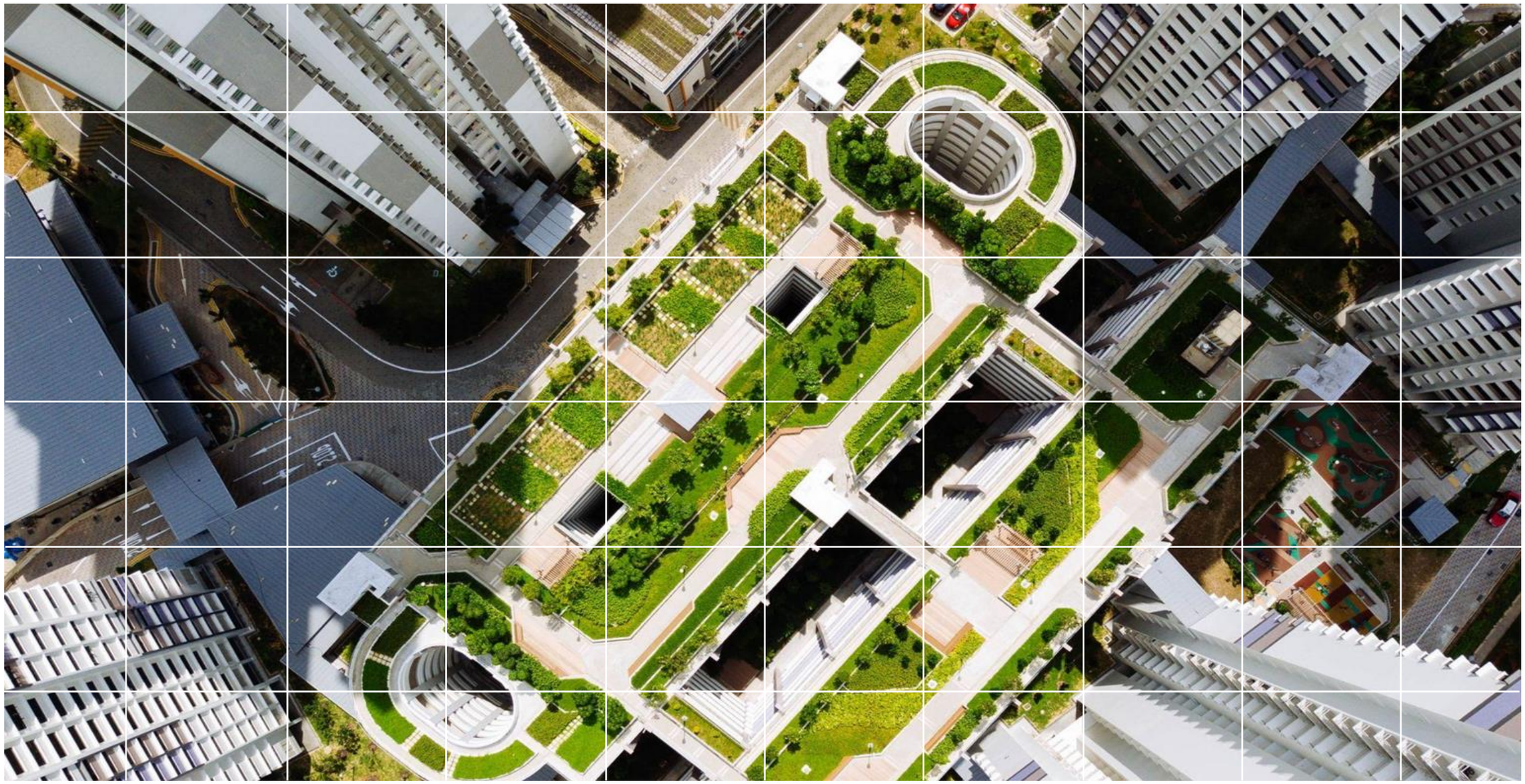
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES



QVANTUM QA50 - HYDRAULIC SCHEMATICS

Qvantum Hydraulic Schematics

QHS - QA50_2637-A

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QVANTUM QA50 HEAT PUMPS - HYDRAULIC SCHEMATICS

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

QA50

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.

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

- The control system QC Pro is equipped with a multiplexer for heat pump capacity control and communication and can handle up to 4 No. of heat pump units for heating, cooling and DHW, as shown in the hydraulic schematics. For higher thermal capacities up to 8 No. heat pumps units the QC Pro is equipped with an additional multiplexer for heat pump units 5-8. Ïn systems with 5-8 No. heat pump units the units are only allowed to do heating or cooling, as shown in the hydraulic schematics. For higher thermal capacities than 8 No. heat pump units 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.

- 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 systems with a single heat pump a 300 litre heating buffertank is required for defrosting purposes. For systems with 2 No. heat pumps or more 200 litres of buffer is required per added heat pump.

- 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 a component is not supplied by Qvantum the installer needs to follow Qvantums specifications in order to ensure compliance with the control system.

QVANTUM QA50 HEAT PUMPS - HYDRAULIC SCHEMATICS

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QVANTUM QA50 HEAT PUMPS - HYDRAULIC SCHEMATICS

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QVANTUM QA50 HEAT PUMPS - HYDRAULIC SCHEMATICS

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM QA50
HYDRAULIC SCHEMATICS
solutions with a single heat pump

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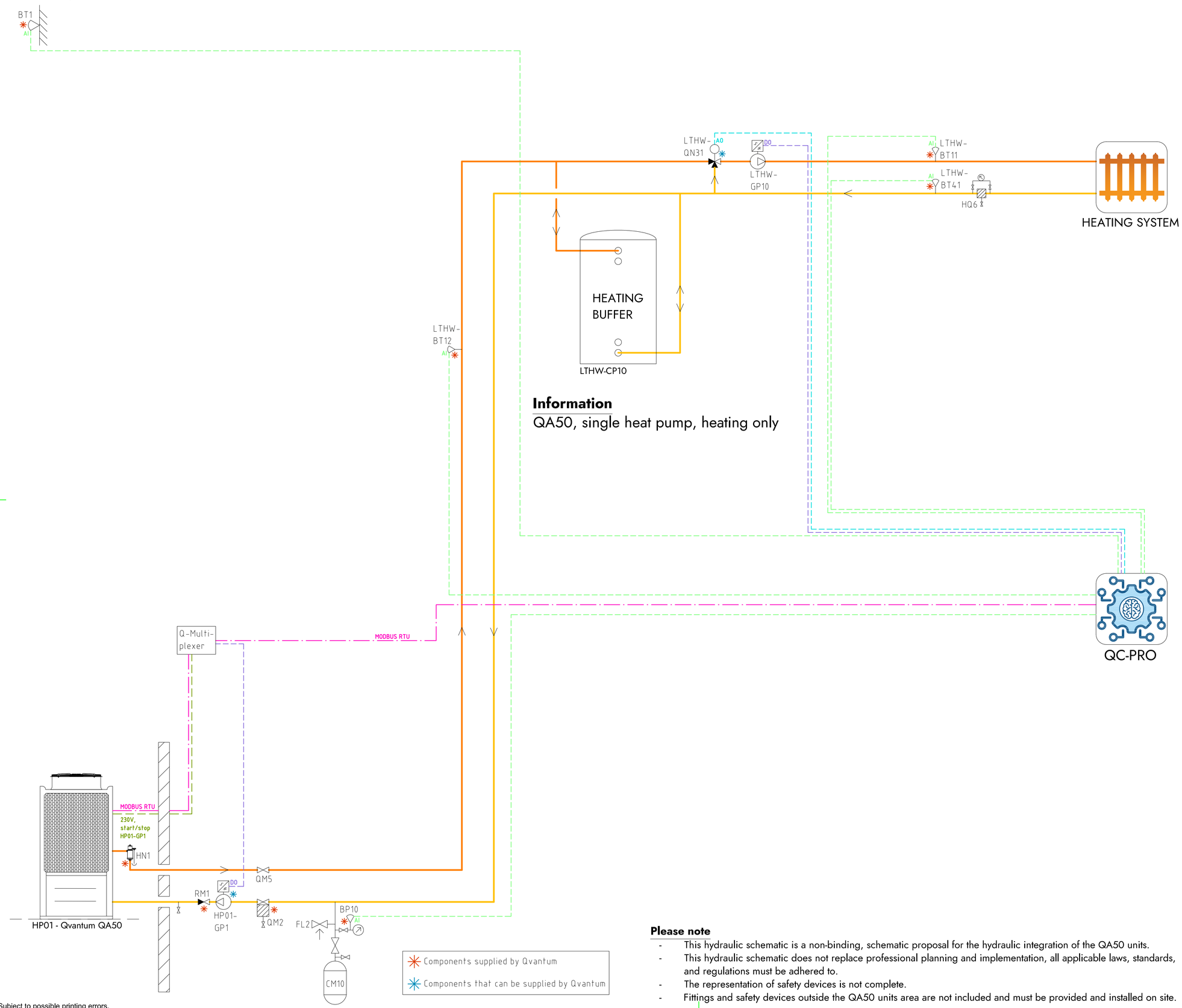

Information

QA50, single heat pump, heating only

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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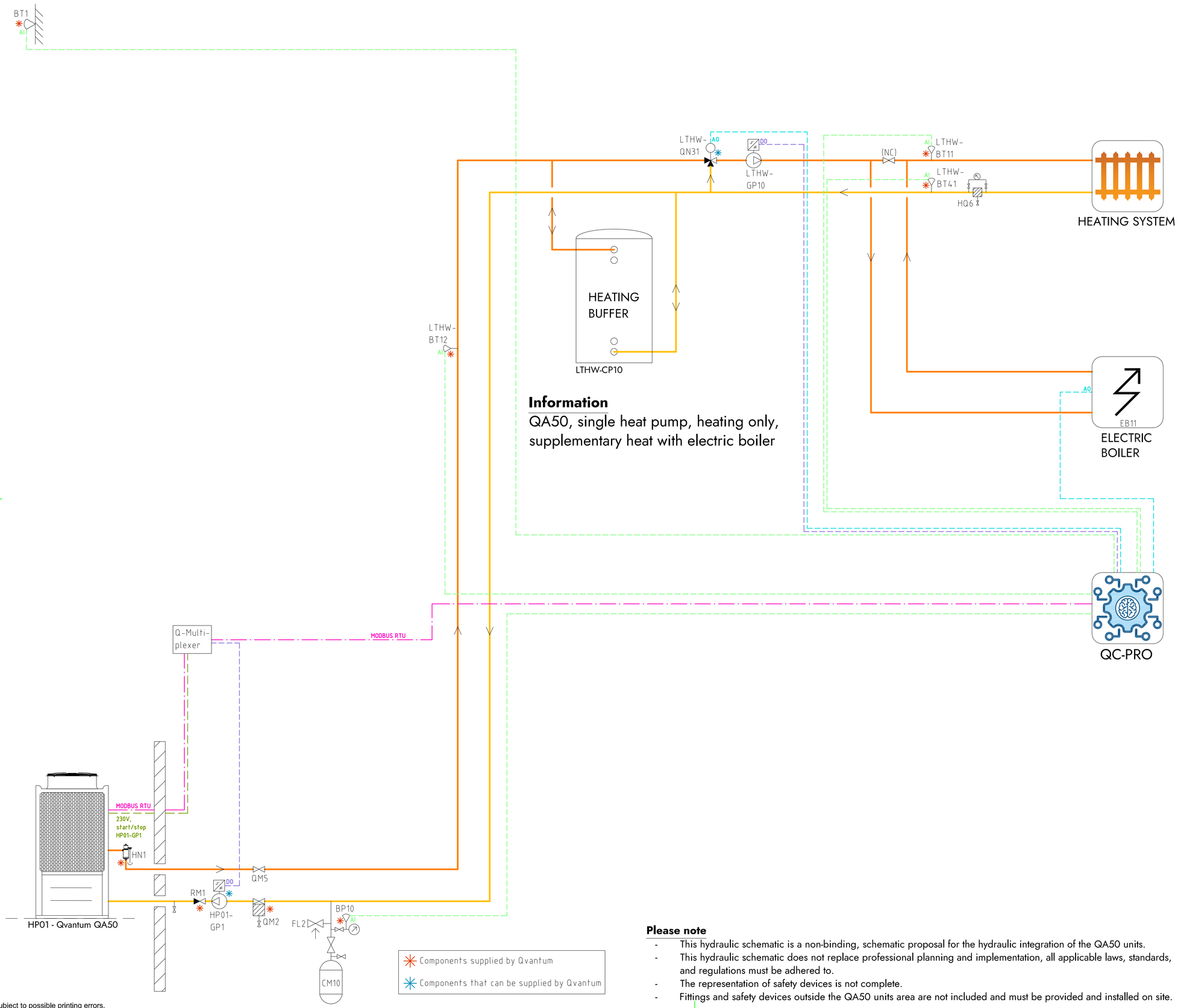

Information

QA50, single heat pump, heating only, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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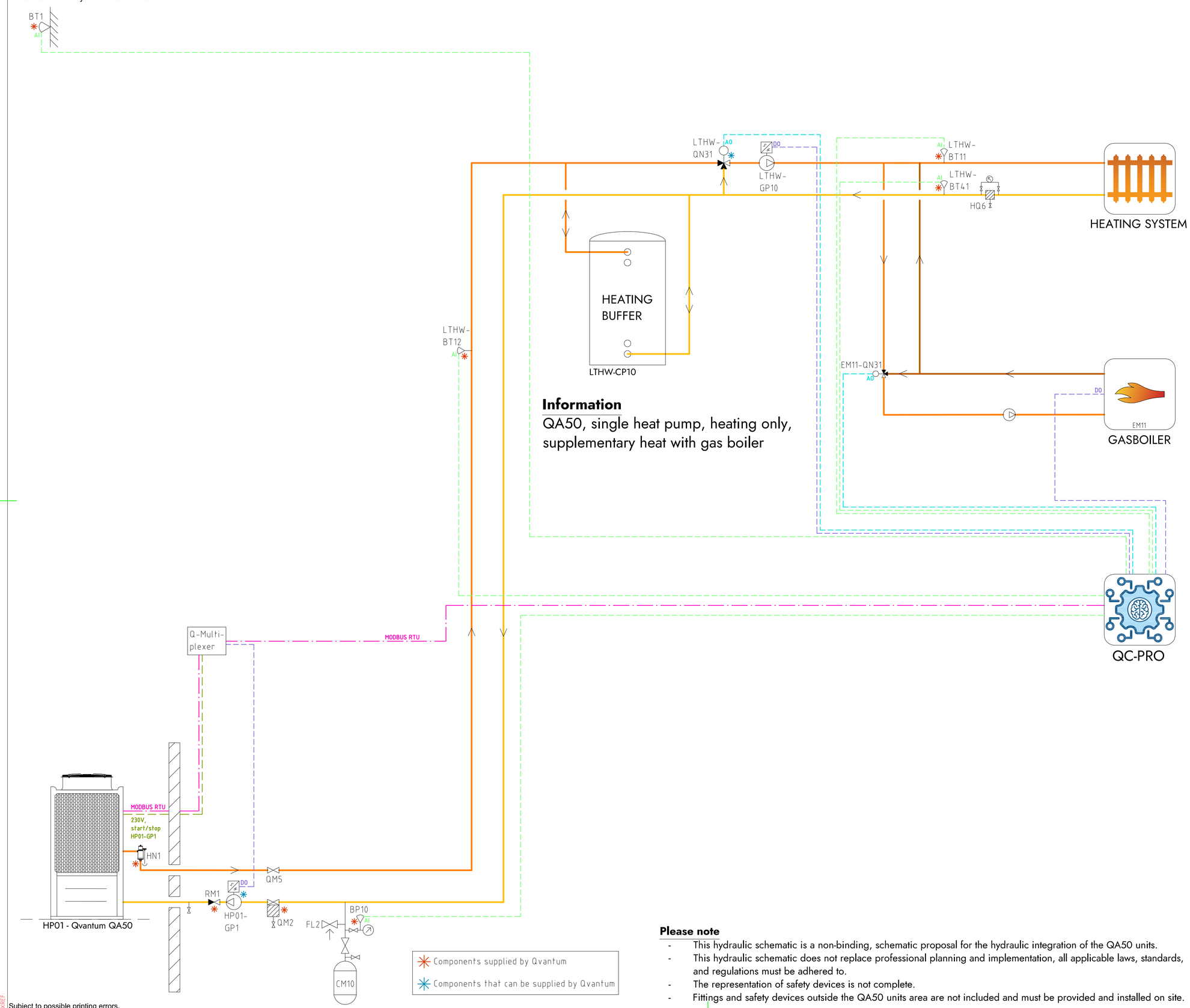

Information

QA50, single heat pump, heating only, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-102	12

Subject to possible printing errors.
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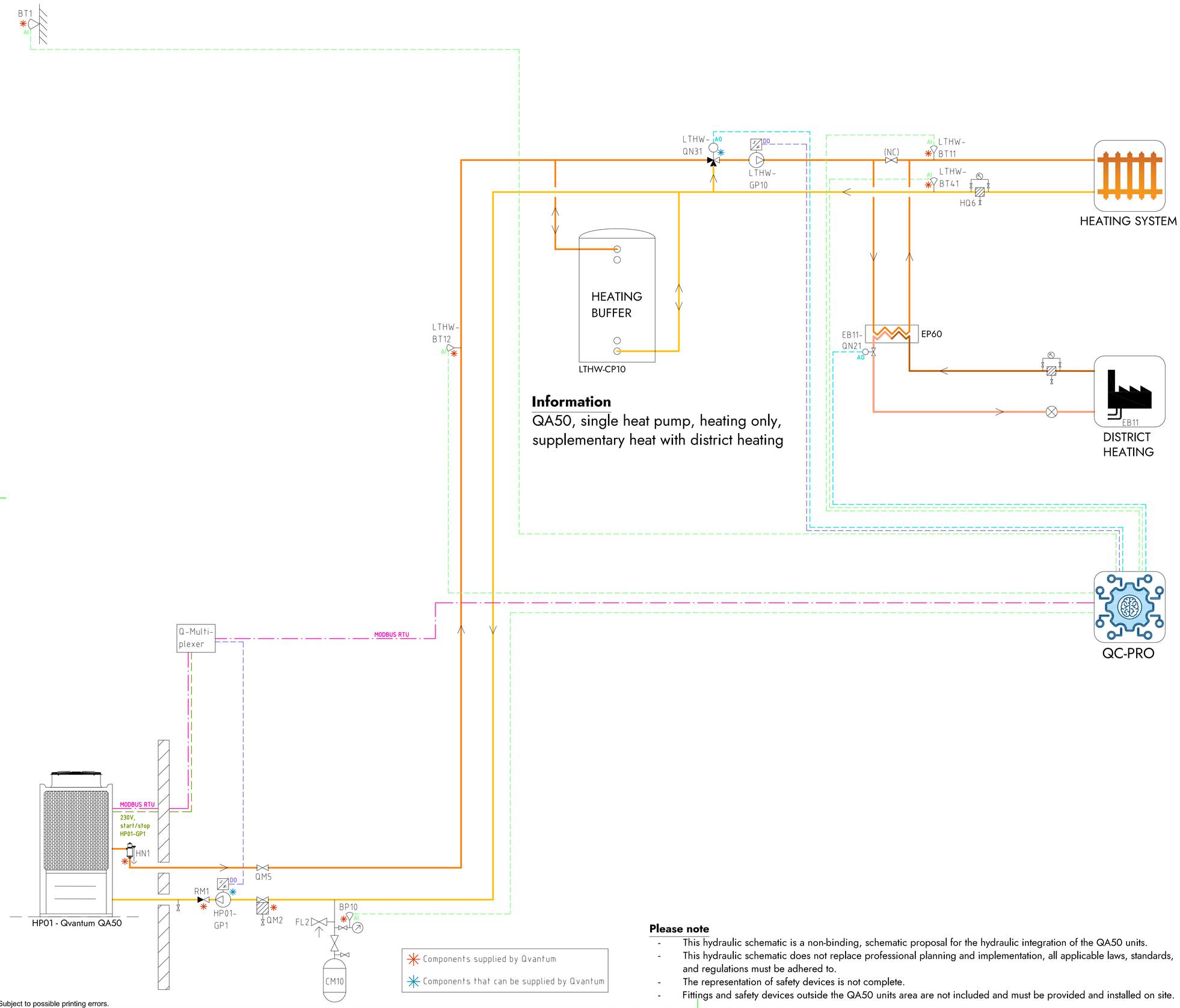
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating only, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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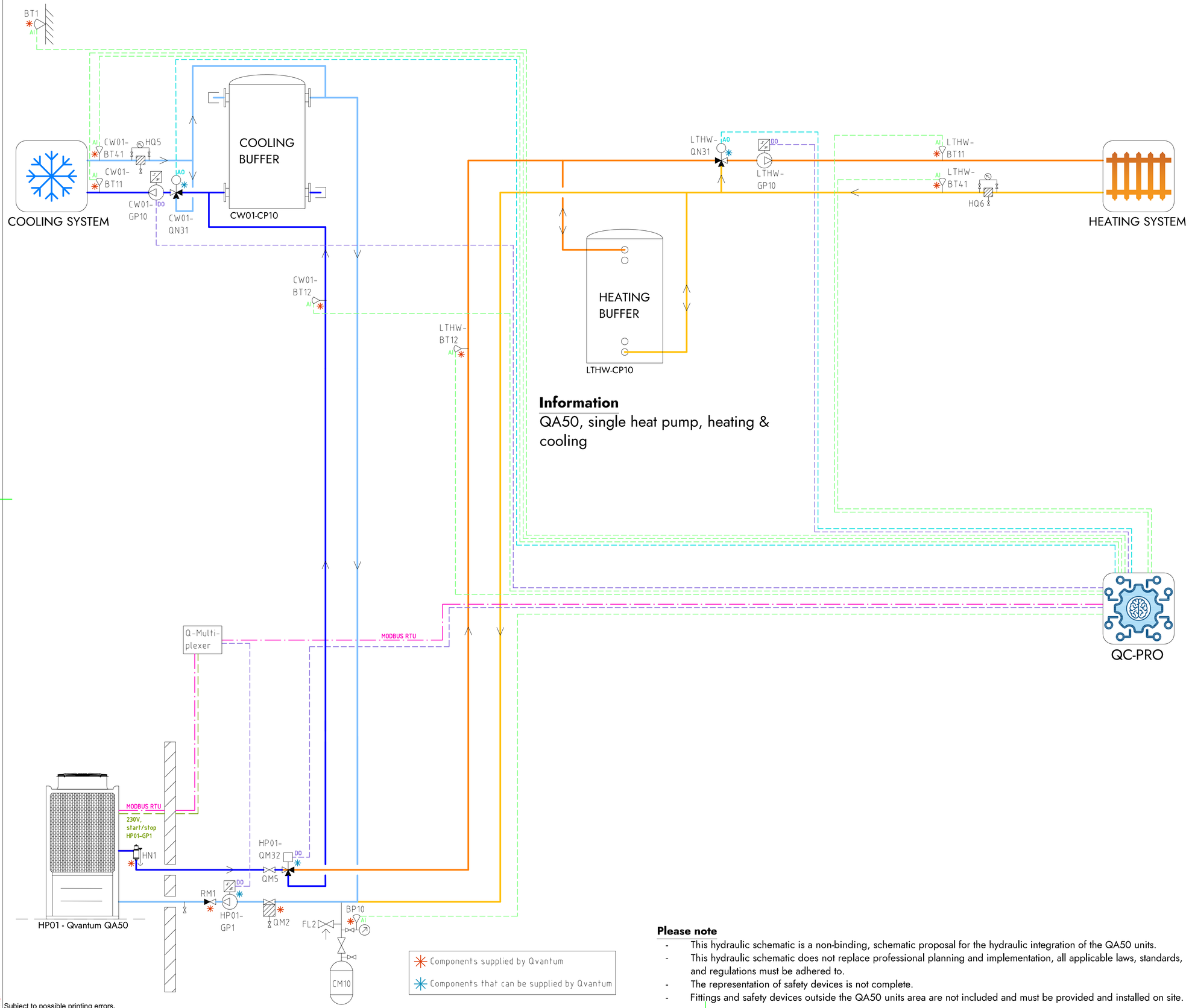
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & cooling

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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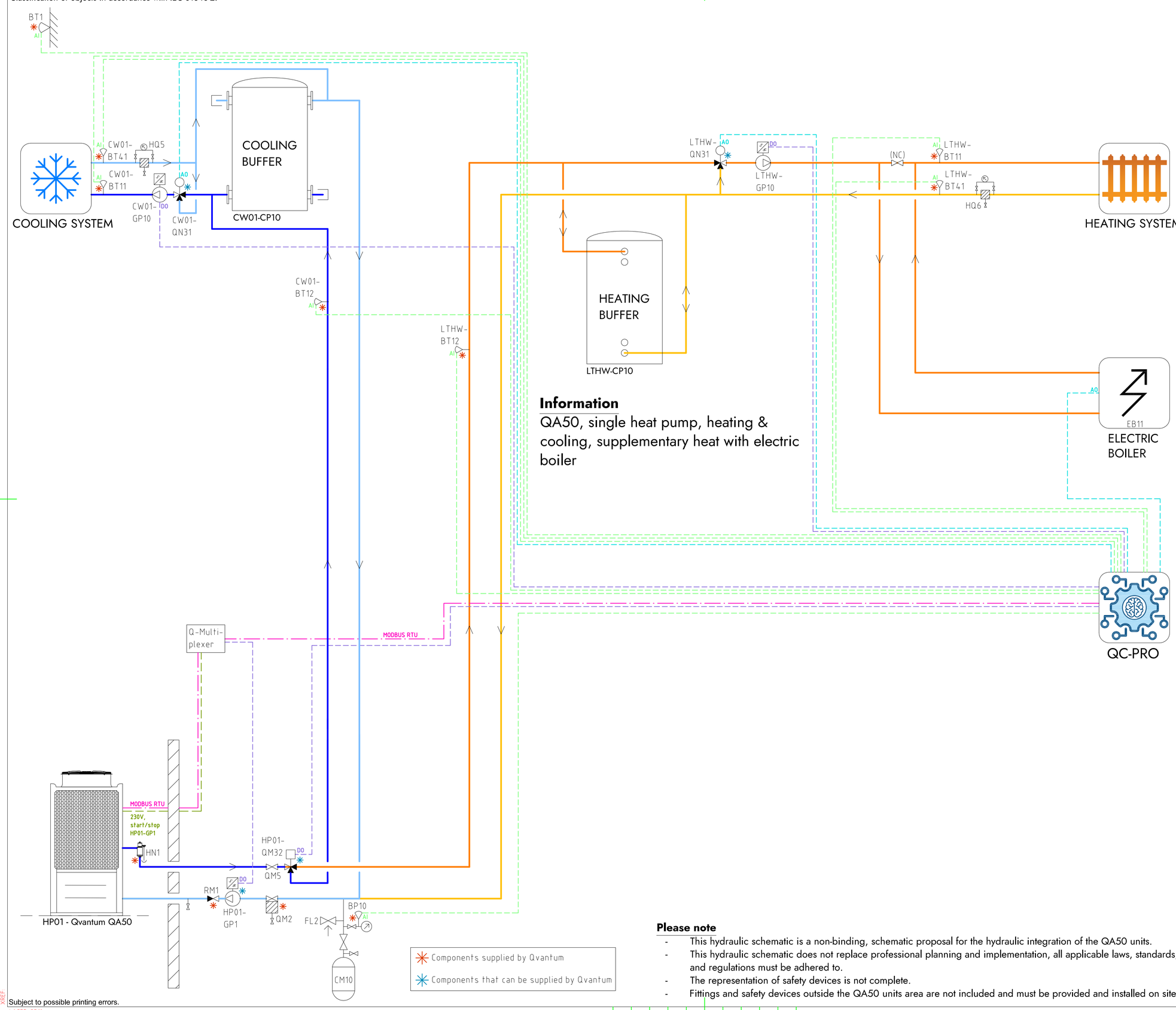
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & cooling, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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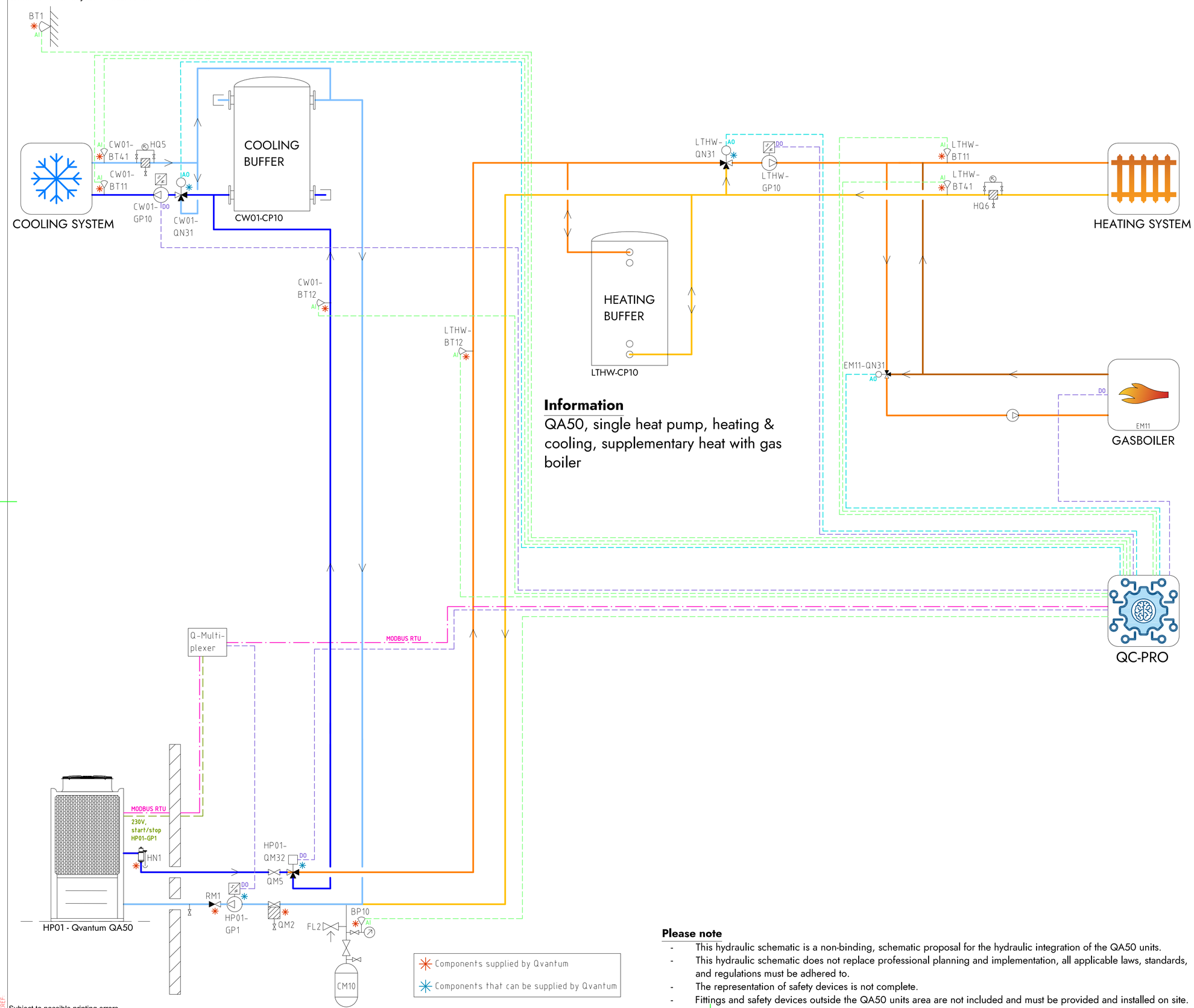
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & cooling, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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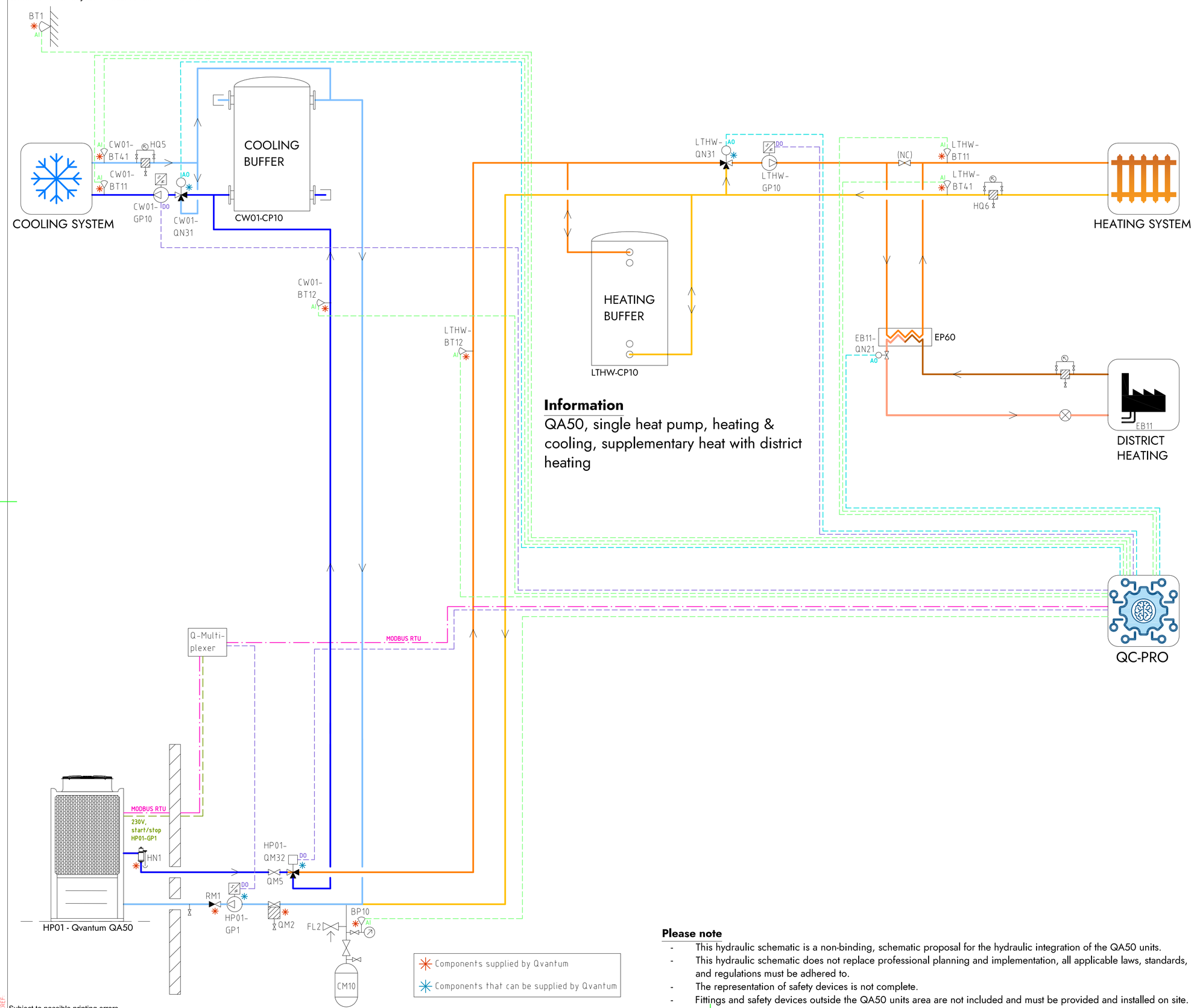
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & cooling, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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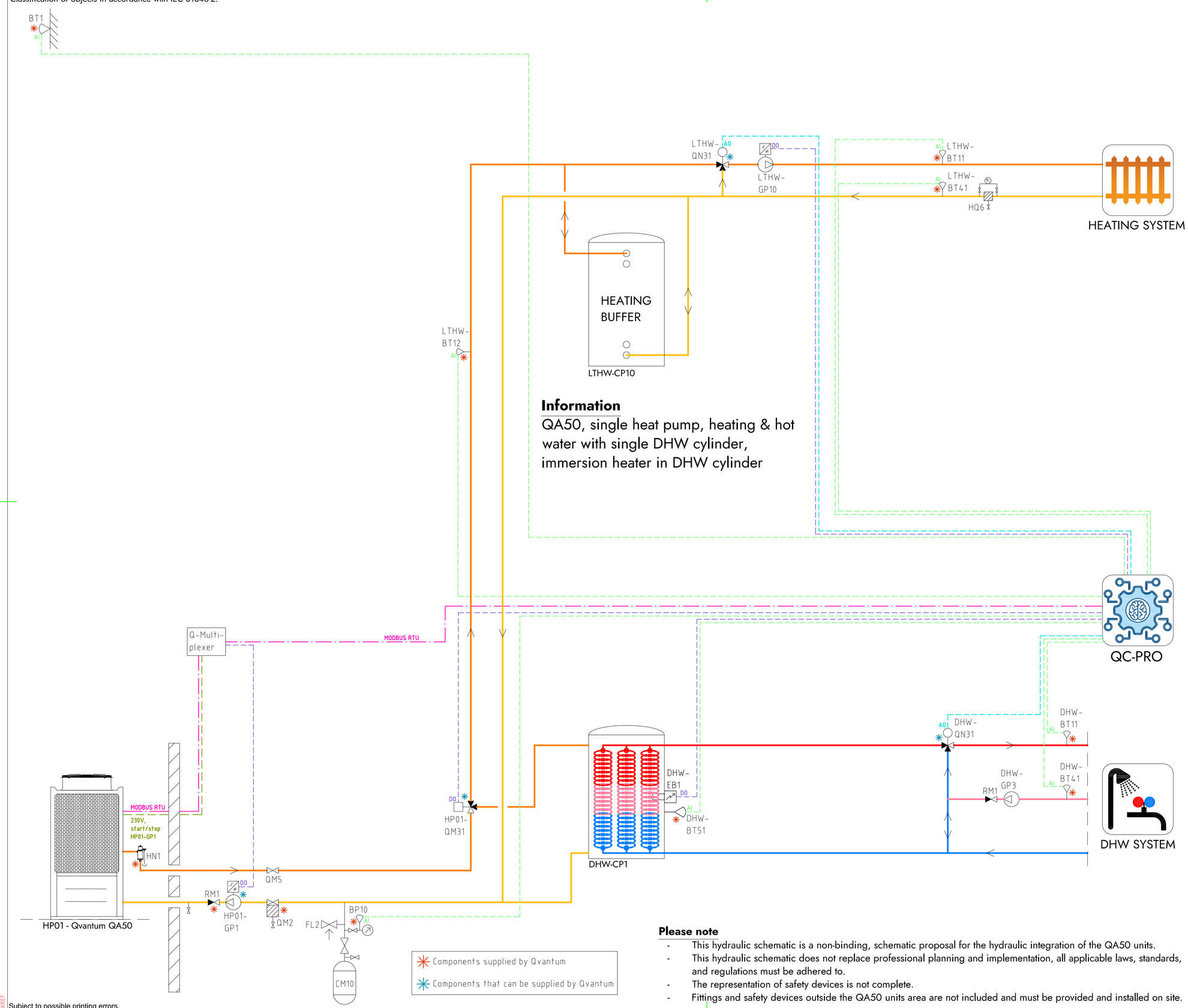
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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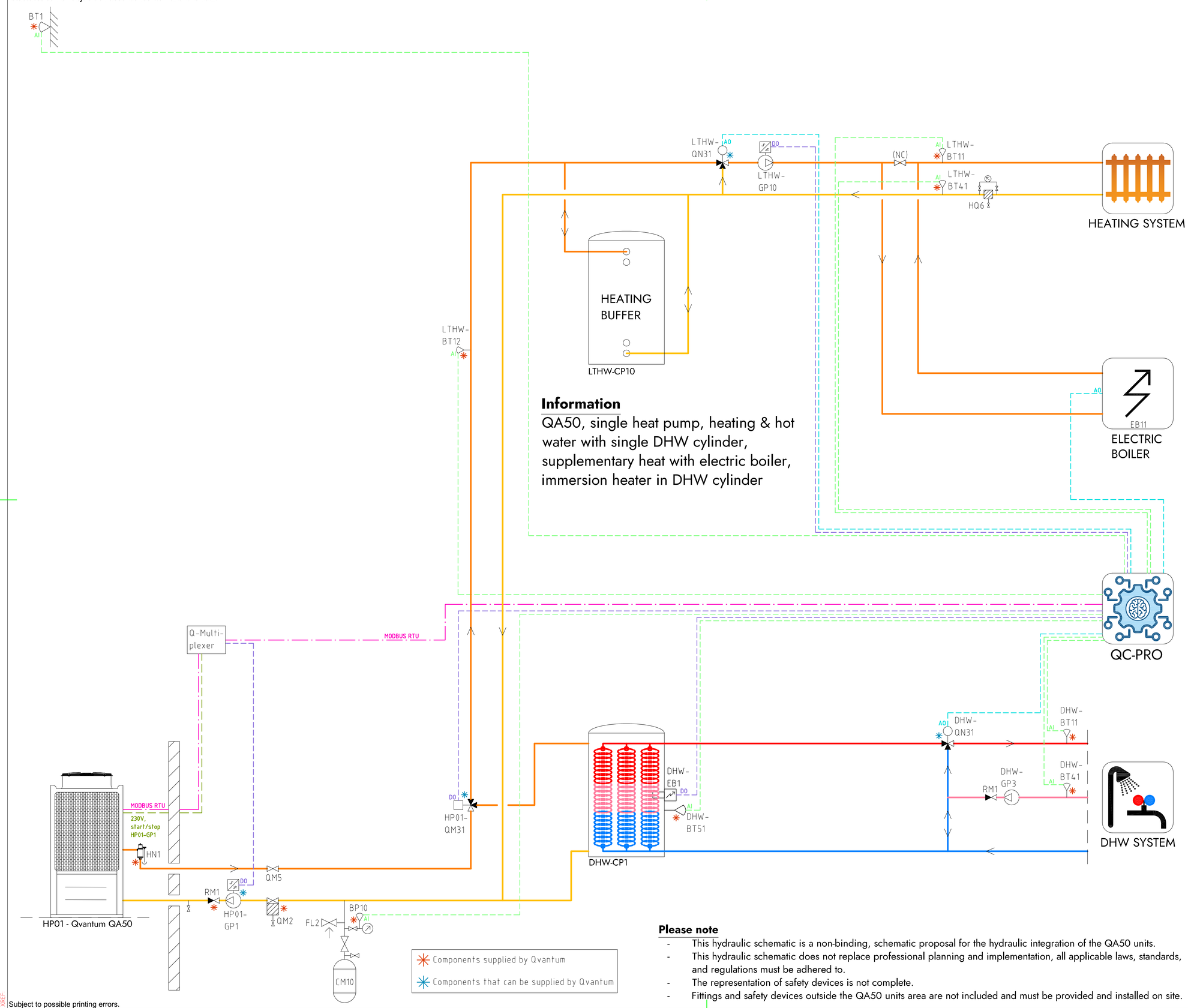
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, supplementary heat with electric boiler, immersion heater in DHW cylinder

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	Electric boiler

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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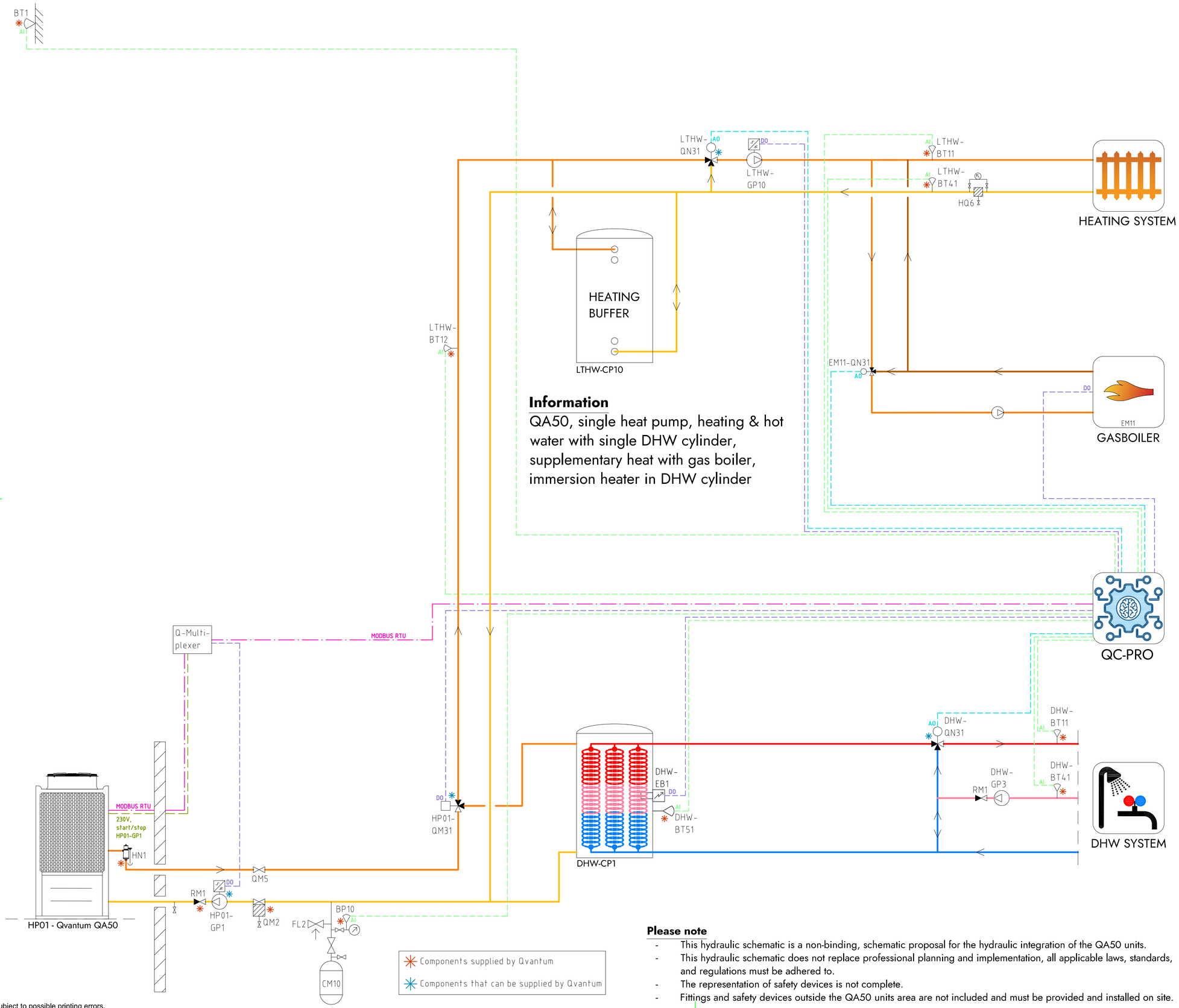
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, supplementary heat with gas boiler, immersion heater in DHW cylinder

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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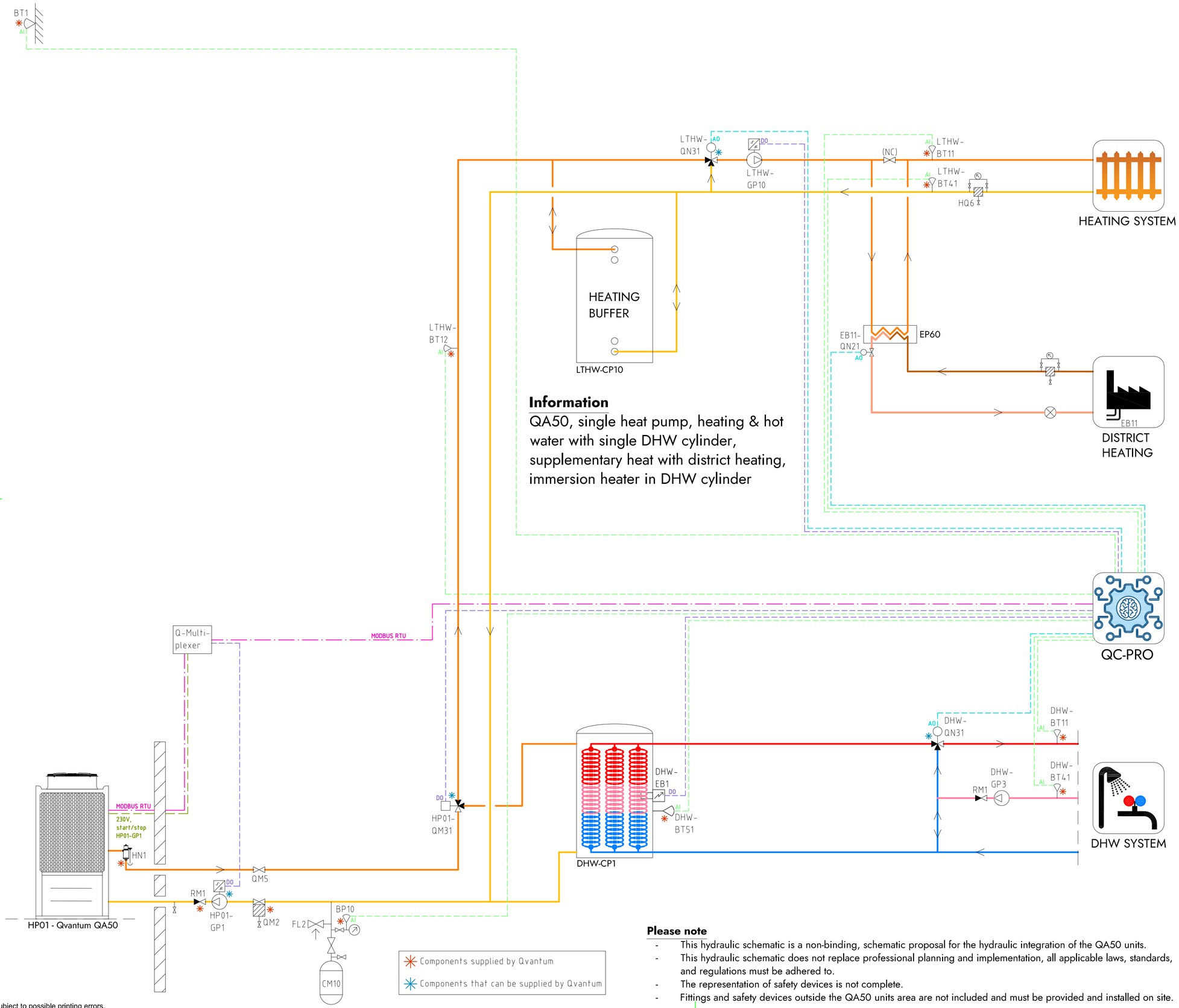
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, supplementary heat with district heating, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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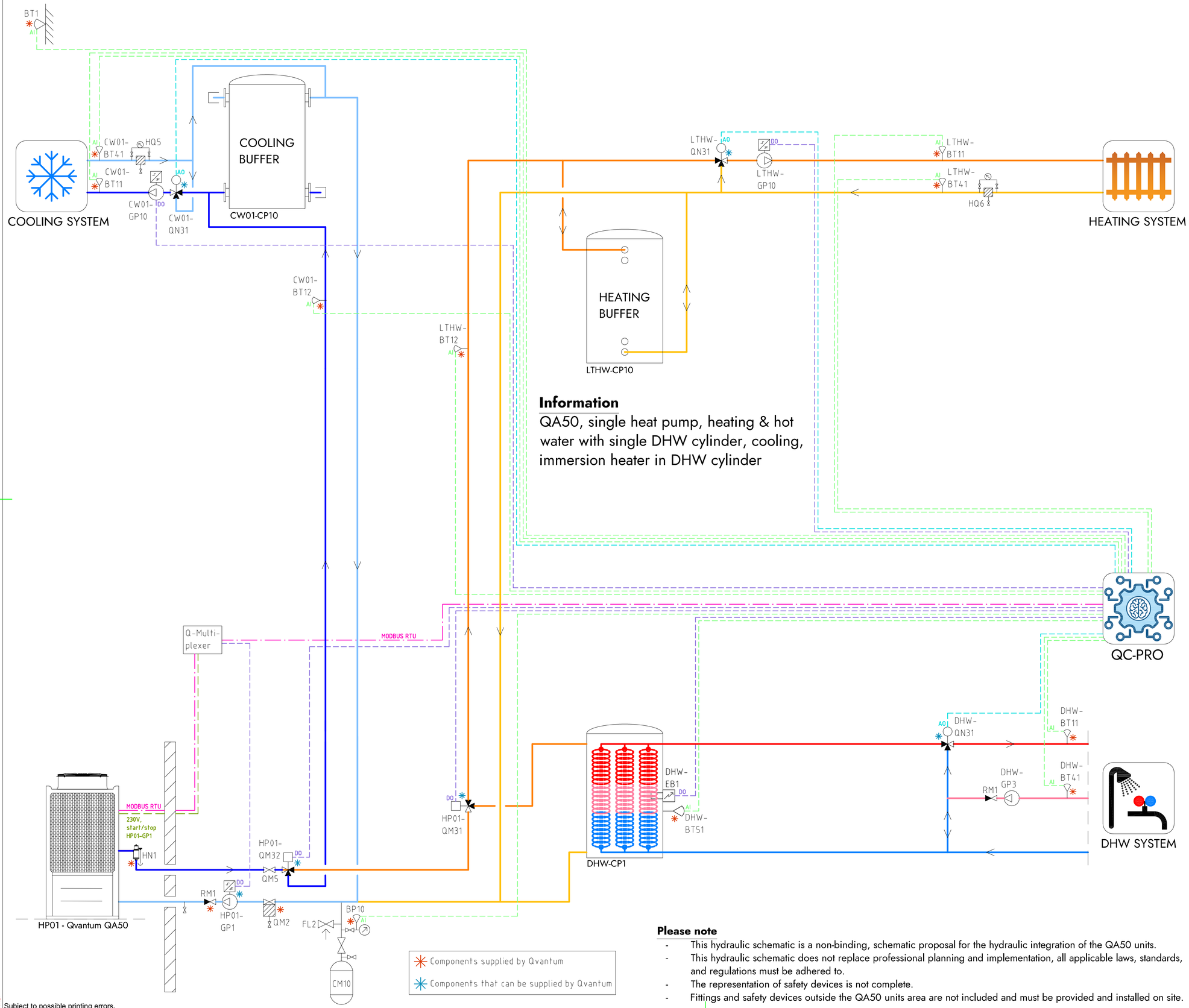
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-112	22

Subject to possible printing errors.
LAGER: SB11
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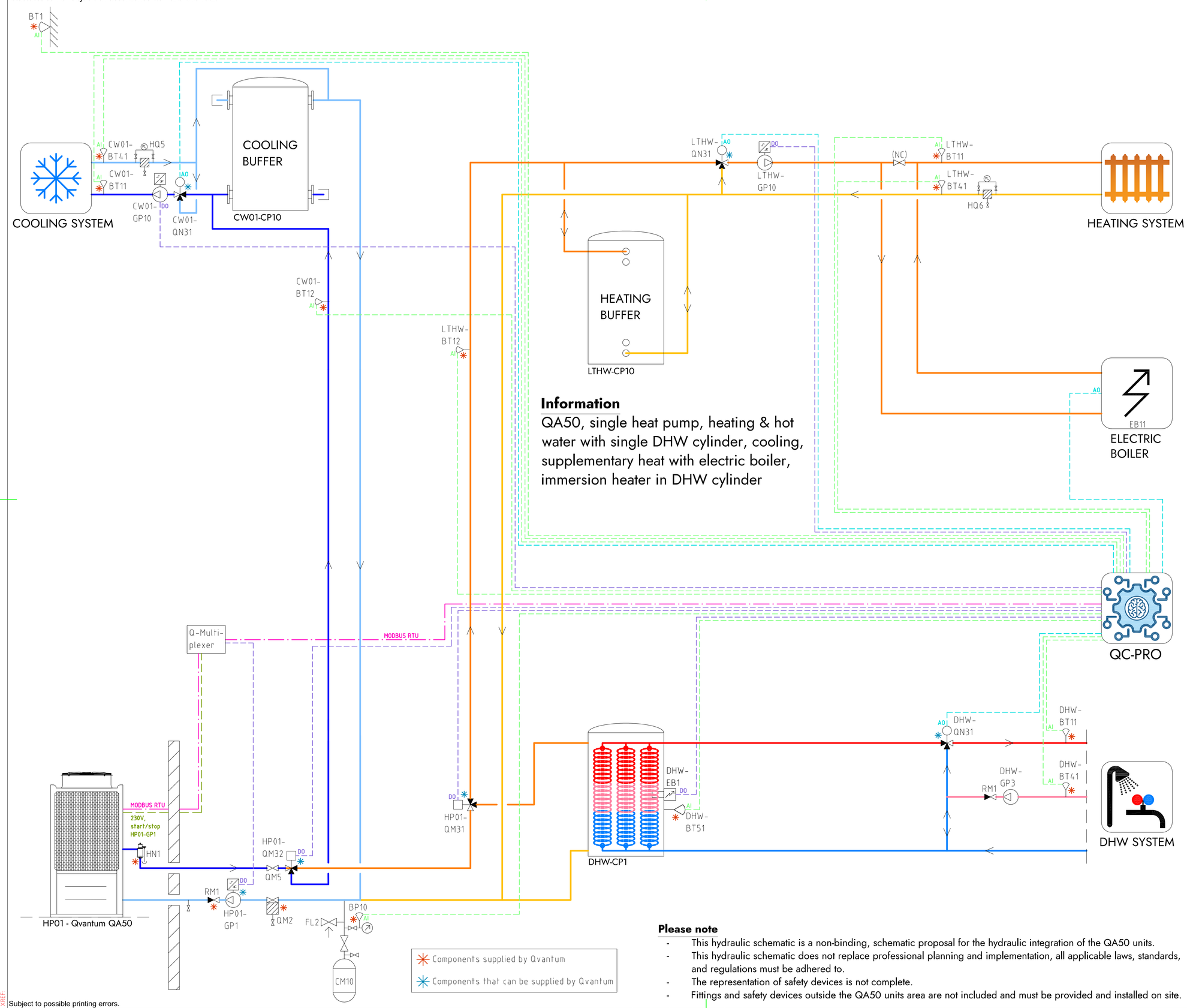
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, cooling, supplementary heat with electric boiler, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	Electric boiler

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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Subject to possible printing errors.
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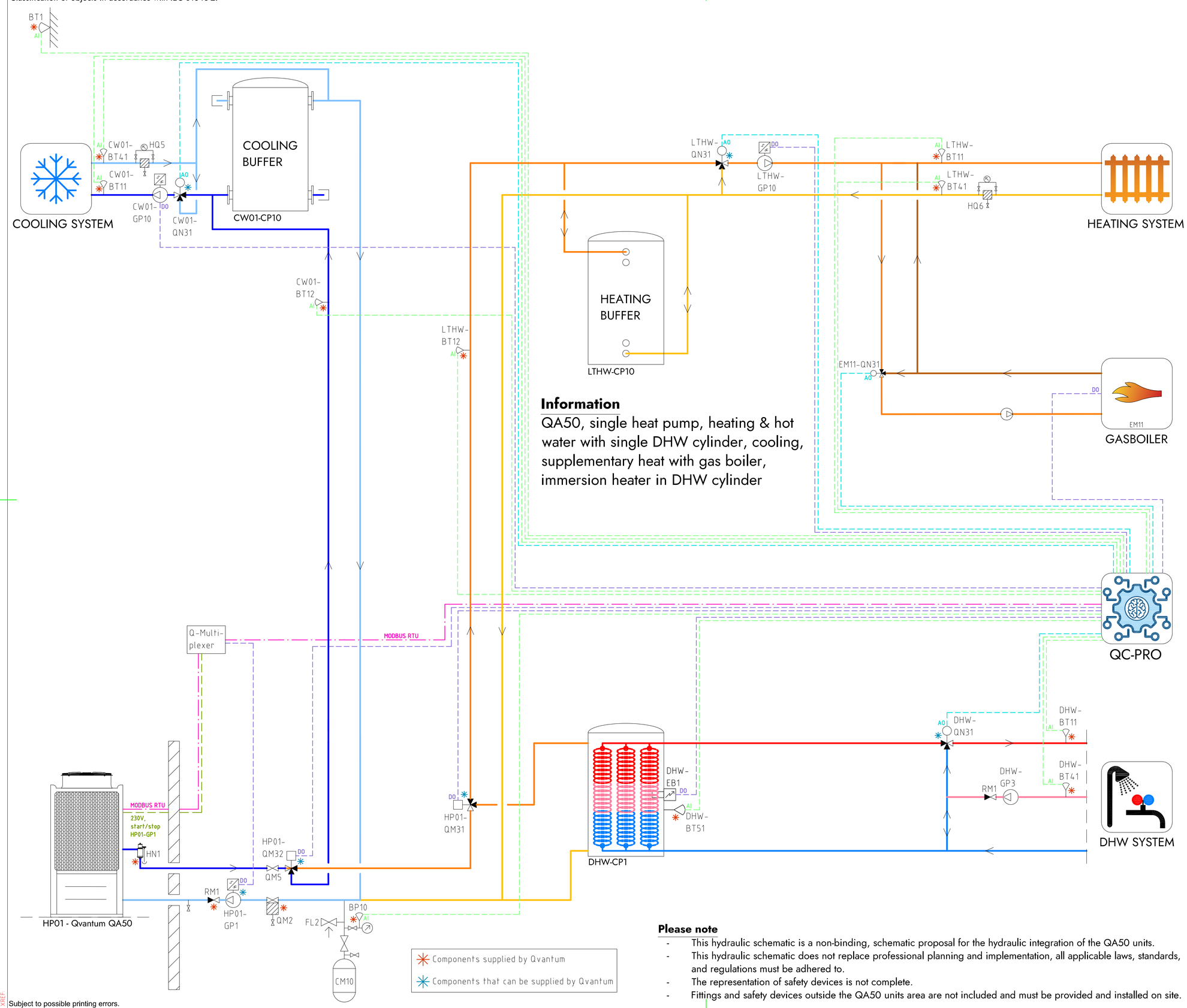
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, cooling, supplementary heat with gas boiler, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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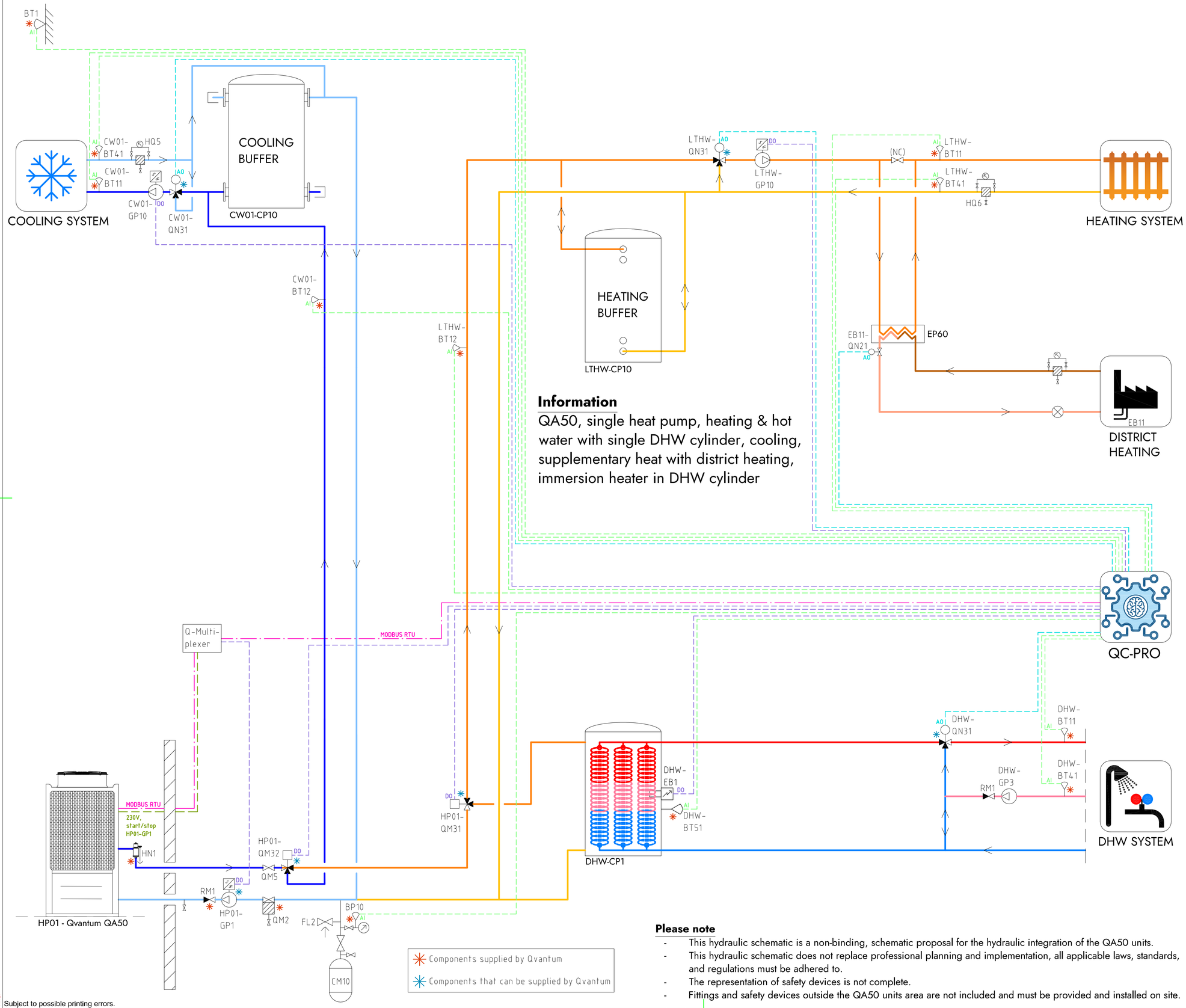
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with single DHW cylinder, cooling, supplementary heat with district heating, immersion heater in DHW cylinder

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-CP1	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-115	25

Subject to possible printing errors.
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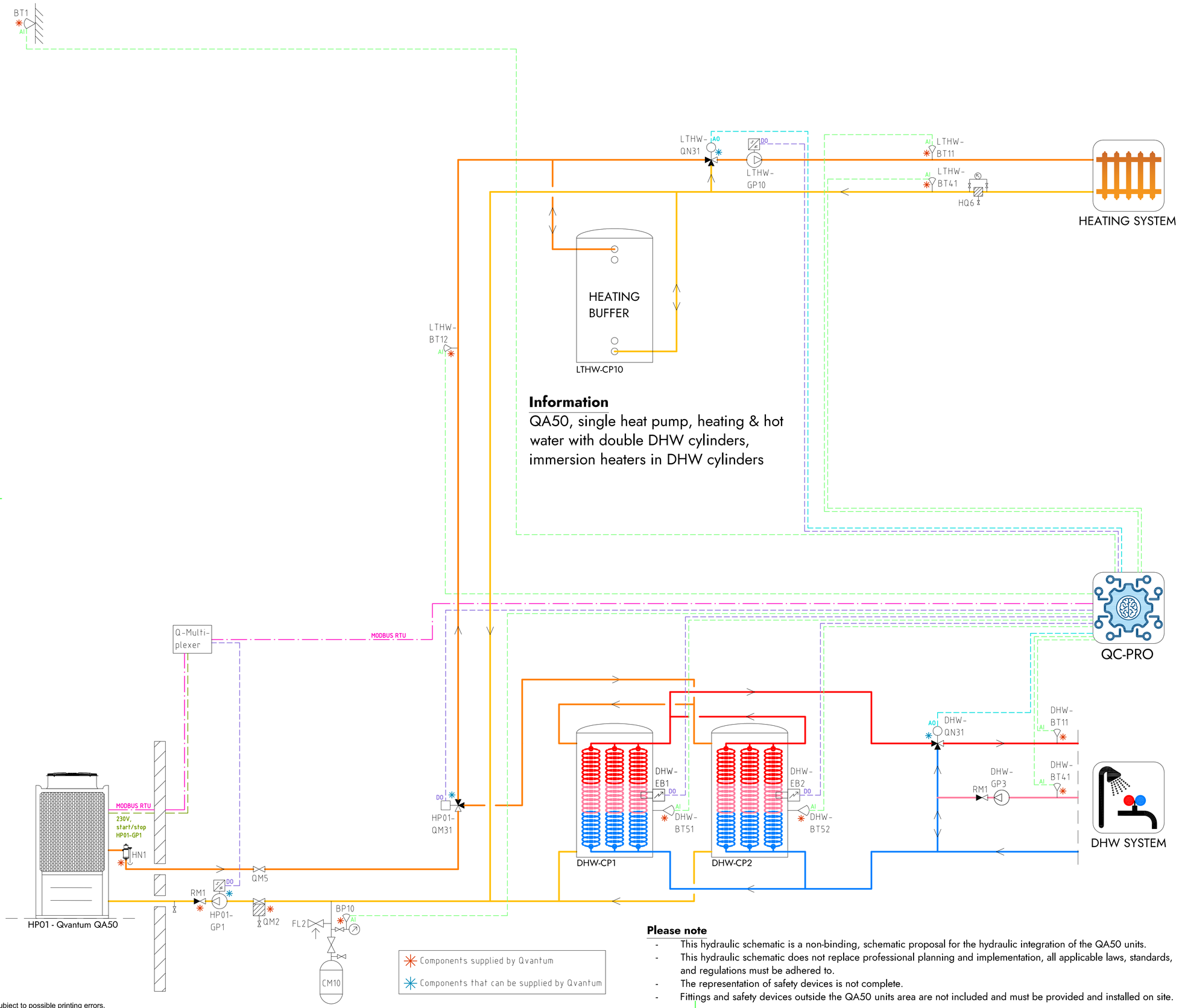
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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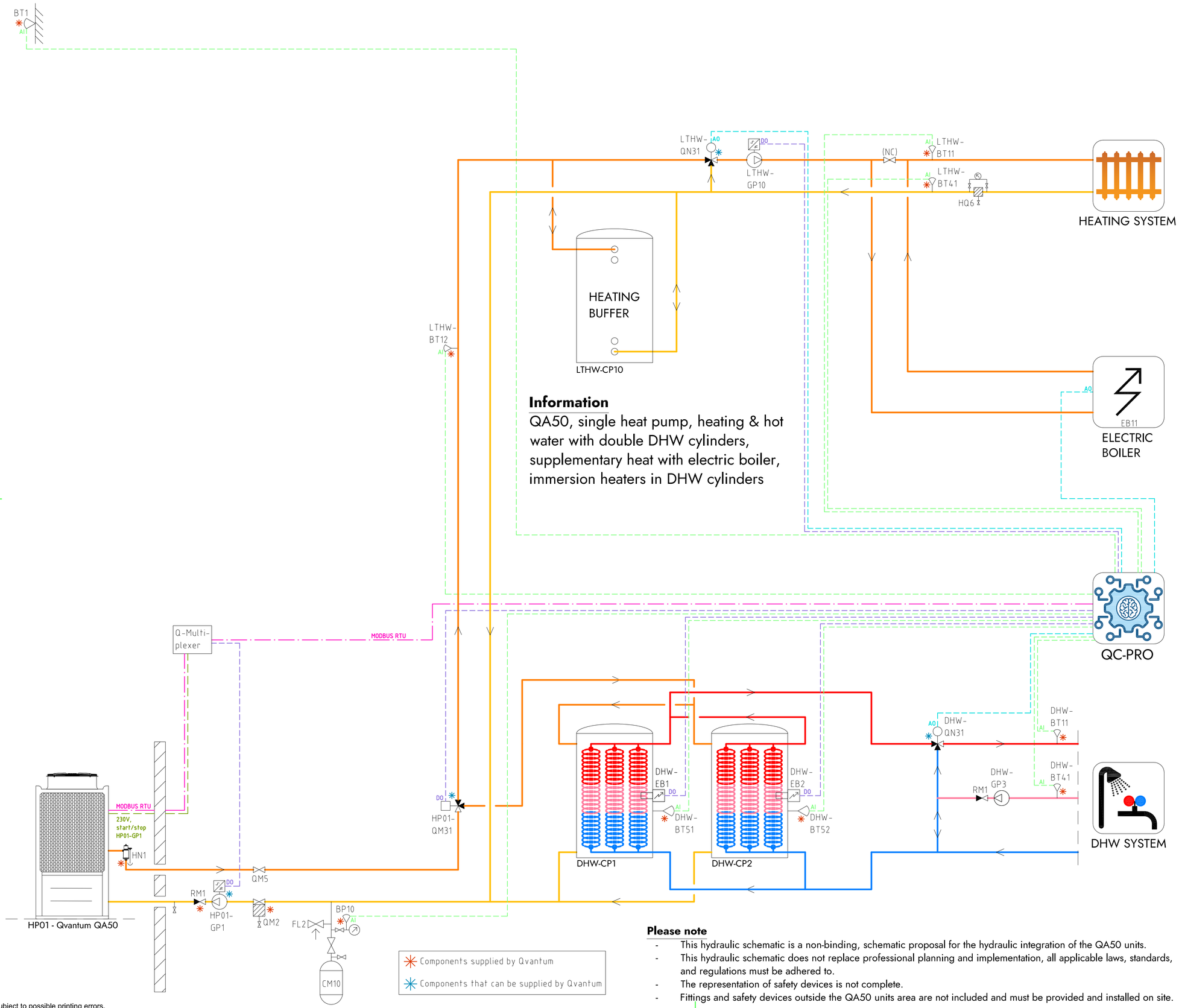
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with double DHW cylinders, supplementary heat with electric boiler, immersion heaters in DHW cylinders

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	Electric boiler

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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Subject to possible printing errors.
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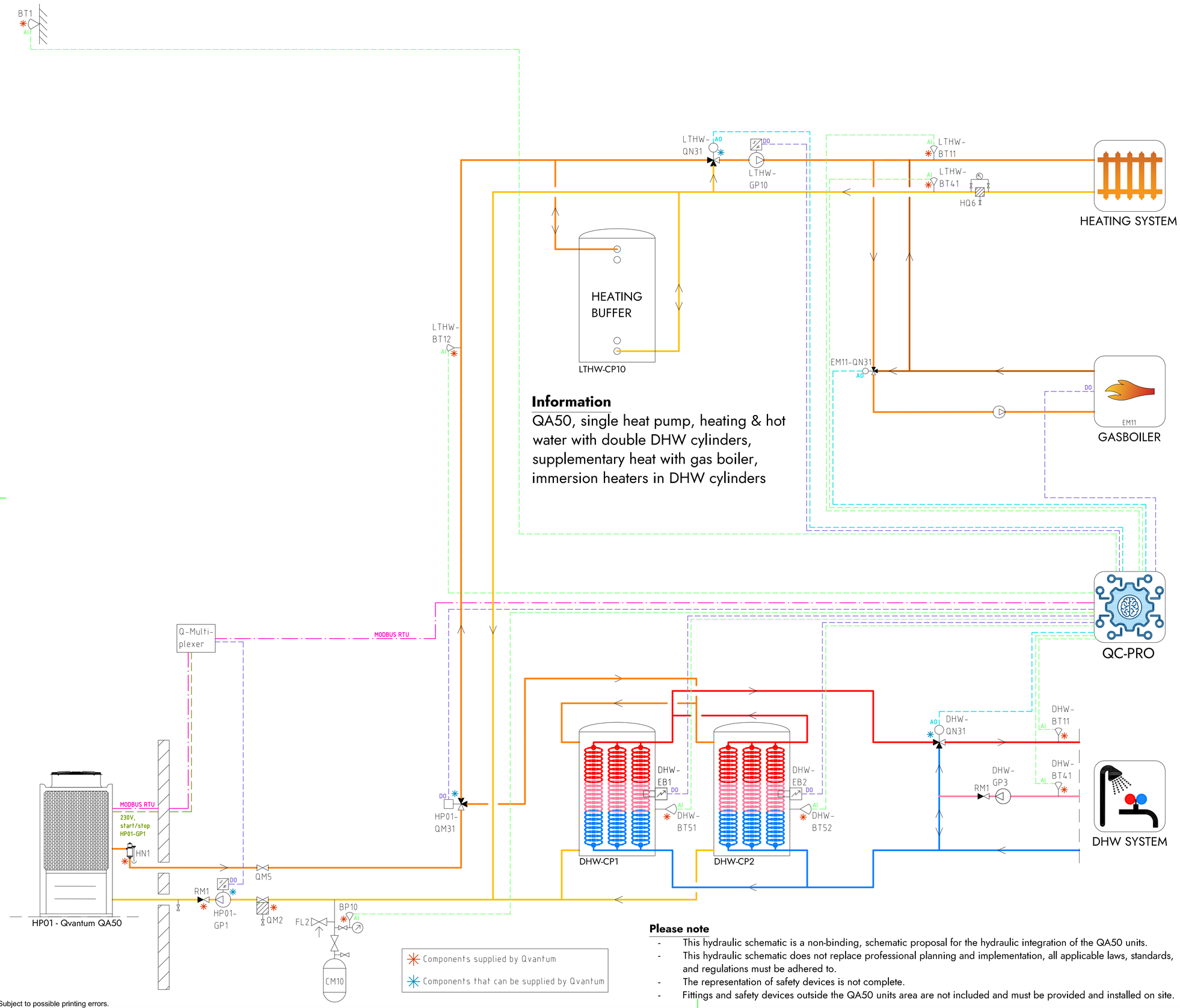
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with double DHW cylinders, supplementary heat with gas boiler, immersion heaters in DHW cylinders

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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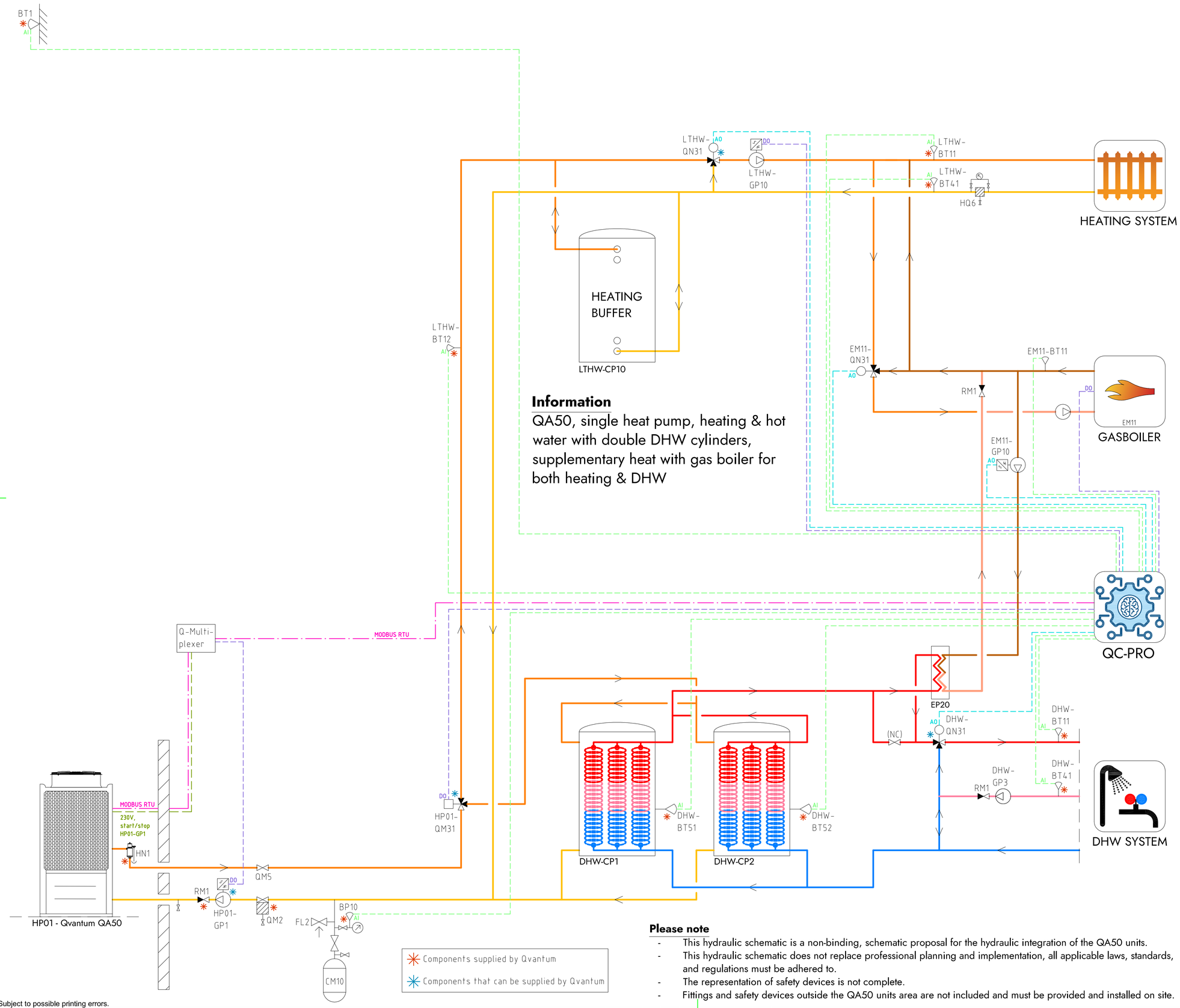
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with double DHW cylinders, supplementary heat with gas boiler for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
EM11-GP10	Circulation pump, gas boiler system
EM11-BT11	Flow temperature, gas boiler system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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LAGER: SB11
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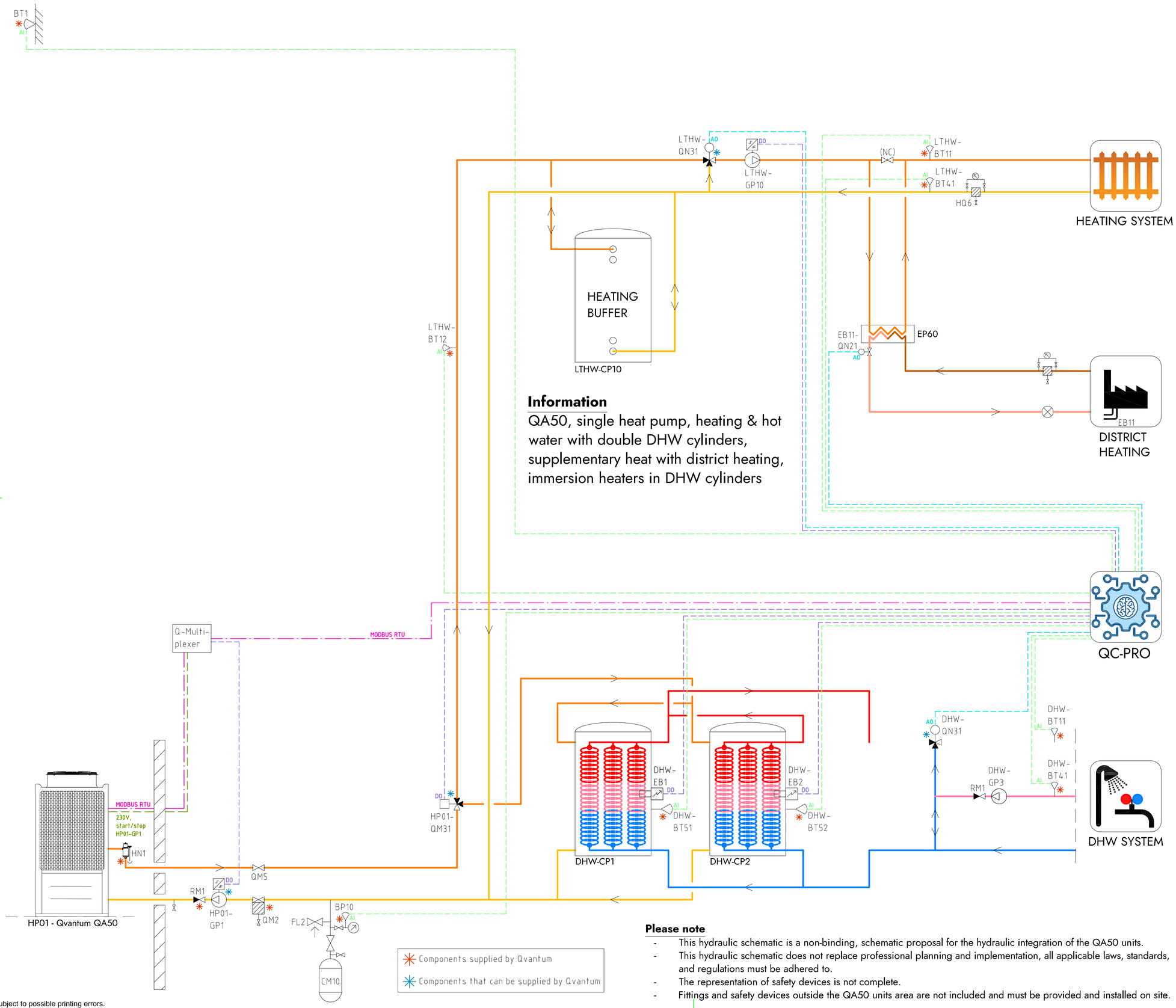
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with double DHW cylinders, supplementary heat with district heating, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-120	30

Subject to possible printing errors.
LAGER: SB11
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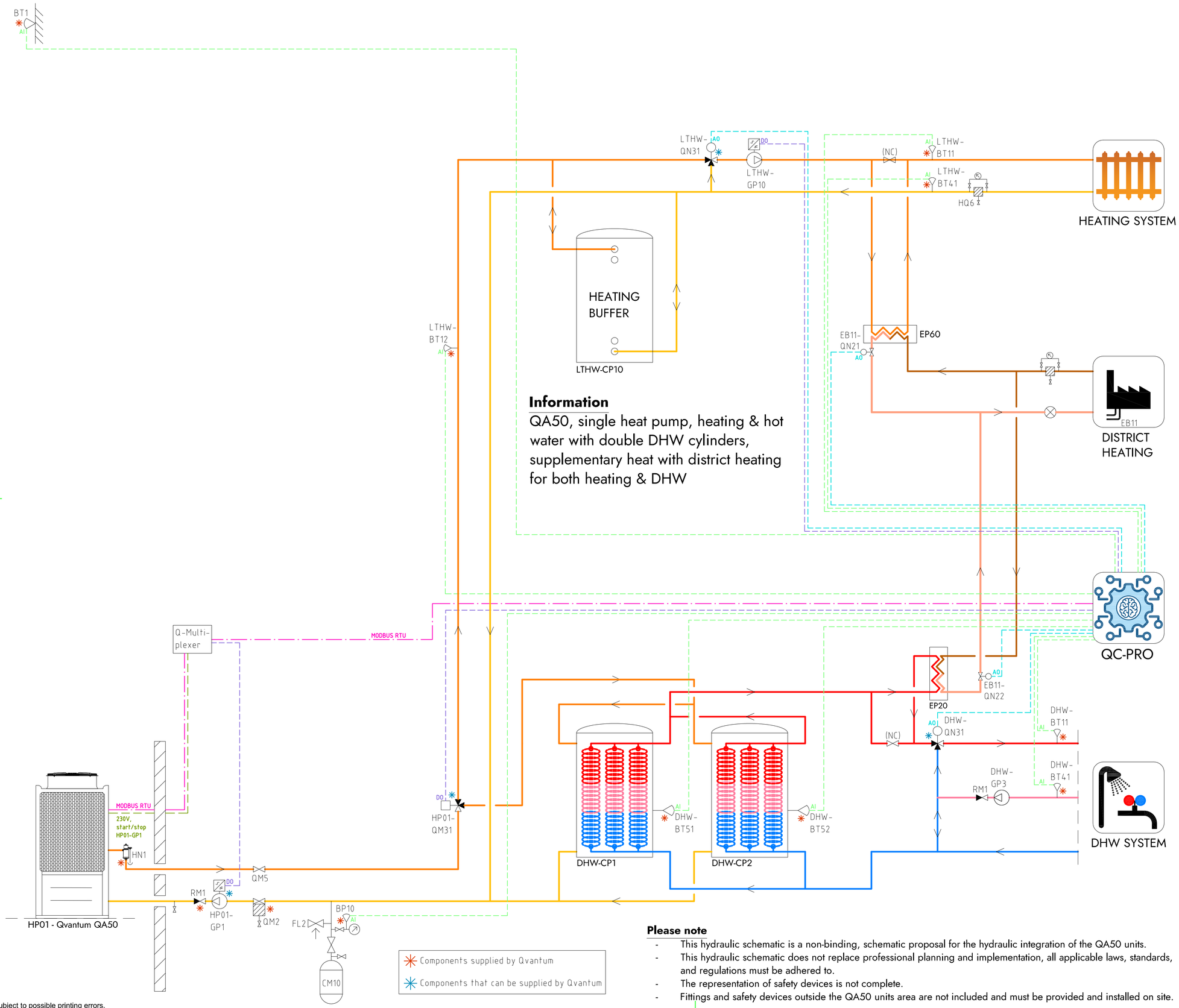
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating & hot water with double DHW cylinders, supplementary heat with district heating for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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Subject to possible printing errors.
LAGER: SB11
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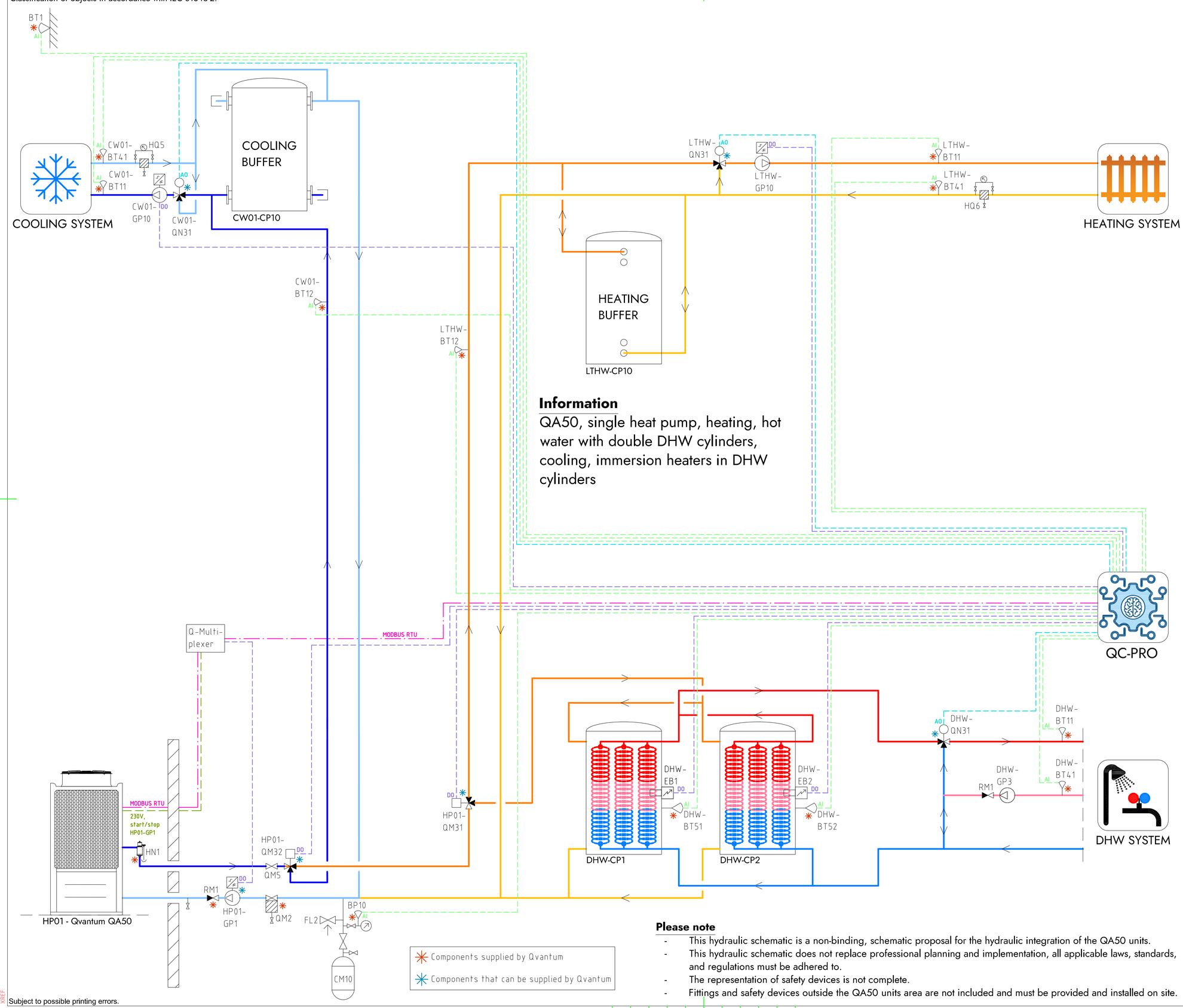
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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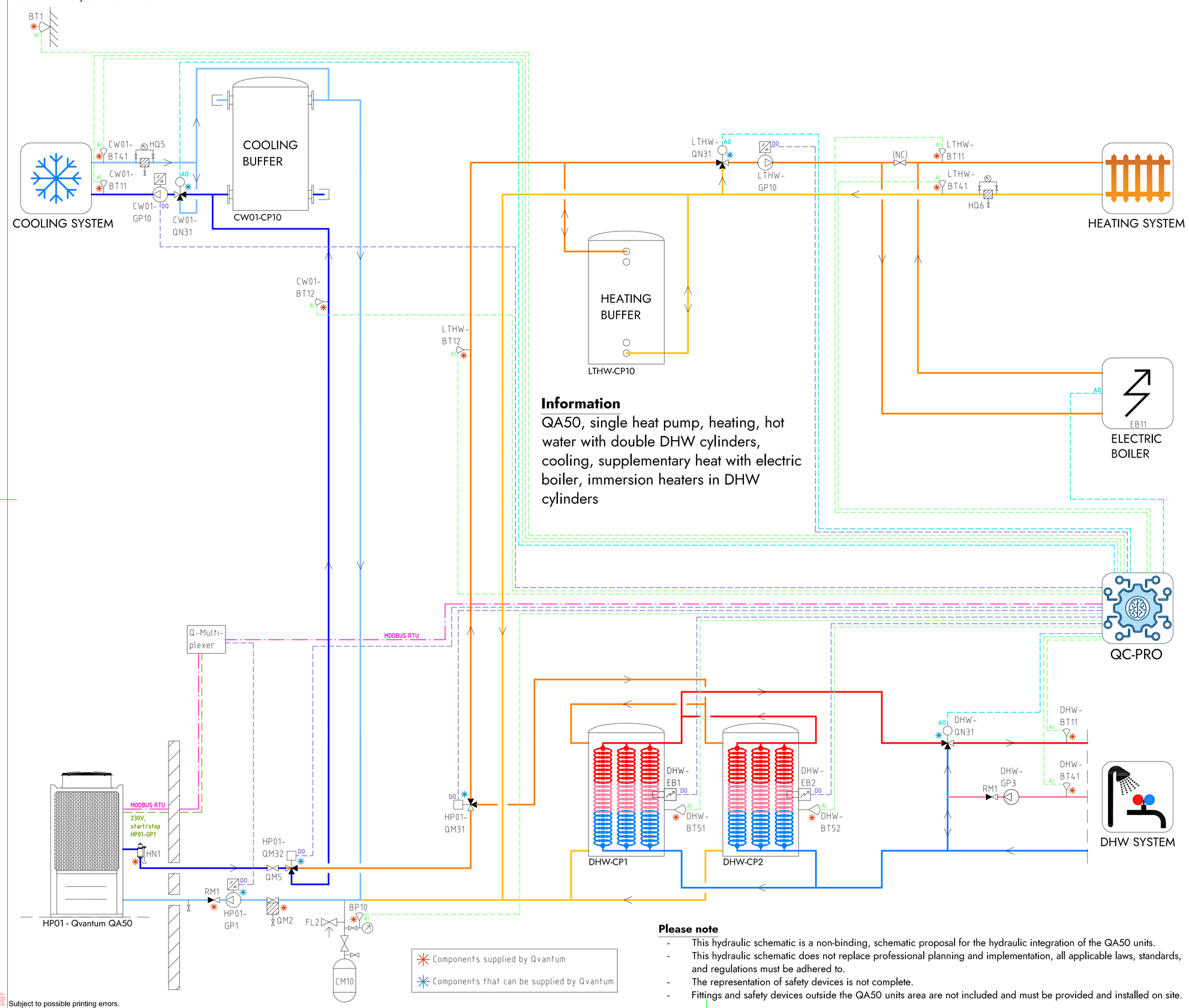
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, supplementary heat with electric boiler, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	Electric boiler

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-123	33

Subject to possible printing errors.
LAGER: SB11
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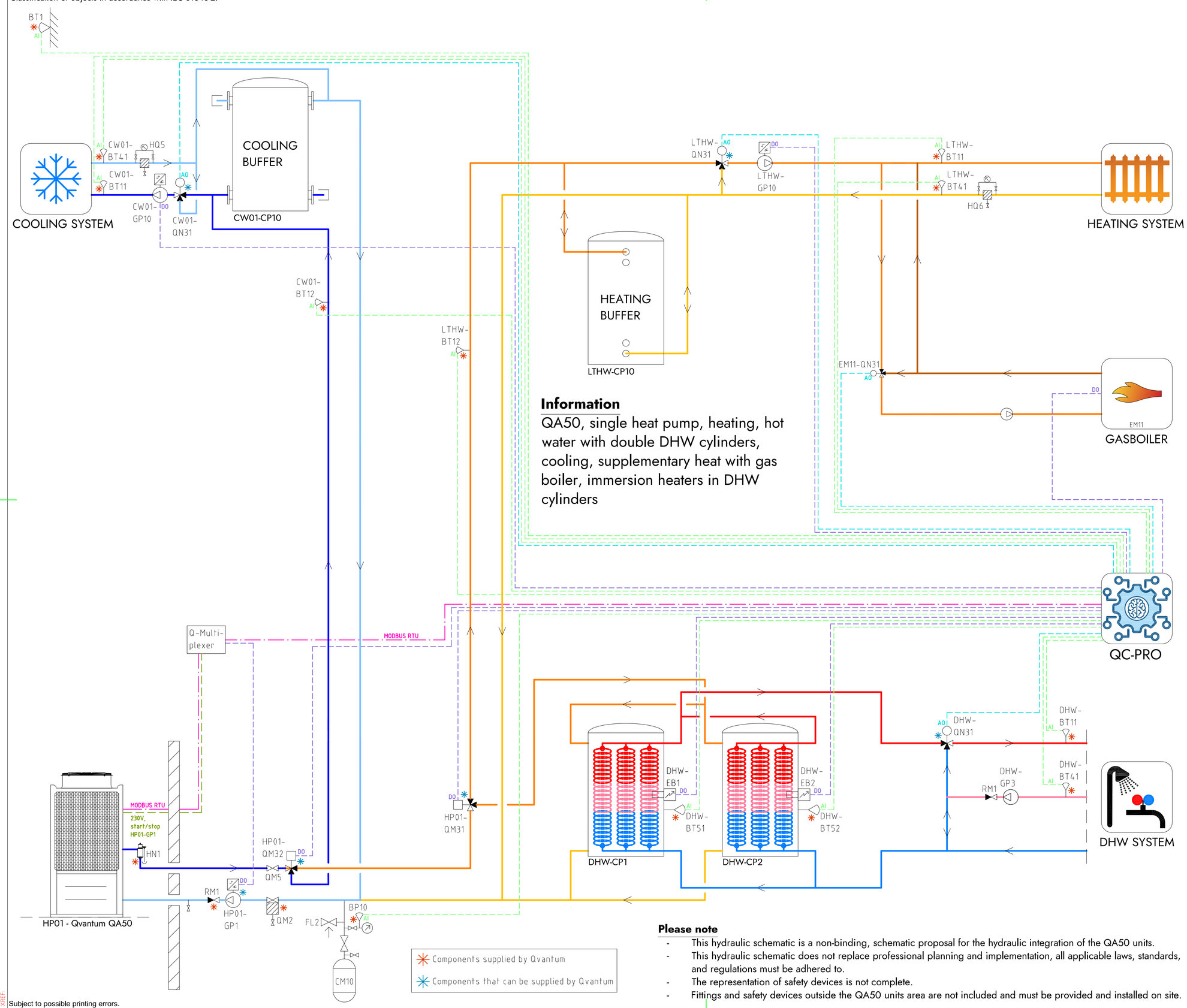
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, supplementary heat with gas boiler, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-124	34

Subject to possible printing errors.
LAGER: SB11
XREF:
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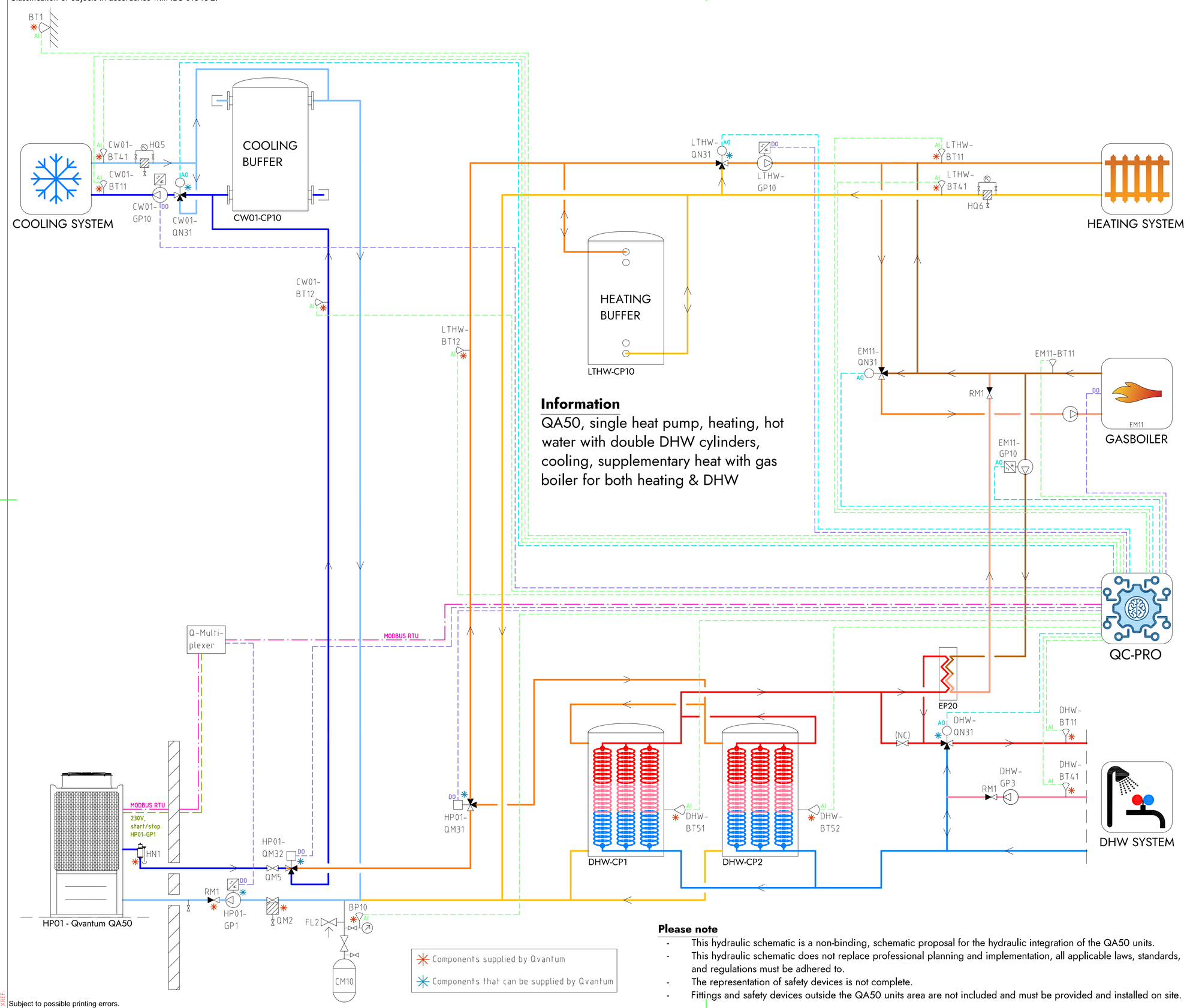
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, supplementary heat with gas boiler for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
EM11-GP10	Circulation pump, gas boiler system
EM11-BT11	Flow temperature, gas boiler system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-125	35

Subject to possible printing errors.
LAGER: SB11
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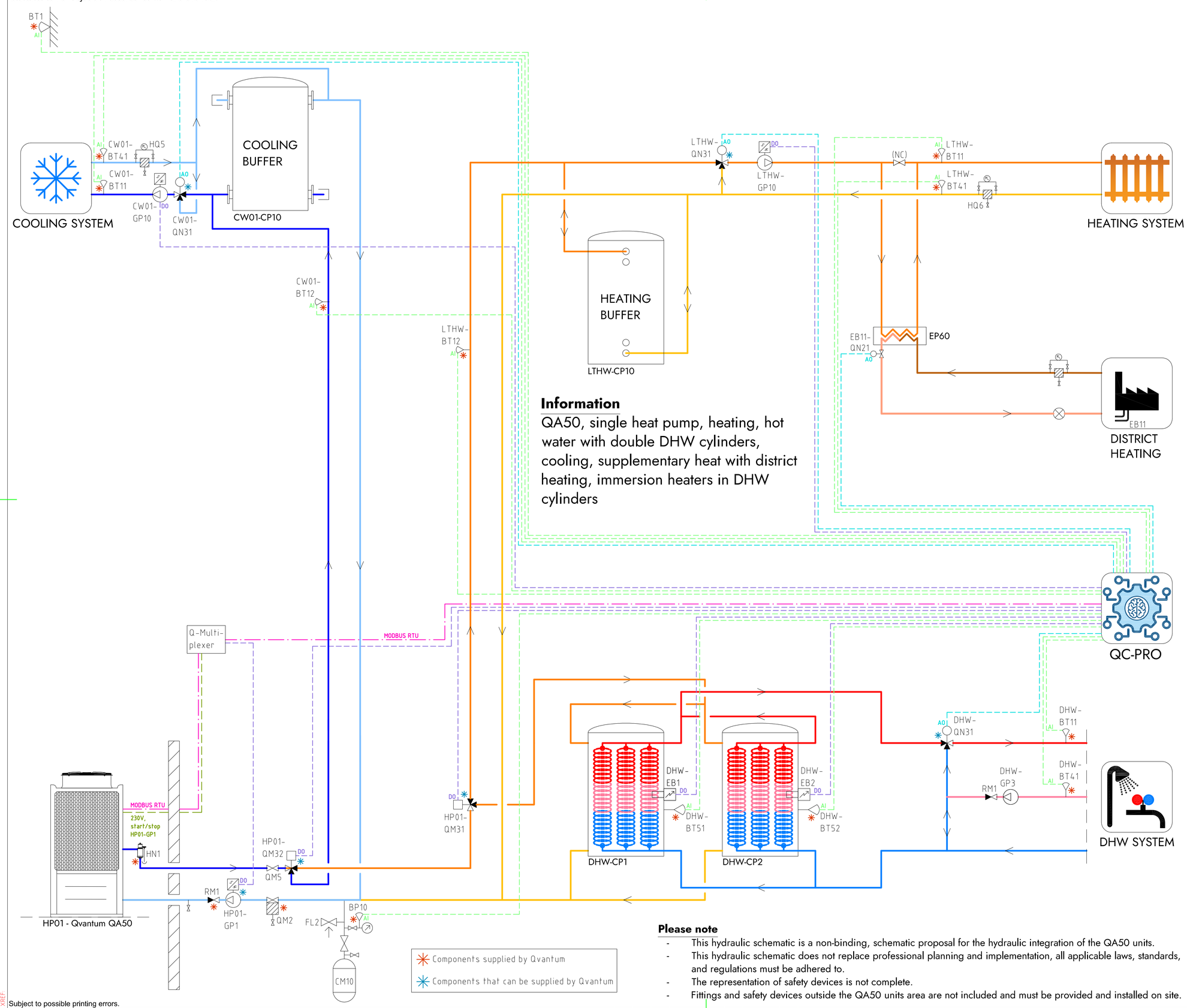
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, supplementary heat with district heating, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-126	36

Subject to possible printing errors.
LAGER: SB11
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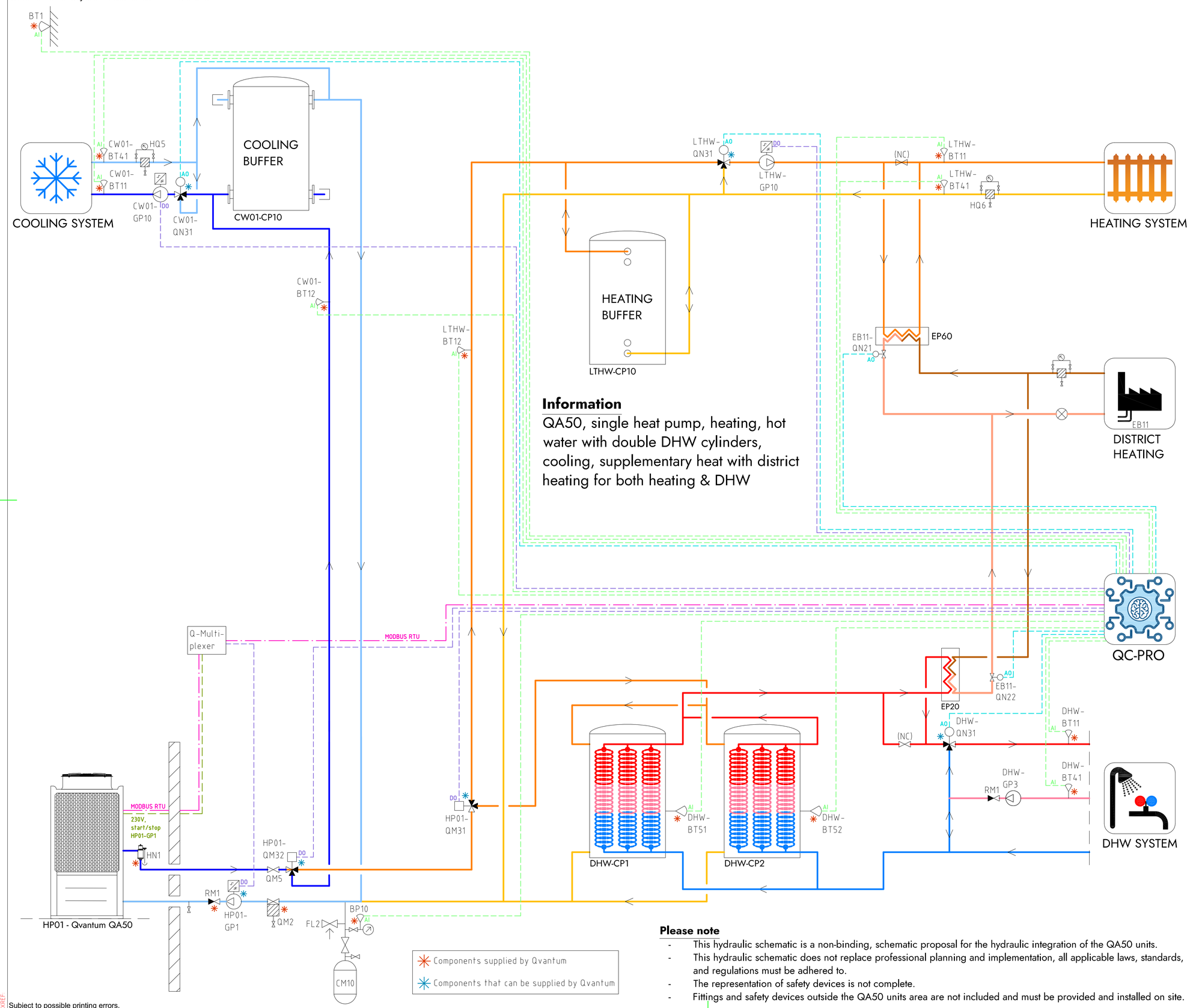
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, heating, hot water with double DHW cylinders, cooling, supplementary heat with district heating for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system
LTHW-CP10	Heating buffer
EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system
CW01-CP10	Cooling buffer

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-127	37

Subject to possible printing errors.
XREF:
LAGER: SB11
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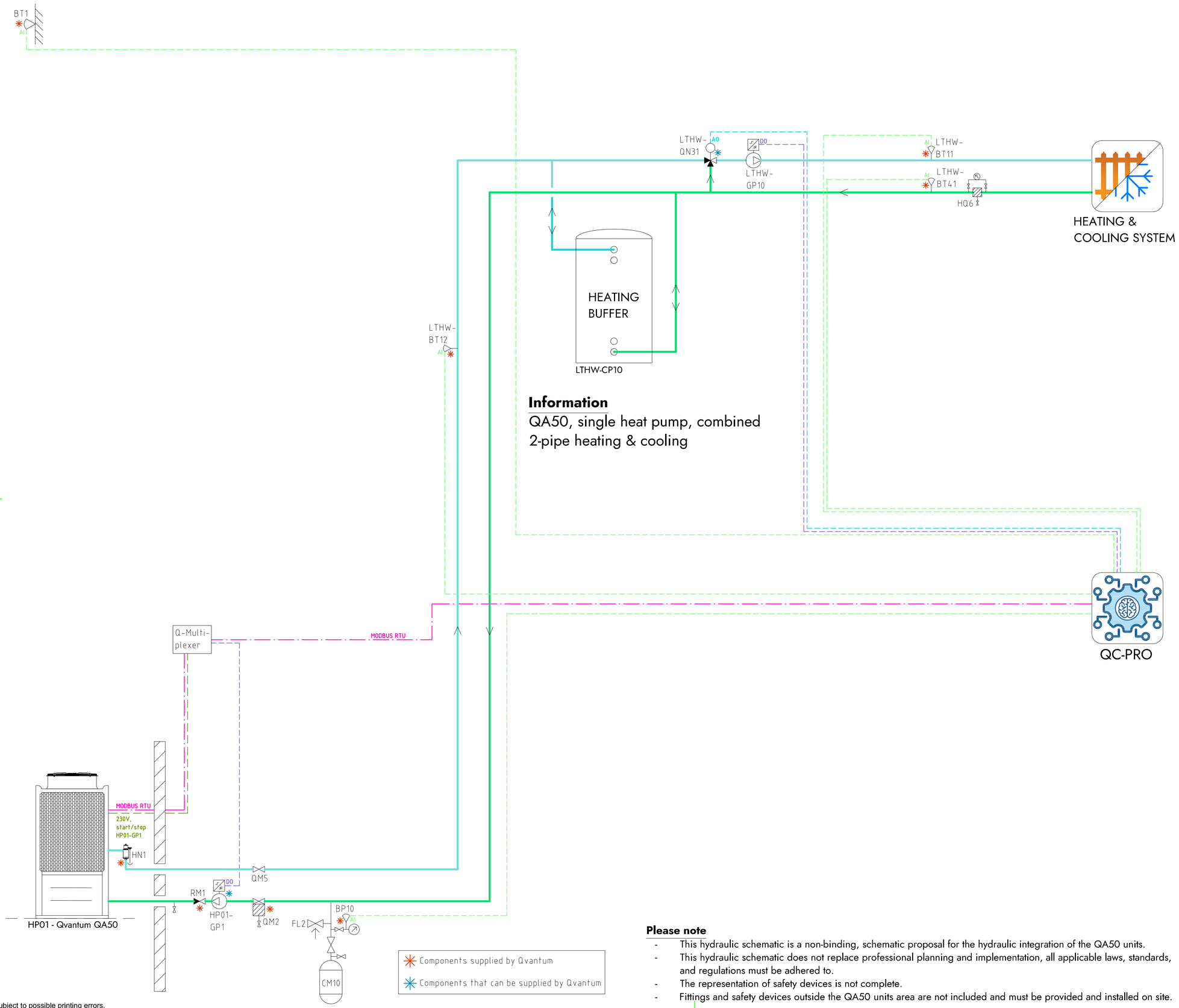
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-1000	38

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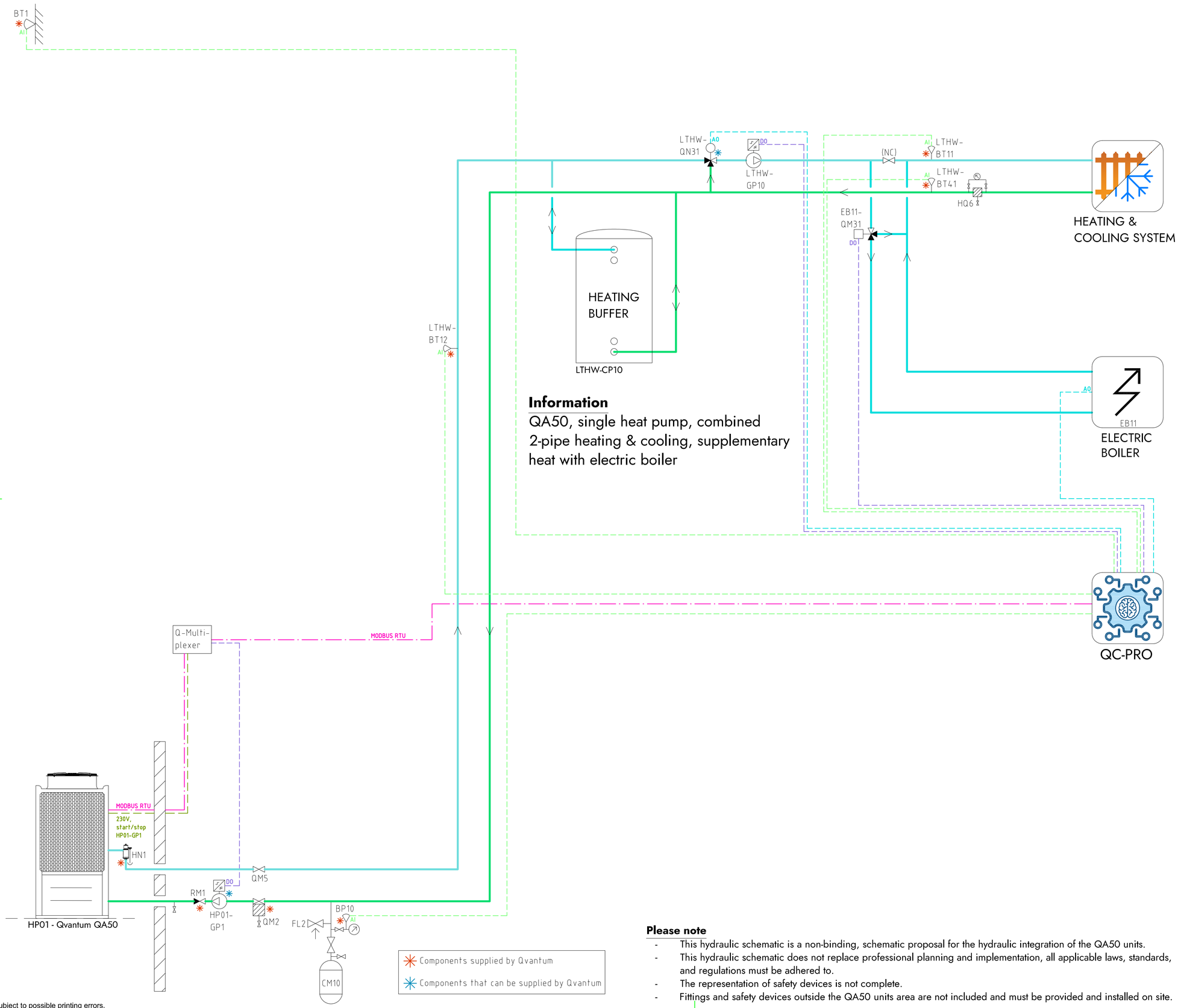
Classification of objects in accordance with IEC 81346-2.



Information

QA50, single heat pump, combined 2-pipe heating & cooling, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1

SYSTEM LTHW

EB11	Electric boiler
EB11-QM31	Switching valve, electric boiler
LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM QA50
HYDRAULIC SCHEMATICS
solutions with two heat pumps

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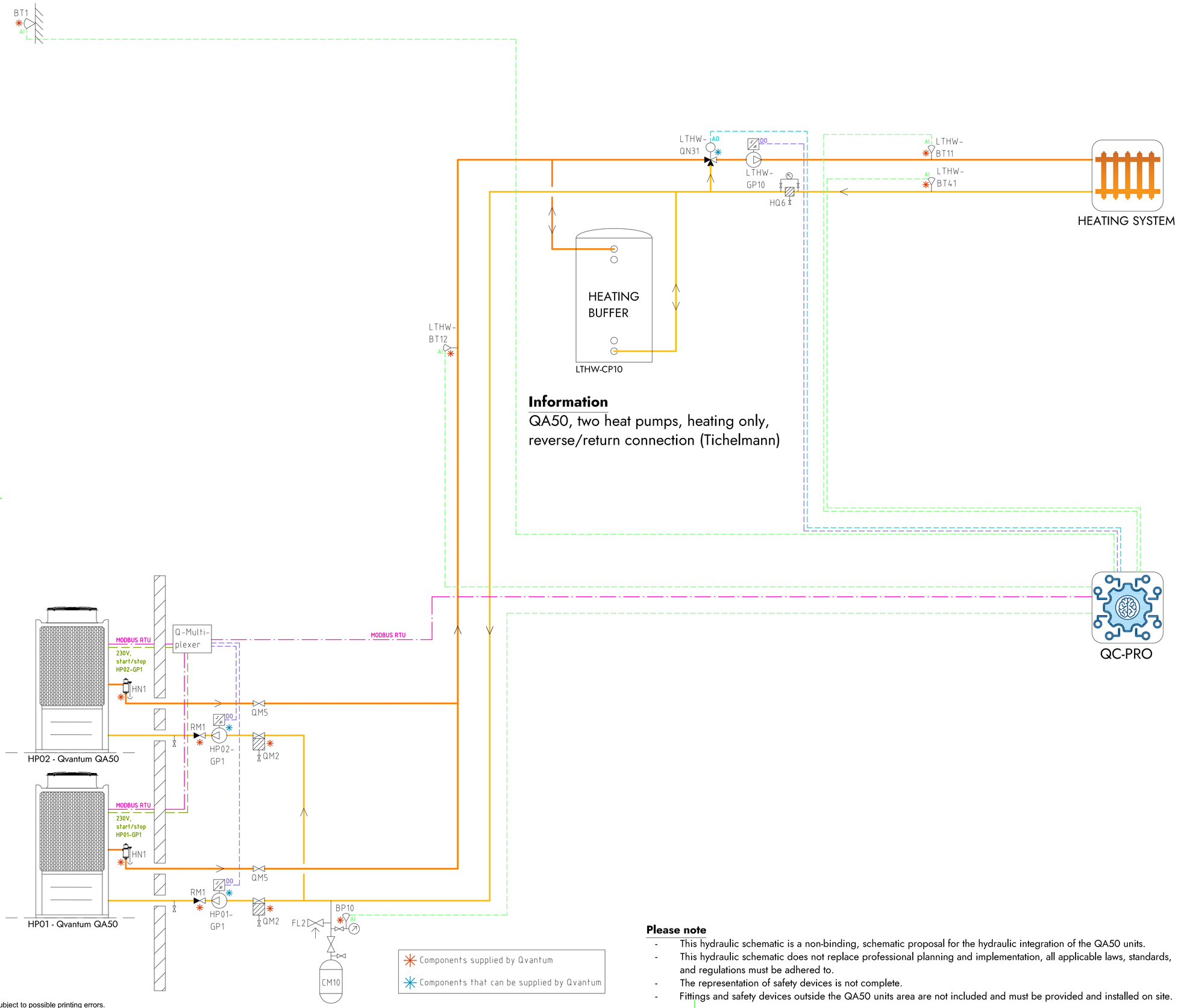

Information

QA50, two heat pumps, heating only, reverse/return connection (Tichelmann)

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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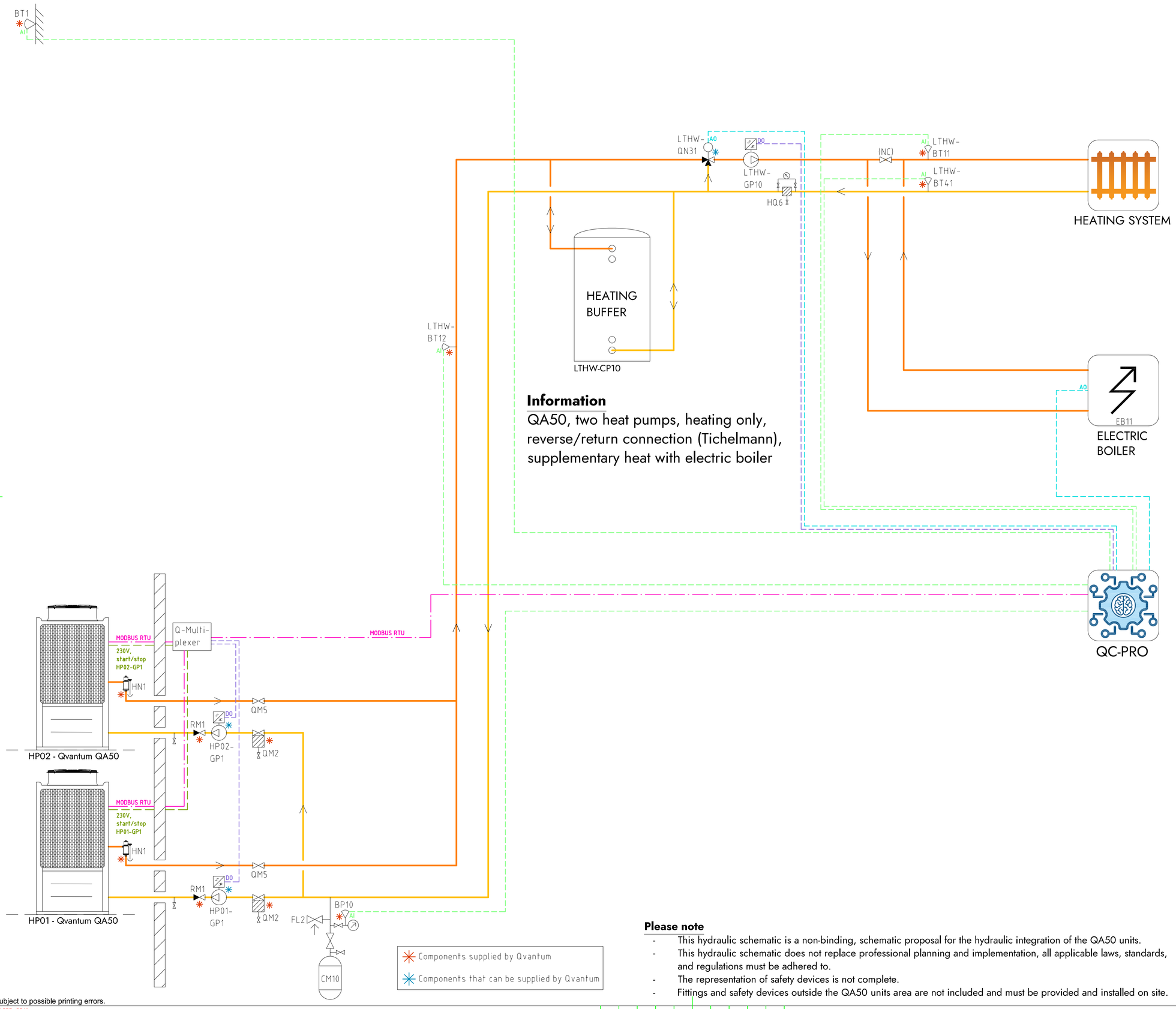
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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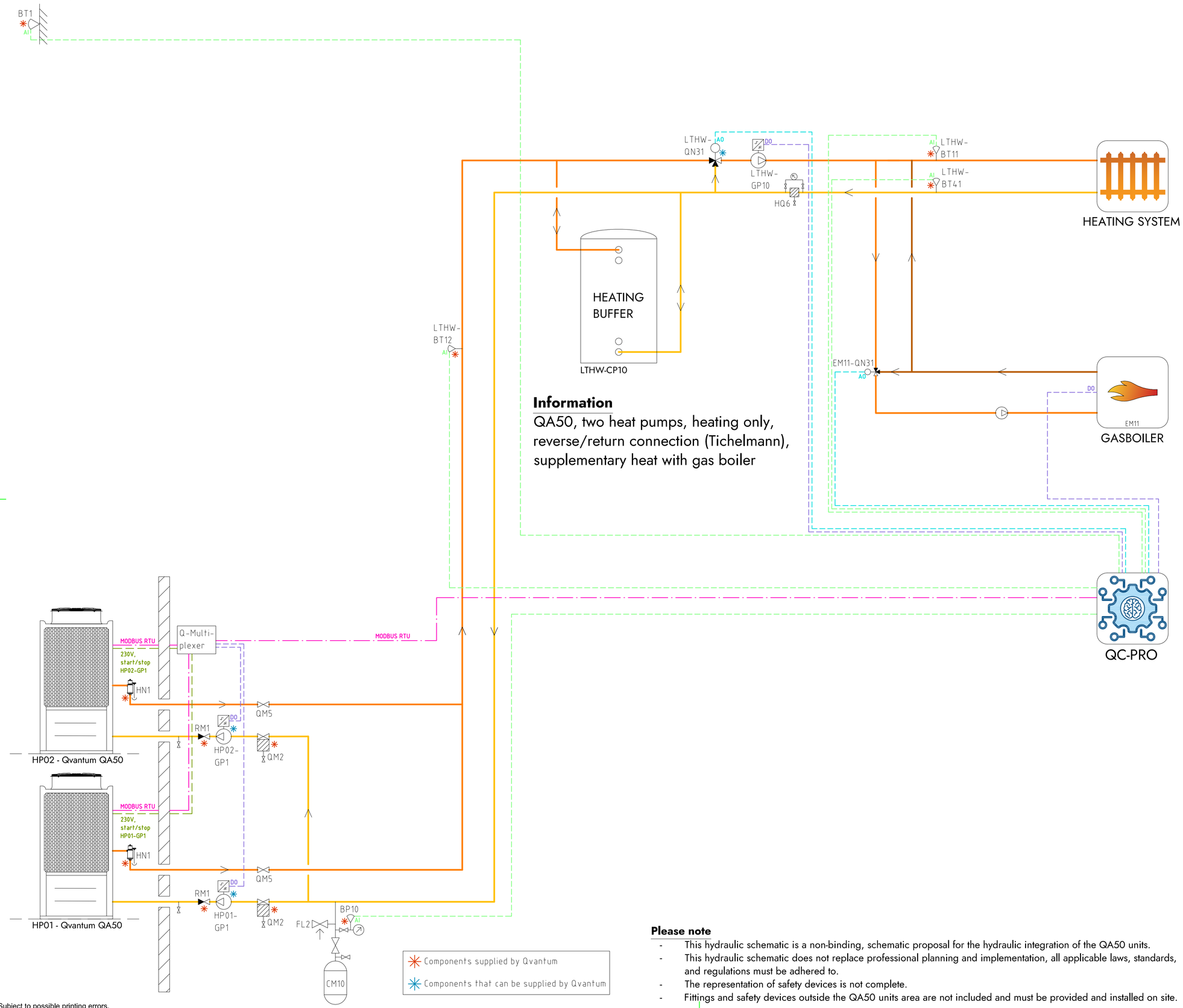
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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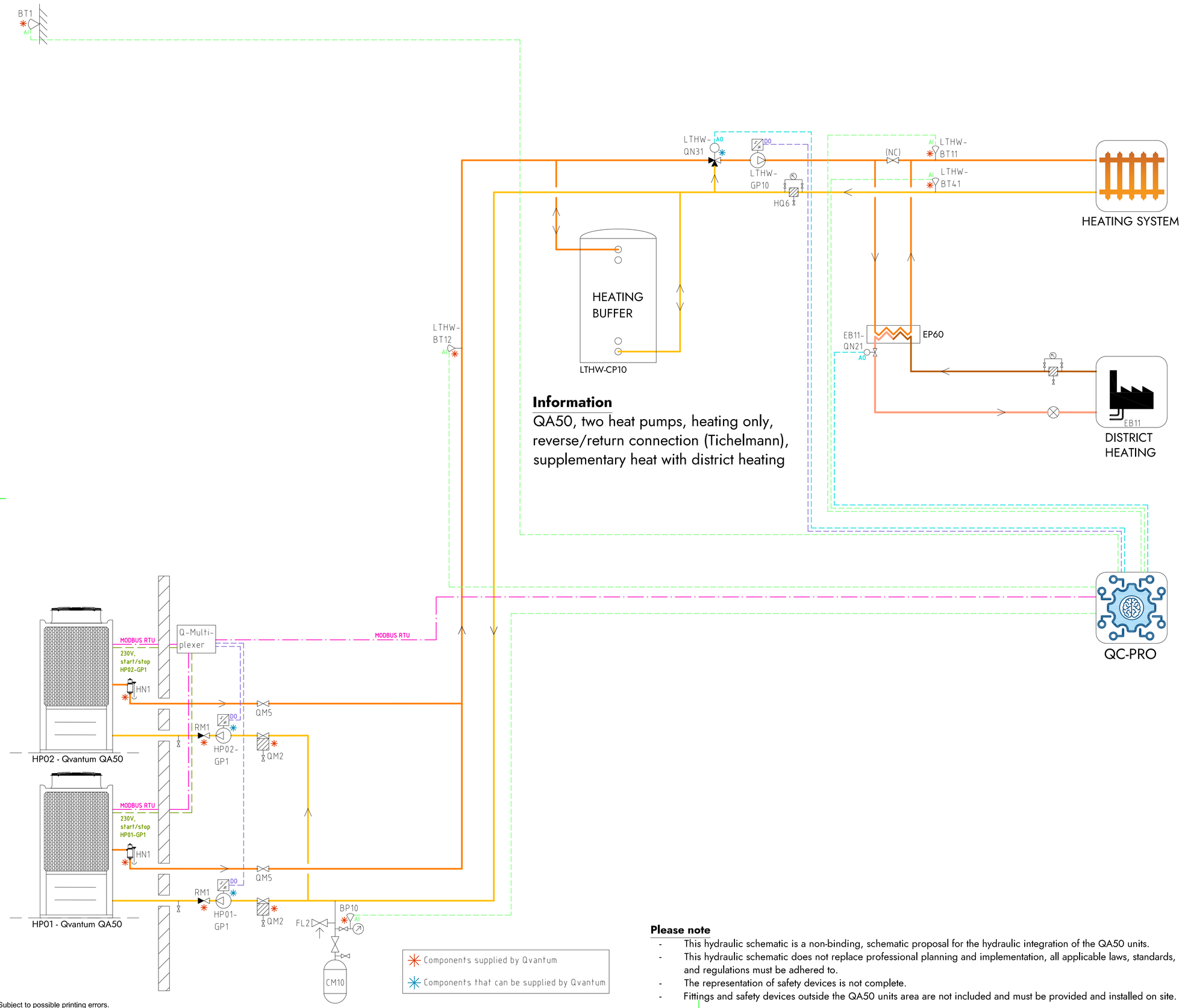
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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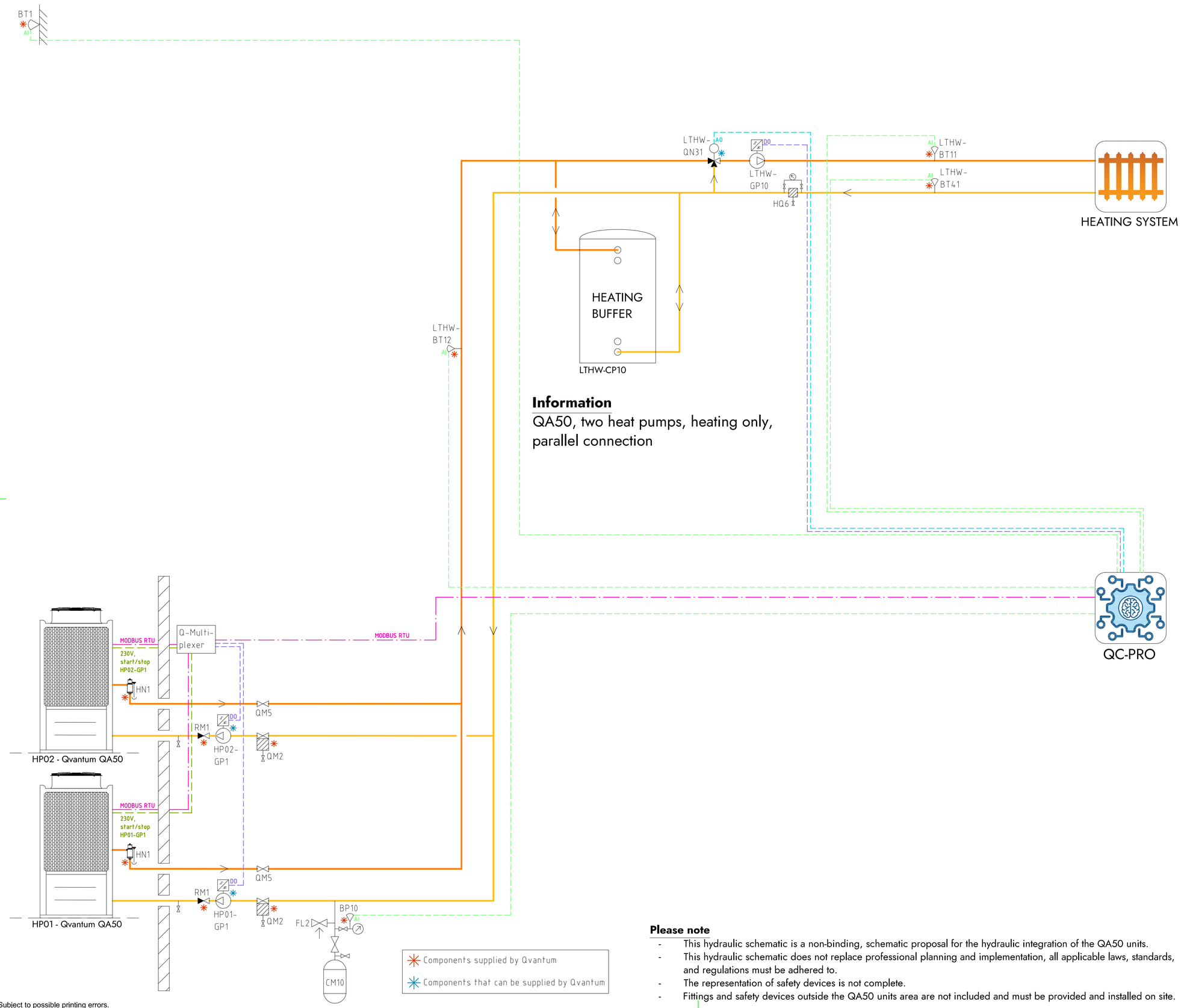
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, parallel connection

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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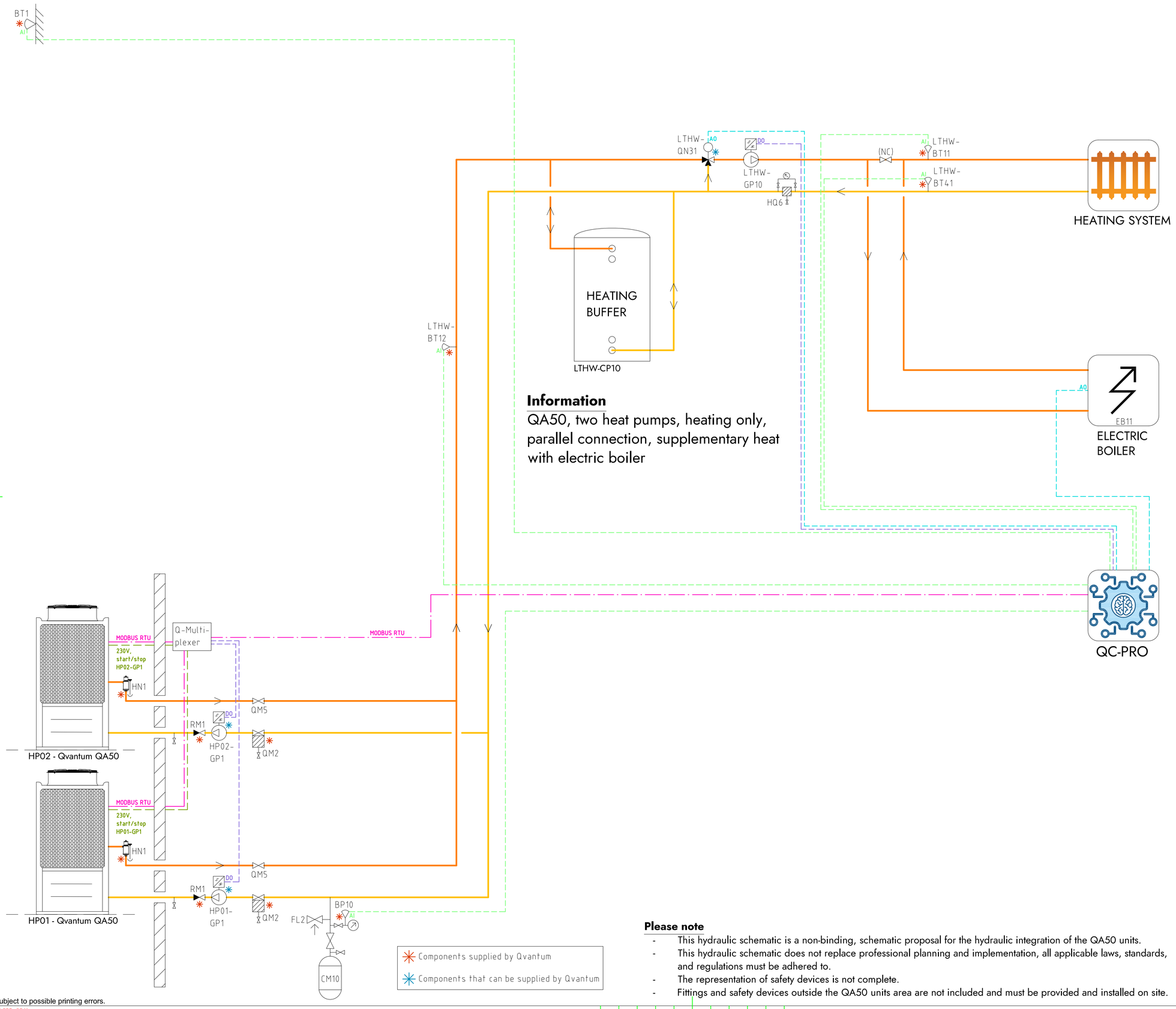
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, parallel connection, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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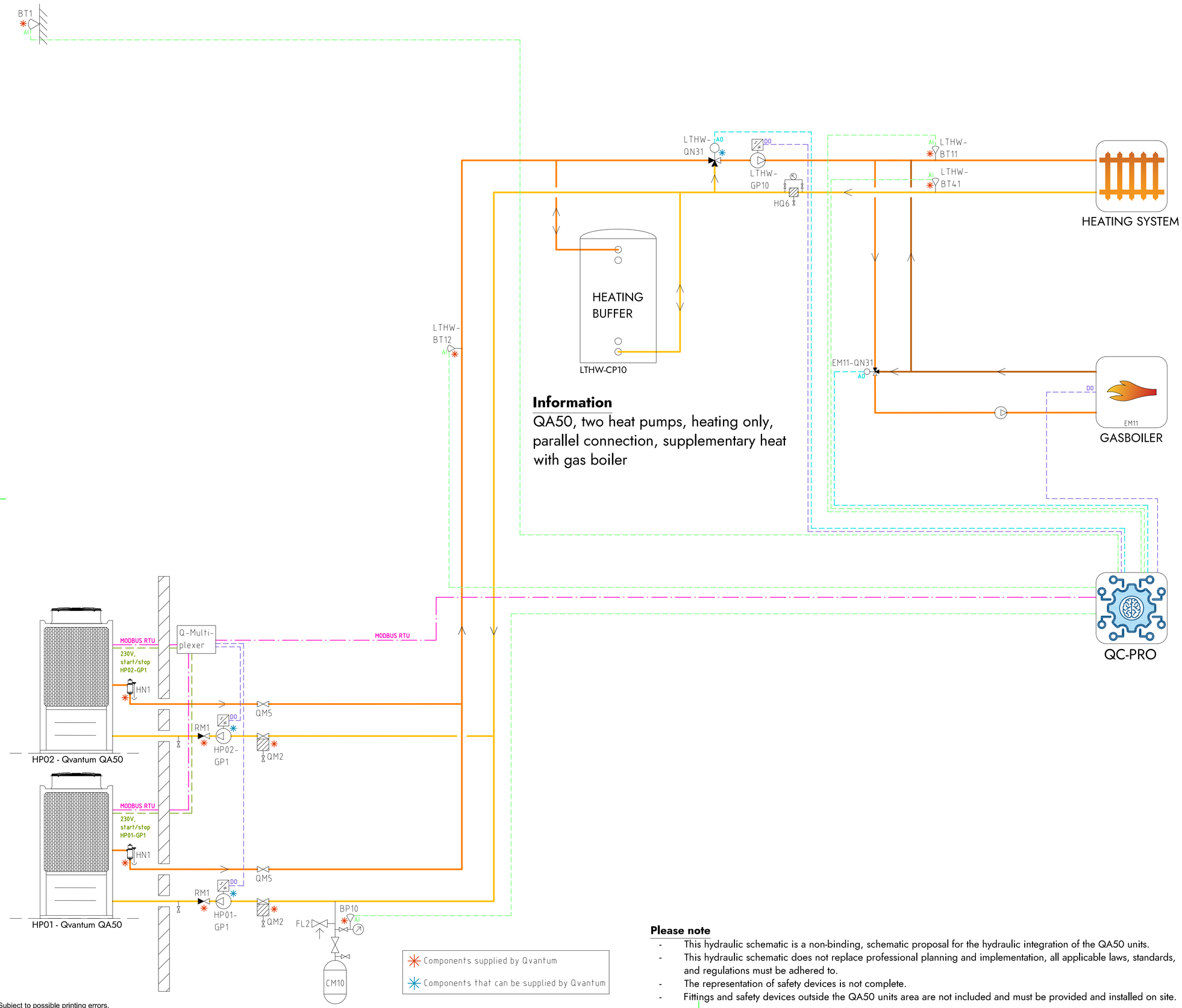
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, parallel connection, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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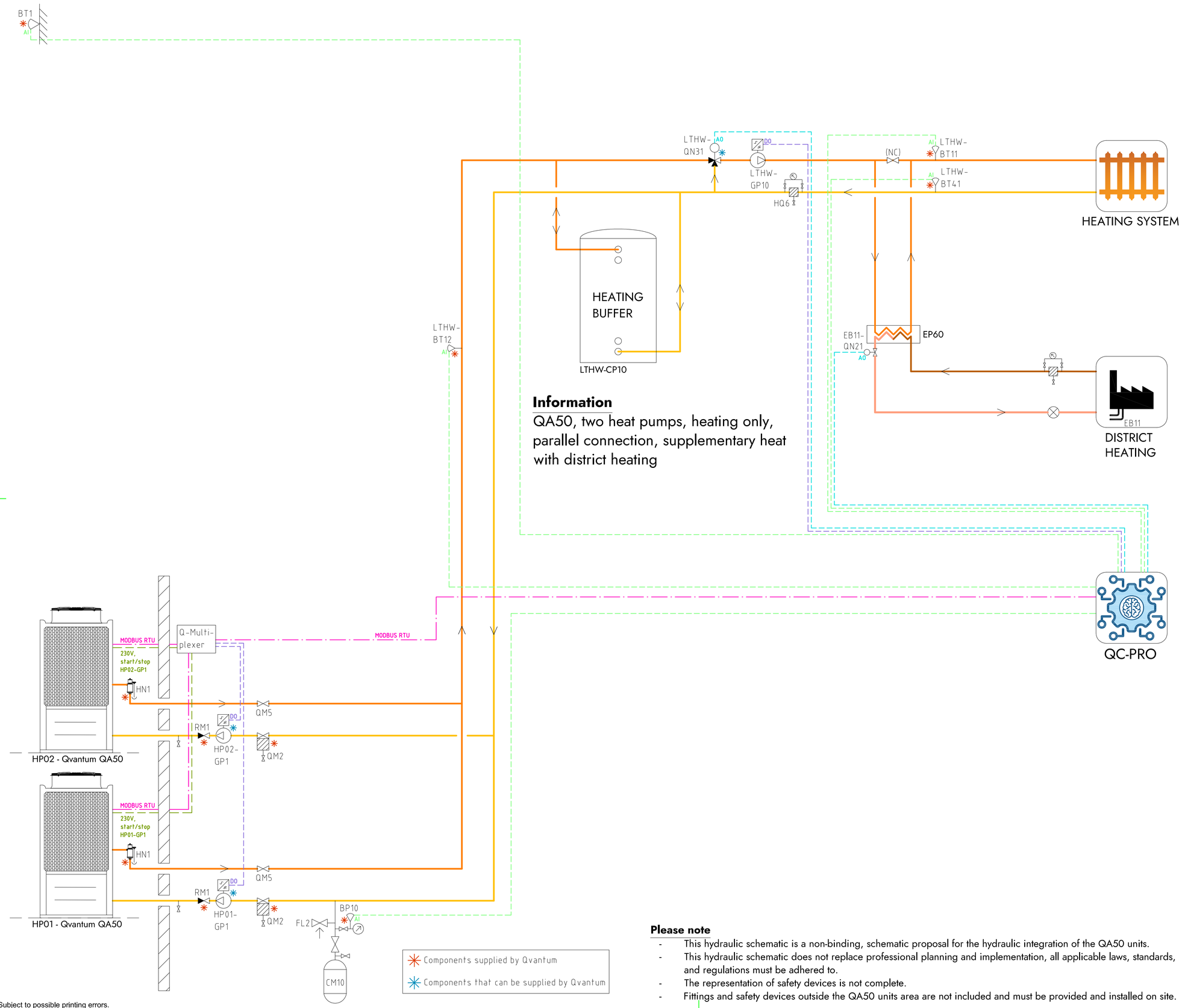
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating only, parallel connection, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM ENERGI AB
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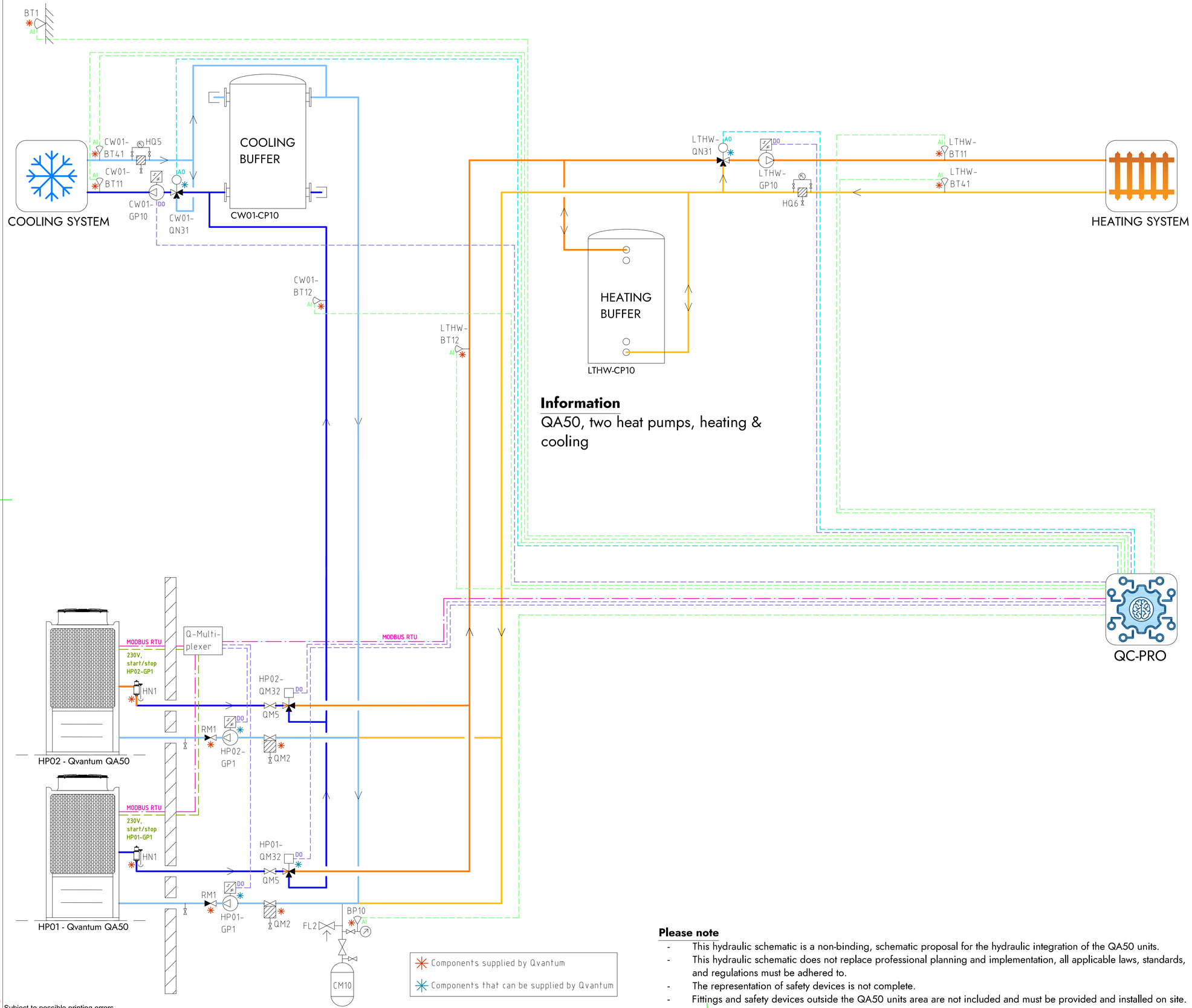
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & cooling

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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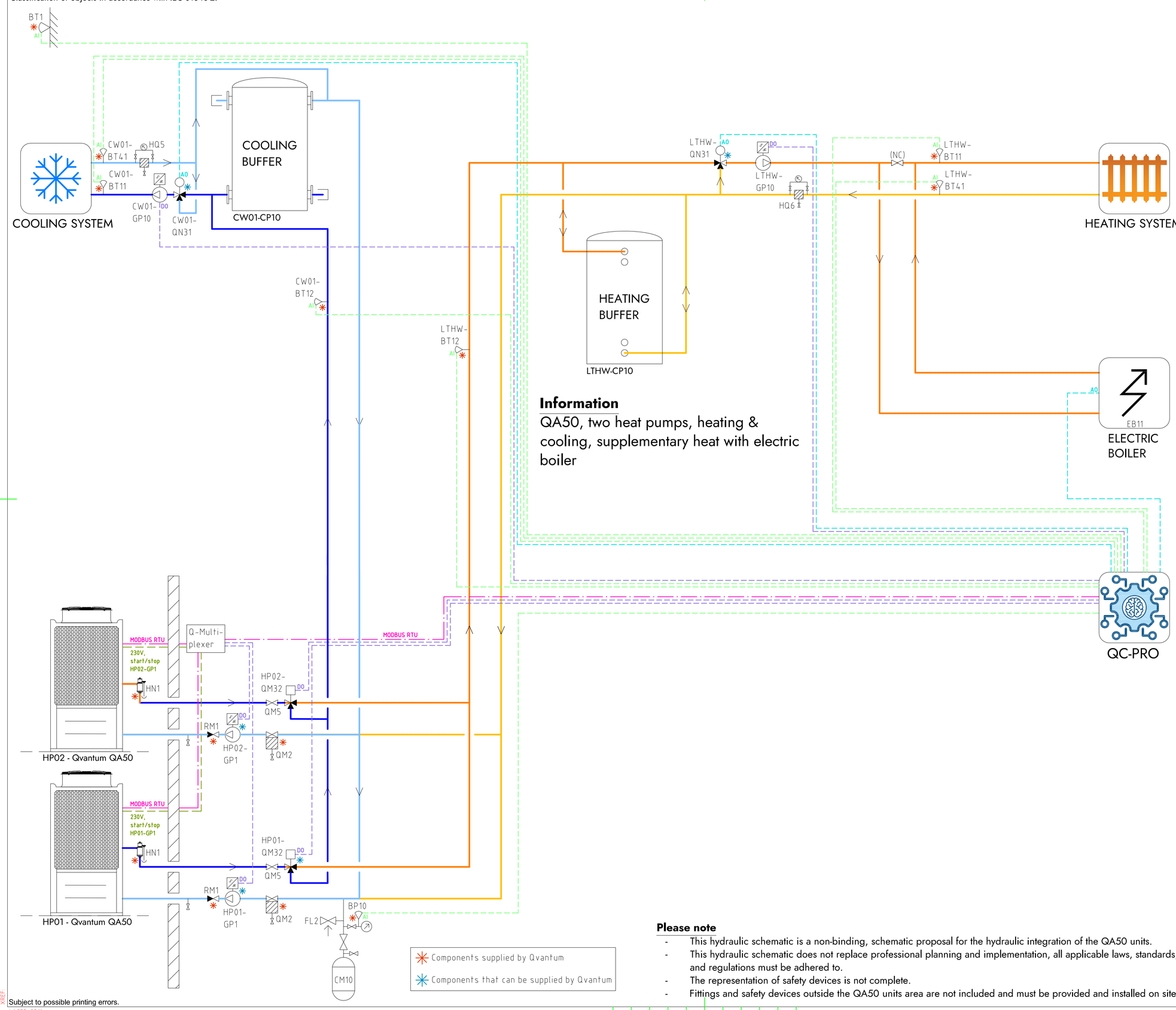
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & cooling, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-209	50

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LAGER: SB11
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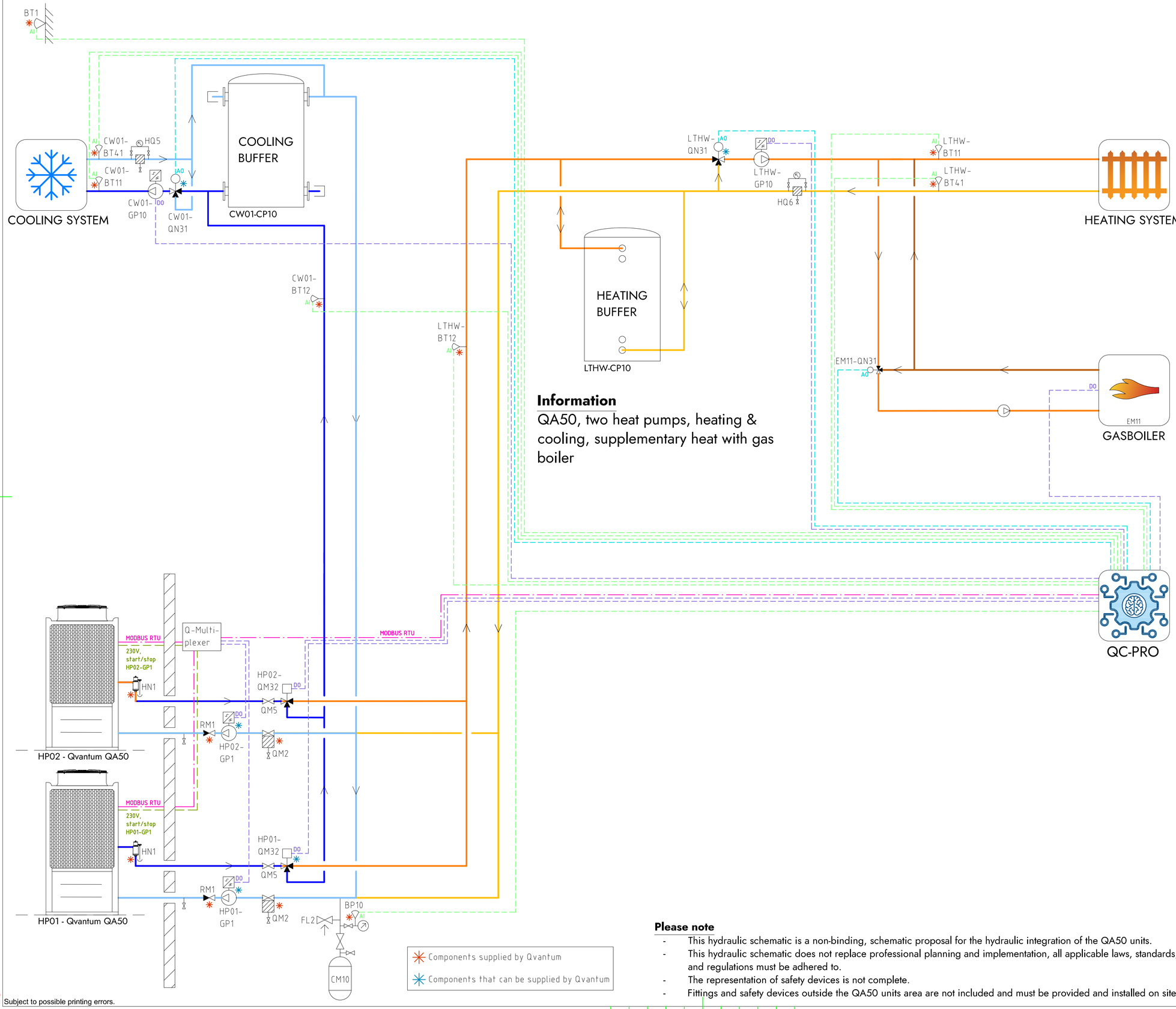
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & cooling, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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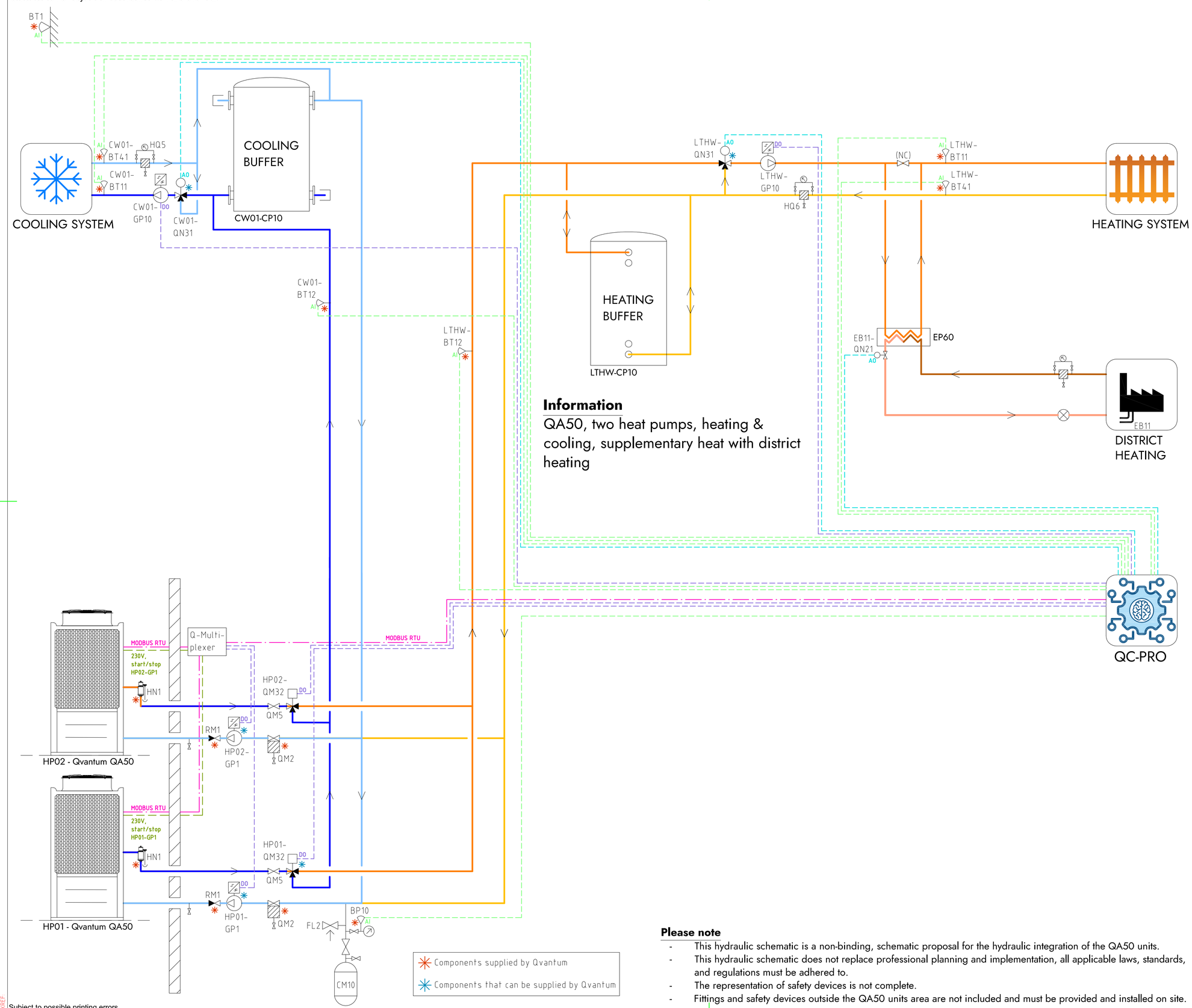
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & cooling, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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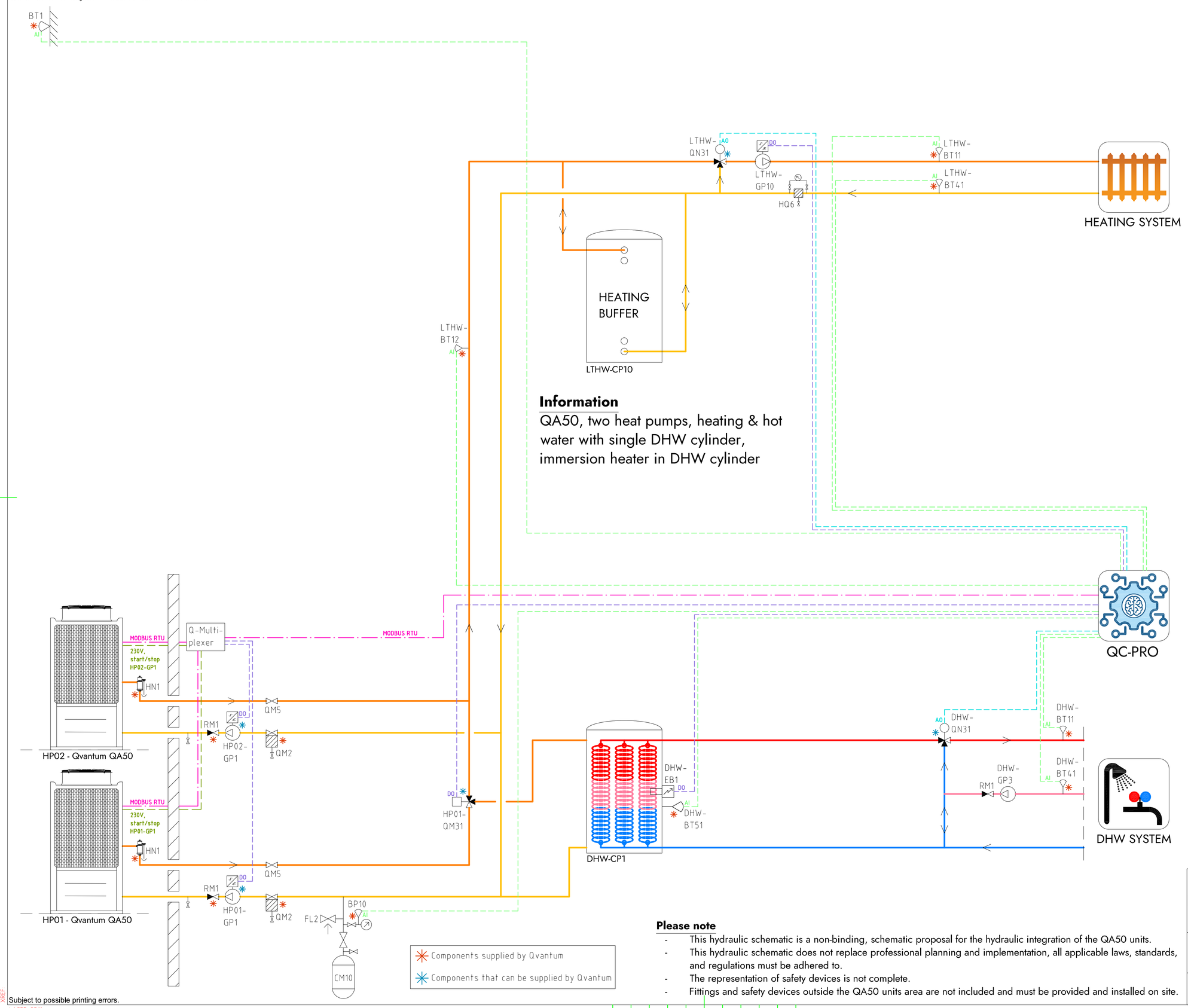
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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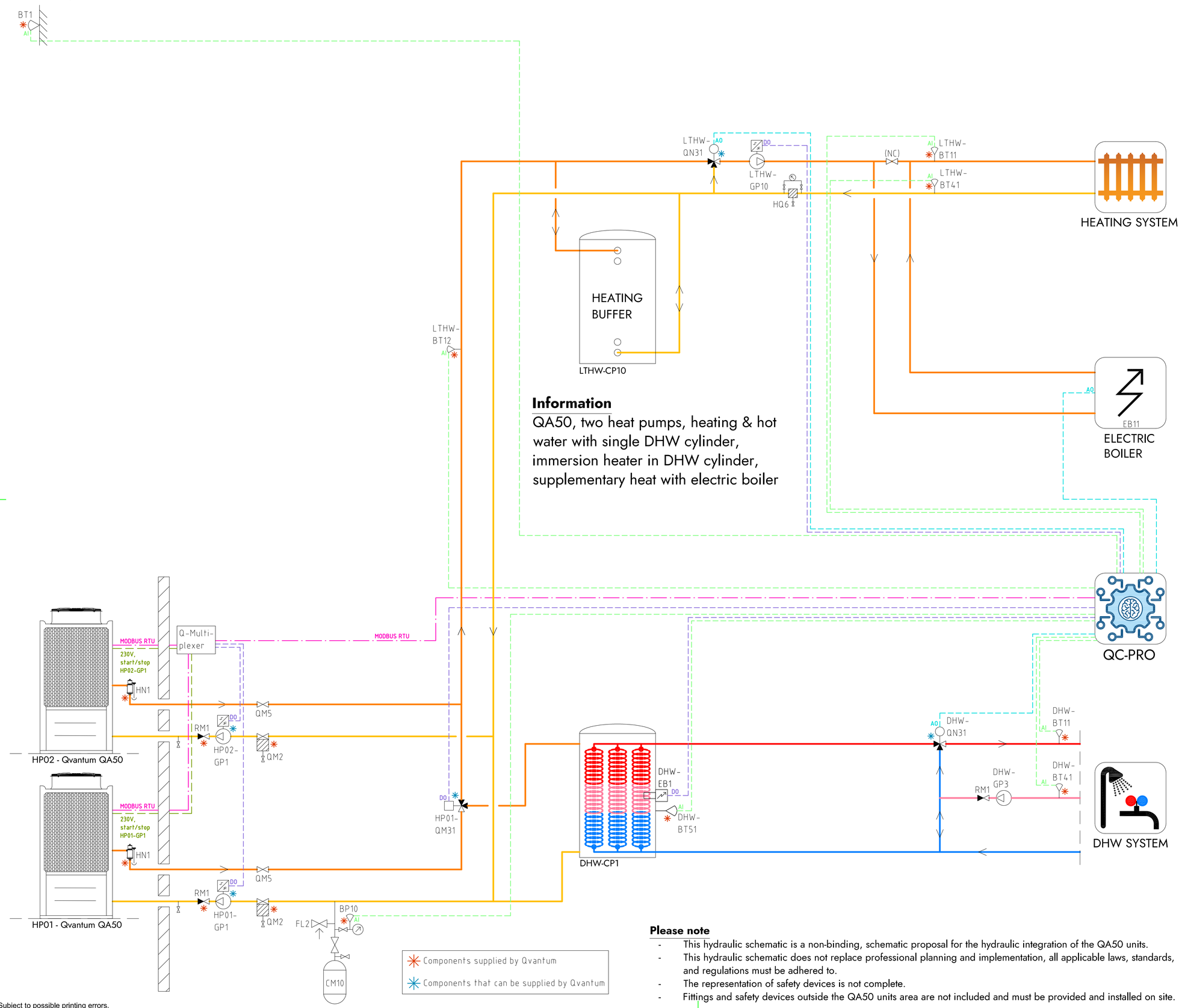
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric Boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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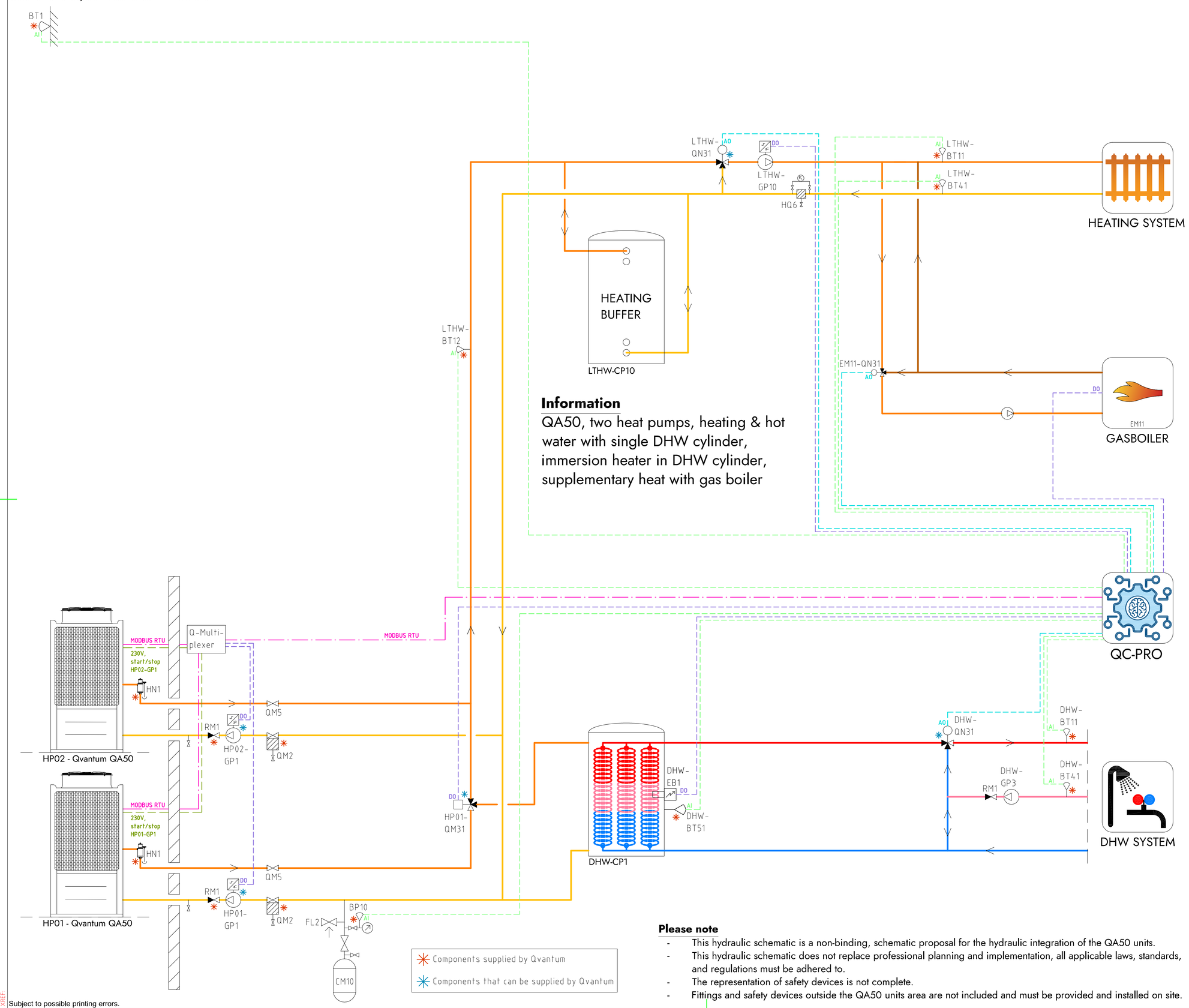
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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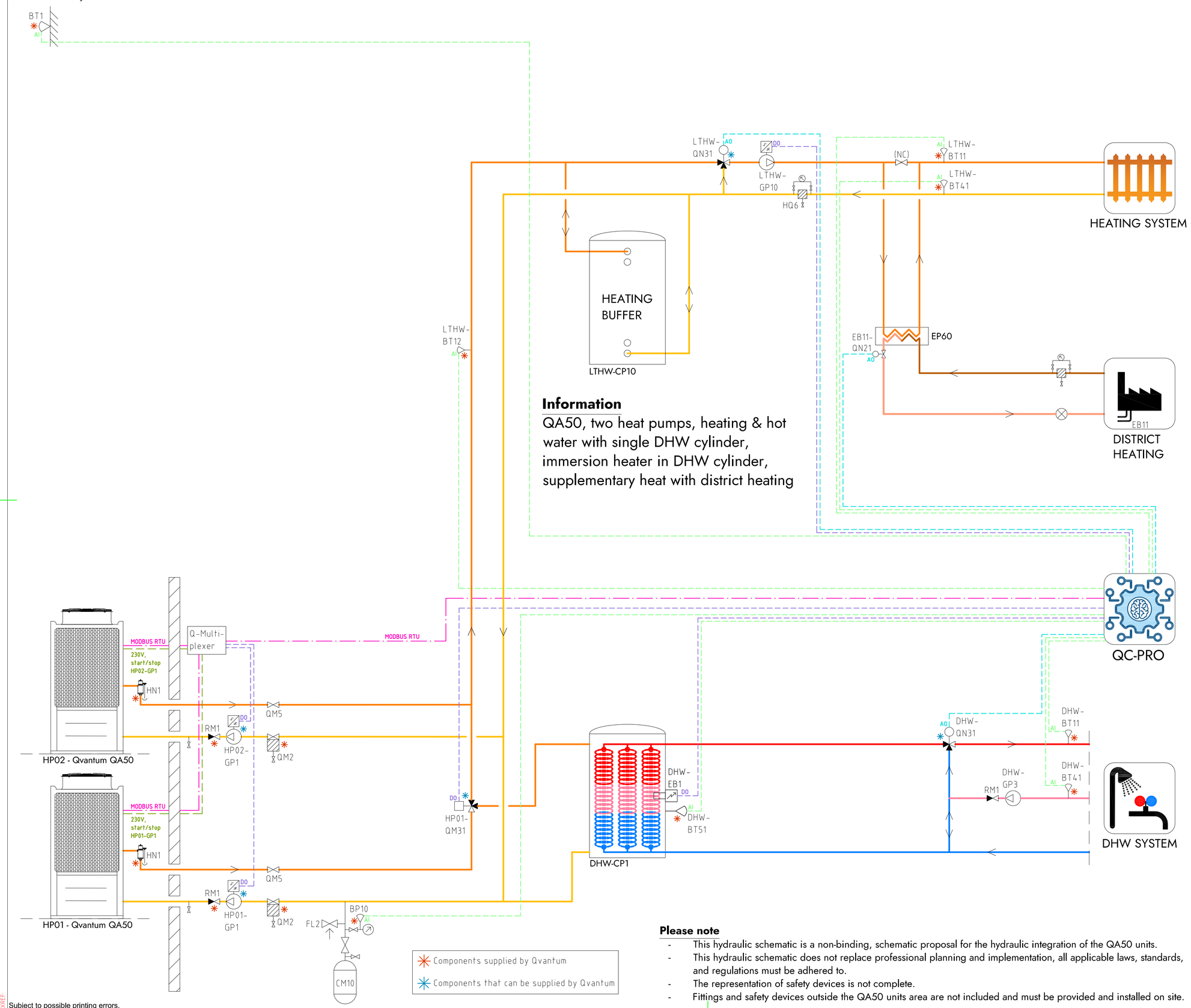
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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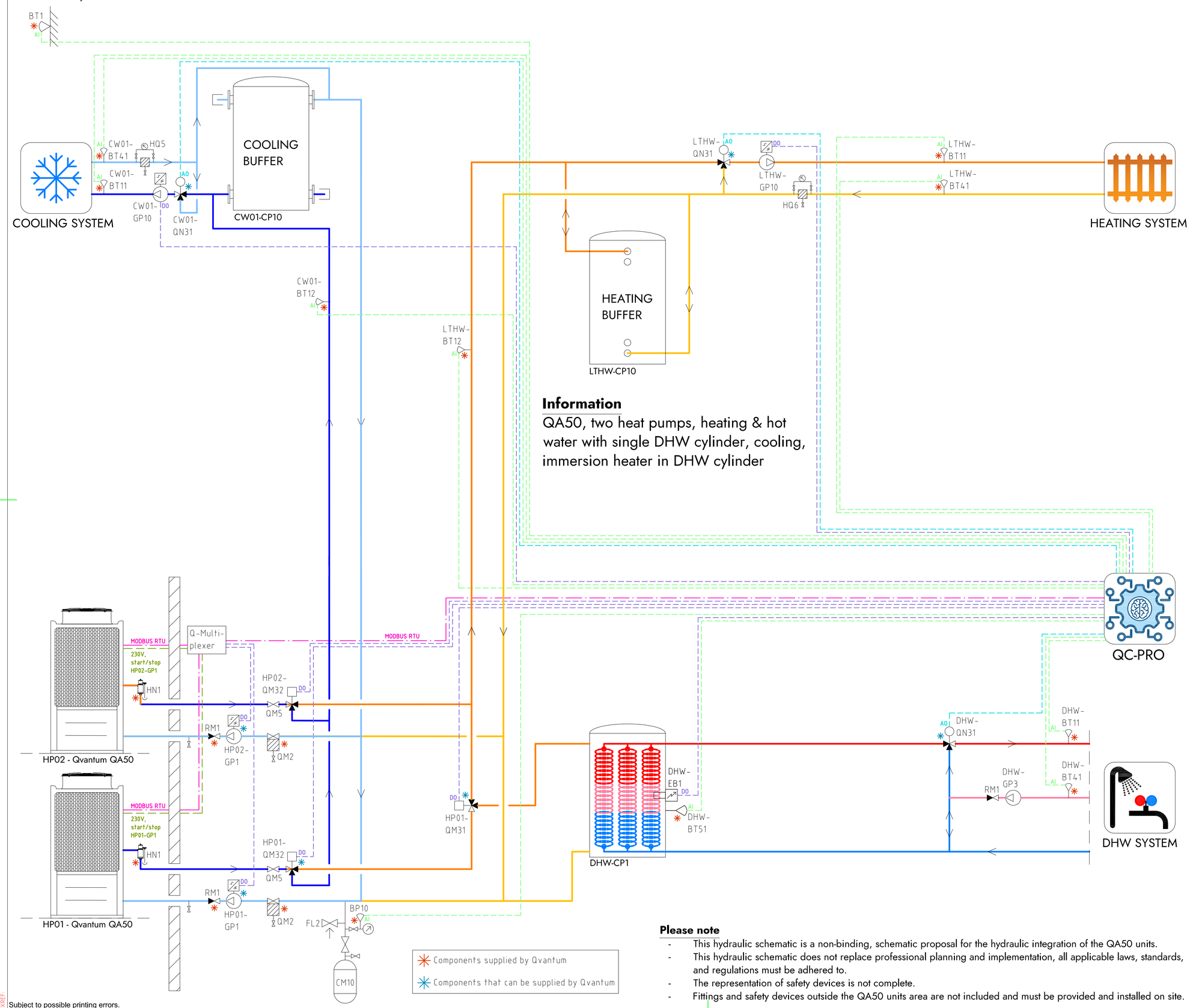
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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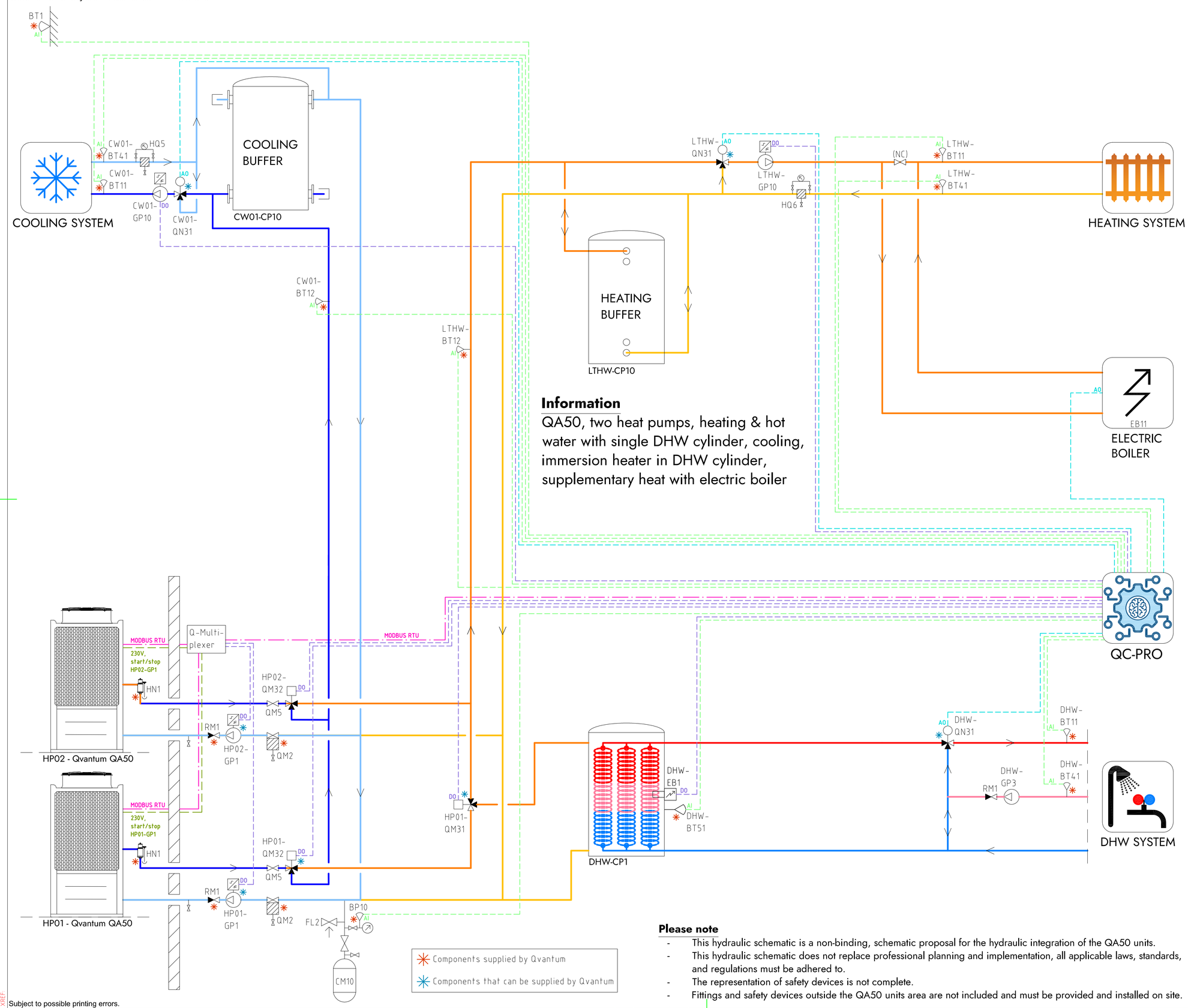
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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LAGER: SB11
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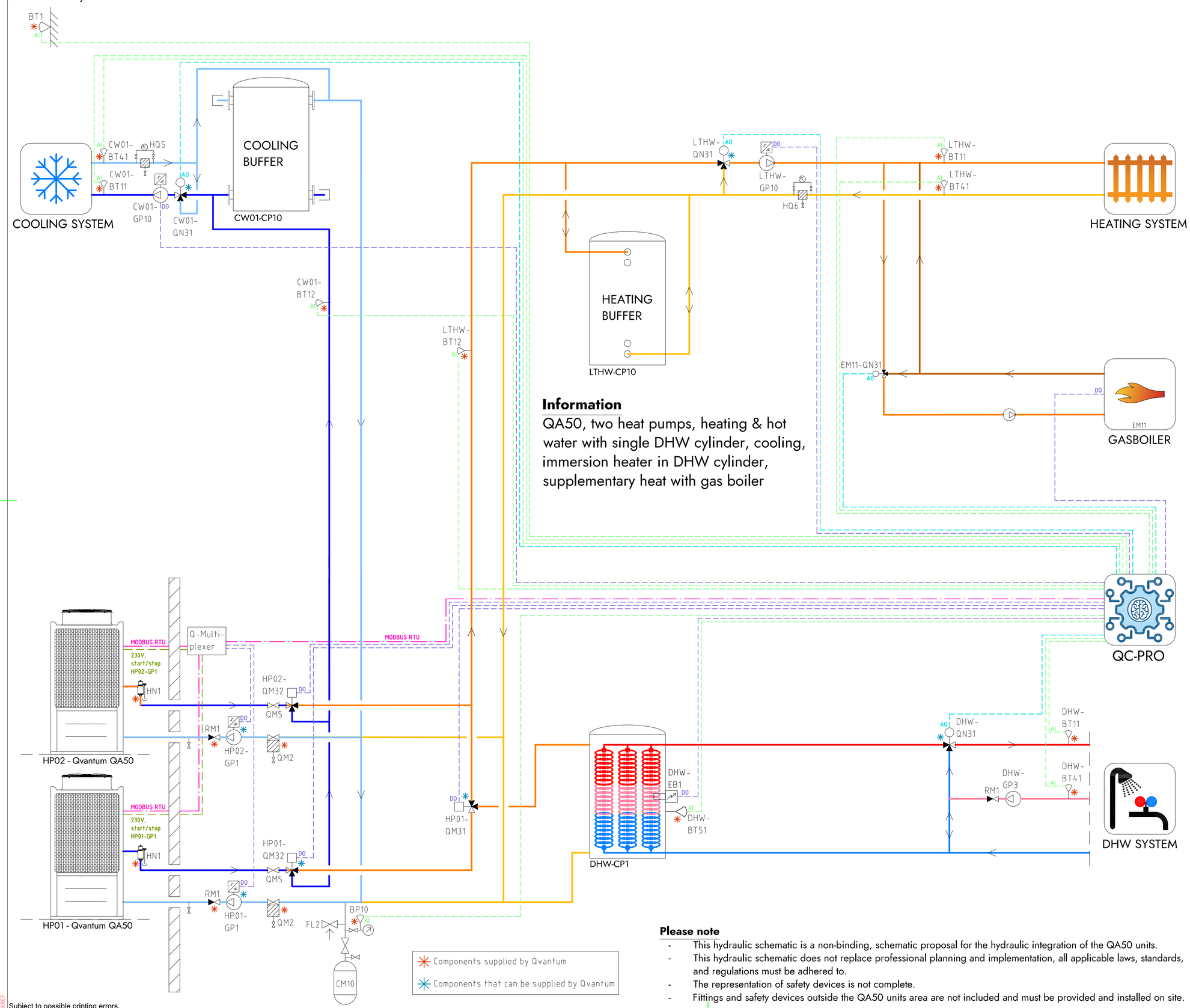
PLO: 2026-09-08 15:43 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINCIPER\QVANTUM QA\RITN\QA50 - COMMERCIAL, TWO HEAT PUMPS_2026-09-07 (DO TO GP1).DWG JONAS

Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-218	59

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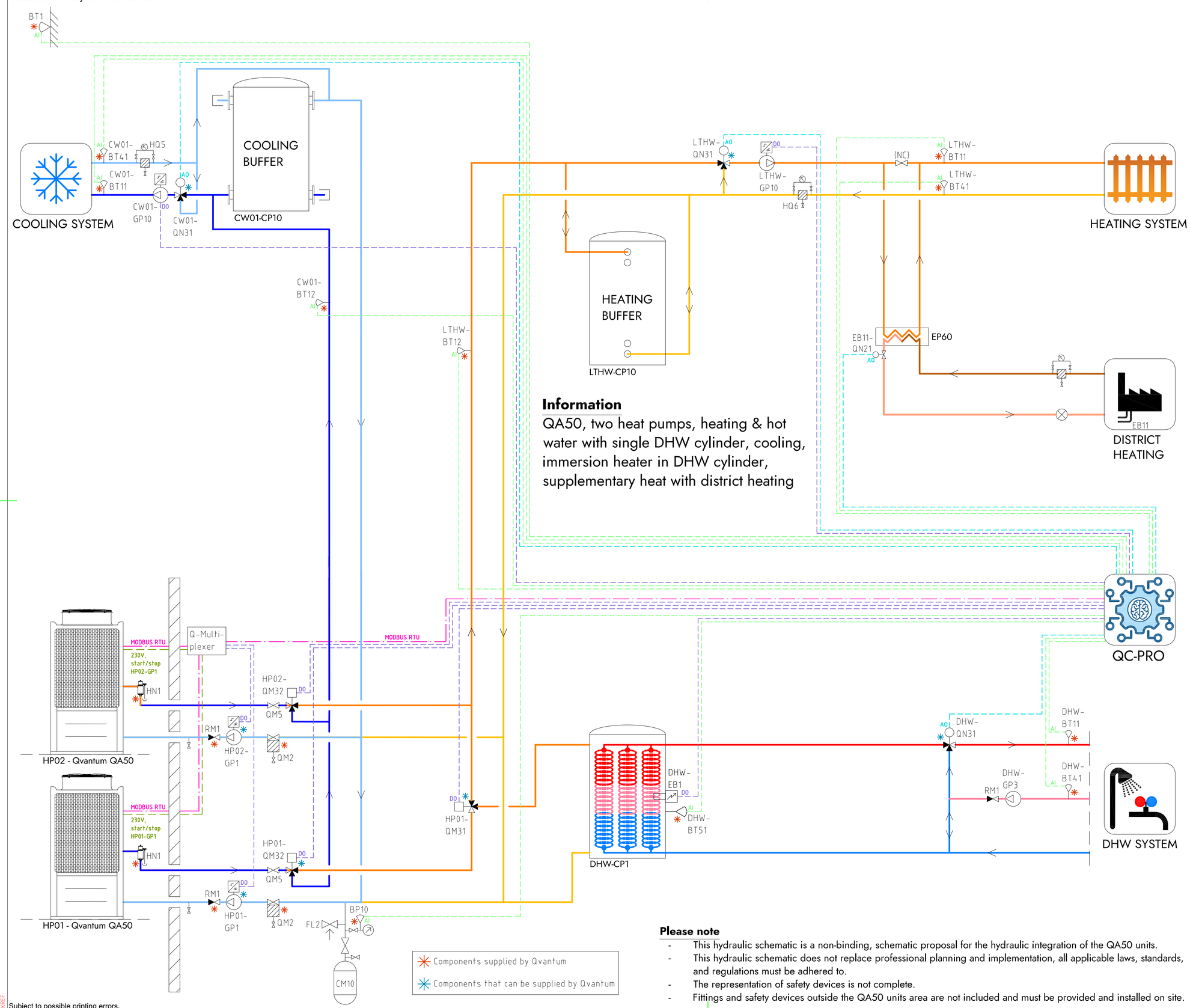
LAGER: SB11
XREF:
PLO: 2026-09-08 15:43 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINKLIPER\QVANTUM QA\RIT\QA50 - COMMERCIAL, TWO HEAT PUMPS_2026-09-07 TOO TO GP1.DWG JONAS

Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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Subject to possible printing errors.
LAGER: SB11
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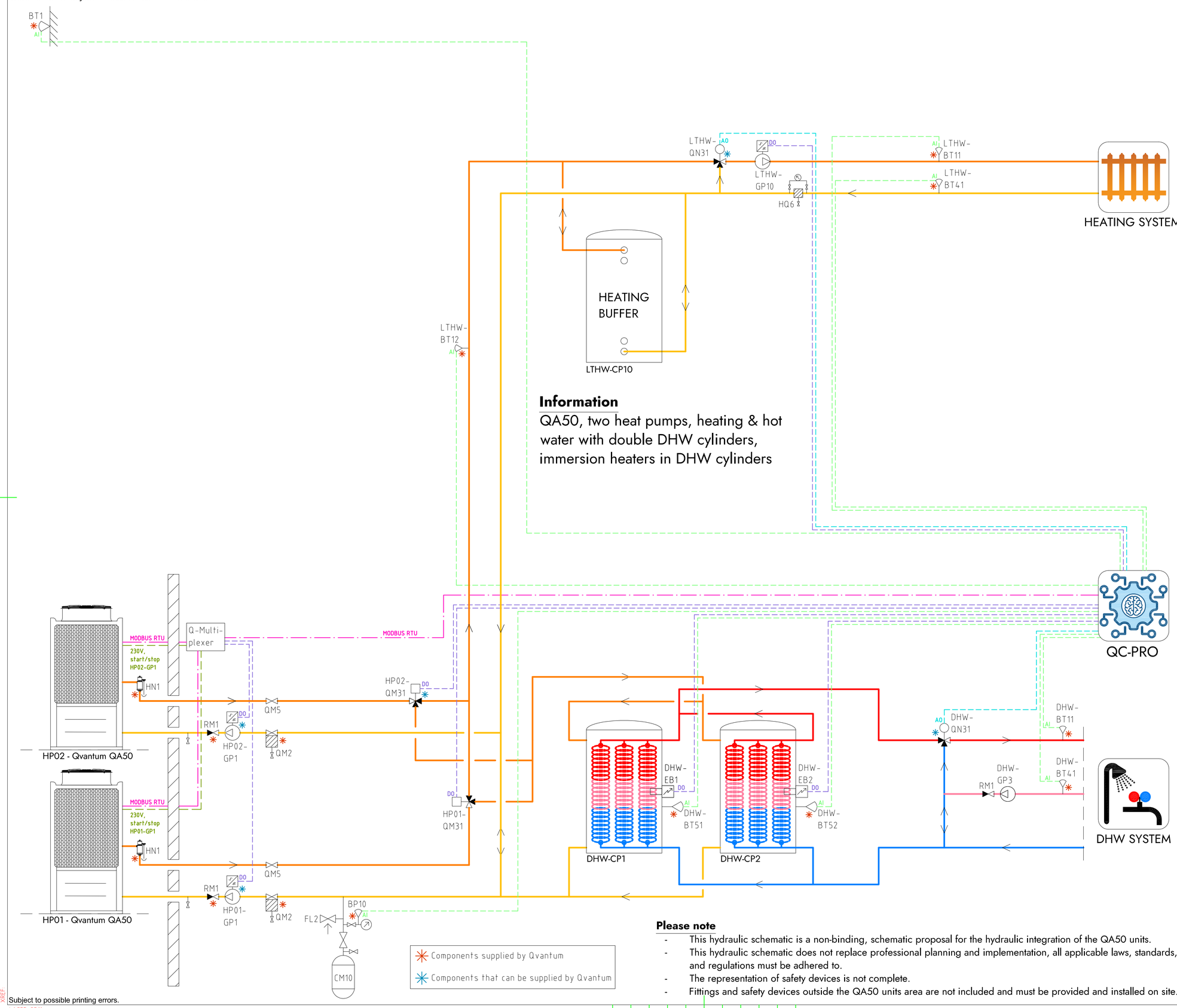
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

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HEAT PUMPS FOR SUSTAINABLE CITIES

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JE	QA50-50-8-220	61

Subject to possible printing errors.
LAGER: SB11
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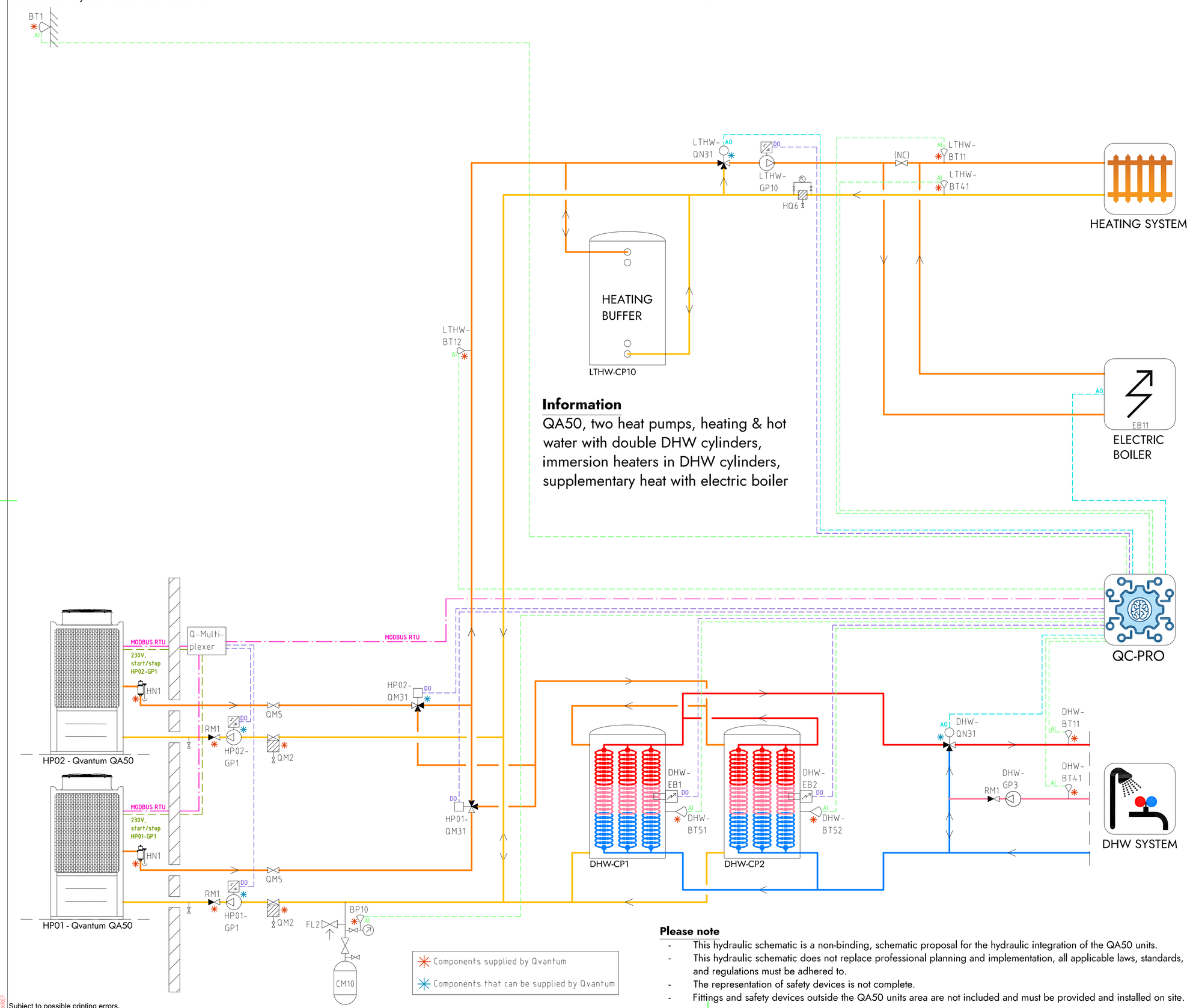
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-221	62

Subject to possible printing errors.
LAGER: SB11
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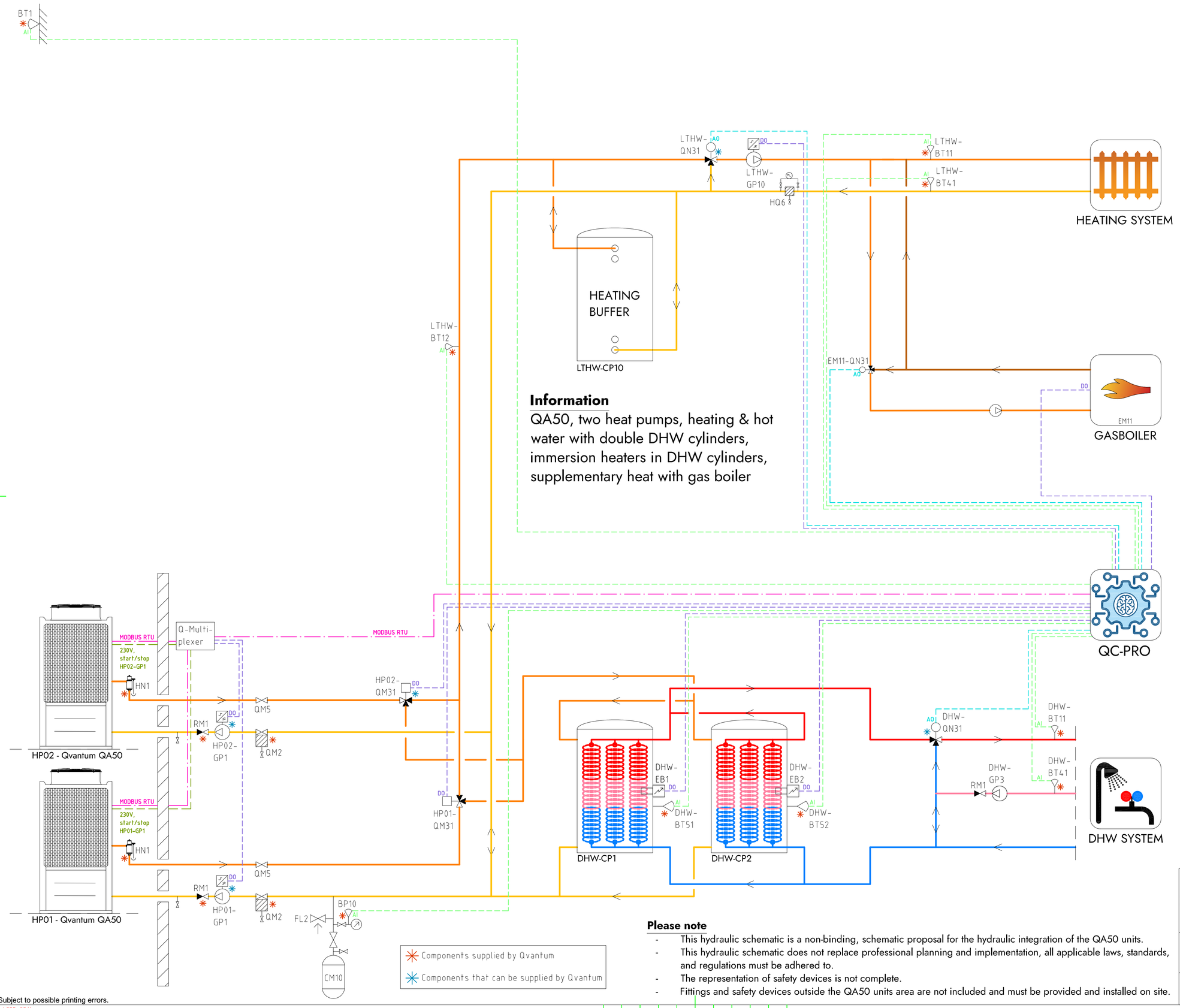
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-222	63

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LAGER: SB11
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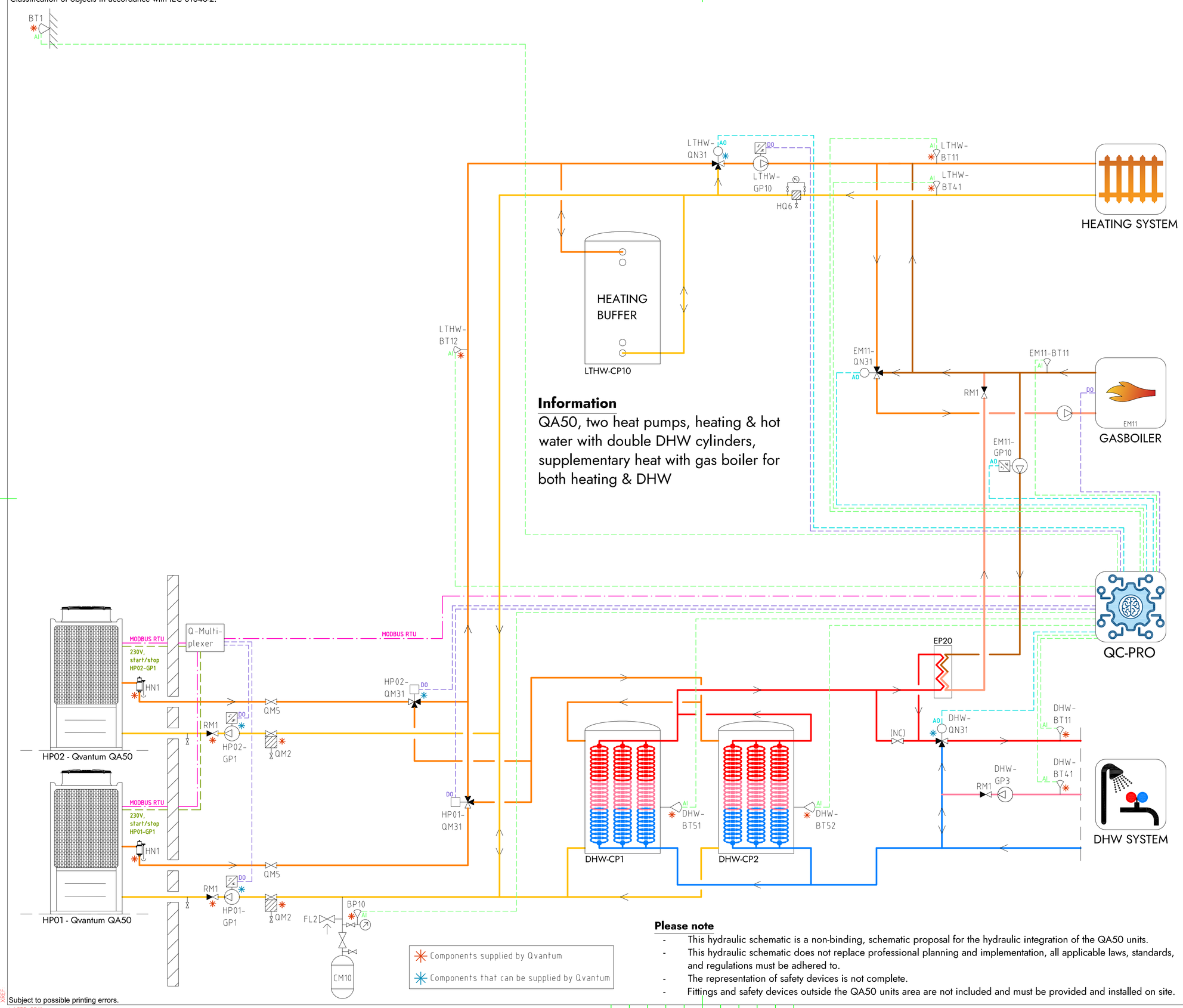
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, supplementary heat with gas boiler for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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JE	QA50-50-8-223	64

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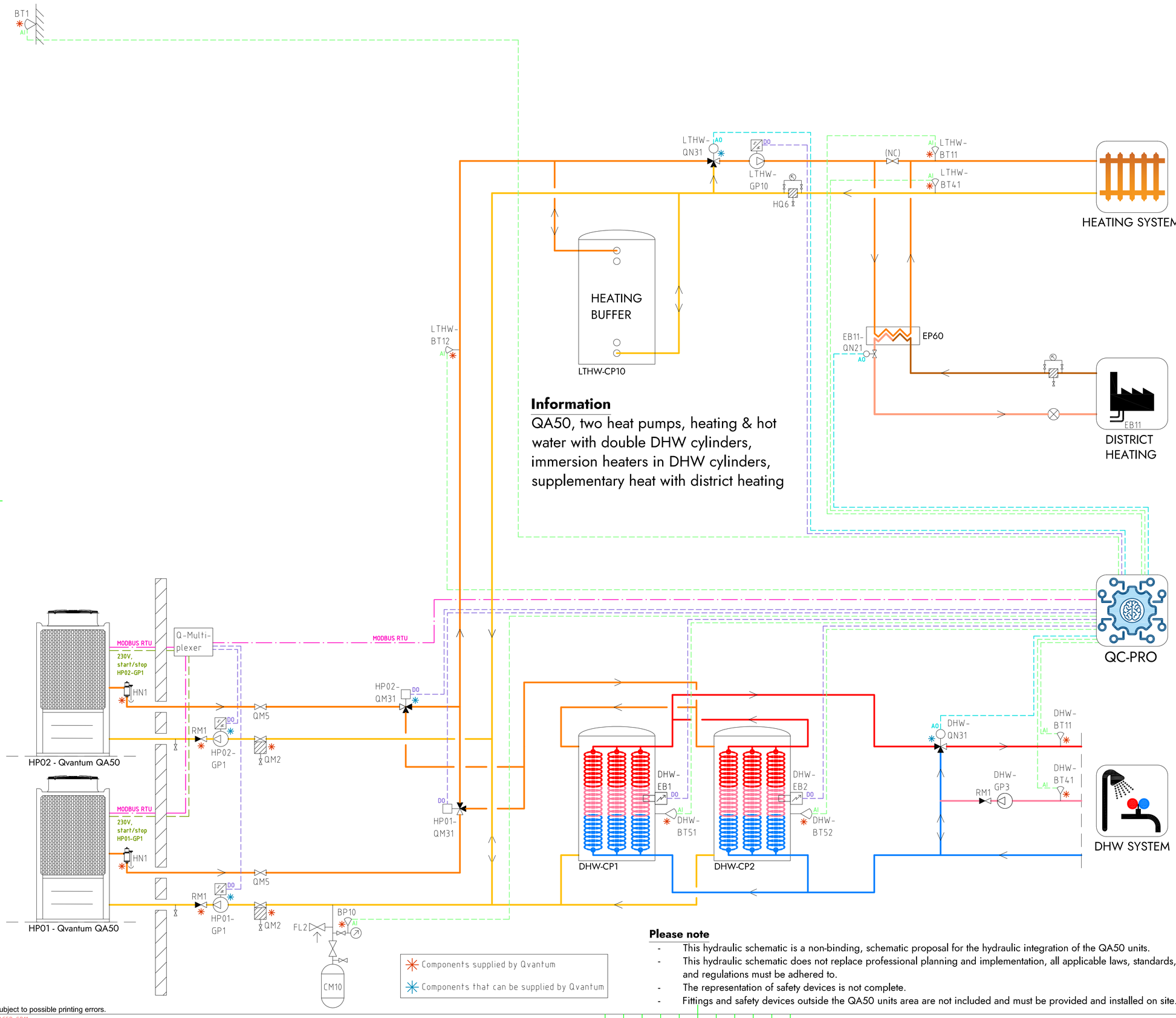
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-224	65

Subject to possible printing errors.
LAGER: SB11
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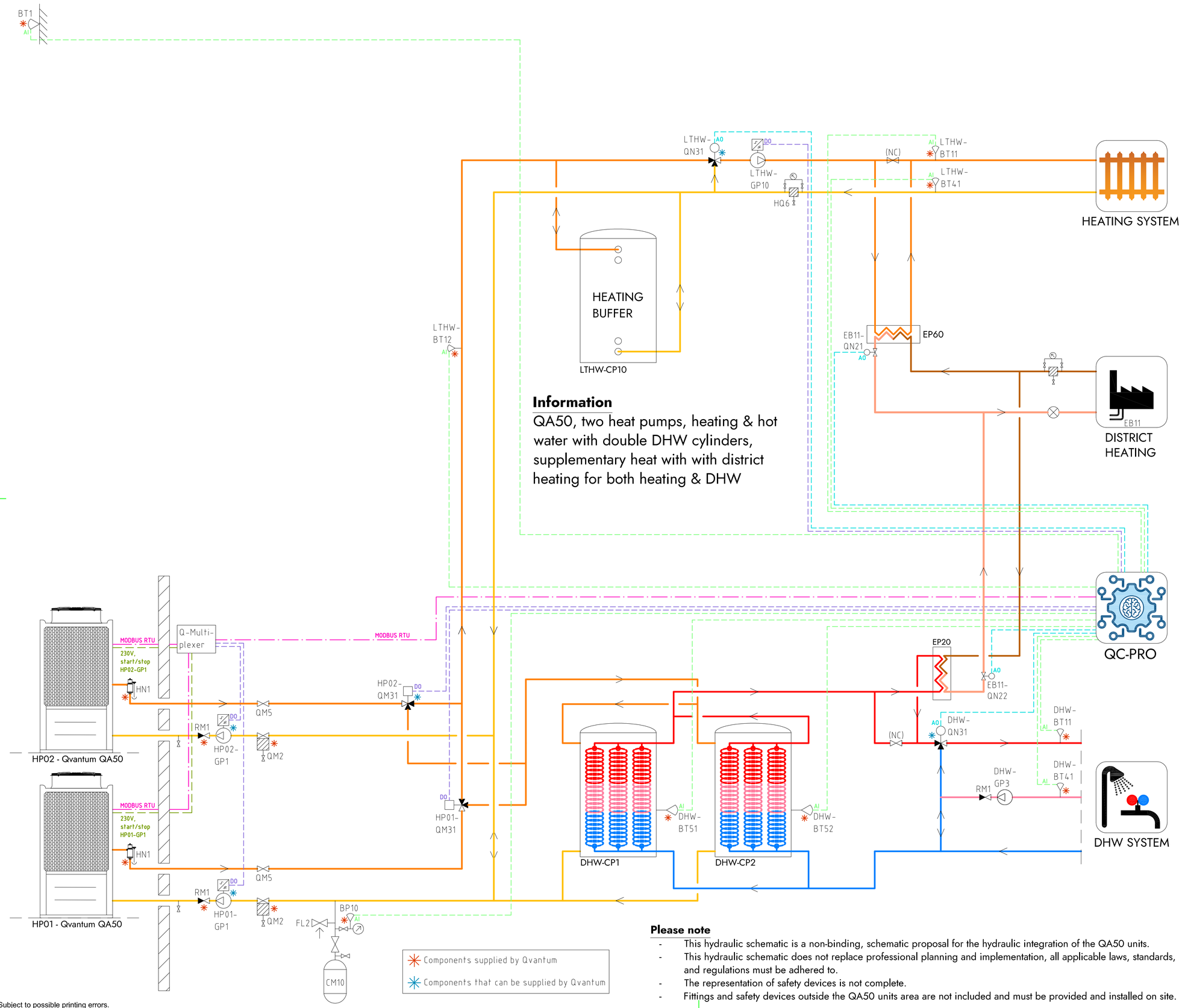
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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Subject to possible printing errors.
LAGER: SB11
XREF:
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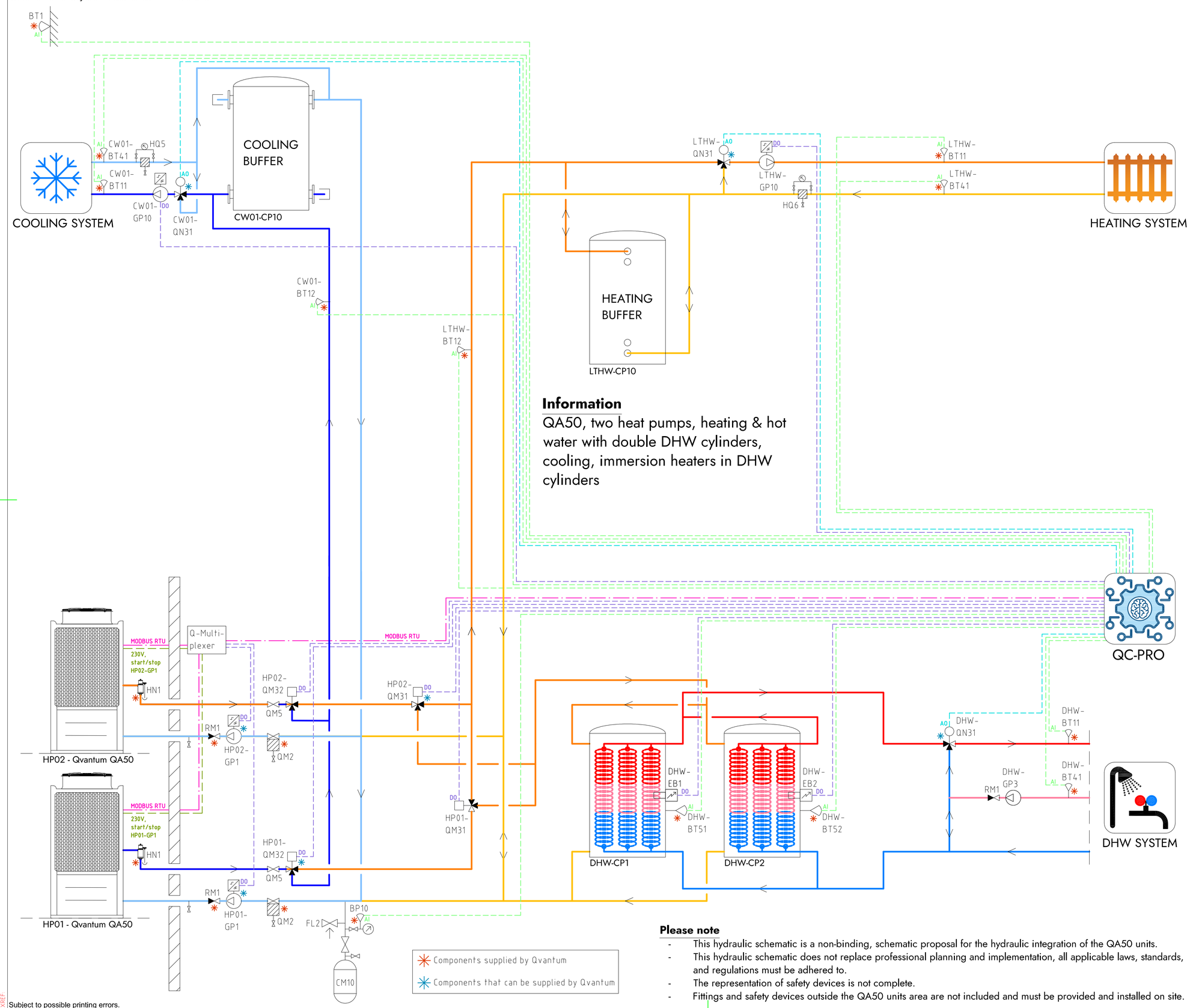
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders

Please note

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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-226	67

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LAGER: SB11
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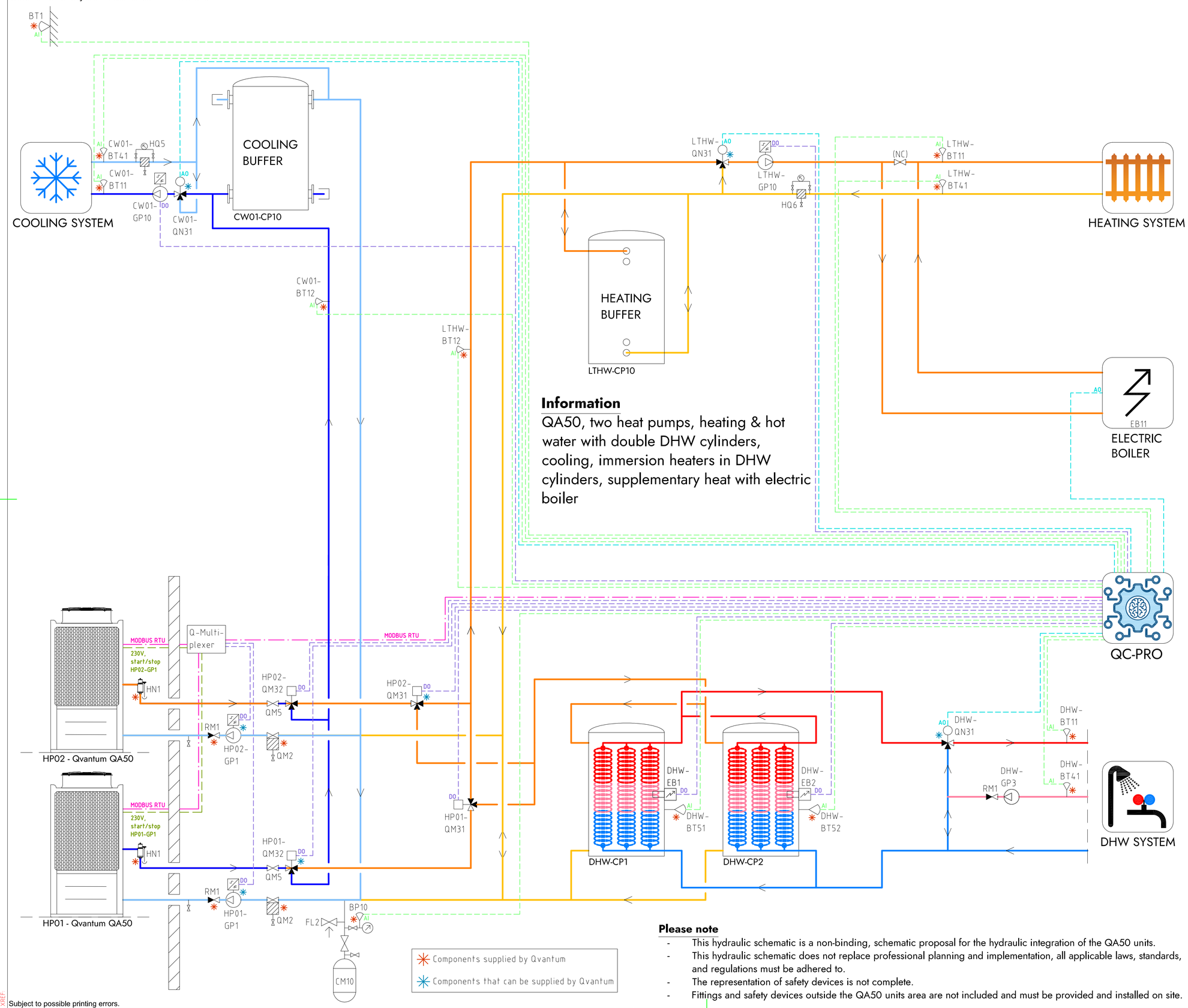
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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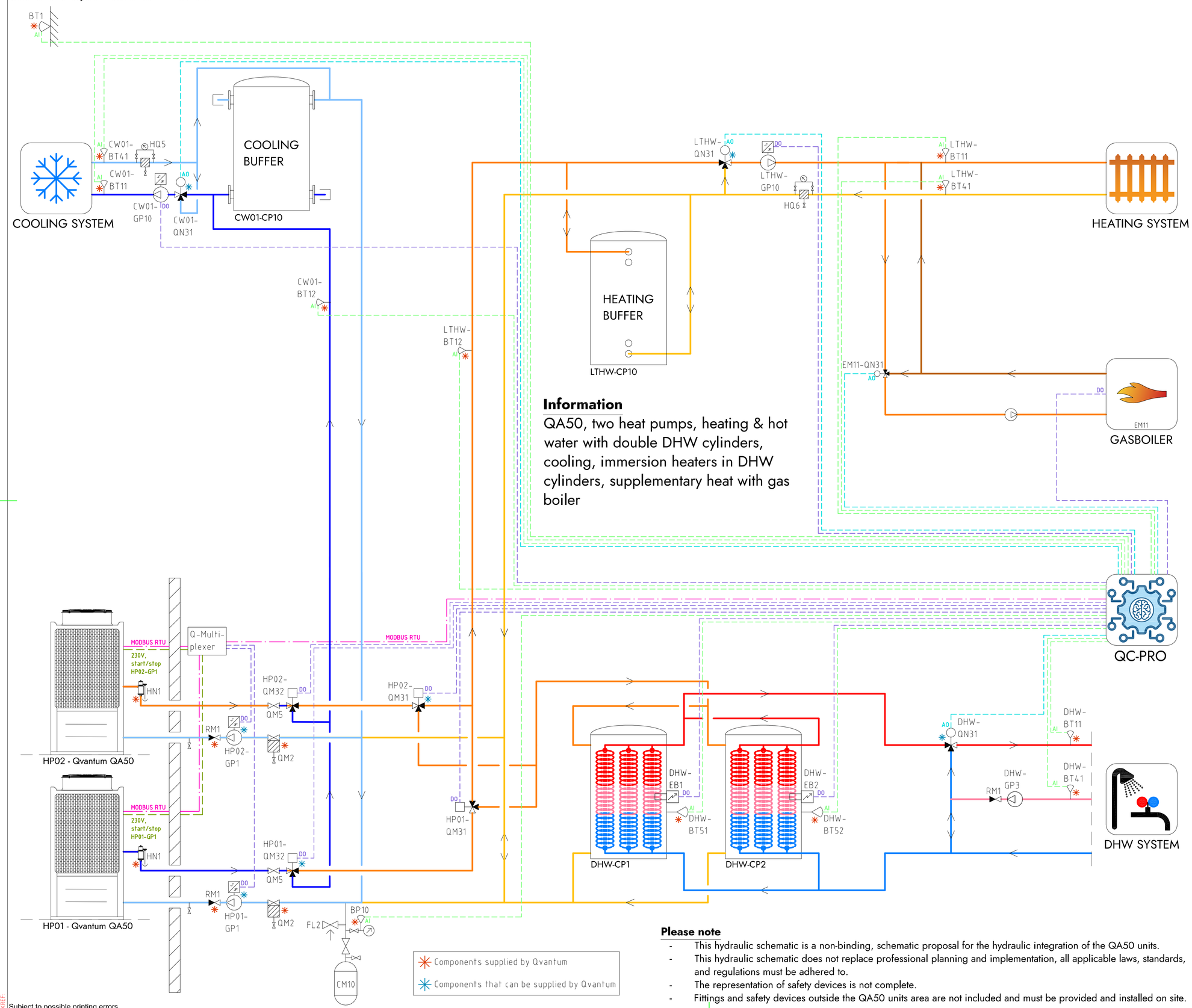
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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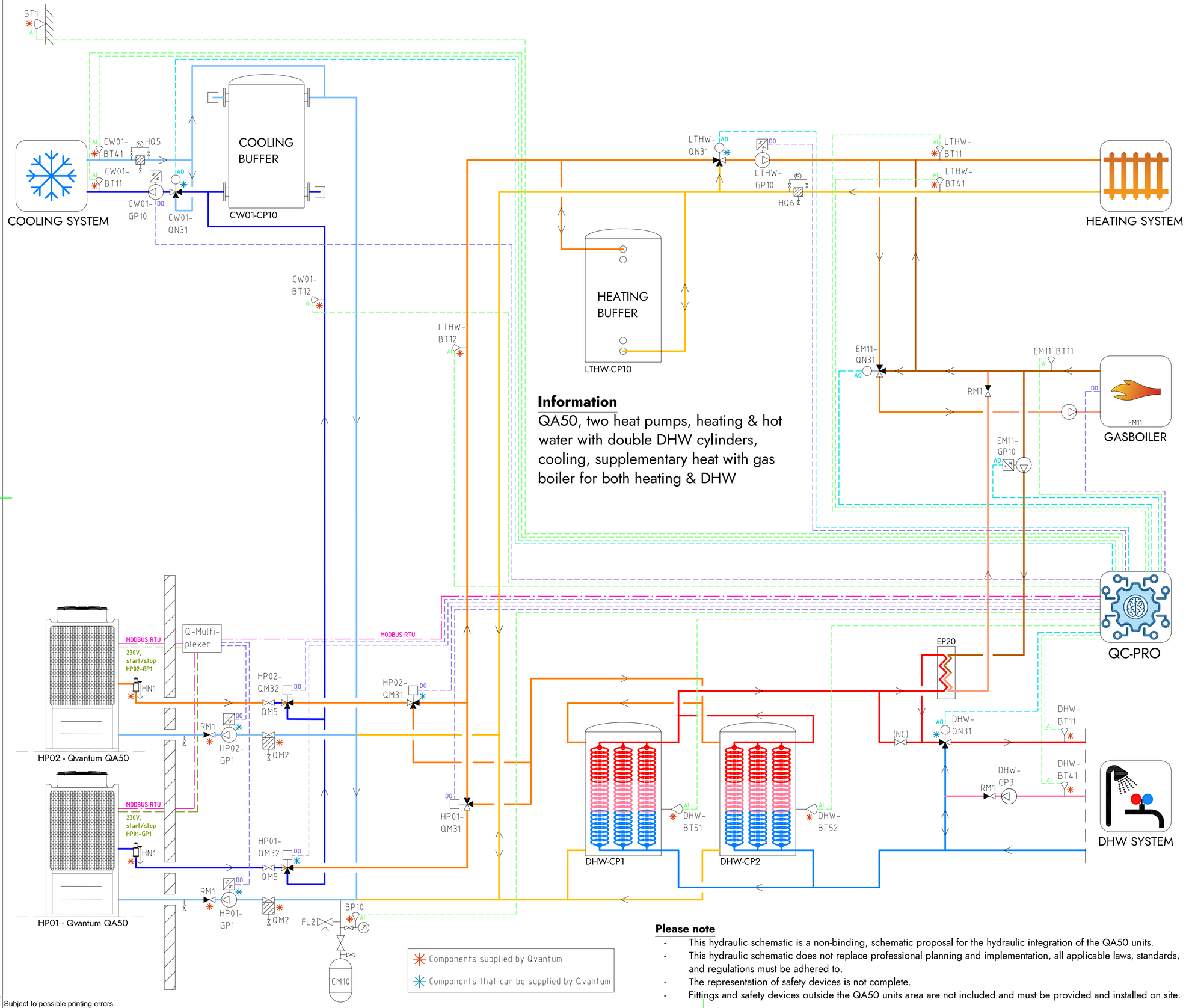
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with gas boiler for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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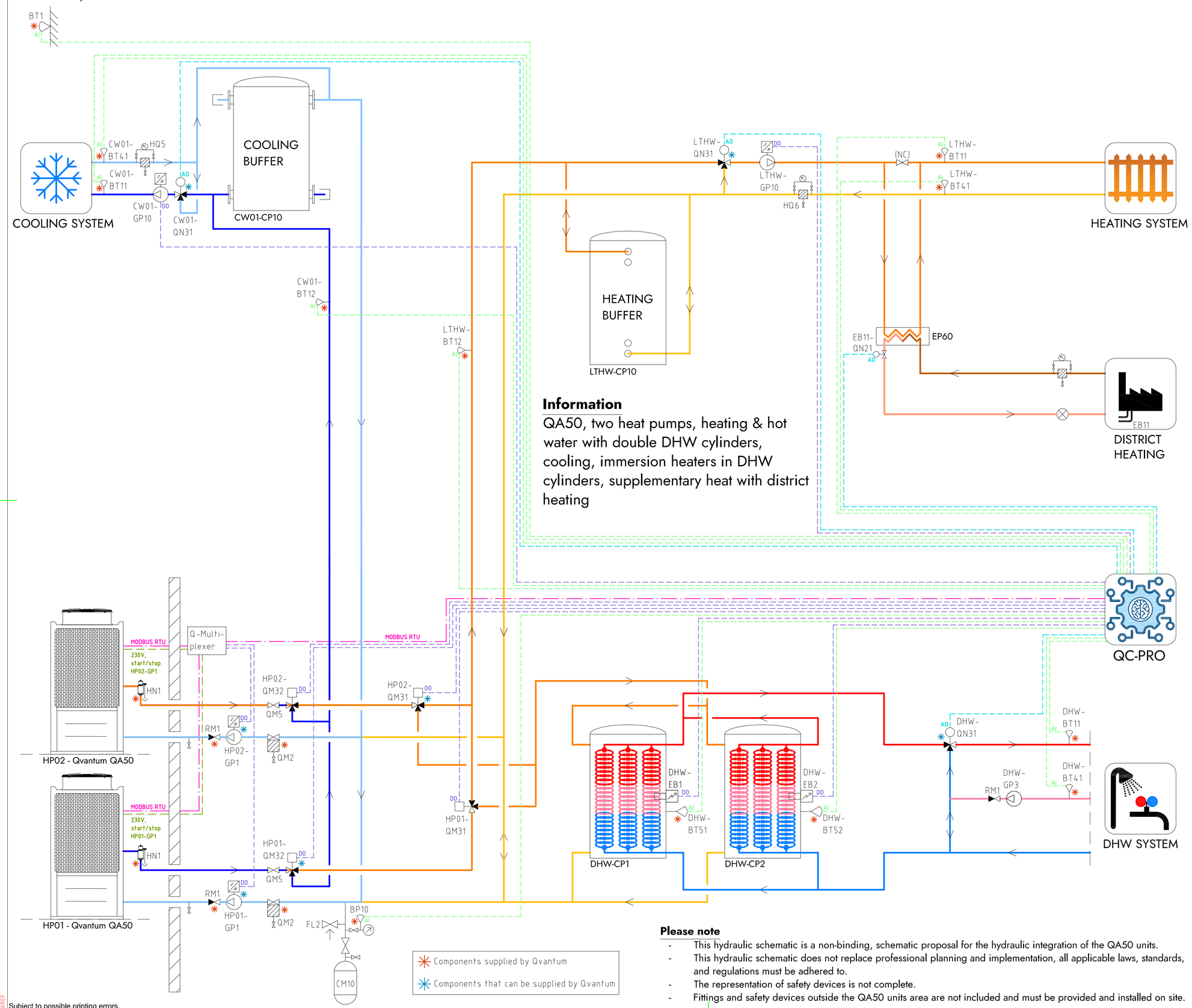
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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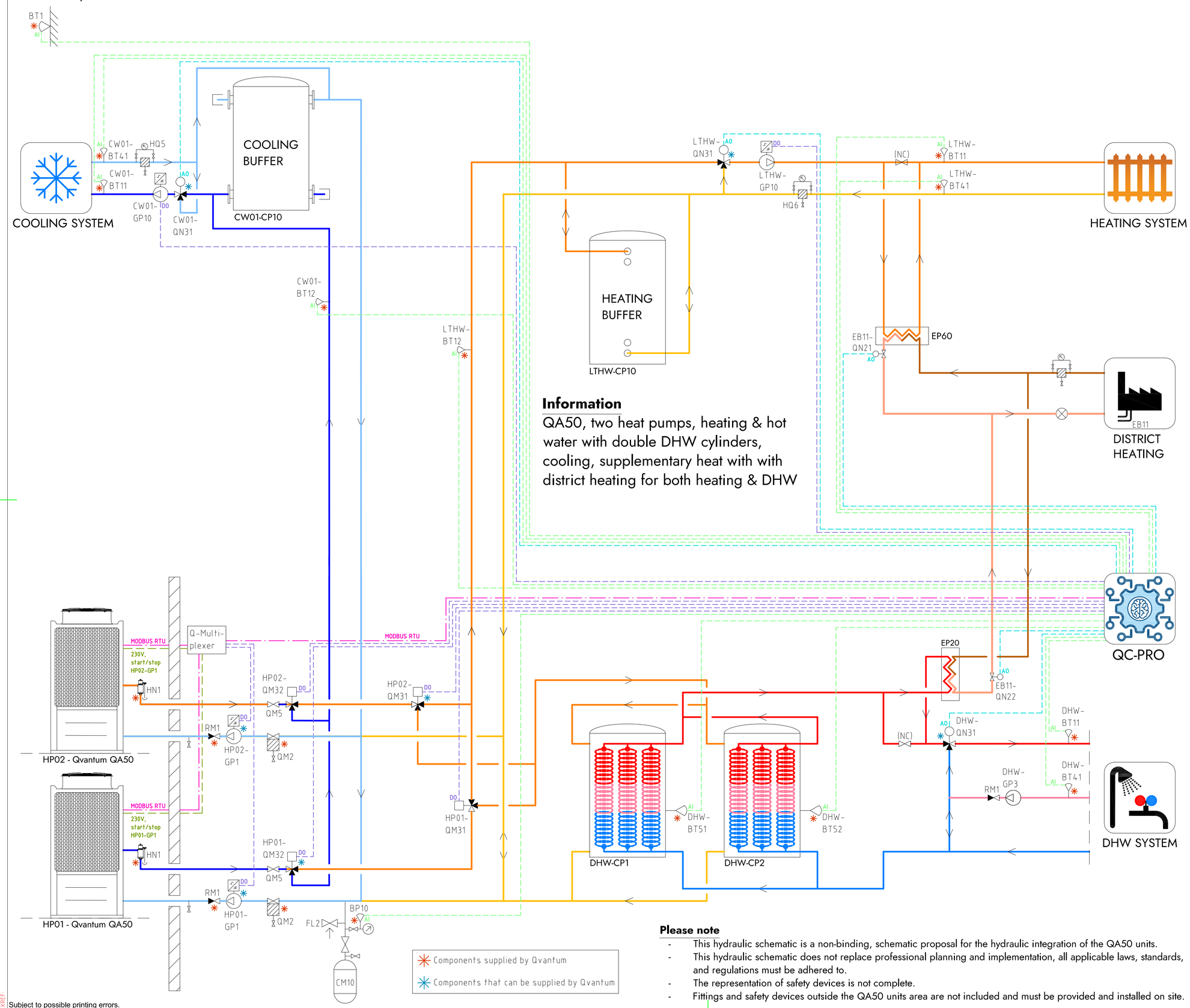
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with with district heating for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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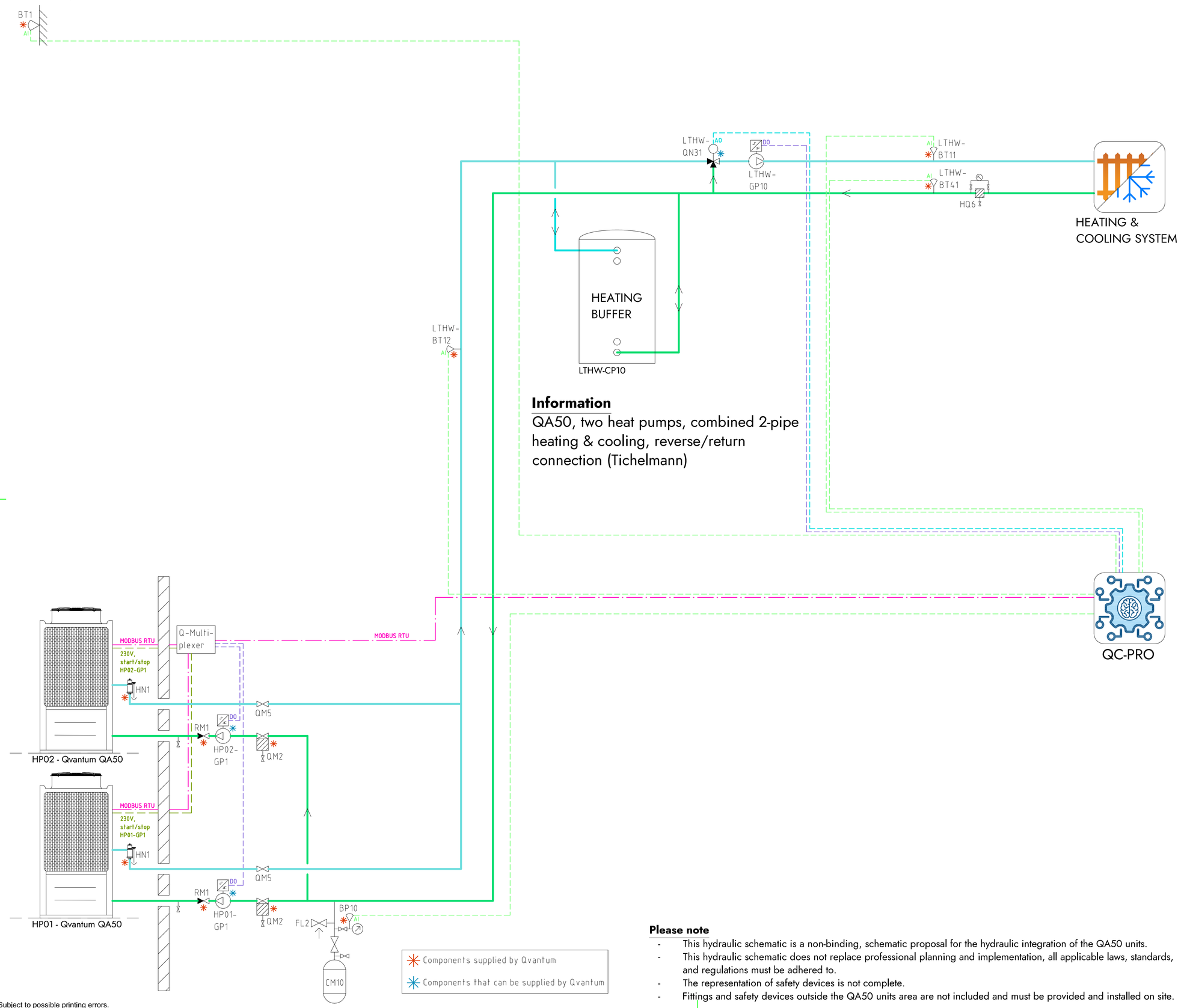
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann)

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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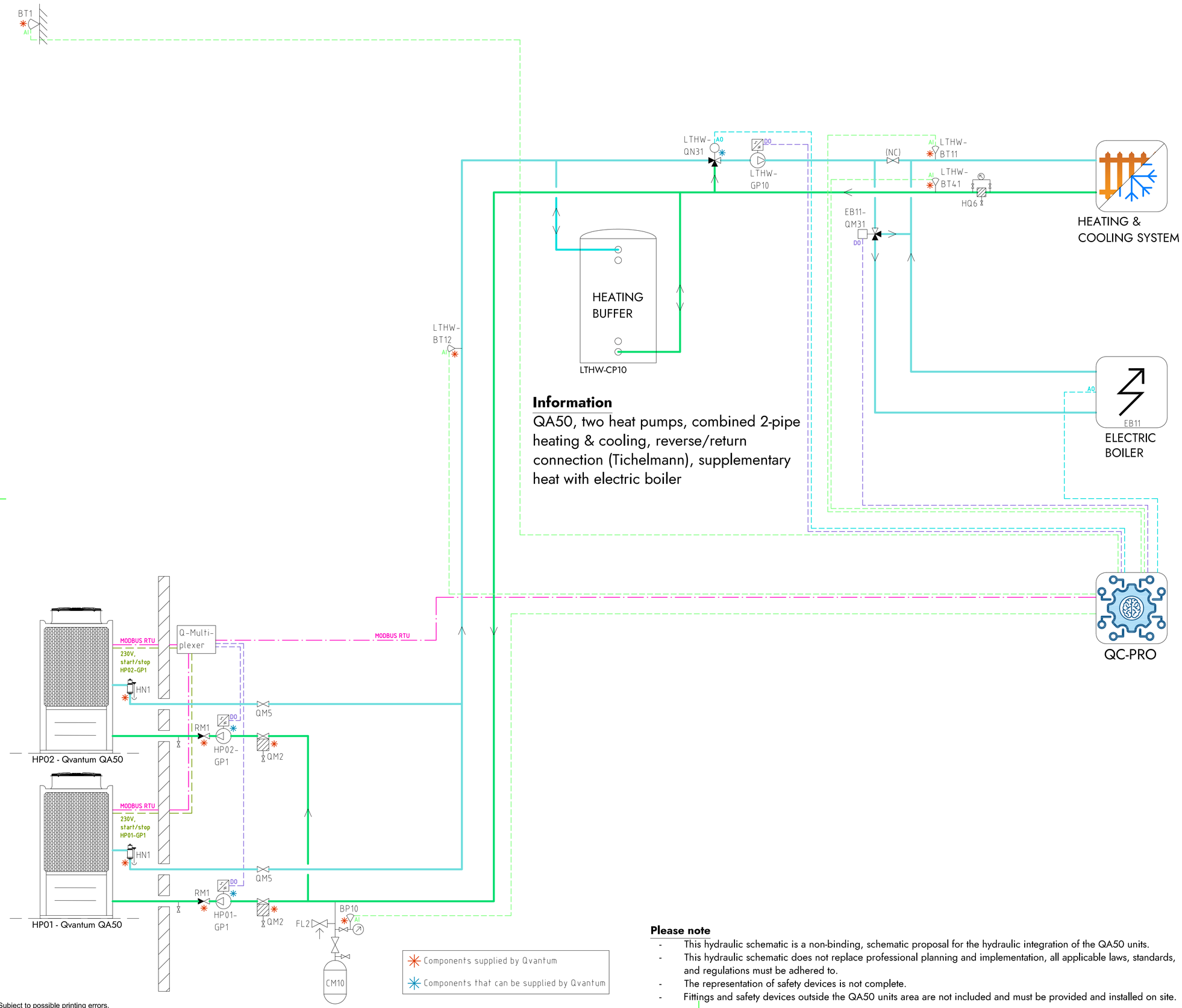
Classification of objects in accordance with IEC 81346-2.



Information

QA50, two heat pumps, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann), supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2

SYSTEM LTHW

EB11	Electric boiler
EB11-QM31	Switching valve, electric boiler
LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM QA50
HYDRAULIC SCHEMATICS
solutions with three heat pumps

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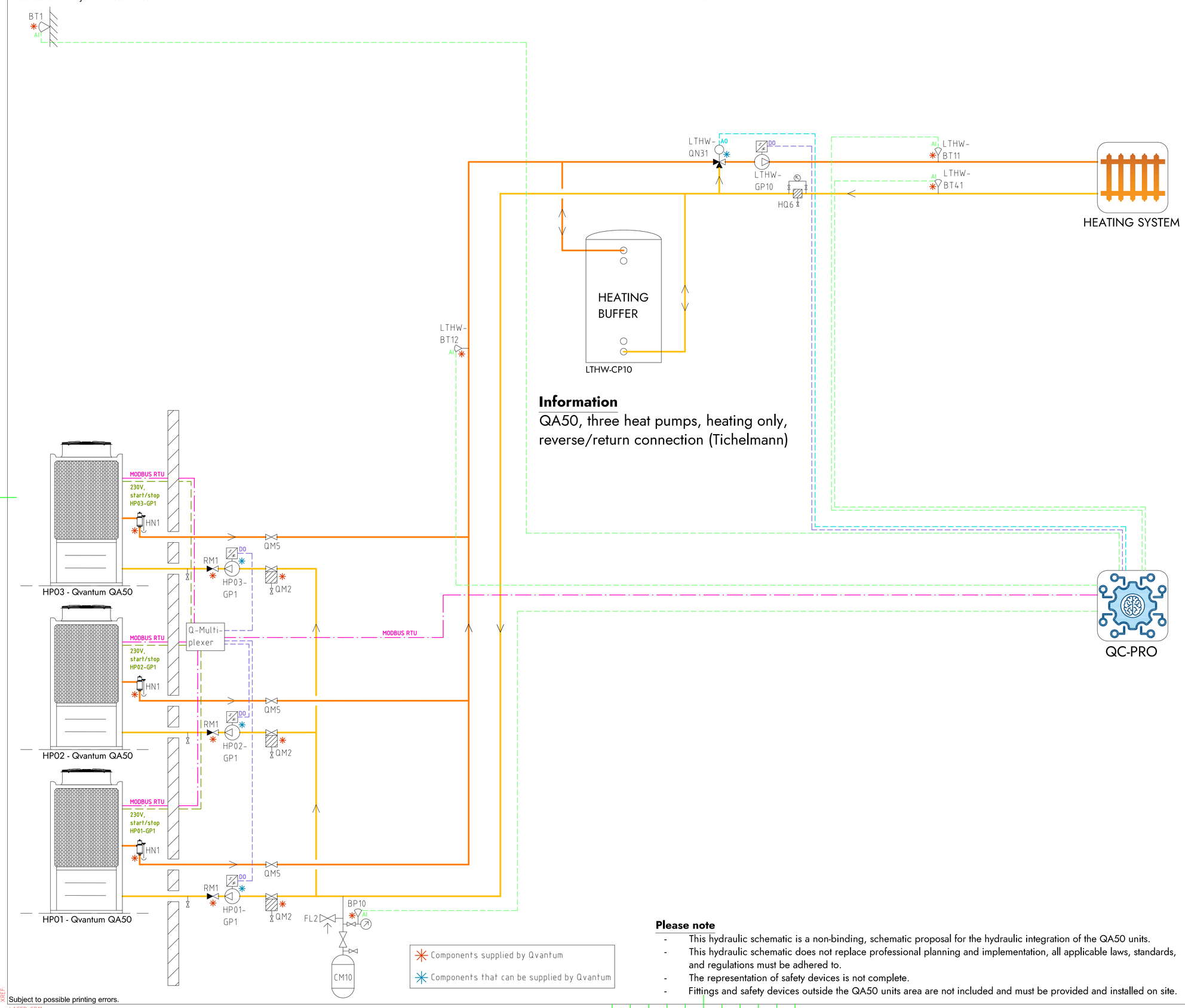

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-300	76

Subject to possible printing errors.
XREF:
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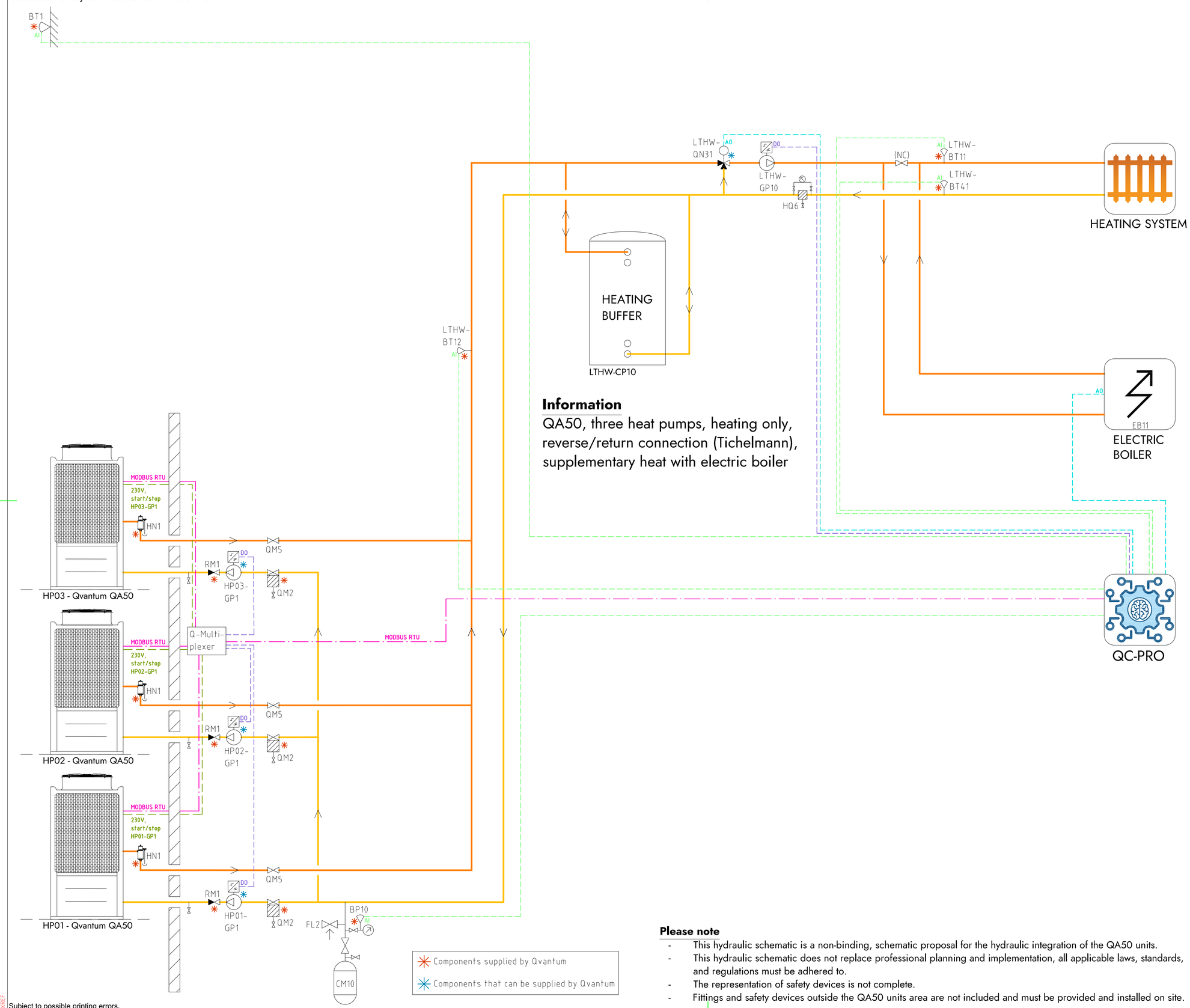
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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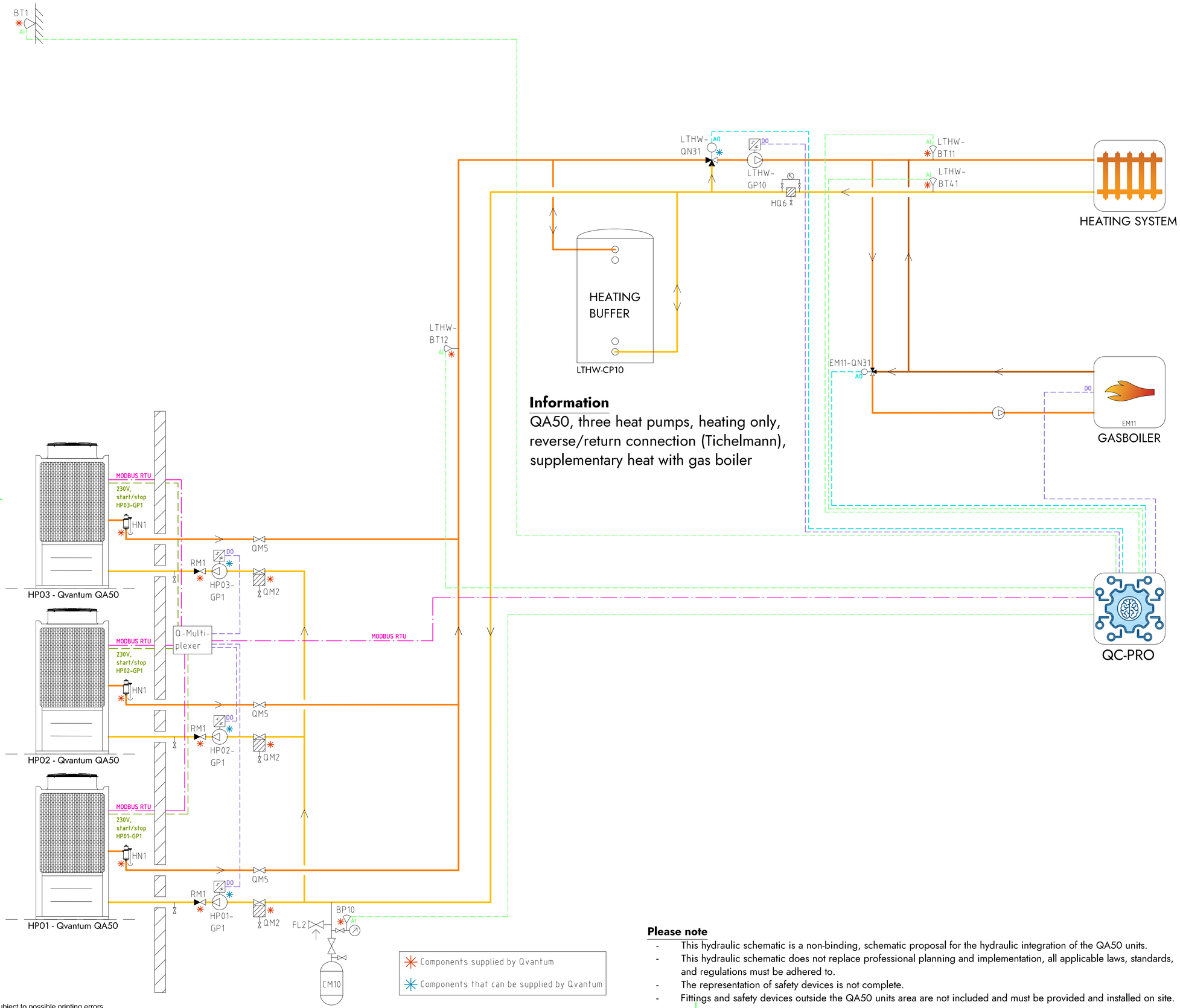
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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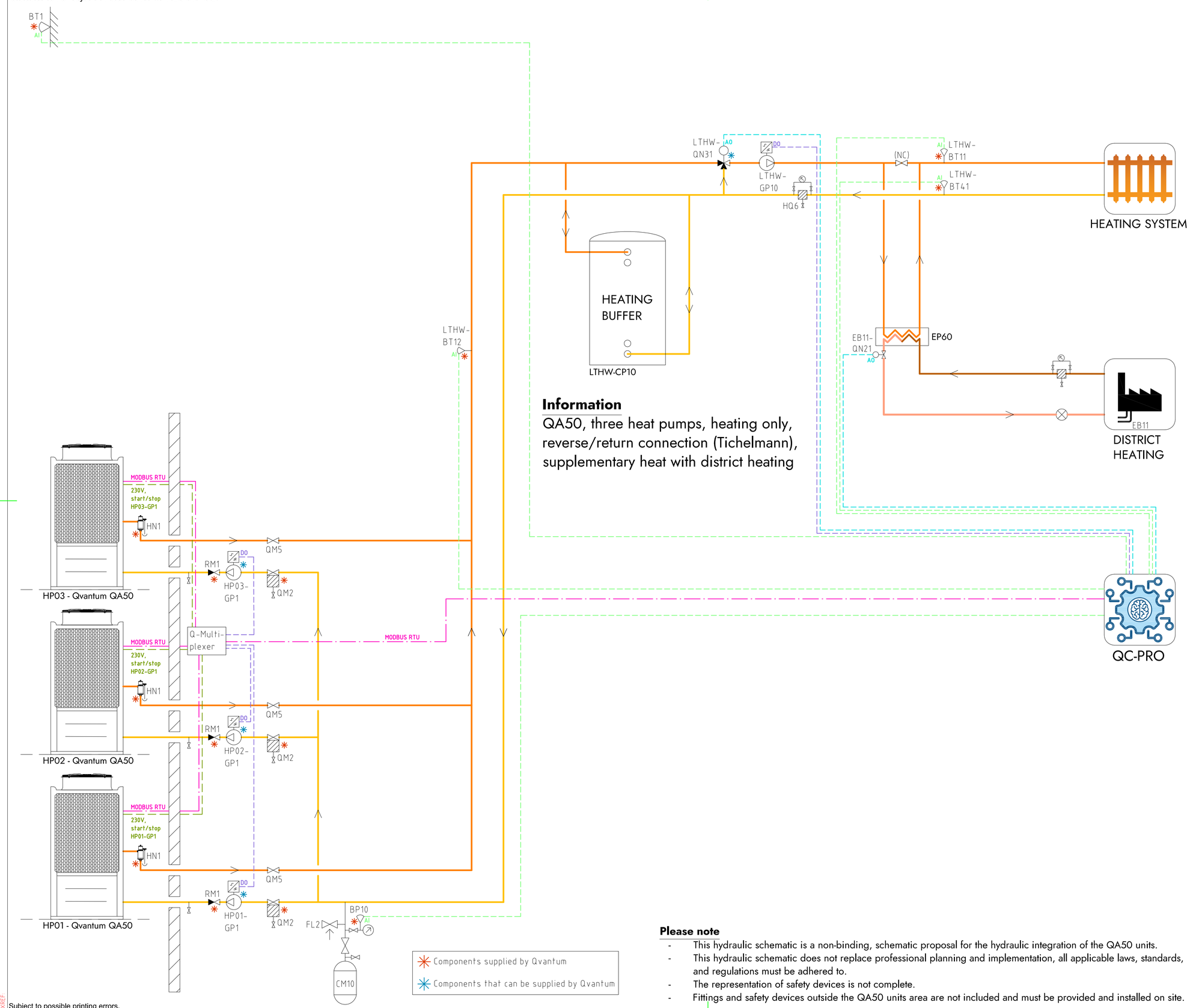
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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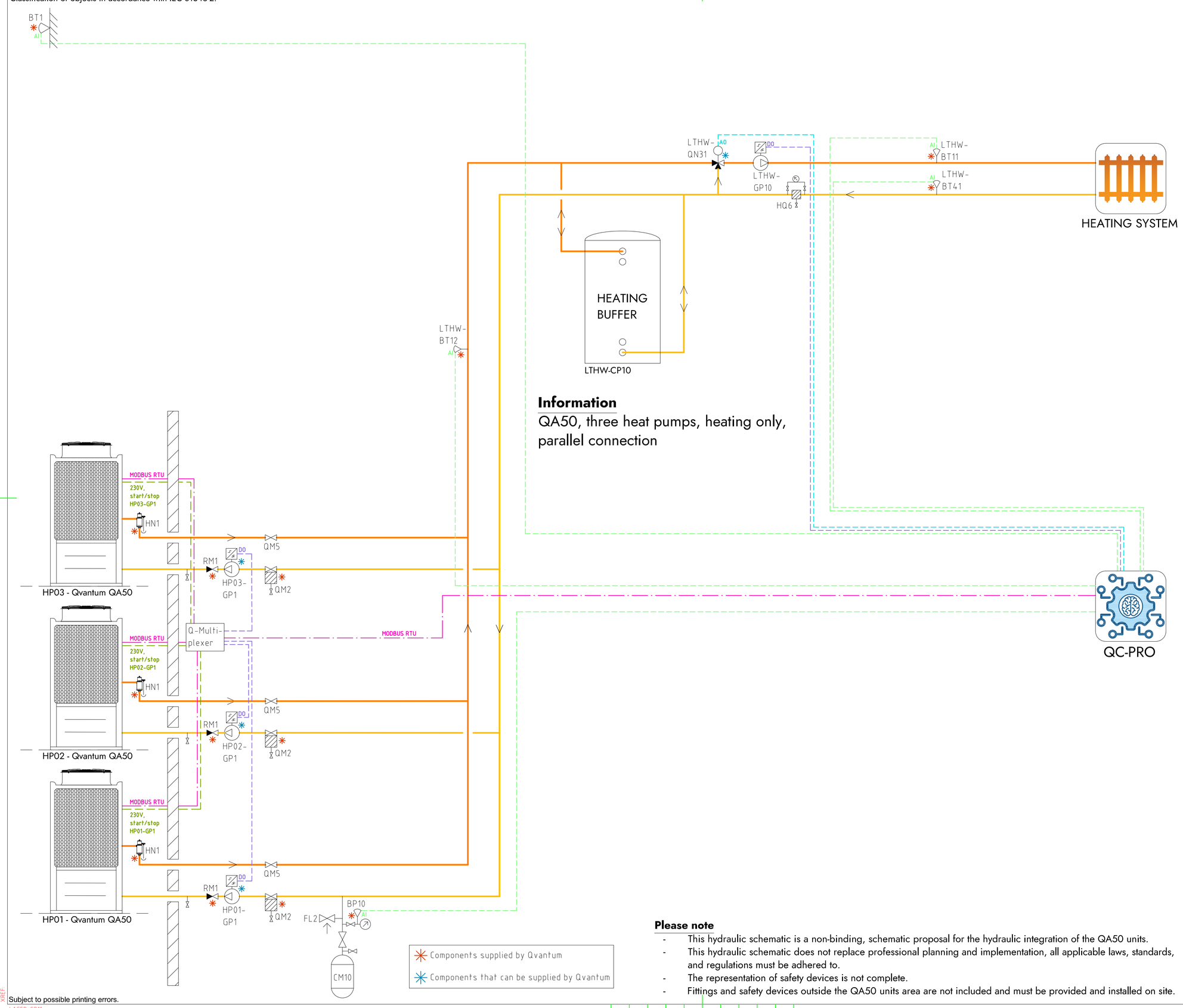

Information

QA50, three heat pumps, heating only, parallel connection

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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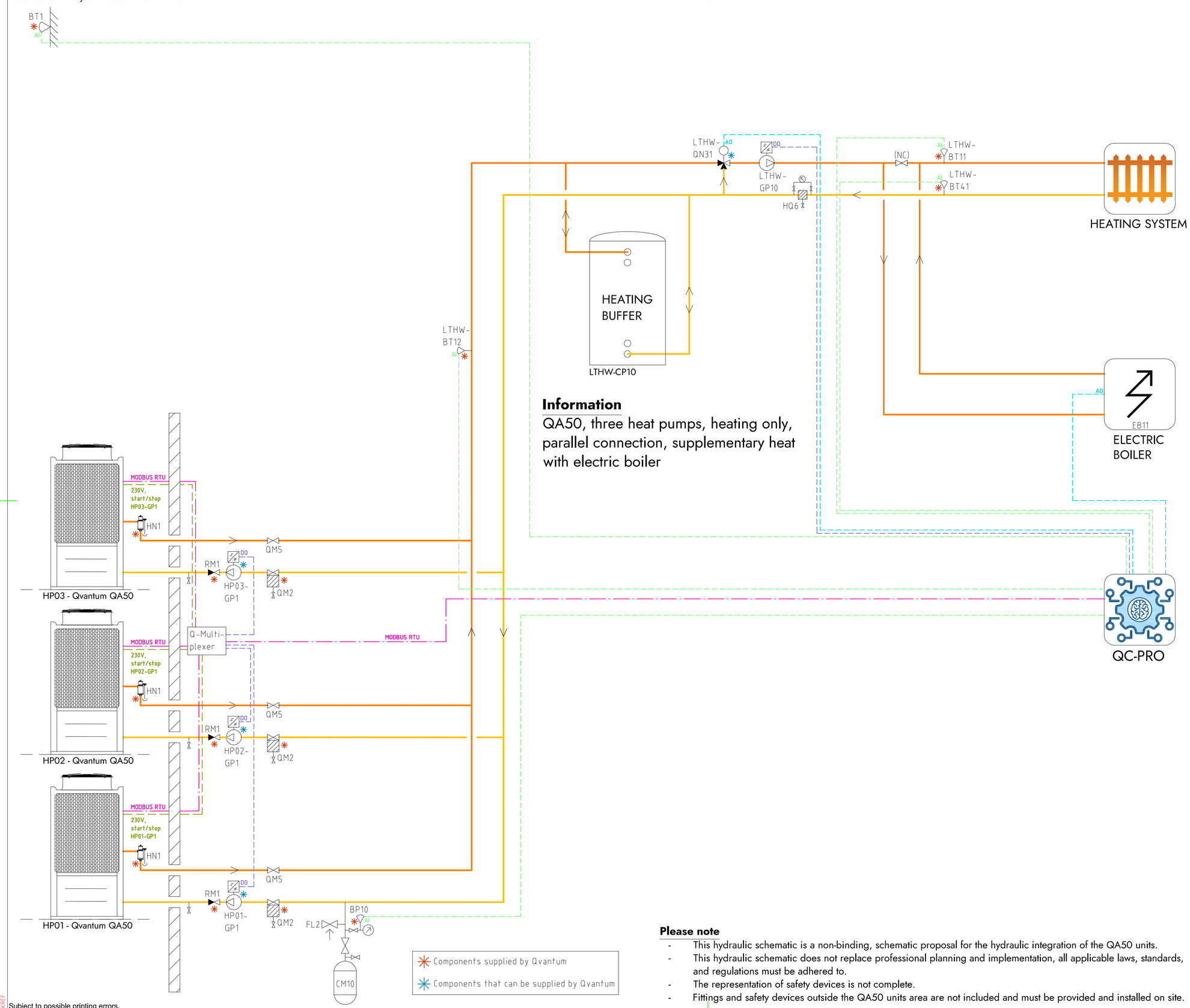
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, parallel connection, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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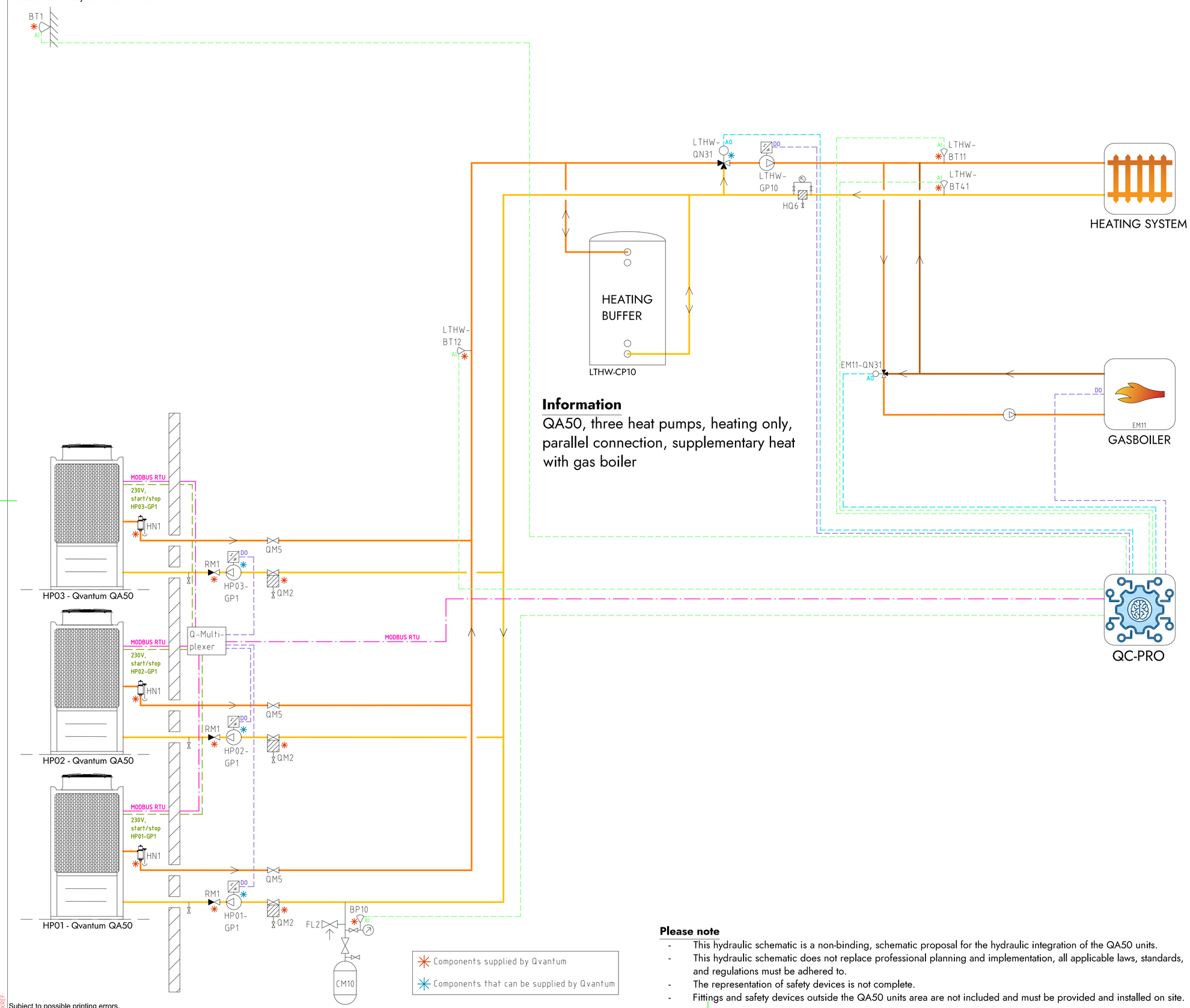
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, parallel connection, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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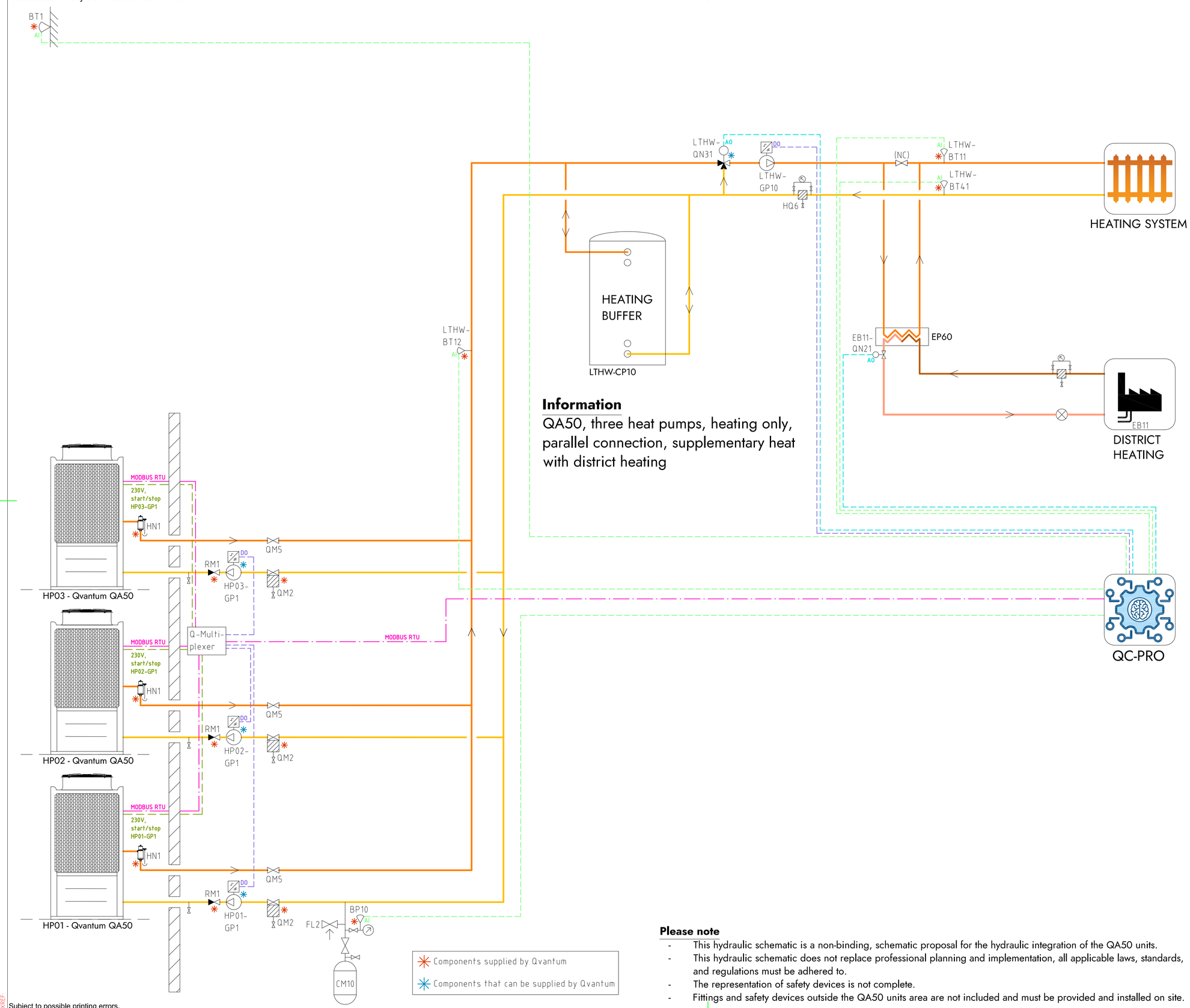
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating only, parallel connection, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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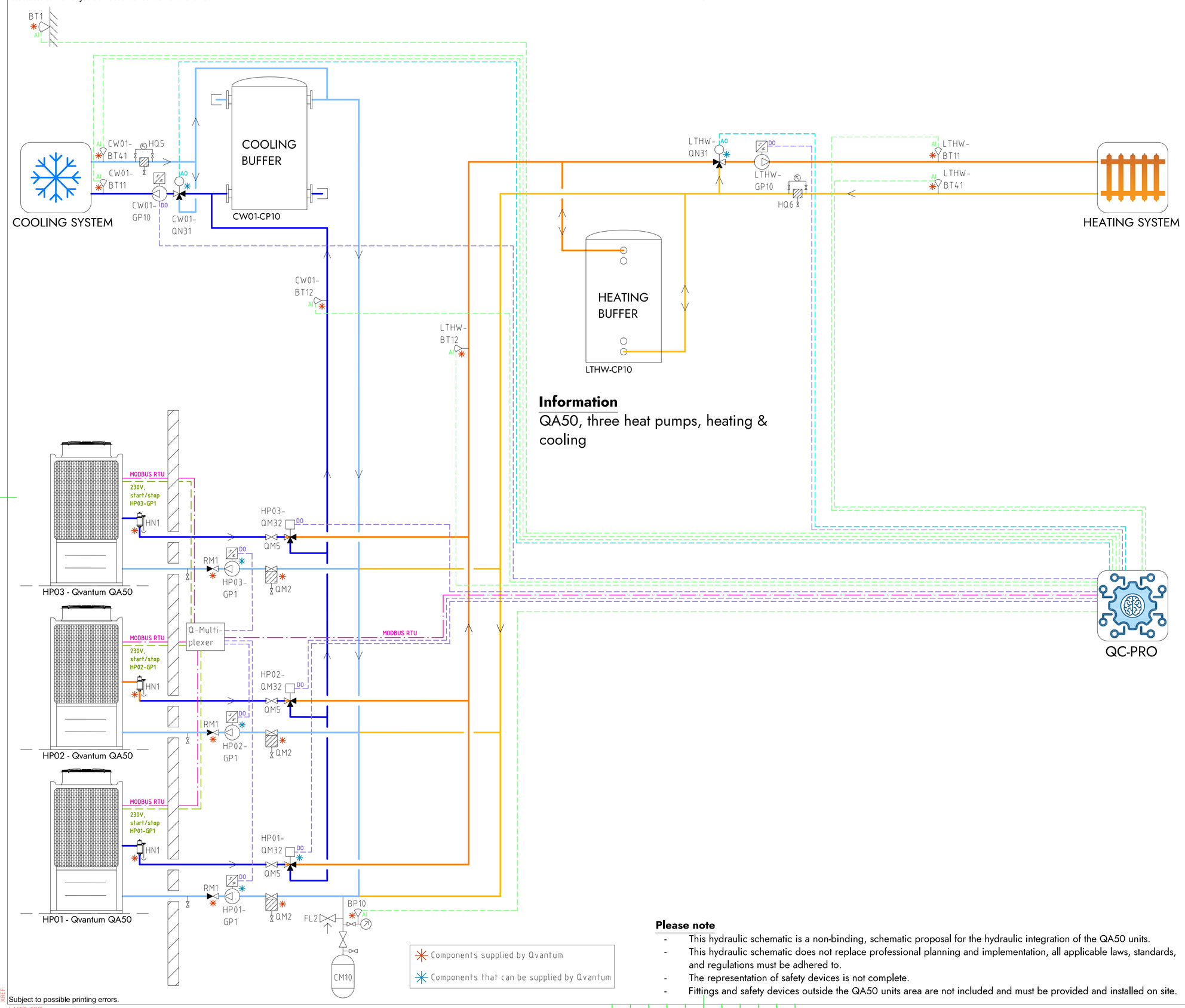
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & cooling

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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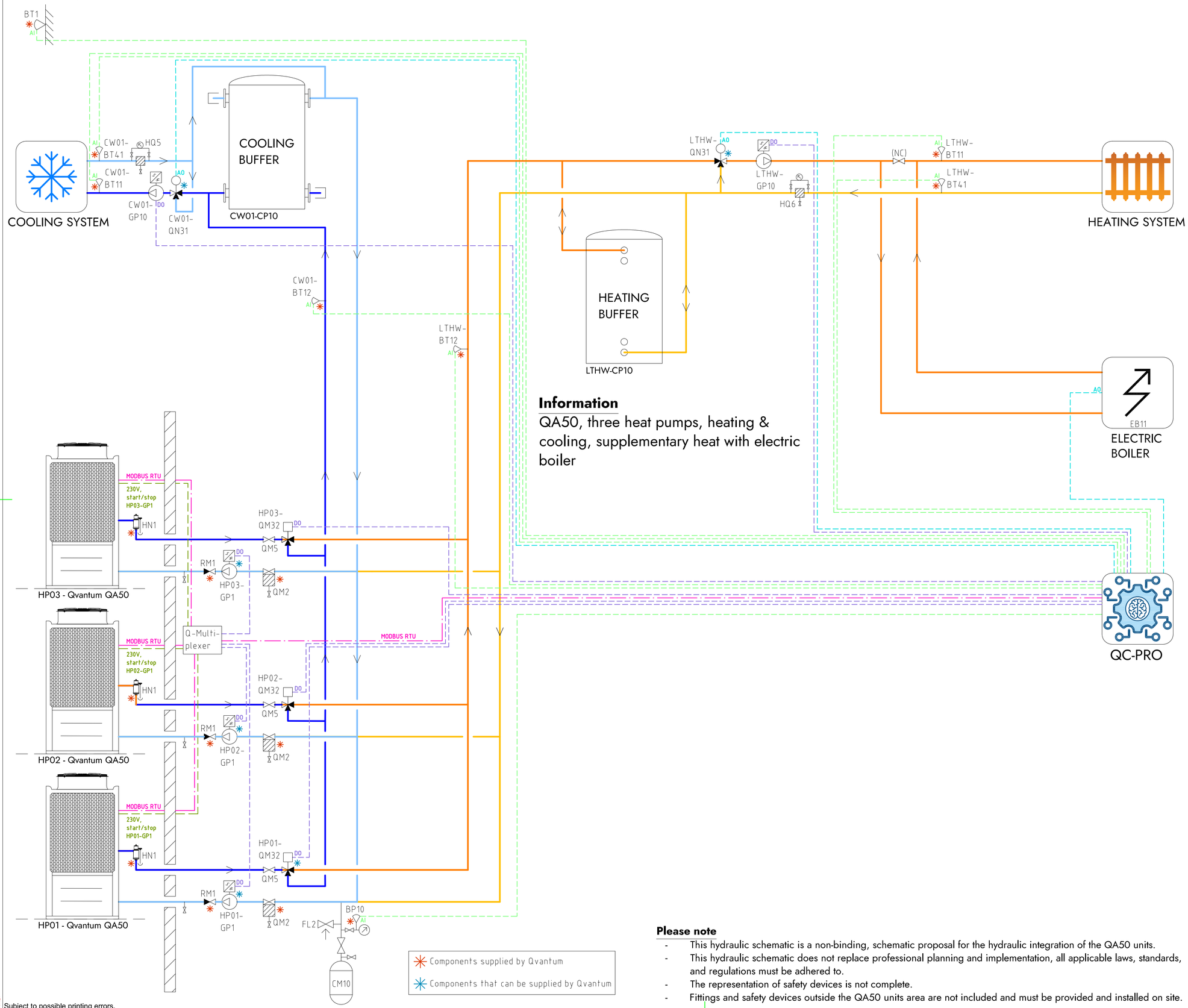
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & cooling, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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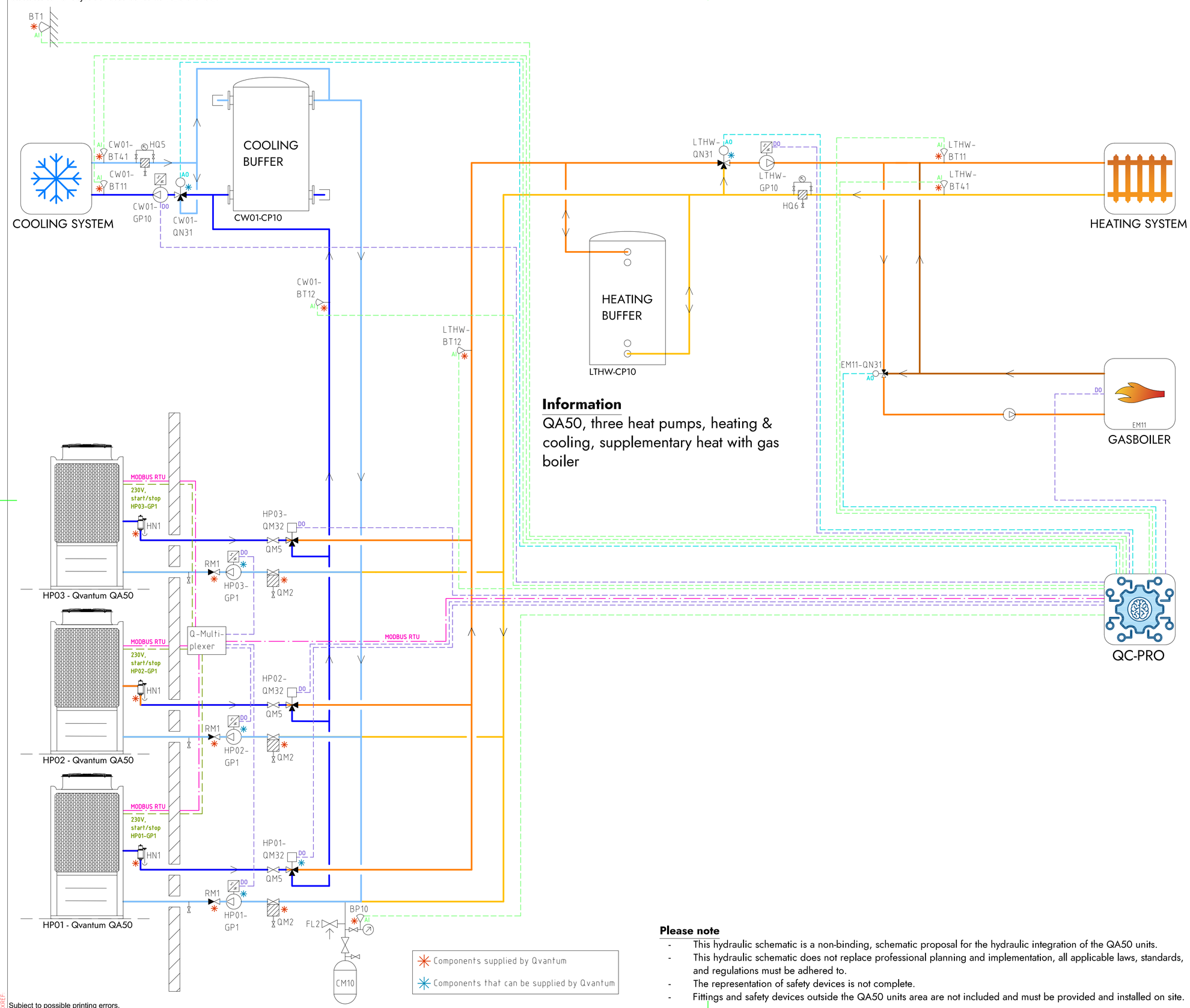
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & cooling, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-310	86

Subject to possible printing errors.
LAGER: SB11
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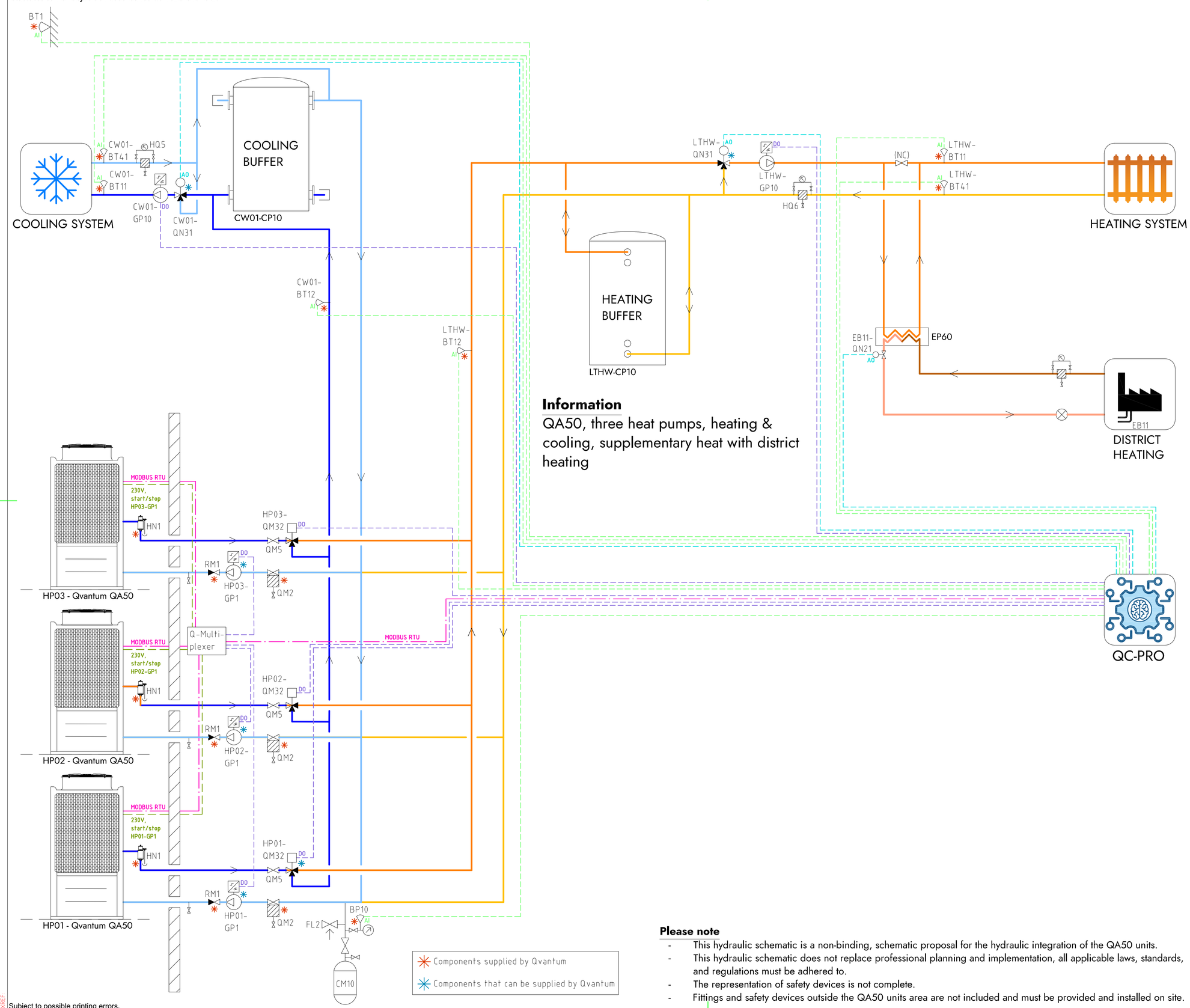
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & cooling, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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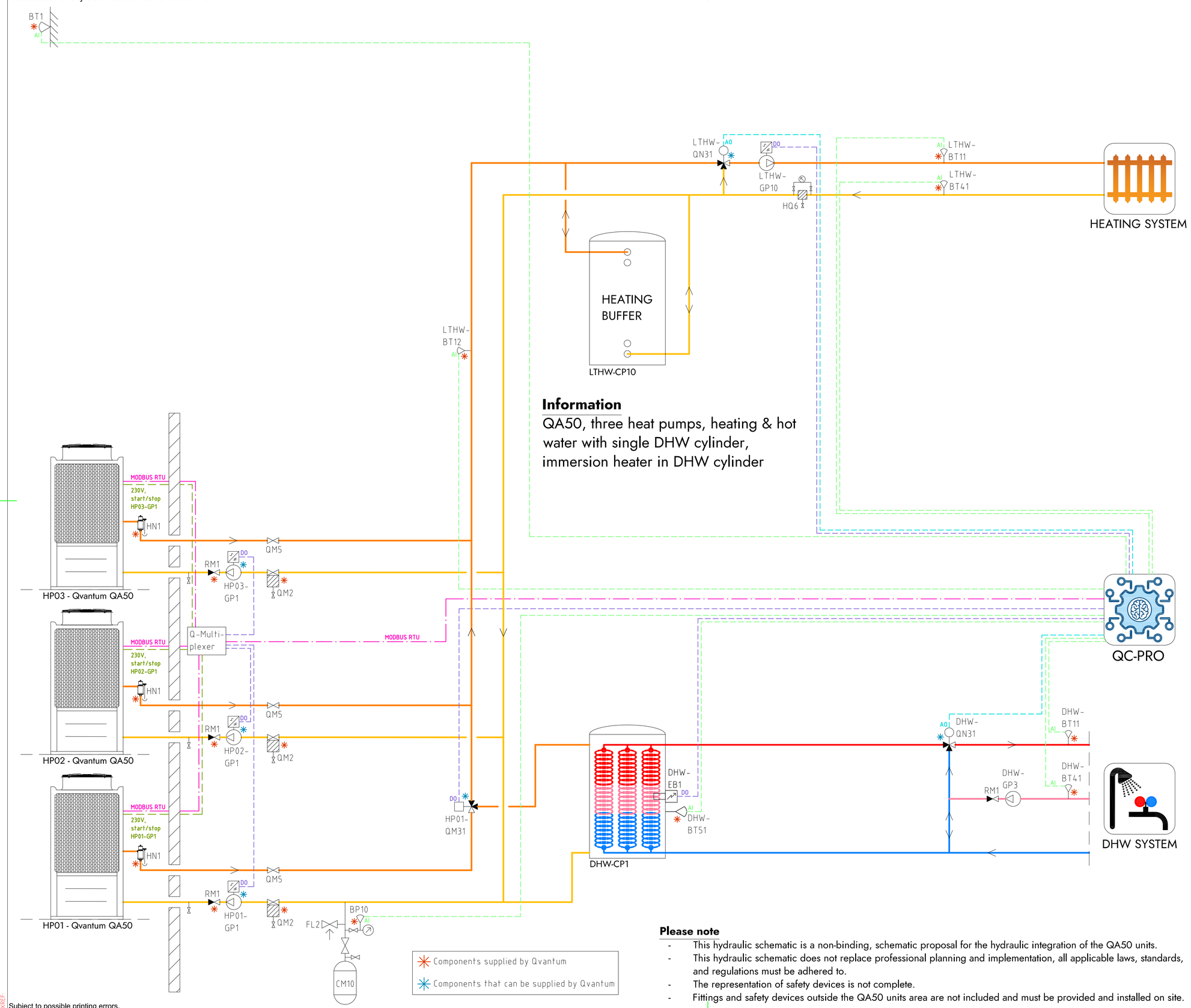
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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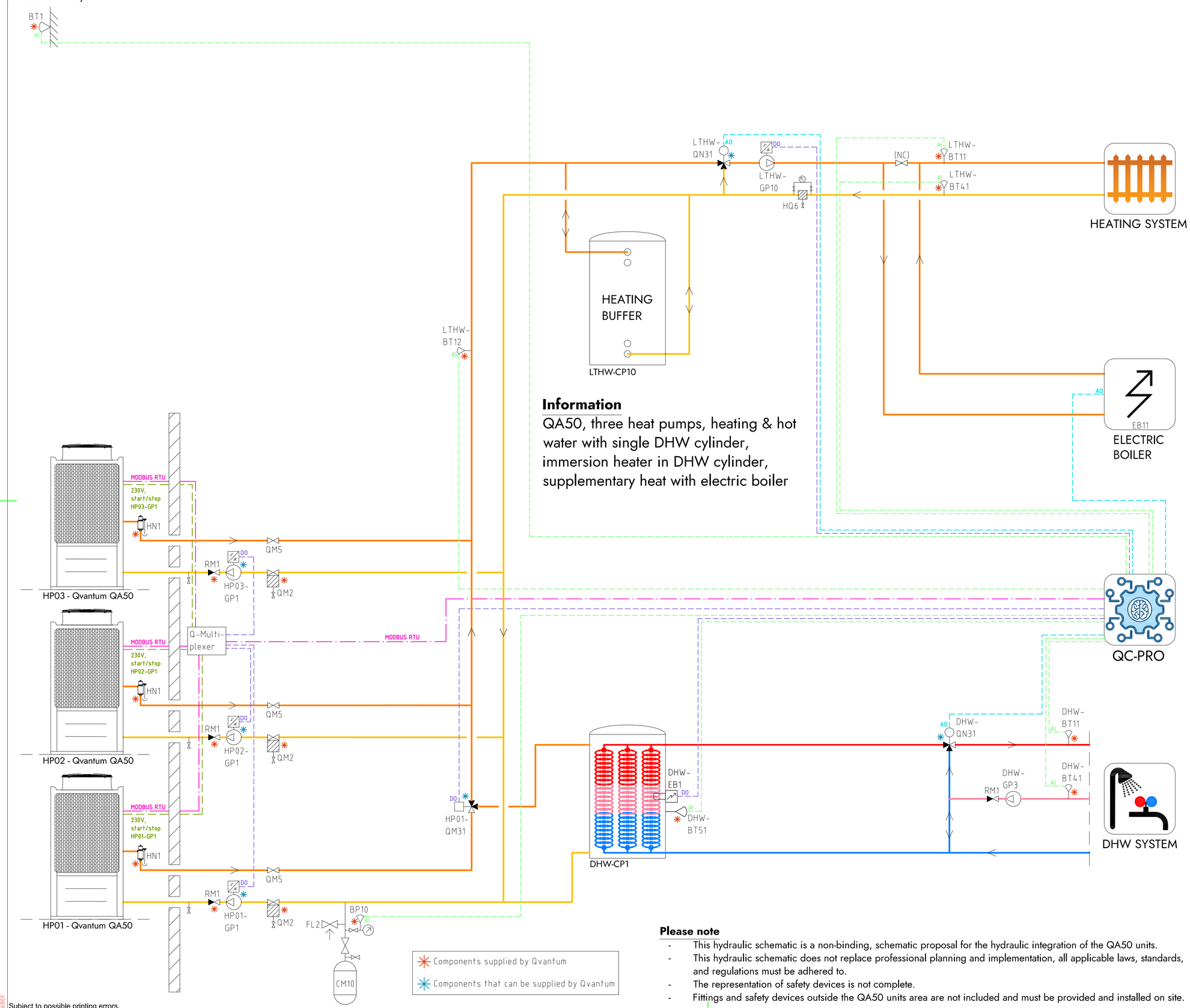
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric Boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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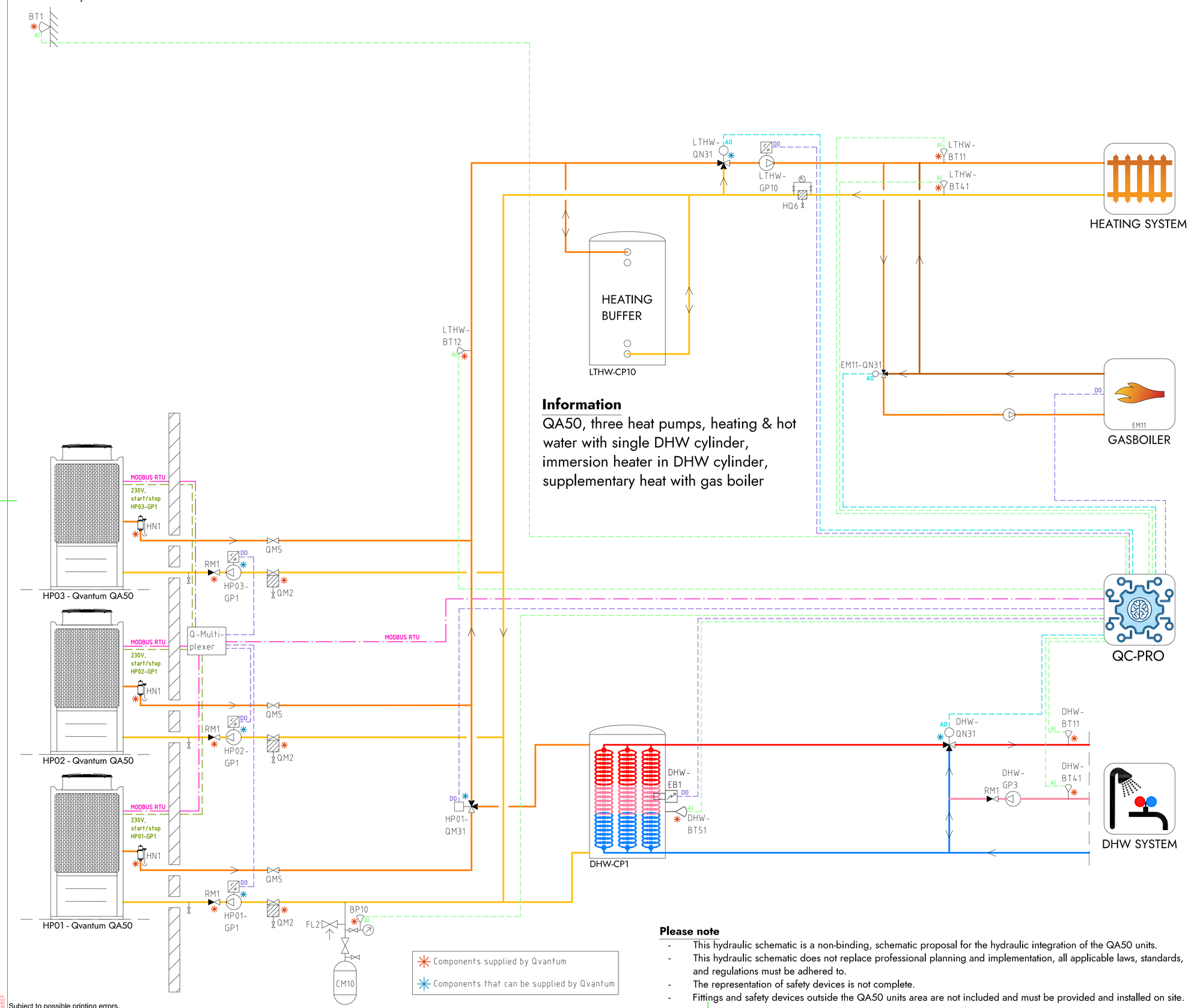
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Subject to possible printing errors.
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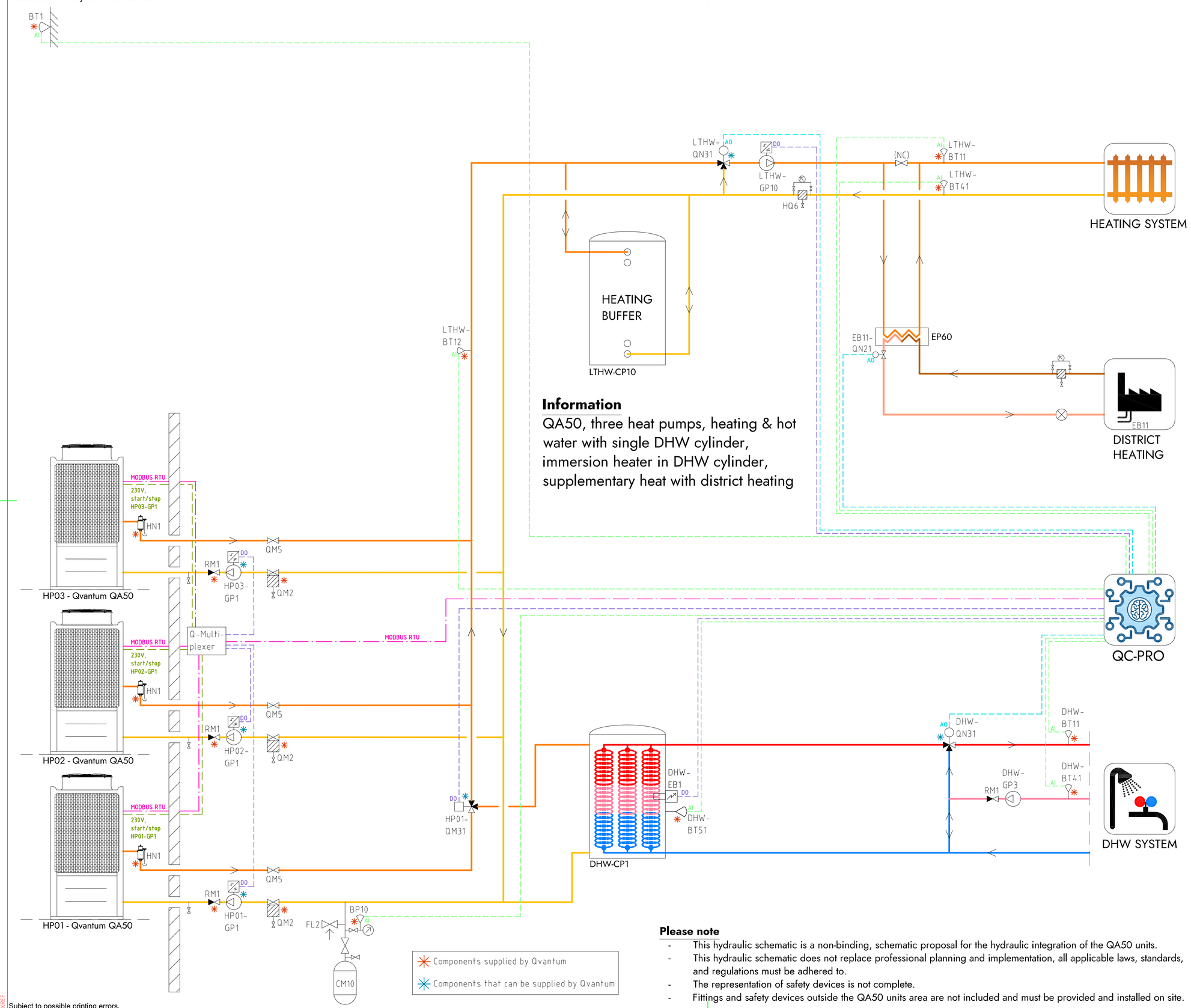
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-315	91

Subject to possible printing errors.
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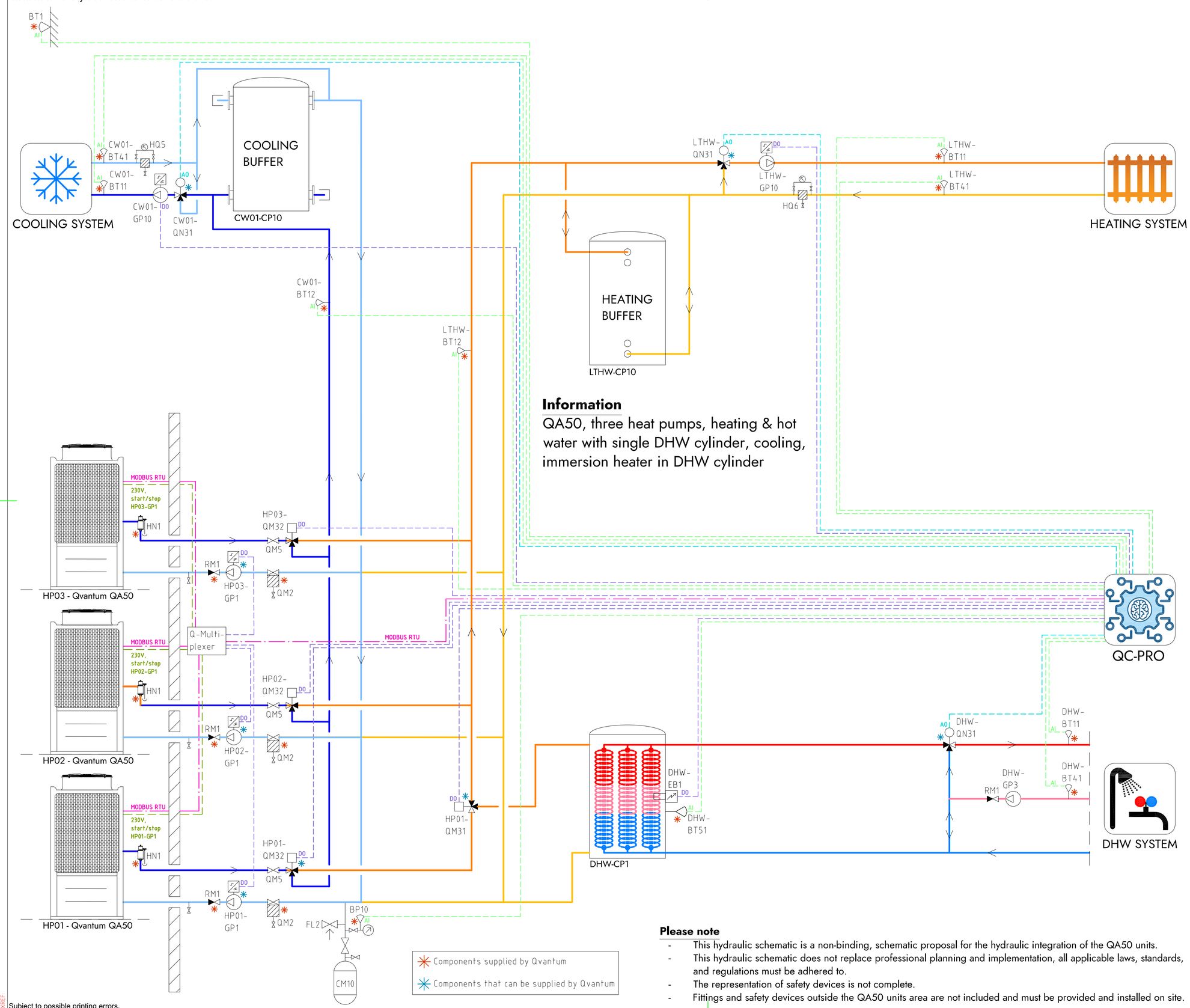
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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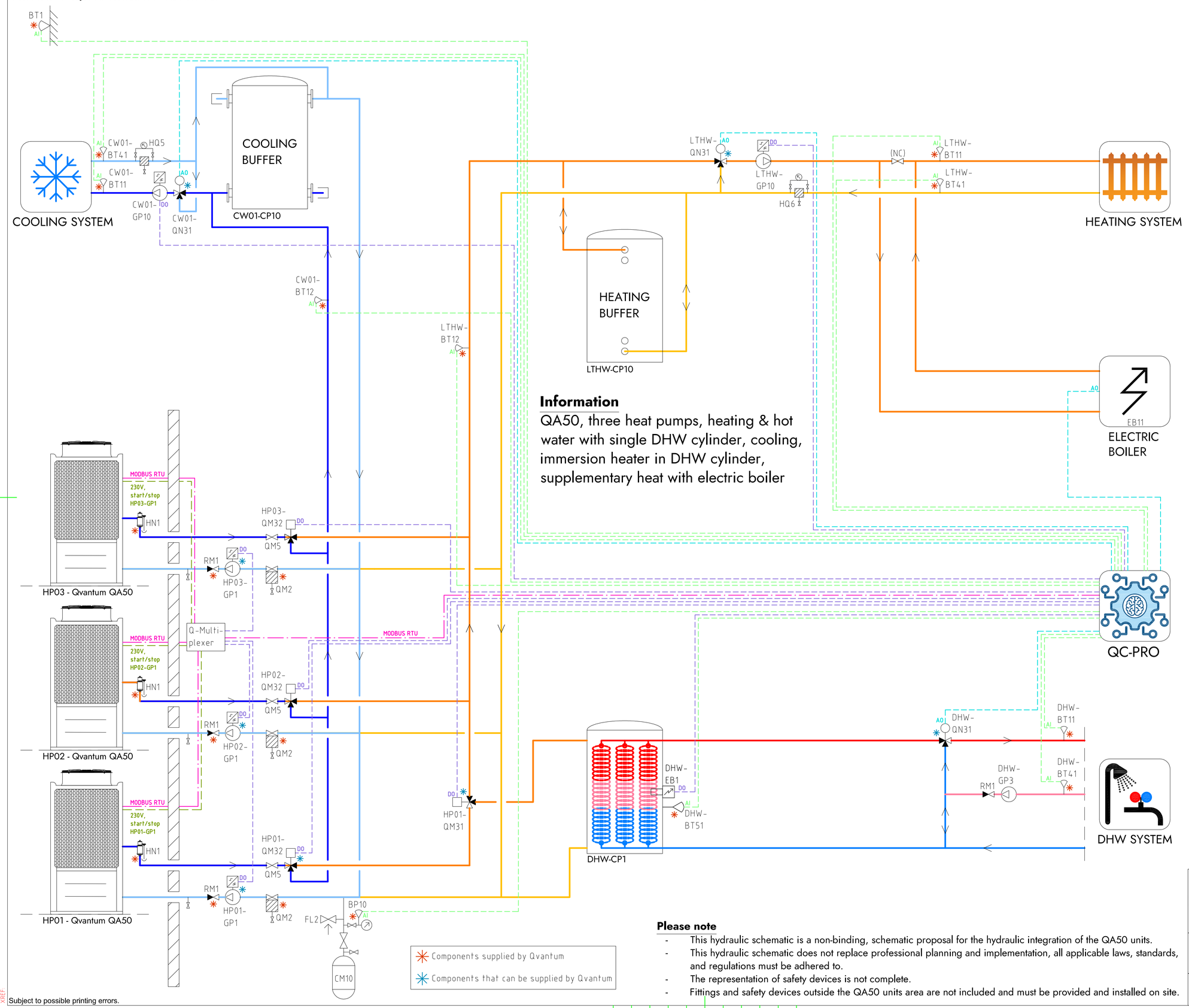
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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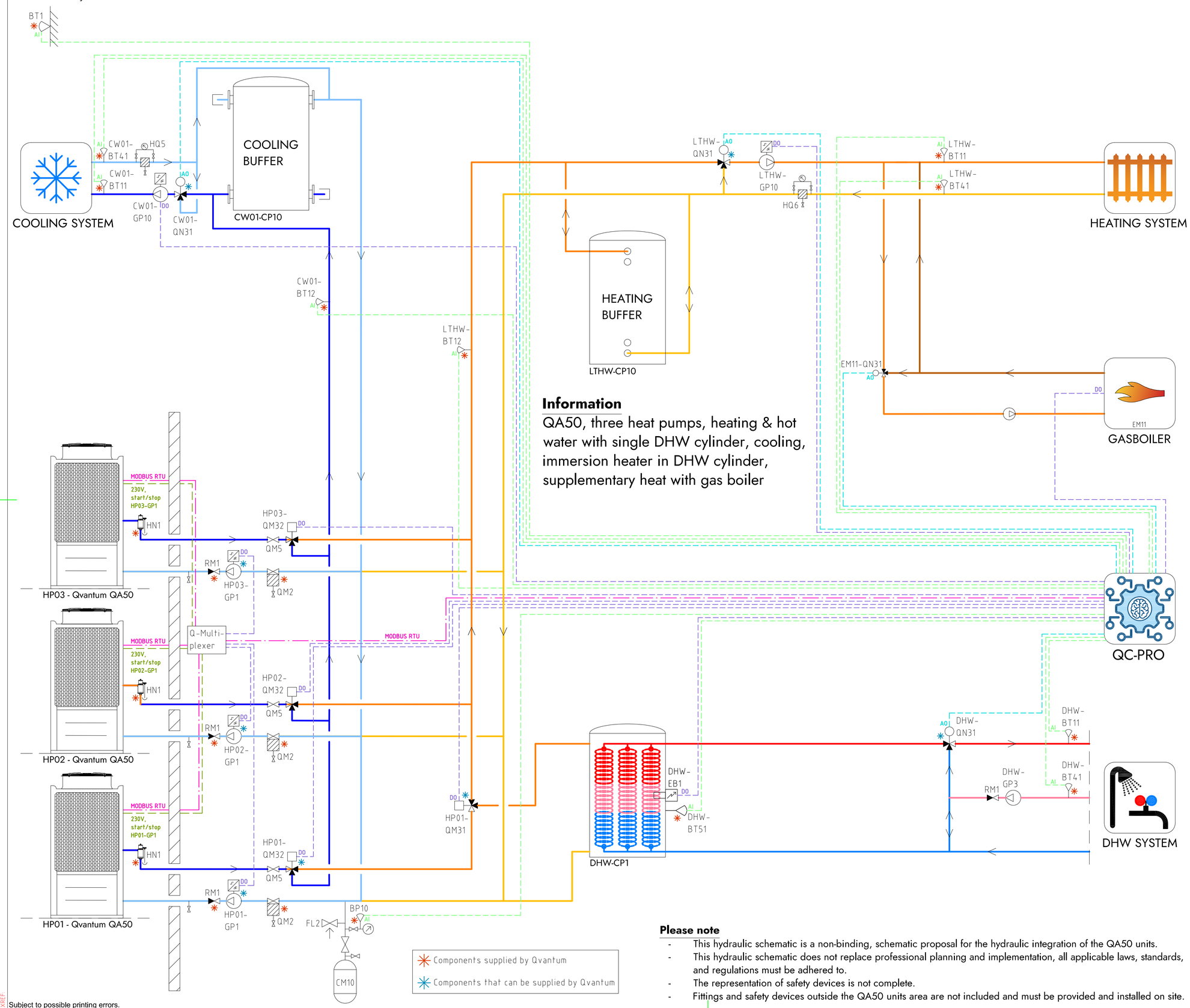
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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- The representation of safety devices is not complete.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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JE	QA50-50-8-318	94

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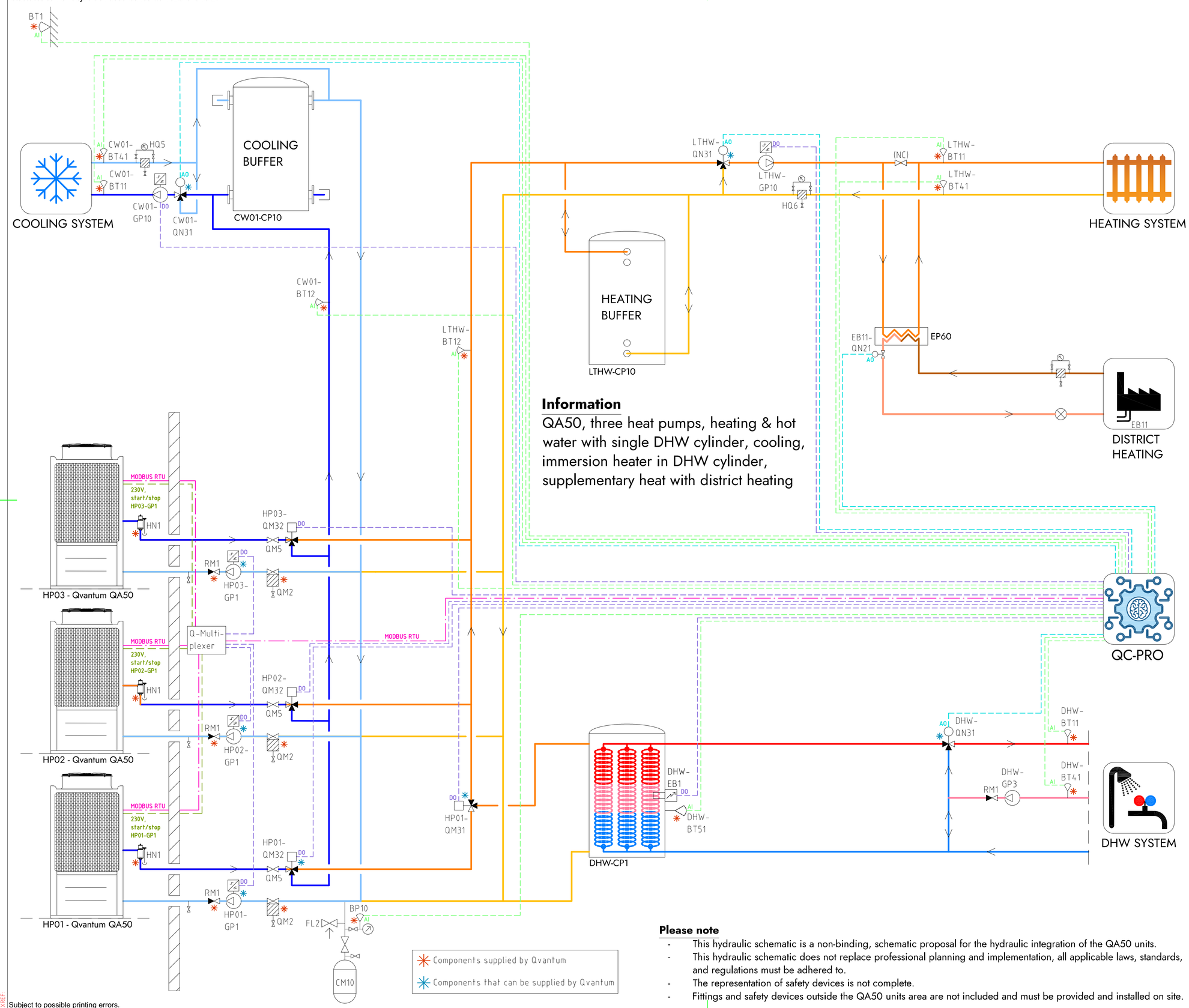
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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LAGER: SB11
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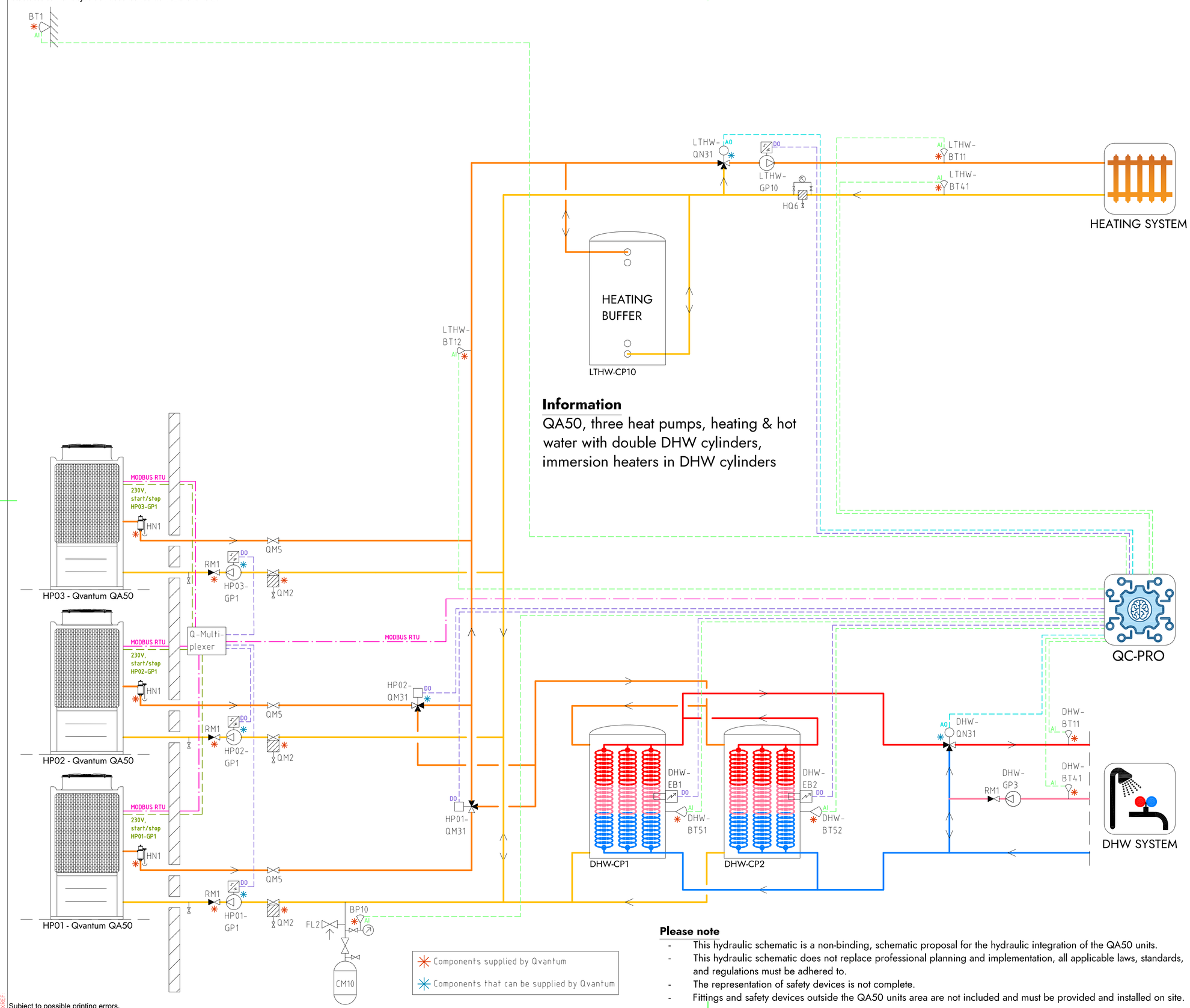
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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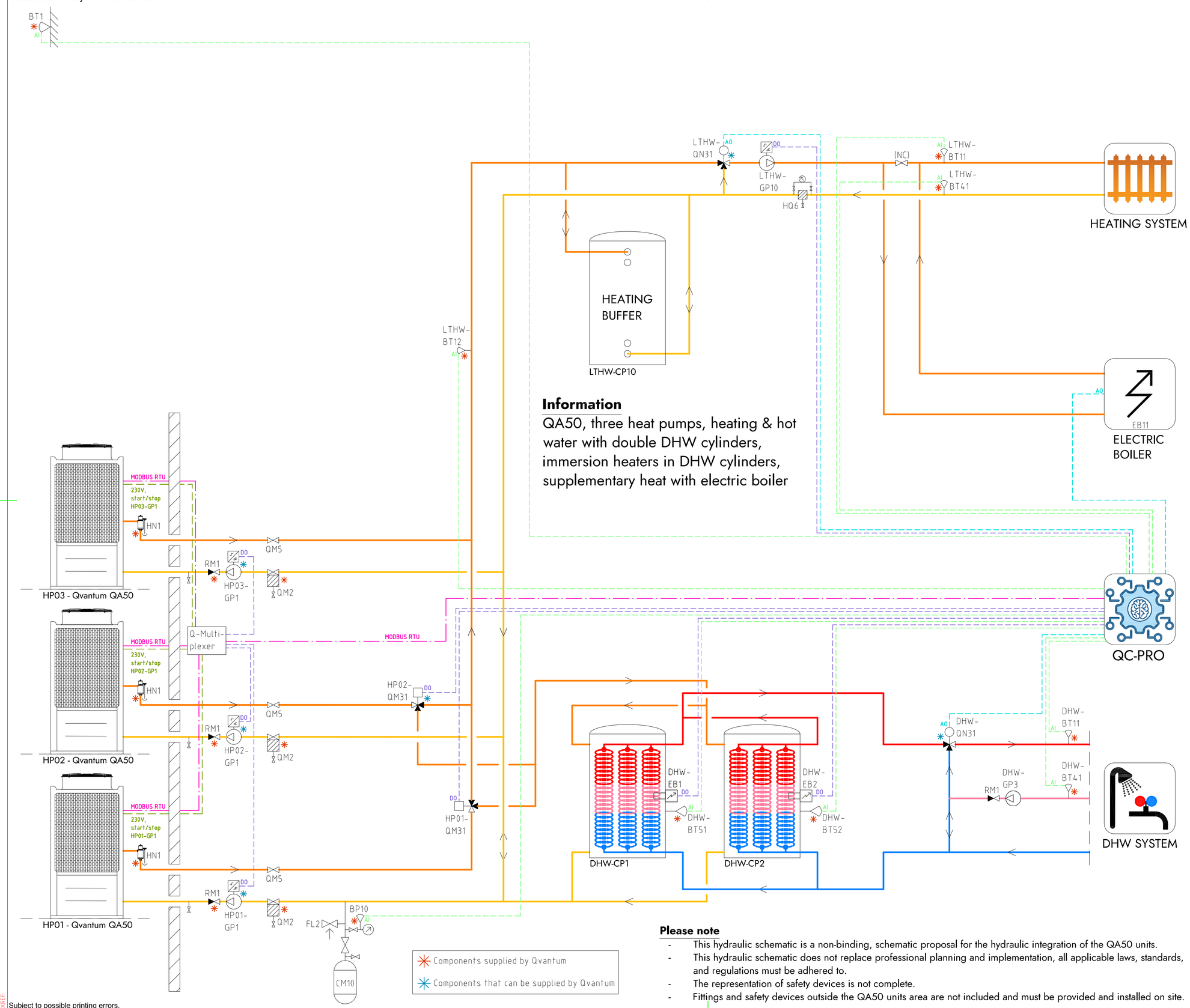
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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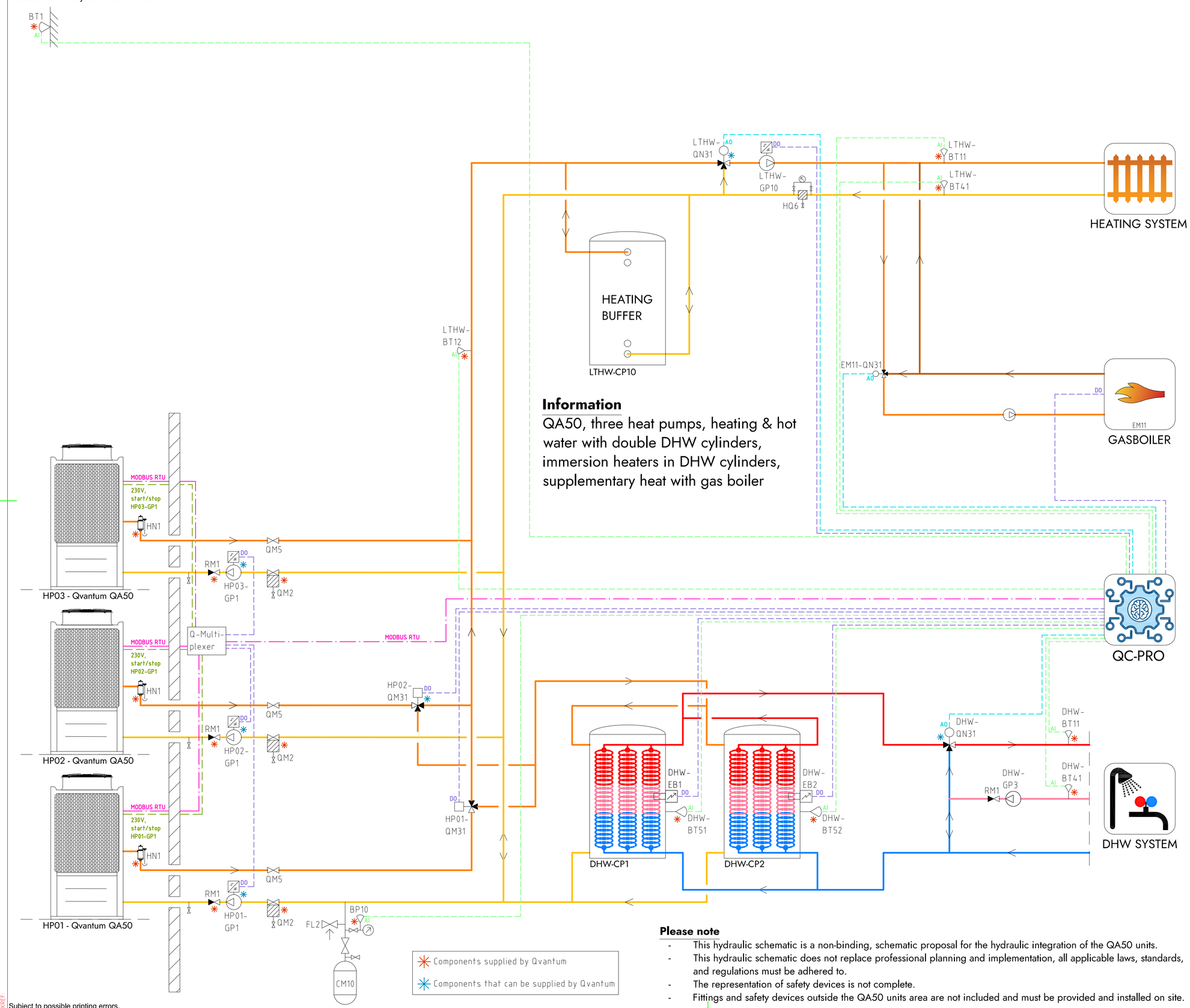
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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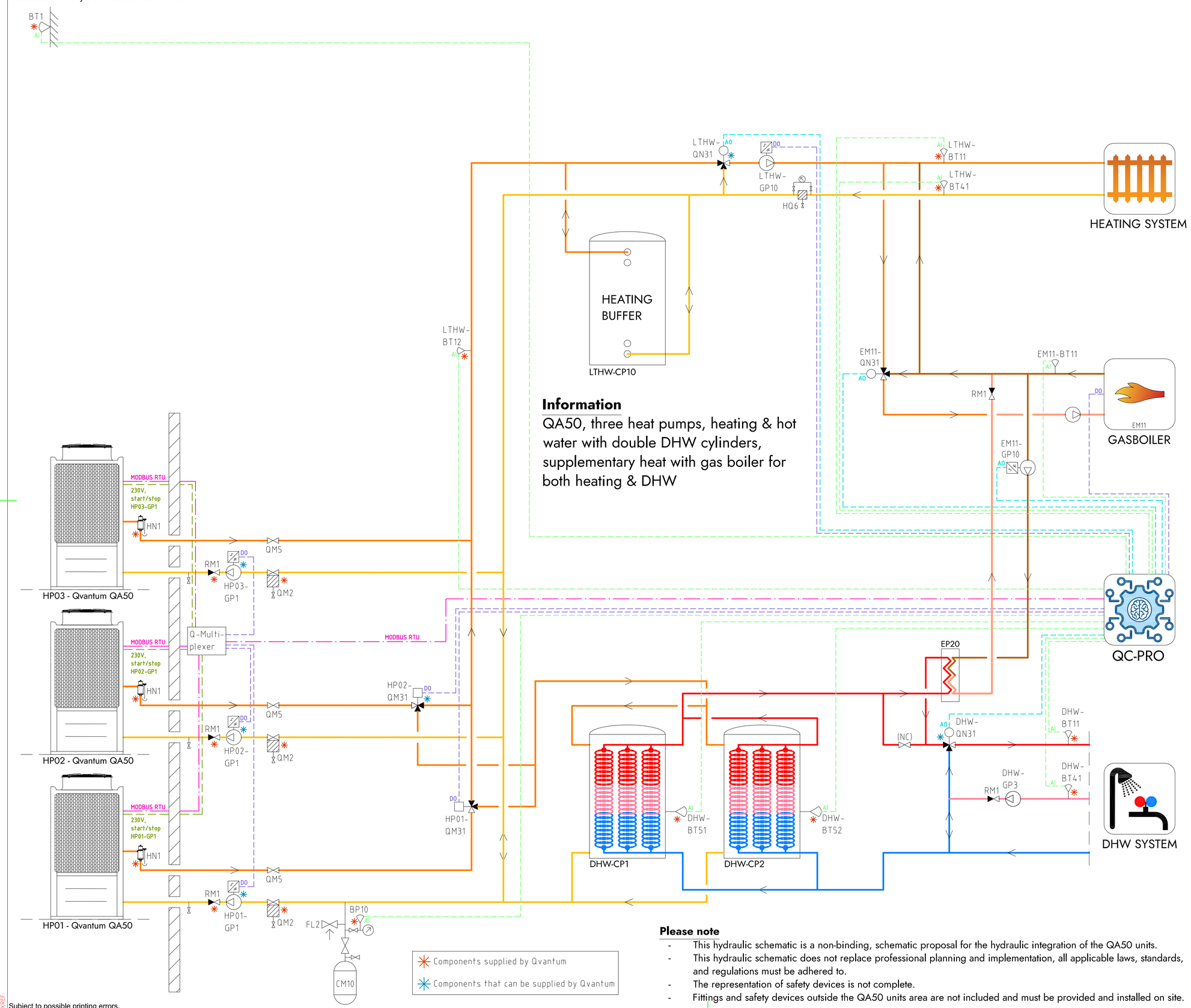
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, supplementary heat with gas boiler for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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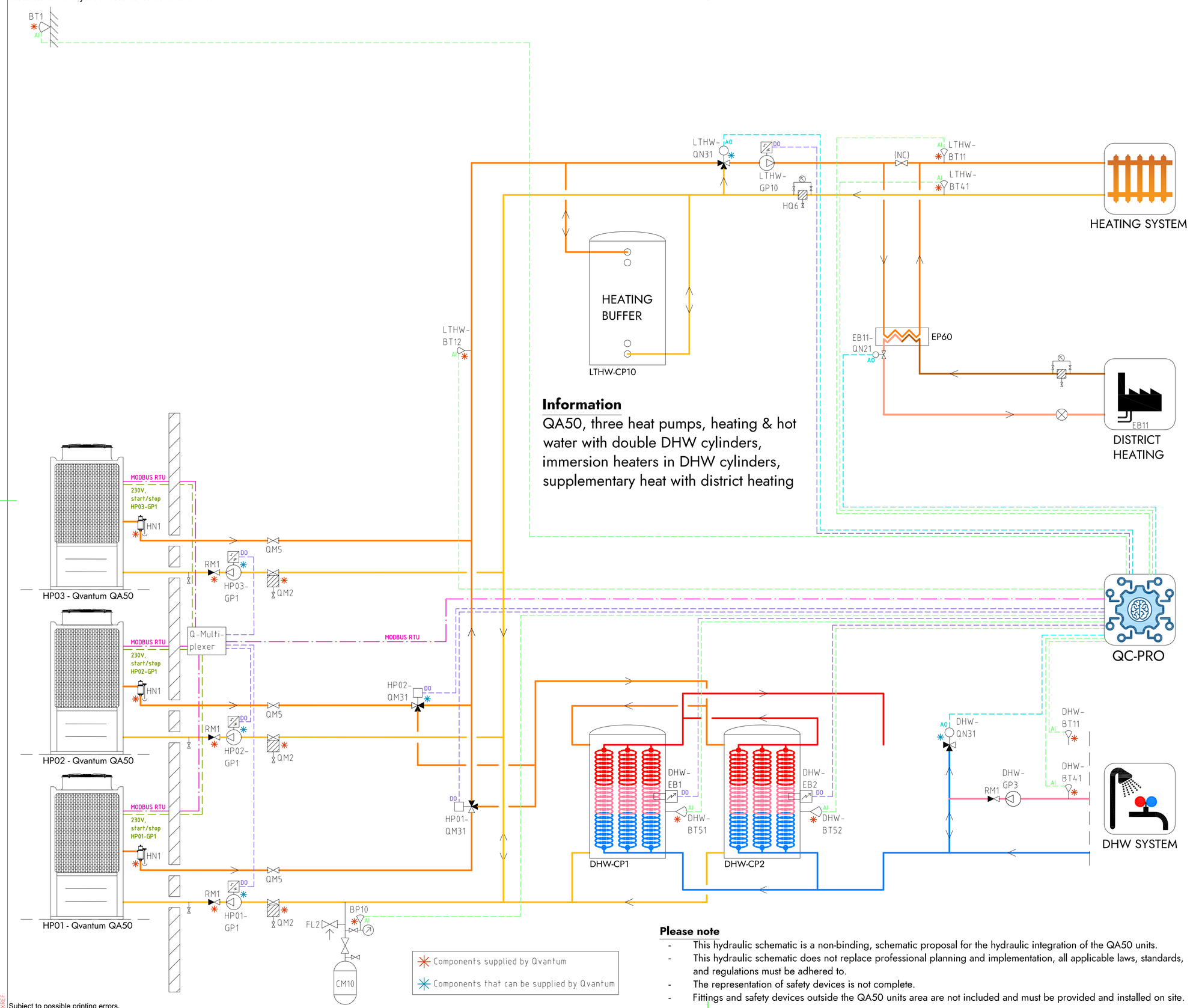
Classification of objects in accordance with IEC 81346-2.



COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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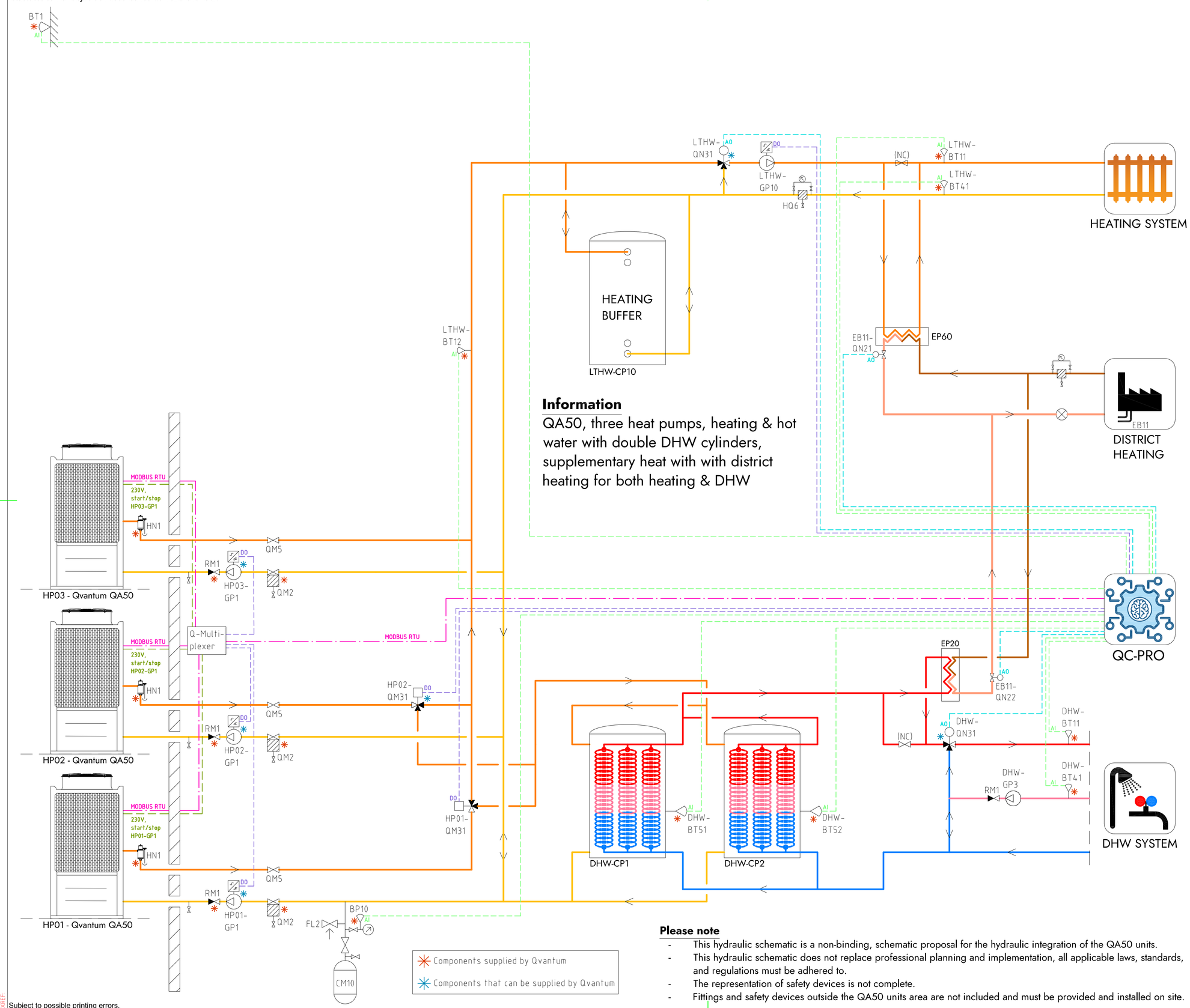
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, supplementary heat with with district heating for both heating & DHW

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

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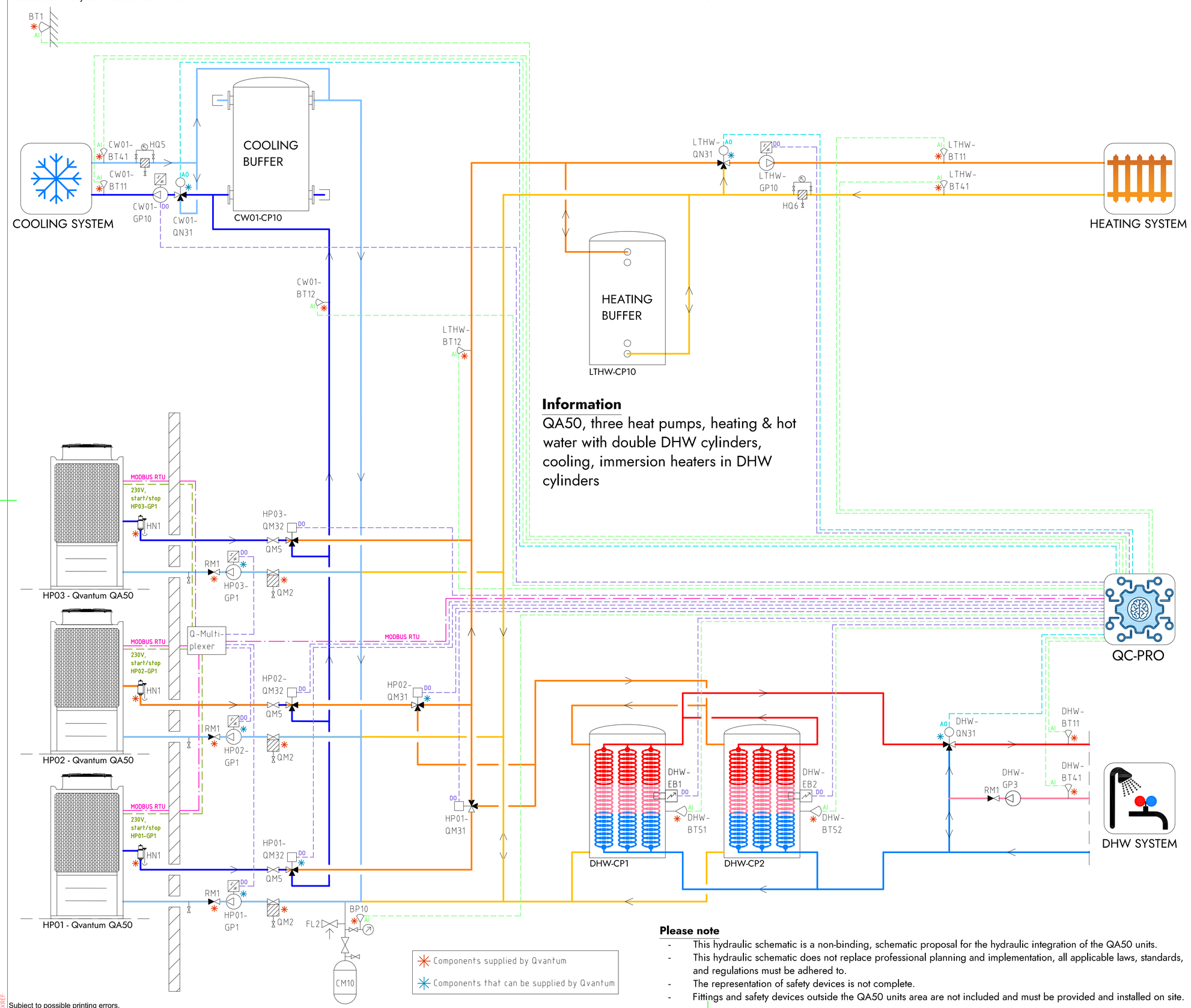
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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LAGER: SB11
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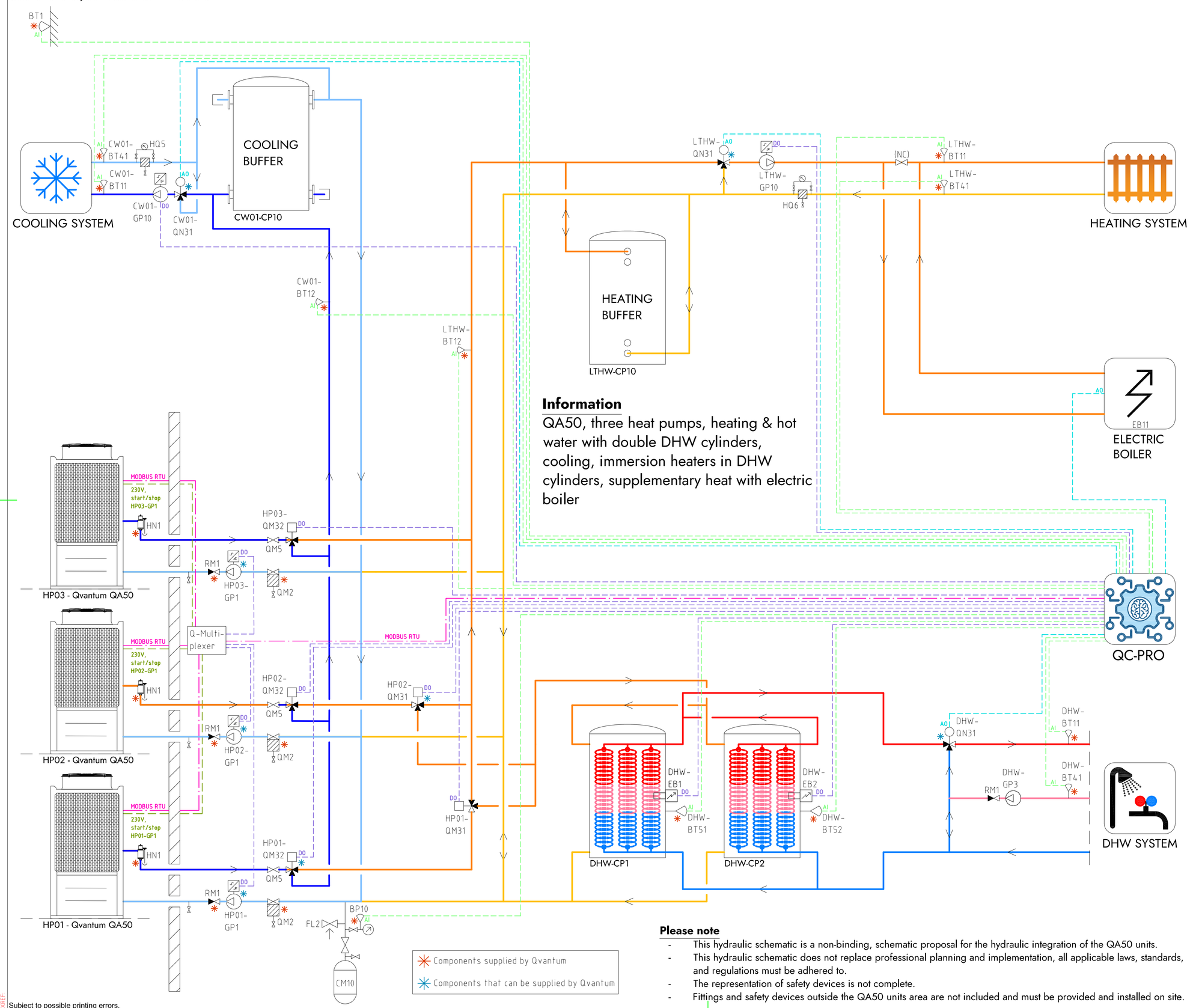
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with electric boiler

Please note

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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-327	103

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LAGER: SB11
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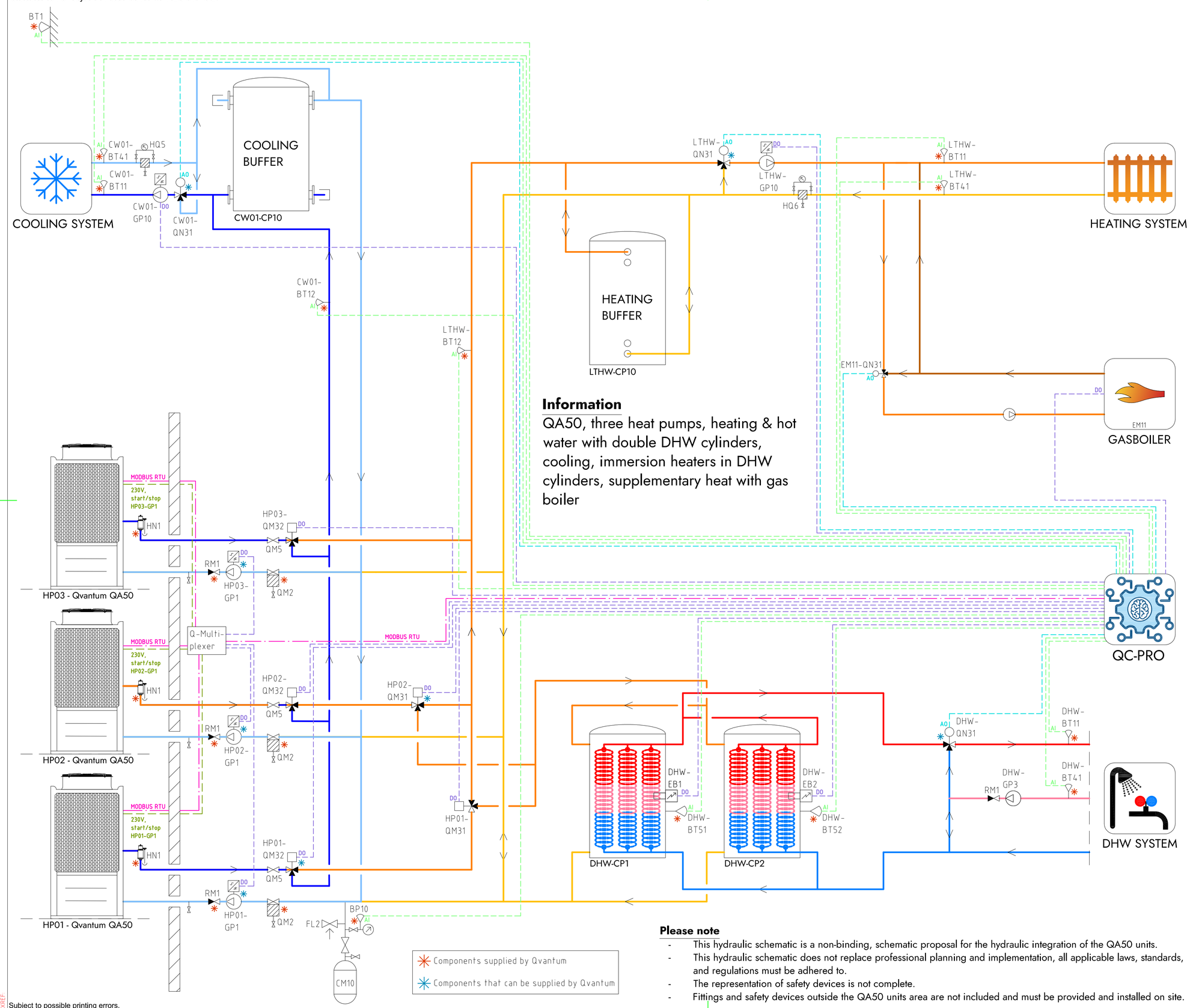
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with gas boiler

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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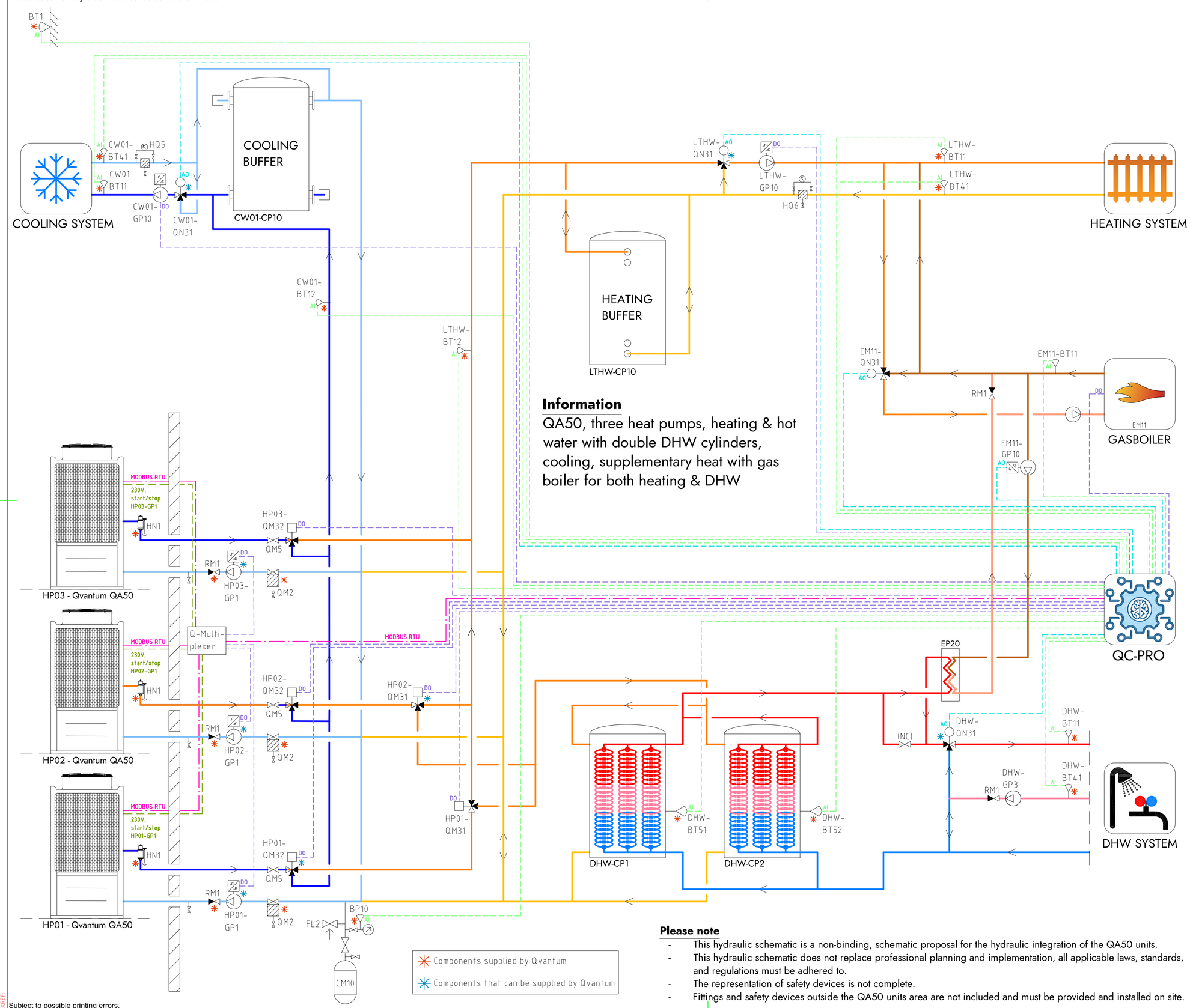
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with gas boiler for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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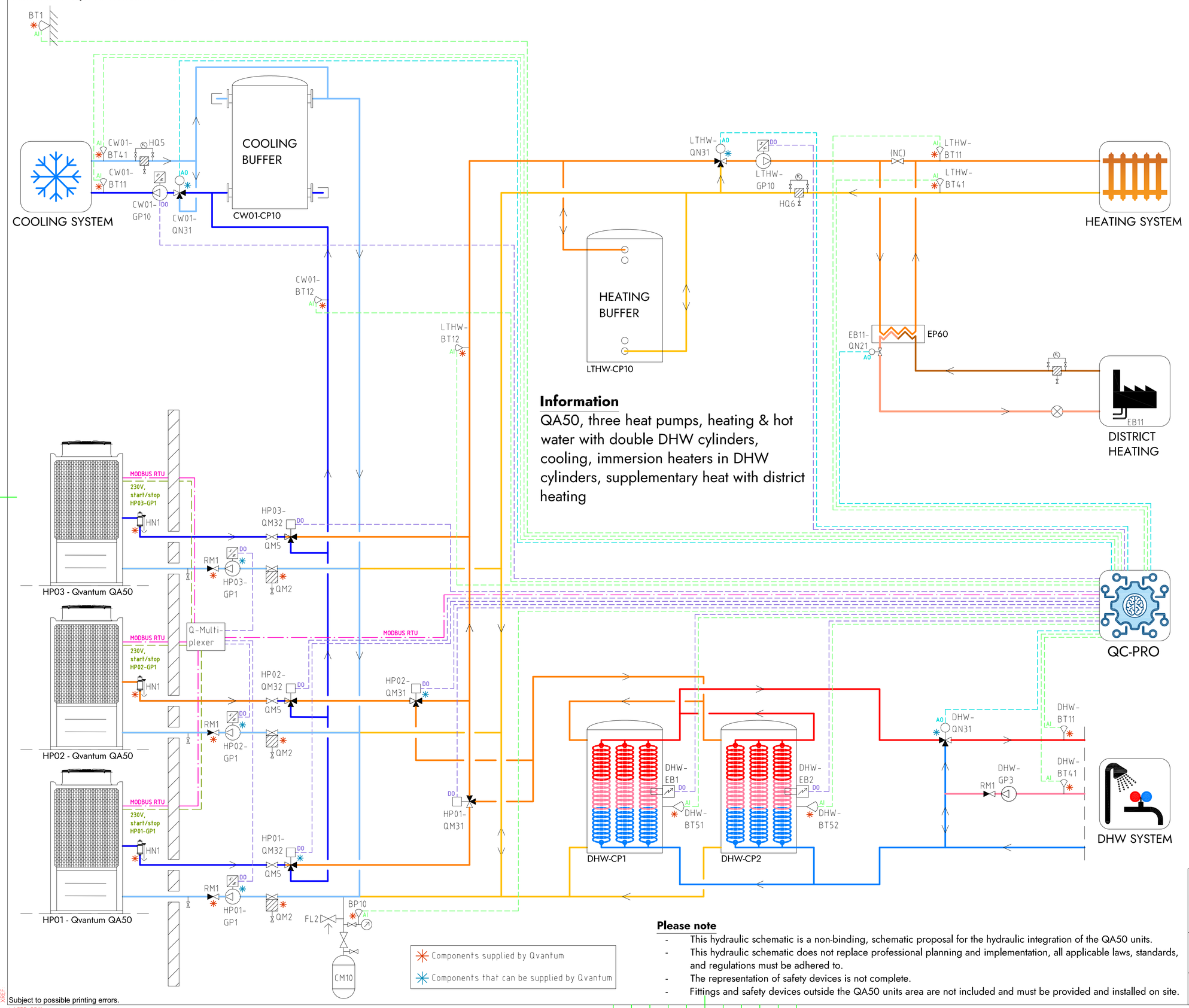
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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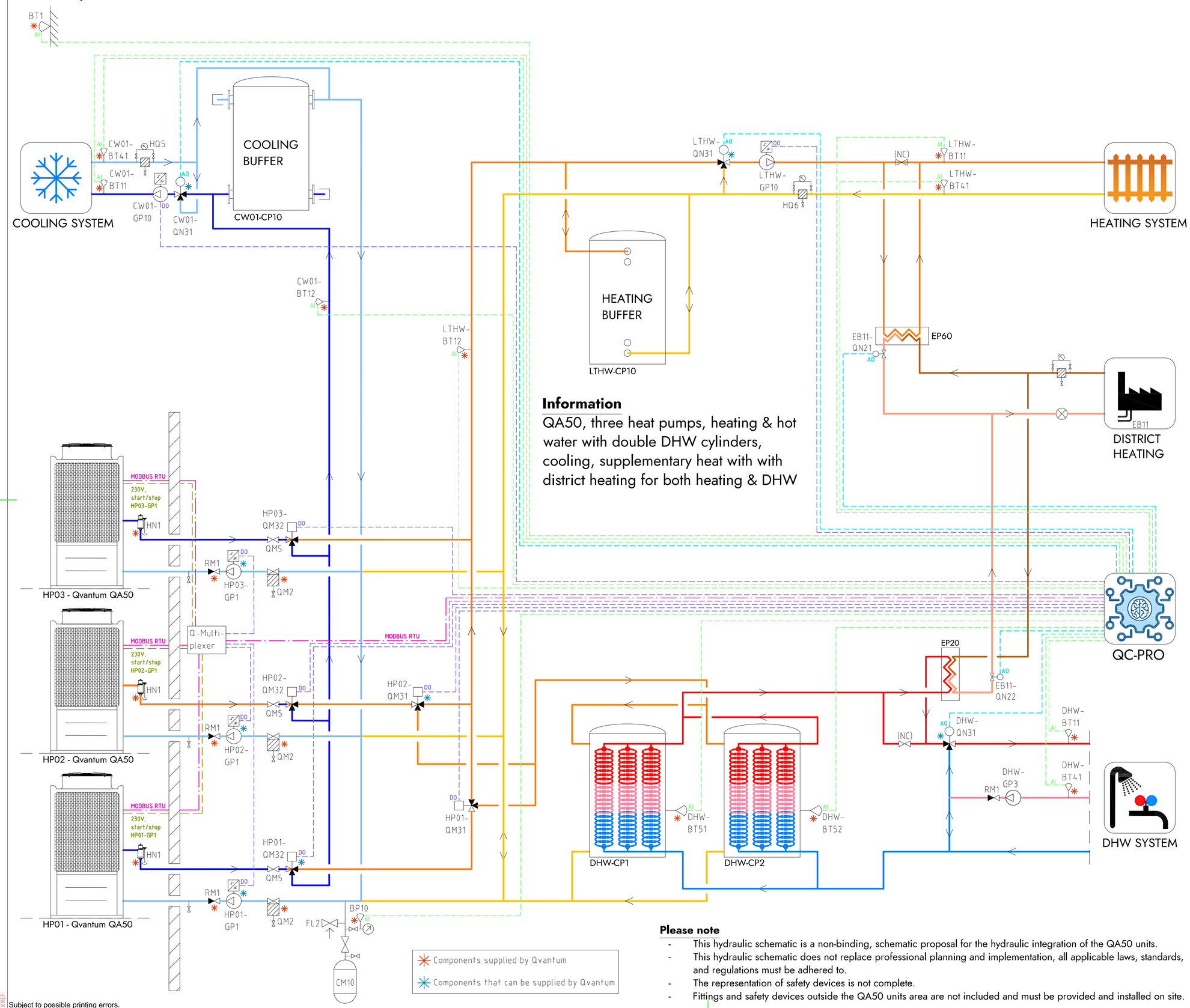
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with with district heating for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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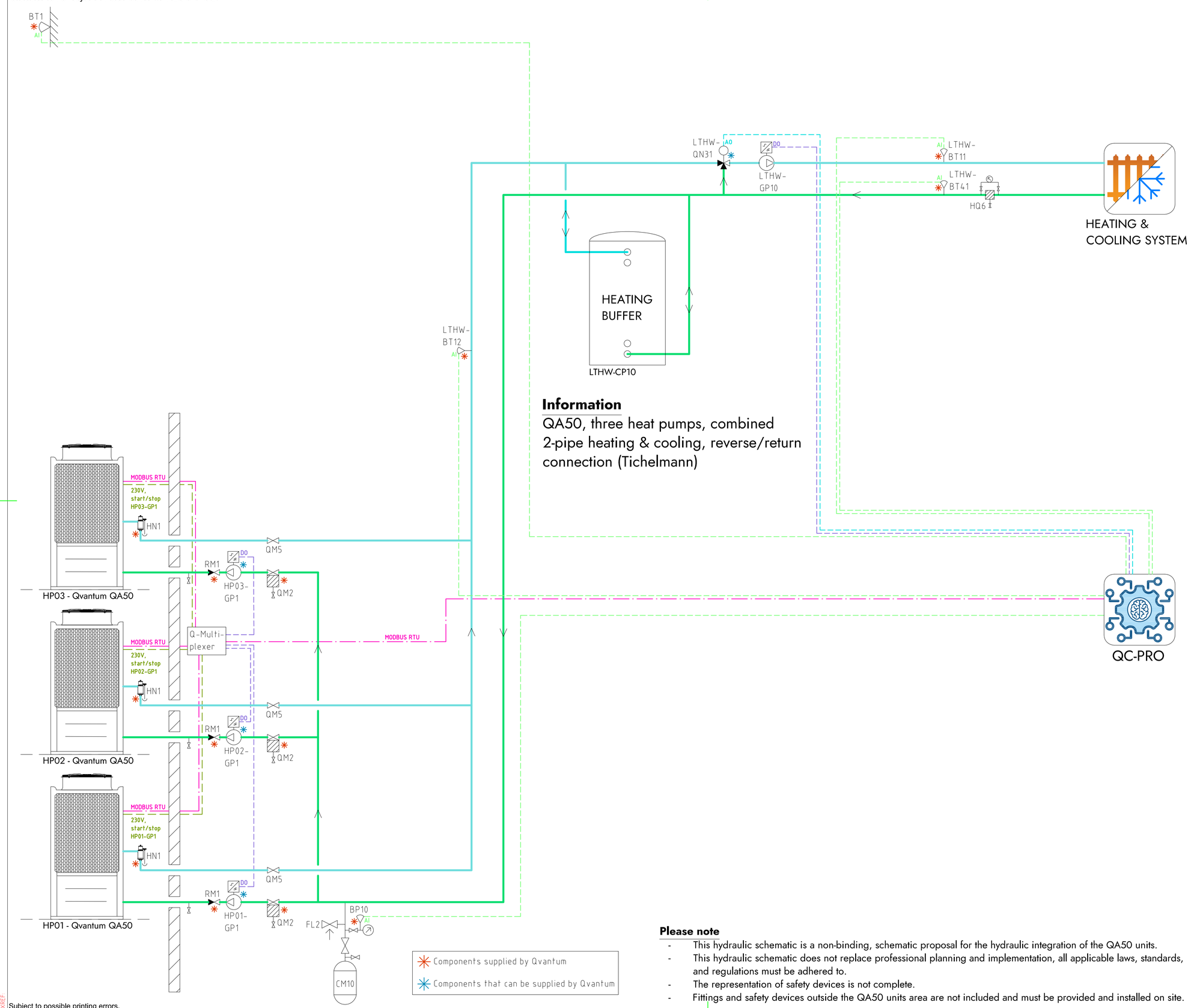
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, combined
2-pipe heating & cooling, reverse/return
connection (Tichelmann)

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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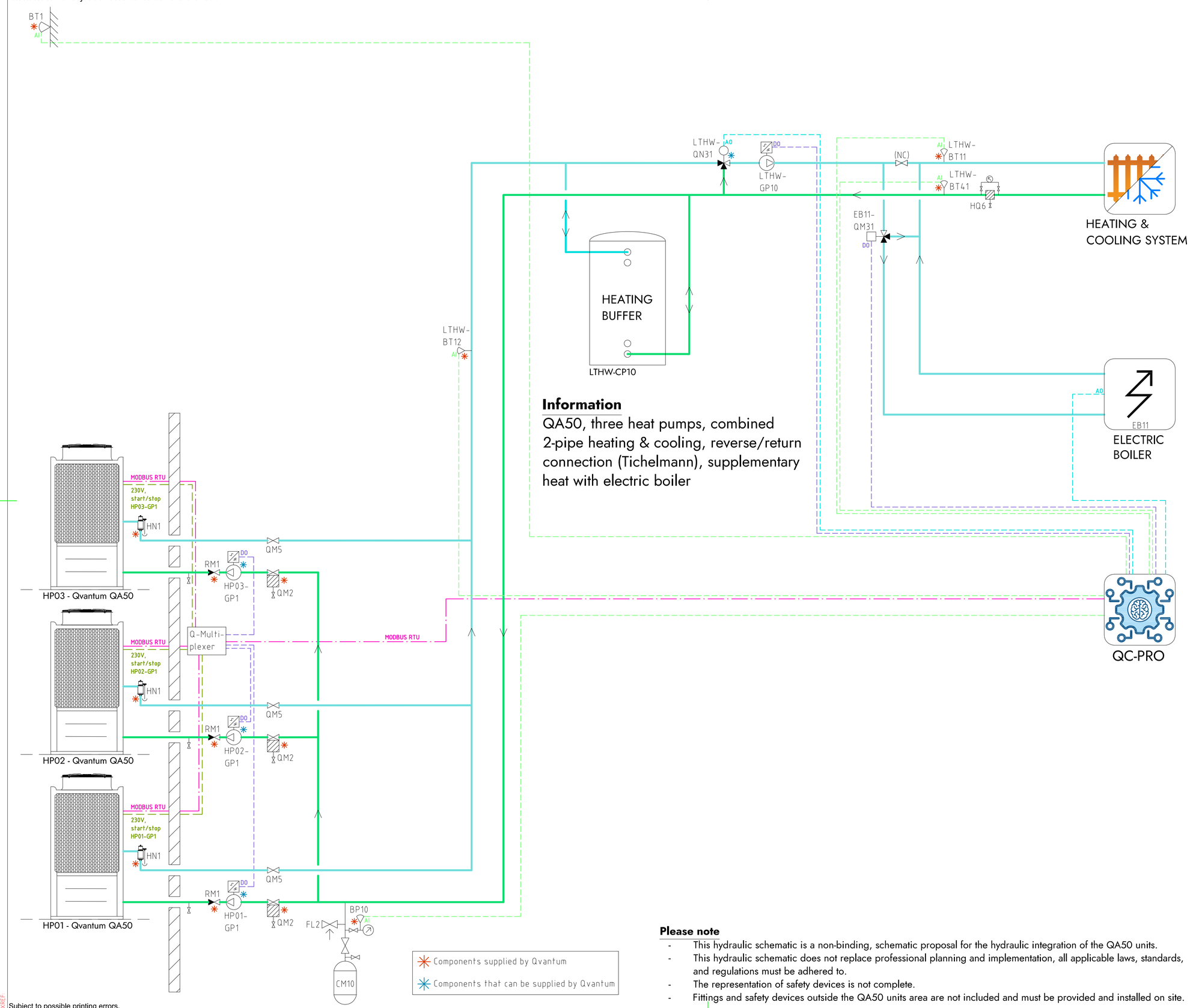
Classification of objects in accordance with IEC 81346-2.



Information

QA50, three heat pumps, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann), supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3

SYSTEM LTHW

EB11	Electric boiler
EB11-QM31	Switching valve, electric boiler
LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM QA50
HYDRAULIC SCHEMATICS
solutions with four heat pumps

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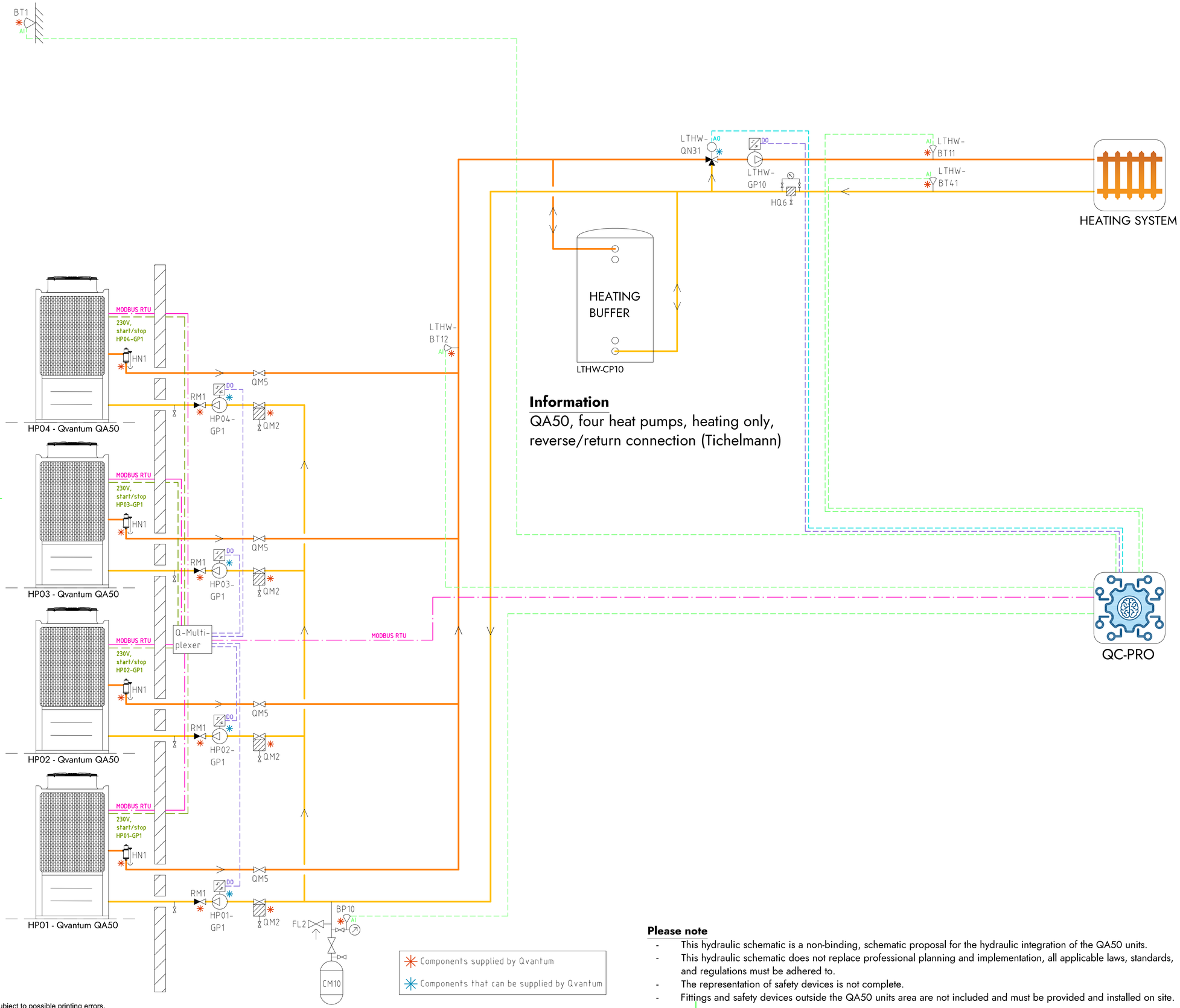

Information

QA50, four heat pumps, heating only, reverse/return connection (Tichelmann)

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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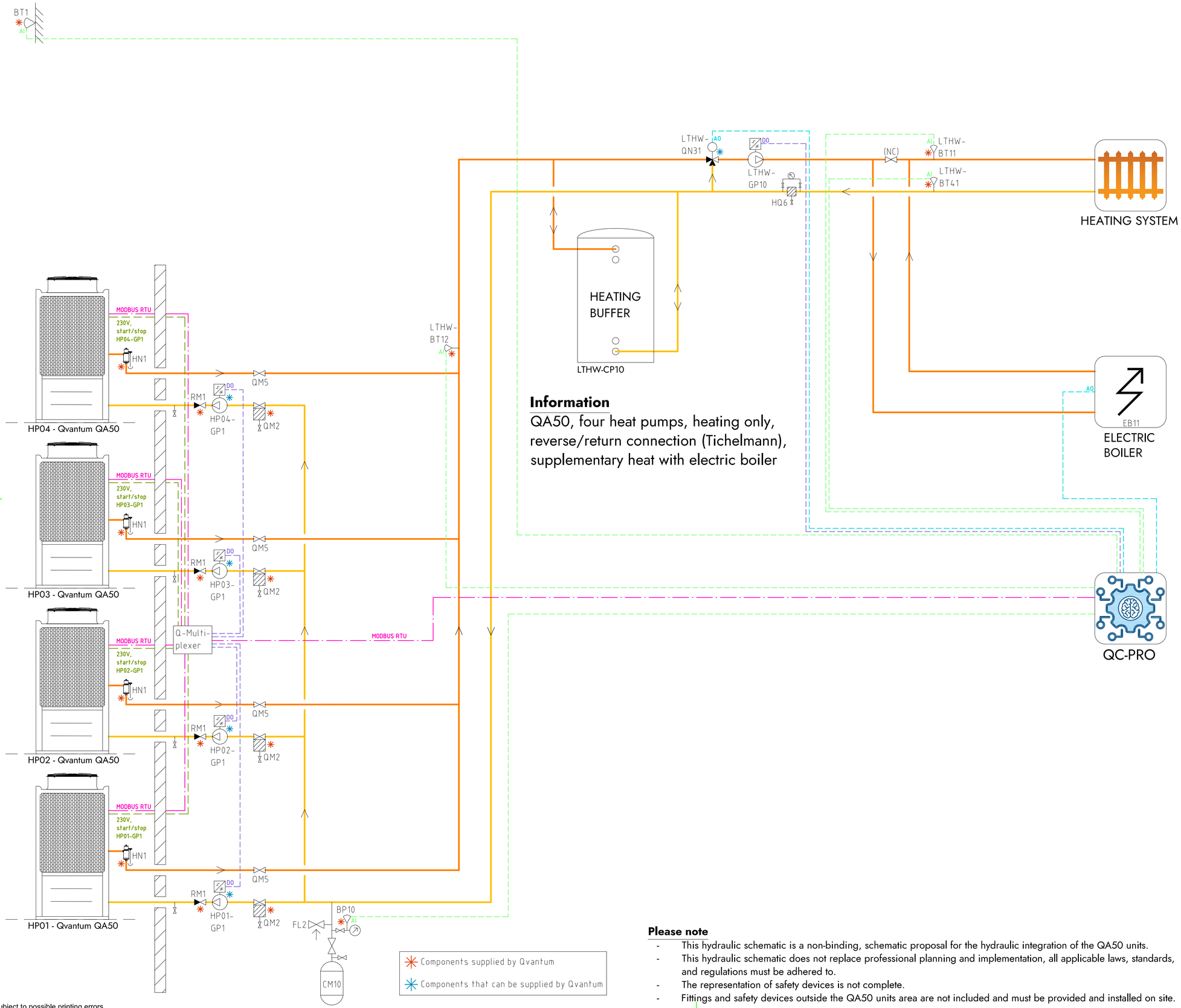
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-401	112

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LAGER: SB11
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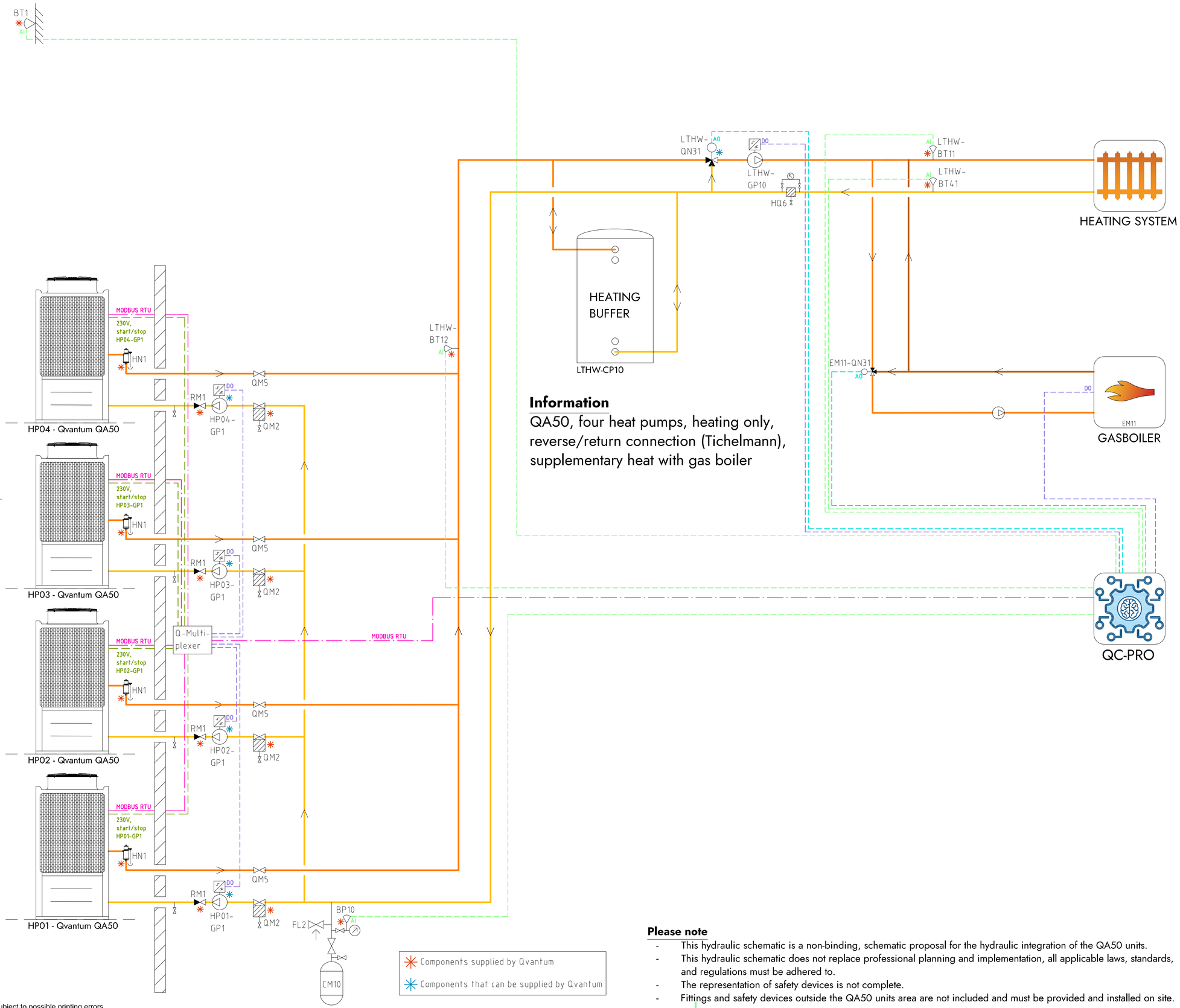
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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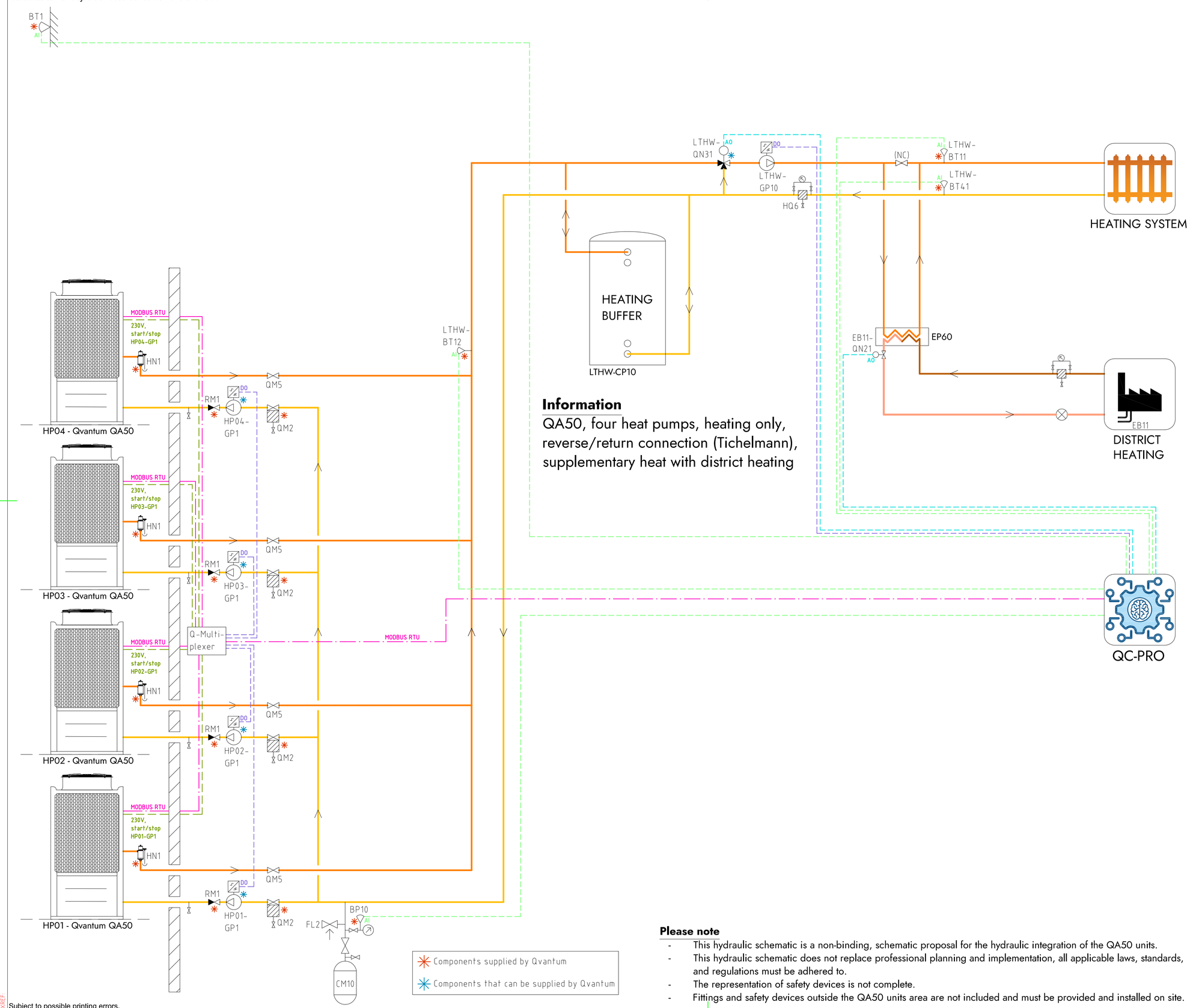
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, reverse/return connection (Tichelmann), supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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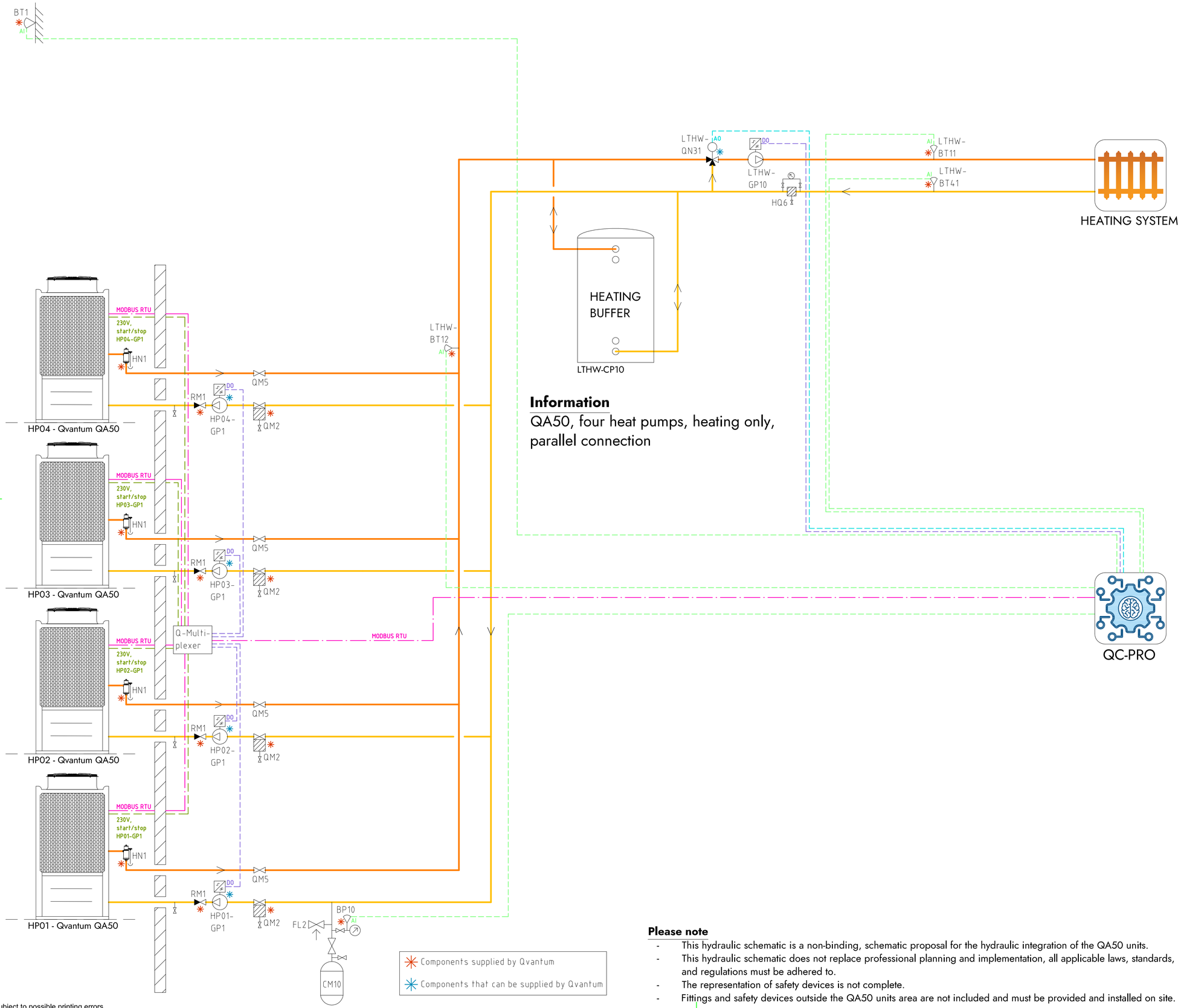
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, parallel connection

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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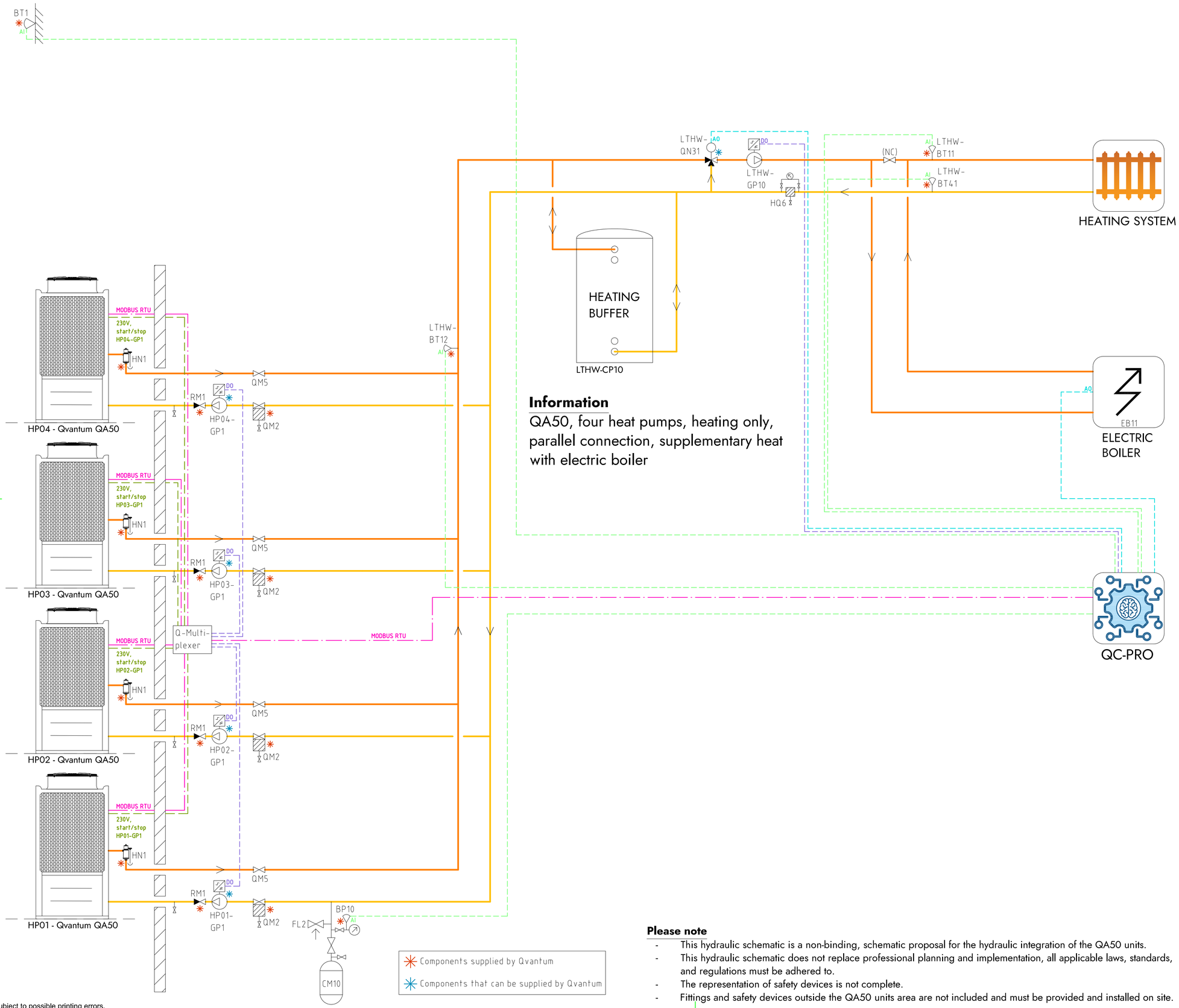
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, parallel connection, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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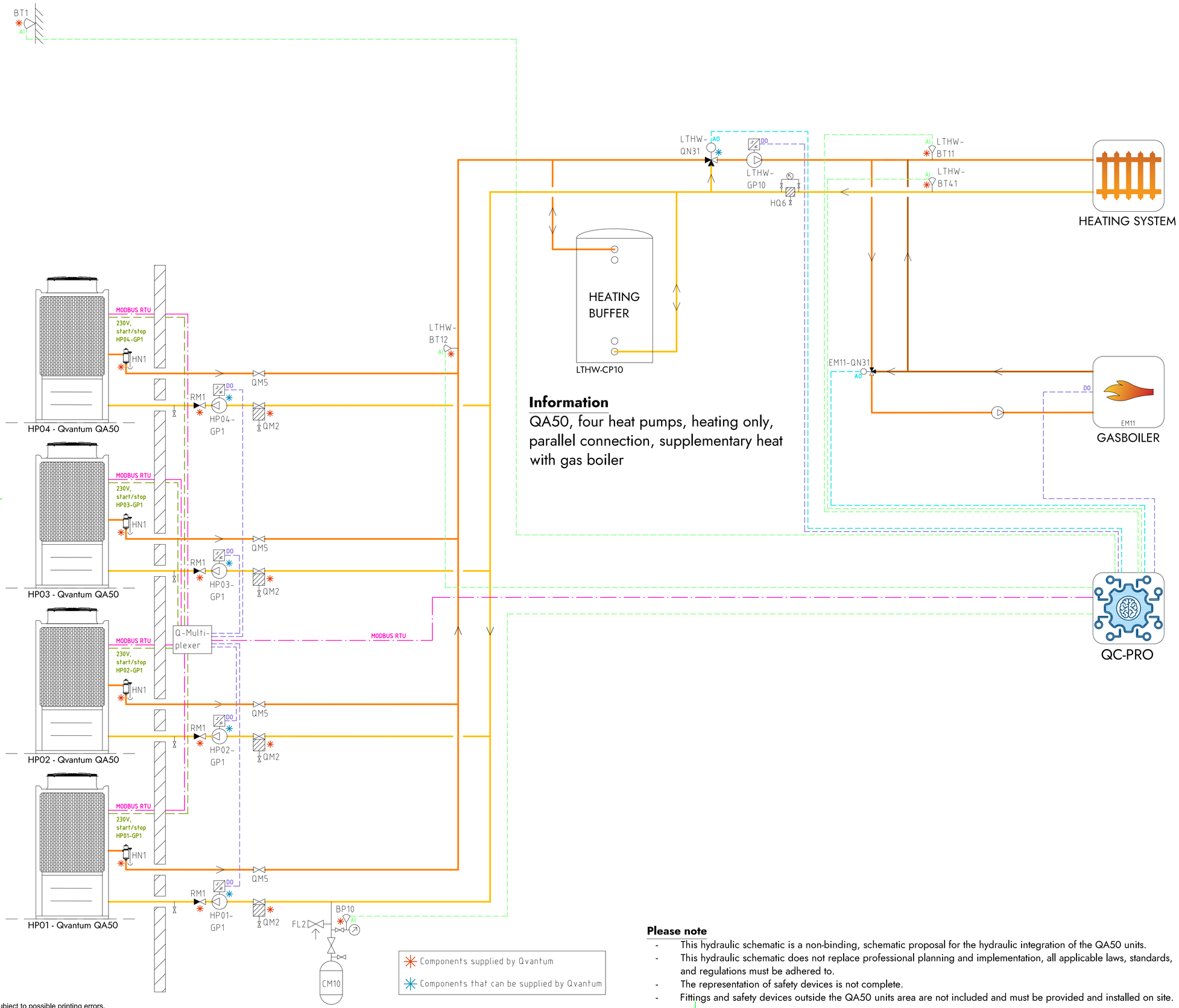
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, parallel connection, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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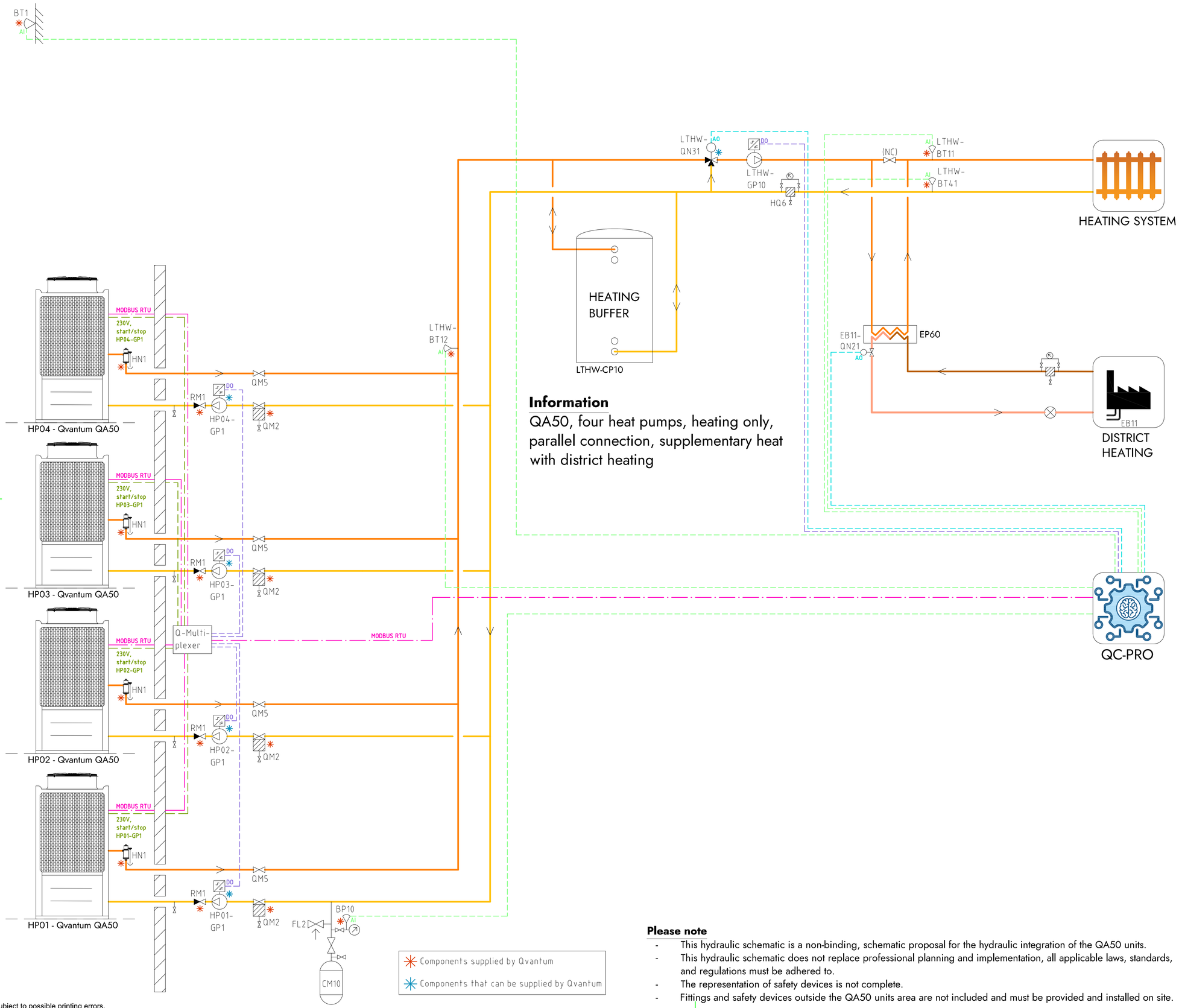
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating only, parallel connection, supplementary heat with district heating

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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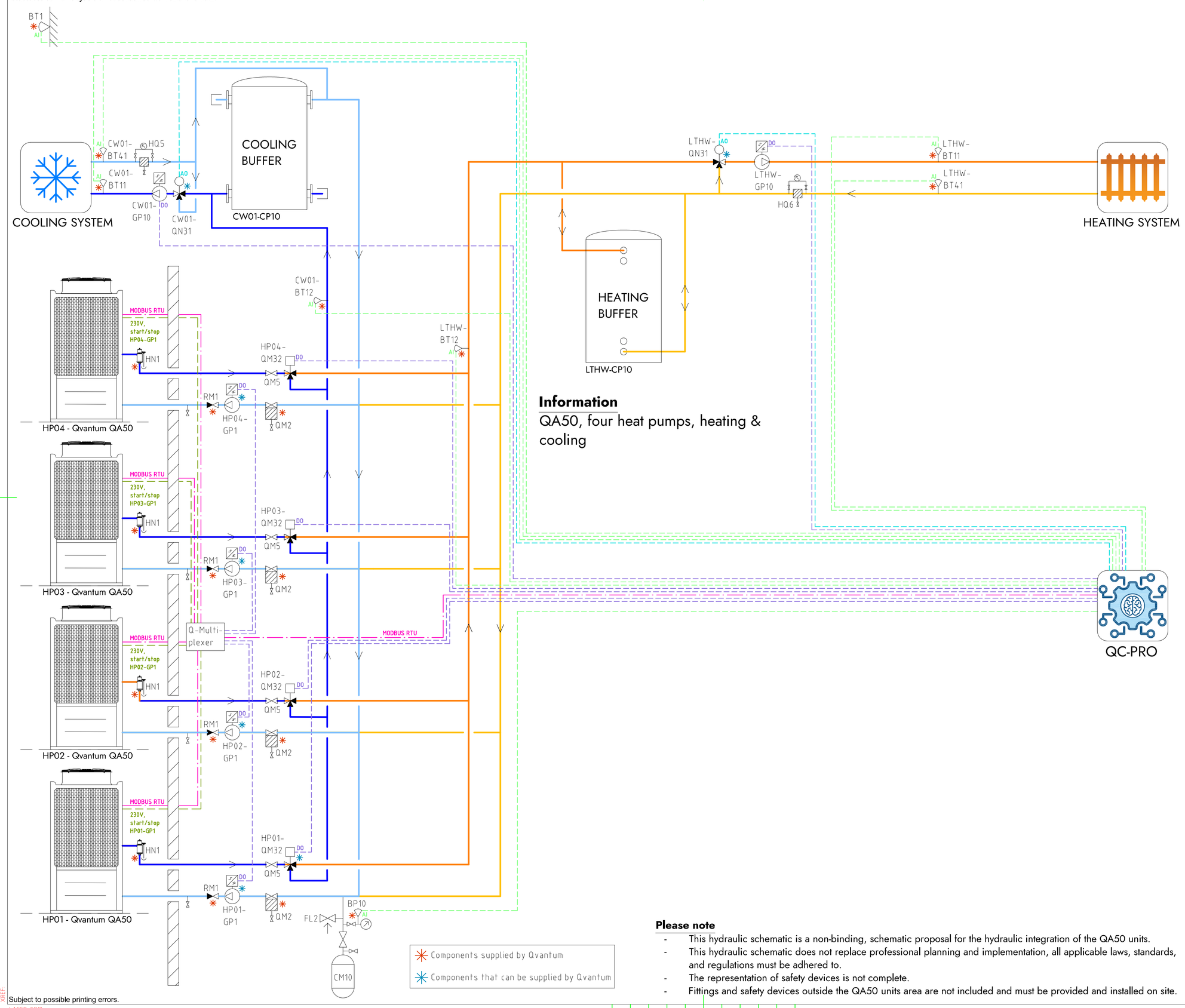
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & cooling

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-408	119

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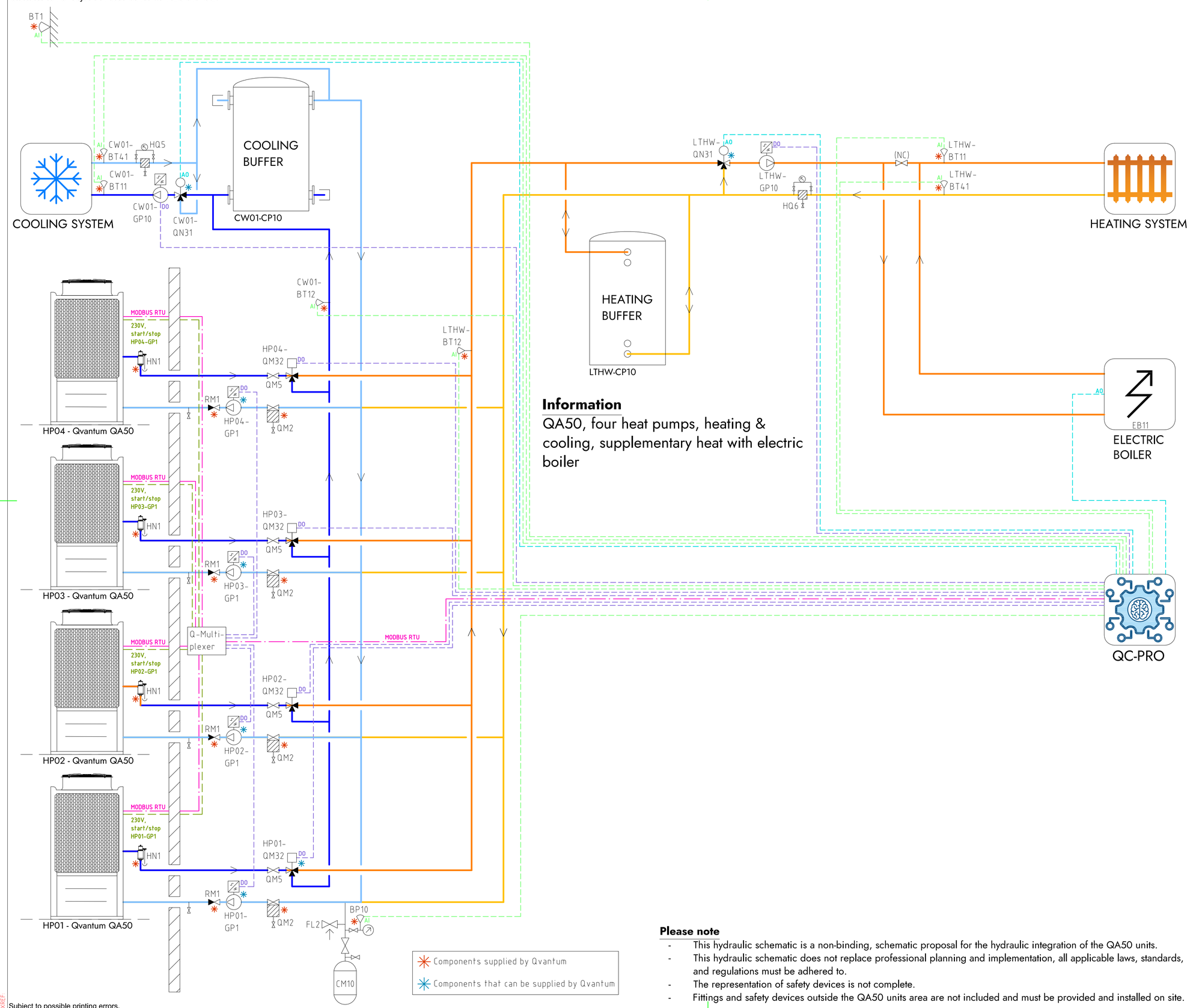
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & cooling, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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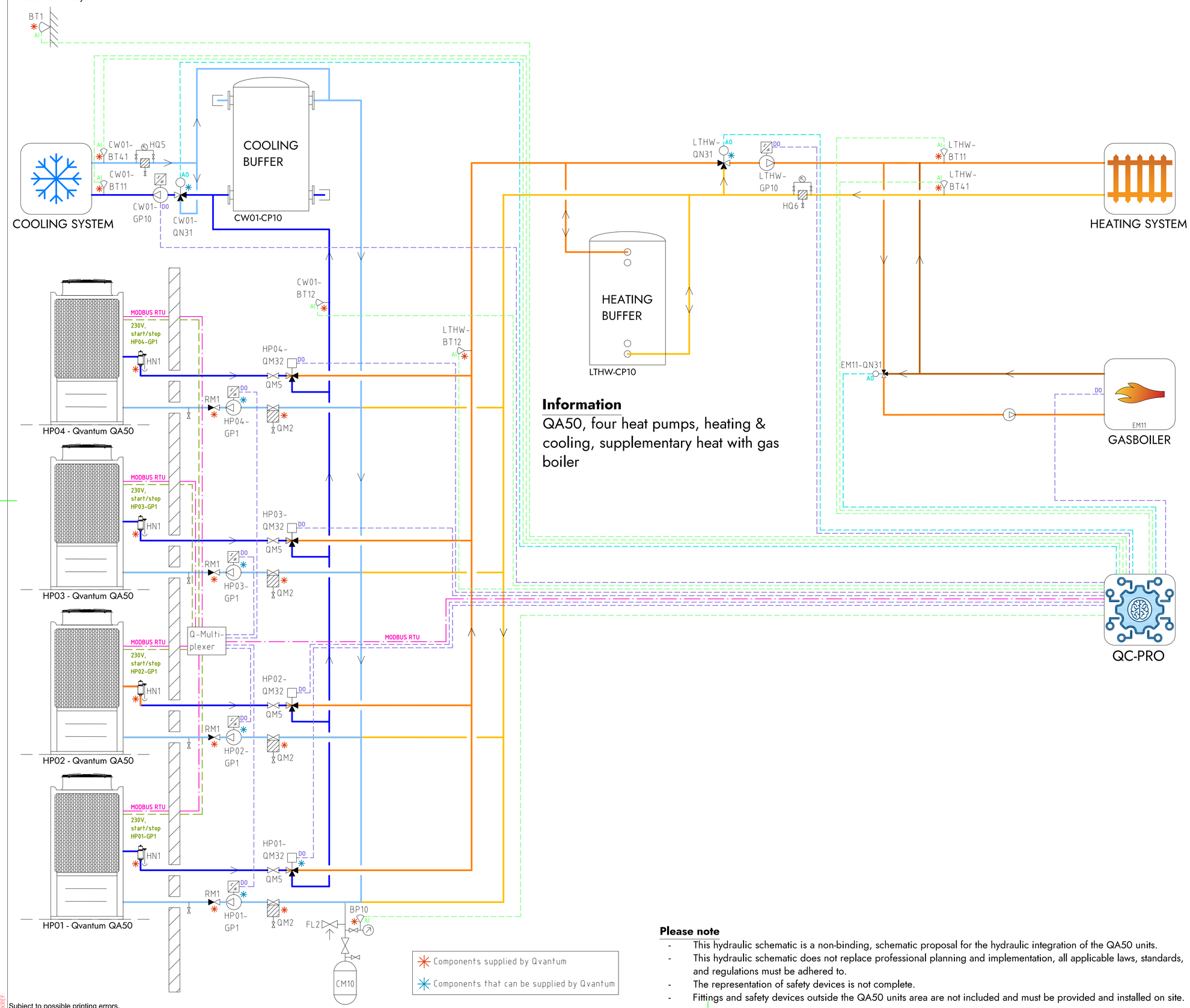
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & cooling, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-410	121

Subject to possible printing errors.
LAGER: SB11
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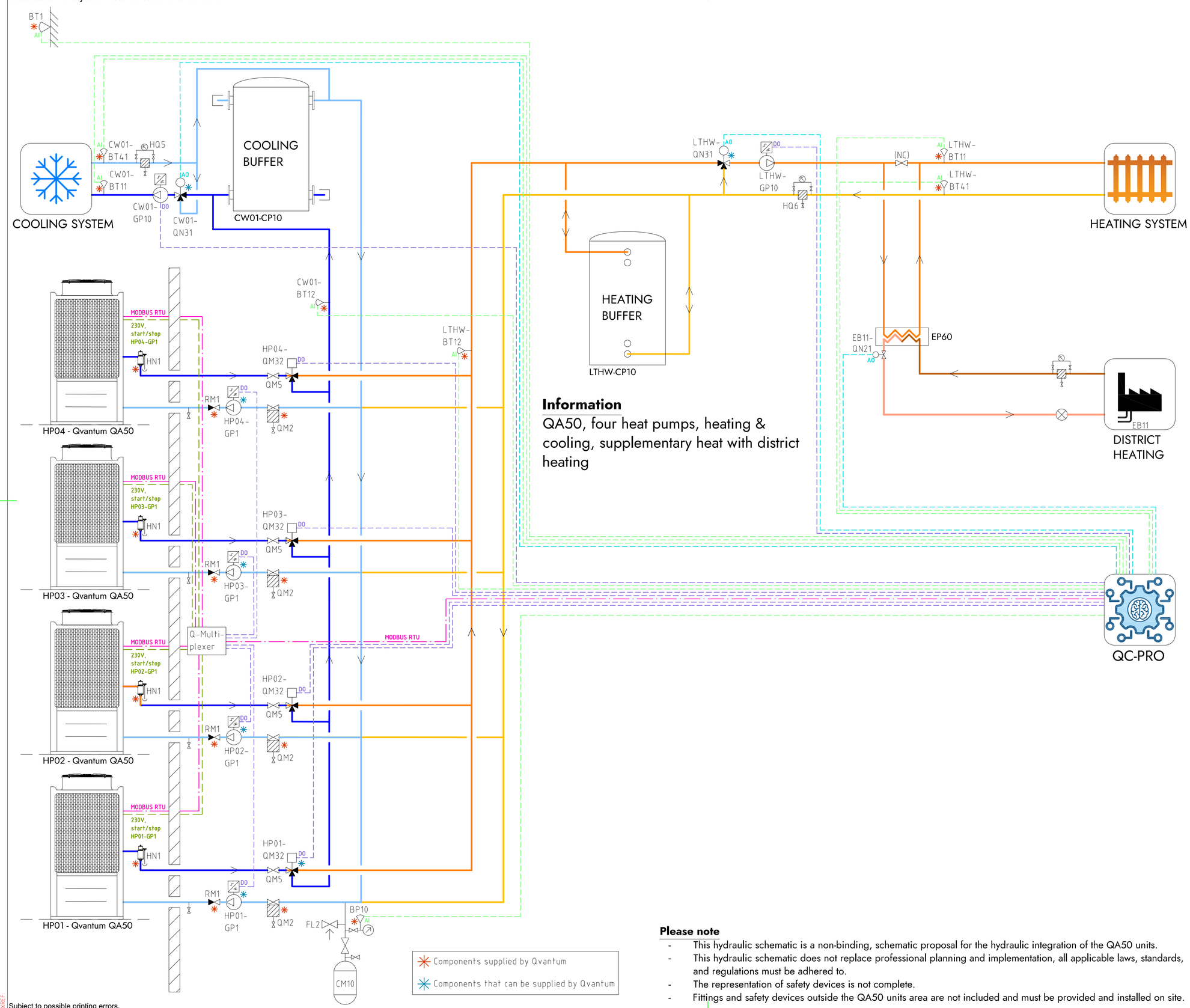
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & cooling, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-411	122

Subject to possible printing errors.
LAGER: SB11
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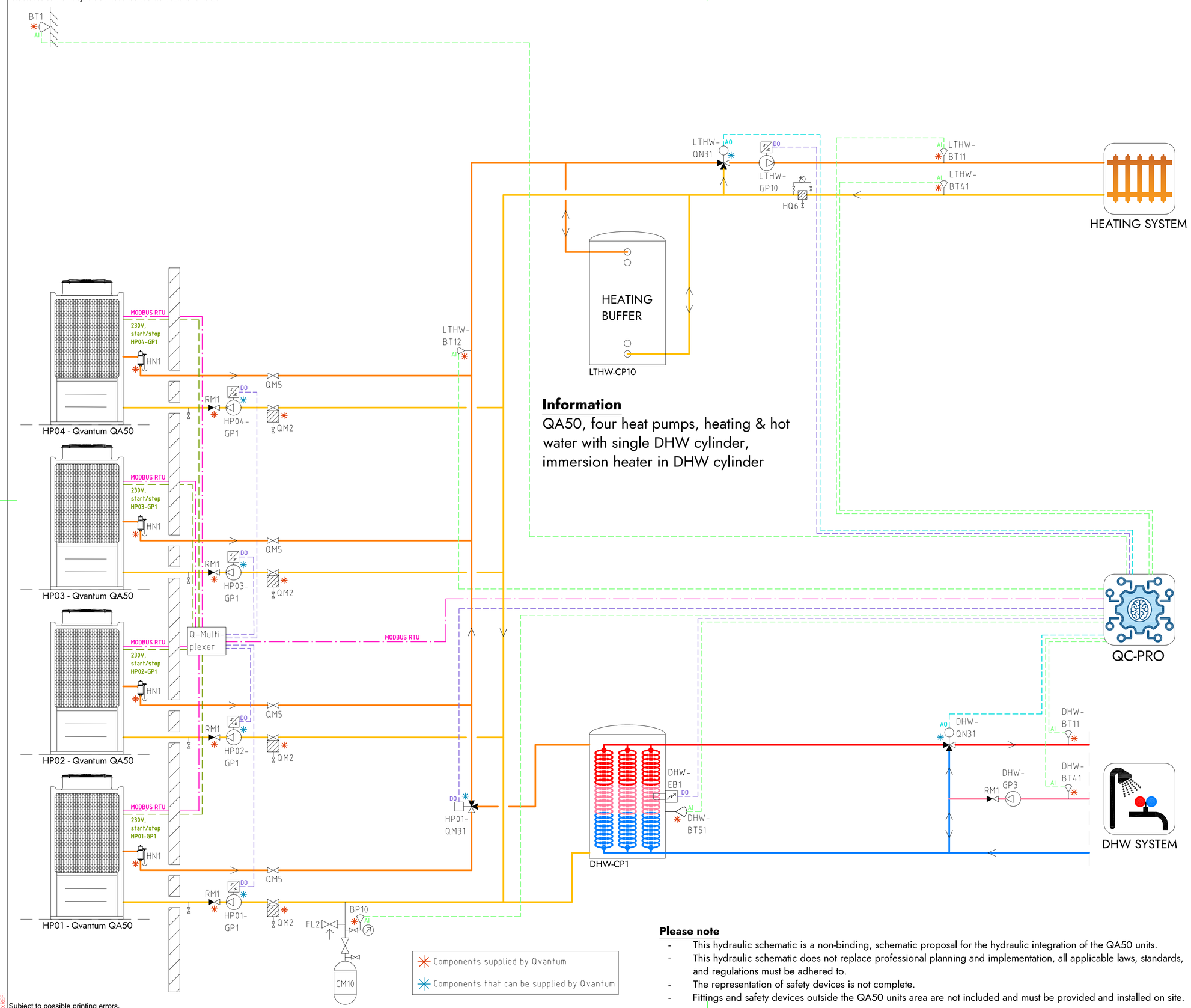
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-412	123

Subject to possible printing errors.
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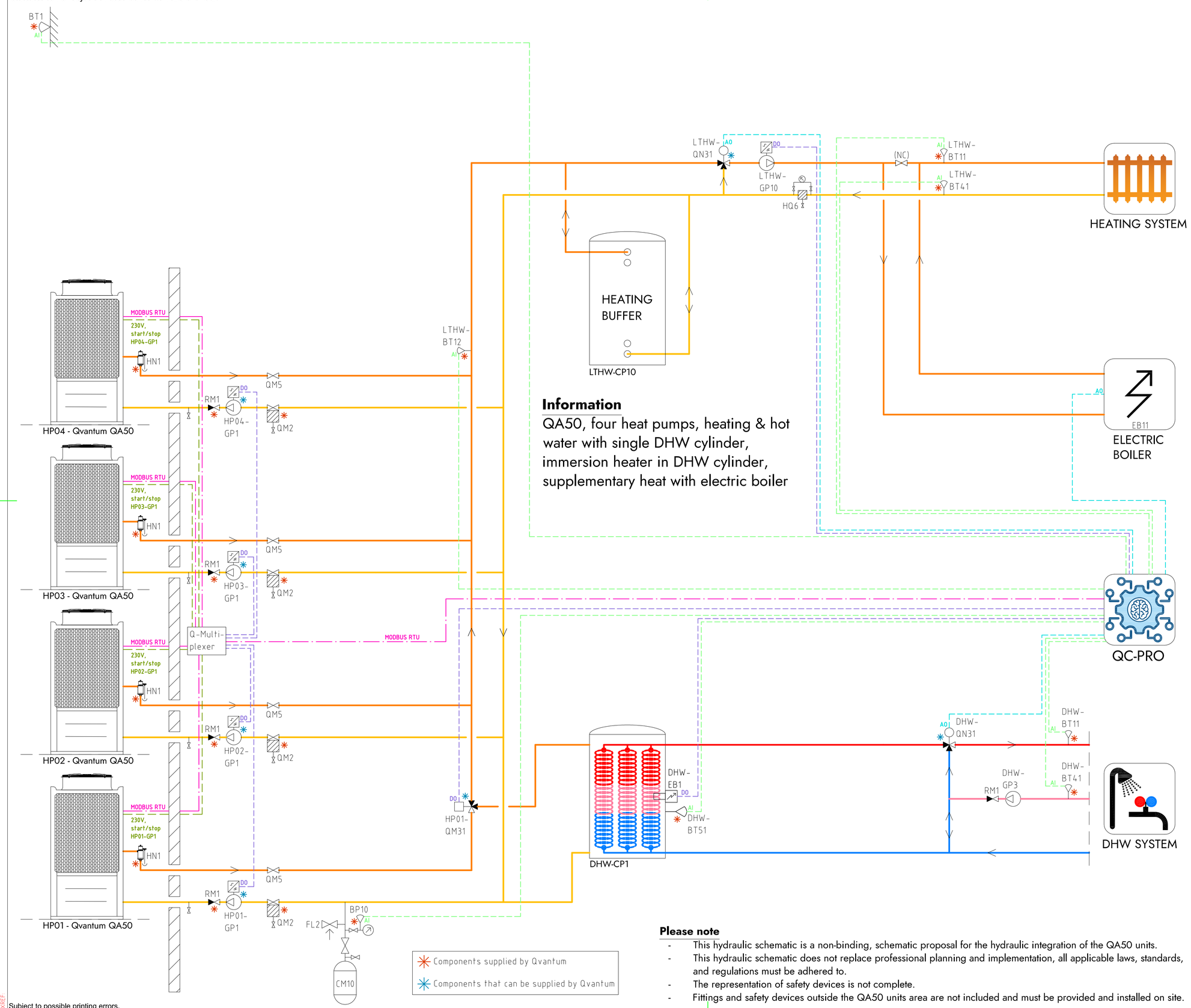
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric Boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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JE	QA50-50-8-413	124

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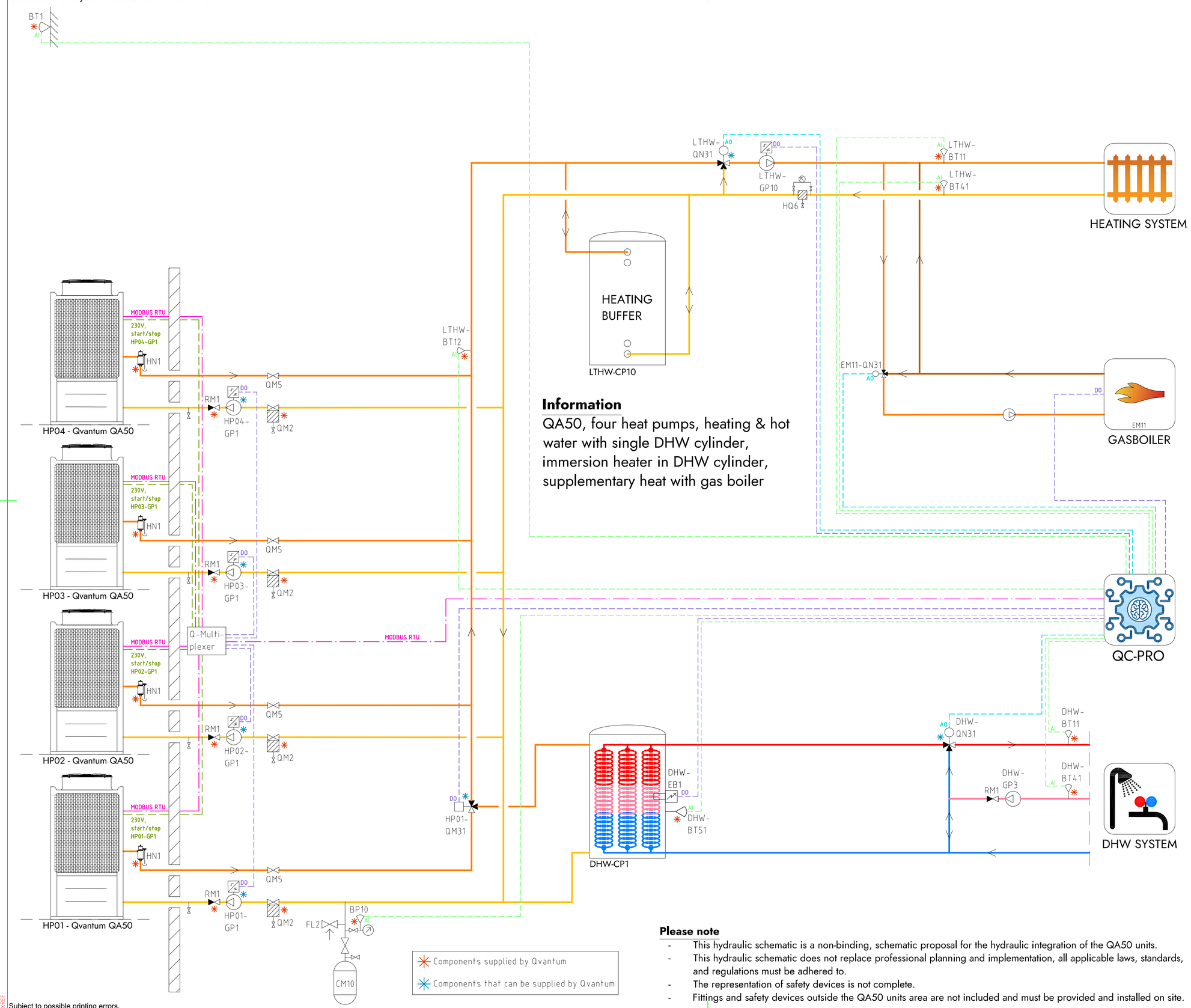
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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JE	QA50-50-8-414	125

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LAGER: SB11
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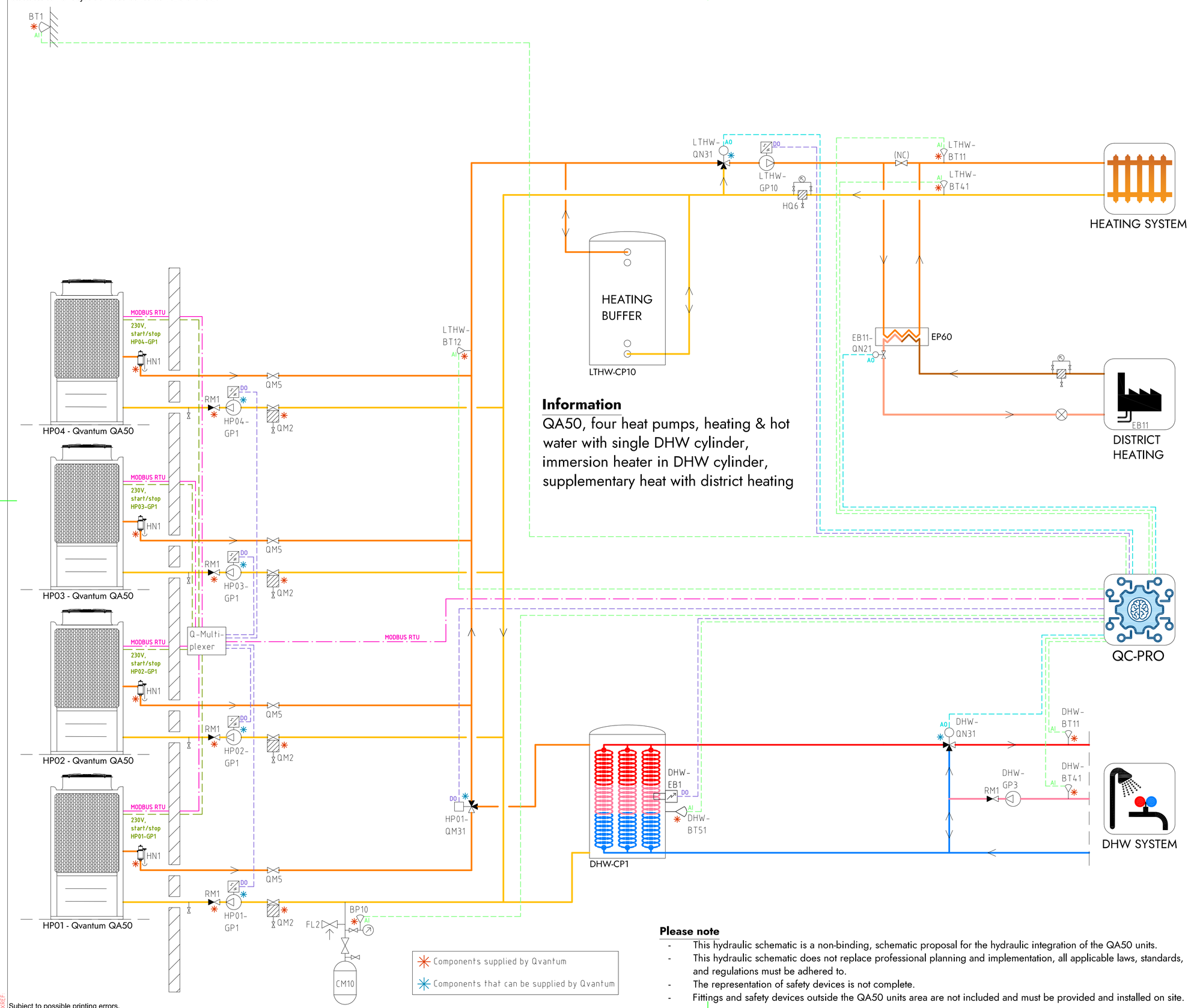
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, immersion heater in DHW cylinder, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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JE	QA50-50-8-415	126

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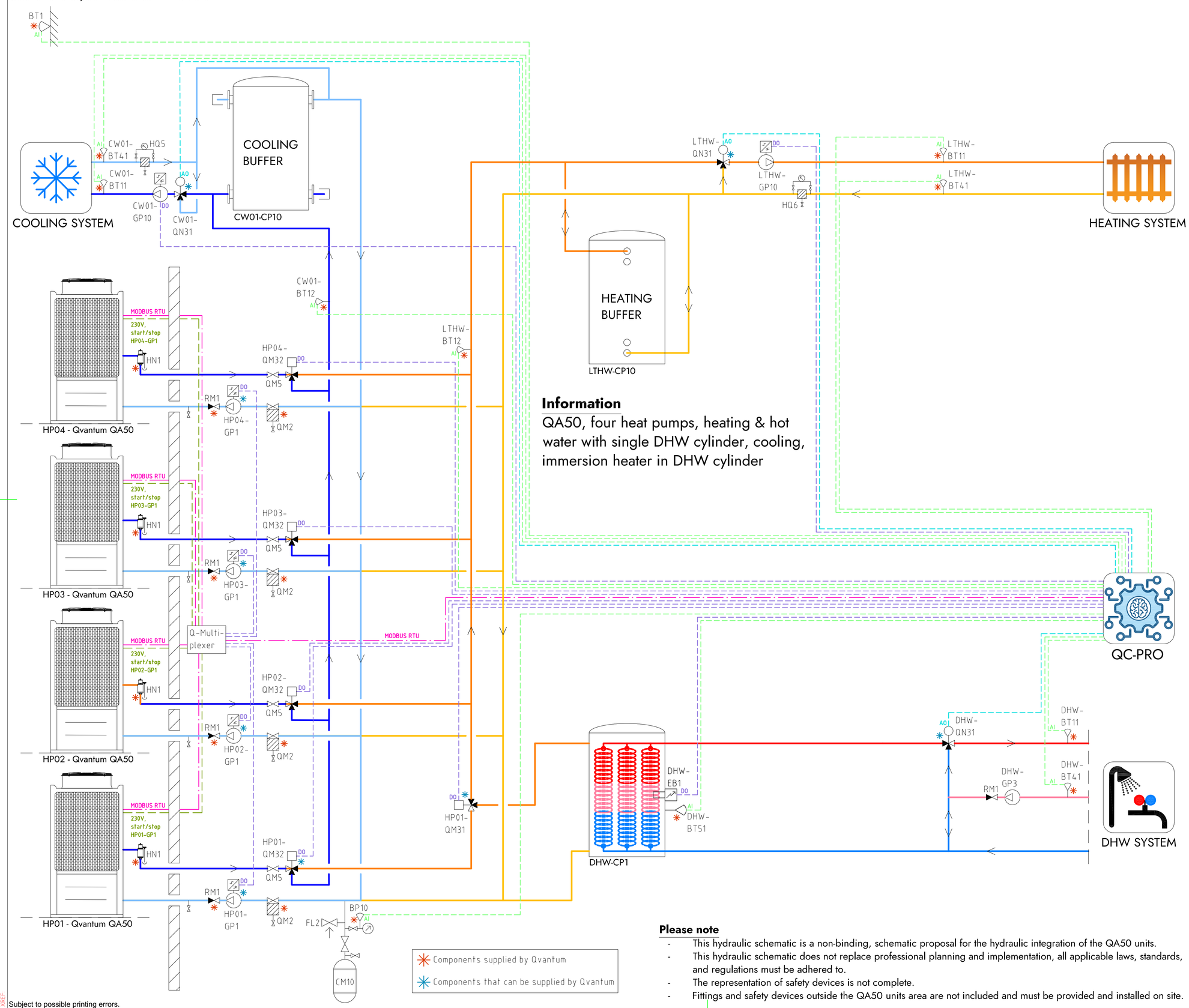
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-416	127

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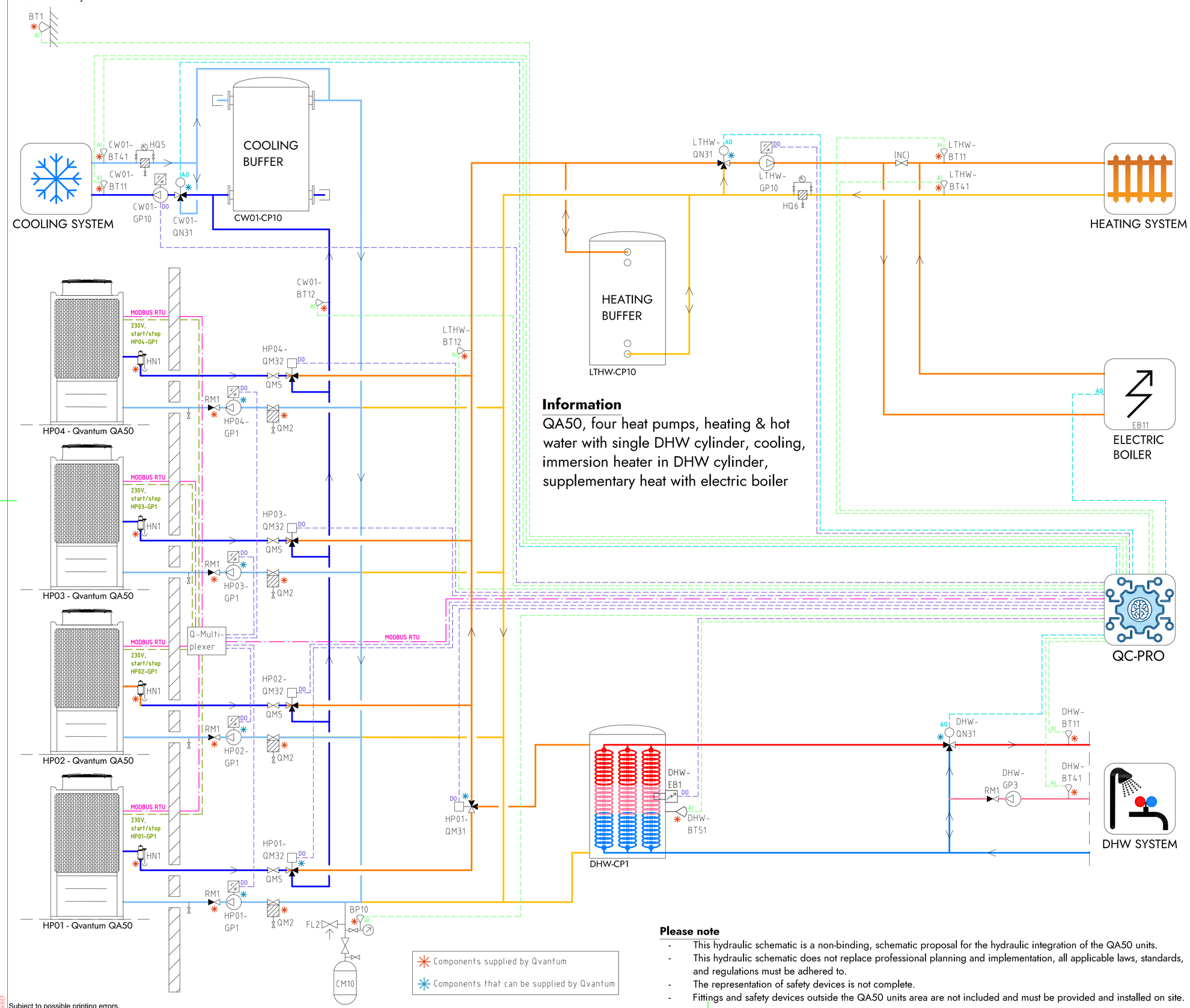
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
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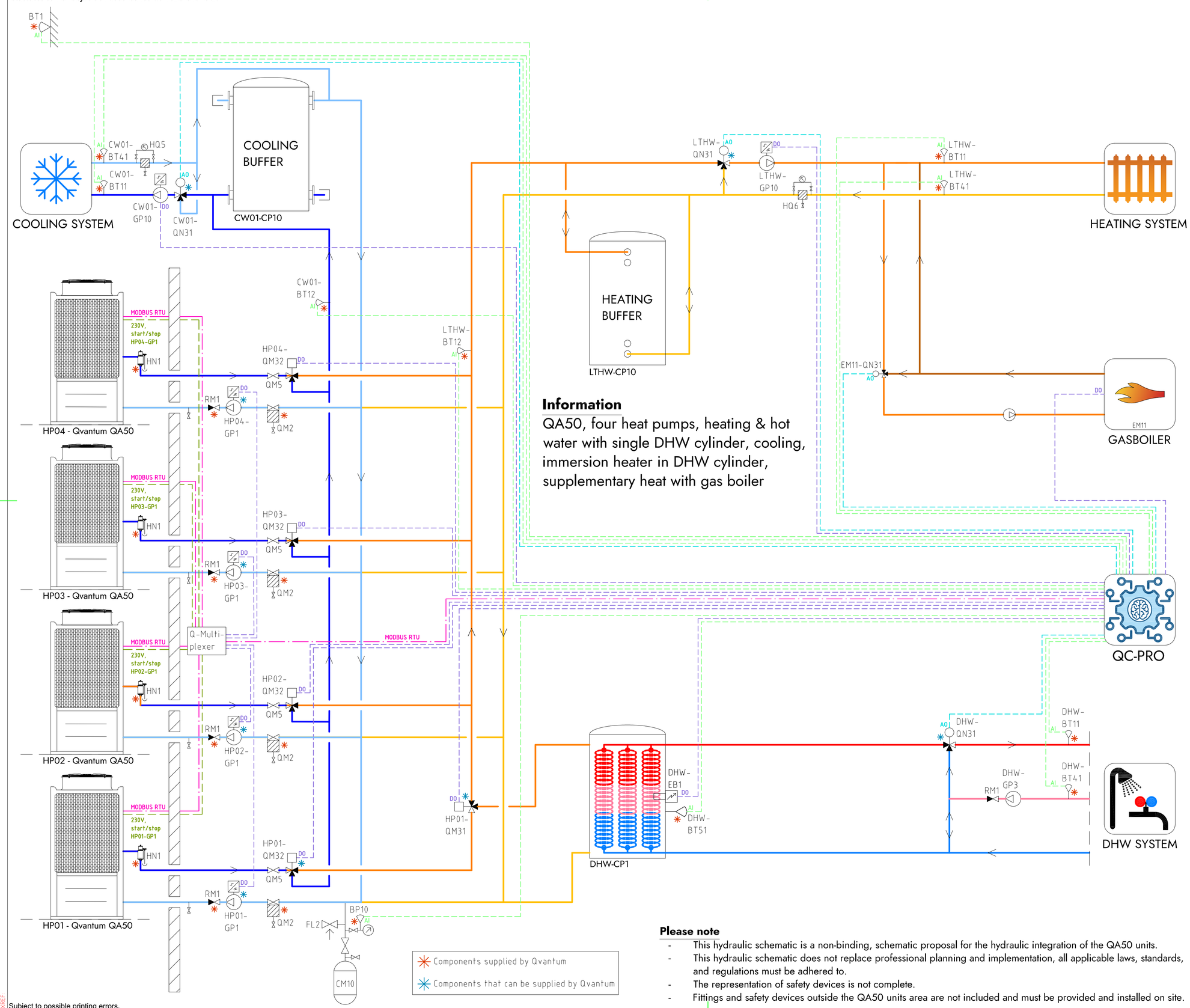
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

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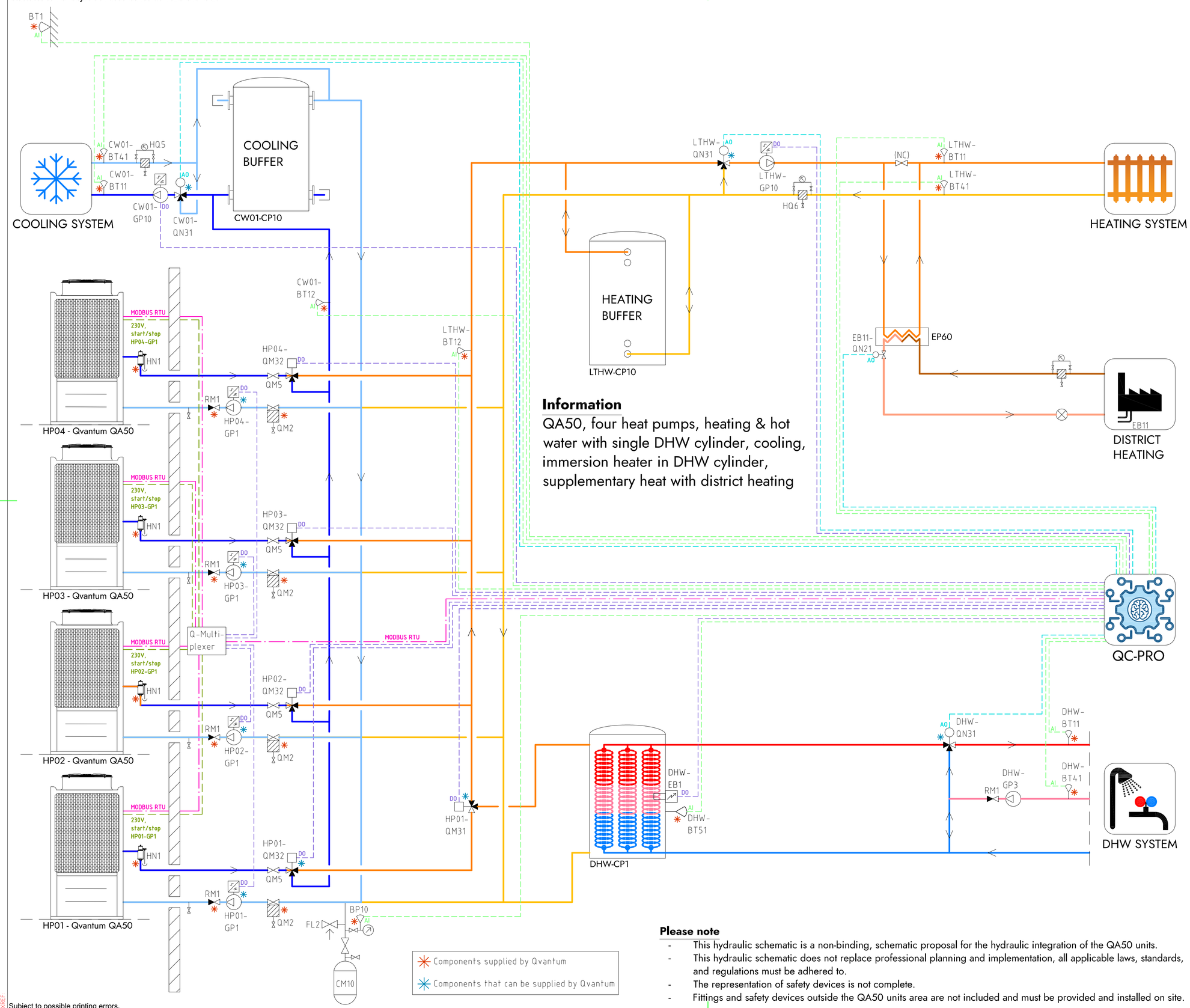
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-418	129

Subject to possible printing errors.
XREF:
LAGER: SB11
PLO: 2026-09-08 22:36 G:\QVANTUM\01 INTERNT\05 RITNINGAR\DOCKNINGSPRINK\PER\QVANTUM QA\RIT\QA50 - COMMERCIAL, FOUR HEAT PUMPS_2026-09-07 (DO TO GP1).DWG JONAS

Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with single DHW cylinder, cooling, immersion heater in DHW cylinder, supplementary heat with district heating

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-EB1	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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Ji-te gatan 7, 265 38 Åstorp

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-419	130

Subject to possible printing errors.
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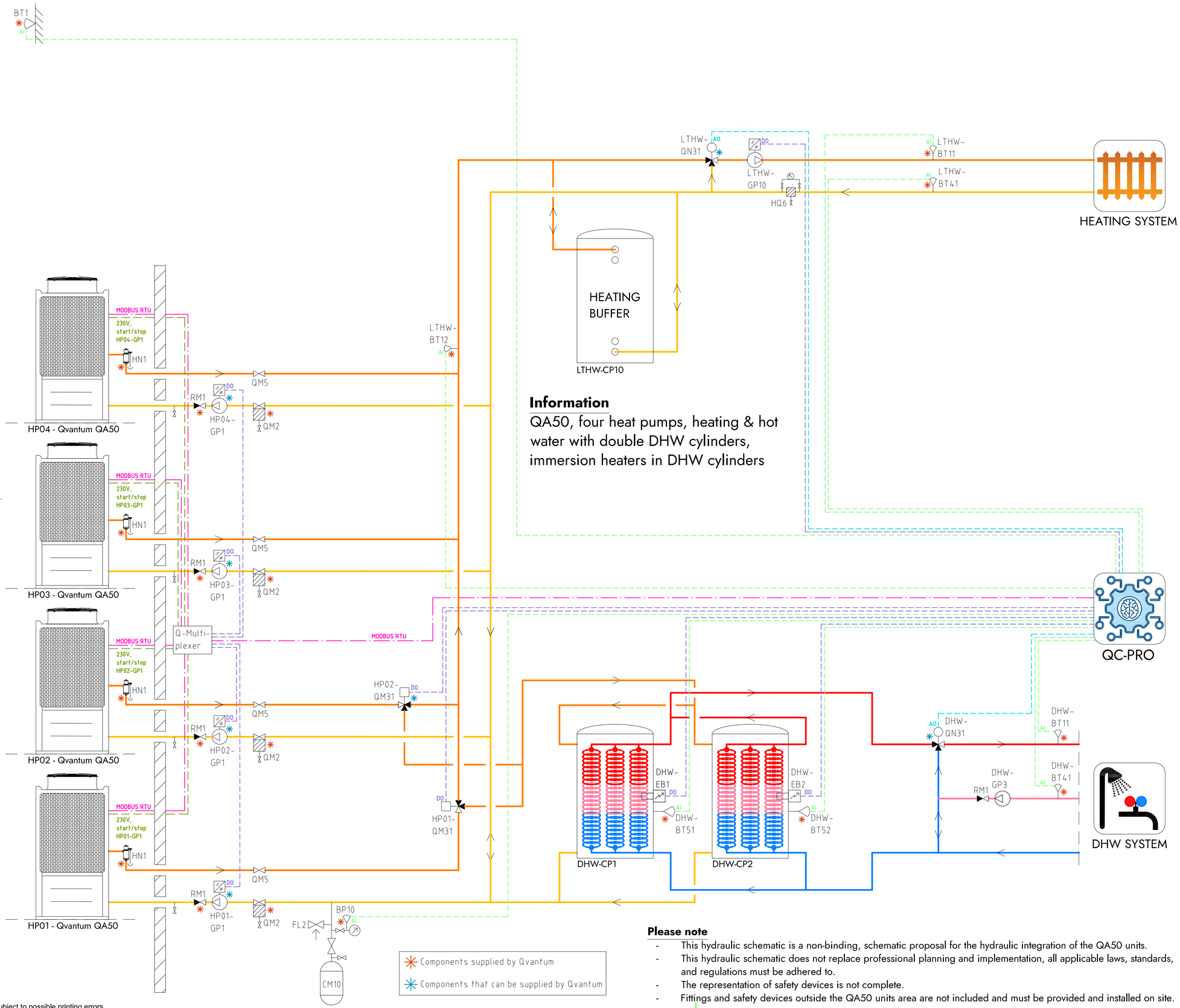
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-420	131

Subject to possible printing errors.
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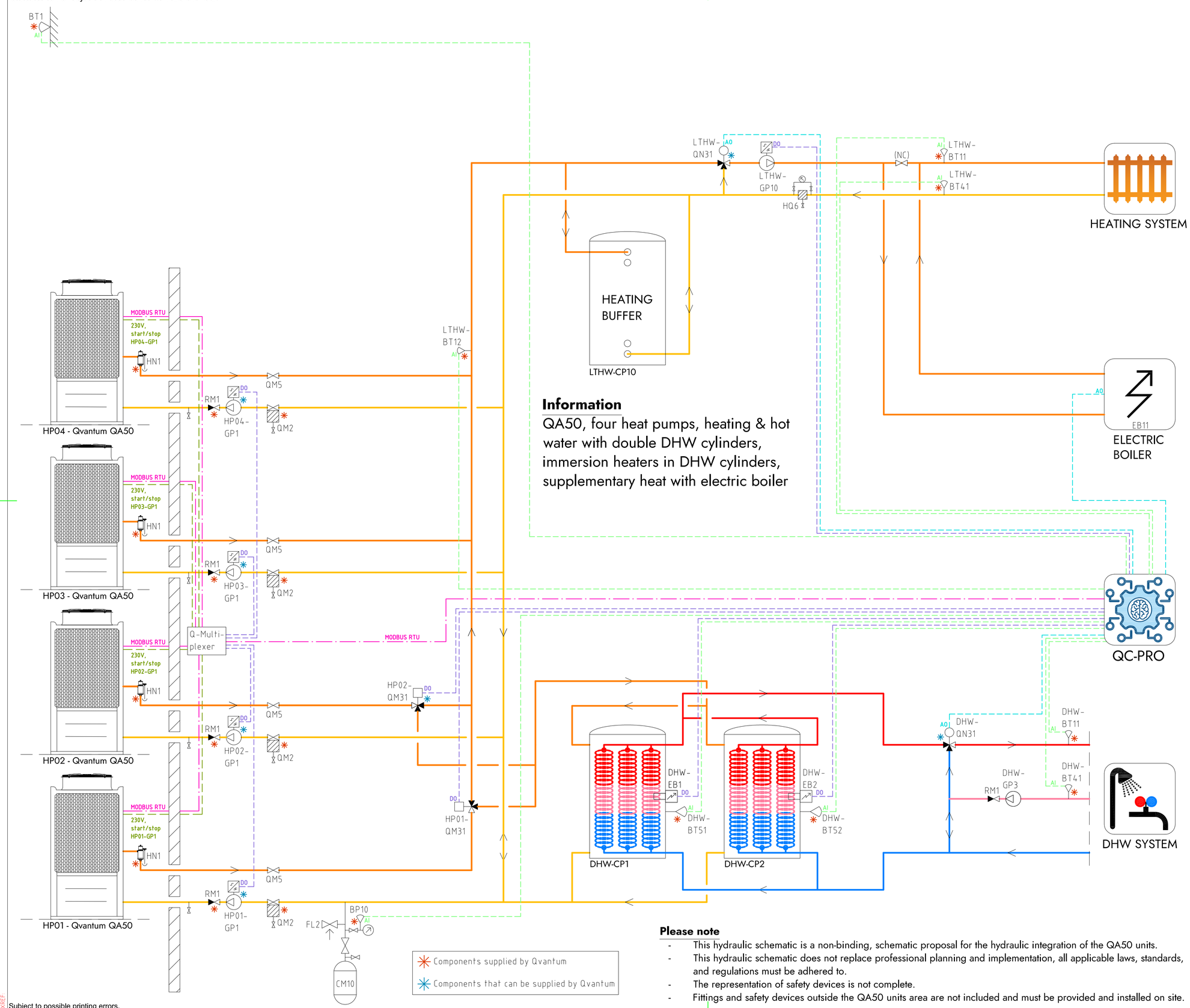
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-421	132

Subject to possible printing errors.
LAGER: SB11
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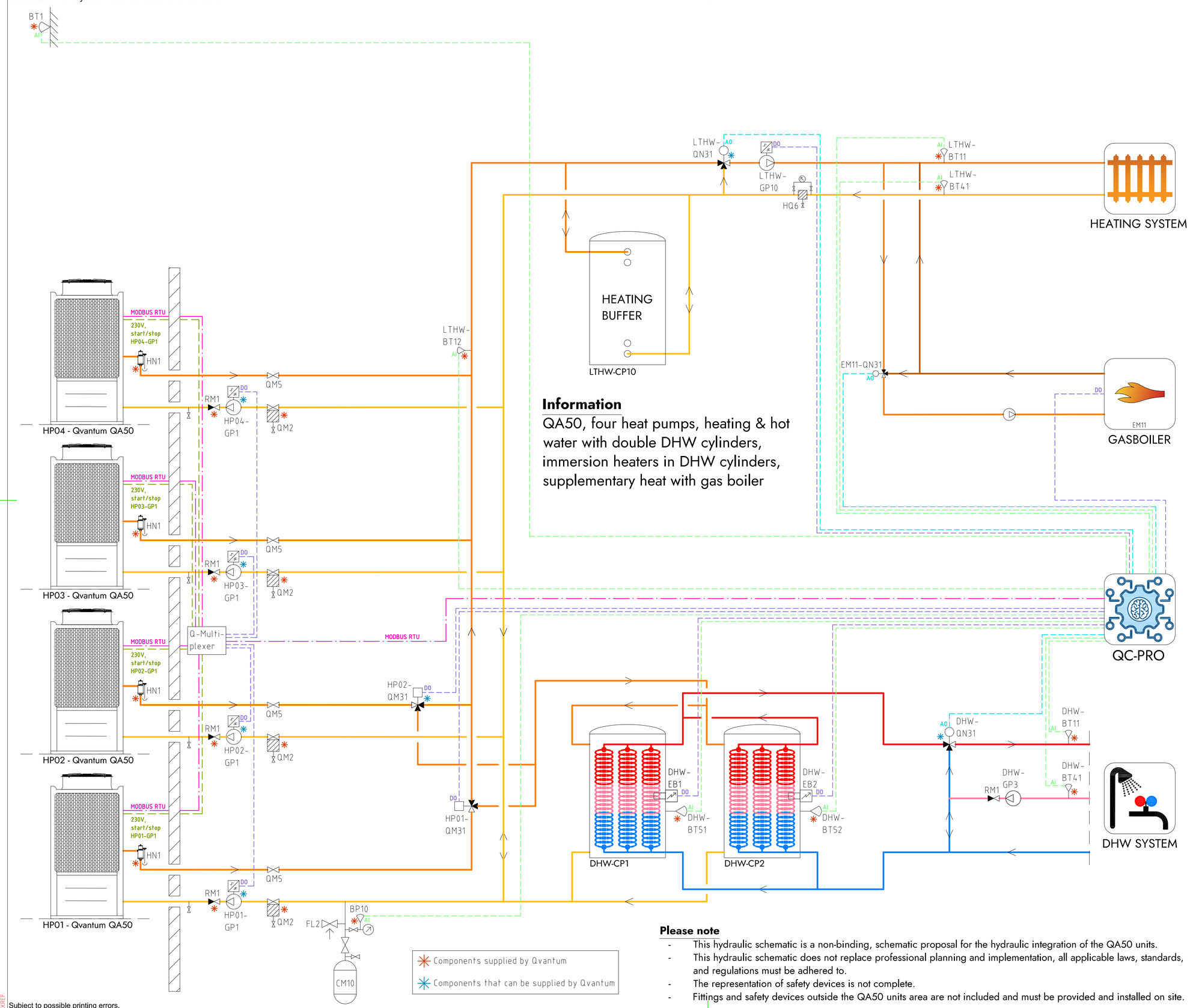
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with gas boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

DRAWN BY	DRAWING NUMBER	PAGE NUMBER
JE	QA50-50-8-422	133

Subject to possible printing errors.
XREF:
LAGER: SB11
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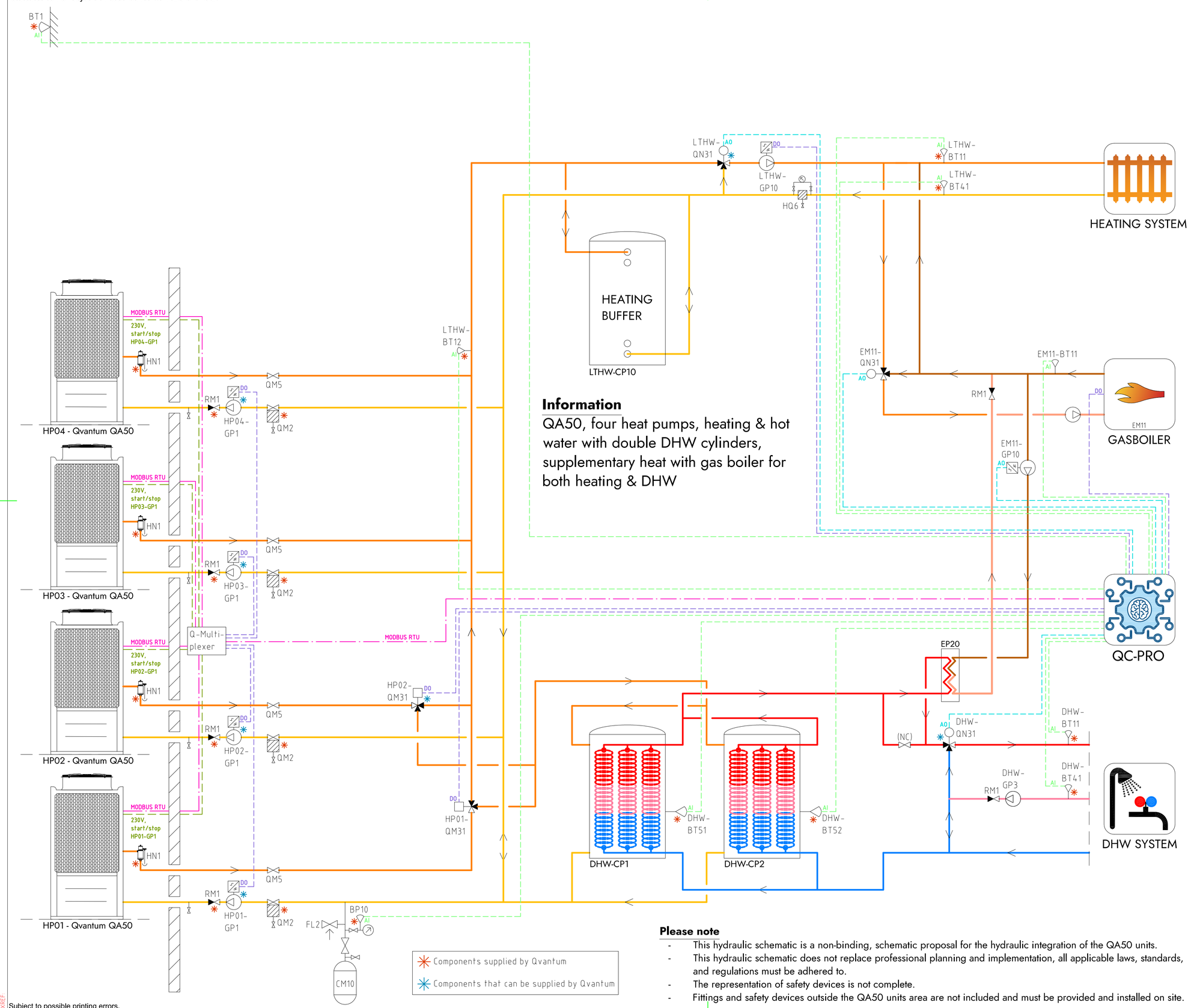
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, supplementary heat with gas boiler for both heating & DHW

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-423	134

Subject to possible printing errors.
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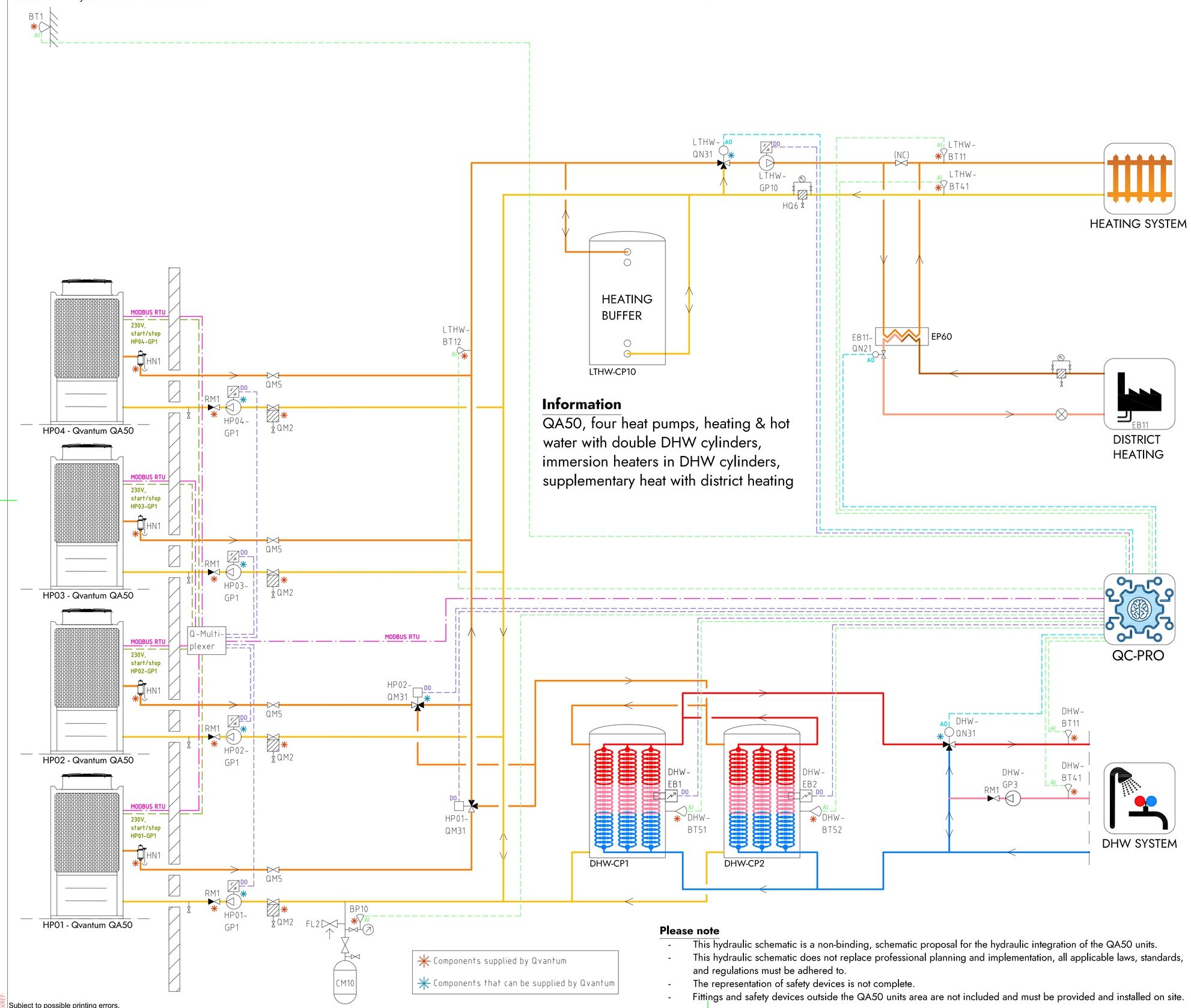
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, immersion heaters in DHW cylinders, supplementary heat with district heating

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-424	135

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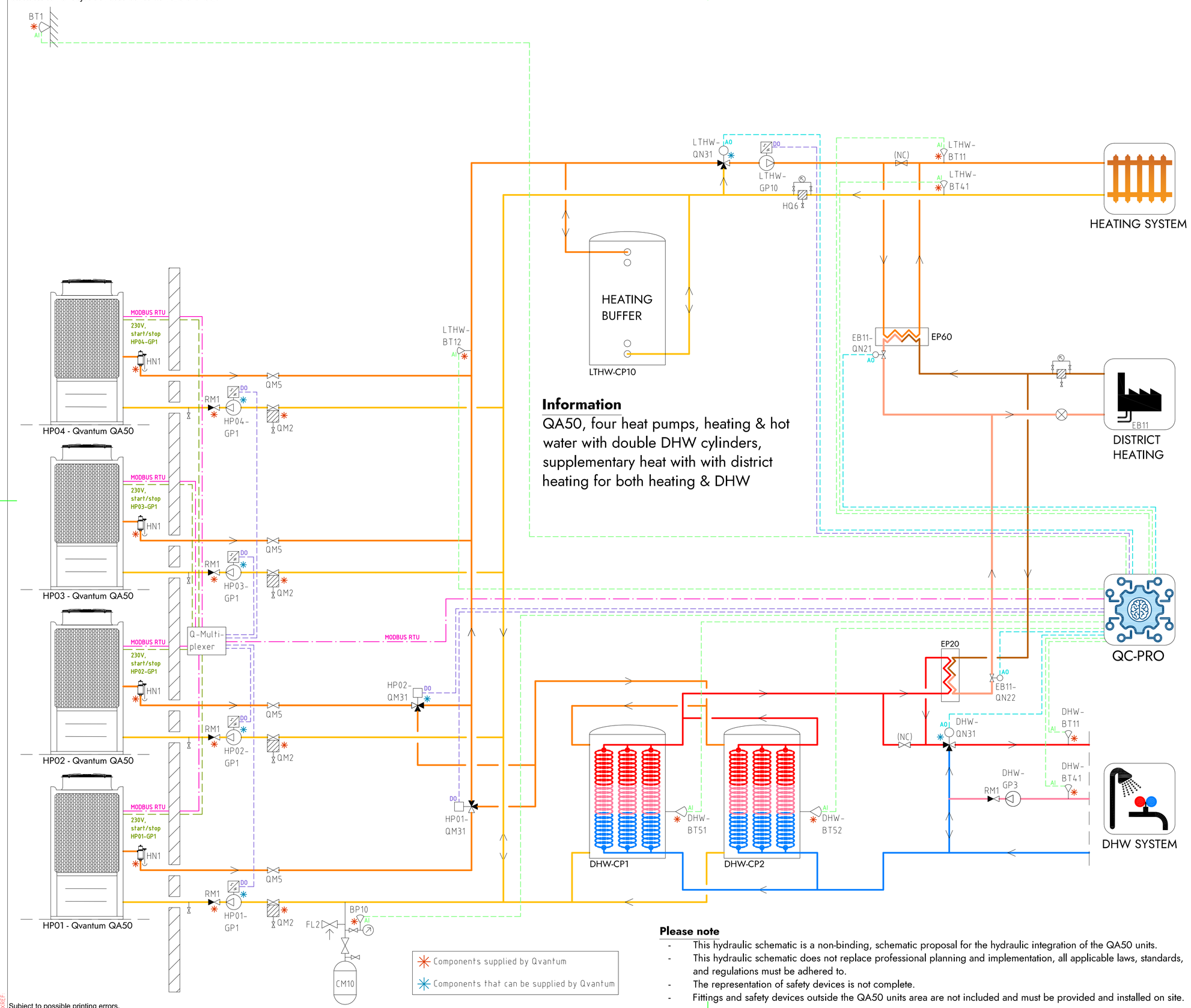
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, supplementary heat with with district heating for both heating & DHW

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
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- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-425	136

Subject to possible printing errors.
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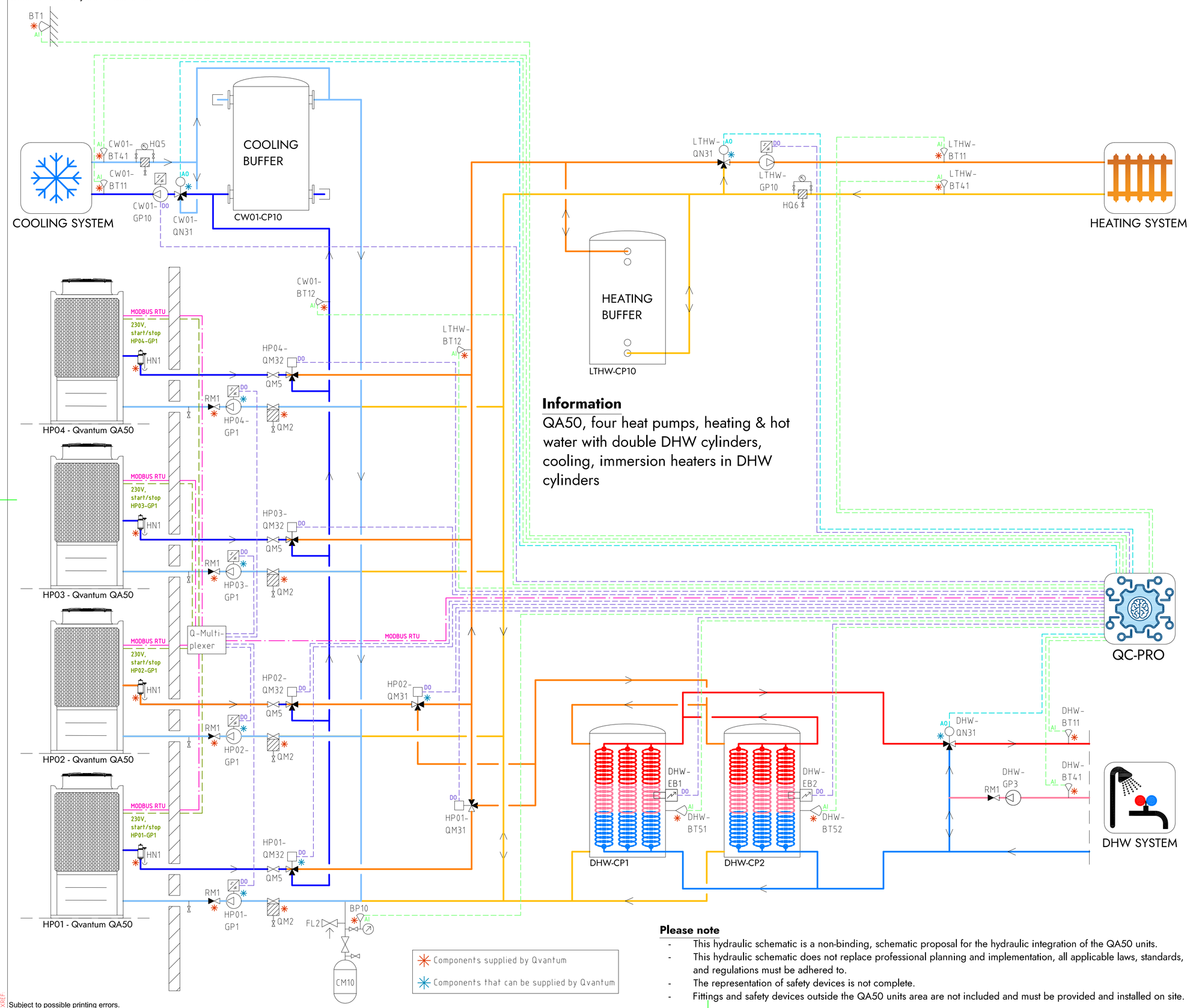
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- This hydraulic schematic does not replace professional planning and implementation, all applicable laws, standards, and regulations must be adhered to.
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- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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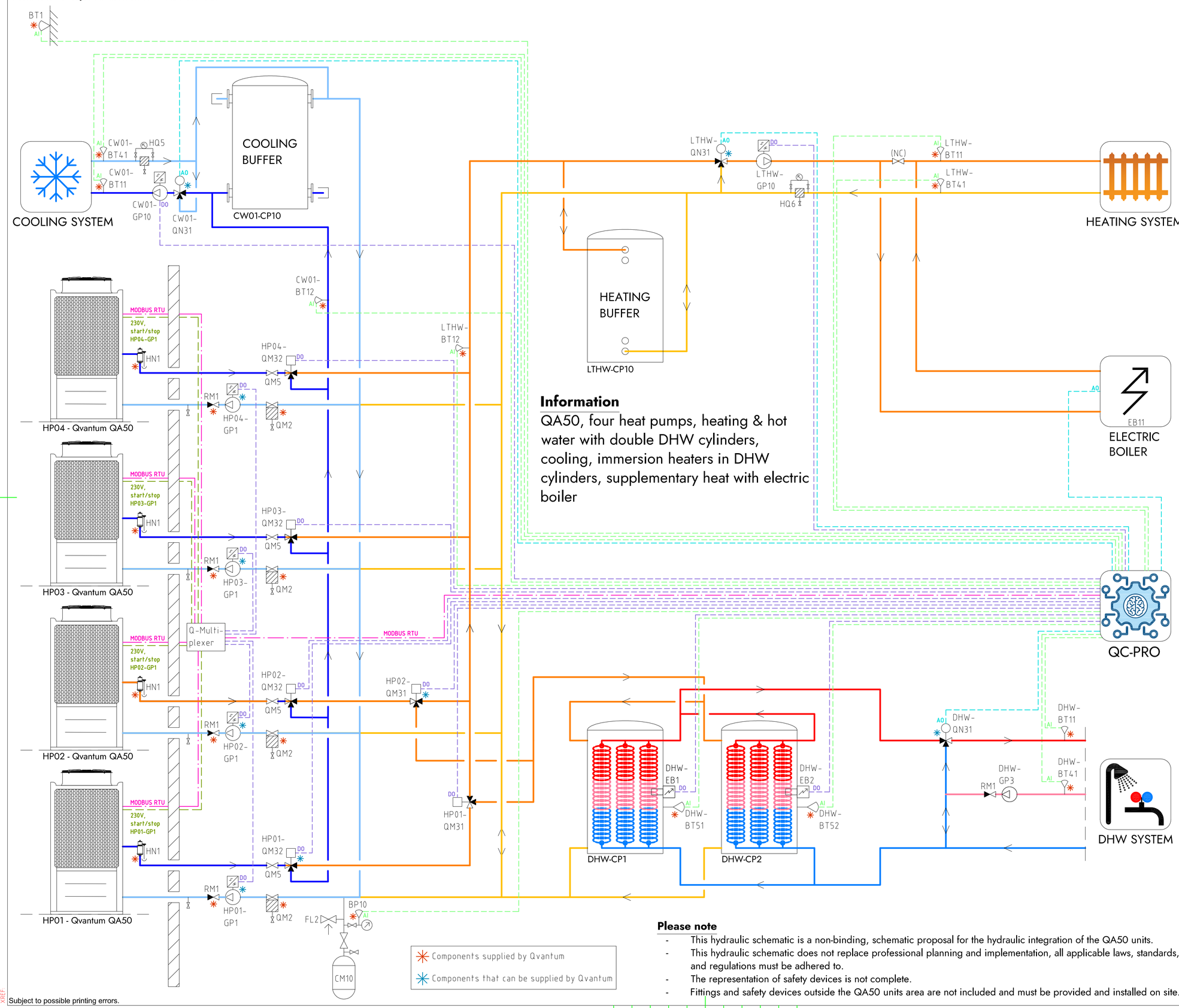
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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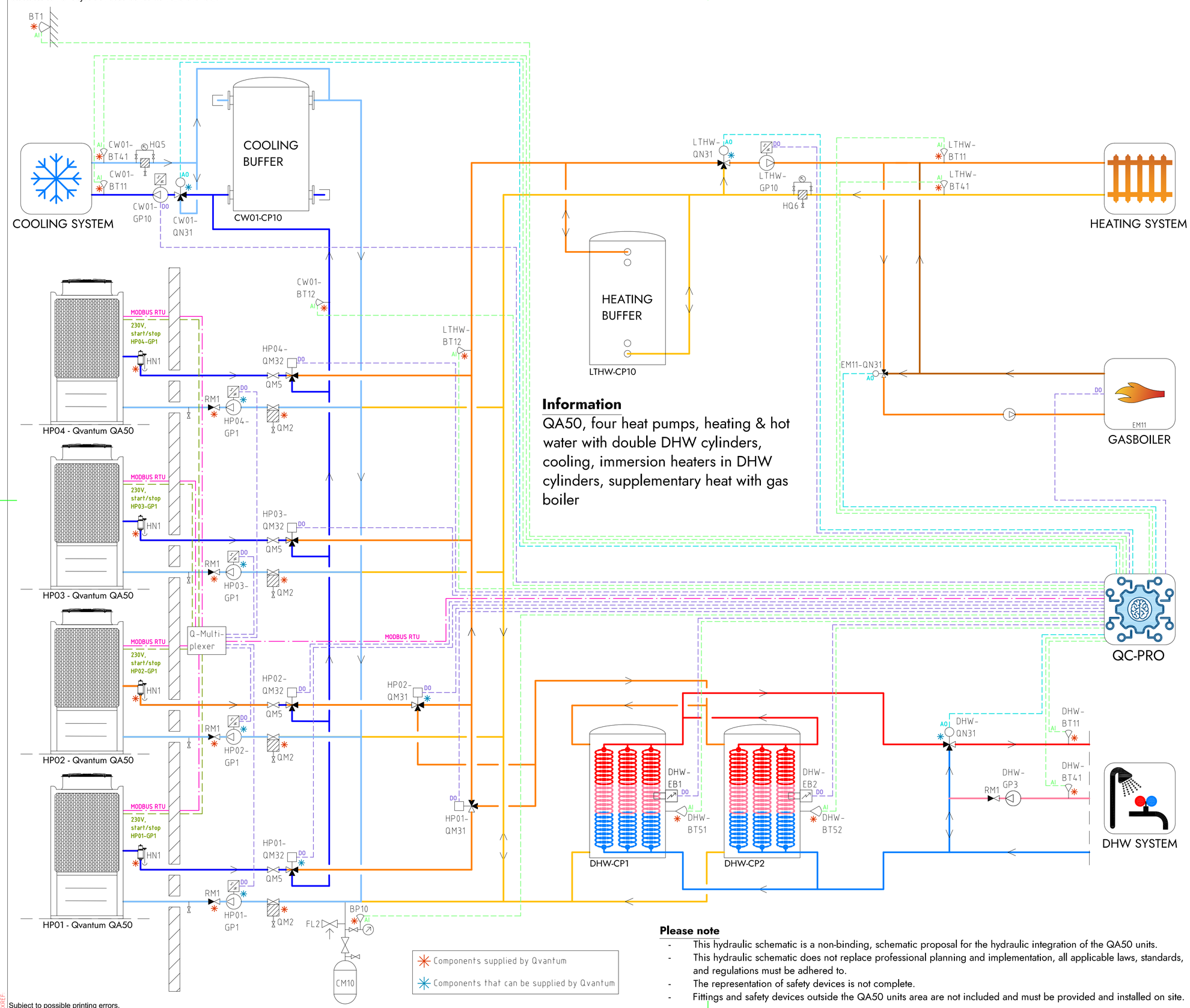
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with gas boiler

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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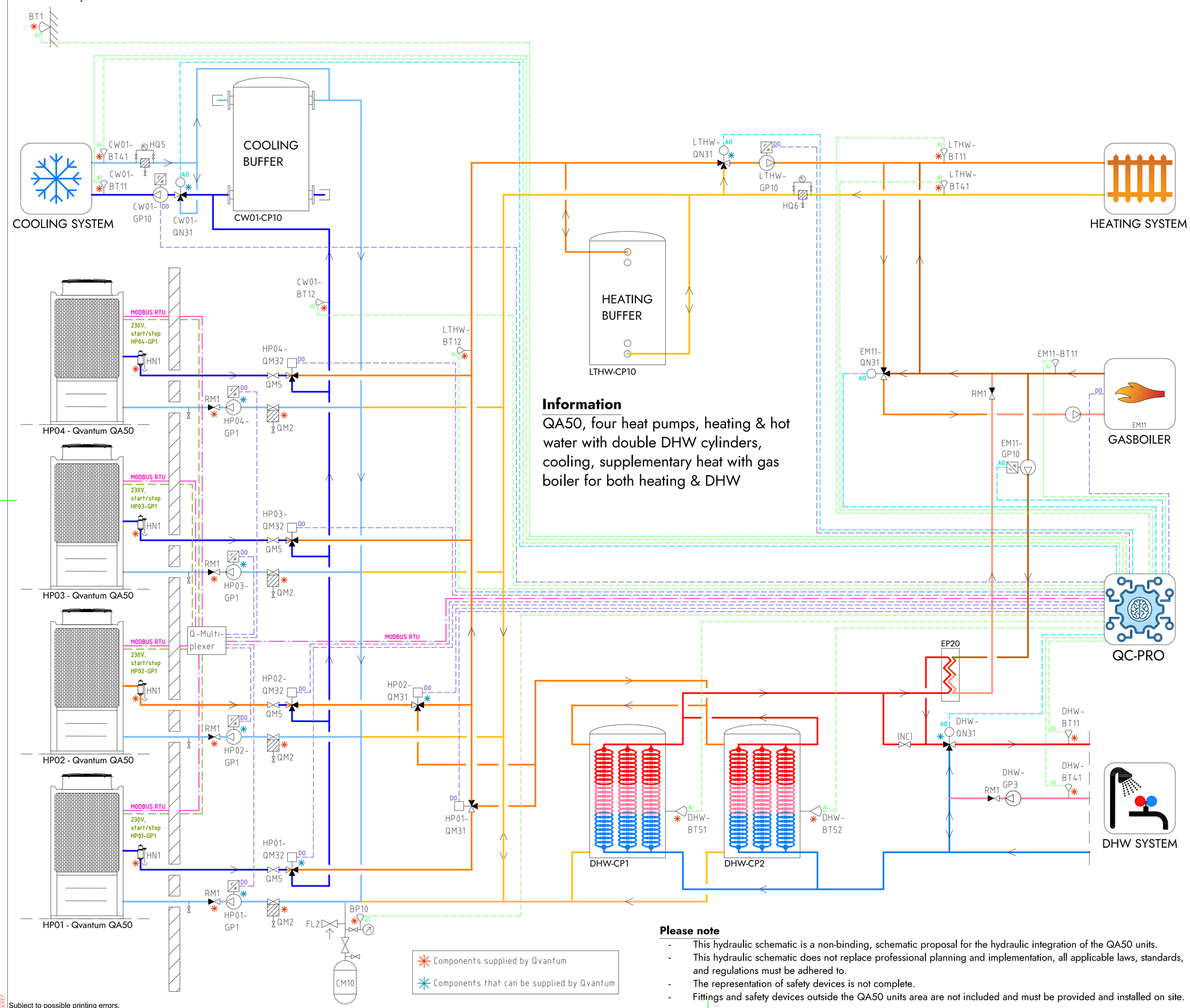
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with gas boiler for both heating & DHW

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
- Fittings and safety devices outside the QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EM11	Gas boiler
EM11-BT11	Flow temperature, Gas boiler
EM11-GP10	Circulation pump, Gas Boiler (DHW)
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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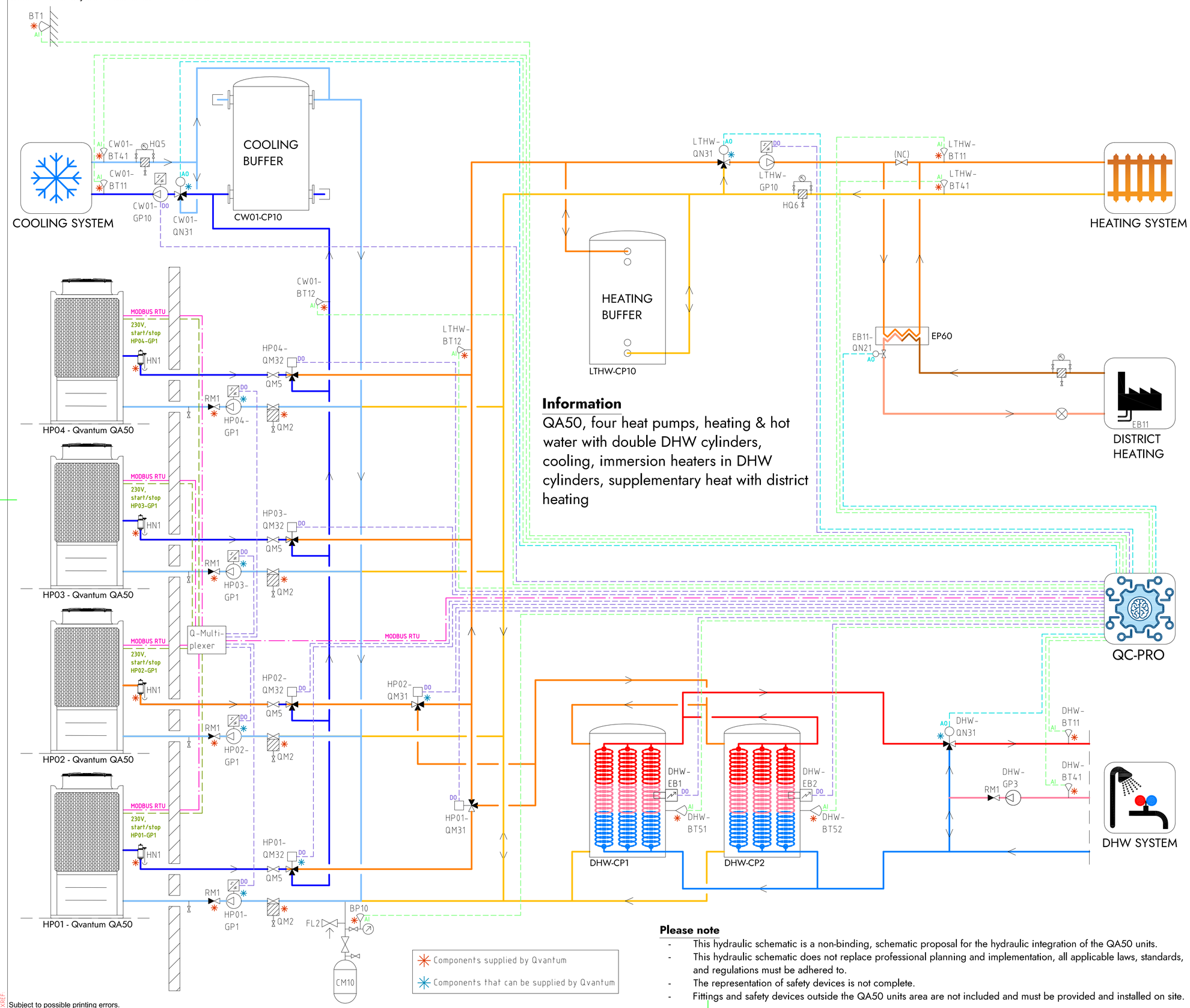
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, immersion heaters in DHW cylinders, supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
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- The representation of safety devices is not complete.
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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-EB1	Immersion heater
DHW-EB2	Immersion heater
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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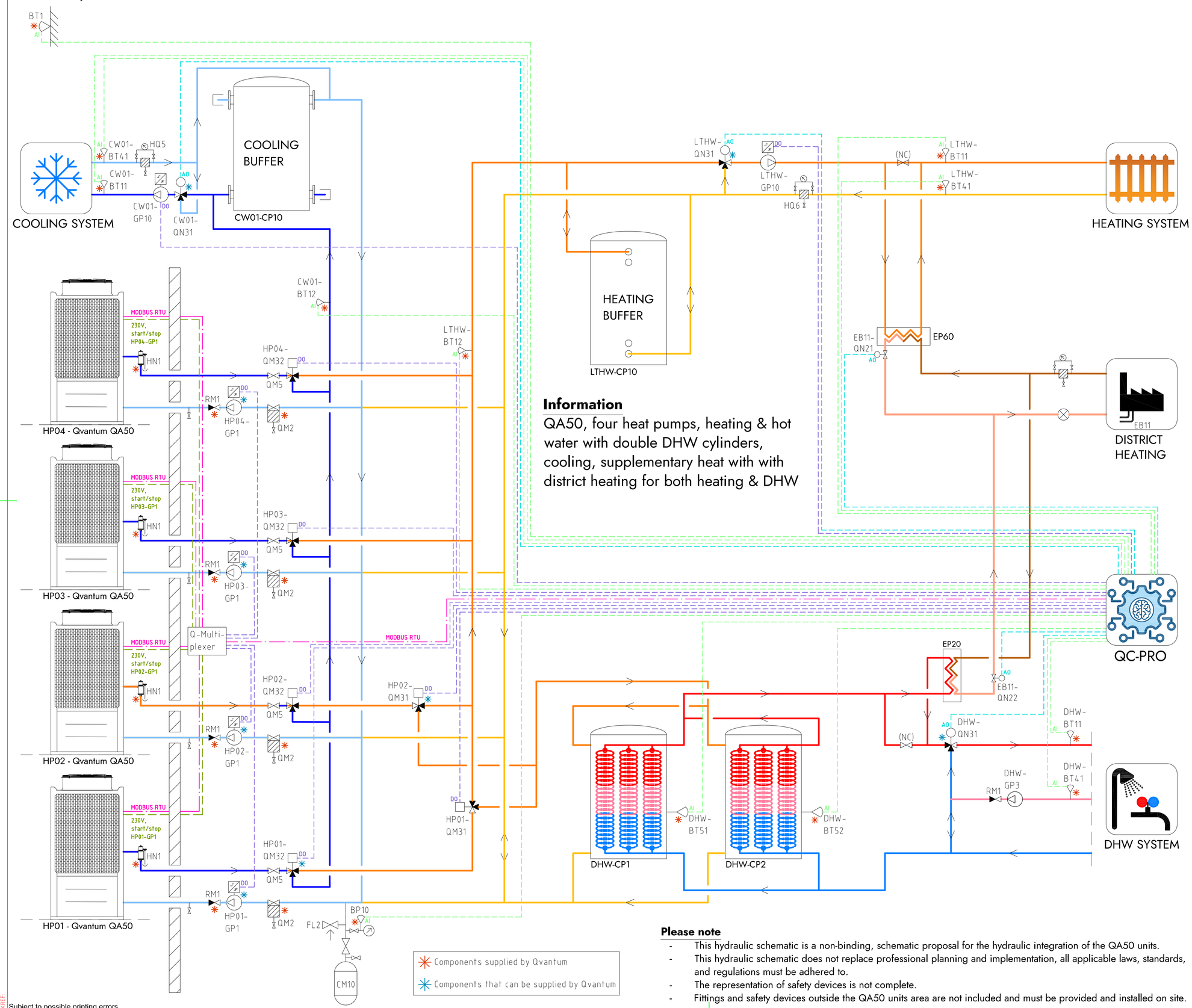
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, heating & hot water with double DHW cylinders, cooling, supplementary heat with with district heating for both heating & DHW

Please note

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Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ5	Strainer, cooling system
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP01-QM31	Switching valve (LTHW/DHW)
HP02-QM31	Switching valve (LTHW/DHW)
HP01-QM32	Switching valve (LTHW/CW01)
HP02-QM32	Switching valve (LTHW/CW01)
HP03-QM32	Switching valve (LTHW/CW01)
HP04-QM32	Switching valve (LTHW/CW01)

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
EB11-QN22	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

SYSTEM CW01

CW01-BT11	Flow temperature, main cooling system
CW01-BT12	Flow temperature, primary cooling system
CW01-BT41	Return temperature, main cooling system
CW01-CP10	Cooling buffer
CW01-GP10	Circulation pump, main cooling system
CW01-QN31	Mixing valve, main cooling system

SYSTEM DHW

DHW-BT11	Flow temperature, DHW system
DHW-BT41	Return temperature, DHW system
DHW-BT51	Tank temperature sensor
DHW-BT52	Tank temperature sensor
DHW-CP1	DHW Cylinder
DHW-CP2	DHW Cylinder
DHW-GP3	Circulation pump, DHW circulation
DHW-QN31	Mixing valve, DHW system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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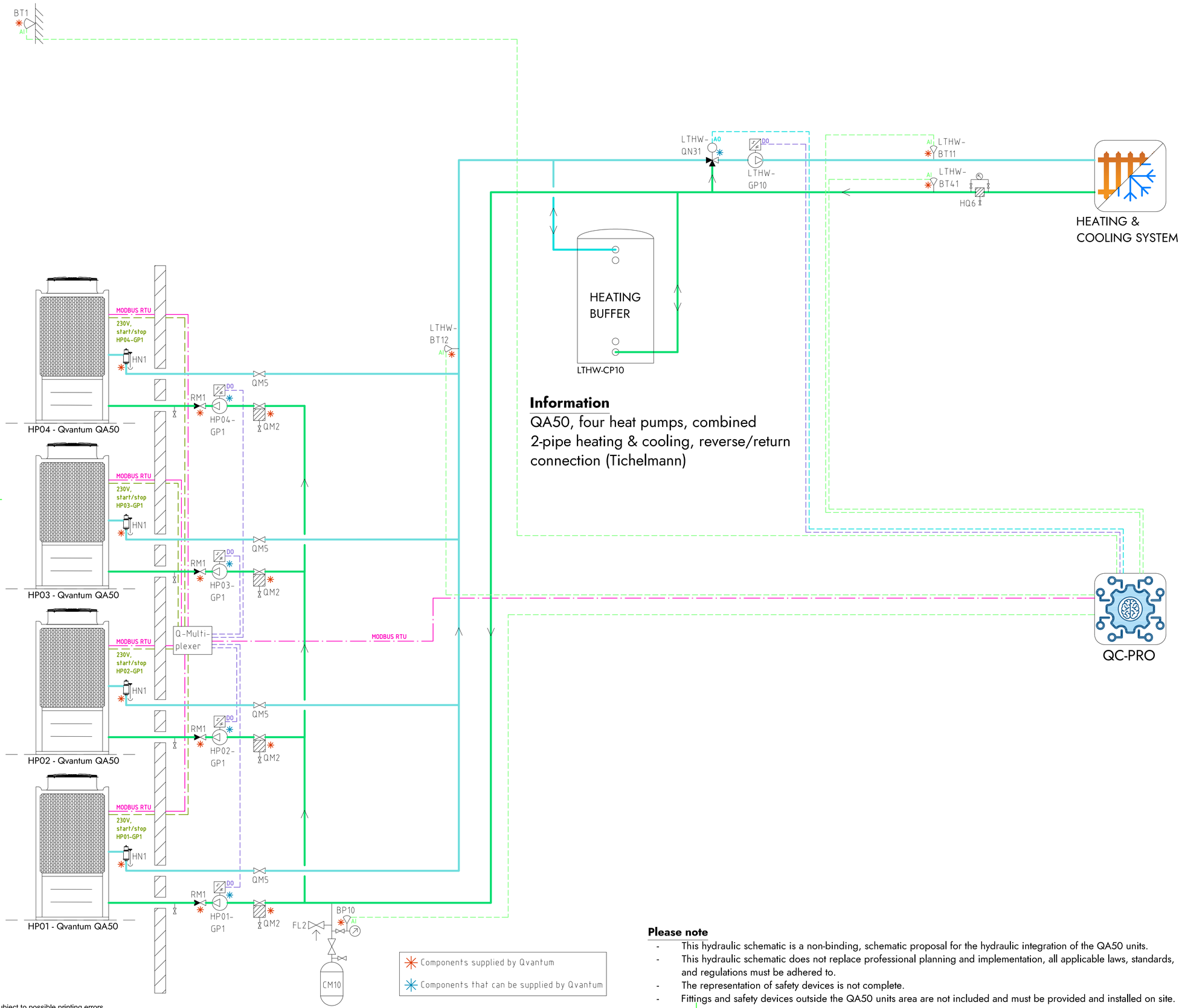
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, combined
2-pipe heating & cooling, reverse/return connection (Tichelmann)

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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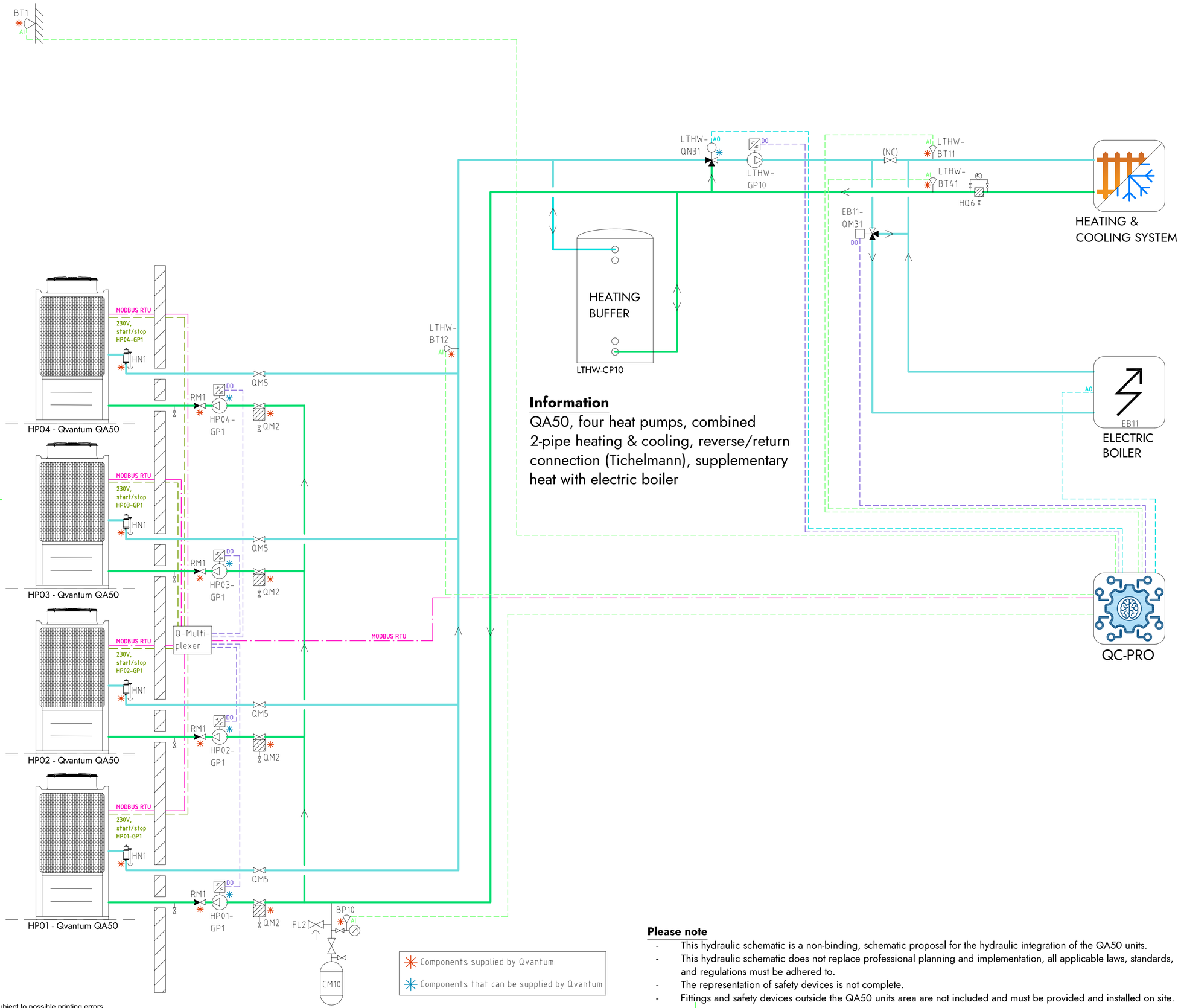
Classification of objects in accordance with IEC 81346-2.



Information

QA50, four heat pumps, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann), supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

- This hydraulic schematic is a non-binding, schematic proposal for the hydraulic integration of the QA50 units.
- 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 QA50 units area are not included and must be provided and installed on site.

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4

SYSTEM LTHW

EB11	Electric boiler
EB11-QM31	Switching valve, electric boiler
LTHW-BT11	Flow temperature, main system
LTHW-BT12	Flow temperature, primary system
LTHW-BT41	Return temperature, main system
LTHW-GP10	Circulation pump, main system
LTHW-QN31	Mixing valve, main system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

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

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HEAT PUMPS FOR SUSTAINABLE CITIES

QVANTUM QA50
HYDRAULIC SCHEMATICS
solutions with up to eight heat pumps

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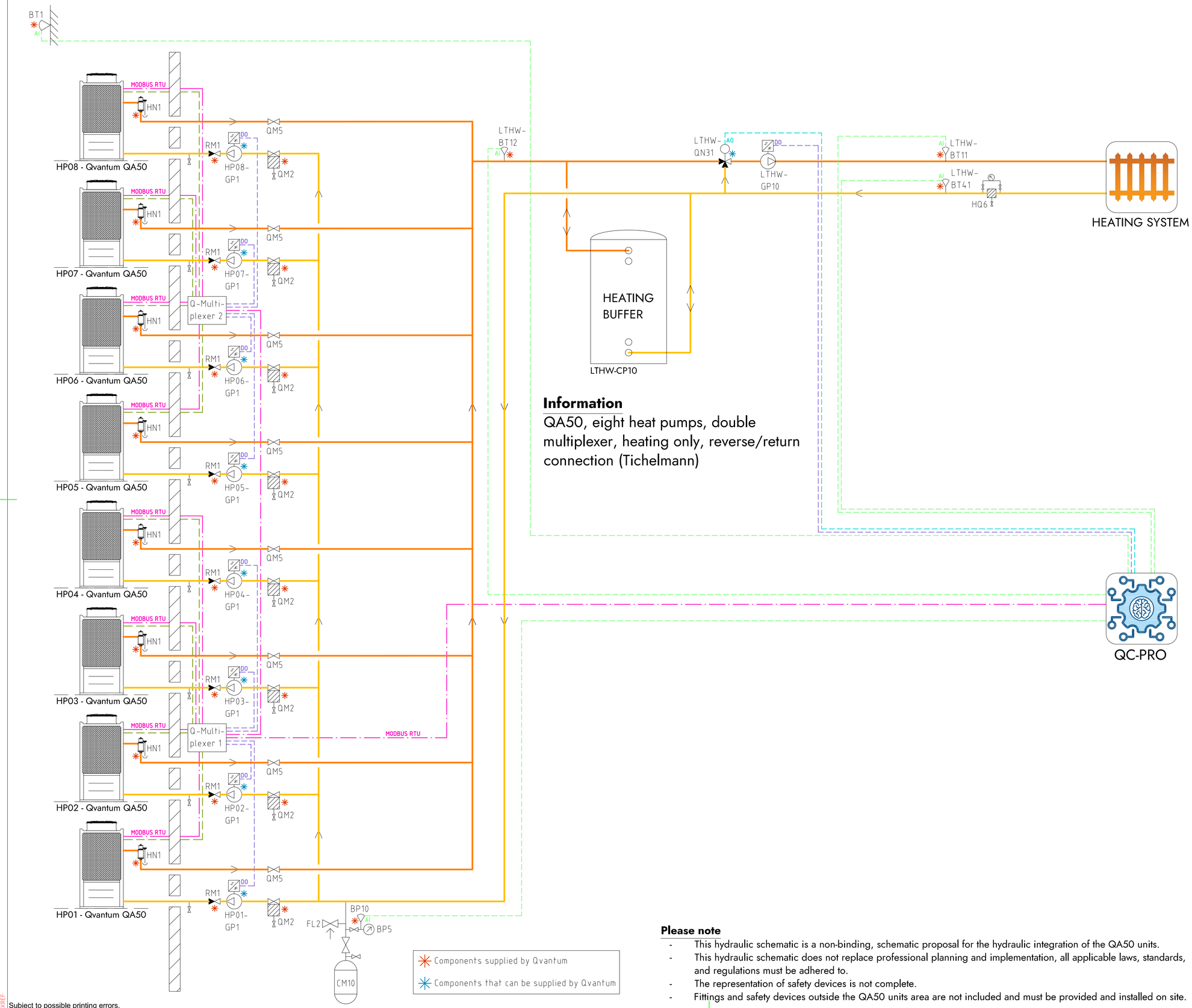
Classification of objects in accordance with IEC 81346-2.



Information

QA50, eight heat pumps, double multiplexer, heating only, reverse/return connection (Tichelmann)

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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HEAT PUMPS FOR SUSTAINABLE CITIES

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

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JE	QA50-50-8-800	146

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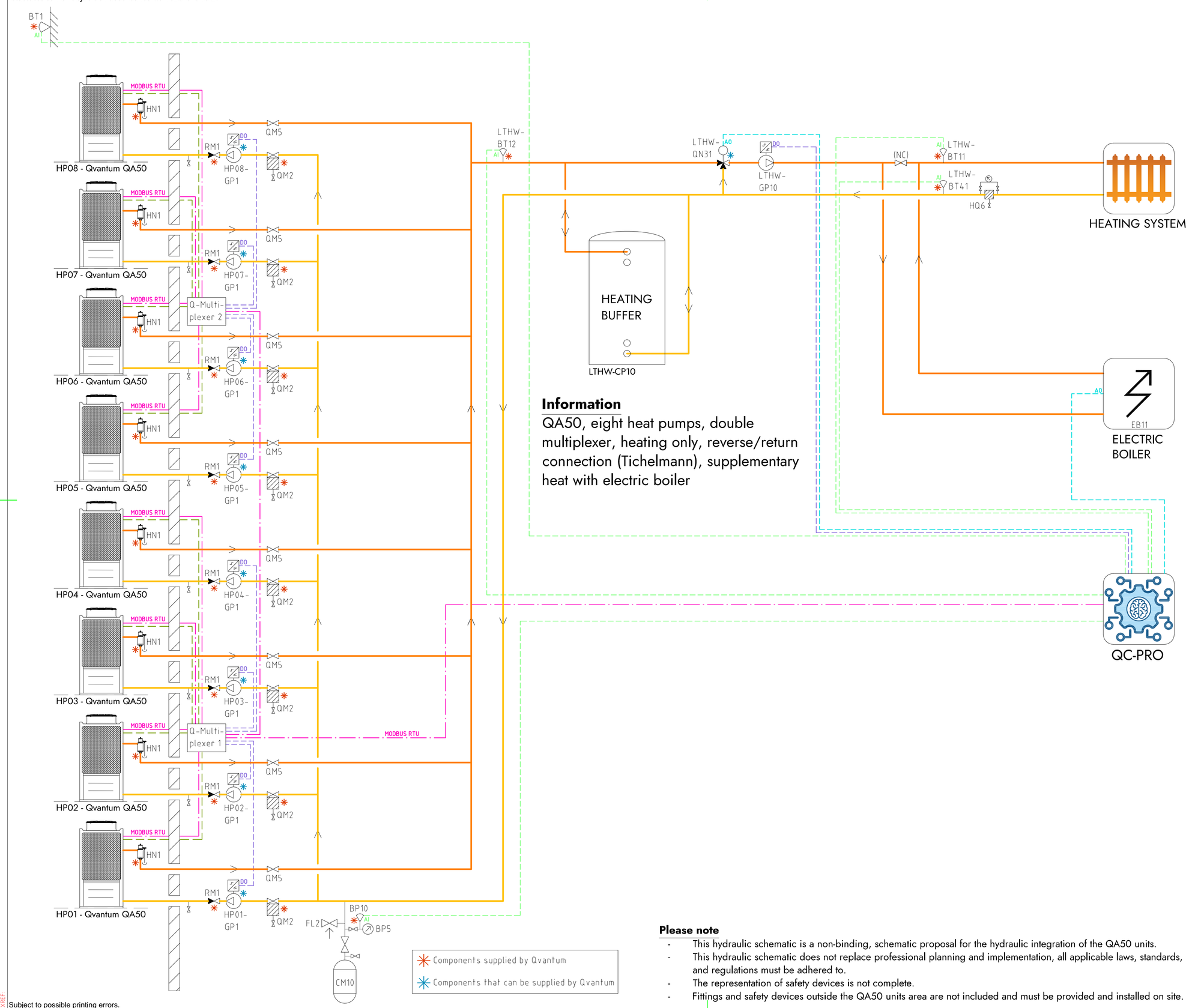
Classification of objects in accordance with IEC 81346-2.



Information

QA50, eight heat pumps, double multiplexer, heating only, reverse/return connection (Tichelmann), supplementary heat with electric boiler

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

EB11	Electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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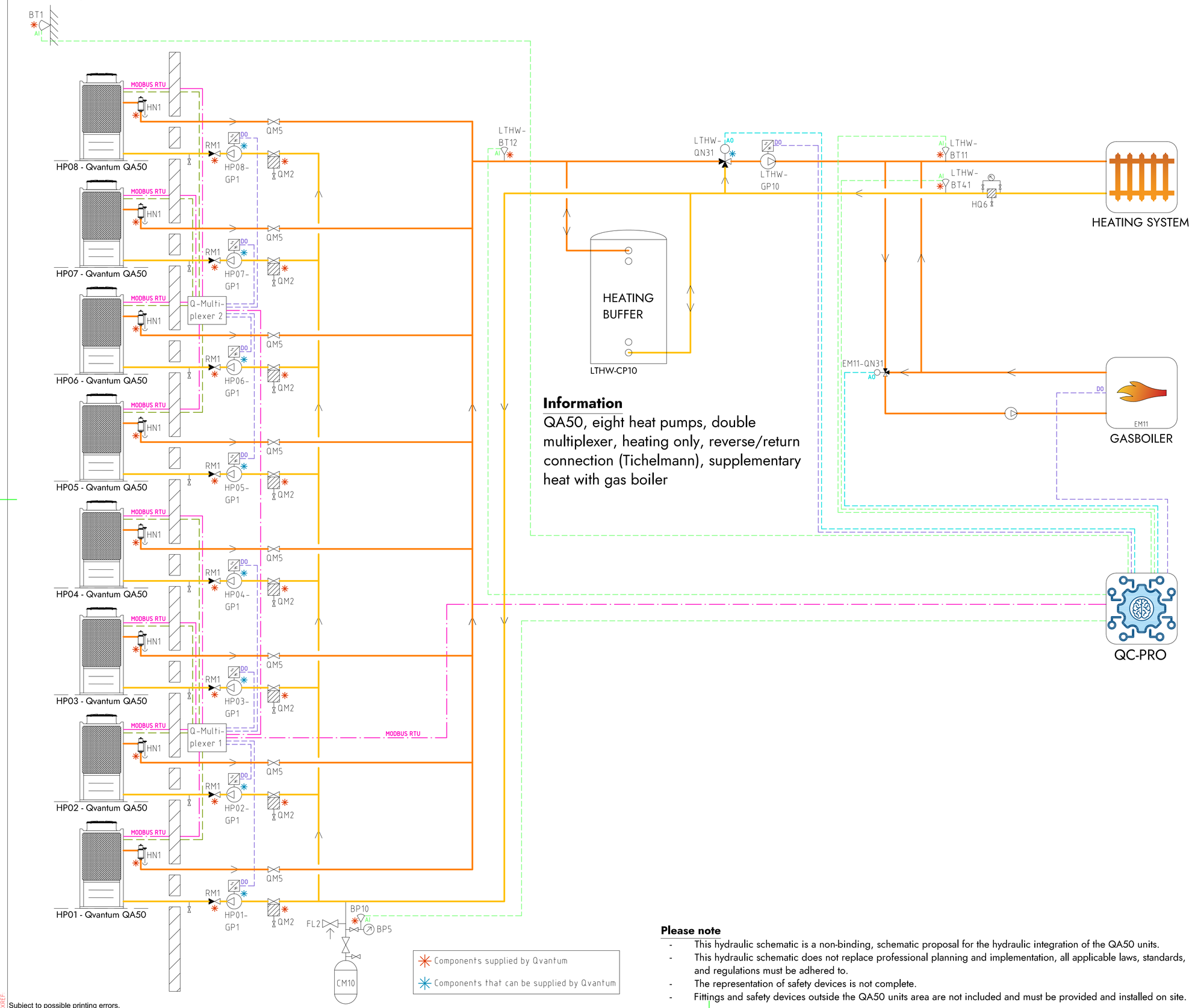
Classification of objects in accordance with IEC 81346-2.



Information

QA50, eight heat pumps, double multiplexer, heating only, reverse/return connection (Tichelmann), supplementary heat with gas boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

EM11	Gas boiler
EM11-QN31	Mixing valve, Gas boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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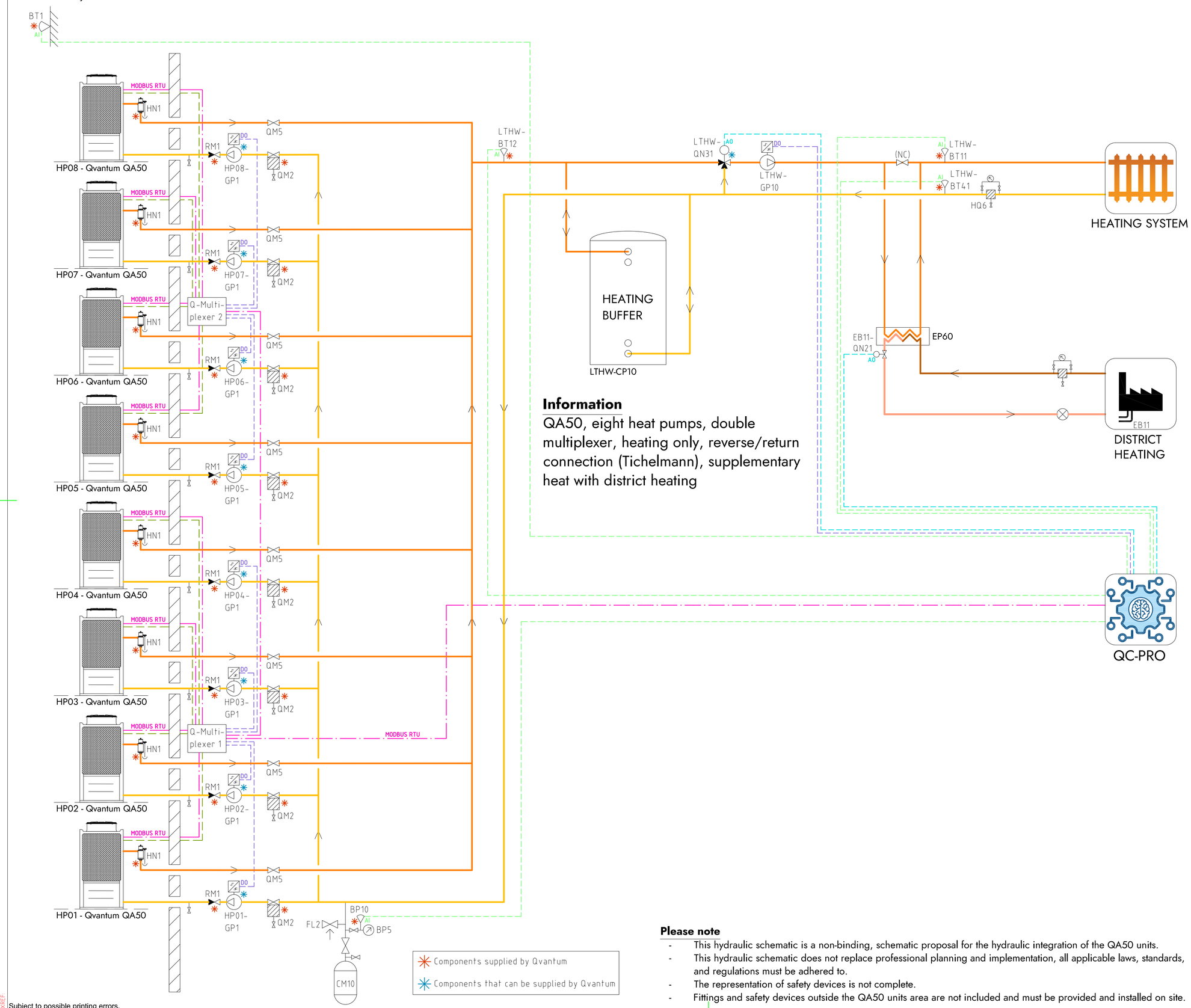
Classification of objects in accordance with IEC 81346-2.



Information

QA50, eight heat pumps, double multiplexer, heating only, reverse/return connection (Tichelmann), supplementary heat with district heating

Components supplied by Qvantum

Components that can be supplied by Qvantum

Please note

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COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

EB11	District heating
EB11-QN21	Control valve, district heating
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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HEAT PUMPS FOR SUSTAINABLE CITIES

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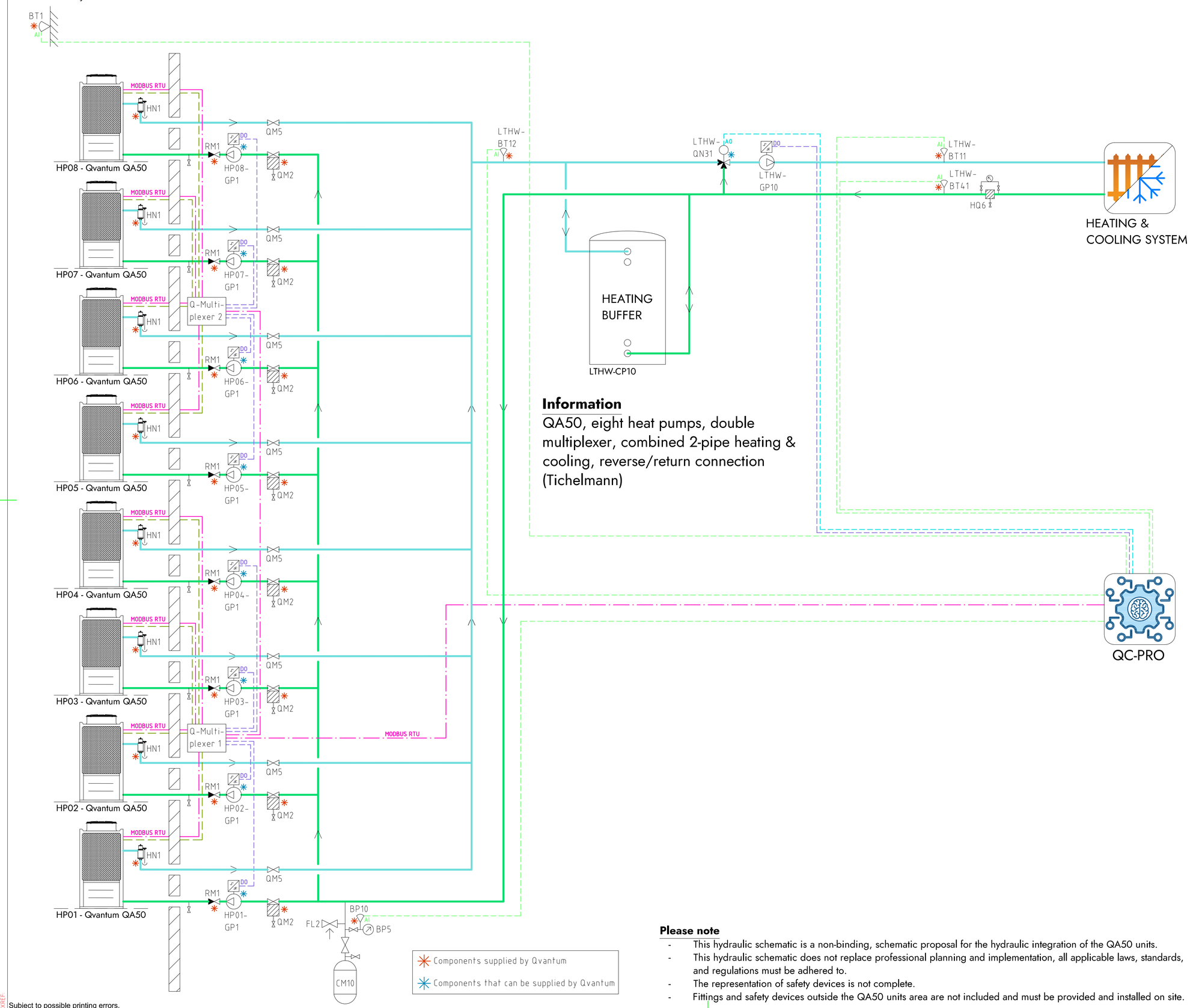

Information

QA50, eight heat pumps, double multiplexer, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann)

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

Please note

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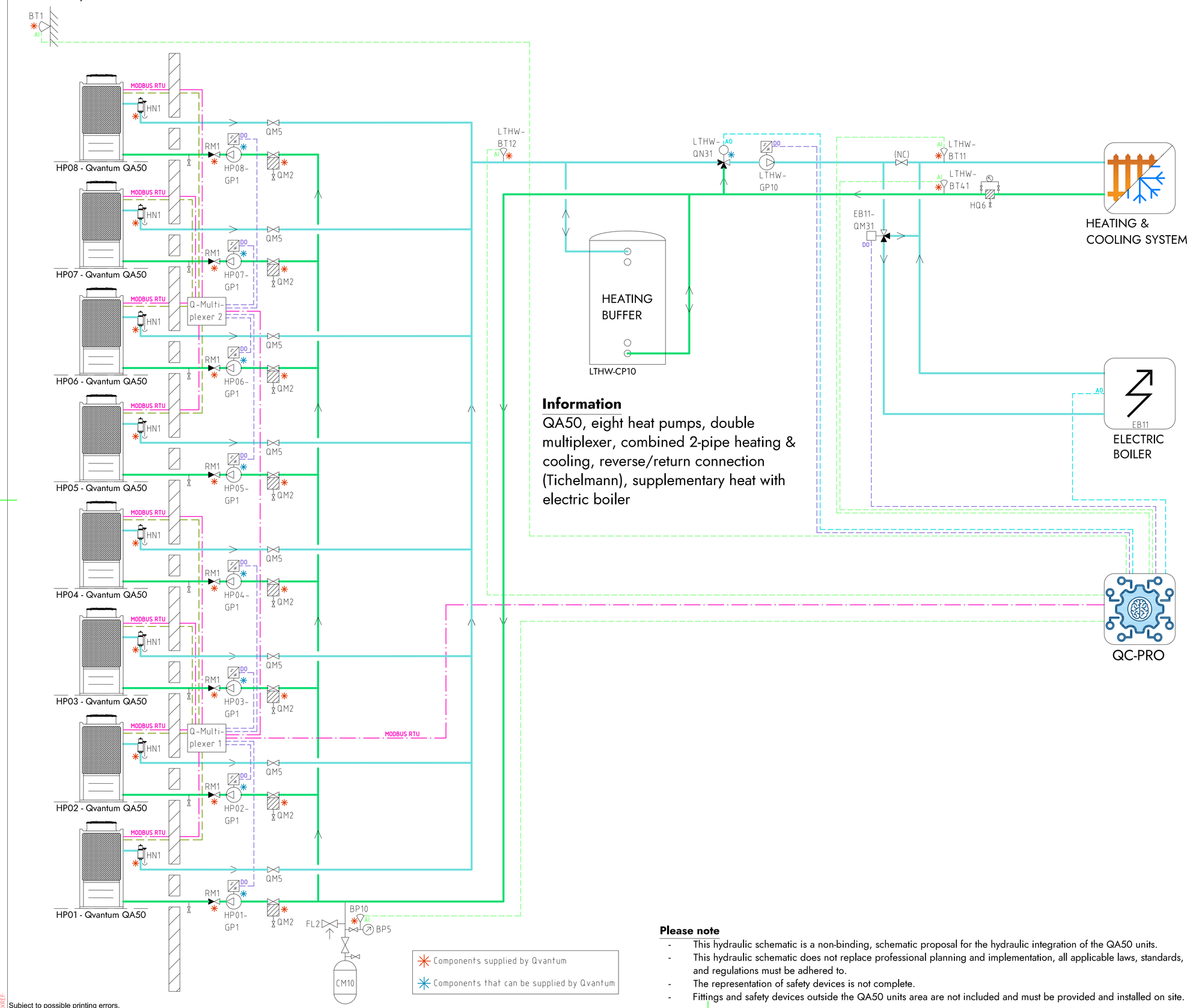

Information

QA50, eight heat pumps, double multiplexer, combined 2-pipe heating & cooling, reverse/return connection (Tichelmann), supplementary heat with electric boiler

Components supplied by Qvantum

Components that can be supplied by Qvantum

COMPONENT DESIGNATIONS

GENERAL

BT1	Outdoor temperature sensor
BP10	Pressure sensor (expansion)
CM10	Expansion vessel
FL2	Safety valve (expansion)
HN1	Gas separator
HQ6	Strainer, heating system
RM1	Non return valve
QM2	Filterball
QM5	Isolation valve
QC-Pro	Qvantum controller

HEAT PUMPS

HP01-GP1	Circulation pump, heat pump 1
HP02-GP1	Circulation pump, heat pump 2
HP03-GP1	Circulation pump, heat pump 3
HP04-GP1	Circulation pump, heat pump 4
HP05-GP1	Circulation pump, heat pump 5
HP06-GP1	Circulation pump, heat pump 6
HP07-GP1	Circulation pump, heat pump 7
HP08-GP1	Circulation pump, heat pump 8

SYSTEM LTHW

EB11	Electric boiler
EB11-QM31	Switching valve, electric boiler
LTHW-BT11	Flow temperature, main heat system
LTHW-BT12	Flow temperature, primary heat system
LTHW-BT41	Return temperature, main heat system
LTHW-CP10	Heating buffer
LTHW-GP10	Circulation pump, main heat system
LTHW-QN31	Mixing valve, main heat system

COMPONENT SYMBOLS

- Circulation pump
- Temperature sensor
- 3-way control valve, modulating actuator
- Strainer
- Isolation valve
- Non return valve
- Safety valve

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QVANTUM
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Solution and Heat Pump Experts

Qvantum was founded 1993 with a vision to develop innovative high quality heat pumps.
Today Qvantum continues on this path developing the solutions needed for decarbonization of our cities.

Qvantum is also a company with leading experts in the design of the next generation (5th) district heating and cooling solutions for dense urban areas.

By combining these competence areas, Qvantum can provide solutions that will make it easier for Engineering consultants,
Installers, Project developers and Utilities, to decarbonize the heating and cooling of our cities.