

Project Name: Městský úřad Sokolov – klimatizace

Created Date: 26.05.2024

Client Name: Město Sokolov

Prepared By:

Ing. Milan Snopek

Project Ref No:

Project Ref Text:

Project Revision:



| | |
|----------|--------------------------|
| Client: | Město Sokolov |
| To: | |
| Tel: | + 420 354 228 200 |
| Email: | epodatelna@mu-sokolov.cz |
| Address: | Rokycanova 1929 |
| | |
| | Sokolov |

| | |
|---------------|------------------------------------|
| Project Name: | Městský úřad Sokolov – klimatizace |
| Quote No: | 0 |
| Quote Ref: | |
| Revision: | 0 |

| | |
|------------|--|
| Site Name: | |
| Contact: | |
| Tel: | |
| Email: | |
| Address: | |
| | |
| | |
| | |

| | |
|-------------------|-------------------|
| Prepared By: | Ing. Milan Snopek |
| Project Ref No: | |
| Project Ref Text: | |
| Project Revision: | |

| | |
|----------|--|
| Comment: | |
|----------|--|

Městský úřad Sokolov – klimatizace

| | |
|----------------------------------------|-----------|
| Project Quotation | 1 |
| Index | 2 |
| Project Note | 3 |
| Project Equipment list | 4 |
| Project Compliance | 5 |
| 2.NP | 6 |
| 2.NP Equipment List | 6 |
| 2.NP Details | 8 |
| 2.NP Schematic overview | 10 |
| 2.NP <whole system> FloorPerspective3D | 12 |
| 2.NP Outdoor Unit Details | 13 |
| 2.NP Wiring Diagram | 14 |
| 2.NP Piping & Wiring Diagram | 16 |
| 2.NP Control Wiring Diagram | 18 |
| 2.NP Power Wiring Diagram | 20 |
| 2.NP SEER/SCOP | 22 |
| 2.NP Part Load Table | 23 |
| Project Wiring Diagram | 24 |
| Project Wiring Diagram | 24 |
| Control System | 26 |
| 2.NP | 27 |
| 2.NP Piping Diagram | 27 |
| 2.NP Wiring Diagram | 28 |
| 2.NP System Diagram | 29 |

Project: Městský úřad Sokolov – klimatizace

Notes: Equivalent length is calculated by coefficients:
1,0:2.NP
The user is responsible for ensuring that all data entered is correct.
Equipment selections have been based on the Design Guidelines stated within the Toshiba SHRM-A/SMMS-u/SMMS-e/SHRM-e/MiNi-SMMS-e/Side Blow VRF Installation Manual.
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.

2.NP:

Městský úřad Sokolov – klimatizaceOutdoor Units

| Model | Quantity | Description |
|------------------|----------|-------------------------------------------------------|
| MCY-MHP1006HS8-E | 1 | MiNi Super Modular Multi System (MiNi-SMMS-e)(8,10HP) |

Indoor Units

| Model | Quantity | Description |
|----------------|----------|--------------------------|
| MMU-UP0091HP-E | 2 | 1,0HP 4-way Cassette |
| MMU-UP0121HP-E | 1 | 1,25HP 4-way Cassette |
| MMU-UP0151HP-E | 1 | 1,7HP 4-way Cassette |
| MMU-UP0181HP-E | 1 | 2,0HP 4-way Cassette |
| MMK-UP0051HP-E | 2 | 0,6HP High Wall Standard |
| MMK-UP0071HP-E | 3 | 0,8HP High Wall Standard |

Y Joints

| Model | Quantity | Description |
|------------|----------|-------------|
| RBM-BY55E | 6 | Y-Joint |
| RBM-BY105E | 3 | Y-Joint |

Accessories

| Model | Quantity | Description |
|--------------|----------|---------------|
| RBC-U32PGP-E | 5 | Ceiling Panel |

Piping Length

| Pipe Diameter | Total Length | Gas Side | Discharge Side | Liquid Side |
|---------------|--------------|----------|----------------|-------------|
| 6,4mm | 31,75 m | 0,00 m | 0,00 m | 31,75 m |
| 9,5mm | 75,75 m | 22,85 m | 0,00 m | 52,90 m |
| 12,7mm | 12,50 m | 12,50 m | 0,00 m | 0,00 m |
| 15,9mm | 14,00 m | 14,00 m | 0,00 m | 0,00 m |
| 22,2mm | 35,30 m | 35,30 m | 0,00 m | 0,00 m |

Total Refrigerant Charge Amount

| Refrigerant (R410A) | Amount | Description |
|------------------------|------------------|-----------------------------------------|
| Outdoor Unit | 4,400 kg | Refrigerant amount charged in factory |
| Additional Refrigerant | 7,003 kg | Amount needed for the pipes at the site |
| TOTAL: | 11,403 kg | |

Outdoor Design Temperature

| System | Mode | Description | Temperature |
|--------|---------|----------------------|-------------|
| 2.NP | Cooling | Dry Bulb temperature | 30,0 °C |
| | Heating | Wet Bulb temperature | 6,0 °C |

Městský úřad Sokolov – klimatizace Compliance

2.NP

| Rules | Specification | Design | Ok |
|-------------------------------------------------------------|------------------|-------------|----|
| Outdoor Units | - | 1 Unit | ✓ |
| Indoor Units (Control Boards) | 12 Unit | 10 Unit | ✓ |
| Outdoor Combined Rated HP | - | 10,0 HP | ✓ |
| Outdoor Combined Rated Cooling | - | 28,00 kW | ✓ |
| Outdoor Combined Rated Heating | - | 28,00 kW | ✓ |
| Indoor Combined Rated Cooling | - | 29,30 kW | ✓ |
| Indoor Combined Corrected Cooling | - | 26,24 kW | ✓ |
| Indoor Combined Rated Heating | - | 33,00 kW | ✓ |
| Indoor Combined Corrected Heating | - | 26,29 kW | ✓ |
| Indoor Units Combined Capacity Code | - | 10,55 | ✓ |
| Outdoor Combined Capacity Code | - | 10,0 | ✓ |
| Outdoor DB (Cooling) temperature range | -5,0°C - 46,0°C | 30,0°C | ✓ |
| Outdoor WB (Heating) temperature range | -20,0°C - 15,5°C | 6,0°C | ✓ |
| Indoor DB (Cooling) temperature range | 18,0°C - 32,0°C | 24,0°C | ✓ |
| Indoor WB (Cooling) temperature range | 15,0°C - 24,0°C | 19,0°C | ✓ |
| Indoor RH (Cooling) range | 20% - 80% | 62% | ✓ |
| Indoor DB (Heating) temperature range | 15,0°C - 28,0°C | 20,0°C | ✓ |
| Capacity Ratio | 80 - 130% | 105,5 % | ✓ |
| Total Pipe Length | 300,00 m | 84,65 m | ✓ |
| Farthest Piping Real Length | 150,00 m | 54,70 m | ✓ |
| Farthest Piping Equivalent Length | 180,00 m | 54,70 m | ✓ |
| Farthest Piping From 1st Indoor Branching Equivalent Length | 40,00 m | 30,00 m | ✓ |
| Main Piping Equivalent Length(L1e) | 80,00 m | 24,70 m | ✓ |
| Greatest Indoor Unit Connecting Piping Real Length | 15,00 m | 7,90 m | ✓ |
| Highest Indoor Unit | 30,00 m | -16,95 m | ✓ |
| Lowest Indoor Unit | 50,00 m | -16,95 m | ✓ |
| Greatest Height Between Indoor and Outdoor Units(H1) | - | 16,95 m | ✓ |
| Greatest Height Difference Between Indoor Units(H2) | 15,00 m | 0,00 m | ✓ |
| Limit Density | 0,390 kg/m³ | 0,282 kg/m³ | ✓ |
| Additional Charge | - | 7,003 kg | ✓ |
| Total Charge | - | 11,403 kg | ✓ |
| Central Control | | | ✓ |

Overall ✓

2.NP

Outdoor Units

| Model | Quantity | Description |
|------------------|----------|-------------------------------------------------------|
| MCY-MHP1006HS8-E | 1 | MiNi Super Modular Multi System (MiNi-SMMS-e)(8,10HP) |

Indoor Units

| Model | Quantity | Description |
|----------------|----------|--------------------------|
| MMU-UP0091HP-E | 2 | 1,0HP 4-way Cassette |
| MMU-UP0121HP-E | 1 | 1,25HP 4-way Cassette |
| MMU-UP0151HP-E | 1 | 1,7HP 4-way Cassette |
| MMU-UP0181HP-E | 1 | 2,0HP 4-way Cassette |
| MMK-UP0051HP-E | 2 | 0,6HP High Wall Standard |
| MMK-UP0071HP-E | 3 | 0,8HP High Wall Standard |

Y Joints

| Model | Quantity | Description |
|------------|----------|-------------|
| RBM-BY55E | 6 | Y-Joint |
| RBM-BY105E | 3 | Y-Joint |

Accessories

| Model | Quantity | Description |
|--------------|----------|---------------|
| RBC-U32PGP-E | 5 | Ceiling Panel |

Piping Length

| Pipe Diameter | Total Length | Gas Side | Discharge Side | Liquid Side |
|---------------|--------------|----------|----------------|-------------|
| 6,4mm | 31,75 m | 0,00 m | 0,00 m | 31,75 m |
| 9,5mm | 75,75 m | 22,85 m | 0,00 m | 52,90 m |
| 12,7mm | 12,50 m | 12,50 m | 0,00 m | 0,00 m |
| 15,9mm | 14,00 m | 14,00 m | 0,00 m | 0,00 m |
| 22,2mm | 35,30 m | 35,30 m | 0,00 m | 0,00 m |

Total Refrigerant Charge Amount

| Refrigerant (R410A) | Amount | Description |
|------------------------|------------------|-----------------------------------------|
| Outdoor Unit | 4,400 kg | Refrigerant amount charged in factory |
| Additional Refrigerant | 7,003 kg | Amount needed for the pipes at the site |
| TOTAL: | 11,403 kg | |

Outdoor Design Temperature

| Mode | Description | Temperature |
|---------|----------------------|-------------|
| Cooling | Dry Bulb temperature | 30,0 °C |
| Heating | Wet Bulb temperature | 6,0 °C |

Electrical Information(OutdoorUnits)

| Property | Value | Description |
|----------------------------------------------|-------|--------------------------------------------|
| MOCP(A) | 25 | Maximum Overcurrent Protection |
| MCA(A) | 20 | Minimum Circuit Amps |
| Protection Device Size(A) | | Follow applicable local standard as needed |
| Wire(cable size)(mm ²) or AWG(#) | | Follow applicable local standard as needed |

Electrical Information(IndoorUnits)

| Property | Value | Description |
|---------------------------|-------|--------------------------------------------|
| Total MCA(A) | 5,42 | |
| Protection Device Size(A) | | Follow applicable local standard as needed |

Electrical Information(IndoorUnits)

| Property | Value | Description |
|---------------------------------|-------|--------------------------------------------|
| Wire(cable size)(mm²) or AWG(#) | | Follow applicable local standard as needed |

2.NP

Outdoor Unit

| Model Name | Cooling (kW) | | Heating (kW) | | Diversity | |
|------------------|--------------|-----------|--------------|-----------|-----------|----------|
| | Rated | Corrected | Rated | Corrected | System | Building |
| MCY-MHP1006HS8-E | 28,00 | 26,25 | 28,00 | 26,29 | 105,5% | 0% |

Outdoor Unit Combination

| Header | Follower1 | Follower2 | Follower3 | Follower4 |
|------------------|-----------|-----------|-----------|-----------|
| MCY-MHP1006HS8-E | | | | |

Indoor Units

| Model Name | UnitName &Room | Capacity Code | Fan Speed Air flow (m³/h) | Capacity (Total/Sensible) [kW] | | | |
|----------------|-------------------|------------------|------------------------------|--------------------------------|-----------|-----------|-----------|
| | | | | Mode | Rated | Corrected | Required |
| MMK-UP0071HP-E | 205 | 0,8 | High 480 | Cooling | 2,20/1,70 | 1,97/1,45 | 1,83/0,00 |
| | | | | Heating | 2,50 | 1,99 | 0,00 |
| MMK-UP0071HP-E | 204 | 0,8 | High 480 | Cooling | 2,20/1,70 | 1,97/1,45 | 1,89/0,00 |
| | | | | Heating | 2,50 | 1,99 | 0,00 |
| MMK-UP0051HP-E | 203b | 0,6 | High | Cooling | 1,70/1,50 | 1,52/1,28 | 1,52/0,00 |
| | | | | Heating | 1,90 | 1,51 | 0,00 |
| MMK-UP0071HP-E | 203a | 0,8 | High 480 | Cooling | 2,20/1,70 | 1,97/1,45 | 1,69/0,00 |
| | | | | Heating | 2,50 | 1,99 | 0,00 |
| MMU-UP0091HP-E | 201 | 1 | High 800 | Cooling | 2,80/2,10 | 2,51/1,79 | 2,27/0,00 |
| | | | | Heating | 3,20 | 2,55 | 0,00 |
| MMU-UP0091HP-E | 200b | 1 | High 800 | Cooling | 2,80/2,10 | 2,51/1,79 | 2,27/0,00 |
| | | | | Heating | 3,20 | 2,55 | 0,00 |
| MMU-UP0181HP-E | 200 | 2 | High 1050 | Cooling | 5,60/4,00 | 5,02/3,40 | 4,24/0,00 |
| | | | | Heating | 6,30 | 5,02 | 0,00 |
| MMK-UP0051HP-E | 212 | 0,6 | High | Cooling | 1,70/1,50 | 1,52/1,28 | 1,16/0,00 |
| | | | | Heating | 1,90 | 1,51 | 0,00 |
| MMU-UP0151HP-E | 200a | 1,7 | High 930 | Cooling | 4,50/3,20 | 4,03/2,72 | 3,44/0,00 |
| | | | | Heating | 5,00 | 3,98 | 0,00 |
| MMU-UP0121HP-E | 200c | 1,25 | High 800 | Cooling | 3,60/2,60 | 3,21/2,20 | 2,63/0,00 |
| | | | | Heating | 4,00 | 3,19 | 0,00 |

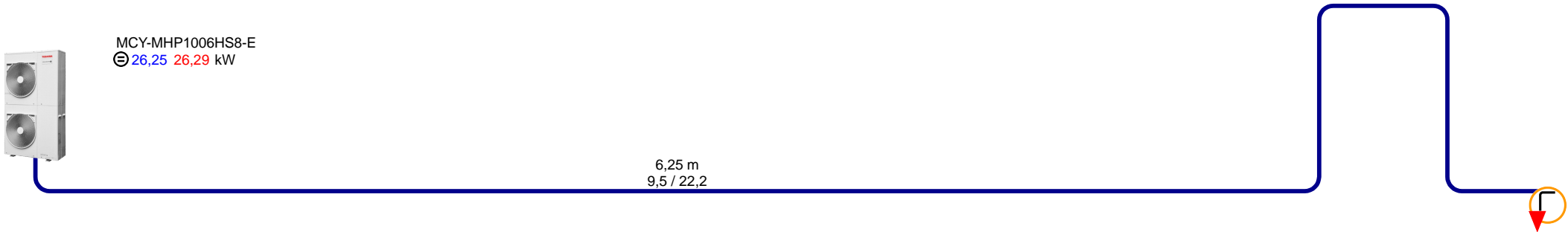
Floor Information

| Floors | Room Name | Indoor Units | | | Design Conditions | | |
|--------|-----------|--------------|----------------|---------|-------------------|--------|-------|
| | | Name | Model | Mode | DB[°C] | WB[°C] | RH[%] |
| 2.NP | 200 | | MMU-UP0181HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 200a | | MMU-UP0151HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 200b | | MMU-UP0091HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 200c | | MMU-UP0121HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 201 | | MMU-UP0091HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 203a | | MMK-UP0071HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 203b | | MMK-UP0051HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| | 204 | | MMK-UP0071HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |

Floor Information

| Floors | Room Name | Indoor Units | | Mode | Design Conditions | | |
|--------|-----------|--------------|----------------|---------|-------------------|--------|-------|
| | | Name | Model | | DB[°C] | WB[°C] | RH[%] |
| 205 | | | MMK-UP0071HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |
| 212 | | | MMK-UP0051HP-E | Cooling | 24,0 | 19,0 | 62,00 |
| | | | | Heating | 20,0 | | |

2.NP
Floor: 7.NP Elevation: 0,00m



| System information | |
|-----------------------|-------------------|
| Indoor Units | 10 of 12 |
| Capacity Ratio | 105,5% |
| Total Pipe Length | 67,70 m |
| Indoor Cap. Tot./Sen. | 26,24 kW/18,78 kW |
| Indoor Cap. Heat. | 26,29 kW |
| Building diversity | 0% |

| Outdoor/Indoor Legend | |
|-----------------------|-------------------|
| Unit Name | |
| Model Name | |
| Room Name | |
| ⊖ Corrected capacity | Tot./Sens./ Heat. |

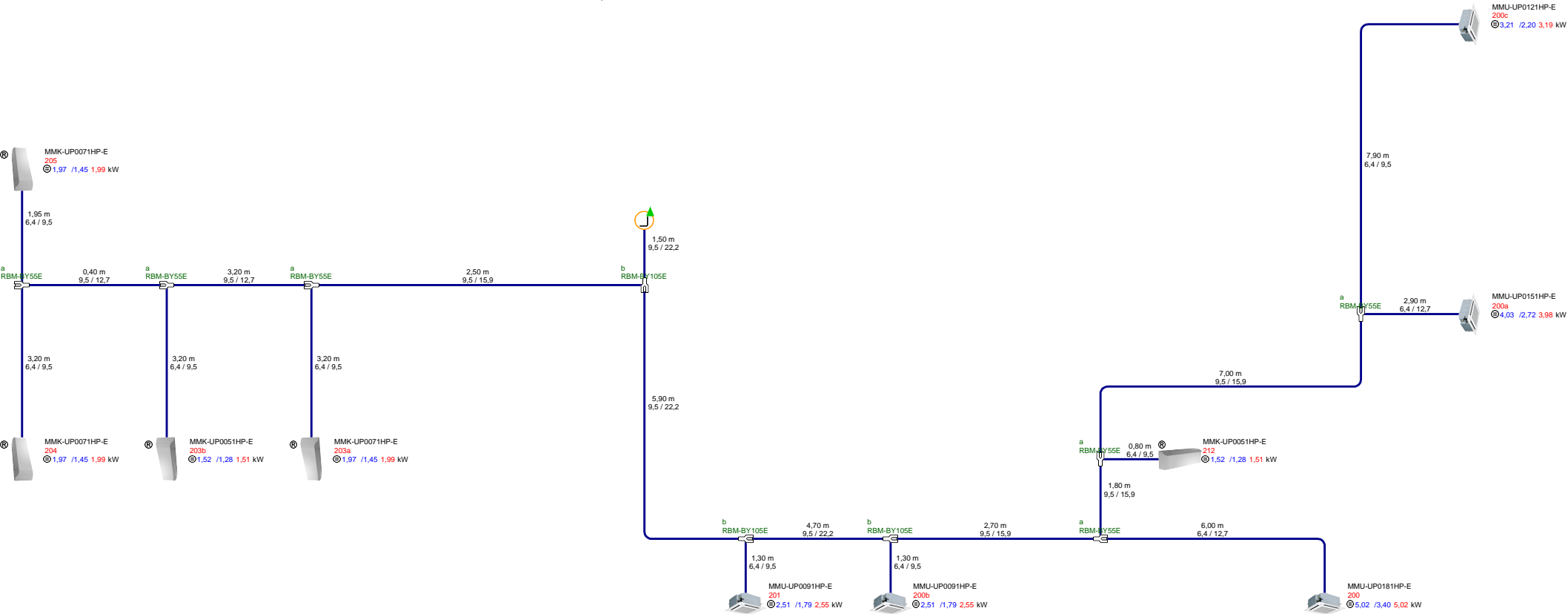
| Piping Legend | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Actual Length | |
| Liquid / Suction Gas diameters | |
| Note: It is the responsibility of the consultant or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

| Branches Legend | | |
|-----------------|------------|------|
| a | RBM-BY55E | (x6) |
| b | RBM-BY105E | (x3) |

2.NP

Floor: 2.NP

Elevation: Above Outdoor Unit -16,95m



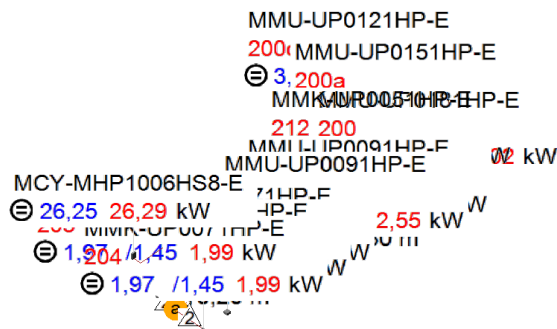
| System information | |
|-----------------------|-------------------|
| Indoor Units | 10 of 12 |
| Capacity Ratio | 105,5% |
| Total Pipe Length | 67,70 m |
| Indoor Cap. Tot./Sen. | 26,24 kW/18,78 kW |
| Indoor Cap. Heat. | 26,29 kW |
| Building diversity | 0% |

| Outdoor/Indoor Legend | |
|-----------------------|-------------------|
| Unit Name | |
| Model Name | |
| Room Name | |
| ⊖ Corrected 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 | (x6) |
| b | RBM-BY105E | (x3) |

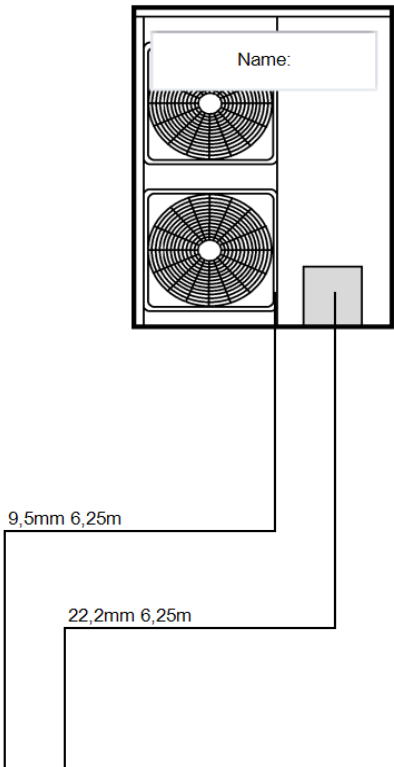
| | | |
|---|--------------|------|
| a | RBM-BY55E | (x6) |
| b | RBM-BY105E | (x3) |
| 1 | 9,5mm 22,2mm | |
| 2 | 6,4mm 9,5mm | |
| 3 | 9,5mm 12,7mm | |
| 4 | 9,5mm 15,9mm | |
| 5 | 6,4mm 12,7mm | |



| | |
|-----------|----------------------------------------|
| Customer: | Město Sokolov |
| Project: | Městský úřad Sokolov – klimati zace |
| System: | 2.NP |
| Date: | 26.05.2024 |
| Scale: | None |

2.NP

MCY-MHP1006HS8-E



Accessories
Header

Follower1

Follower2

Follower3

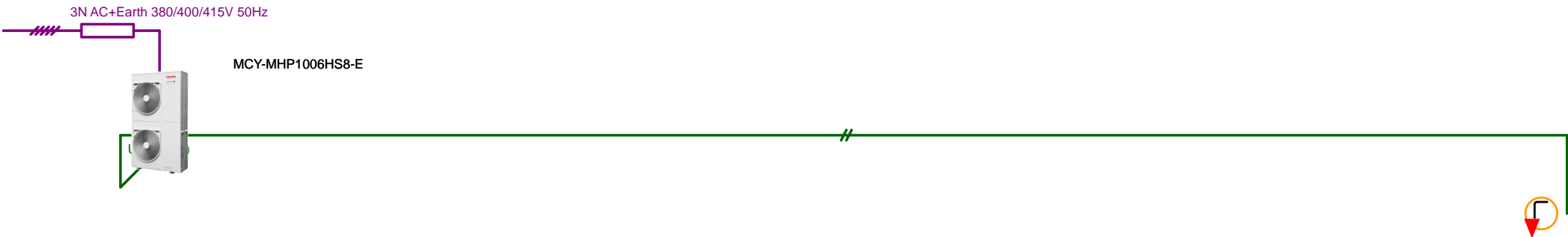
Follower4

Electrical Information

Summary: 3N AC+Earth 380/400/415V 50Hz

- Slot 1
- Slot 2
- Slot 3
- Slot 4
- Slot 5

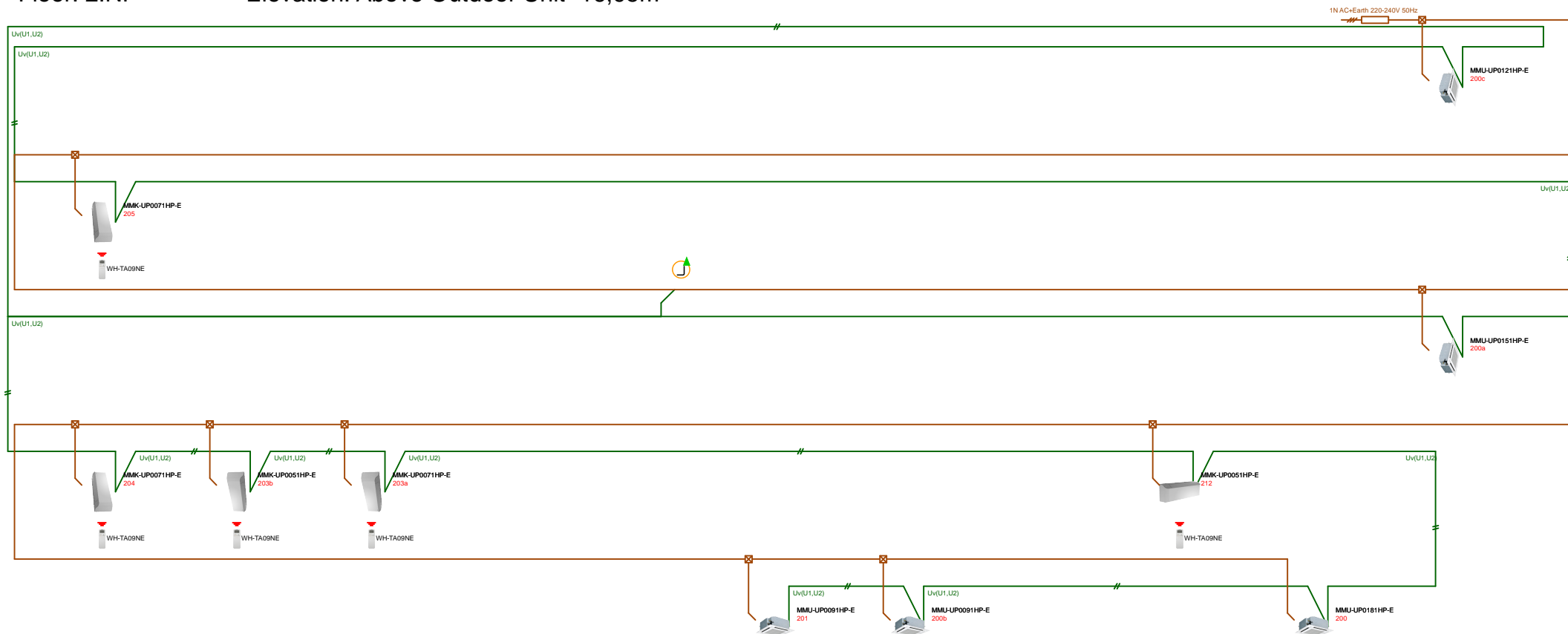
2.NP
Floor: 7.NP Elevation: 0,00m



2.NP

Floor: 2.NP

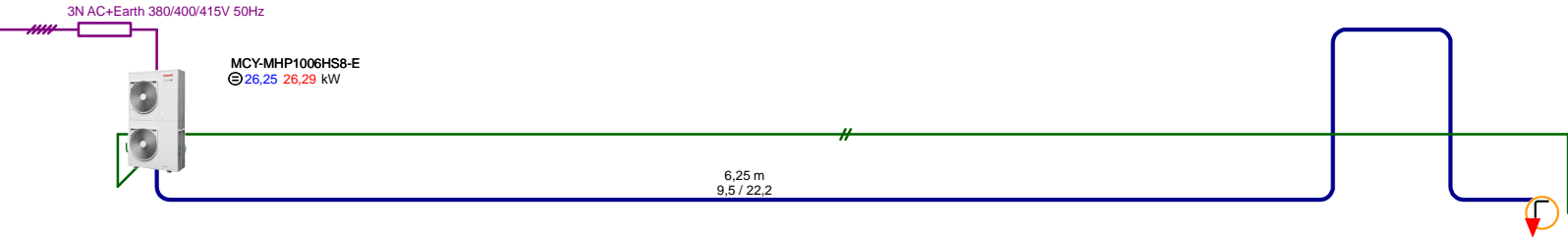
Elevation: Above Outdoor Unit -16,95m



| Control Wiring Legend | Label | Wiring Size and Length |
|-------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------|
| Outdoor - Indoor Control Wiring* | Uv(U1,U2) | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Central Control Wiring* | U3,U4 | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Outdoor Units Control Wiring* | U5,U6 | 1,25mm² to 2,0mm² up to 100m |
| Remote Controller Wiring* | A,B | 0,5mm² to 2,0mm² up to 500m (Wireless Remote Controller up to 400m). Group Control wiring is up to 200m |
| * 2 core, no polarity, shielded | | |
| Note: Power Wiring should comply with Local, National and International Regulation. | | |

| Symbol Legend | | |
|-----------------------------|---|------|
| Control | | |
| Power | | |
| Remote Control | | |
| Signal | | |
| Piping* | | |
| *Note: Pipe diameters in mm | | |
| Branches Legend | | |
| RBM-BY55E | a | (x6) |
| RBM-BY105E | b | (x3) |

2.NP
Floor: 7.NP
Elevation: 0,00m



| Control Wiring Legend | Label | Wiring Size and Length |
|----------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------|
| Outdoor - Indoor Control Wiring* | Uv(U1,U2) | 1,25mm ² up to 1000m & 2,0mm ² up to 2000m |
| Central Control Wiring* | U3,U4 | 1,25mm ² up to 1000m & 2,0mm ² up to 2000m |
| Outdoor Units Control Wiring* | U5,U6 | 1,25mm ² to 2,0mm ² up to 100m |
| Remote Controller Wiring* | A,B | 0,5mm ² to 2,0mm ² up to 500m (Wireless Remote Controller up to 400m). Group Control wiring is up to 200m |

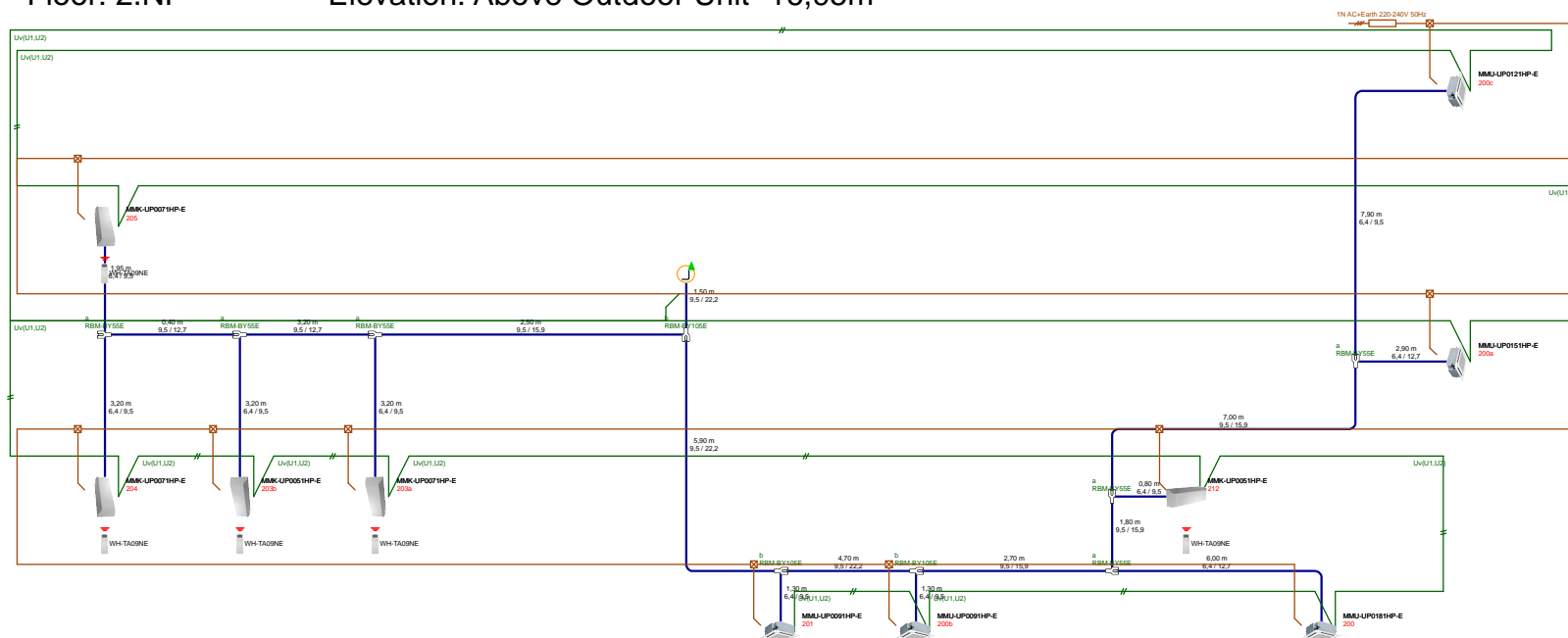
* 2 core, no polarity, shielded

Note: Power Wiring should comply with Local, National and International Regulation.

2.NP

Floor: 2.NP

Elevation: Above Outdoor Unit -16,95m



2.NP

Floor: 7.NP

Elevation: 0,00m

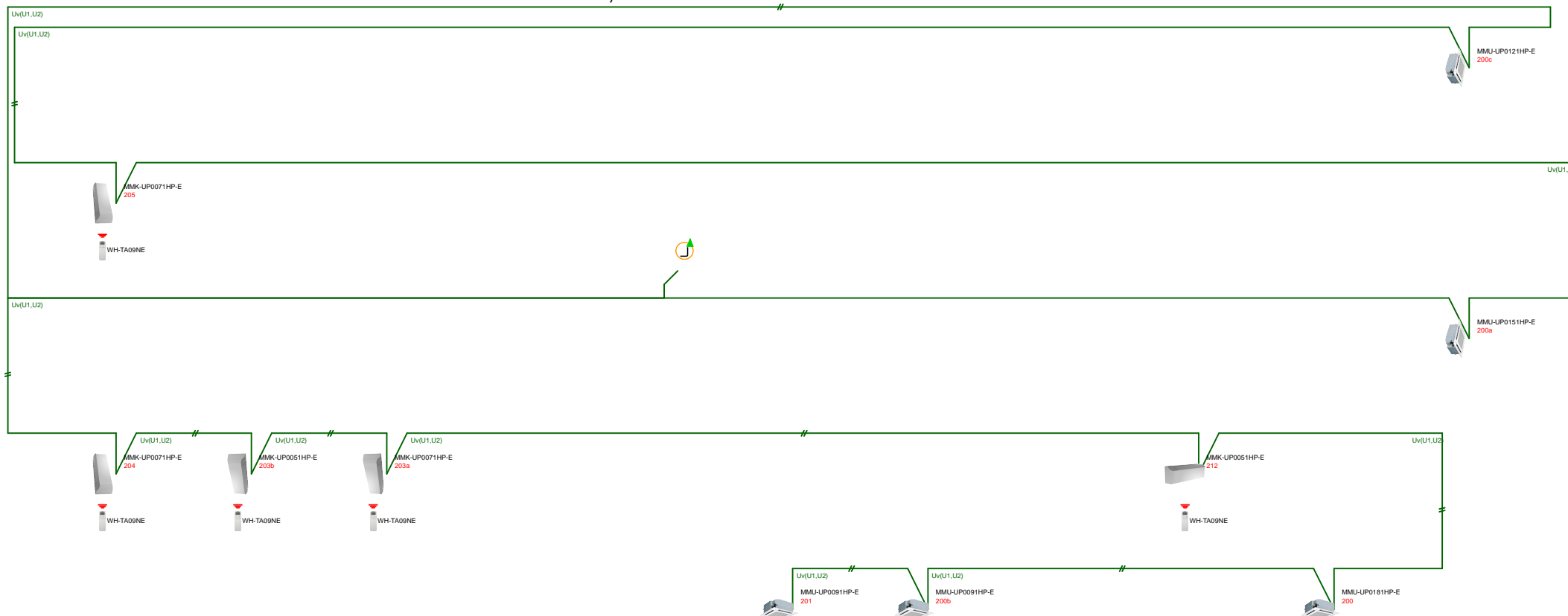
MCY-MHP1006HS8-E



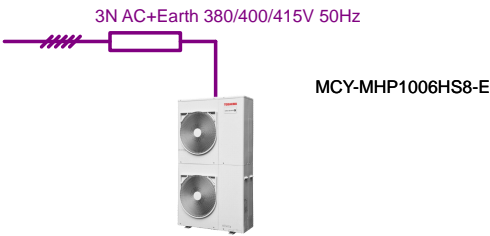
2.NP

Floor: 2.NP

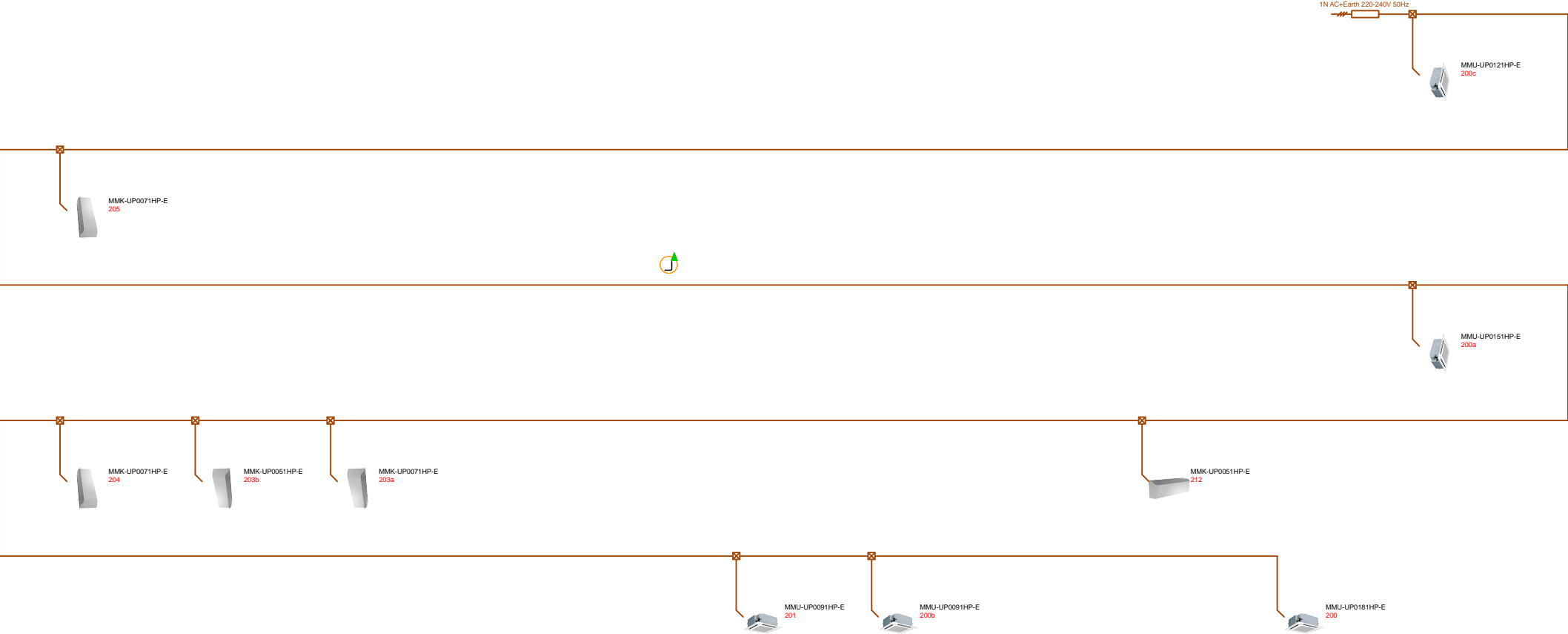
Elevation: Above Outdoor Unit -16,95m



2.NP
Floor: 7.NP Elevation: 0,00m



2.NP
Floor: 2.NP Elevation: Above Outdoor Unit -16,95m



2.NP

| | | | |
|-------------------------|------------------|-------------|----------------|
| Model: | 2.NP | System type | 4-way Cassette |
| Model name | MCY-MHP1006HS8-E | Season | Average |
| Outdoor heat exchanger: | - | | |
| Indoor heat exchanger: | - | SEER(A) | 7,40 |
| type: | - | | |
| compressor driver: | - | SCOP(A) | 4,42 |

COOLING

| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit |
|------------------------|----------|-------|------|------------------------------------------|------------------|-------|------|
| Rated cooling capacity | Prated,c | 28,0 | kW | Seasonal space cooling energy efficiency | $\eta_{s,c}$ (A) | 293,0 | % |
| | | | | | $\eta_{s,c}$ (C) | - | % |
| | | | | | $\eta_{s,c}$ (W) | - | % |

Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19 °C (dry/wet bulb)

| | | | |
|--------------|-----|-------|----|
| Tj = + 35 °C | Pdc | 28,00 | kW |
| Tj = + 30 °C | Pdc | 20,63 | kW |
| Tj = + 25 °C | Pdc | 13,26 | kW |
| Tj = + 20 °C | Pdc | 9,29 | kW |

Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures Tj

| | | | |
|--------------|------|-------|---|
| Tj = + 35 °C | EERd | 3,00 | - |
| Tj = + 30 °C | EERd | 4,90 | - |
| Tj = + 25 °C | EERd | 8,65 | - |
| Tj = + 20 °C | EERd | 17,78 | - |

Degradation co-efficient for air conditioners(*)

| | | |
|-----|---|---|
| Cdc | - | - |
|-----|---|---|

HEATING

| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit |
|------------------------|----------|-------|------|------------------------------------------|------------------|-------|------|
| Rated heating capacity | Prated,h | 28,0 | kW | Seasonal space heating energy efficiency | $\eta_{s,h}$ (A) | 173,8 | % |
| | | | | | $\eta_{s,h}$ (C) | - | % |
| | | | | | $\eta_{s,h}$ (W) | - | % |

Declared heating capacity for part load at given outdoor temperatures Tj and indoor 27°/19 °C (dry/wet bulb)

| | | | |
|---------------------------------|------|-------|----|
| Tj = - 7 °C | Pdh | 15,92 | kW |
| Tj = + 2 °C | Pdh | 9,69 | kW |
| Tj = + 7 °C | Pdh | 6,23 | kW |
| Tj = + 12 °C | Pdh | 5,99 | kW |
| Tbiv = bivalent temperature | Pdh | 15,92 | kW |
| TOL = operation limit | Pdh | 8,75 | kW |
| Tj = - 15 °C (if TOL < - 20 °C) | Pdh | - | kW |
| Bivalent temperature | Tbiv | - | °C |

Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures Tj

| | | | |
|---------------------------------|------|------|----|
| Tj = - 7 °C | COPd | 2,56 | - |
| Tj = + 2 °C | COPd | 4,10 | - |
| Tj = + 7 °C | COPd | 7,20 | - |
| Tj = + 12 °C | COPd | 7,86 | - |
| Tbiv = bivalent temperature | COPd | 2,56 | - |
| TOL = operation limit | COPd | 2,71 | - |
| Tj = - 15 °C (if TOL < - 20 °C) | COPd | - | - |
| Minimum operation temperature | Tol | - | °C |

Degradation co-efficient for air conditioners(*)

| | | |
|-----|---|---|
| Cdc | - | - |
|-----|---|---|

Power consumption in modes other than "active mode"

| | | | | | | | |
|-----------------------|------|-------|----|--------------------------|-----|-------|----|
| Off mode | POFF | 0,017 | kW | Back-up heating capacity | PCK | 3,730 | kW |
| Thermostat-off mode | PTO | - | kW | Type of energy input | | - | |
| Crankcase heater mode | PCK | - | kW | Standby mode | PSB | 0,015 | kW |

Other items

| | | | | | | | |
|------------------------------------------------|-----|----|-----------------------|------------------------------------------------------------------------------------------------|---|------|------|
| Capacity control | | - | | | | | |
| Sound power level, indoor/outdoor measured | LWA | 77 | dB | For air-to-air air conditioner: air flow rate, outdoor measured | - | 8820 | m³/h |
| If engine driven: Emissions of nitrogen oxides | NOx | - | mg/kWh fuel input GCV | For water/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger | - | - | m³/h |
| GWP of the refrigerant | | - | kg CO2 eq (100 years) | | | | |
| Contact Details | | - | | | | | |

MCY-MHP1006HS8-E (10HP, 28,00kW system)

| Cooling | | Compressor + Outdoor Fan Power consumption (kW) | | | | | | | | | | | | | | | |
|----------------------|------------------------------------|-------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Outdoor Unit (°C) | Outdoor Unit 100% Capacity (kW) | 100% | | 90% | | 80% | | 70% | | 60% | | 50% | | 40% | | 30% | |
| | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| | | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) |
| 40,0 °C | 25,2 | 25,2 | 10,0 | 22,7 | 8,20 | 20,2 | 6,58 | 17,6 | 5,15 | 15,1 | 3,93 | 12,6 | 2,90 | 10,1 | 2,07 | 7,56 | 1,44 |
| 39,0 °C | 25,9 | 25,9 | 9,89 | 23,3 | 8,09 | 20,7 | 5,49 | 18,1 | 5,08 | 15,5 | 3,87 | 13,0 | 2,86 | 10,4 | 2,04 | 7,77 | 1,42 |
| 37,0 °C | 27,0 | 27,0 | 9,61 | 24,3 | 7,86 | 21,6 | 5,31 | 18,9 | 4,94 | 16,2 | 3,76 | 13,5 | 2,78 | 10,8 | 1,98 | 8,10 | 1,38 |
| 35,0 °C | 28,0 | 28,0 | 9,34 | 25,2 | 7,64 | 22,4 | 5,13 | 19,6 | 4,80 | 16,8 | 3,66 | 14,0 | 2,70 | 11,2 | 1,93 | 8,40 | 1,34 |
| 33,0 °C | 28,0 | 28,0 | 8,90 | 25,2 | 7,28 | 22,4 | 5,84 | 19,6 | 4,57 | 16,8 | 3,48 | 14,0 | 2,57 | 11,2 | 1,84 | 8,40 | 1,28 |
| 31,0 °C | 28,0 | 28,0 | 8,46 | 25,2 | 6,92 | 22,4 | 5,55 | 19,6 | 4,35 | 16,8 | 3,31 | 14,0 | 2,45 | 11,2 | 1,75 | 8,40 | 1,21 |
| 30,0 °C | 28,0 | 28,0 | 8,24 | 25,2 | 6,74 | 22,4 | 5,41 | 19,6 | 4,24 | 16,8 | 3,23 | 14,0 | 2,38 | 11,2 | 1,70 | 8,40 | 1,18 |
| 29,0 °C | 28,0 | 28,0 | 8,02 | 25,2 | 6,56 | 22,4 | 5,27 | 19,6 | 4,12 | 16,8 | 3,14 | 14,0 | 2,32 | 11,2 | 1,66 | 8,40 | 1,15 |
| 27,0 °C | 28,0 | 28,0 | 7,59 | 25,2 | 6,21 | 22,4 | 4,98 | 19,6 | 3,90 | 16,8 | 2,97 | 14,0 | 2,19 | 11,2 | 1,57 | 8,40 | 1,09 |
| 25,0 °C | 28,0 | 28,0 | 7,15 | 25,2 | 5,85 | 22,4 | 4,69 | 19,6 | 3,67 | 16,8 | 2,80 | 14,0 | 2,07 | 11,2 | 1,47 | 8,40 | 1,02 |
| 23,0 °C | 28,0 | 28,0 | 6,71 | 25,2 | 5,49 | 22,4 | 4,40 | 19,6 | 3,45 | 16,8 | 2,63 | 14,0 | 1,94 | 11,2 | 1,38 | 8,40 | 0,96 |
| 21,0 °C | 28,0 | 28,0 | 6,27 | 25,2 | 5,13 | 22,4 | 4,12 | 19,6 | 3,22 | 16,8 | 2,46 | 14,0 | 1,81 | 11,2 | 1,29 | 8,40 | 0,90 |
| 20,0 °C | 28,0 | 28,0 | 6,06 | 25,2 | 4,95 | 22,4 | 3,97 | 19,6 | 3,11 | 16,8 | 2,37 | 14,0 | 1,75 | 11,2 | 1,25 | 8,40 | 0,87 |
| 19,0 °C | 28,0 | 28,0 | 5,84 | 25,2 | 4,78 | 22,4 | 3,83 | 19,6 | 3,00 | 16,8 | 2,29 | 14,0 | 1,69 | 11,2 | 1,20 | 8,40 | 0,84 |
| 17,0 °C | 28,0 | 28,0 | 5,40 | 25,2 | 4,42 | 22,4 | 3,54 | 19,6 | 2,78 | 16,8 | 2,11 | 14,0 | 1,56 | 11,2 | 1,11 | 8,40 | 0,77 |
| 15,0 °C | 28,0 | 28,0 | 4,96 | 25,2 | 4,06 | 22,4 | 3,26 | 19,6 | 2,55 | 16,8 | 1,94 | 14,0 | 1,43 | 11,2 | 1,02 | 8,40 | 0,71 |

TC : Total Capacity

PI : Power Input

Indoor air temperature conditions : 27,0°C dry-bulb / 19,0°C wet bulb





| Heating | | | Compressor + Outdoor Fan Power consumption (kW) | | | | | | | | | | | | | | | |
|---------------|---------------|-----------------------------------------|-------------------------------------------------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| Outdoor Unit | | Outdoor Unit 100% Heating Capacity (kW) | 100% | | 90% | | 80% | | 70% | | 60% | | 50% | | 40% | | 30% | |
| Dry-Bulb (°C) | Wet-Bulb (°C) | | Capacity | | Capacity | | Capacity | | Capacity | | Capacity | | Capacity | | Capacity | | Capacity | |
| | | | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI | TC | PI |
| | | | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) | (kW) |
| 15,0 | 13,7 | 28,0 | 28,0 | 5,50 | 25,2 | 4,65 | 22,4 | 3,87 | 19,6 | 3,16 | 16,8 | 2,52 | 14,0 | 1,95 | 11,2 | 1,45 | 8,40 | 1,02 |
| 13,0 | 11,8 | 28,0 | 28,0 | 5,87 | 25,2 | 4,97 | 22,4 | 4,14 | 19,6 | 3,38 | 16,8 | 2,70 | 14,0 | 2,09 | 11,2 | 1,55 | 8,40 | 1,09 |
| 11,0 | 9,80 | 28,0 | 28,0 | 6,25 | 25,2 | 5,29 | 22,4 | 4,40 | 19,6 | 3,60 | 16,8 | 2,87 | 14,0 | 2,22 | 11,2 | 1,65 | 8,40 | 1,16 |
| 9,00 | 7,90 | 28,0 | 28,0 | 6,62 | 25,2 | 5,60 | 22,4 | 4,67 | 19,6 | 3,81 | 16,8 | 3,04 | 14,0 | 2,35 | 11,2 | 1,75 | 8,40 | 1,22 |
| 7,00 | 6,00 | 28,0 | 28,0 | 7,00 | 25,2 | 5,92 | 22,4 | 4,93 | 19,6 | 4,03 | 16,8 | 3,21 | 14,0 | 2,49 | 11,2 | 1,85 | 8,40 | 1,26 |
| 5,00 | 4,10 | 26,9 | 26,9 | 6,89 | 24,2 | 5,83 | 21,5 | 4,85 | 18,8 | 3,96 | 16,1 | 3,16 | 13,4 | 2,45 | 10,8 | 1,82 | 8,07 | 1,27 |
| 3,00 | 2,20 | 25,8 | 25,8 | 6,77 | 23,2 | 5,73 | 20,6 | 4,77 | 18,1 | 3,90 | 15,5 | 3,11 | 12,9 | 2,41 | 10,3 | 1,79 | 7,74 | 1,25 |
| 0,00 | -0,70 | 24,2 | 24,2 | 6,60 | 21,8 | 5,58 | 19,4 | 4,65 | 16,9 | 3,80 | 14,5 | 3,03 | 12,1 | 2,34 | 9,68 | 1,74 | 7,26 | 1,22 |
| -3,00 | -0,30 | 22,5 | 22,5 | 6,43 | 20,2 | 5,44 | 18,0 | 4,53 | 15,8 | 3,70 | 13,5 | 2,95 | 11,2 | 2,28 | 9,00 | 1,70 | 6,75 | 1,19 |
| -5,00 | -5,60 | 21,4 | 21,4 | 6,32 | 19,3 | 5,34 | 17,1 | 4,45 | 15,0 | 3,64 | 12,8 | 2,90 | 10,7 | 2,24 | 8,56 | 1,67 | 6,42 | 1,17 |
| -7,00 | -7,60 | 20,3 | 20,3 | 6,20 | 18,3 | 5,25 | 16,2 | 4,37 | 14,2 | 3,57 | 12,2 | 2,85 | 10,2 | 2,20 | 8,12 | 1,64 | 6,09 | 1,15 |
| -10,0 | -10,5 | 18,7 | 18,7 | 6,03 | 16,8 | 5,10 | 15,0 | 4,25 | 13,1 | 3,47 | 11,2 | 2,77 | 9,35 | 2,14 | 7,48 | 1,59 | 5,61 | 1,11 |
| -14,5 | -15,0 | 16,2 | 16,2 | 5,77 | 14,6 | 4,88 | 13,0 | 4,07 | 11,3 | 3,32 | 9,72 | 2,65 | 8,10 | 2,05 | 6,48 | 1,52 | 4,86 | 1,07 |

TC : Total Capacity

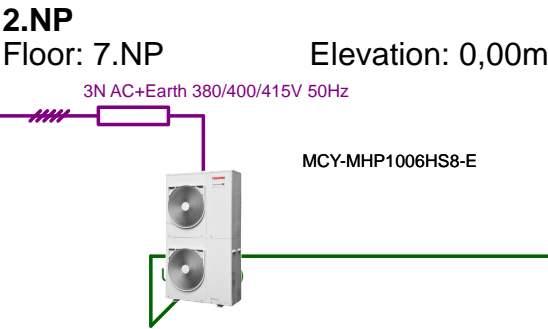
PI : Power Input

Indoor air temperature conditions : 20,0°C dry-bulb

| Control Wiring Legend | Label | Wiring | Wiring Size and Length |
|---------------------------------|-----------|-------------------------------|---------------------------------------------------------------------------------------------------------|
| Outdoor - Indoor Control Wiring | Uv(U1,U2) | 2 core, no polarity, shielded | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Central Control Wiring | U3,U4 | 2 core, no polarity, shielded | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Outdoor Units Control Wiring | U5,U6 | 2 core, no polarity, shielded | 1,25mm² to 2,0mm² up to 100m |
| Remote Controller Wiring | A,B | 2 core, no polarity, shielded | 0,5mm² to 2,0mm² up to 500m (Wireless Remote Controller up to 400m). Group Control wiring is up to 200m |

| Symbol Legend |
|---------------------------------------------------------------------------------------------------------|
|  Multi Flow Selector |
|  Flow Selector |
|  PMV kit |
|  Electrical isolator |

Note: Power Wiring should comply with Local, National and International Regulation.

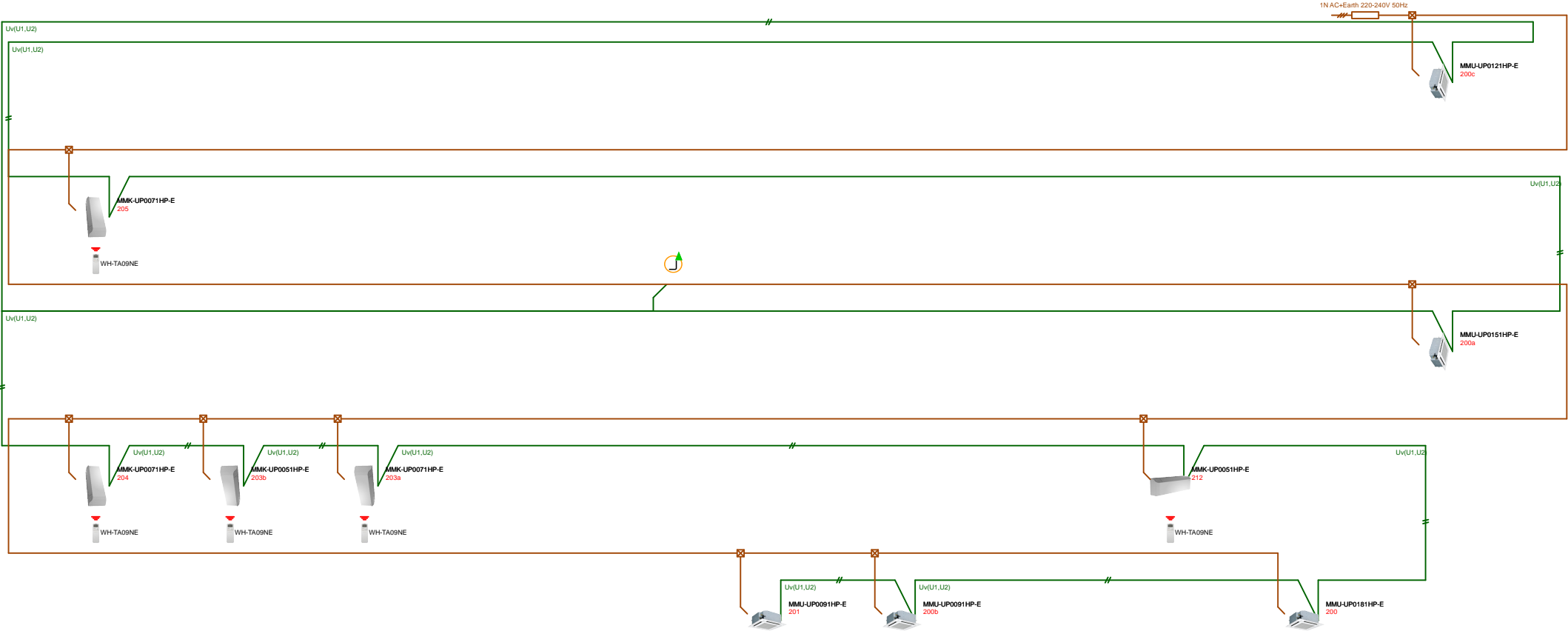


| Control Wiring Legend | Label | Wiring | Wiring Size and Length |
|---------------------------------|-----------|-------------------------------|---------------------------------------------------------------------------------------------------------|
| Outdoor - Indoor Control Wiring | Uv(U1,U2) | 2 core, no polarity, shielded | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Central Control Wiring | U3,U4 | 2 core, no polarity, shielded | 1,25mm² up to 1000m & 2,0mm² up to 2000m |
| Outdoor Units Control Wiring | U5,U6 | 2 core, no polarity, shielded | 1,25mm² to 2,0mm² up to 100m |
| Remote Controller Wiring | A,B | 2 core, no polarity, shielded | 0,5mm² to 2,0mm² up to 500m (Wireless Remote Controller up to 400m). Group Control wiring is up to 200m |

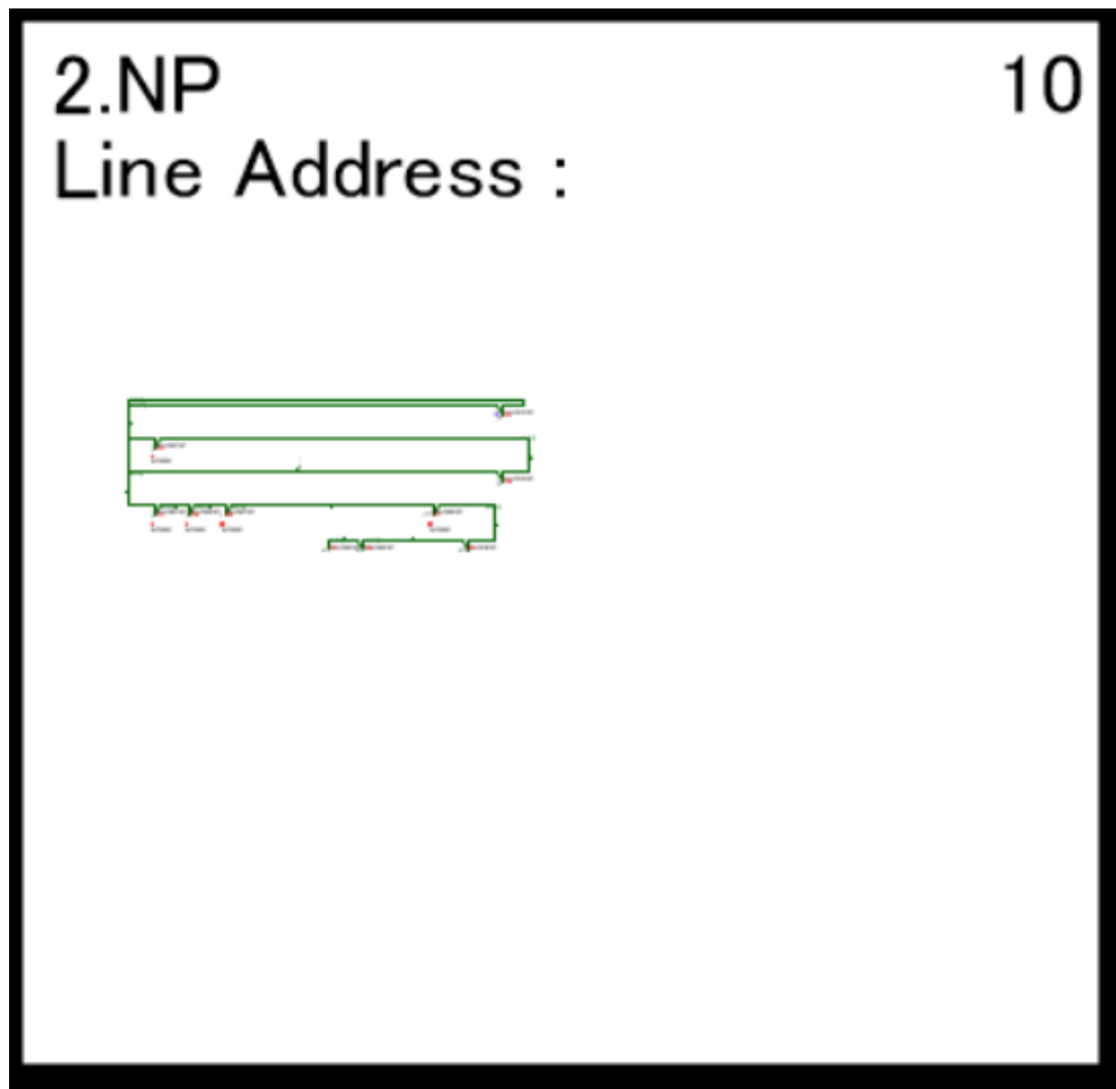
| Symbol Legend |
|---------------------|
| Multi Flow Selector |
| Flow Selector |
| PMV kit |
| Electrical isolator |

Note: Power Wiring should comply with Local, National and International Regulation.

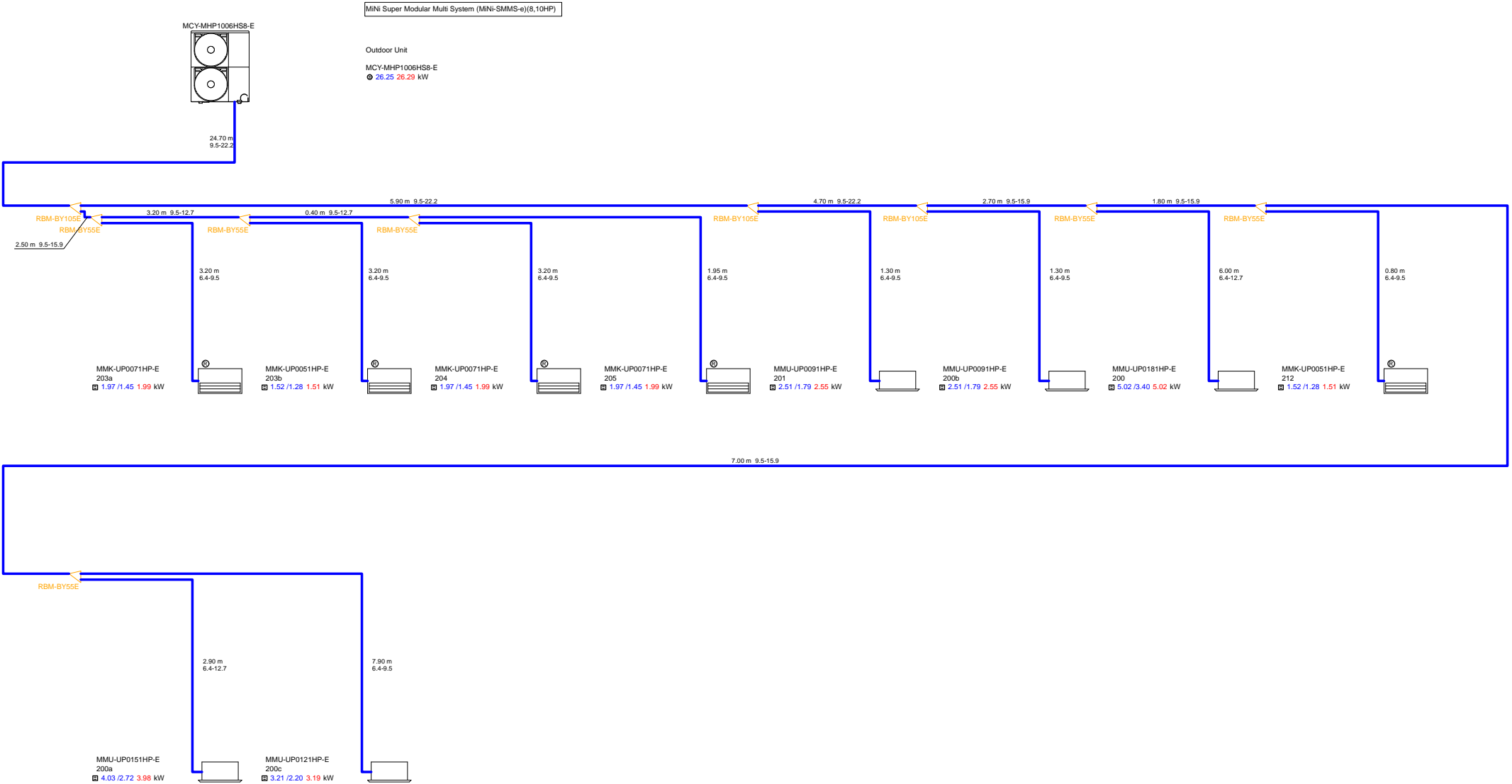
2.NP
Floor: 2.NP
Elevation: Above Outdoor Unit -16,95m



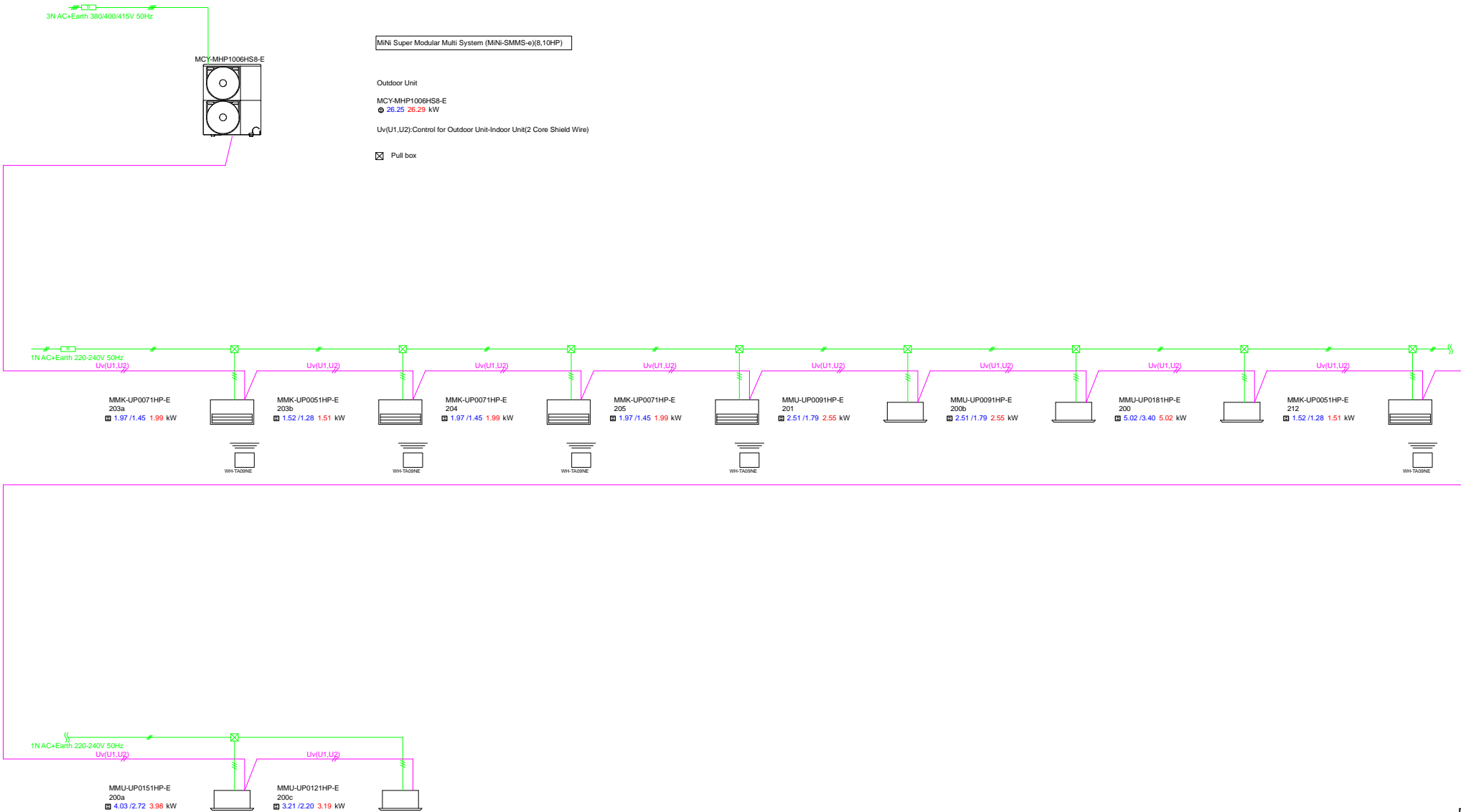
Městský úřad Sokolov – klimatizace



2.NP



2.NP



2.NP

