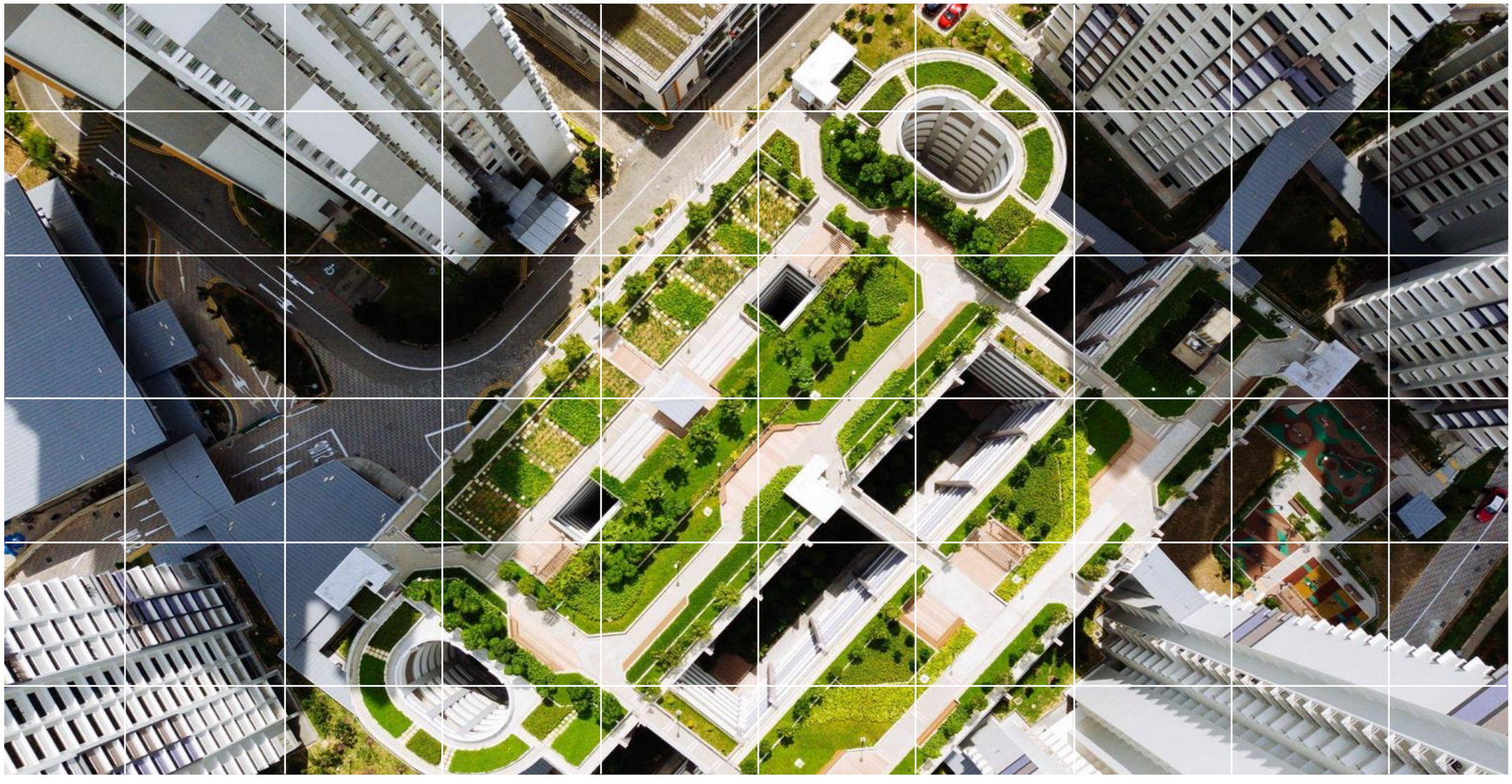
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES



QVANTUM LB4 - HYDRAULIC SCHEMATICS

Qvantum Hydraulic Schematics

QHS - LB4_2550-B

D100021

QVANTUM LB4 HEAT PUMPS - HYDRAULIC SCHEMATICS

The following QVANTUM hydraulic schematics are applicable to QVANTUM heat pumps with X-Pro controller.
Detailed information can be found in the relevant product documentation.

AIR SOURCE HEAT PUMP SYSTEM

- The installer is responsible for correct placement of the outdoor unit with regards to air flow and correct drainage during defrosting. In costal areas or other areas with high salinity the heat exchanger in the fan unit also needs to be coated.

- The hydraulic schematics include controls for heating and DHW. Dimensioning of pumps, buffer tank volume, DHW cylinder volume, control valves etc. needs to be done by the installer.

- The hydraulic schematics include controls for DHW distribution and pool system control (optional accessories package QAP20). Dimensioning of pumps, control valves, immersion heaters, plate heat exchangers etc. needs to be done by the installer.

- The hydraulic schematics include controls for up to four mixed circuits (optional accessories package QAP30). Dimensioning of pumps, control valves etc. needs to be done by the installer.

- Control valve -CV32 is to be considered optional, however supplied and controlled by Qvantum when there is a risk of high temperatures in the brine ciruit due to high outdoor temperatures.

- The hydraulic schematics for multiple heat pumps are shown with 2 No. of heat pumps. Prefix HP02 is used to represent all slave heat pumps. The control system handles up to 4 No. heat pump units. For higher thermal capacity requirements please contact Qvantum.

- DHW cylinders, regardless of type (thermal store, calorifiers etc.), should be installed with reverse return connections, as shown in hydraulic schematics for multiple heat pumps, to ensure equal temperature in all cylinders.

Q65-96LB4

Q123-192LB4

FAN UNIT

- Specific components such as, but not limited to, dosing pot, commissioning set, air admittance valve, lock shield valve, drain cock, binder test point, gauge etc. are not included in the hydraulic schematics but are installed when required. Dimensioning needs to be done by the installer.

- For defrosting purposes a 500 litre heating buffertank is required for models Q65-96LB4, a 750 litre heating buffertank is required for models Q123-144LB4 and a 1000 litre heating buffertank is required for models Q162-192LB4. For systems with multiple heat pumps separate calculation needs to be done regarding size of heating buffertank due to heat production. The calculated size is then to be compared with the size of the required volume for defrosting in order to determine which volume will be chosen for sizing.

- Red marks * in the schematics show components that are supplied by Qvantum. Blue marks * in the schematics show components that can be supplied by Qvantum.
If not supplied by Qvantum the installer needs to follow Qvantums specifications.

QVANTUM LB4 HEAT PUMPS - HYDRAULIC SCHEMATICS

CONTENTS

Single heat pump

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QVANTUM LB4 HEAT PUMPS - HYDRAULIC SCHEMATICS

CONTENTS

Multiple heat pumps

Accessories package

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

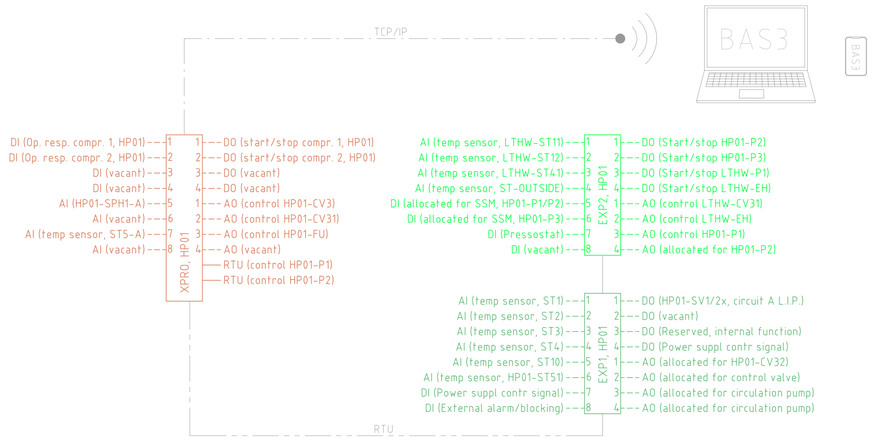
QVANTUM LB4

HYDRAULIC SCHEMATICS

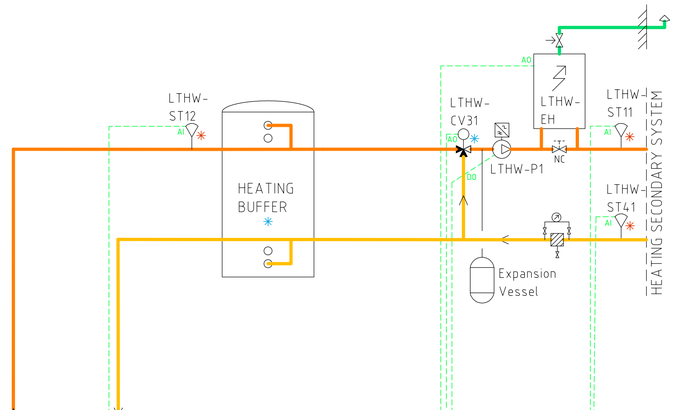
single heat pump

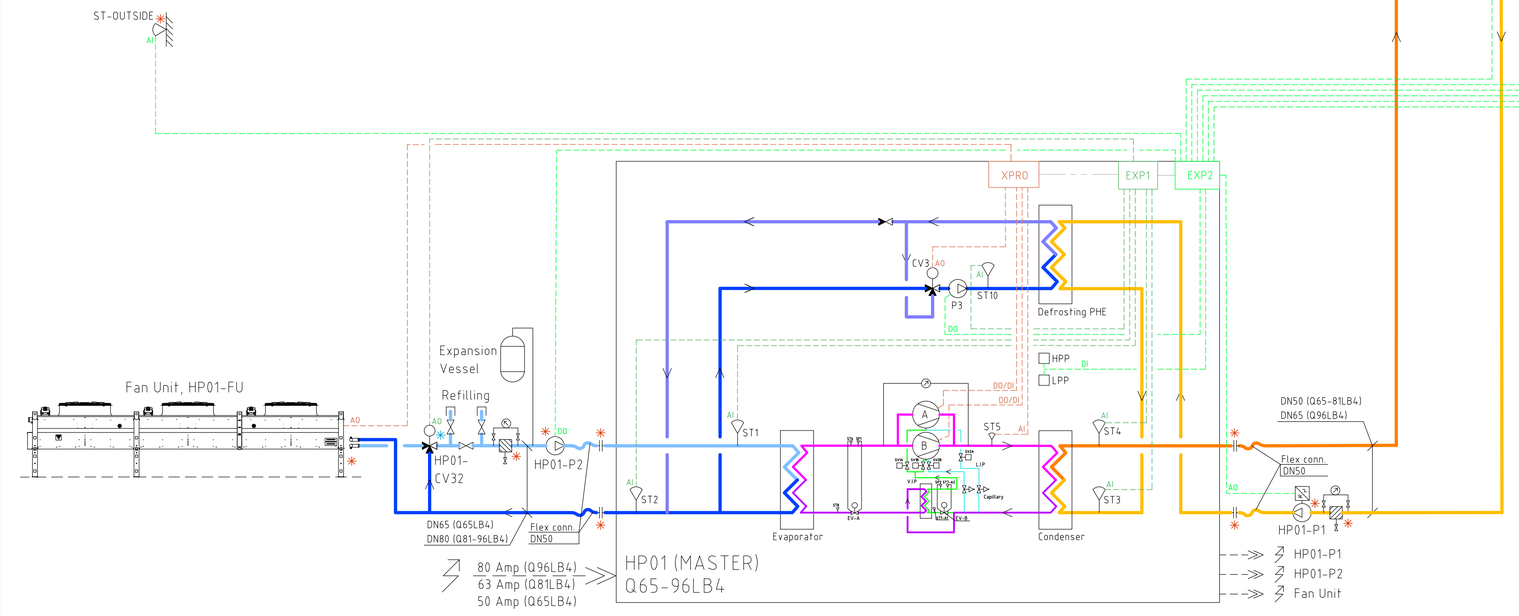
Information

Q65-96LB4, single heat pump, heating only



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)





Please note
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- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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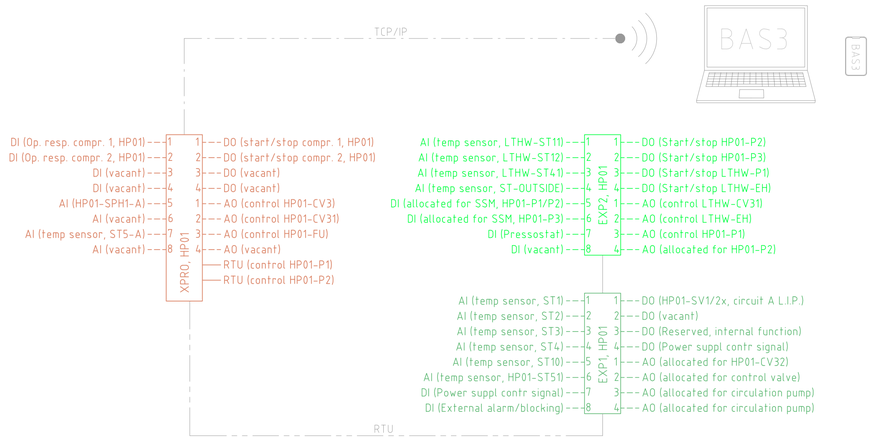
Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-100	7

Information

Q65-96LB4, single heat pump, heating & DHW, thermal store with DHW coils



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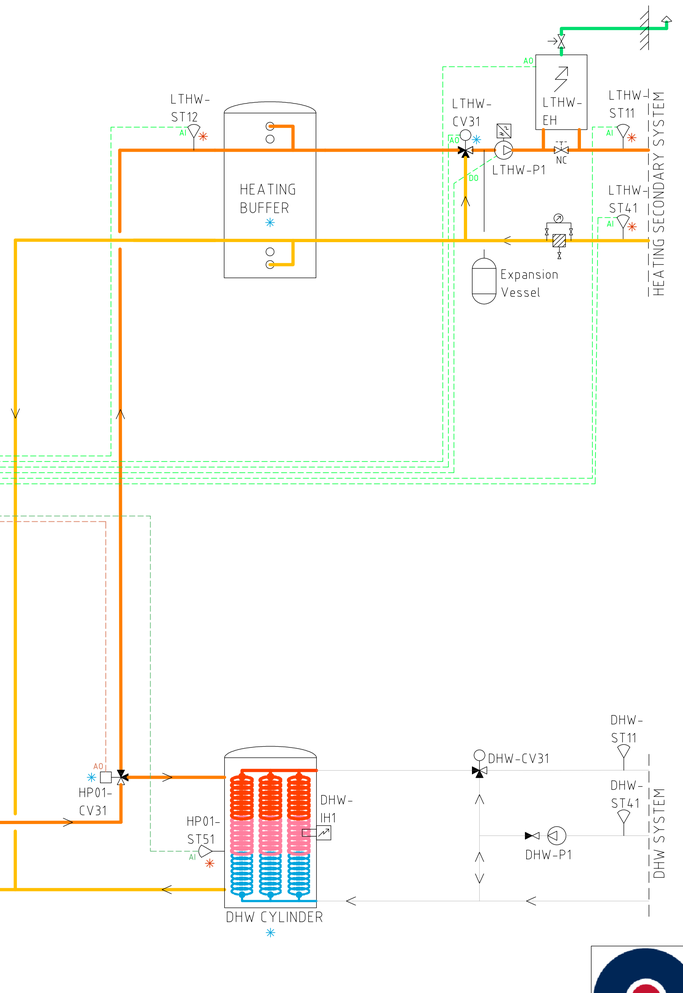
- DO1 (EXP2) is allocated for -P2 (start/stop)



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Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— TCP/IP
- — – – RTU
- ✳ Components supplied by Qvantum
- ✳ Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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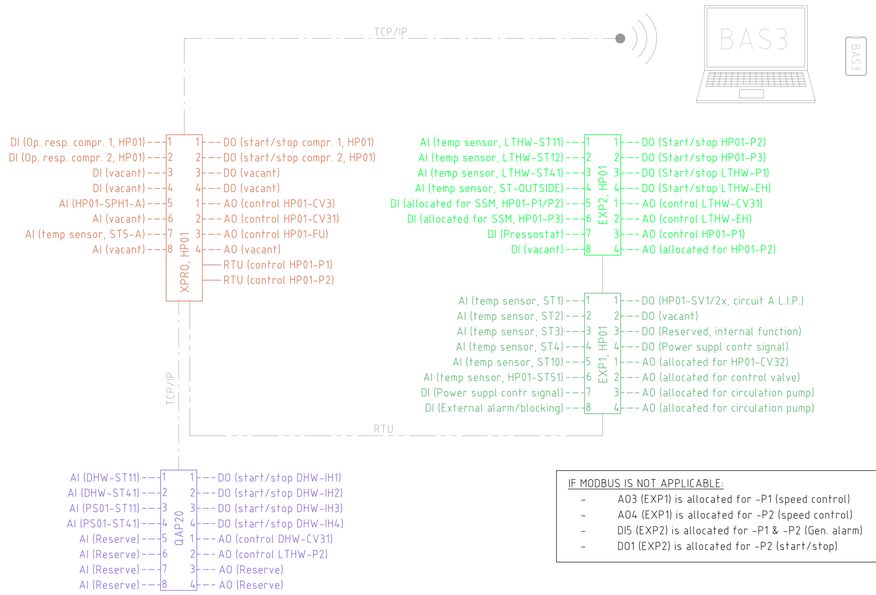
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-101	8

Information

Q65-96LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control



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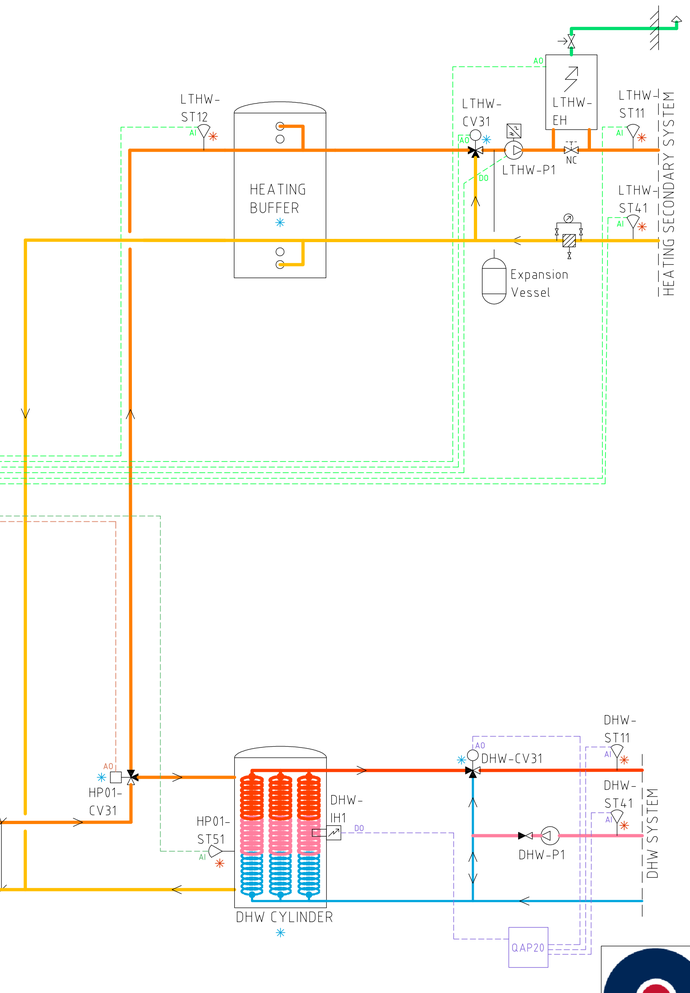

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DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- — – – Modbus RTU
- ✳ Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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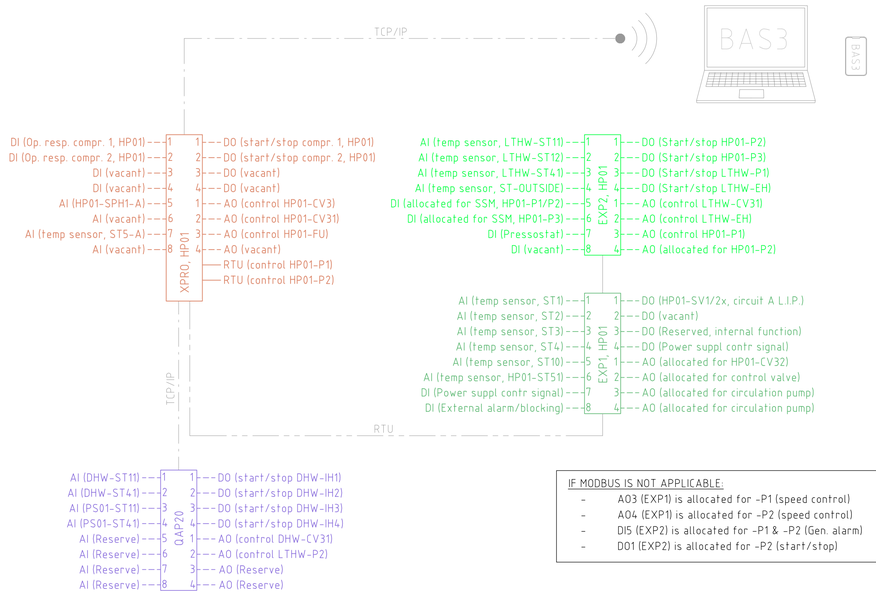
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-102	9

Information

Q65-96LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control, pool system control



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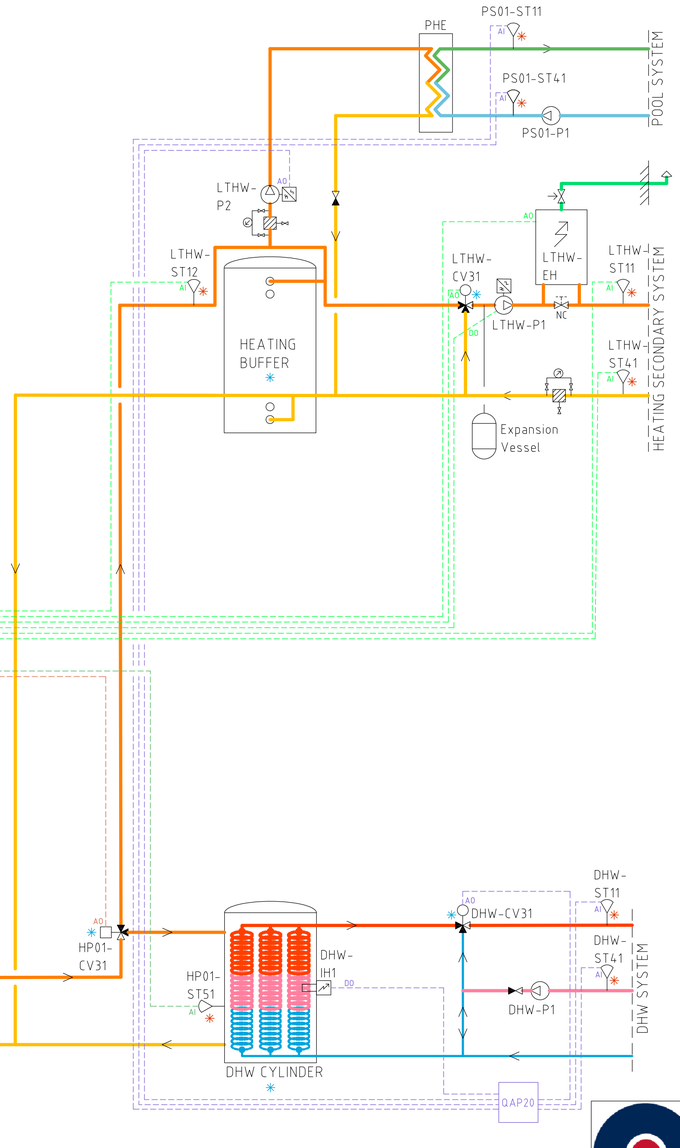

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DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

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Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —– – – Modbus RTU
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For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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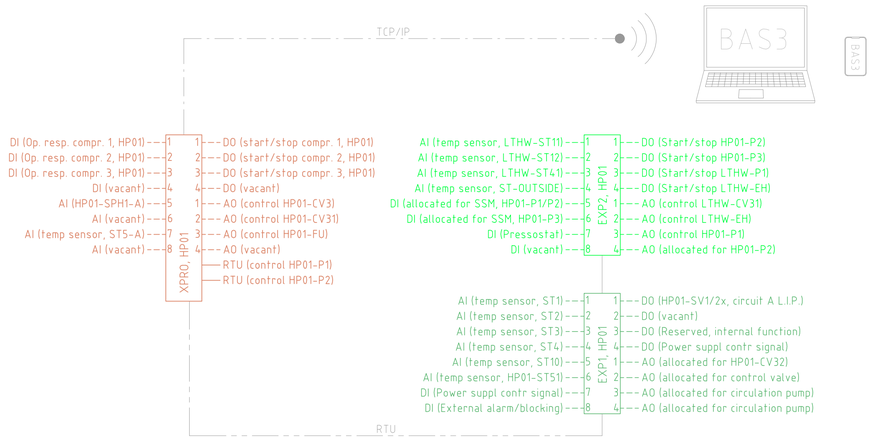
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-103	10

Information

Q123-144LB4, single heat pump, heating only



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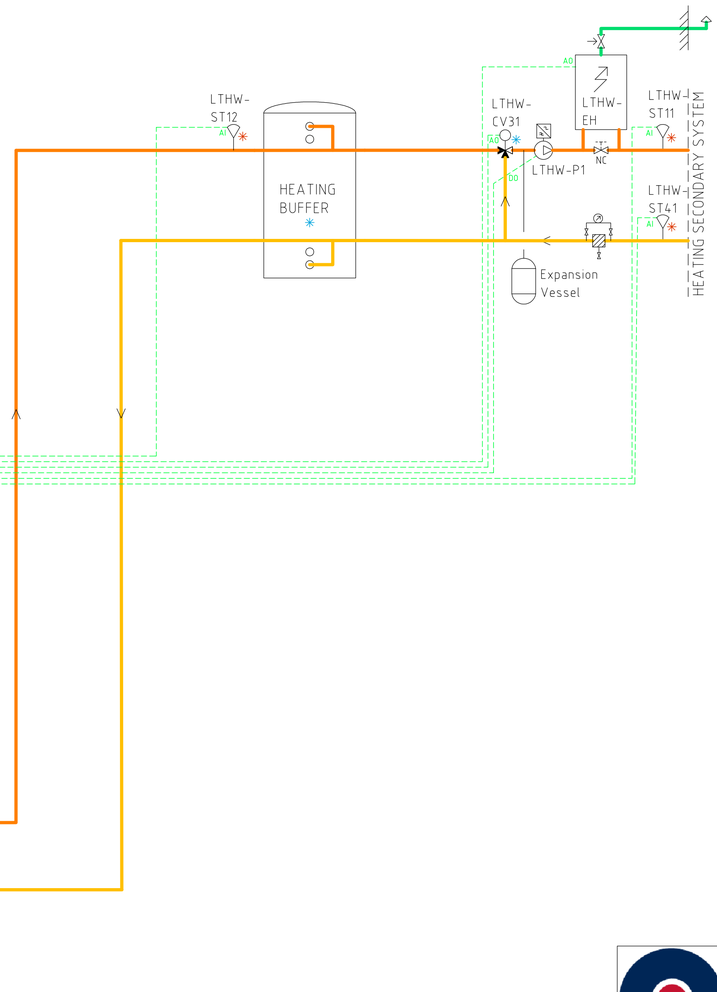

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DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

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COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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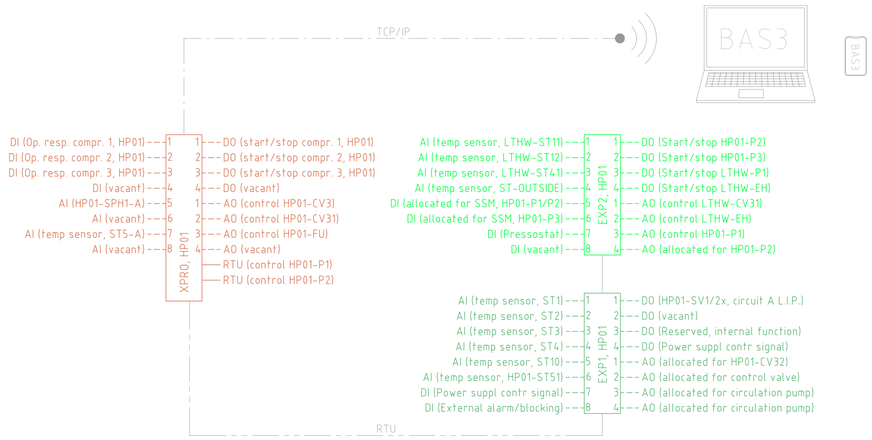
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-123-144-LB4-8-100	14

Information

Q123-144LB4, single heat pump, heating & DHW, thermal store with DHW coils



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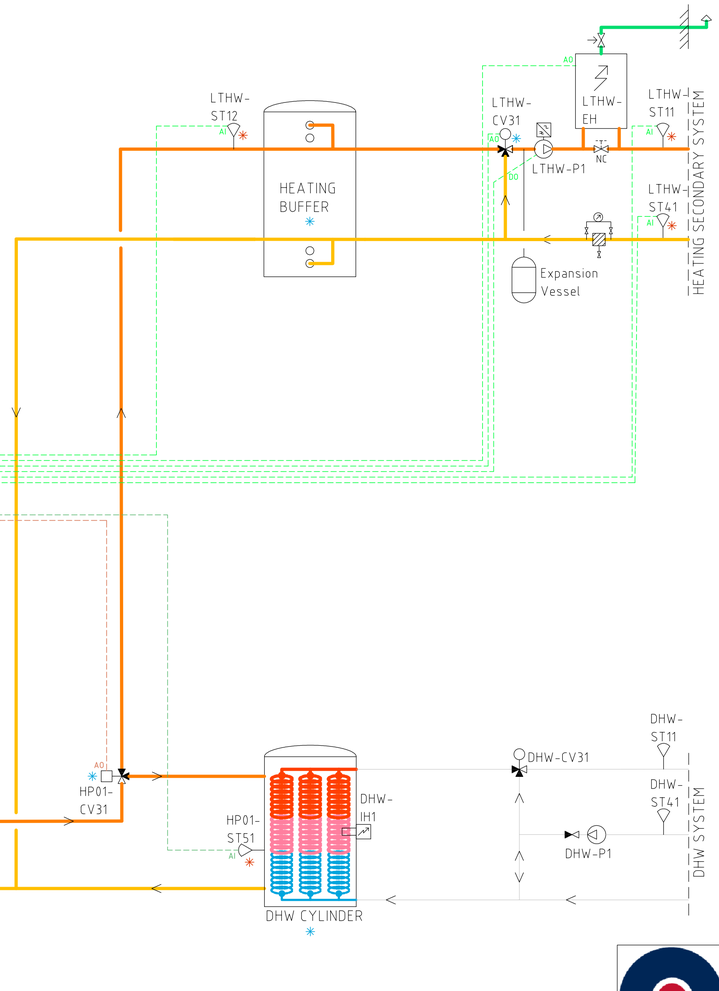

DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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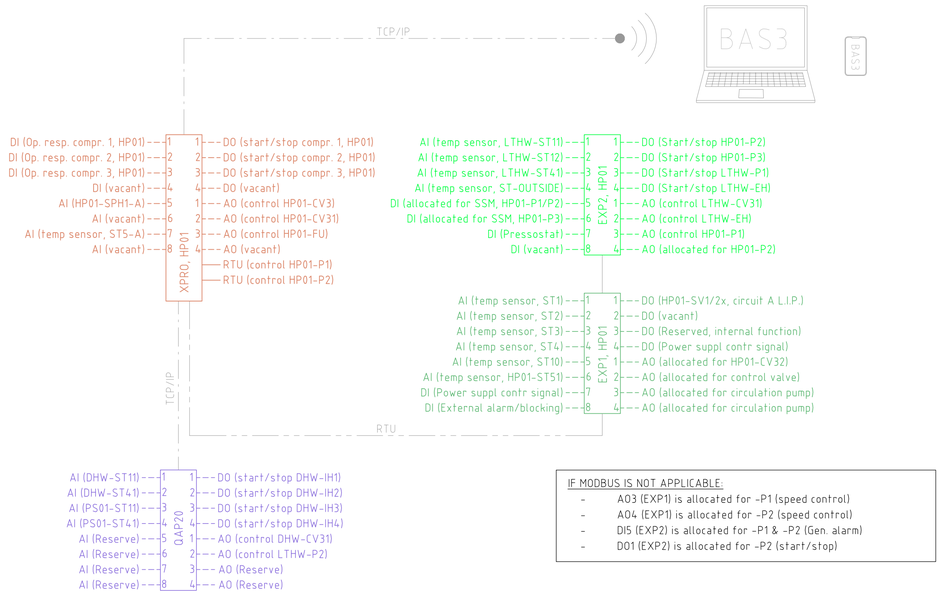
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-123-144-LB4-8-101	15

Information

Q123-144LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control



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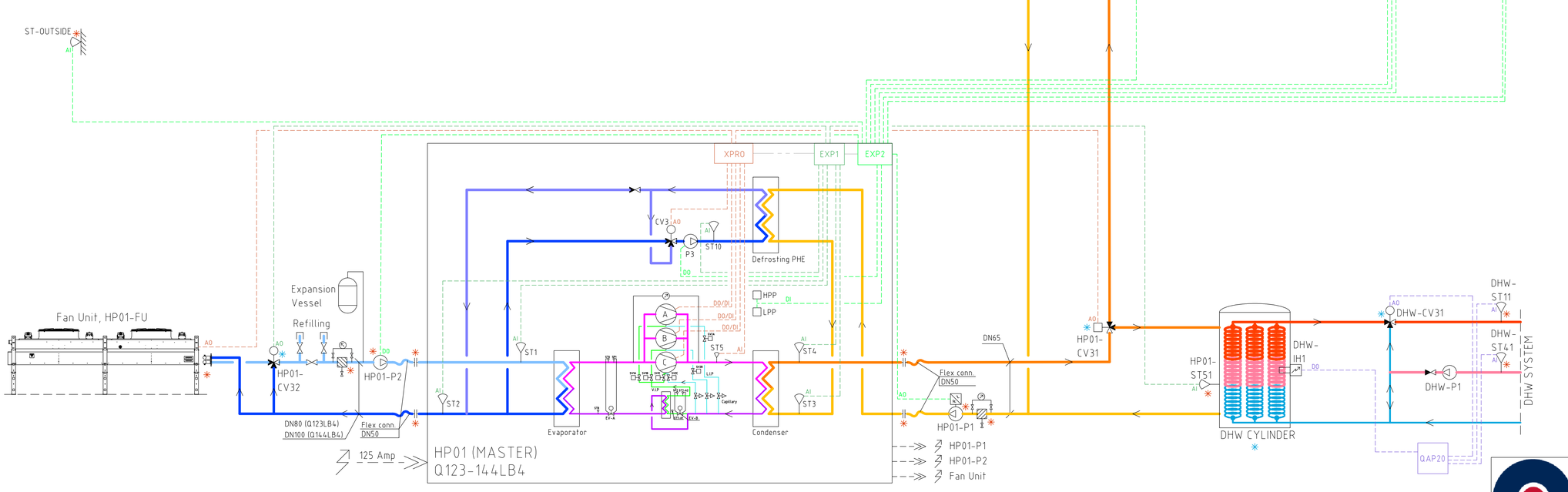

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Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

– – – – – DI, DO, AI & AO signals

—·— Modbus TCP/IP

— – – – Modbus RTU

✳ Components supplied by Qvantum

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For meausurements and other information regarding the fan unit, see separate documents and drawings.

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COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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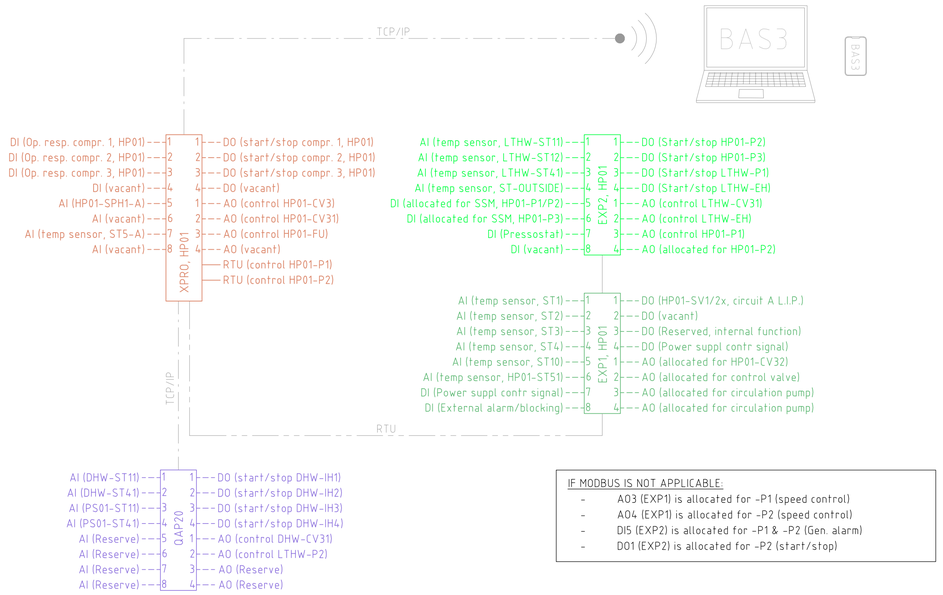
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-123-144-LB4-8-102	16

Information

Q123-144LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control, pool system control



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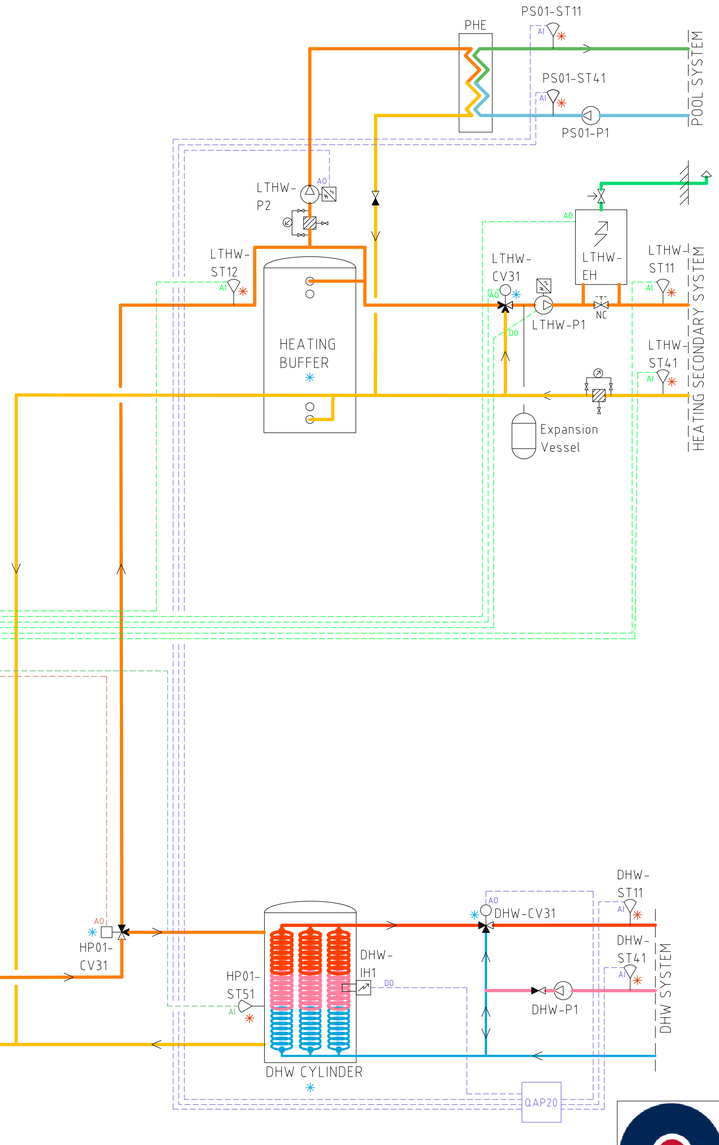

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Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum

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For meausurements and other information regarding the fan unit, see separate documents and drawings.

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Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

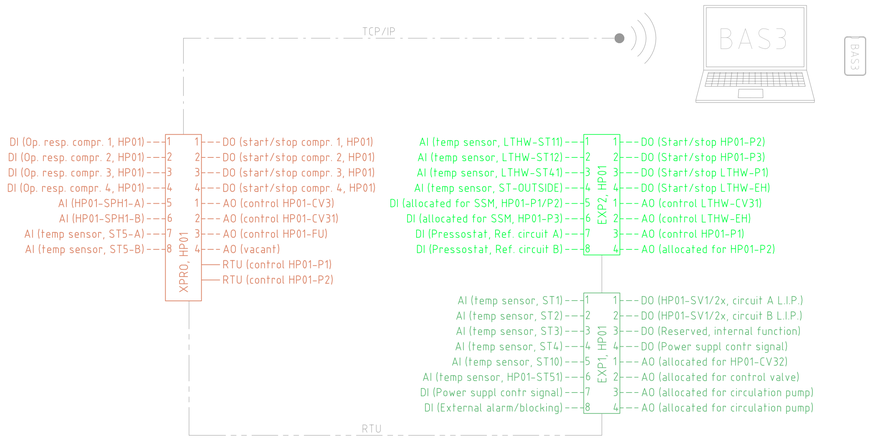
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM ENERGI AB
Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-123-144-LB4-8-103	17

Information

Q162-192LB4, single heat pump, heating only



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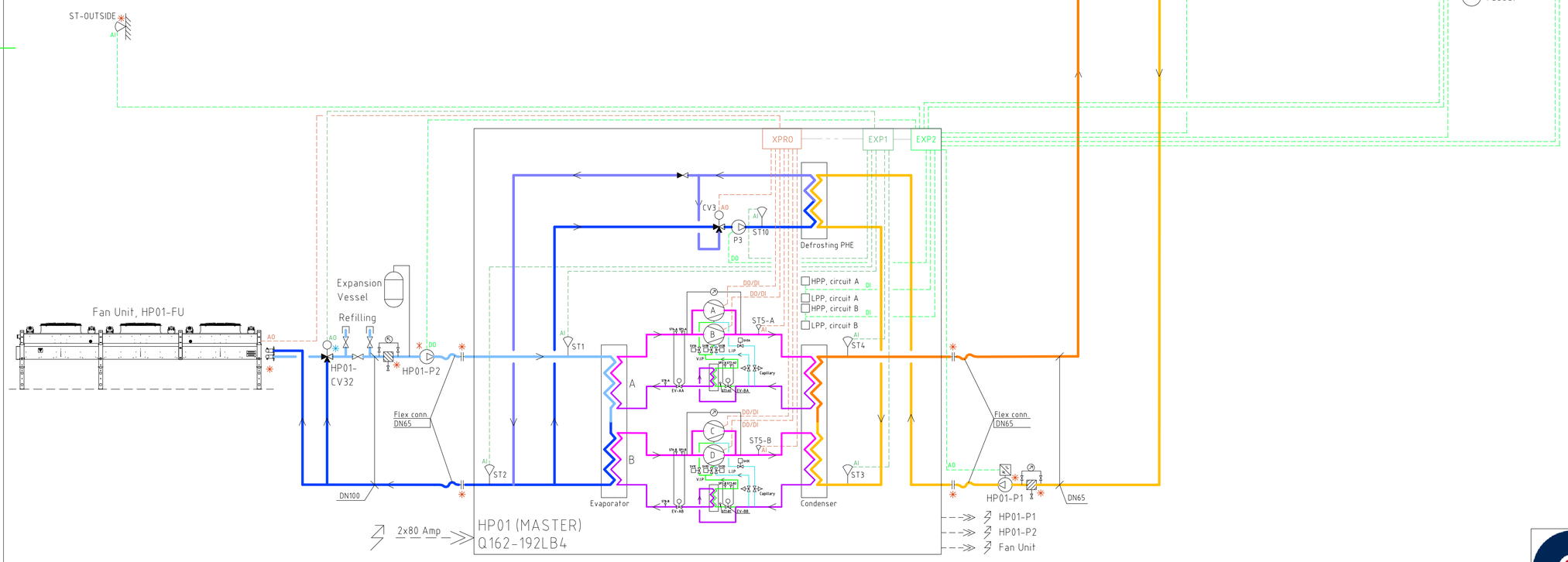
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)



Please note
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- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM ENERGI AB
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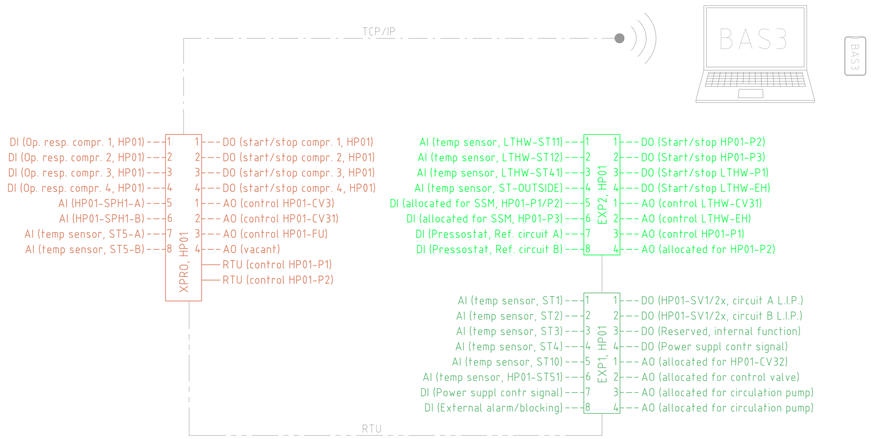
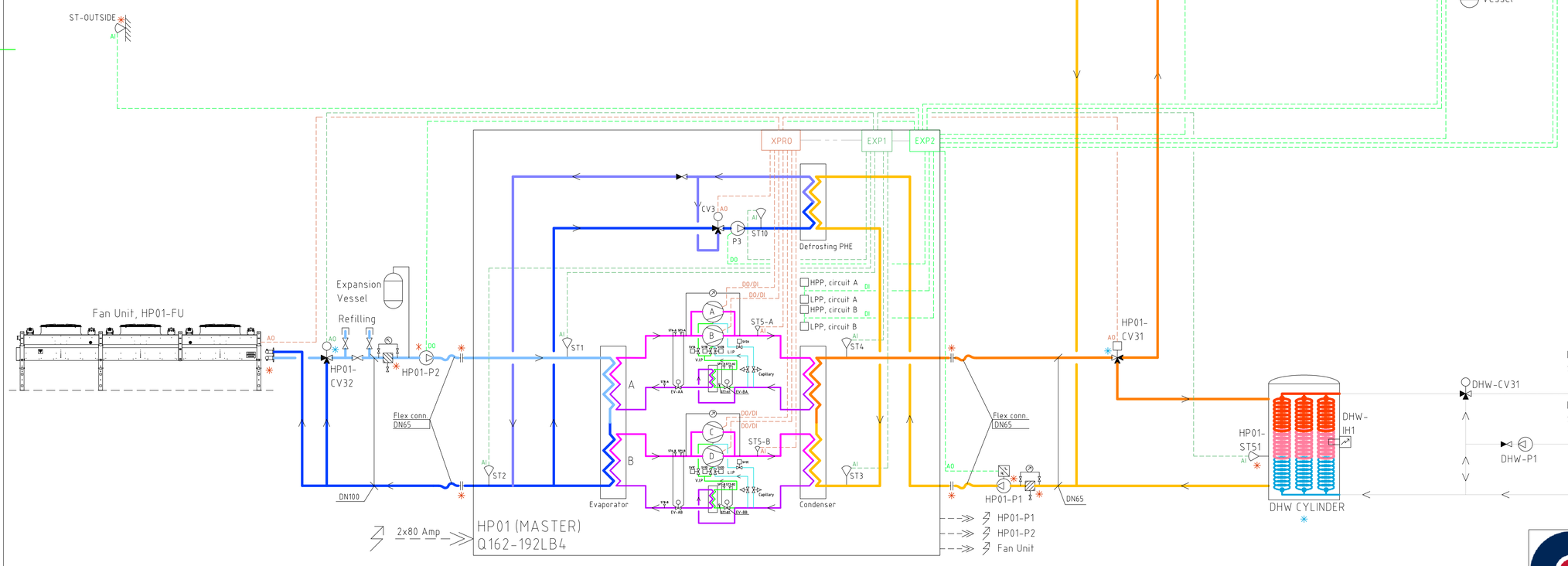
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-162-192-LB4-8-100	21

Information

Q162-192LB4, single heat pump, heating & DHW, thermal store with DHW coils



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)



Please note
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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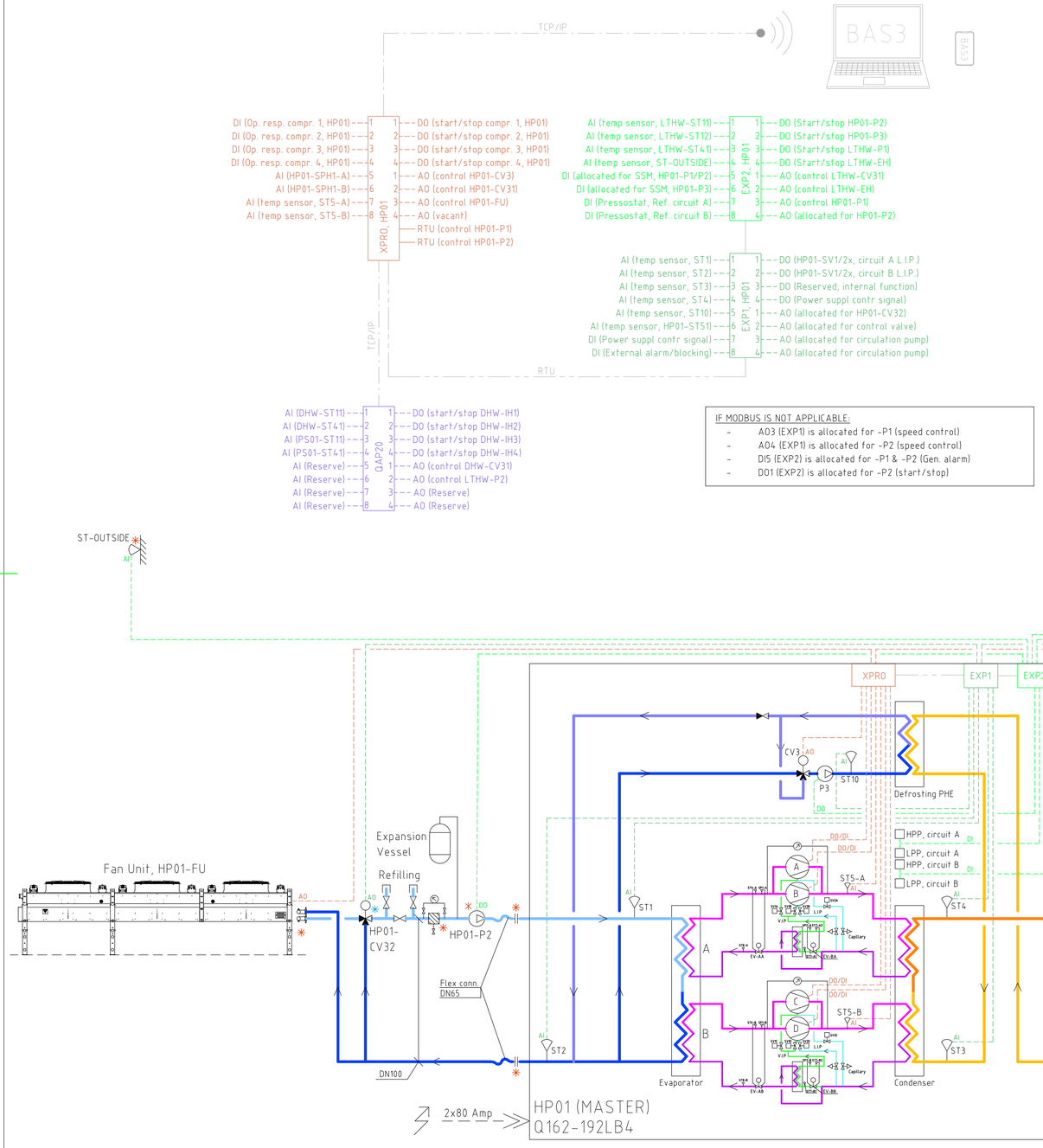
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-162-192-LB4-8-101	22

Information

Q162-192LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control



DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —– – – Modbus RTU
- ✳ Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
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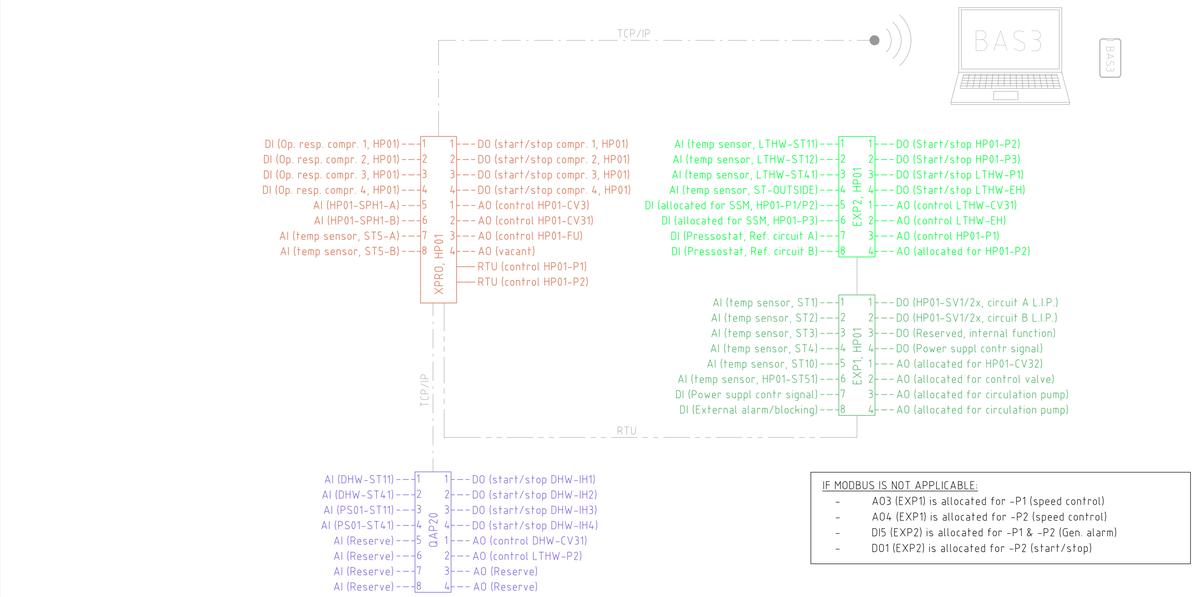
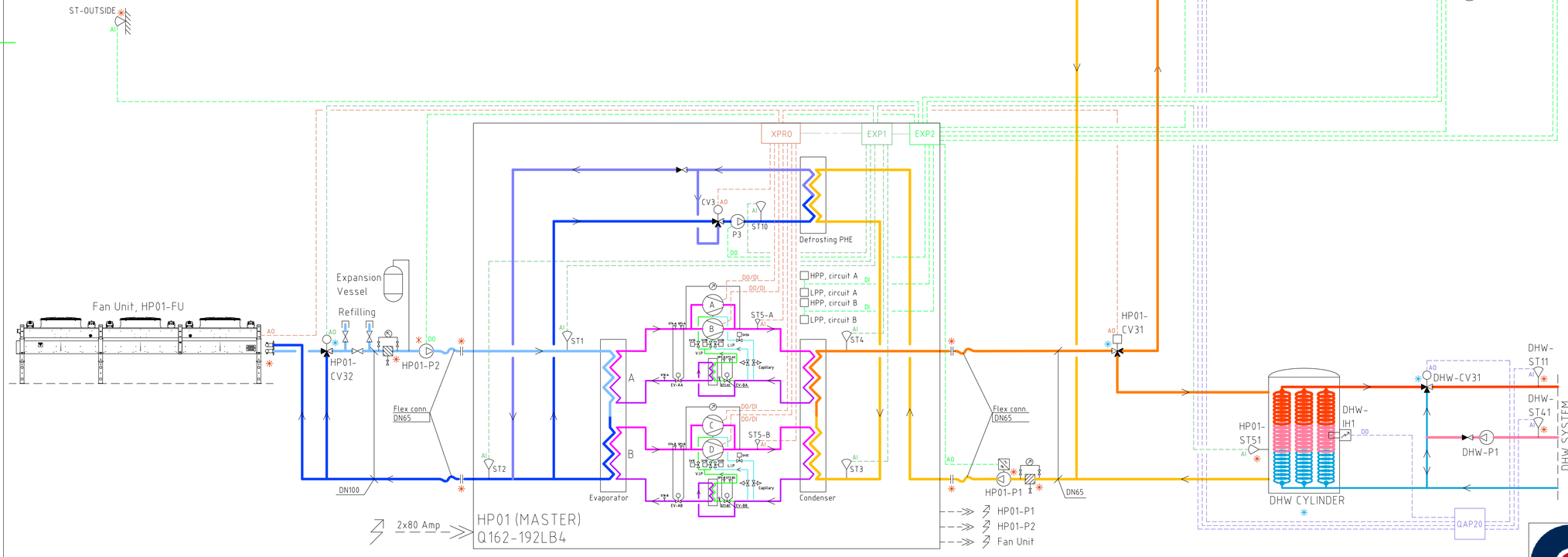
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-162-192-LB4-8-102	23

PLOT: 2025-12-06 12:51 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIPER\DOCKNINGSPRINCIP KYLKRETS\RIT\LB4__SV T100-103, 200-204.DWG JONAS
XREF:
LAGER: SB11

Information

Q162-192LB4, single heat pump, heating & DHW, thermal store with DHW coils, DHW system control, pool system control





DISCLAIMERS

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-162-192-LB4-8-103	24

Subject to possible printing errors.

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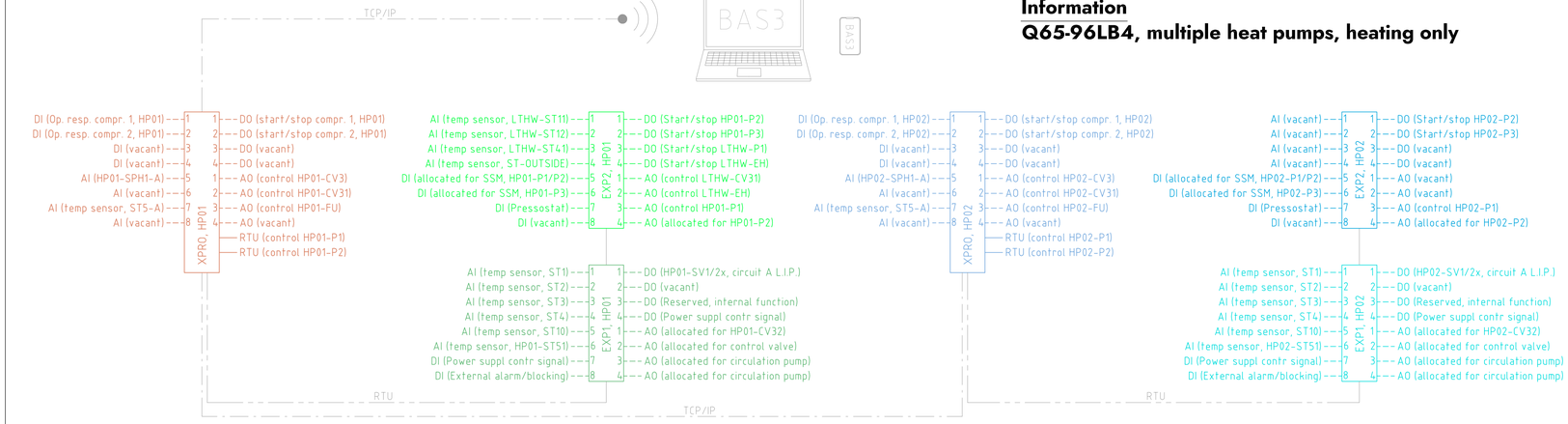
QVANTUM LB4

HYDRAULIC SCHEMATICS

multiple heat pumps

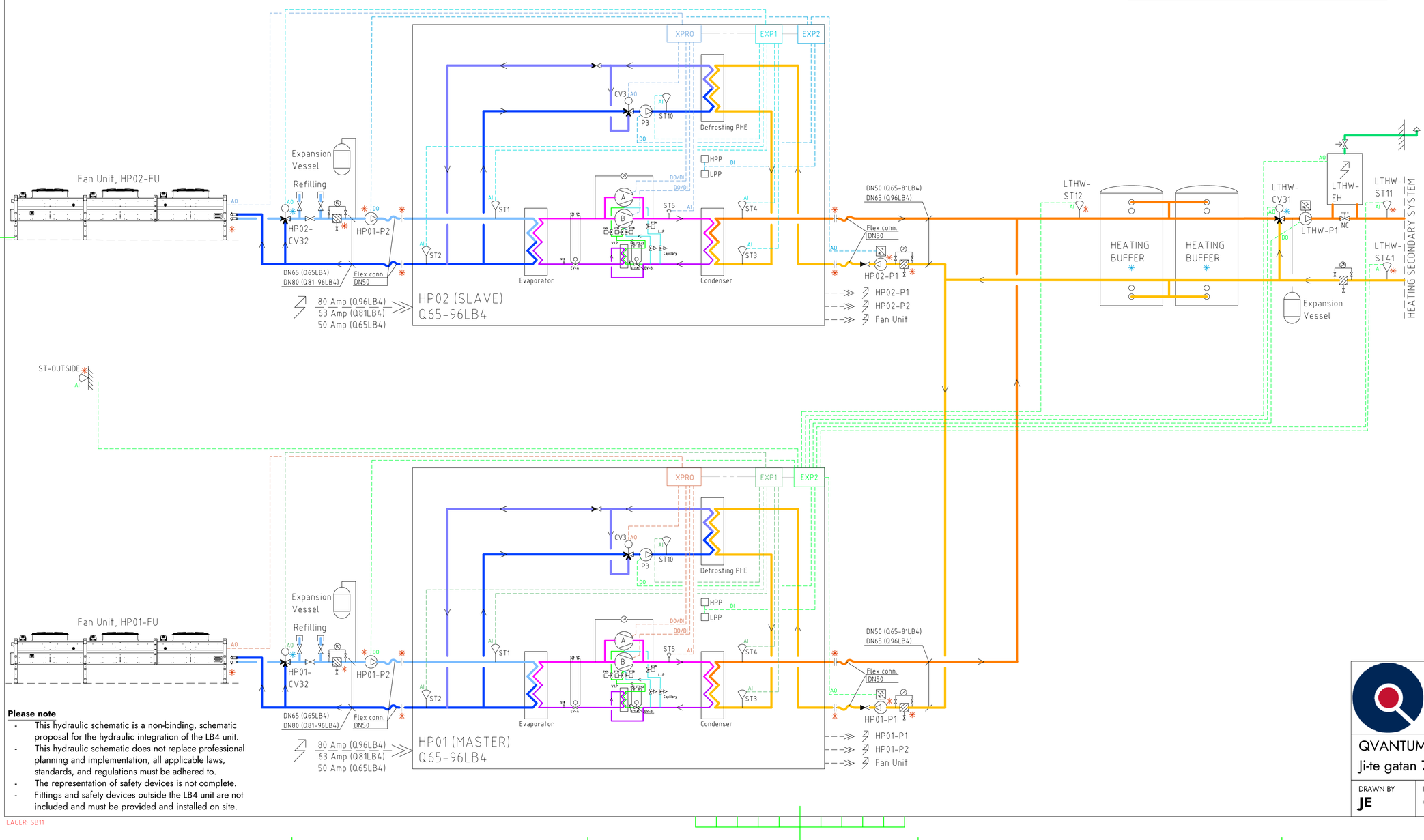
Subject to possible printing errors.

Information
Q65-96LB4, multiple heat pumps, heating only



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



Please note
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DISCLAIMERS

Space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- — – — Modbus RTU
- ✳ Components supplied by Qvantum
- ✳ Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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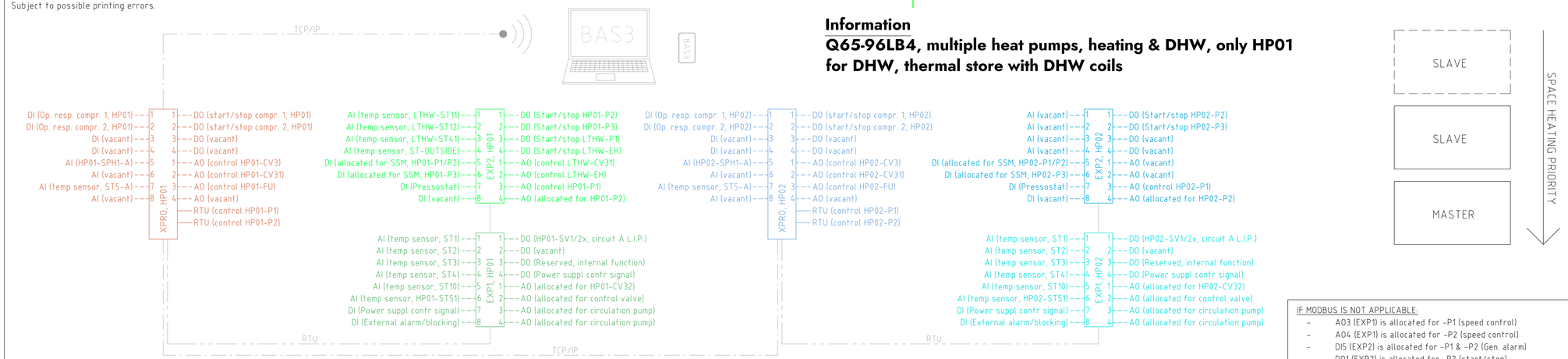
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-200	29

PLO: 2025-12-06 22:55 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIP KYLKRETS\RITLB4_SY (100-103, 200-204).DWG JONAS
XREF:
LAGER: SB11

Subject to possible printing errors.

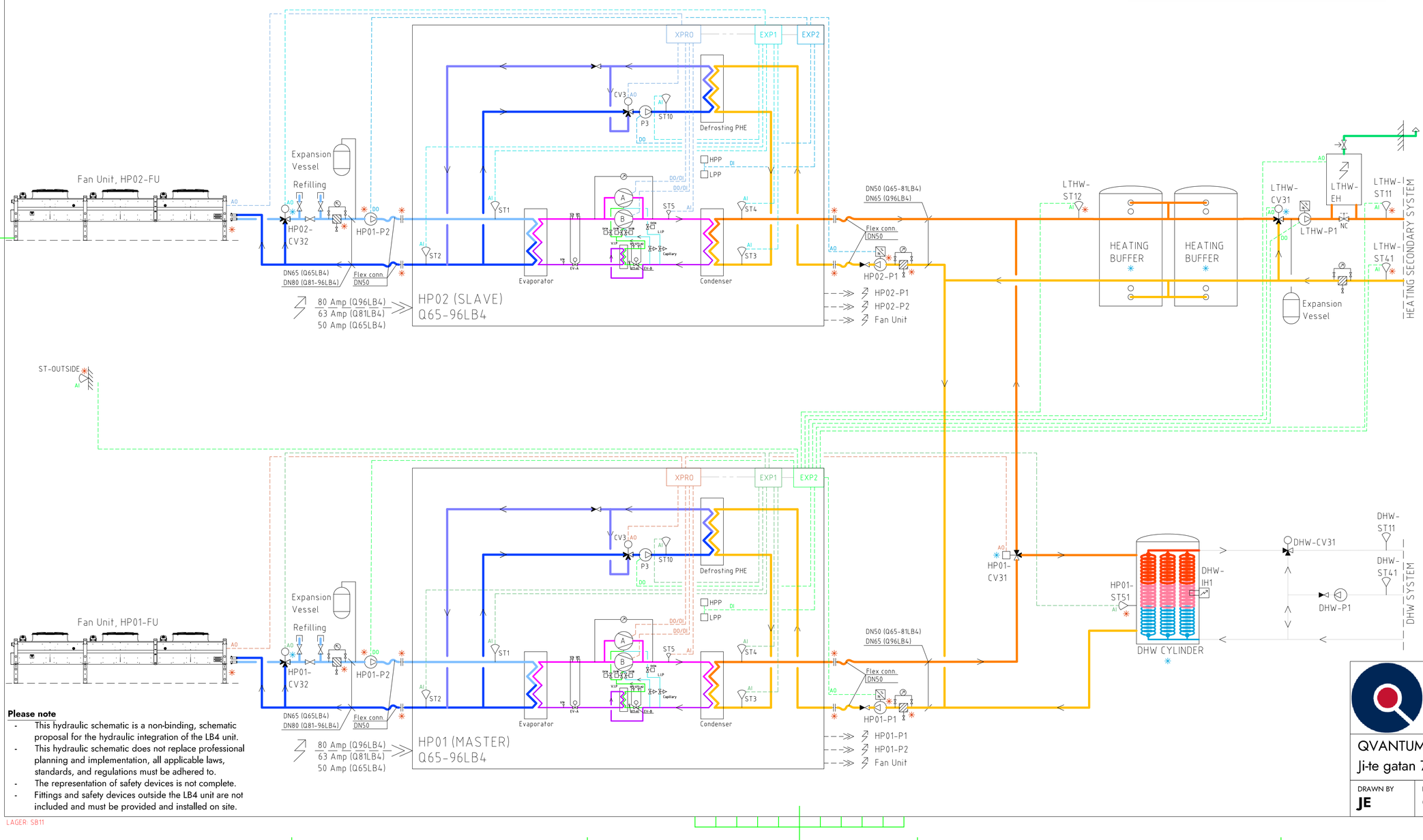
Information

Q65-96LB4, multiple heat pumps, heating & DHW, only HP01 for DHW, thermal store with DHW coils



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



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DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 1 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For measurements and other information regarding the heat pump, see separate documents and drawings.

For measurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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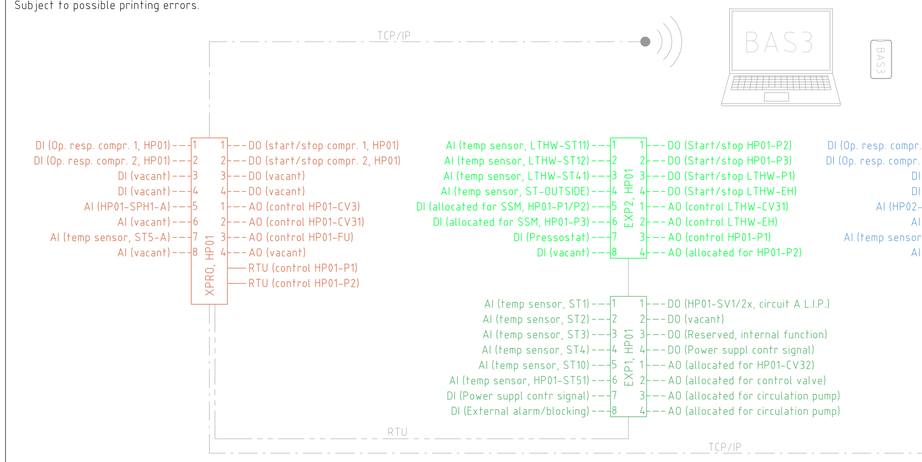
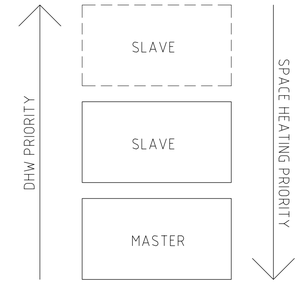
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-201	30

Subject to possible printing errors.

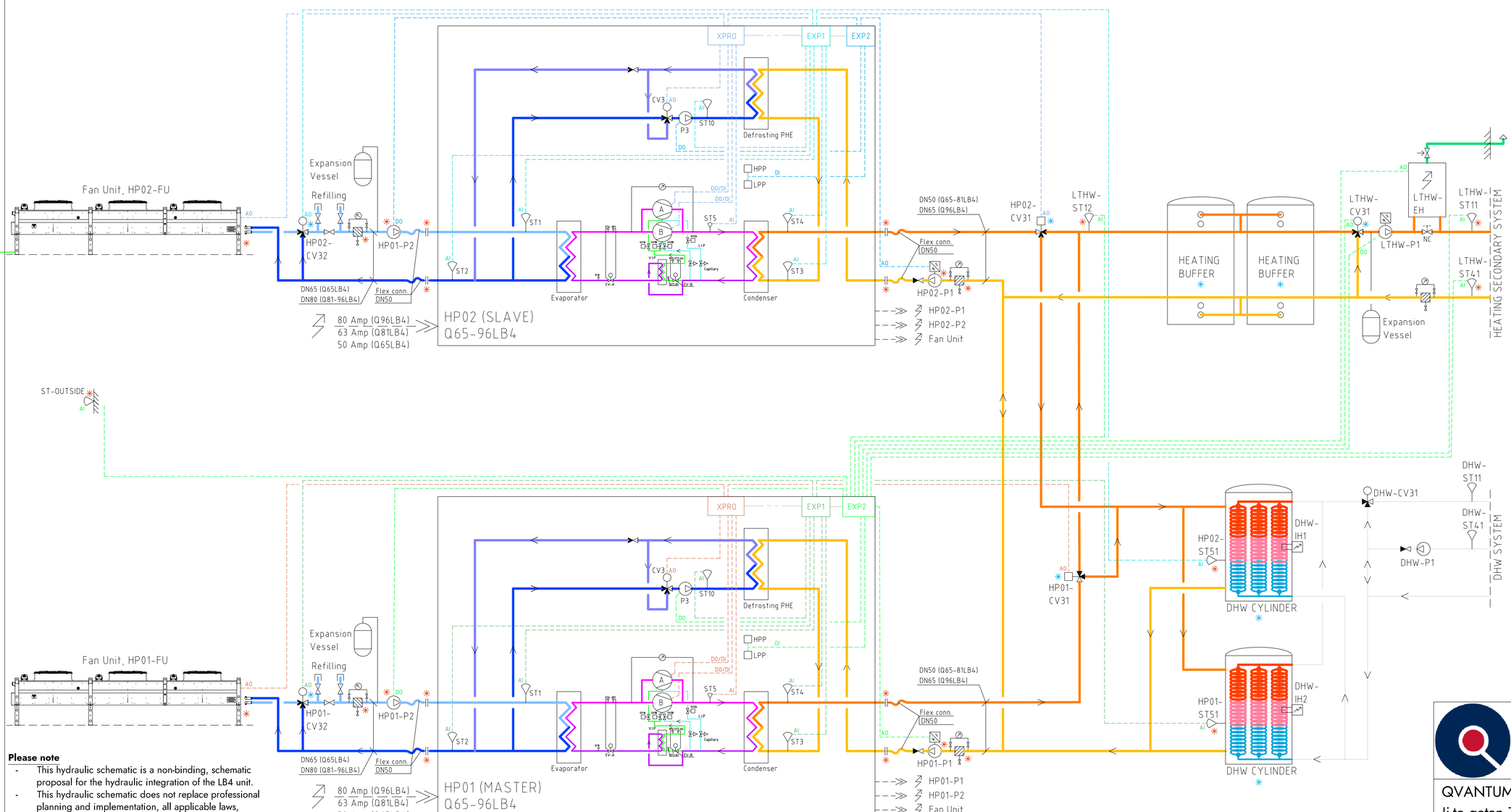
Information
Q65-96LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils





IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



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- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- — – — Modbus RTU
- ✳ Components supplied by Qvantum
- ✳ Components that can be supplied by Qvantum

For measurements and other information regarding the heat pump, see separate documents and drawings.

For measurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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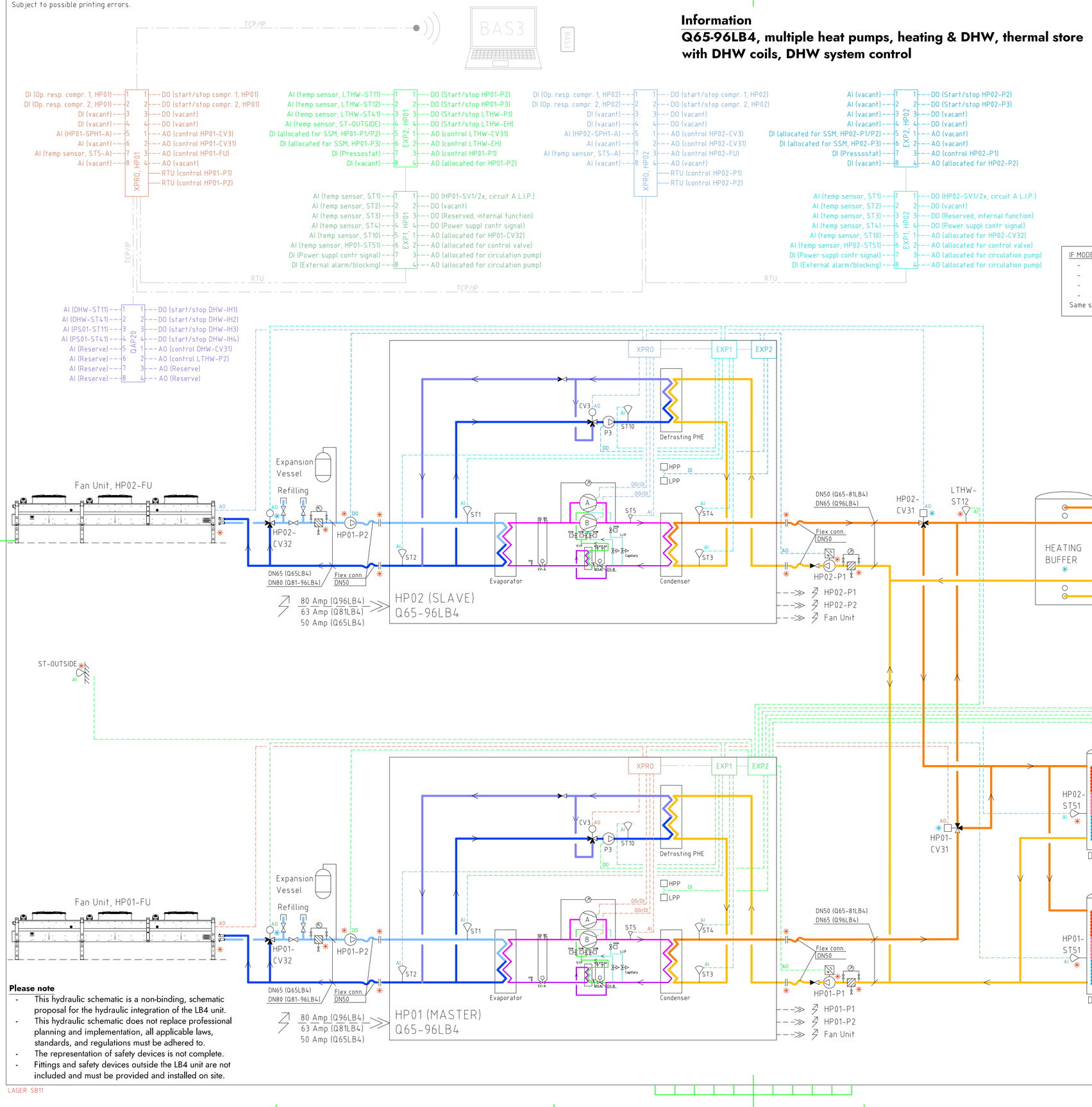
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-202	31

PLO: 2025-12-06 22:56 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIP KYLKRETS\RITLB4_SY (100-103, 200-204).DWG JONAS
XREF:
LAGER: SB11

Subject to possible printing errors.

Information

Q65-96LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control



Please note

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- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —— Modbus RTU
- ✳ Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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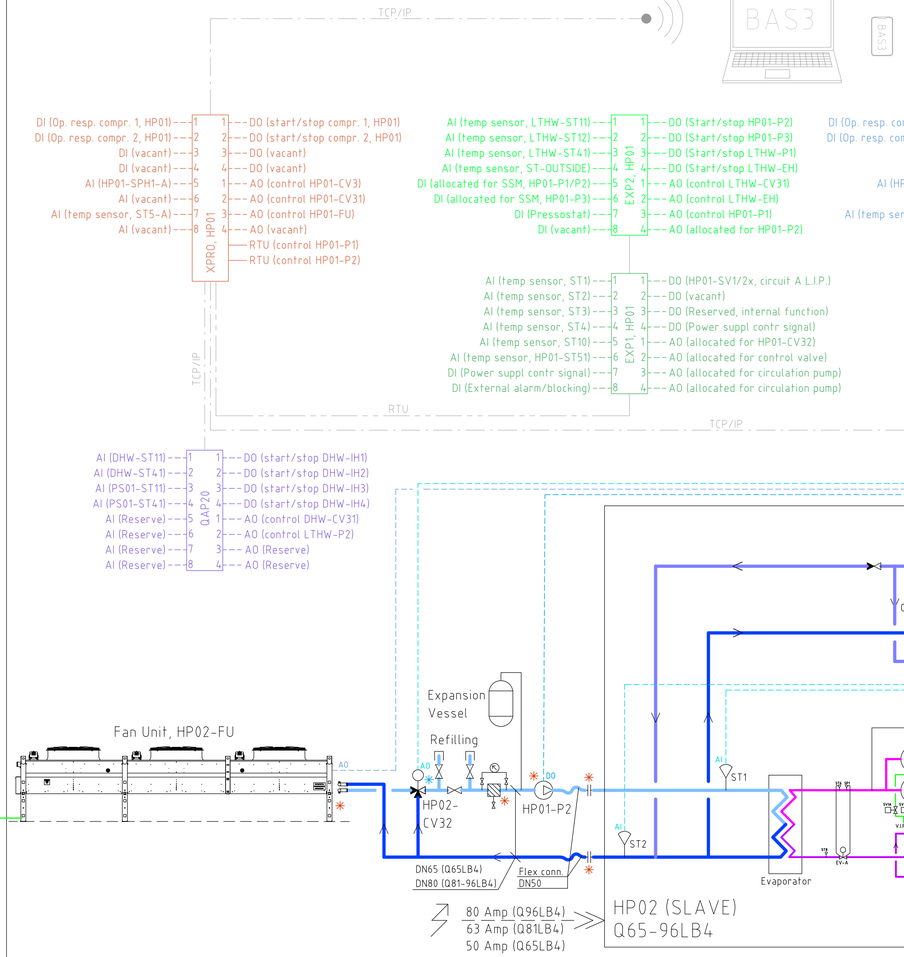
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-203	32

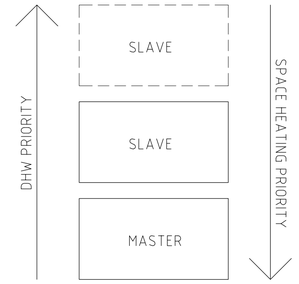
PLO: 2025-12-06 22:59 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIPER\DOCKNINGSPRINCIP KYLKRETSSMITLB4_SV 100-103, 200-2041.DWG JONAS
XREF:
LAGER: SB11

Subject to possible printing errors.

Information

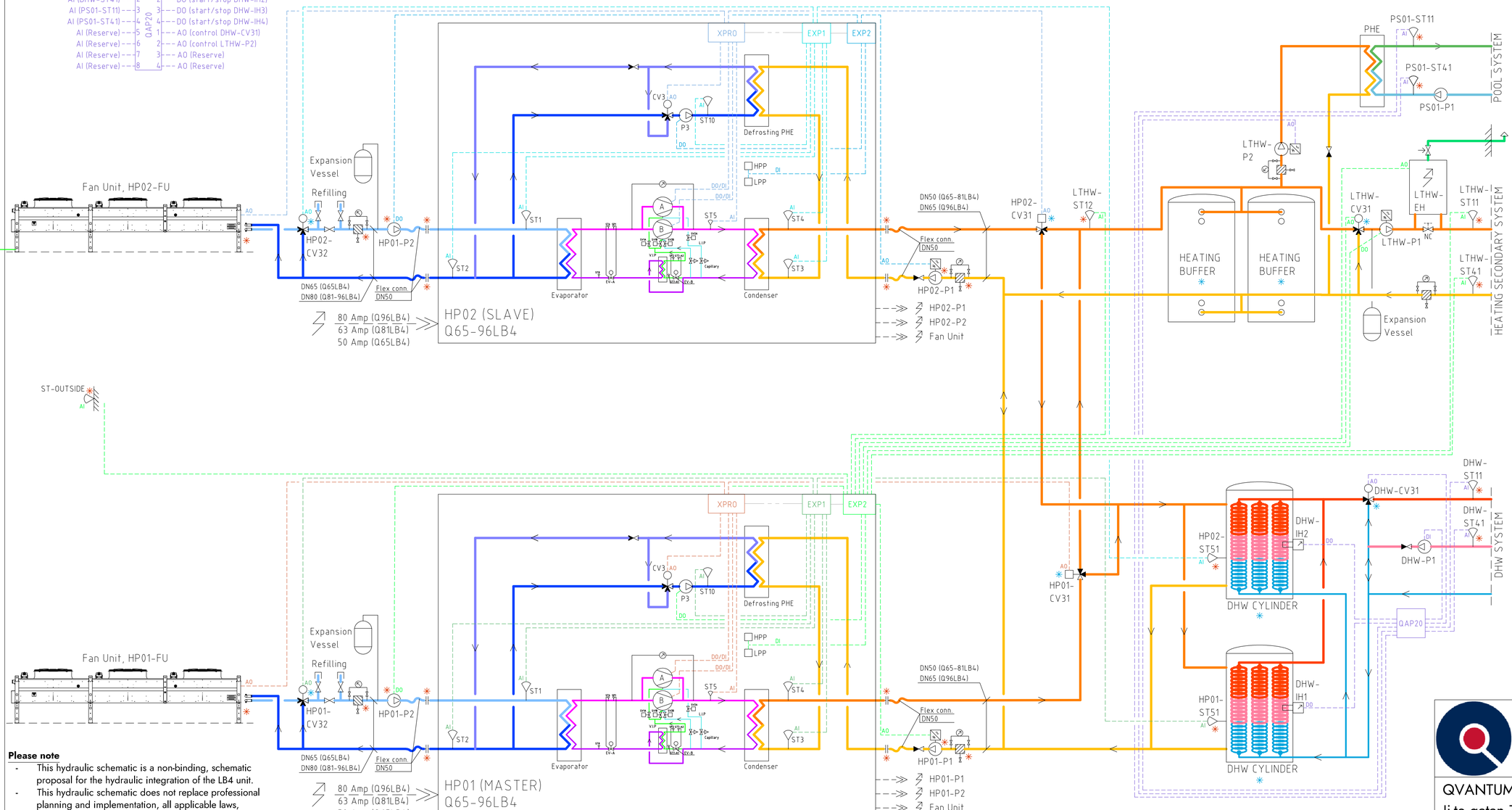
Q65-96LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control, pool system control





IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



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DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

DI, DO, AI & AO signals

Modbus TCP/IP

Modbus RTU

Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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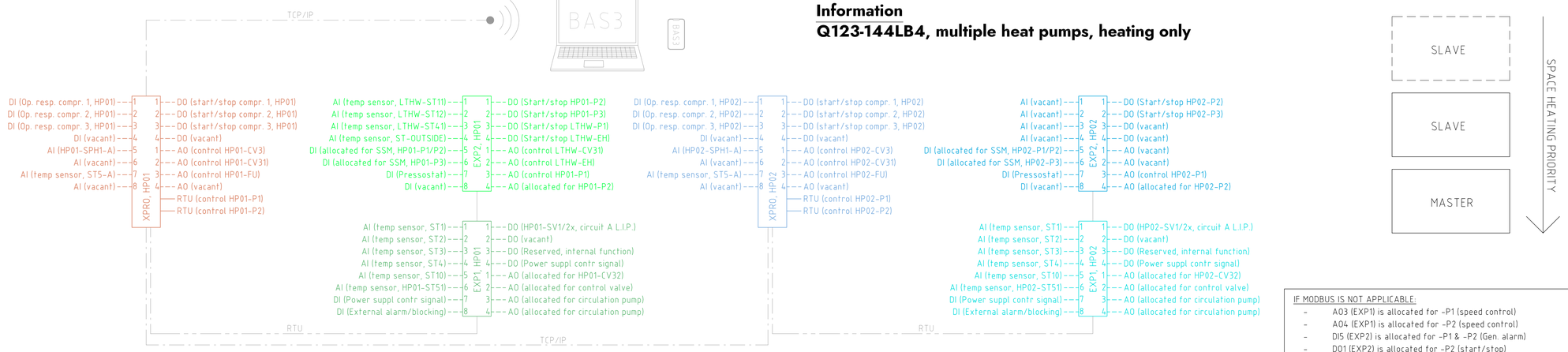
DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	Q-65-96-LB4-8-204	33

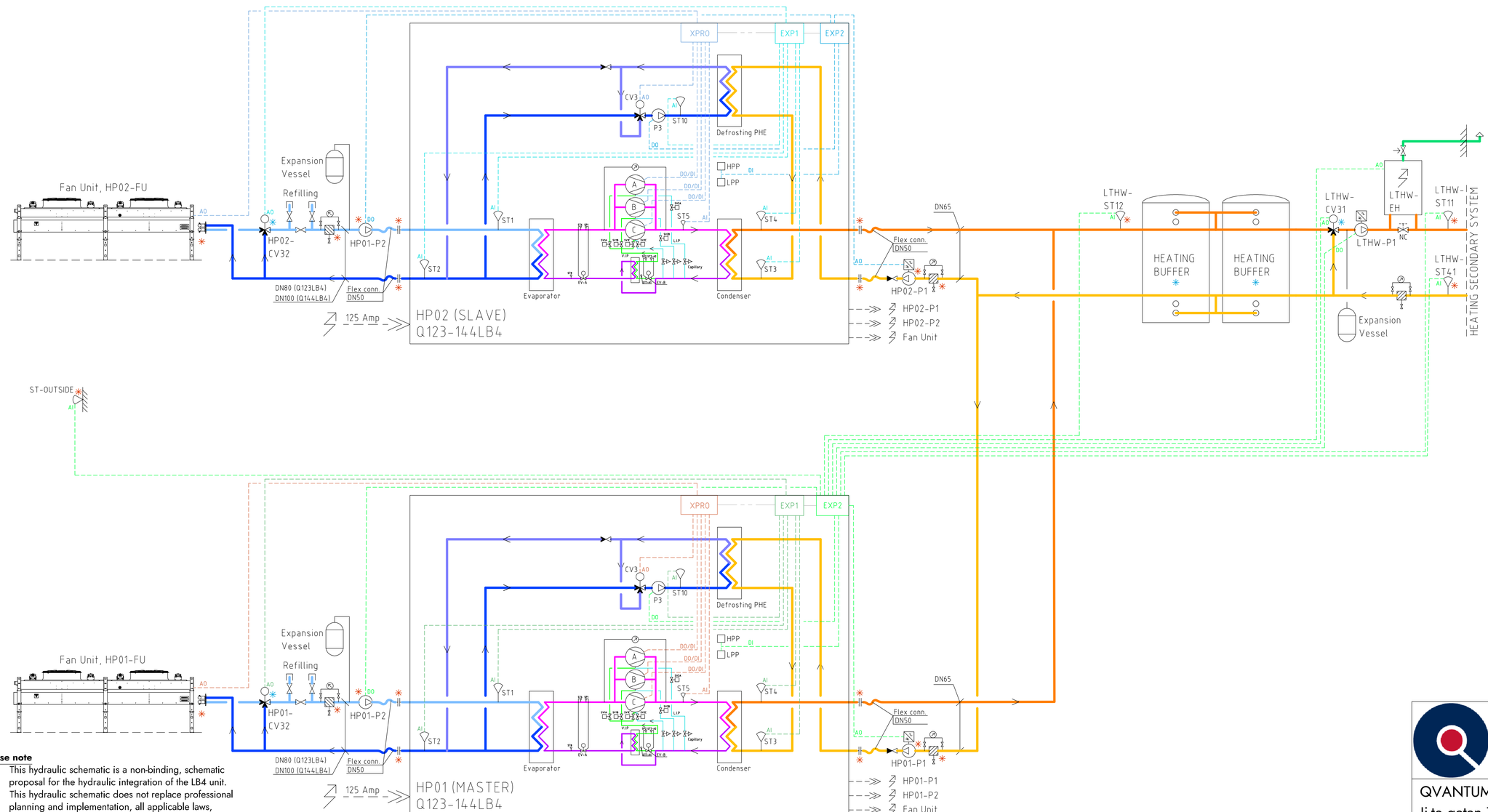
Subject to possible printing errors.

Information
Q123-144LB4, multiple heat pumps, heating only



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



Please note
- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

Space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —— · —— Modbus TCP/IP
- —— – – —— Modbus RTU
- ✳ Components supplied by Qvantum
- ✳ Components that can be supplied by Qvantum

For measurements and other information regarding the heat pump, see separate documents and drawings.

For measurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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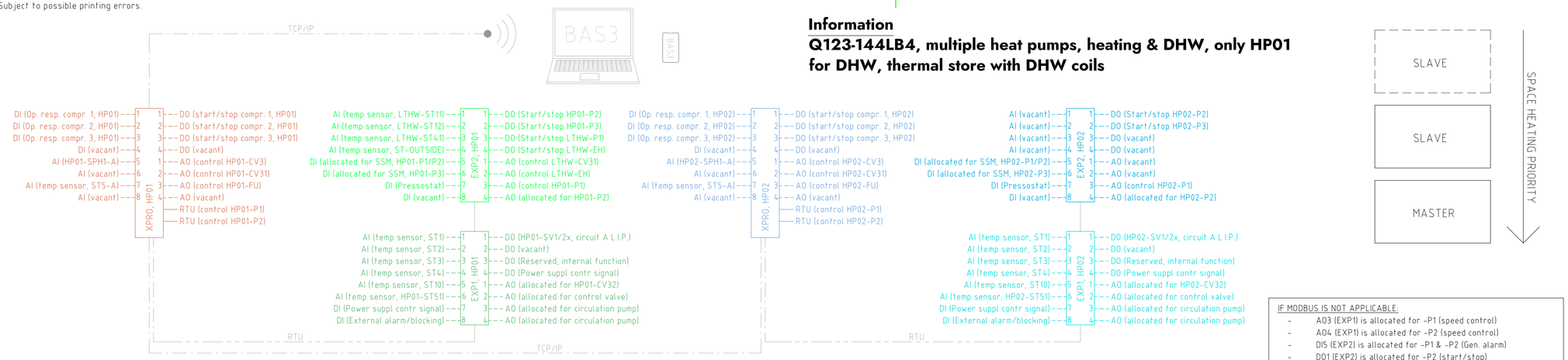
Subject to possible printing errors.

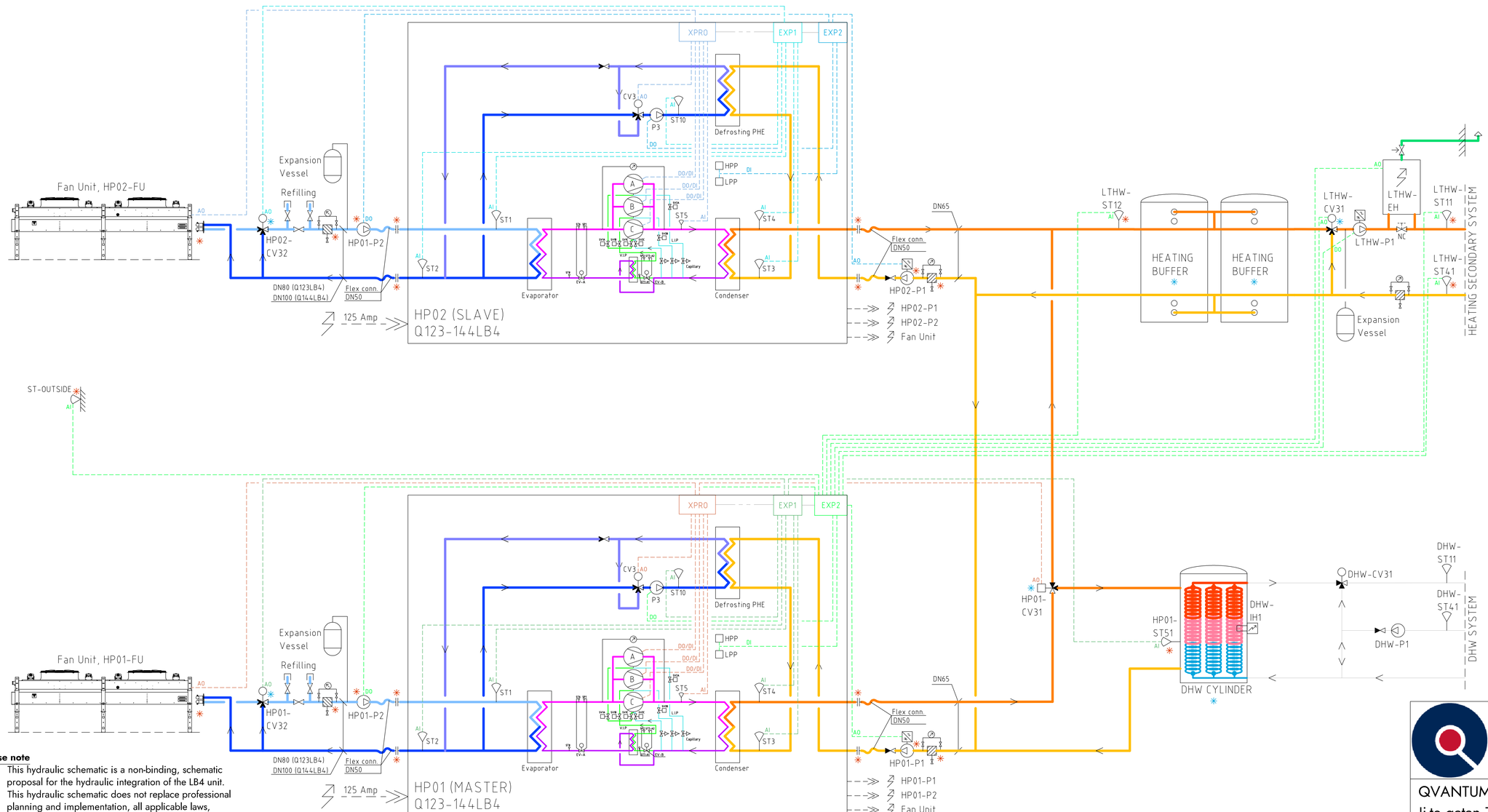
Information

Q123-144LB4, multiple heat pumps, heating & DHW, only HP01 for DHW, thermal store with DHW coils



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



Please note
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 1 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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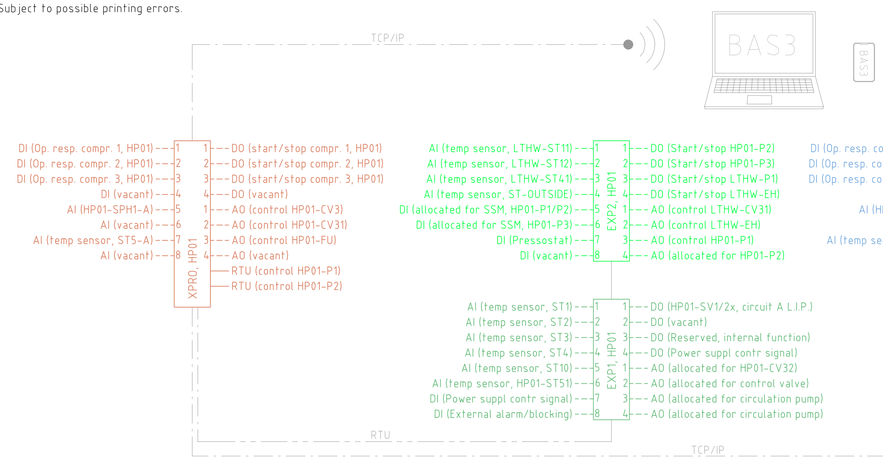
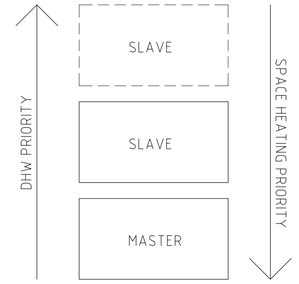
JE	Q-123-144-LB4-8-201	39

Subject to possible printing errors.

Information

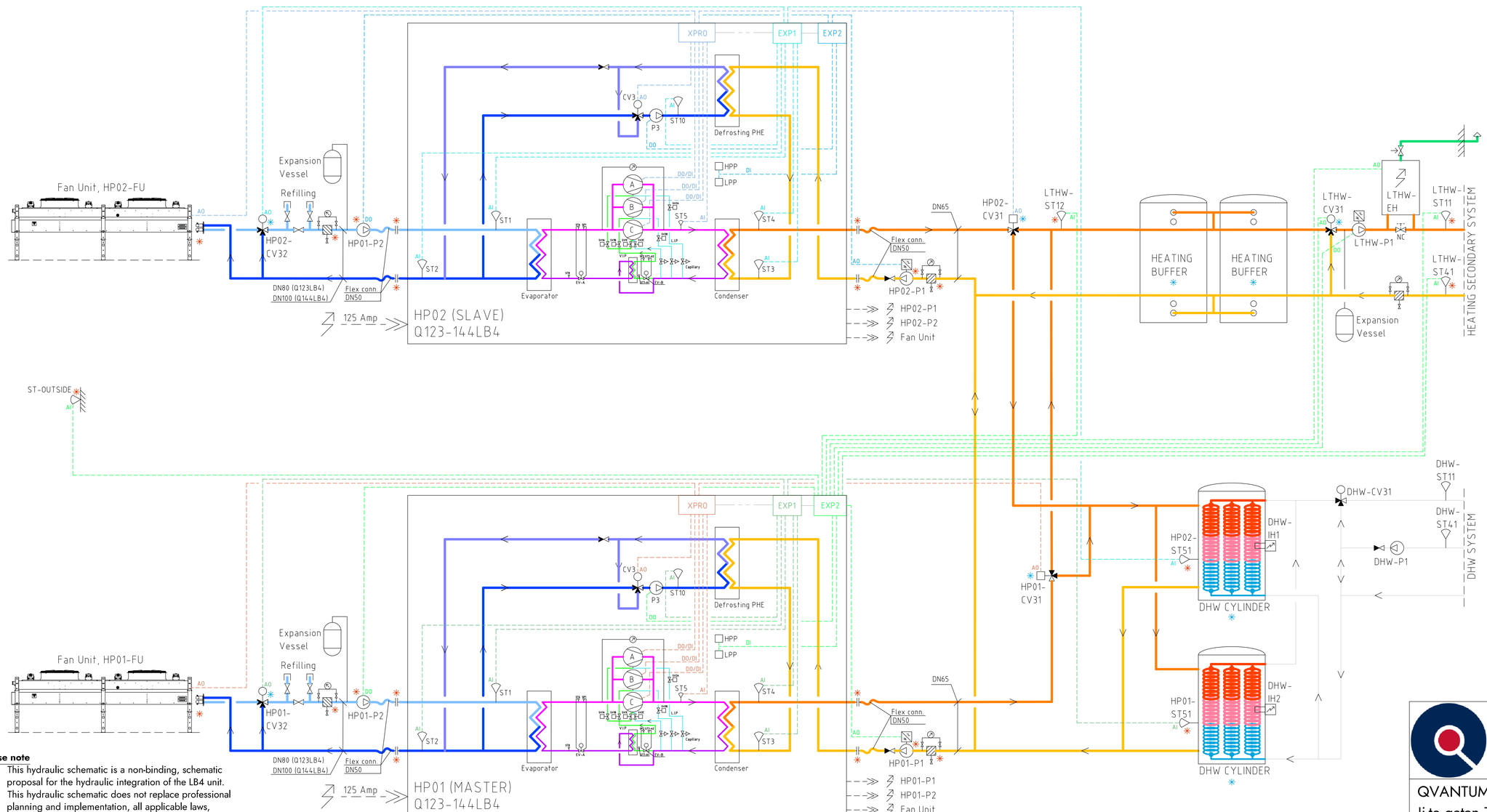
Q123-144LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils





IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.



Please note
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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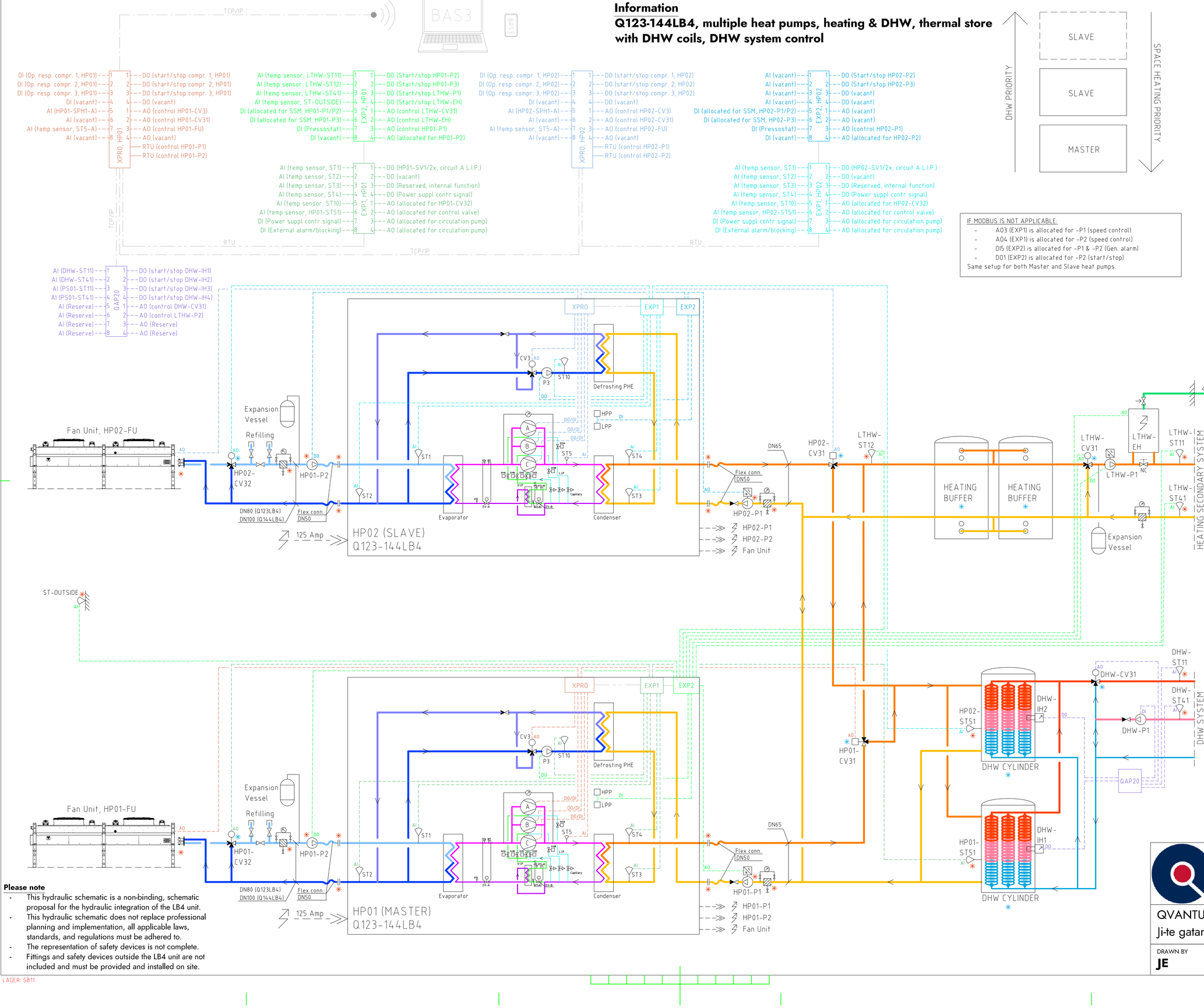
JE	Q-123-144-LB4-8-202	40

XREF:
LAGER: SB11
PLO: 2025-12-06 22:57 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIP KYLKRETS\RITLB4_SY100-103, 200-204.DWG JONAS

Subject to possible printing errors.

Information

Q123-144LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control



DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —– – – Modbus RTU
- ✳ Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
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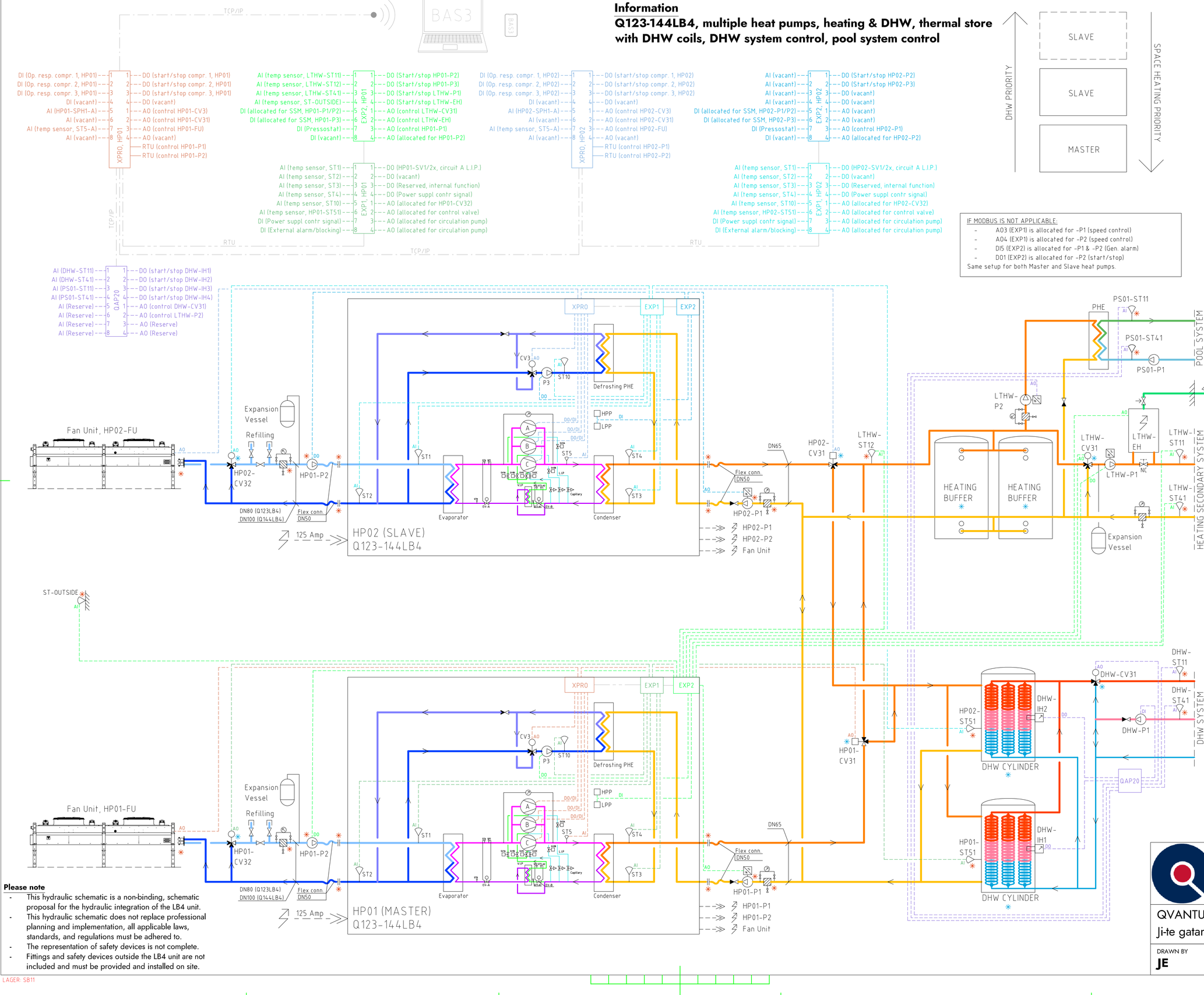
JE	Q-123-144-LB4-8-203	41

PLO: 2025-12-06 22:59 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIPER\DOCKNINGSPRINCIP KYLKRETS\RITA\LB4__SY (100-103, 200-204).DWG JONAS
XREF:
LAGER: SB11

Subject to possible printing errors.

Information

Q123-144LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control, pool system control



IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)

Same setup for both Master and Slave heat pumps.

Please note
- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

DI, DO, AI & AO signals

Modbus TCP/IP

Modbus RTU

Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

Circulation pump

Temperature sensor

3-way control valve

Isolation valve

Non return valve

Strainer

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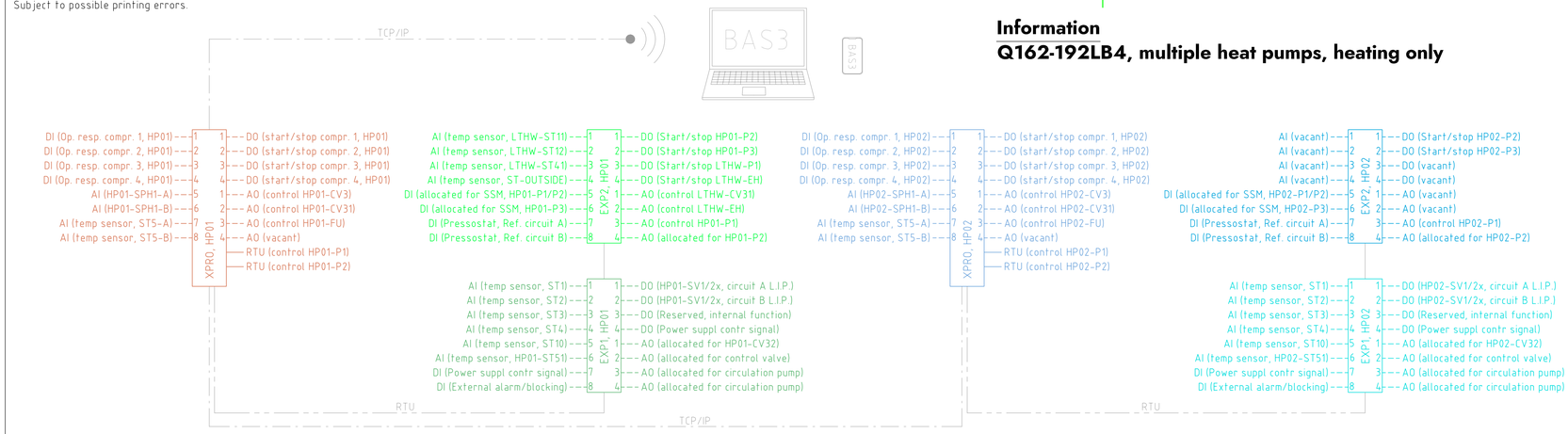
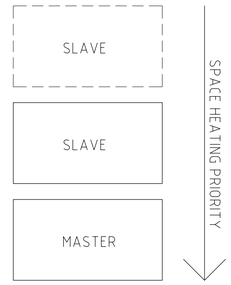
JE	Q-123-144-LB4-8-204	42

XREF:
LAGER: SB11
PLO: 2025-12-06 23:00 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIP KYLKRETS\RITLB4__SY100-103, 200-204.DWG JONAS

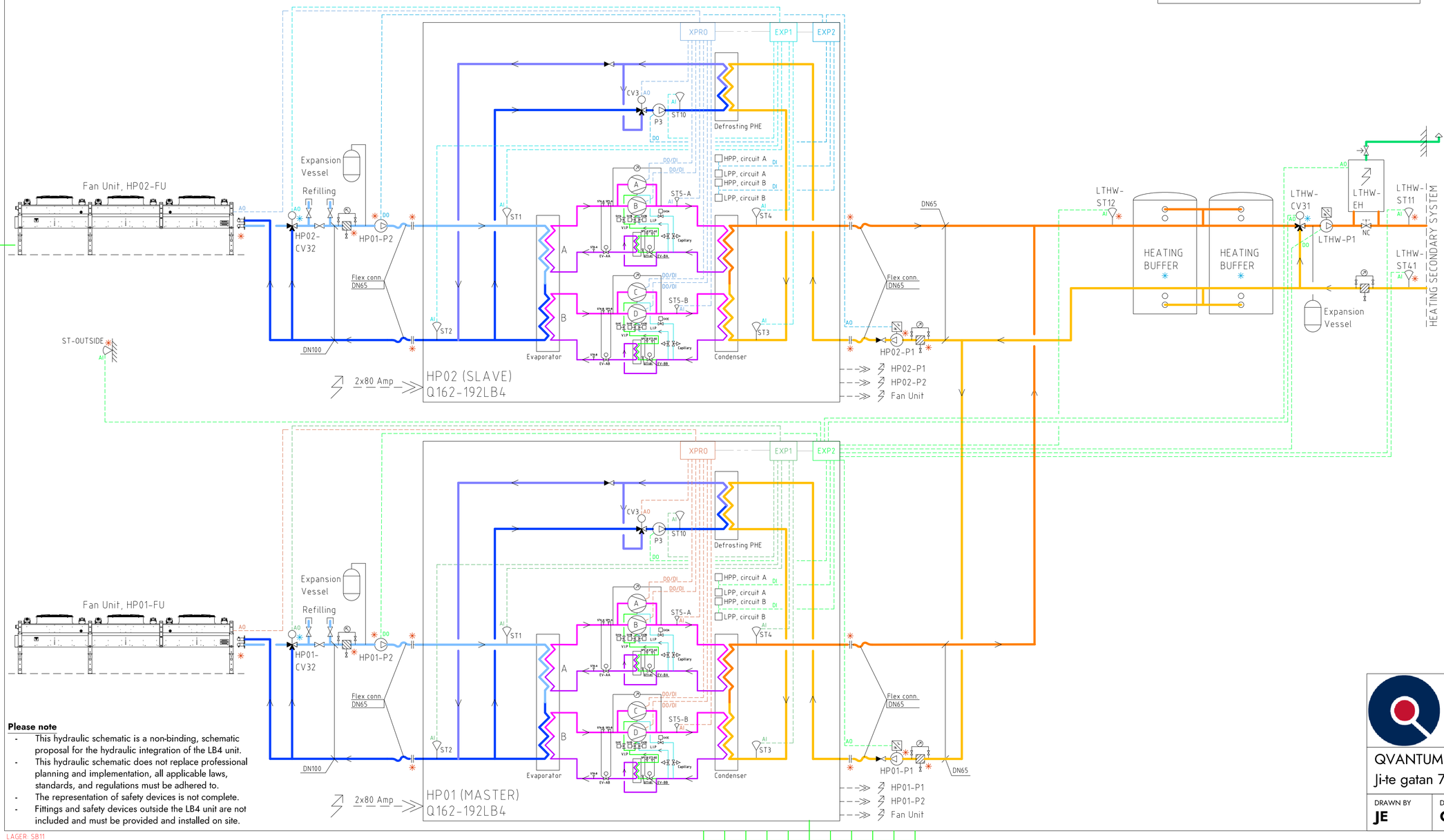
Subject to possible printing errors.

Information
Q162-192LB4, multiple heat pumps, heating only





IF MODBUS IS NOT APPLICABLE:
- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)
- Same setup for both Master and Slave heat pumps.



Please note
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

Space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

DI, DO, AI & AO signals

Modbus TCP/IP

Modbus RTU

Components supplied by Qvantum

Components that can be supplied by Qvantum

For measurements and other information regarding the heat pump, see separate documents and drawings.

For measurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

Circulation pump

Temperature sensor

3-way control valve

Isolation valve

Non return valve

Strainer

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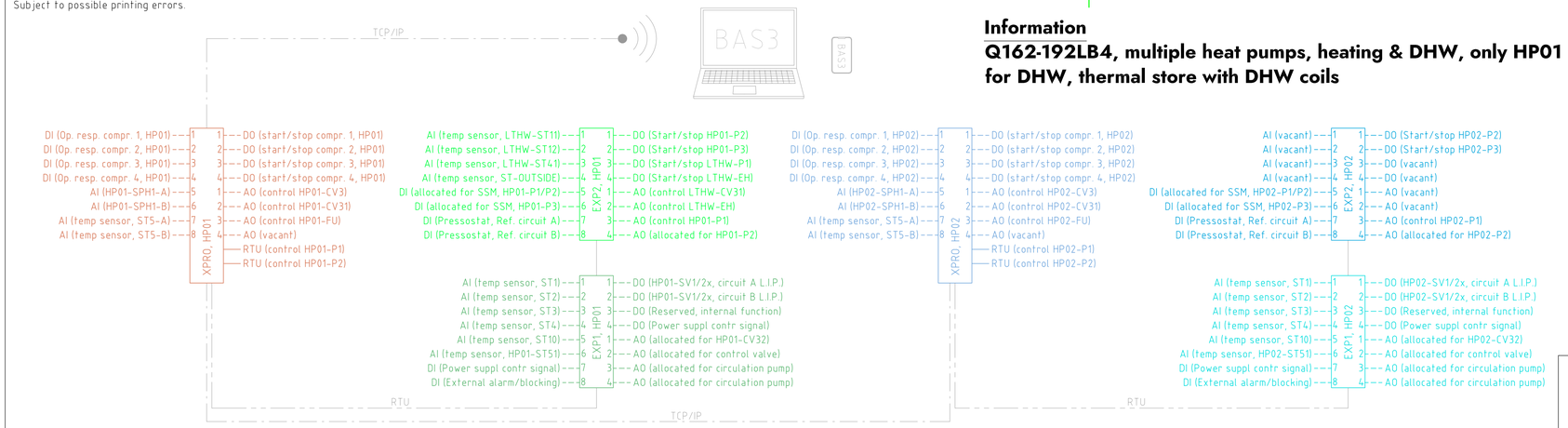
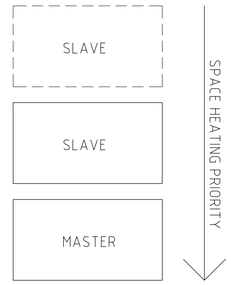
Subject to possible printing errors.

Information

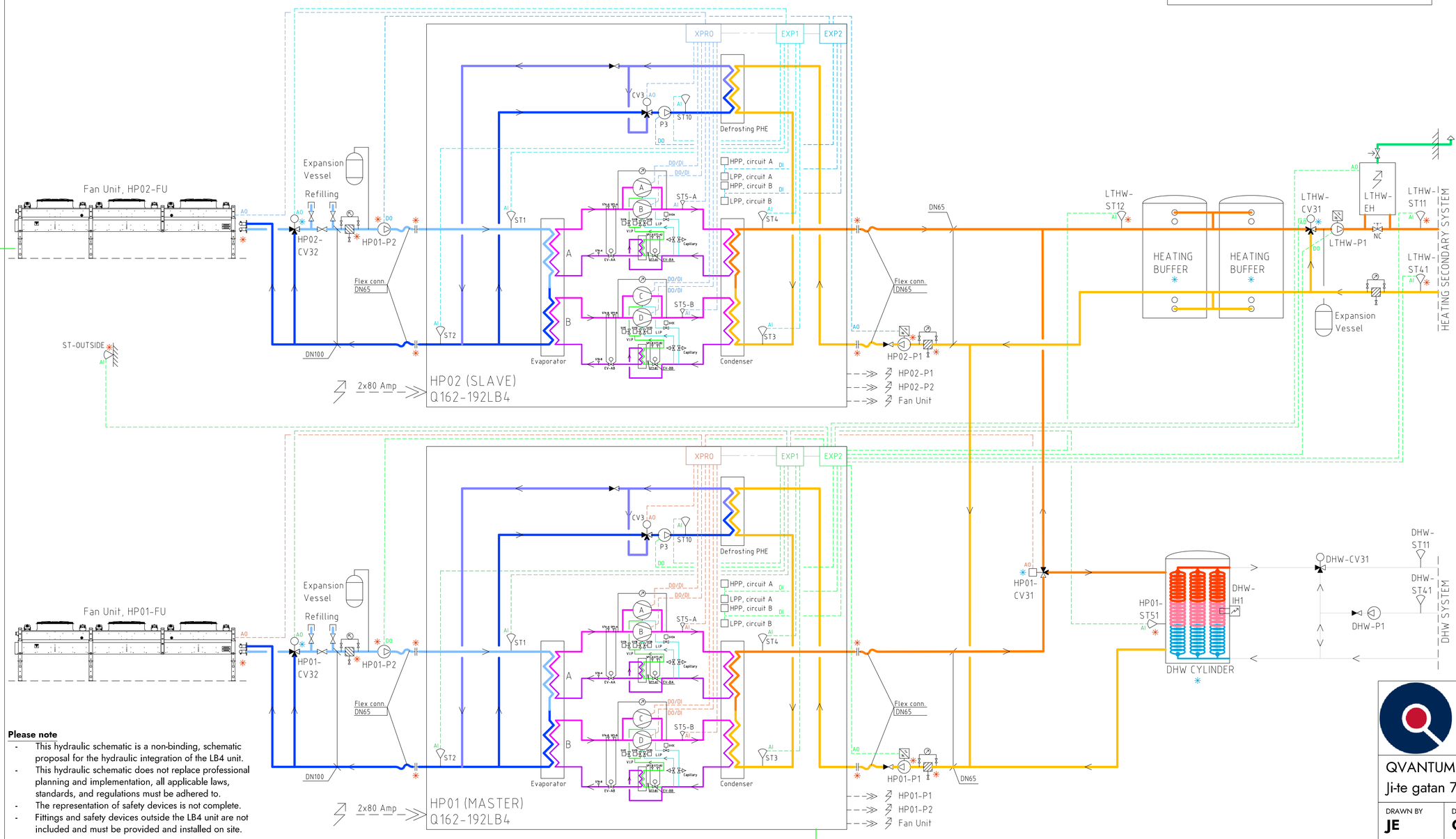
Q162-192LB4, multiple heat pumps, heating & DHW, only HP01 for DHW, thermal store with DHW coils





IF MODBUS IS NOT APPLICABLE:

- AO3 (EXP1) is allocated for ~P1 (speed control)
- AO4 (EXP1) is allocated for ~P2 (speed control)
- DI5 (EXP2) is allocated for ~P1 & ~P2 (Gen. alarm)
- DO1 (EXP2) is allocated for ~P2 (start/stop)
- Same setup for both Master and Slave heat pumps.



Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 1 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —·— Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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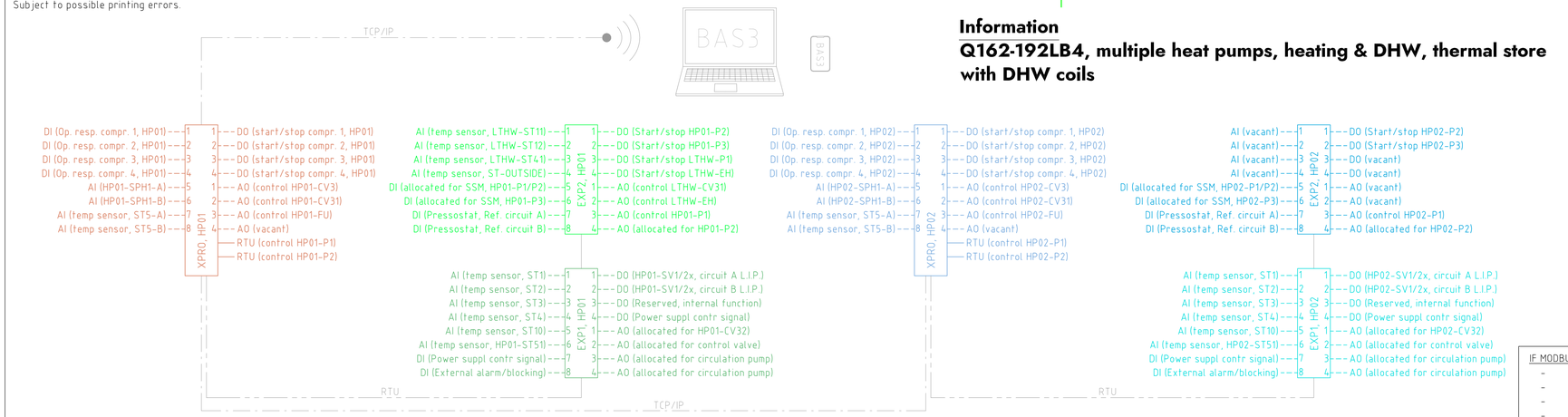
JE	Q-162-192-LB4-8-201	48

Subject to possible printing errors.

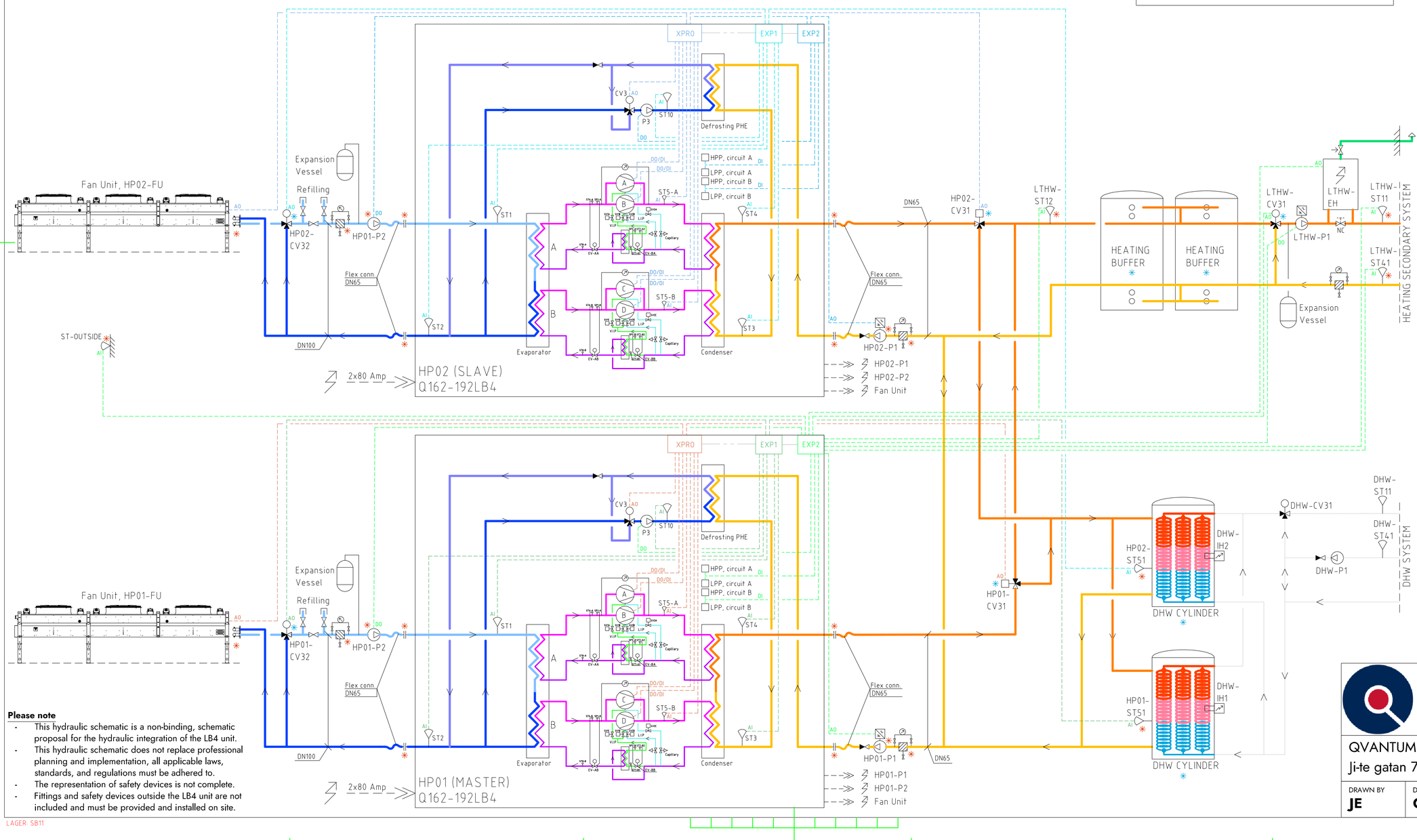
Information

Q162-192LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils



IF MODBUS IS NOT APPLICABLE:

- AO3 (EXP1) is allocated for -P1 (speed control)
- AO4 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- DO1 (EXP2) is allocated for -P2 (start/stop)
- Same setup for both Master and Slave heat pumps.



Please note

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- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Control for DHW distribution is excluded, hence grey flow lines and unidentified components. Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —·— Modbus RTU
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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HEAT PUMPS FOR SUSTAINABLE CITIES

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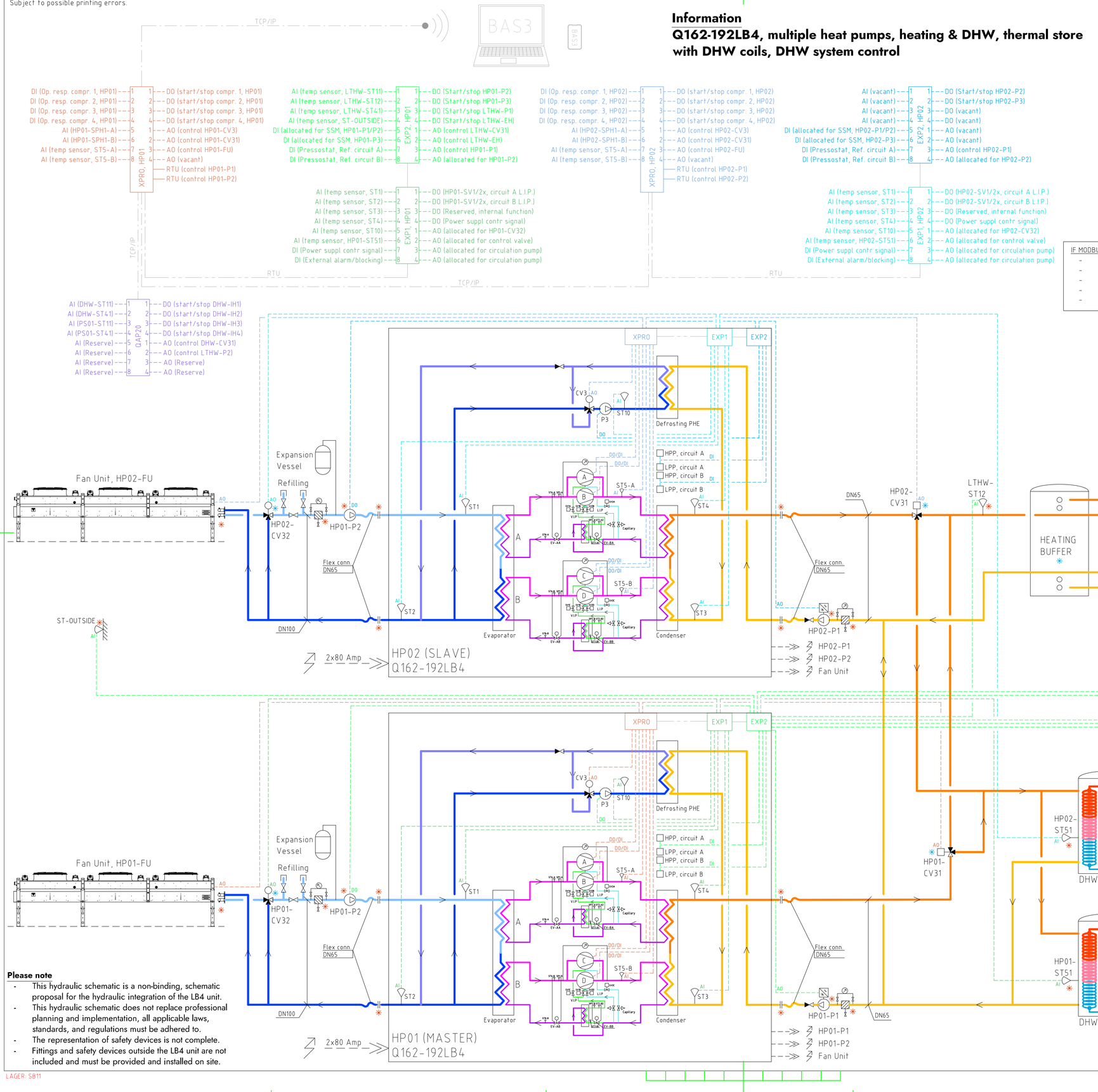
JE	Q-162-192-LB4-8-202	49

Subject to possible printing errors.

Information

Q162-192LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control



Please note

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- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- – – – – DI, DO, AI & AO signals
- —·— Modbus TCP/IP
- —·– – Modbus RTU
- ✳ Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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HEAT PUMPS FOR SUSTAINABLE CITIES

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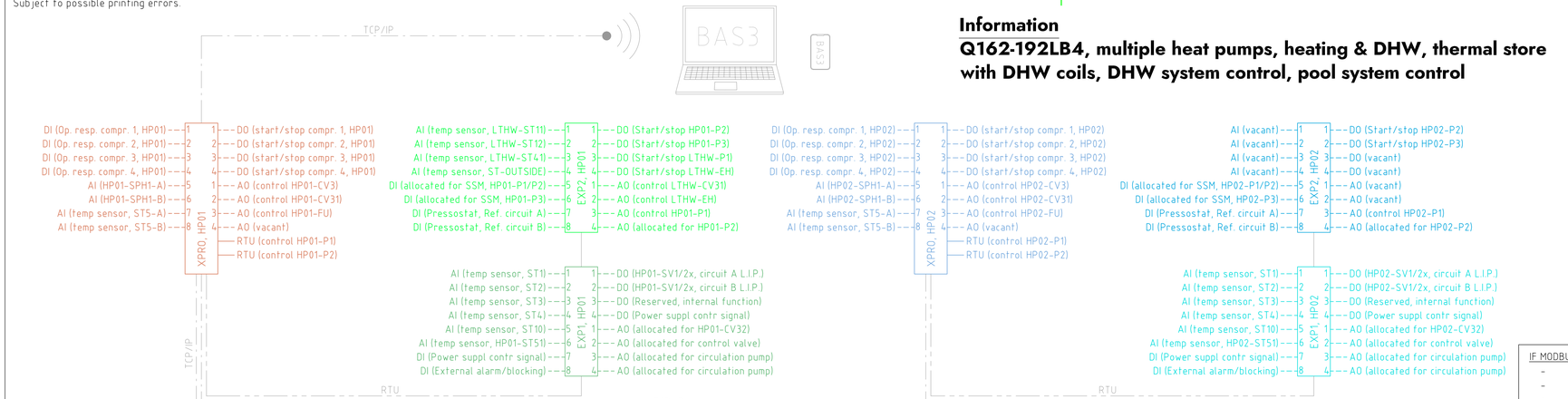
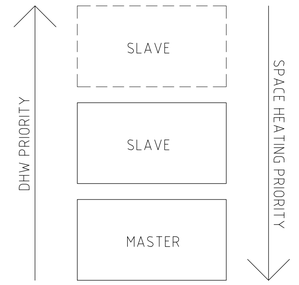
JE	Q-162-192-LB4-8-203	50

Subject to possible printing errors.

Information

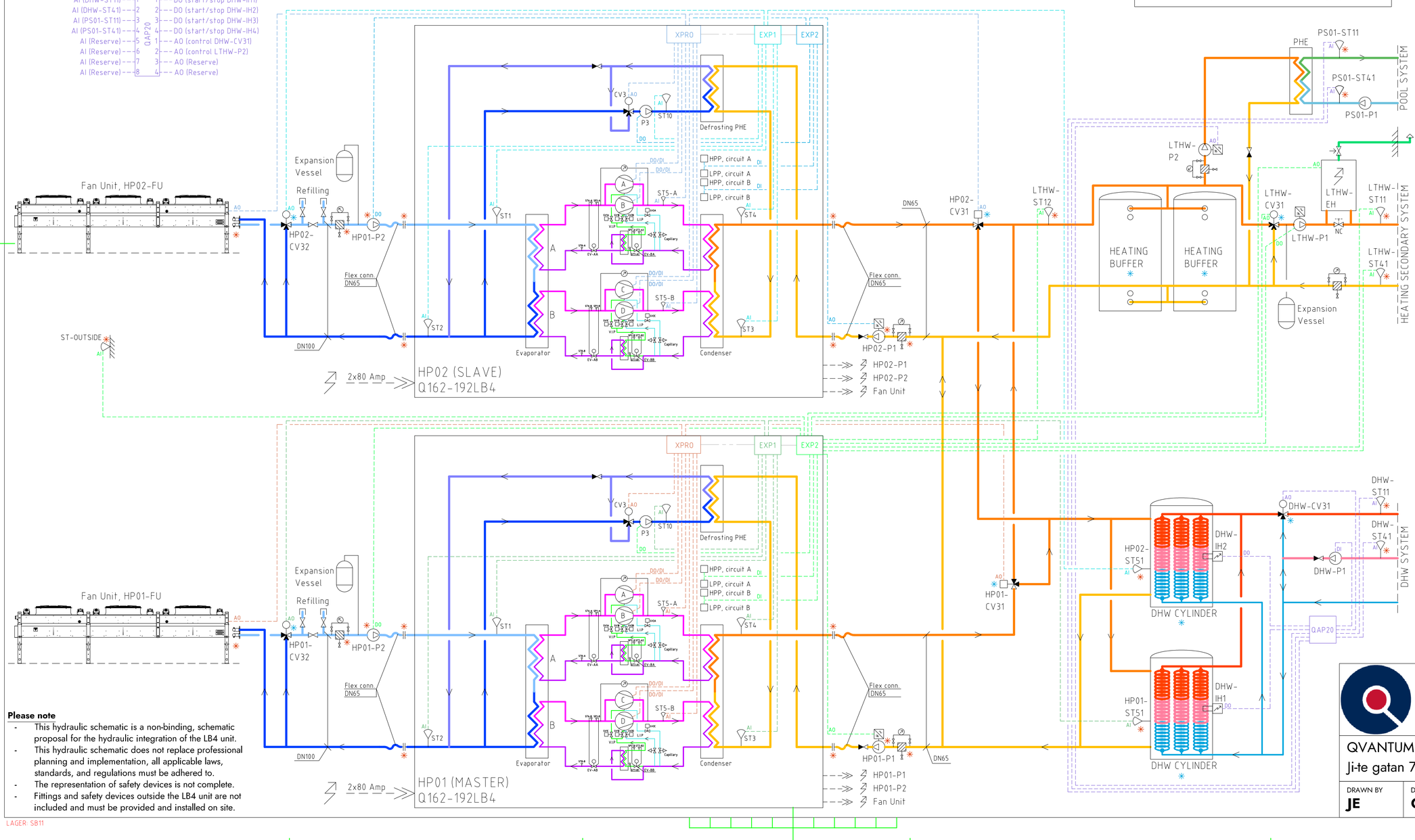
Q162-192LB4, multiple heat pumps, heating & DHW, thermal store with DHW coils, DHW system control, pool system control





IF MODBUS IS NOT APPLICABLE:

- A03 (EXP1) is allocated for -P1 (speed control)
- A04 (EXP1) is allocated for -P2 (speed control)
- DI5 (EXP2) is allocated for -P1 & -P2 (Gen. alarm)
- D01 (EXP2) is allocated for -P2 (start/stop)
- Same setup for both Master and Slave heat pumps.



Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the LB4 unit.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete.
- Fittings and safety devices outside the LB4 unit are not included and must be provided and installed on site.

DISCLAIMERS

DHW priority from Master to Slave and space heating priority from Slave to Master.

Example with electric boiler as supplementary heat source. Solution may vary due to specific conditions.

Depending on size of electric boiler normally closed isolation valve or balancing valve is used to direct flow over the boiler.

Solution for DHW may vary due to country specific regulations.

Example shown with No. 2 DHW cylinders, however same control setup applies for additional cylinders.

Fan Unit shown in profile, numbers of fans is presented in the technical documentation.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Modbus RTU
- Components supplied by Qvantum

For meausurements and other information regarding the heat pump, see separate documents and drawings.

For meausurements and other information regarding the fan unit, see separate documents and drawings.

Connections on evaporator and condenser are based on thin-walled copper pipe SS EN 1057 R290.

Pipe size on evaporator side is based on stainless steel EN 1.4301 (ISO).

Pipe size on condenser side is based on Geberit Mapress Electro-galvanized Steel.

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

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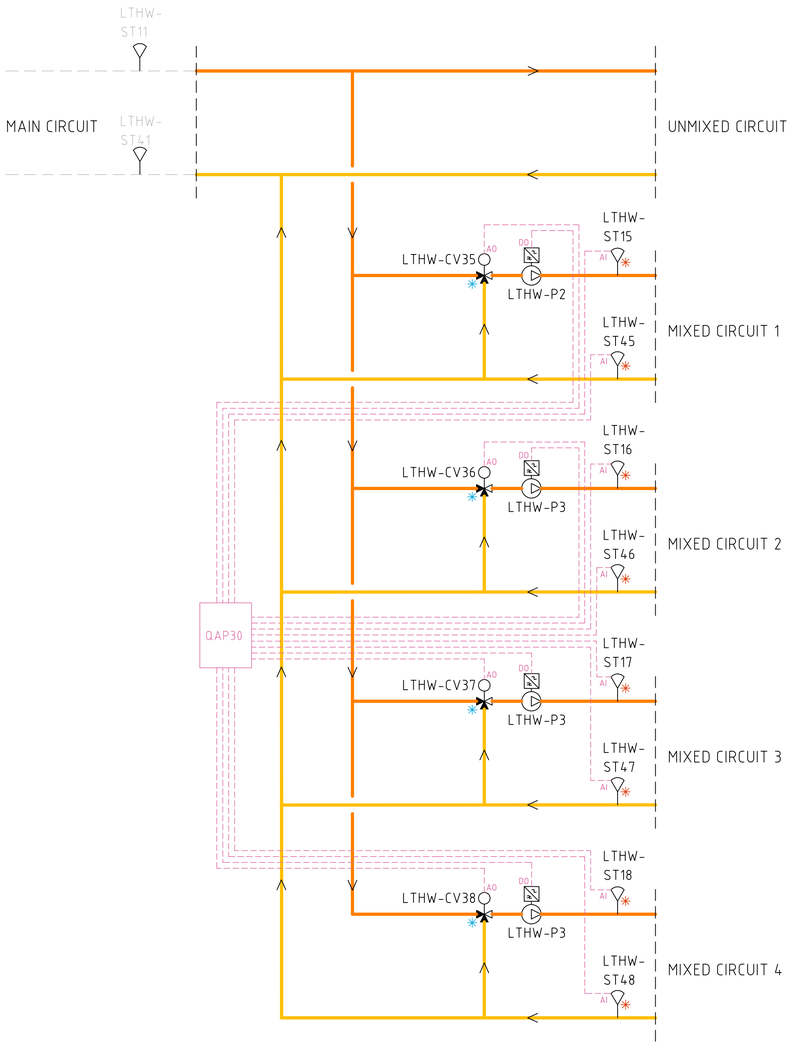
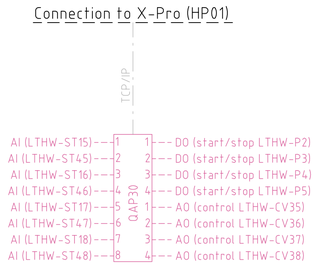
JE	Q-162-192-LB4-8-204	51

Information
QAP30 - mixed circuits



Connection to X-Pro (HP01)



DISCLAIMERS

Accessories package QAP30 showing 1 main unmixed ciruit and 4 mixed circuits all connected to the main circuit.

- DI, DO, AI & AO signals
- Modbus TCP/IP
- Components supplied by Qvantum
- Components that can be supplied by Qvantum

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve
- Isolation valve
- Non return valve
- Strainer

Please note

- This hydraulic schematic is a non-binding, schematic proposal.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
- The representation of safety devices is not complete and fittings and safety devices are not included and must be provided and installed on site.

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JE	QAP-30-8-001	56