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Leading Innovation >>>



TOSHIBA AIRCONDITIONING

Advancing the **eco**-evolution

TOSHIBA Design
AIRS

Przychodnia ul. Szpunara 20 Wieliczka

2017-05-19

Revision:



Toshiba Design **AIRS** - Project Quotation

Client:	
To:	
Tel:	
Email:	

Project Name:	Przychodnia ul. Szpunara 20 Wieliczka
Quote No.	0
Quote Ref.	
Quote Revision:	0

Site Name:	
Contact:	
Tel:	
Email:	

Project:	Przychodnia ul. Szpunara 20 Wieliczka
Project Ref:	
Project Revision:	0

Client Address:**Site Address:****Address:**

Raszyn
05-090



Toshiba Design **AIRS** - Index

Przychodnia ul. Szpunara 20 Wieliczka

Project Quotation	1
Index	2
Project Notes	3
Project Equipment List	4
Kz 1	5
Kz 1 Equipment List	5
Kz 1 Details	7
Kz 1 Schematic	8
Wiring Diagram	9
Kz 2	10
Kz 2 Equipment List	10
Kz 2 Details	12
Kz 2 Schematic	13
Wiring Diagram	14
Kz 3	15
Kz 3 Equipment List	15
Kz 3 Details	17
Kz 3 Schematic	18
Wiring Diagram	19
Project Wiring Diagram	20
Sales Data	22
Dimensions	22
Sound NC Curve	23



Toshiba Design **AIRS** - Project Notes

Przychodnia ul. Szpunara 20 Wieliczka

Notes: Equivalent length is calculated by coefficients:

□* 1,2: Kz 1, Kz 2 and Kz 3

The user is responsible for ensuring that all data entered is correct,

It is the responsibility of the consultant or contractor, to verify and confirm that the equipment selection and system design is correct before installation.

Please note that in the event of future system expansion being allowed for in the system design or a change in cooling/heating requirements, a re-evaluation of the air conditioning system must be made prior to final installation.



Toshiba Design **AIRS** - Project Equipment List

Przychodnia ul. Szpunara 20 Wieliczka Equipment List

Outdoor Units

Model name	Description	Quantity
MCY-MHP0404HS8-E	4HP Mini SMMSe	2
MCY-MHP0604HS8-E	6HP Mini SMMSe	1

Indoor Units

Model name	Description	Quantity
MMK-AP0094MH-E	1,0HP High Wall Compact (Series 4)	7
MMK-AP0124MH-E	1,25HP High Wall Compact (Series 4)	6

Y joints

Model name	Description	Quantity
RBM-BY55E	Y Joint	10

Piping Length

Pipe Diameter	Gas side (m)	Discharge side (m)	Liquid side (m)	Total Length (m)
6,4 mm	0	0	34	34
9,5 mm	34	0	35,7	69,7
12,7 mm	14,6	0	0	14,6
15,9 mm	15,8	0	0	15,8
19,1 mm	5,3	0	0	5,3

Total Refrigerant Charge Amount

Refrigerant (R410A)	Description	Amount (kg)
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	1,9
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	0,93
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	0,78

Outdoor Design Temperature

System	Mode	Description	Temperature
Kz 1	Cooling	Dry bulb Temperature	30°C
	Heating	Wet bulb Temperature	-15°C
Kz 2	Cooling	Dry bulb Temperature	30°C
	Heating	Wet bulb Temperature	-15°C
Kz 3	Cooling	Dry bulb Temperature	30°C
	Heating	Wet bulb Temperature	-15°C



Toshiba Design **AIRS** - System Equipment List

Kz 1 Equipment List

Outdoor Unit

Model name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0604HS8-E	MCY-MHP0604HS8-E			

Indoor Units

Model name	Description	Quantity
MMK-AP0124MH-E	1,25HP High Wall Compact (Series 4)	6

Y joints

Model name	Description	Quantity
RBM-BY55E	Y Joint	5

Piping Length

Pipe Diameter	Gas side (m)	Discharge side (m)	Liquid side (m)	Total Length (m)
6,4 mm	0	0	13	13
9,5 mm	13	0	14,1	27,1
15,9 mm	8,8	0	0	8,8
19,1 mm	5,3	0	0	5,3

Refrigerant Charge Amount

Refrigerant (R410A)	Description	Amount (kg)
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	1,9

Outdoor Design Temperature

Mode	Description	Temperature
Cooling	Dry bulb Temperature	30°C
Heating	Wet bulb Temperature	-15°C

Electric information (Outdoor Units)

Property	Description	Value
MOCAP (A)	Maximum Overcurrent Protection	16
MCA (A)	Minimum Circuit Amps	12,5
Protection Device size (A)		0
Wire (cable size) (mm²) or AWG(#)		0

Electric information (Indoor Units)

Property	Description	Value
Total MCA (A)		1,14
Protection Devices size (A)		0



Toshiba Design **AIRS** - System Equipment List

Electric information (Indoor Units)

Property	Description	Value
Wire (cable size) (mm ²) or AWG(#)		0



Toshiba Design **AIRS** - System Details

Kz 1 Details

Outdoor Unit Models

Model Name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0604HS8-E	MCY-MHP0604HS8-E			

Outdoor Unit

Model Name	Cooling (kW)		Heating (kW)		Diversity	
	Rated	Corrected	Rated	Corrected	System	Building
MCY-MHP0604HS8-E	15,50	16,48	18,00	11,07	125,0%	0%

Indoor Units

Model Name	Unit Name & Room	Capacity Code	Fan Speed	Mode	Capacity (Total/Sensible) [kW]		
					Rated	Corrected	Required
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,72/2,00	
				Heating	4,00	1,84	
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,75/2,02	
				Heating	4,00	1,85	
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,77/2,04	
				Heating	4,00	1,85	
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,77/2,04	
				Heating	4,00	1,85	
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,74/2,02	
				Heating	4,00	1,84	
MMK-AP0124MH-E		1,25HP	High	Cooling	3,60/2,60	2,72/2,00	
				Heating	4,00	1,84	

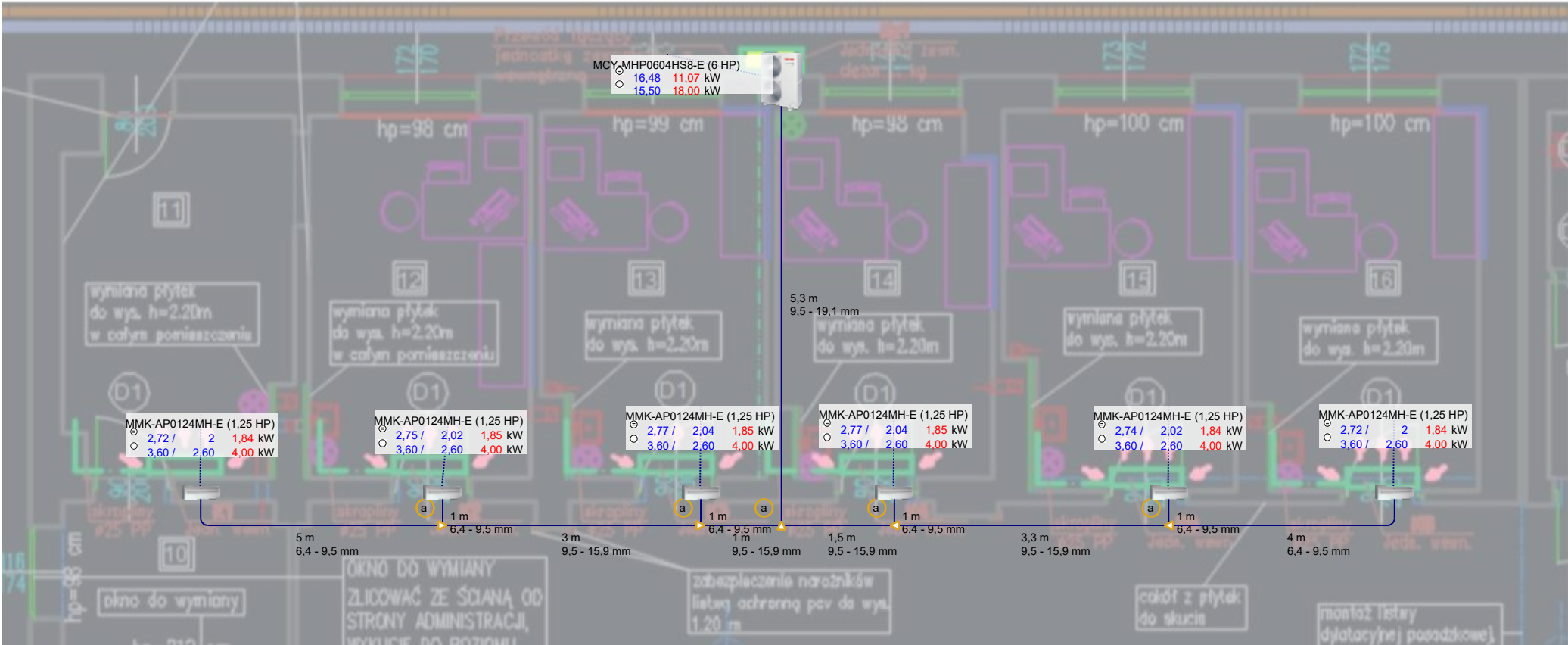
ESEER

ESEER	FER @ 100%	FER @ 75%	FER @ 50%	FER @ 25%
10,99	3,88 A = 0,03	6,02 B = 0,33	11,42 C = 0,41	18,30 D = 0,23

SCOP

SCOP	COP @ 100%	COP @ 75%	COP @ 50%	COP @ 25%
6,68	3,75 A = 0,12	4,88 B = 0,32	6,25 C = 0,36	12,08 D = 0,20

Kz 1



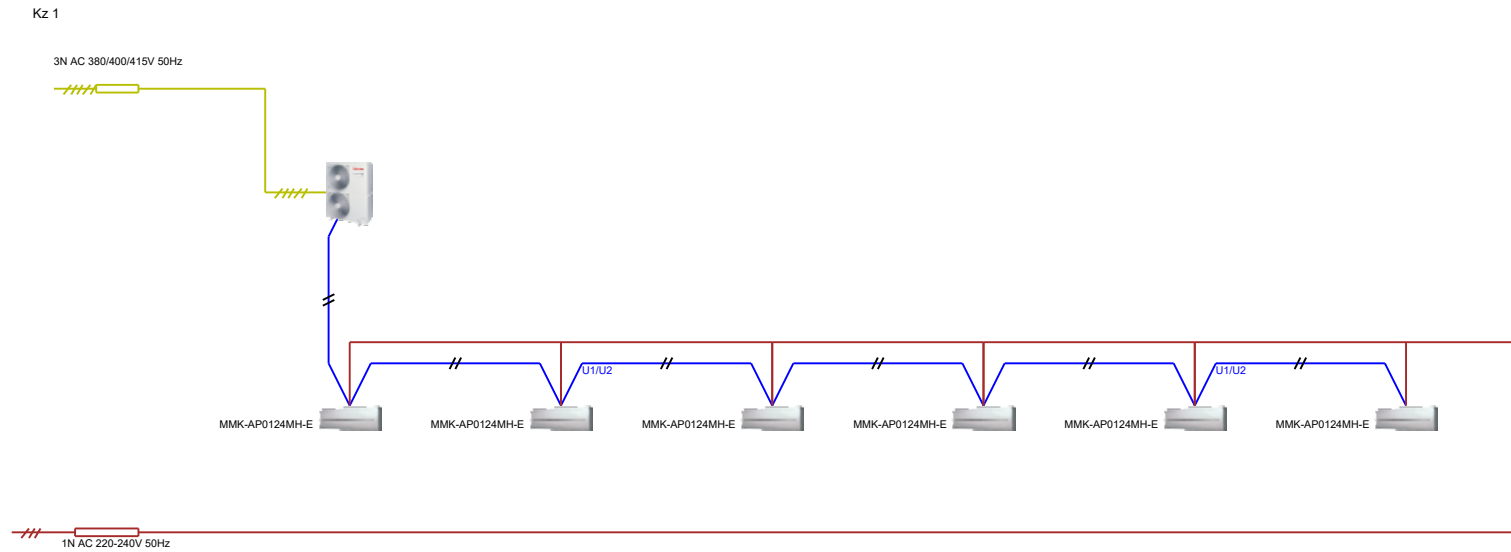
System Information	
Indoor Units	6 of 13
Capacity	125,0%
Total Pipe Length	27,1 m
Indoor Cap. Tot./Sen.	16,48 kW/12,11 kW
Indoor Cap. Heat.	11,07 kW
Building diversity	0%

Outdoor/Indoor Legend	
Model Name (Capacity Code)	
*Room name	
○	Corrected Capacity
○	Rated Capacity
Tot./Sens./ Heat.	
Tot./Sens./ Heat.	

Piping Legend	
Actual Length	
Liquid / Suction Gas diameters	
Note: It is the responsibility of the consultant or contractor, to verify and confirm that the equipment selection and system design is correct before installation.	

Branches Legend	
a	RBM-BY55E (x5)

Kz 1





Toshiba Design **AIRS** - System Equipment List

Kz 2 Equipment List

Outdoor Unit

Model name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0404HS8-E	MCY-MHP0404HS8-E			

Indoor Units

Model name	Description	Quantity
MMK-AP0094MH-E	1,0HP High Wall Compact (Series 4)	4

Y joints

Model name	Description	Quantity
RBM-BY55E	Y Joint	3

Piping Length

Pipe Diameter	Gas side (m)	Discharge side (m)	Liquid side (m)	Total Length (m)
6,4 mm	0	0	8,5	8,5
9,5 mm	8,5	0	13,1	21,6
12,7 mm	11,6	0	0	11,6
15,9 mm	1,5	0	0	1,5

Refrigerant Charge Amount

Refrigerant (R410A)	Description	Amount (kg)
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	0,93

Outdoor Design Temperature

Mode	Description	Temperature
Cooling	Dry bulb Temperature	30°C
Heating	Wet bulb Temperature	-15°C

Electric information (Outdoor Units)

Property	Description	Value
MOCAP (A)	Maximum Overcurrent Protection	16
MCA (A)	Minimum Circuit Amps	12,5
Protection Device size (A)		0
Wire (cable size) (mm²) or AWG(#)		0

Electric information (Indoor Units)

Property	Description	Value
Total MCA (A)		0,72
Protection Devices size (A)		0



Toshiba Design **AIRS** - System Equipment List

Electric information (Indoor Units)

Property	Description	Value
Wire (cable size) (mm ²) or AWG(#)		0



Toshiba Design **AIRS** - System Details

Kz 2 Details

Outdoor Unit Models

Model Name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0404HS8-E	MCY-MHP0404HS8-E			

Outdoor Unit

Model Name	Cooling (kW)		Heating (kW)		Diversity	
	Rated	Corrected	Rated	Corrected	System	Building
MCY-MHP0404HS8-E	12,10	11,80	12,50	7,00	100,0%	0%

Indoor Units

Model Name	Unit Name & Room	Capacity Code	Fan Speed	Mode	Capacity (Total/Sensible) [kW]		
					Rated	Corrected	Required
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,61/1,99	
				Heating	3,20	1,75	
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,60/1,98	
				Heating	3,20	1,75	
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,61/1,99	
				Heating	3,20	1,75	
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,64/2,01	
				Heating	3,20	1,75	

ESEER

ESEER	EER @ 100%	EER @ 75%	EER @ 50%	EER @ 25%
10,76	4,25 A = 0,03	6,34 B = 0,33	12,11 C = 0,41	15,54 D = 0,23

SCOP

SCOP	COP @ 100%	COP @ 75%	COP @ 50%	COP @ 25%
7,13	4,32 A = 0,12	4,88 B = 0,32	6,70 C = 0,36	13,20 D = 0,20

Kz 2

System Information

Indoor Units	4 of 8
Capacity	100,0%
Total Pipe Length	21,6 m
Indoor Cap. Tot./Sen.	10,46 kW/7,98 kW
Indoor Cap. Heat.	7 kW
Building diversity	0%

Outdoor/Indoor Legend

Model Name (Capacity Code)

*Room name

⊖	Corrected Capacity	Tot./Sens./ Heat.
○	Rated Capacity	Tot./Sens./ Heat.

Piping Legend

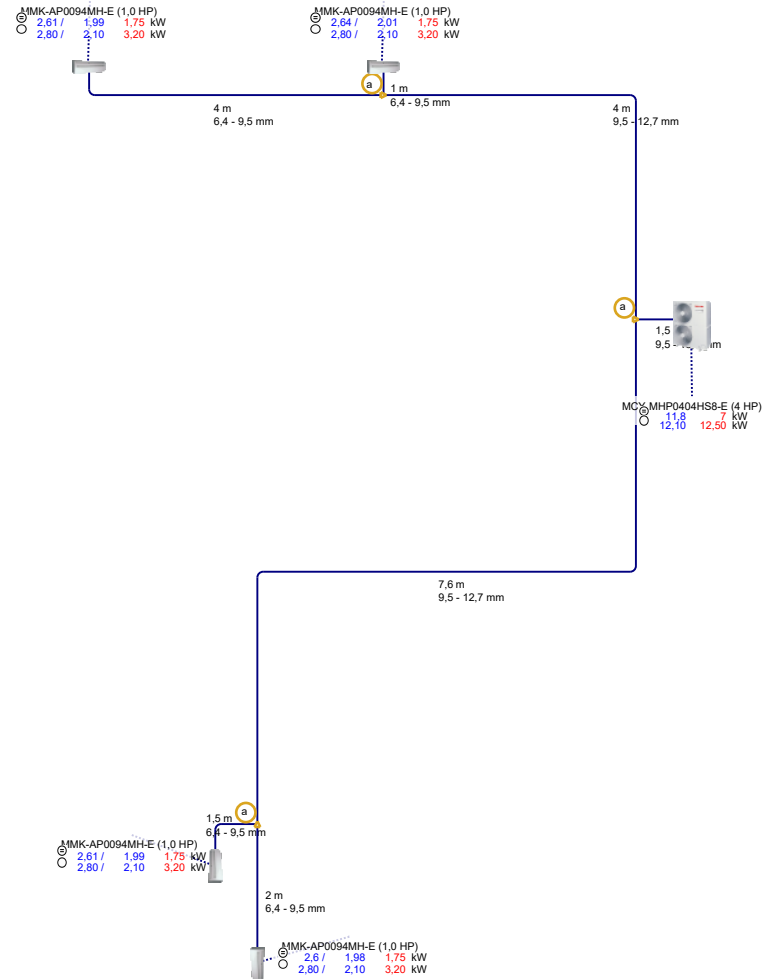
Actual Length

Liquid / Suction Gas diameters

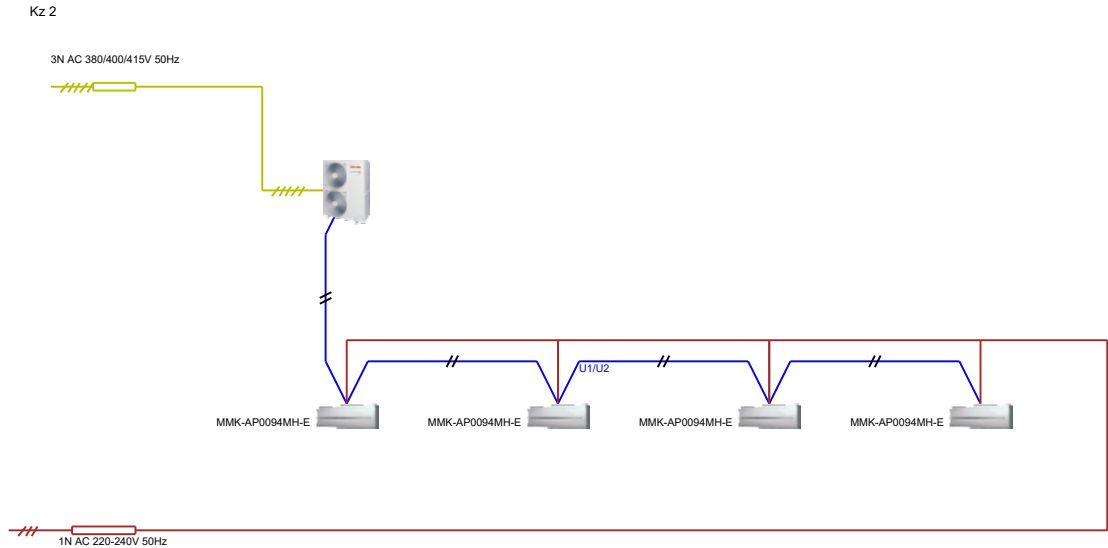
Note: It is the responsibility of the consultant or contractor, to verify and confirm that the equipment selection and system design is correct before installation.

Branches Legend

a — RBM-BY55E — (x3)



Kz 2





Toshiba Design **AIRS** - System Equipment List

Kz 3 Equipment List

Outdoor Unit

Model name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0404HS8-E	MCY-MHP0404HS8-E			

Indoor Units

Model name	Description	Quantity
MMK-AP0094MH-E	1,0HP High Wall Compact (Series 4)	3

Y joints

Model name	Description	Quantity
RBM-BY55E	Y Joint	2

Piping Length

Pipe Diameter	Gas side (m)	Discharge side (m)	Liquid side (m)	Total Length (m)
6,4 mm	0	0	12,5	12,5
9,5 mm	12,5	0	8,5	21
12,7 mm	3	0	0	3
15,9 mm	5,5	0	0	5,5

Refrigerant Charge Amount

Refrigerant (R410A)	Description	Amount (kg)
Outdoor	Refrigerant amount charged in factory	6,4
Additional Refrigerant	Amount needed for the pipes at the site	0,78

Outdoor Design Temperature

Mode	Description	Temperature
Cooling	Dry bulb Temperature	30°C
Heating	Wet bulb Temperature	-15°C

Electric information (Outdoor Units)

Property	Description	Value
MOCAP (A)	Maximum Overcurrent Protection	16
MCA (A)	Minimum Circuit Amps	12,5
Protection Device size (A)		0
Wire (cable size) (mm²) or AWG(#)		0

Electric information (Indoor Units)

Property	Description	Value
Total MCA (A)		0,54
Protection Devices size (A)		0



Toshiba Design **AIRS** - System Equipment List

Electric information (Indoor Units)

Property	Description	Value
Wire (cable size) (mm²) or AWG(#)		0



Toshiba Design **AIRS** - System Details

Kz 3 Details

Outdoor Unit Models

Model Name	Header	Follower 1	Follower 2	Follower 3
MCY-MHP0404HS8-E	MCY-MHP0404HS8-E			

Outdoor Unit

Model Name	Cooling (kW)		Heating (kW)		Diversity	
	Rated	Corrected	Rated	Corrected	System	Building
MCY-MHP0404HS8-E	12,10	11,62	12,50	6,98	75,0%	0%

Indoor Units

Model Name	Unit Name & Room	Capacity Code	Fan Speed	Mode	Capacity (Total/Sensible) [kW]		
					Rated	Corrected	Required
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,62/2,00	
				Heating	3,20	2,33	
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,61/1,99	
				Heating	3,20	2,33	
MMK-AP0094MH-E		1,0HP	High	Cooling	2,80/2,10	2,56/1,95	
				Heating	3,20	2,32	

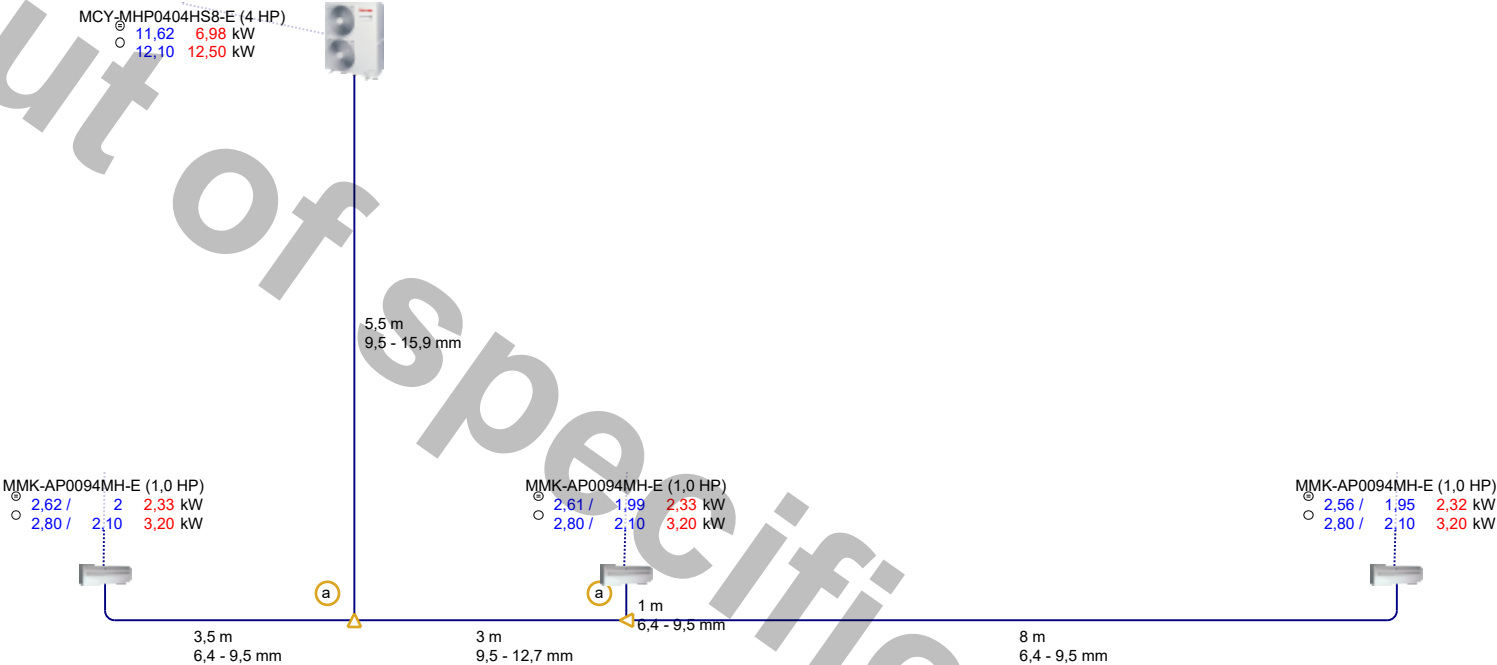
ESEER

ESEER	EER @ 100%	EER @ 75%	EER @ 50%	EER @ 25%
10,76	4,25 A = 0,03	6,34 B = 0,33	12,11 C = 0,41	15,54 D = 0,23

SCOP

SCOP	COP @ 100%	COP @ 75%	COP @ 50%	COP @ 25%
7,13	4,32 A = 0,12	4,88 B = 0,32	6,70 C = 0,36	13,20 D = 0,20

Kz 3



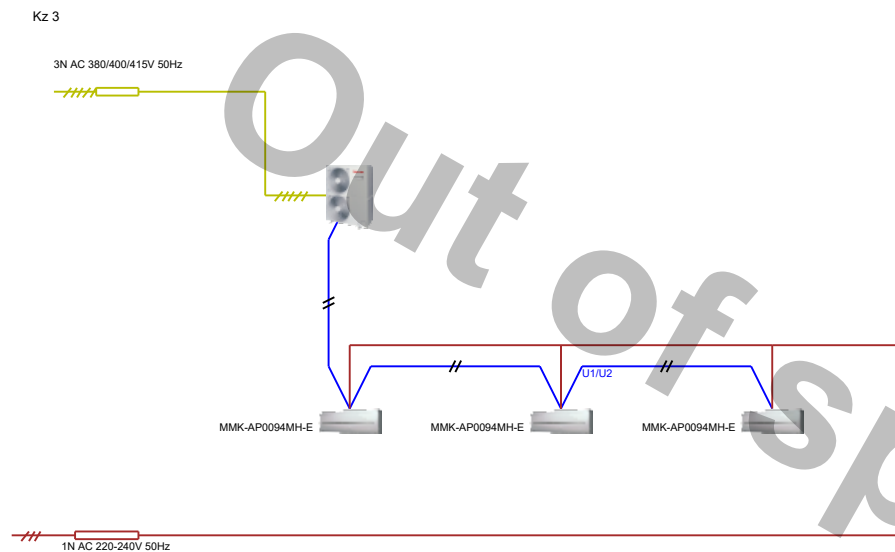
System Information	
Indoor Units	3 of 8
Capacity	75,0%
Total Pipe Length	21 m
Indoor Cap. Tot./Sen.	7,79 kW/5,94 kW
Indoor Cap. Heat.	6,98 kW
Building diversity	0%

Outdoor/Indoor Legend	
Model Name (Capacity Code)	
*Room name	
⊖	Corrected Capacity
⊙	Rated Capacity
	Tot./Sens./ Heat.

Piping Legend	
Actual Length	
Liquid / Suction Gas diameters	
Note: It is the responsibility of the consultant or contractor, to verify and confirm that the equipment selection and system design is correct before installation.	

Branches Legend	
a	RBM-BY55E (x2)

Kz 3



Toshiba Design *AIRS* - Wiring Diagram

Przychodnia ul. Szpunara 20 Wieliczka

Symbol_Legend

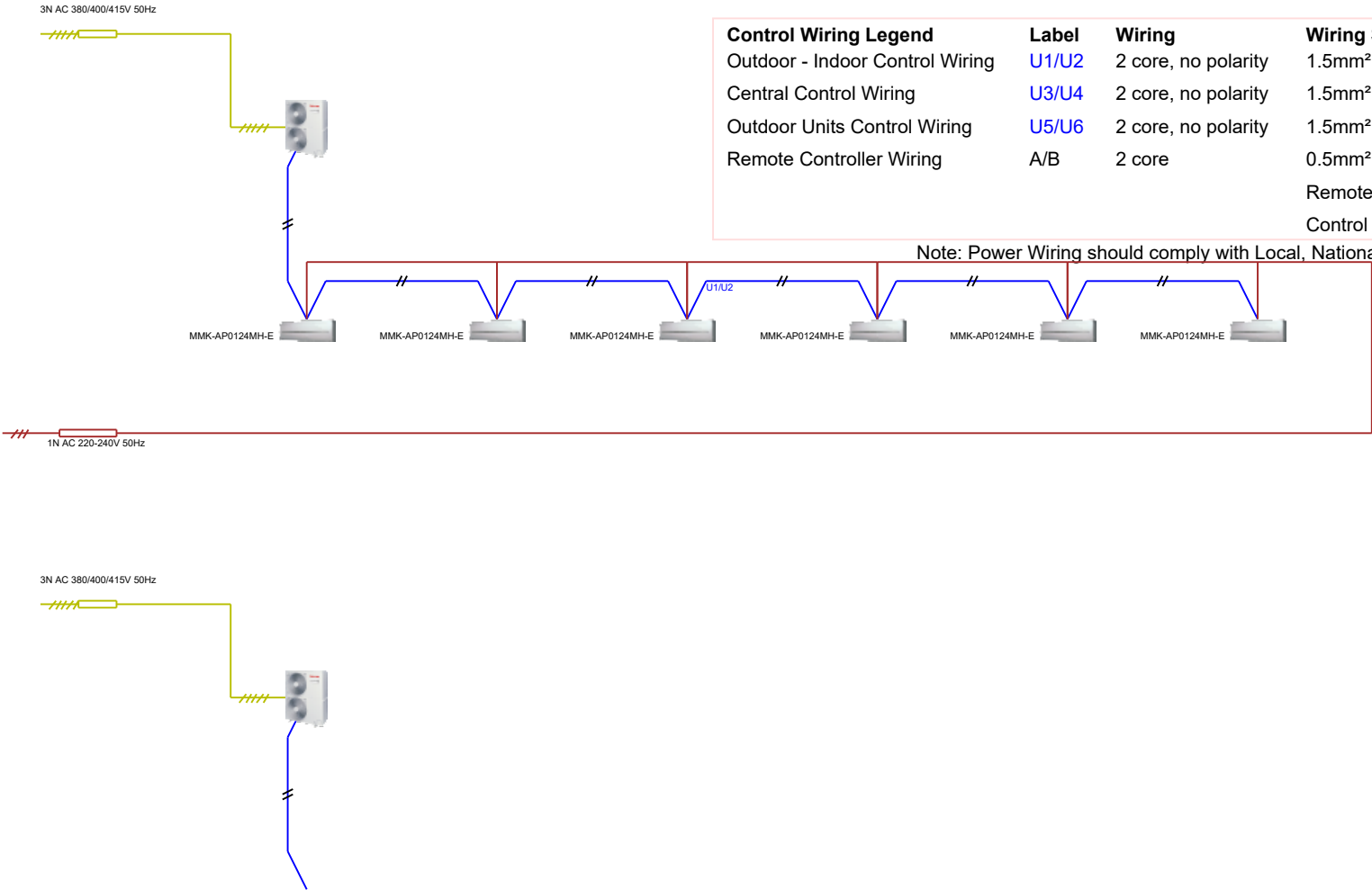
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PMV_Kit

Remote_Controller

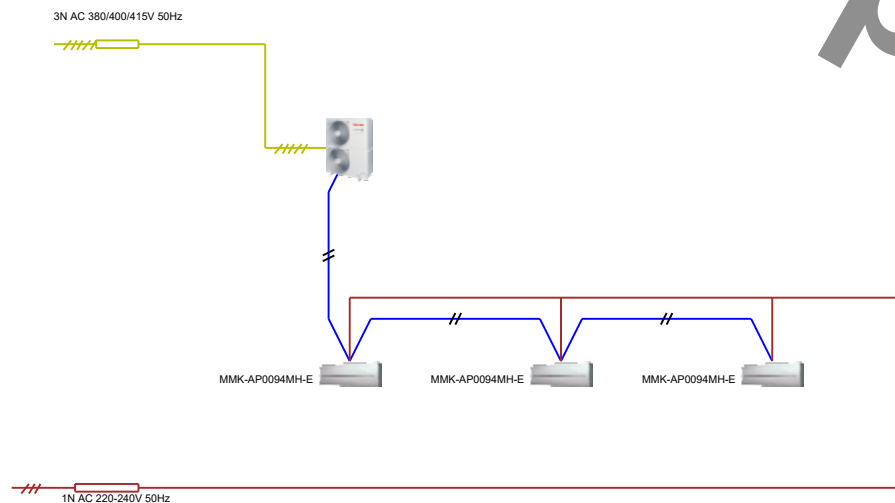
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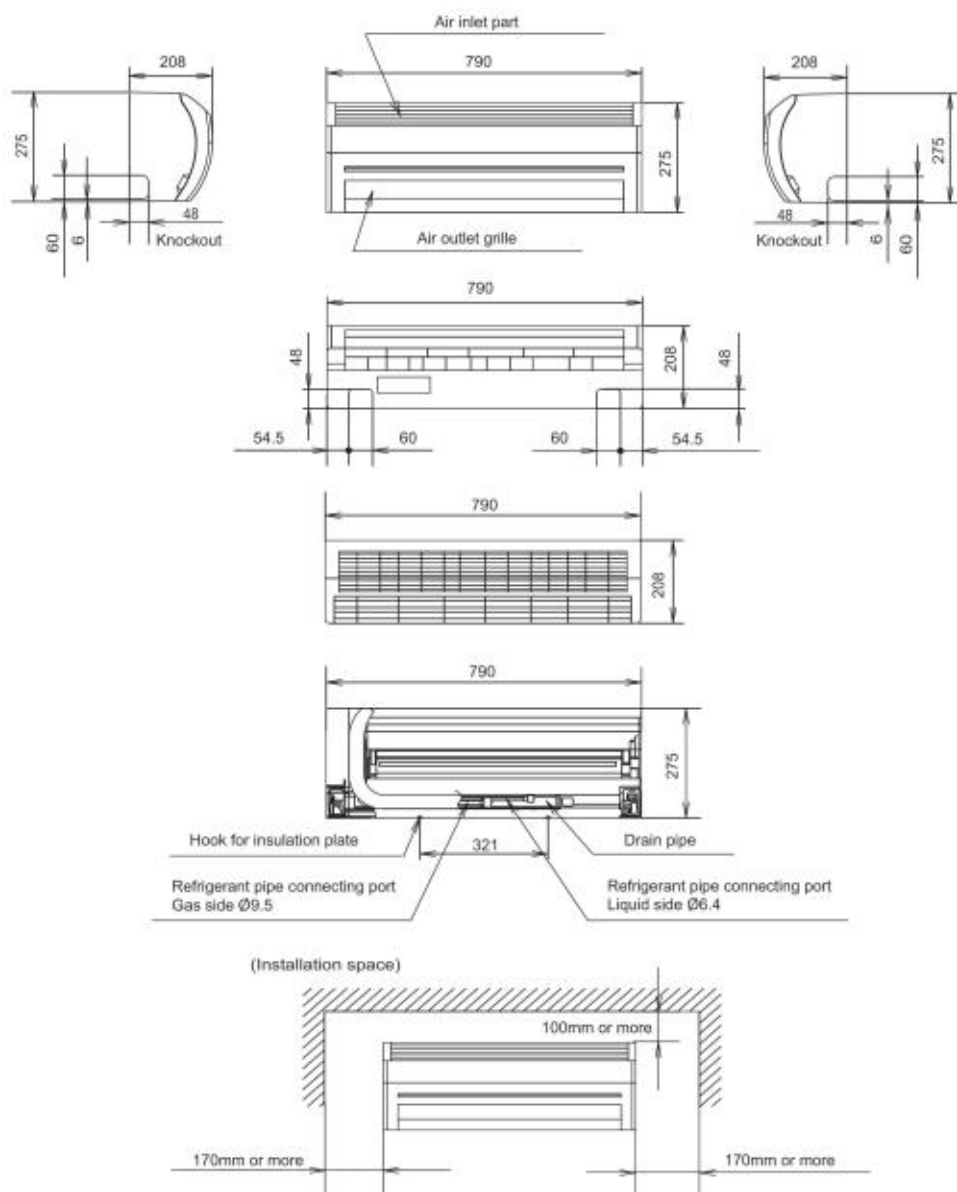
Kz 2



Przychodnia ul. Szpunara 20 Wieliczka

Kz 3





Note : All dimensions are in mm.

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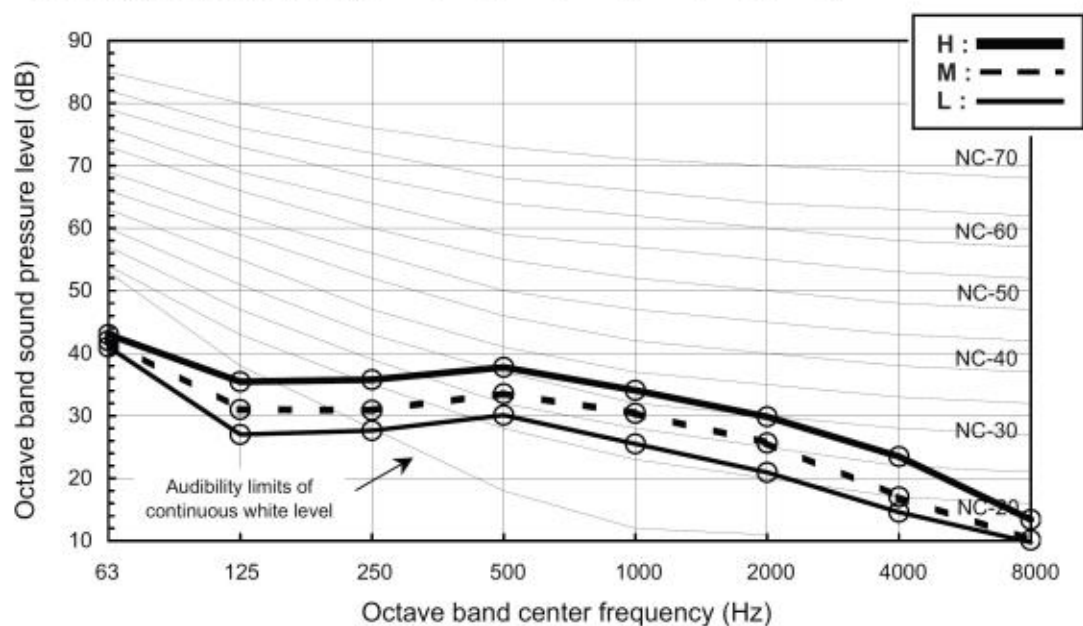
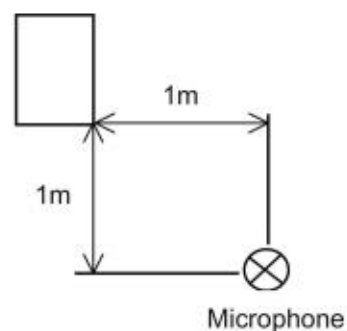
Customer:
Project: Pztychodnia ul. Szpunara 20 Wieliczka
Revision:
Reference:



Type: High Wall Compact (Series 4)
Model: MMK-AP0094MH-E

Date: 2017-05-19
Scale: none
Unit: mm
Page:

Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	29



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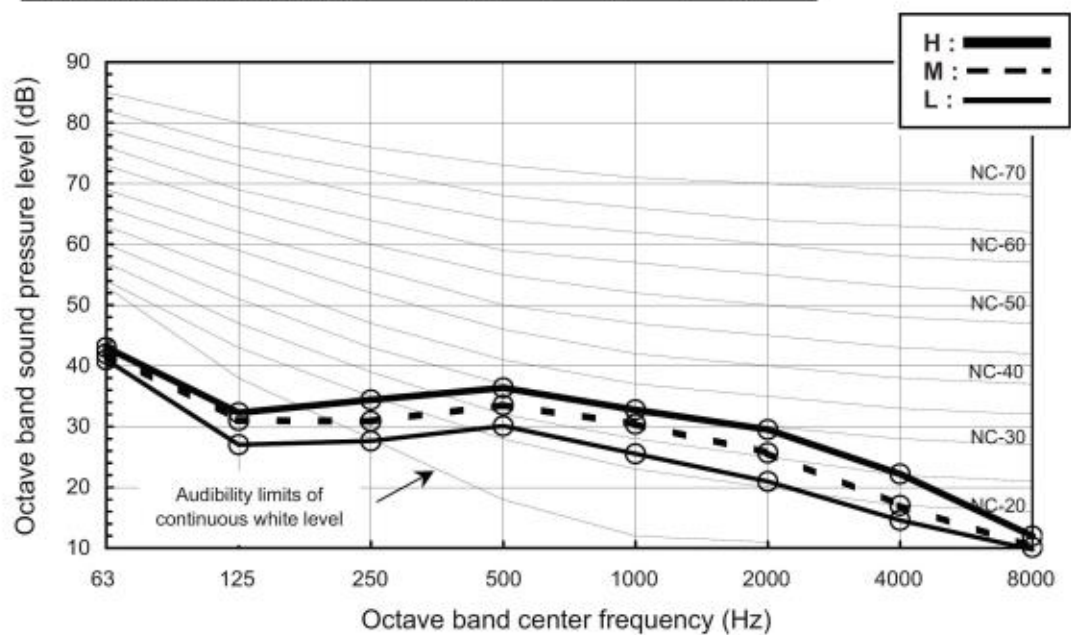
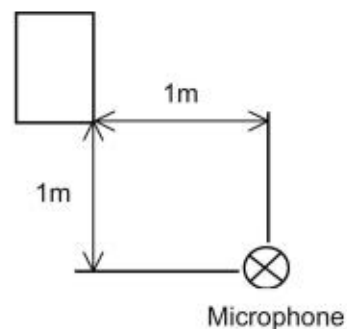
Customer:
ProjePtychodnia ul. Szpunara 20 Wieliczka
Revision:
Reference:



Type: High Wall Compact (Series 4)
Model: MMK-AP0124MH-E

Date: 2017-05-19
Scale: none
Unit: -
Page:

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	29



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Customer:
Project: Pzrychodnia ul. Szpunara 20 Wieliczka
Revision:
Reference:



Type: High Wall Compact (Series 4)
Model: MMK-AP0094MH-E

Date: 2017-05-19
Scale: none
Unit: -
Page: