fire Resistance.
- Line of 60 min Fire Resistance.
- Line of 120 min Fire Resistance.
- 30 minutes fire rated ceiling.
- 60 minutes fire rated ceiling.
- All Fire doors and values highlighted red.
- FD30S Smoke Seal if required. Minutes of Fire Resistance. FD denotes Fire Door.
- 120min FR Door.
- 1Hr FR Door.
- 30min FR Door.

These Fire Strategy drawings are to be read in conjunction with the Fire Strategy Report and the Access Strategy drawings. Structural elements including walls supporting plant to have 90 minutes fire resistance. For additional requirements refer to the Fire Strategy Report. For location and extent of ceiling void cavity barriers and any other internal cavity barriers refer to the DR-A-22 and DR-A-35 series drawings. For location and extent of external wall cavity barriers around openings, compartment wall junctions, other cavity barrier junctions, protected escape routes, subdivisions, etc. refer to the DR-A-21 series drawings. Roof covering materials to be rated minimum of BA, BB, BC. For escape stairs widths to existing and new staircases refer to the Fire Strategy Report. These drawings show works to the proposed buildings and to the refurbished elements only. Existing building elements with 'no works' are retained as existing. These drawings do not show the position of loose firefighting equipment. Positions for this equipment to be agreed at Stage 4. Cavity barriers to be installed in accordance with section 33 of BS 9999. All concealed voids in excess of 20m and around all window openings to be provided with cavity barriers and where external cavity crosses over compartment line of all fire resisting walls. Provide cavity barriers at all compartment walls and in cavities at every 20m (vertically & horizontally). All in accordance with Building Regulations and Fire Strategy. All Ductwork & Services that pass through Protected Escape Routes to be 120min fire rated construction & be fully fire stopped to achieve 120min. Ductwork & services that do not pass through Protected Escape Routes, but pass through fire separating elements are to be of a fire rated construction & fire stopped to achieve the same rating as the element it passes through.

Please note: These drawings have been updated to suit the DFC Stage 5 Fire Strategy Report. Following meeting on 14/10/21 it was agreed 5plus Fire Strategy Drawings would only show new build elements, and a full pack of Strategy drawings (including existing elements) will be produced by DFC. Intermediate and permanent positions of statutory signage to be agreed on site with building control.

FINAL

REVIEWED
By Darren Smethurst at 3:01 pm, Feb 03, 2023

P1 First Issue



Manchester: 0161 229 0211
Fourth Floor, The Hive, 47 Lever Street,
Manchester M1 1FN
London: 0207 253 7644
Third Floor, 25 Chart Street,
London N1 6FA
www.5plusarchitects.com

PROJECT:
Science and Engineering
Building
TITLE:
Fire Strategy Plan
Energy Centre
SCALE:
As indicated@A1
ORIGIN DATE:
06/09/22
DRAWN:
AW
CHECKED:
AP
STATUS:
Preliminary
PROJECT:
05894 - 1338B-5PA-EC-00-DR-A-290260
REV:
P1

Generator Flue
Extracting diesel fumes from the standby generator in the event of a power out emergency.
There will also be weekly tests for short periods.



EQUIPMENT SCHEDULE				SERVICES SCHEDULE												NOTES	
No	DESCRIPTION	GAS SUPPLY		ELECTRICAL SUPPLY						WATER SUPPLY							
		BTGA	SIZE	APPLY	VOLTS	PHASE	KVA	AMPS	APPL	MMB	FEET	CCAD	WASTE	APPLY			
1.00																	
1.01	UTILITY TROLLEY X 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.02	HAND WASH BASIN	-	-	-	-	-	-	-	-	-	-	15	15	40	450	-	
1.03	SOAP & TOWEL DISPENSERS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.04	FLY KILLER	-	-	-	230	1	-	3	2100	-	-	-	-	-	-	-	
1.05	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.06	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2.00																	
2.01	WALK-IN CHILLER	-	-	-	230	1	-	16	SEE NOTES	-	-	-	-	-	40	450	CONNECTION @ CEILING HEIGHT ISOLATOR @ 1500 AFFL LOCATED NEXT TO CONDENSOR
2.01A	CHILLER CONDENSER	-	-	-	230	1	-	20	SEE NOTES	-	-	-	-	-	-	-	
2.02	MOBILE COLD ROOM RACKING X 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2.03	MOBILE COLD ROOM RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.00																	
3.01	WALK-IN FREEZER	-	-	-	230	1	-	16	SEE NOTES	-	-	-	-	-	40	450	CONNECTION @ CEILING HEIGHT ISOLATOR @ 1500 AFFL 1/4 IN FUSED SPUR REQUIRED LOCATED NEXT TO CONDENSOR CEILING HEIGHT
3.01A	FREEZER CONDENSER	-	-	-	230	1	-	20	SEE NOTES	-	-	-	-	-	-	-	
3.01B	WALK-IN FREEZER DOOR HEATER	-	-	-	230	1	-	13	SEE NOTES	-	-	-	-	-	-	-	
3.02	MOBILE FREEZER ROOM RACKING X 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.03	MOBILE FREEZER ROOM RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.00																	
4.01	MOBILE DRY STORE RACKING X 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.02	MOBILE DRY STORE RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.03	MOBILE DRY STORE RACKING X 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.00																	
5.01	HAND WASH BASIN	-	-	-	-	-	-	-	-	-	-	15	15	40	450	-	
5.02	SOAP & TOWEL DISPENSERS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.03	FLY KILLER	-	-	-	230	1	-	3	2100	-	-	-	-	-	-	-	
5.04	UNDERCOUNTER REFRIGERATOR X 2	-	-	-	230	1	0.1	10	450	-	-	-	-	-	-	-	2 SERVICES REQUIRED
5.05	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.06	S/S WALL BENCH C/W SINK	-	-	-	-	-	-	-	-	-	-	15	15	40	450	-	
5.07	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.08	BULK BREW COFFEE MACHINE	-	-	-	400	3	15	-	SEE NOTES	-	-	-	-	-	40	450	CONNECTION @ 450 AFFL ISOLATOR @ 1500 AFFL
5.09	WATER BOILER	-	-	-	230	1	2.9	13	1200	-	-	-	-	-	15	-	450
5.10	MOBILE 4 TIER STORAGE RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.11	MOBILE 4 TIER STORAGE RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.12	WASTE BIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.13	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.14	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.15	UTILITY TROLLEY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.16	FLOOR GULLY (BY OTHERS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5.17	(OMITTED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6.00																	
6.01	MOBILE 4 TIER STORAGE RACKING X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6.02	MOBILE 4 TIER STORAGE RACKING X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6.03	MOBILE 4 TIER STORAGE RACKING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7.00																	
7.01	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7.02	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7.03	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8.00																	
8.01	MOBILE 4 TIER STORAGE RACKING X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8.02	JANITORY SINK C/W HAND WASH BASIN	-	-	-	-	-	-	-	-	-	-	15	15	40	100	-	
8.03	MOP HOLDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.00																	
9.01	UPRIGHT SINGLE DOOR REFRIGERATOR	-	-	-	230	1	-	10	2100	-	-	-	-	-	-	-	
9.02	UPRIGHT DOUBLE DOOR REFRIGERATOR	-	-	-	230	1	-	13	2100	-	-	-	-	-	-	-	
9.03	S/S WALL BENCH	-	-	-	230	1	-	13	450	-	-	-	-	-	15	40	50
9.04	UNDERCOUNTER ICE MACHINE	-	-	-	230	1	-	13	450	-	-	-	-	-	-	-	2 SOCKETS REQUIRED
9.05	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.06	S/S WALL BENCH X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.07	S/S WALL SHELF X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.08	(OMITTED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.09	FLOOR GULLY (BY OTHERS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.10	FOOD MIXER	-	-	-	230	1	1.1	-	450	-	-	-	-	-	-	-	
9.11	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.12	BLAST CHILLER / FREEZER	-	-	-	230	1	-	16	SEE NOTES	-	-	-	-	-	-	-	COMMANDO @ 450 AFFL ISOLATOR @ 1500 AFFL
9.13	FLY KILLER	-	-	-	230	1	-	3	2100	-	-	-	-	-	-	-	
9.14	S/S WALL SHELF	-	-	-	230	1	-	3	450	-	-	-	-	-	-	-	
9.15	3 DOOR REFRIGERATED COUNTER X 3	-	-	-	230	1	-	13	450	-	-	-	-	-	-	-	3 SERVICES REQUIRED
9.16	S/S COUNTER MOUNTED SHELF X 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.17	S/S CENTRE BENCH C/W INSET SINK	-	-	-	-	-	-	-	-	-	-	15	15	40	450	-	
9.18	S/S BENCH MOUNTED SHELF X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.19	S/S CENTRE BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.20	S/S BENCH MOUNTED SHELF X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.21	FOOD PROCESSOR	-	-	-	230	1	0.6	13	1200	-	-	-	-	-	-	-	
9.22	S/S WALL BENCH C/W INSET SINK	-	-	-	-	-	-	-	-	-	-	15	15	40	450	-	
9.23	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.24	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.25	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.26	WASTE BIN X 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.27	HOT FOOD PROCESSOR	-	-	-	230	1	-	13	1200	-	-	-	-	-	-	-	
9.28	VACUUM PACKING MACHINE	-	-	-	230	1	-	13	1200	-	-	-	-	-	-	-	2 SERVICES REQUIRED
9.29	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

EQUIPMENT SCHEDULE				SERVICES SCHEDULE														NOTES
No	DESCRIPTION	GAS SUPPLY		ELECTRICAL SUPPLY						WATER SUPPLY								
		BTGA	SIZE	MMBS	PHASE	NV	AMP	APFL	APFL	MMBS	PHASE	NV	AMP	APFL				
10.00																		
10.01A	20 GRID COMBI OVEN	163800	3/4"	450	230	1	2.5	11	450	-	-	-	-	15	50	0	10A BREAKER REQUIRED FLOOR GULLY REQUIRED CONNECTION @ 450 AFFL ISOLATOR @ 1500 AFFL FLOOR GULLY REQUIRED CONNECTION @ 450 AFFL ISOLATOR @ 1500 AFFL FLOOR GULLY REQUIRED	
10.01B	10 GRID COMBI OVEN	-	-	-	400	3	18.5	26	SEE NOTES	-	-	-	-	15	50	0		
10.01C	5 GRID COMBI OVEN	-	-	-	400	3	9.3	14	SEE NOTES	-	-	-	-	15	50	0		
10.02	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.03	SINGLE PAN BRATT PAN	-	-	-	400	3	29	40	SEE NOTES	-	-	-	-	15	50	450	CONNECTION @ 450 AFFL ISOLATOR @ 1500 AFFL	
10.04	S/S INFL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.05A	B BURNER RANGE	160000	3/4"	450	-	-	-	-	-	-	-	-	-	-	-	-		
10.05B	SOLID TOP RANGE	64000	3/4"	450	-	-	-	-	-	-	-	-	-	-	-	-		
10.06	S/S INFL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.07	DOUBLE BASKET FRYER X 2	112000	3/4"	450	-	-	-	-	-	-	-	-	-	-	-	-	2 SERVICES REQUIRED	
10.08	S/S INFL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.09	SALAMANDER GRILL	25000	3/4"	450	230	1	-	13	1500	-	-	-	-	-	-	-		
10.10	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.11	VENTILATION CANOPY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SUPPLY FOR LIGHTS	
10.12	S/S SERVICE DISTRIBUTION UNIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.13	FLOOR GULLY (BY OTHERS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.14	DOUBLE PAN BRATT PAN	-	-	-	400	3	22	32	SEE NOTES	-	-	-	-	15	40	450	SUPPLY FOR LIGHTS	
10.15	VENTILATION CANOPY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10.16	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.00																		
11.01	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.02	L-SHARED COLD FOOD COUNTER C/W DROP-IN L-SHAPED CHILLED WELL UNIT & DROP-IN HOT PLATE WITH HEATED GANTRY, HOT CUPBOARD, TRAY PICK-UP & TRAY SLIDE	-	-	-	230	1	8	-	450	-	-	-	-	-	-	-	TBC	
11.03	TLL / EPOS SYSTEM (BY CLIENT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TBC BY CLIENT	
11.04	REAR COUNTER C/W INSET SINK	-	-	-	-	-	-	-	-	-	-	-	-	15	15	40	450	
11.05	WASTE BIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.06	HIGH SPEED OVEN X 3	-	-	-	230	1	4.7	32	SEE NOTES	-	-	-	-	-	-	-	COMMANDO @ 450 AFFL ISOLATOR @ 1500 AFFL 3 SERVICES REQUIRED	
11.07	UNDERCOUNTER REFRIGERATOR X 2	-	-	-	230	1	0.1	10	450	-	-	-	-	-	-	-	2 SERVICES REQUIRED	
11.08	PANINI GRILL X 2	-	-	-	230	1	1.8	13	1200	-	-	-	-	-	-	-	4 SERVICES REQUIRED	
11.09	8 SLOT TOASTER	-	-	-	230	1	3	13	1200	-	-	-	-	-	-	-		
11.10	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.11	10 GRID COMBI OVEN C/W STAND	75100	3/4"	450	230	1	1	4.5	450	-	-	-	-	15	50	450	10A BREAKER REQUIRED	
11.12	PIZZA OVEN	81900	3/4"	450	230	1	-	13	450	-	-	-	-	-	-	-		
11.13	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.14	PIZZA FREEZER COUNTER	-	-	-	230	1	0.9	13	-	-	-	-	-	-	-	-		
11.15	VENTILATION CANOPY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SUPPLY FOR LIGHTS	
11.15B	VENTILATION CANOPY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SUPPLY FOR LIGHTS	
11.16	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.17	WASTE BIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.18	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.19	4 BURNER HOB	79600	3/4"	450	230	1	-	13	450	-	-	-	-	-	-	-		
11.20	GRIDDLE	39800	3/4"	450	230	1	-	13	450	-	-	-	-	-	-	-		
11.21	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.21A	S/S 2 TIER WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.22	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.23	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.24	S/S WALL BENCH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.24A	S/S WALL SHELF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.25	HAND WASH BASIN	-	-	-	-	-	-	-	-	-	-	-	-	15	15	40	450	
11.26	SOAP & TOWEL DISPENSERS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.27	UPRIGHT DOUBLE DOOR REFRIGERATOR	-	-	-	230	1	-	13	2100	-	-	-	-	-	-	-		
11.28	HOT FOOD SERVICE COUNTER C/W DROP-IN BAIN MARIE, DROP-IN HOT PLATE, HEATED GANTRY, HOT CUPBOARD, TRAY PICK-UP & TRAY SLIDE	-	-	-	230	1	9	-	450	-	-	-	-	-	-	-	TBC	
11.29	TLL / EPOS SYSTEM (BY CLIENT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TBC BY CLIENT	
11.30	HOT FOOD SERVICE COUNTER C/W DROP-IN BAIN MARIE, DROP-IN HOT PLATE, HEATED GANTRY, HOT CUPBOARD, TRAY PICK-UP & TRAY SLIDE	-	-	-	230	1	9	-	450	-	-	-	-	-	-	-	TBC	
11.31	OMITTED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.32	TLL / EPOS SYSTEM (BY CLIENT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TBC BY CLIENT	
11.33	VENTILATION CANOPY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SUPPLY FOR LIGHTS	
11.34	UNDERCOUNTER REFRIGERATOR	-	-	-	230	1	0.1	10	450	-	-	-	-	-	-	-		
11.35	L-SHAPED REAR COUNTER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.36	RICE COOKER	-	-	-	230	1	2.85	13	1200	-	-	-	-	-	-	-		
11.37	COUNTERTOP 4 BURNER HOB	79600	3/4"	450	230	1	-	13	450	-	-	-	-	-	-	-		
11.38	SPARE NUMBER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.39	HOT & COLD DRINKS & DELI ISLAND COUNTER C/W TRAY PICK-UP & TRAY SLIDE	-	-	-	230	1	1.75	-	450	✓	-	-	-	-	-	-	TBC	
11.40	DROP-IN REFRIGERATED MULTIDOCK X 2	-	-	-	230	1	4.33	-	450	✓	-	-	-	-	-	-	2 SERVICES REQUIRED	
11.41	DROP-IN REFRIGERATED MULTIDOCK X 2	-	-	-	230	1	4.33	-	450	✓	-	-	-	-	-	-		
11.42	UNDERCOUNTER REFRIGERATOR X 2	-	-	-	230	1	0.1	10	450	-	-	-	-	-	-	-	2 SERVICES REQUIRED	
11.43	TLL / EPOS SYSTEM X 2 (BY CLIENT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TBC BY CLIENT	
11.44	3 GROUP ESPRESSO MACHINE	-	-	-	400	3	6	-	450	✓	-	-	-	15	15	40		
11.45	WATER BOILER X 2	-	-	-	230	1	2.9	13	1200	✓	-	-	-	15	40	450	2 SERVICES REQUIRED	
11.46	COFFEE GRINDER	-	-	-	230	1	0.4	13	450	✓	-	-	-	-	-	-		
11.47	RETAIL SHELVEING UNIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.48	CORNER BOXING UNIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.49	REFRIGERATED MERCHANDISER X 2	-	-	-	230	1	-	10	450	-	-	-	-	-	-	-	2 SERVICES REQUIRED	
11.50	PANTRY COUNTER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11.51	TLL / EPOS SYSTEM X 2 (BY CLIENT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TBC BY CLIENT	
11.52	MOBILE CONDIMENT COUNTER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LONGAR® Type 2

High Performance Premium Baffle Filter



LONGAR® TYPE 2 FEATURES:

- 100% Flame barrier protection to DIN 18869-5.
- Cutsafe safety edges.
- Fully welded construction – all stainless steel construction.
- Meets insurance requirements.
- Meets HVCA DW172 requirements.
- Folding handles and drainholes as standard.
- Robust baffle filter construction – built to last.
- Tested & certified to European standard DIN 18869-5.
- Tested & certified to American standard UL1046.
- Tested & certified to ASTM2519.

APPLICATIONS

- Commercial kitchens
- Water mist separation
- Spark arrestors
- Sand filtration
- Grease filtration

LONGAR® TYPE 2 PREMIUM BAFFLE FILTER

For use in commercial kitchens and ventilation to extract grease laden air and act as a fire barrier. Fire barriers prevent any cooking flames traveling past the extract canopy. The new Type 2 is a development of customers requesting certain attributes for the baffle filter, the main ones being safety edges on frame and blades. LONGAR® Type 2 is available in standard depths of 20mm and 45mm depths, this is required for the filter to operate at a constant efficiency and to protect the system as a flame barrier as tested to European Standard DIN 18869-5 and American Standard UL1046. Custom sizes are available on request.

CONSTRUCTION / MATERIAL SPECIFICATIONS

As standard all baffles are manufactured with Stainless Steel 430 polished finish, (Other finishes and materials are available). Maximum Operating temperature 400C or 750F.

FITTING INSTRUCTIONS

- Fit products, handles in direction of air in.
- Product vertical in air stream.

HANDLING

- Handle with care when unpacking.
- Store in dry and frost protected place.

MAINTENANCE

- All maintenance should be carried out in accordance with the planned maintenance set by installation contractor.
- When handling any components suitable PPE should be used - gloves, eye protection and access equipment.
- Filters should be cleaned by a trained operative either daily for heavy use or weekly for light use.
- For more exact guide to cleaning you should contact a cleaning specialist.

PACKAGING

- All units are packaged in double wall boxes with separators for standard sizes, glued closed for protection whilst in transit against contamination.

FILTER CLASSIFICATION:

- Filter Class G2
- UL Class 2

TESTED TO:

- DIN 18869-5
- UL 1046
- ASTM 2519

MANUFACTURED TO:

- DW172
- ISO9001

For technical specifications, part numbers and ordering information, please see overleaf.

LONGAR® Type 2

High Performance Premium Baffle Filter

TECHNICAL SPECIFICATIONS

Longar specifies the baffle filter as height x width x thickness. The handles are fixed to the height and drain holes punched on the width. The length of the baffle blade is the height; please ensure correct orientation is given when ordering.

SIZE ORDERING GUIDE (TOLERANCES +/- 2mm)				
Part Number	Actual Size HxWxD	Nominal Size HxWxD	Weight	Filter Free Area
TYPE2ST10X20X2	243 x 496 x 45mm	254 x 508 x 50mm	1.40kgs	0.08m ²
	9.57 x 19.53 x 1.77"	10 x 20 x 2"	3.08lbs	0.86ft ²
TYPE2ST12X20X2	295 x 496 x 45mm	304 x 508 x 50mm	1.61kgs	0.09m ²
	11.61 x 19.53 x 1.77"	12 x 20 x 2"	3.54lbs	1.02ft ²
TYPE2ST16X16X2	395 x 395 x 45mm	406 x 406 x 50mm	1.54kgs	0.10m ²
	15.55 x 15.55 x 1.77"	16 x 16 x 2"	3.39lbs	1.05ft ²
TYPE2ST16X20X2	395 x 496 x 45mm	406 x 508 x 50mm	1.96kgs	0.13m ²
	15.55 x 19.53 x 1.77"	16 x 20 x 2"	4.31lbs	1.40ft ²
TYPE2ST18X18X2	444 x 444 x 45mm	457 x 457 x 50mm	1.98kgs	0.13m ²
	17.48 x 17.48 x 1.77"	18 x 18 x 2"	4.36lbs	1.40ft ²
TYPE2ST20X16X2	496 x 395 x 45mm	508 x 406 x 50mm	1.93kgs	0.12m ²
	19.53 x 15.55 x 1.77"	20 x 16 x 2"	4.25lbs	1.32ft ²
TYPE2ST20X20X2	496 x 496 x 45mm	508 x 508 x 50mm	2.41kgs	0.16m ²
	19.53 x 19.53 x 1.77"	20 x 20 x 2"	5.30lbs	1.76ft ²
TYPE2ST24X24X2	597 x 597 x 45mm	609 x 609 x 50mm	3.15kgs	0.24m ²
	23.50 x 23.50 x 1.77"	24 x 24 x 2"	6.93lbs	2.56ft ²
FINAL RECOMMENDED PRESSURE DROP: 400 PASCALS				

Pressure drop and airflow information available on request.

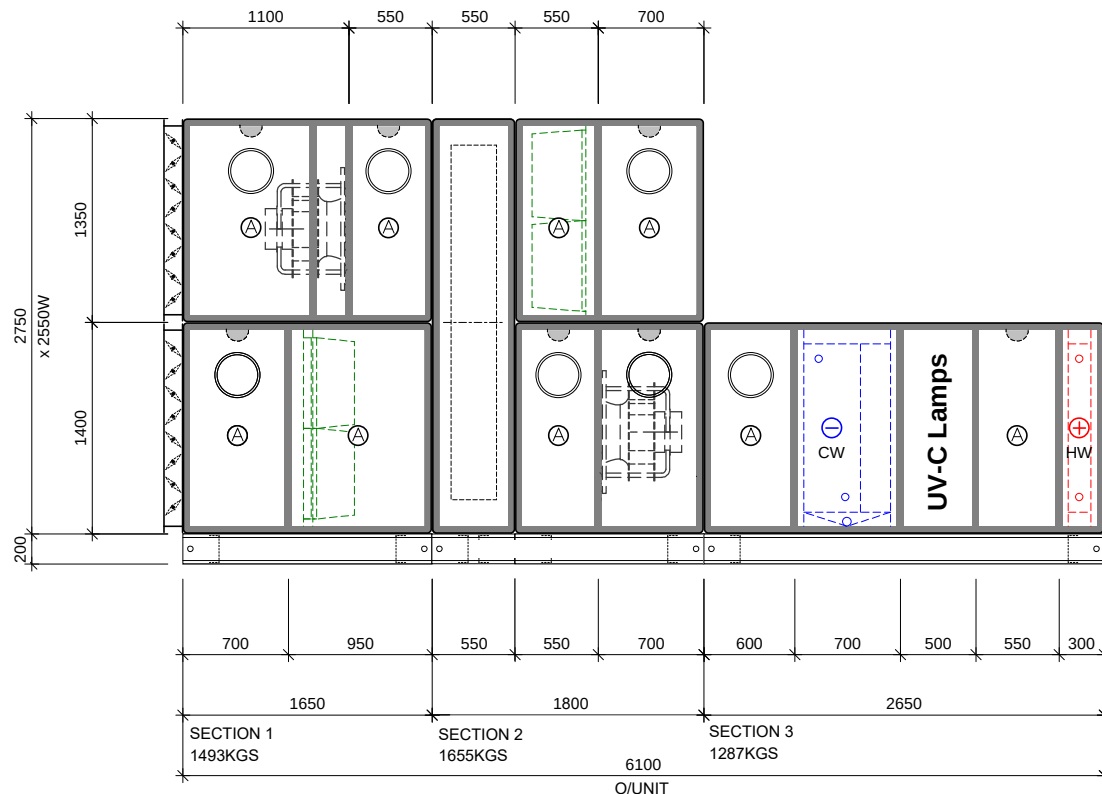


LONGAR INDUSTRIES

FILTERS AND FABRICATIONS FOR A CLEANER ENVIRONMENT

Longar Industries Limited, Unit 25, Glenmore Business Park, Colebrook Way Weyhill Road, Andover, Hampshire SP10 3GZ United Kingdom
 T +44 (0)1264 332 993 F +44 (0)1264 332 994 E info@longarind.com W www.longarind.com

As part of our program for continuous improvement, Longar Ltd reserves the right to change specifications without notice. 15-01-2016.

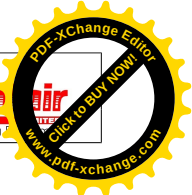


Elevation

- Components in direction of airflow
- SUPPLY SIDE**
- 1 Supply air inlet
 - 2 Access
 - 3 Panel & Bag Filters
 - 4 Thermal Wheel
 - 5 Access
 - 6 EC Fans
 - 7 Access
 - 8 Cooling coil
 - 9 UV-C Lamps
 - 10 Access
 - 11 Heater
- EXTRACT SIDE**
- 12 Access
 - 13 Bag Filter
 - 14 Thermal Wheel
 - 15 Access
 - 16 EC Fans
 - 17 Extract air outlet
- Approximate unit weight 4435 kg



Project Reference: MMU Science & Engineering Unit Reference: AHU/02	Date: 28/06/22	Supply Volume & External Static: 5.9m³/s @ 384Pa	Notes:	Drawing Scale: 1:50
	Model Reference: MA/12S	Extract Volume & External Static: 5.9m³/s @ 384Pa		Drawing Number: E220086H/2



TECHNICAL DATA

Note : The following information is provided as a guide only and must be checked at time of order

BASIC AHU INFORMATION

Model reference : **MA50/12/S** Overall Width : **2550** mm
Location : **Internal** Overall Height* : **2950** mm
Quantity : **1** Overall Length : **6100** mm
Weight : **4435** kg Base : **200** mm

*Note : The overall height shown includes the base and roof, if fitted.
However the overall unit dimensions, shown above, may exclude any externally fitted components such as inverters, isolators, coil stubs, spigots, dampers, louvres or cowls.
Please refer to the separate AHU sketch.

Supply volume : **5.90** m³/s Extract volume : **5.90** m³/s
External static : **384** Pa External static : **384** Pa
Supply components : (in direction of airflow) Extract components : (in direction of airflow)

001 Inlet Damper
002 Access
003 Panel & Rigid Filters
004 Thermal Wheel
005 Access
006 EC Fans
007 Access
008 CW Cooling Coil
009 UV-C Lamps
010 Access
011 LPHW Main Heater
012 Access
013 Bag Filters
014 Access
015 EC Fans
016 Outlet Damper

001 Inlet Damper

Damper : **External** Air volume : **5.90** m³/s
Damper material : **Galvanised MS** Additional component : **None**
Damper blade type : **Aerofoil, tip & side seals**
Operation : **Motorised by Others**

002 Access

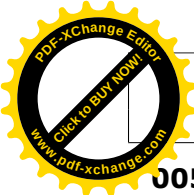
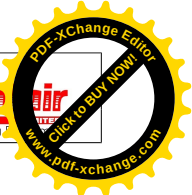
Included extras :
Bulkhead light - internally maintainable
View port
Walkway

003 Panel & Rigid Filters

Type : **Pleated : cardboard frame** Withdrawal : **Front**
Grade : **Coarse 65% [G4]** Arrangement : **4W x 2H**
Type : **City Carb Rigid compact**
Grade : **ePM1 70% [F7]**
Included extras :
Magnehelic gauges (standard x2)
Tappings only (x2)
Non-Std extras :
Velocity : 2.1 m/s

004 Thermal Wheel

	Winter	Summer
Type : Hygroscopic rotor	Supply Air On Dry Bulb : -5	°C
Casing material : Alu / Zn	Supply Air On Wet Bulb : -5	°C
Rotor material : Aluminium	Supply Air On RH : 100	%
Drive type : V7: Variable Speed	Supply Air Off Dry Bulb : 14.5	°C
Purge sector : Recommend purge angle of 5 Deg	Supply Air Off Wet Bulb : 9.8	°C
Supply volume : 5.90 m ³ /s	Supply Air Off RH : 55.1	%
Extract volume : 5.90 m ³ /s	Exhaust Air On Dry Bulb : 21	°C
	Exhaust Air On Wet Bulb : 14.6	°C
	Exhaust Air On RH : 50	%
Arrangement: Single Wheel	Exhaust Air Off Dry Bulb : 1.5	°C
	Exhaust Air Off Wet Bulb : 1.3	°C
	Exhaust Air Off RH : 97.3	%
	Efficiency (Sup) : 75.2	%
	Heat Recovery : 197.5 * 1	kW
Included extras :		
Fitted & Wired Isolator		
Control penetration		



005 Access

Included extras :

Bulkhead light - internally maintainable
View port

006 EC Fans

Type : **Plenum**
Fan arrangement : **2(W) x 1(H):2 + 0n**
Duty % per fan : **50** %
Air volume per fan : **2.95** m³/s
Outlet velocity : **Na** m/s
Ext. static pressure : **384** Pa
Fan total pressure : **1105** Pa
Impeller : **Backward Curve**
Fan Speed : **1700** rpm
Total efficiency : **71.22** %
System Power : **9.1** kW

Drive : **Direct driven**
Motors : **WithFan**
Motor arrangement : **Spider Bracket**
Motor Type : **EC IE5**
Poles :
Motor Speed : **1860** rpm
Motor power rating : **6.00** kW
FLC : **9.40** Amps
Operating frequency : Hz
Supply voltage : **3~ 400V 50Hz**
Shaft Power : **4.55** kW

Frequency (Hz) :	63	125	250	500	1k	2k	4k	8k
Fan discharge SWL levels (dB) :	86	88	97	93	91	86	82	78

Note: Fan conforms to ErP-directive 2015

Fan extras :

Inlet guard
Door guard

Included extras :

Bulkhead light - internally maintainable
View port
Control penetration
Commando Plug / Socket

Non-Std extras :

Tappings

Motor extras :

Thermistors included
Isolator fitted & wired

SWL levels include +4 dB fan in casework
adjustment and +3 dB fan in 2 fan arrangement

007 Access

Included extras :

View port

008 CW Cooling Coil

Air volume : **5.90** m³/s
Face Velocity : **2.5** m/s
Tube material : **Copper**
Fin material : **Polyester Coated Aluminium**
Casing material : **Galvanised**
No of sections : **1**
Rows : **8**
Fin spacing : **2.12mm (12/inch)**
Flow Rate : **3.08** l/s
Water p.d. : **16** KPa
Eliminators : **Fitted**
Drain tray type : **Fixed**
Drain tray material : **Stainless Steel 304**

Air On Dry Bulb : **25.00** °C
Air On Wet Bulb : **19.00** °C
Air On RH : **57.0** %
Air Off Dry Bulb : **16.0** °C
Air Off Wet Bulb : **15.9** °C
Air Off RH : **99.3** %
Duty : **64.33** kW
Medium : **Chilled water**
Glycol : **0** %
Flow temperature : **14.00** °C
Return temperature : **19.00** °C

009 UV-C Lamps

Included extras :

Purpose: Cooling coil & drain pan disinfection

010 Access

Included extras :

Bulkhead light - internally maintainable
Walkway

011 LPHW Main Heater

Air volume : **5.90** m³/s
Face Velocity : **2.5** m/s
Tube material : **Copper**
Fin material : **Aluminium**
Casing material : **Galvanised**
No of sections : **1**
Rows : **2**
Fin spacing : **4.23mm (6/inch)**

Air On Dry Bulb : **12.00** °C
Air Off Dry Bulb : **25.0** °C
Duty : **92.93** kW
Medium : **LPHW**
Flow temperature : **70.00** °C
Return temperature : **40.00** °C
Flow rate : **0.75** l/s
Water p.d. : **11** KPa



Project Reference : **MMU Science & Engineering**

Unit Reference : **AHU/02**

Date Printed : **28 June 2022**

012 Access

Included extras :

Bulkhead light - internally maintainable
View port

013 Bag Filters

Type : **Multipocket synthetic bag**

Grade : **ePM10 50% [M5]**

Withdrawal : **Front**

Arrangement : **4W x 2H**

Included extras :

Magnehelic gauge (standard x1)
Tappings only (x1)

Non-Std extras :

Velocity : 2.1 m/s

014 Access

Included extras :

Bulkhead light - internally maintainable
View port

015 EC Fans

Type : **Plenum**

Fan arrangement : **2(W) x 1(H):2 + 0n**

Duty % per fan : **50** %

Air volume per fan : **2.95** m³/s

Outlet velocity : **Na** m/s

Ext. static pressure : **384** Pa

Fan total pressure : **647** Pa

Impeller : **Backward Curve**

Fan Speed : **1465** rpm

Total efficiency : **71.32** %

System Power : **5.32** kW

Drive : **Direct driven**

Motors : **WithFan**

Motor arrangement : **Spider Bracket**

Motor Type : **EC IE5**

Poles :

Motor Speed : **1610** rpm

Motor power rating : **3.40** kW

FLC : **5.40** Amps

Operating frequency : Hz

Supply voltage : **3~ 400V 50Hz**

Shaft Power : **2.66** kW

Frequency (Hz) :	63	125	250	500	1k	2k	4k	8k
Fan discharge SWL levels (dB) :	83	90	83	85	81	78	75	72

Note: Fan conforms to ErP-directive 2015

SWL levels include +4 dB fan in casework adjustment and +3 dB fan in 2 fan arrangement

Fan extras :

Inlet guard
Door guard

Included extras :

Bulkhead light - internally maintainable
View port
Control penetration
Commando Plug / Socket

Non-Std extras :

Tappings

Motor extras :

Thermistors included
Isolator fitted & wired

016 Outlet Damper

Damper : **External**

Damper material : **Galvanised MS**

Damper blade type : **Aerofoil, tip & side seals**

Operation : **Motorised by Others**

Air volume : **5.90** m³/s

Additional component : **None**

SPECIFIC FAN POWER

Supply fan

Filter conditions : **Clean**

Fan efficiency : **71** %

Drive efficiency : **100** %

Inverter efficiency : **100** %

Motor efficiency : **100** %

Air volume : **5.90** m³/s

AHU SFP : **2.0** W/l/s

Extract fan

Filter conditions : **Clean**

Fan efficiency : **71** %

Drive efficiency : **100** %

Inverter efficiency : **100** %

Motor efficiency : **100** %

Air volume : **5.90** m³/s

ECODESIGN DIRECTIVE DATA

Unit typology : **BVU (Bi-directional Ventilation Unit)**

Operation : **NRVU (Non Residential Ventilation Unit), Airflow >1000m³/h**

Heat recovery type : **Heat Wheel**

Thermal efficiency of heat recovery system EN308 : **75.20** %

Requirements for internal specific fan power of ventilation components

ERP 2016 : **1146.00** W/m³/s

ERP 2018 : **866.00** W/m³/s

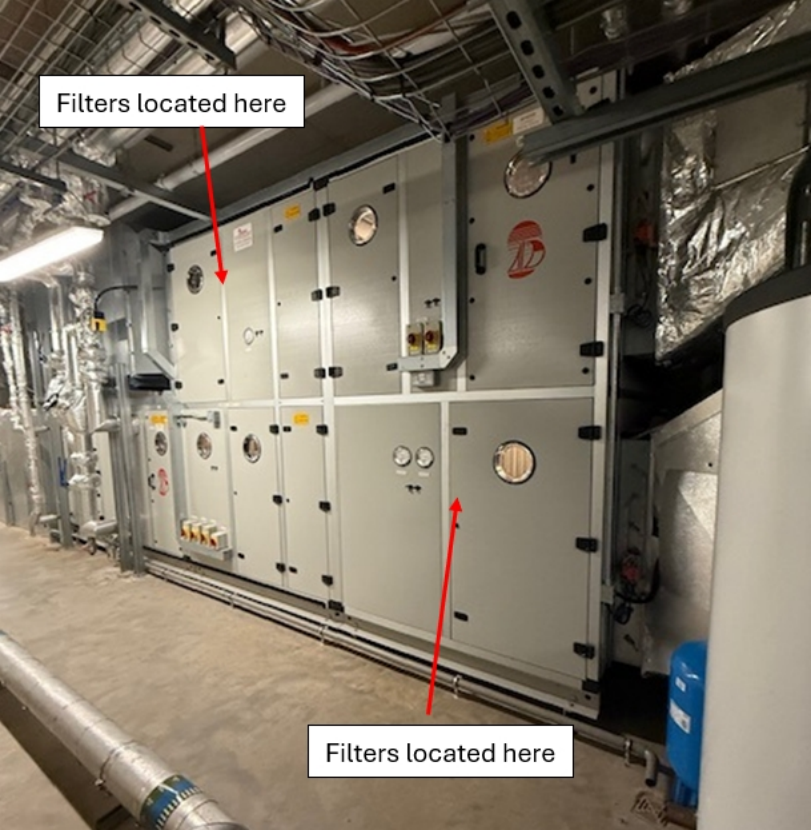
SFPInt message :

Calculated SFPInt : **630.33** W/m³/s

SFPInt conforms to : **2018**

Filters located here

Filters located here





Filters