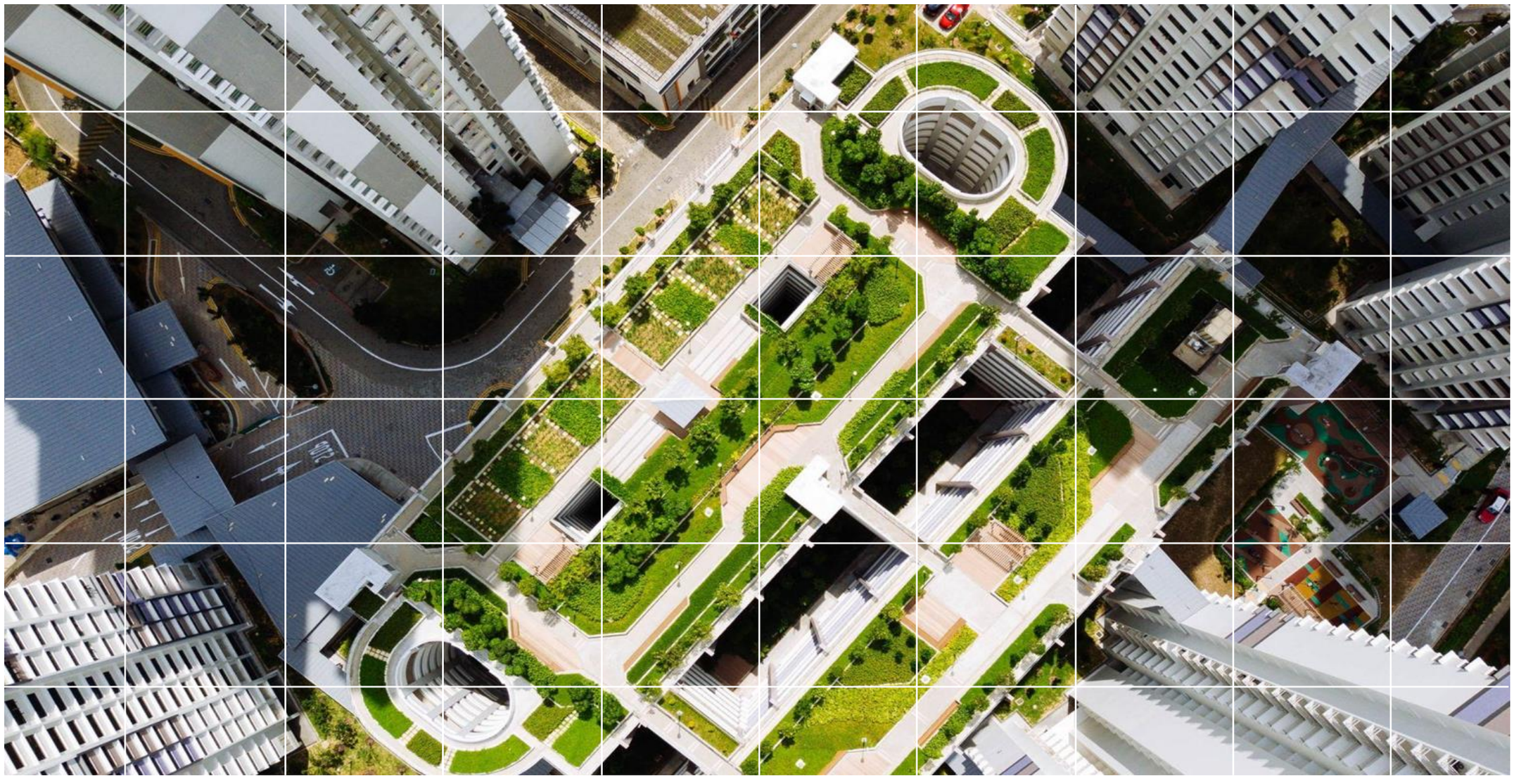
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES



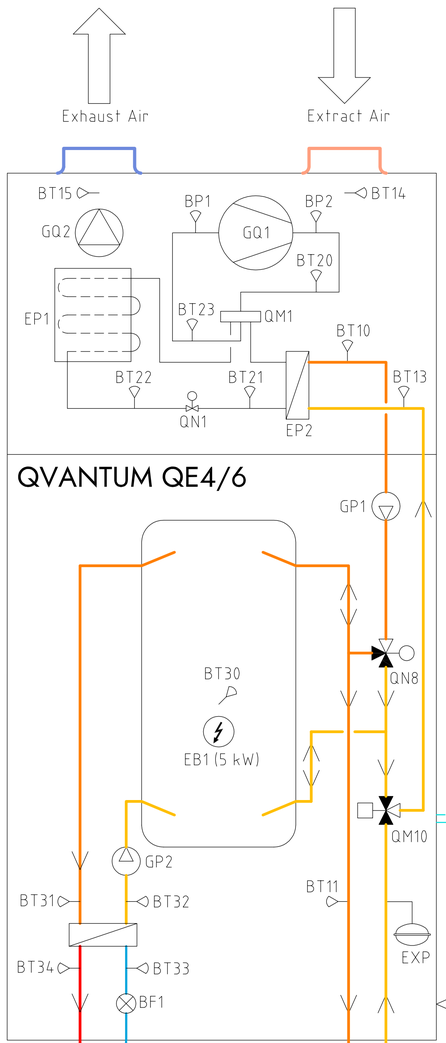
QVANTUM QE - DOCKING PRINCIPLES

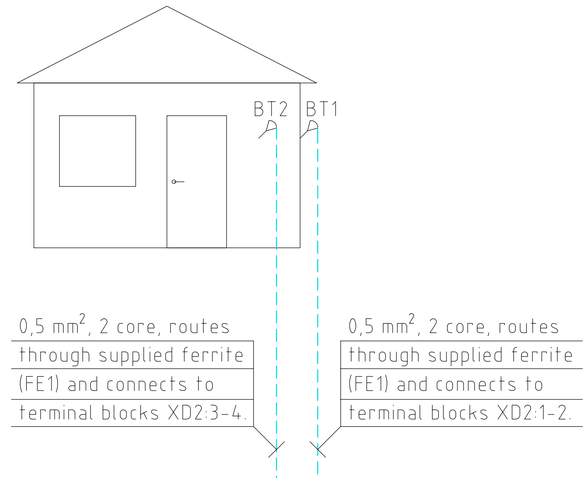
QVANTUM QE - DOCKING PRINCIPLES

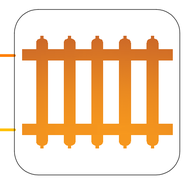
CONTENTS

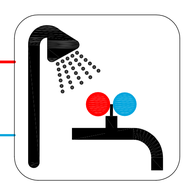
QE heat pumps

Information
Heating & hot water









EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water

BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

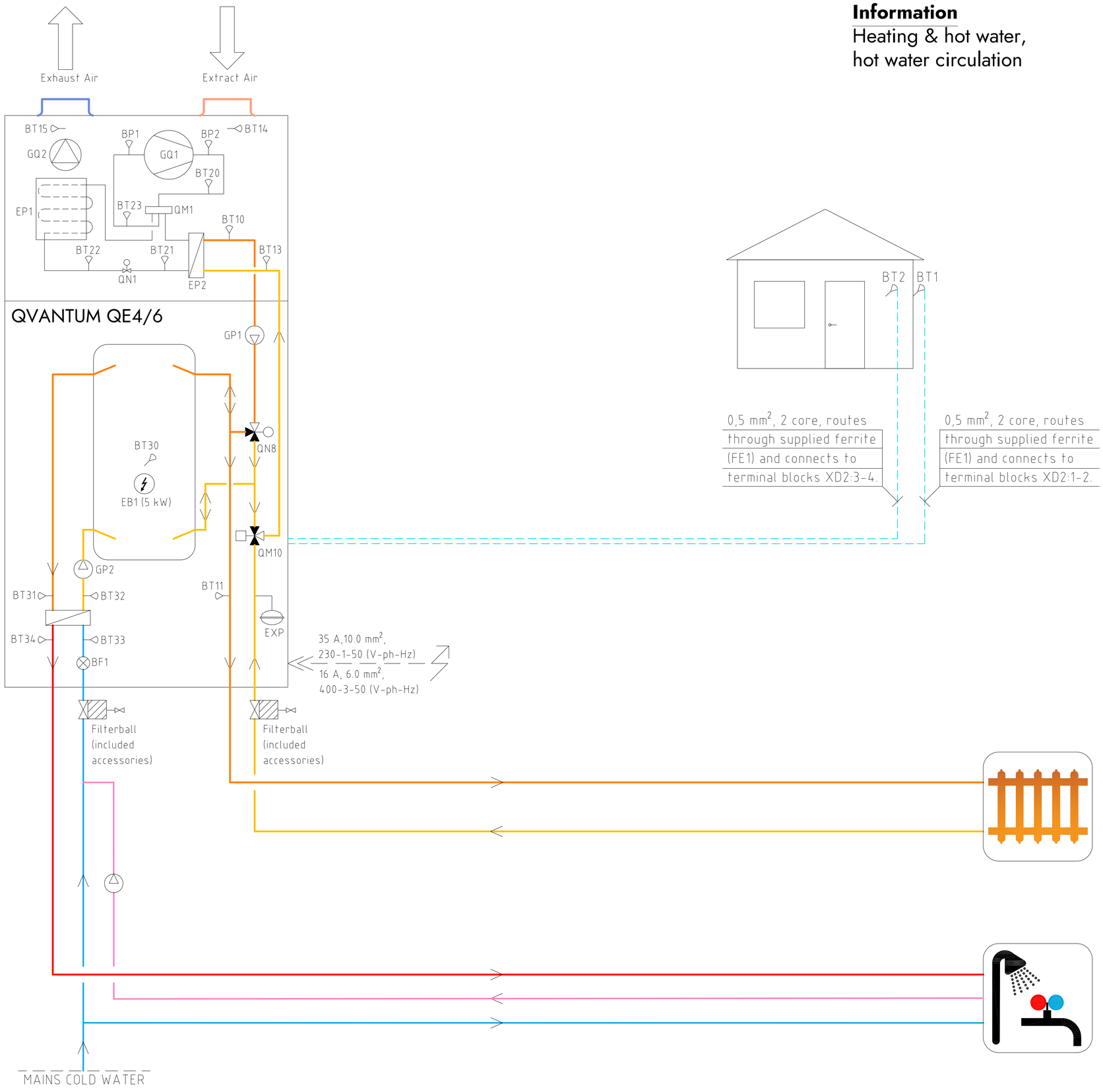
PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-001	
–		

XREF:
LAGER: SB11

PLOT: 2024-06-19 19:08 J:\QVANTUM\01 INTERN\10S RITNINGAR\DOCKNINGSPRINCIPER\QVANTUM QE&RITQE - DOCKNINGSPRINCIP.DWG JONAS



Information

Heating & hot water,
hot water circulation

EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

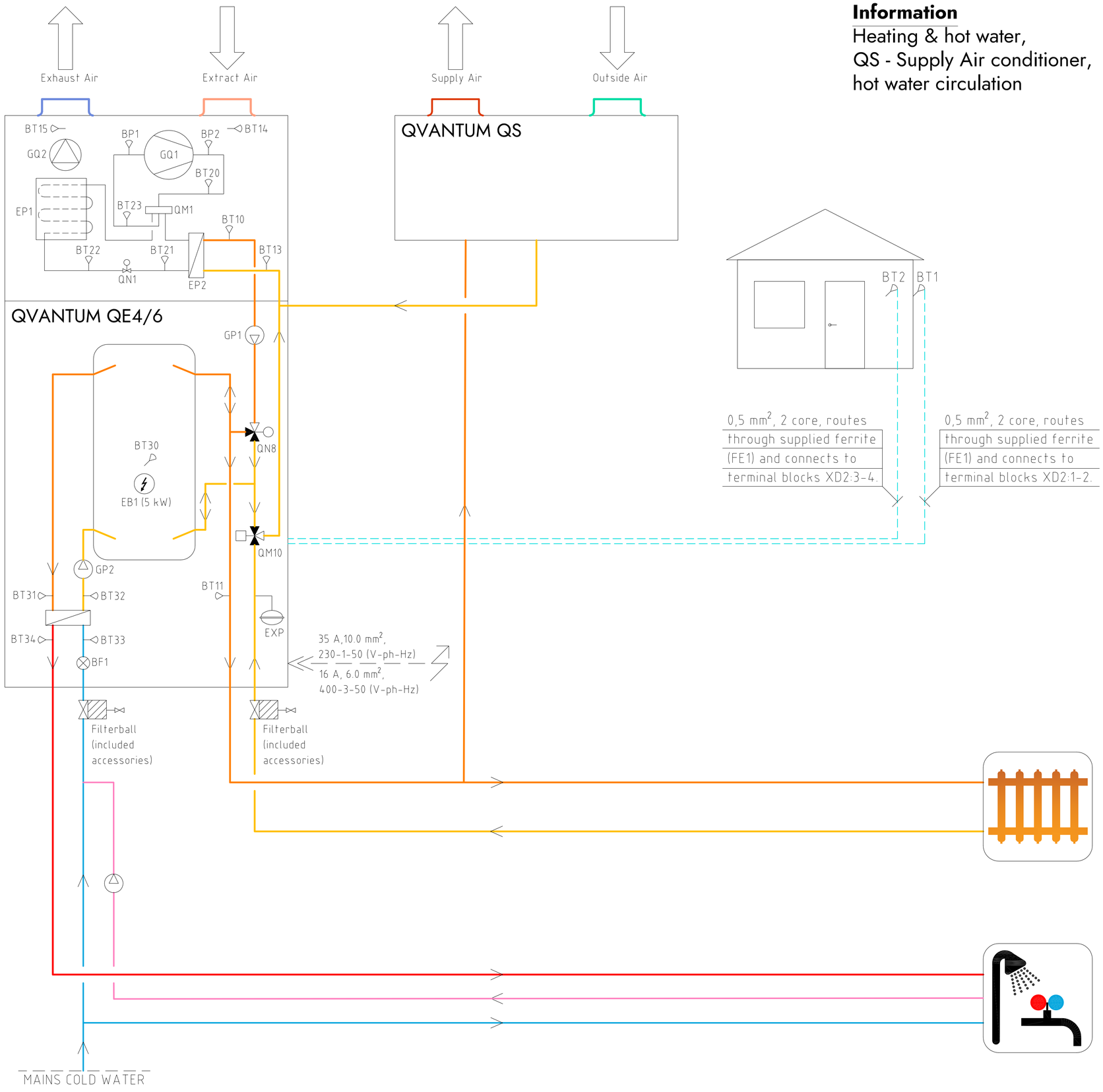
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER: –	DRAWN BY: J.E.	MANAGED BY:
DATE: –	APPROVED BY:	

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-002	
–		



Information

Heating & hot water,
QS - Supply Air conditioner,
hot water circulation

EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

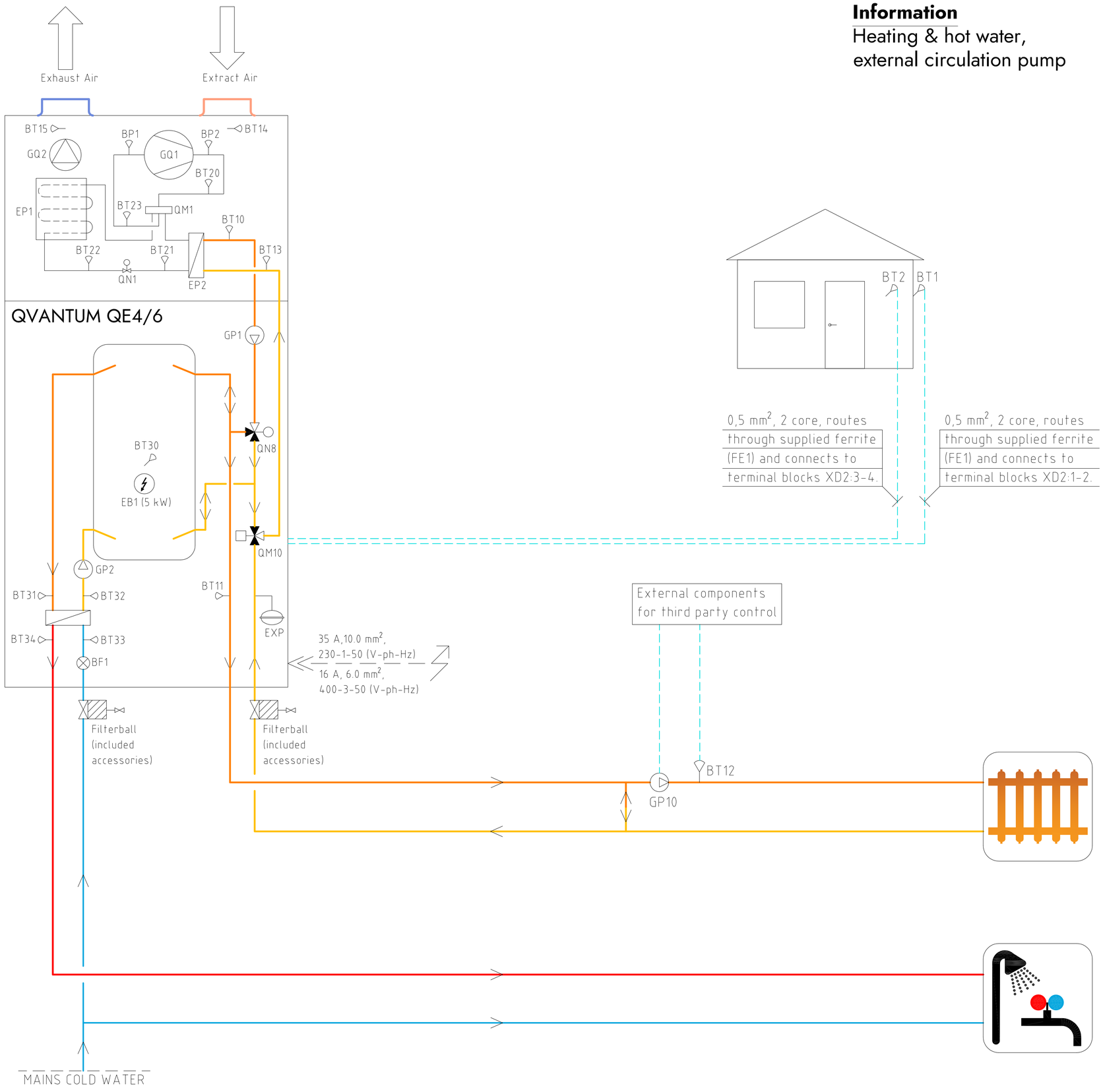
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-003	
–		



Information

Heating & hot water, external circulation pump

EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

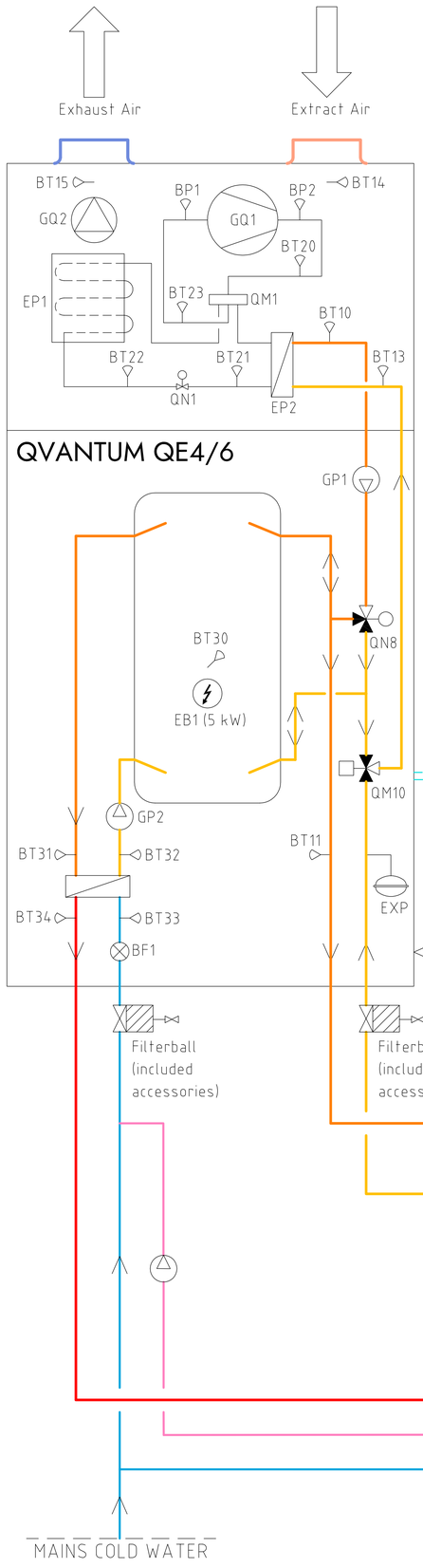
PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

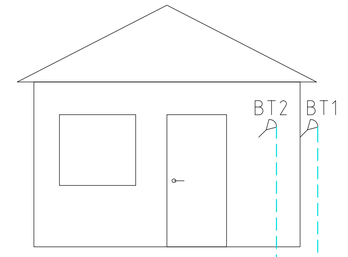
Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-004	
–		

Information

Heating & hot water,
external circulation pump,
hot water circulation

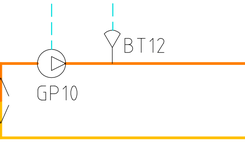


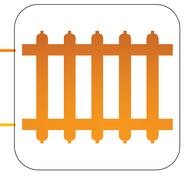


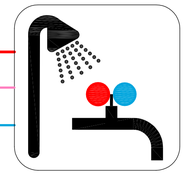
0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:3-4.

0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:1-2.

External components for third party control







EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

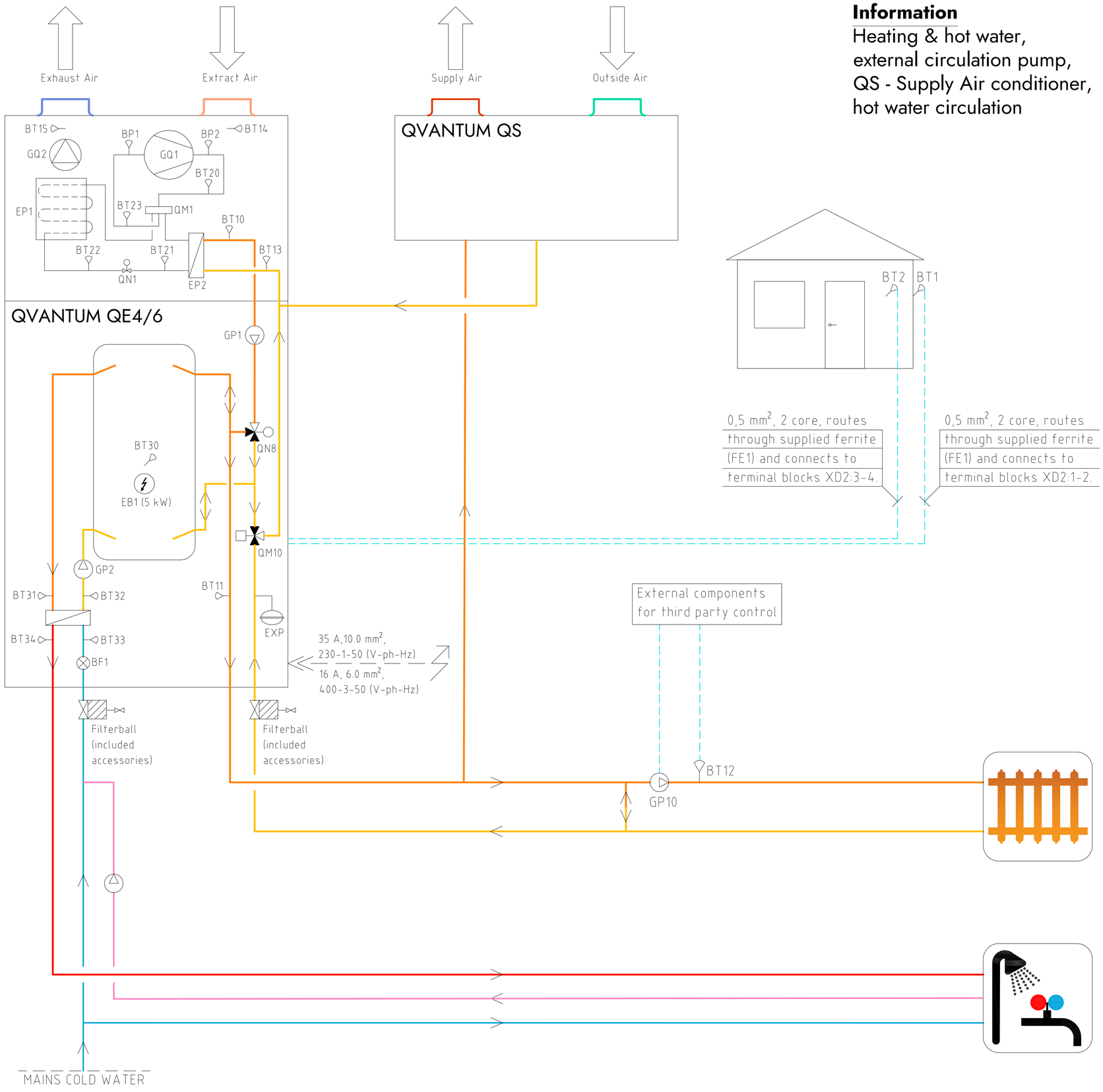
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-005	
–		



Information

Heating & hot water,
external circulation pump,
QS - Supply Air conditioner,
hot water circulation

EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

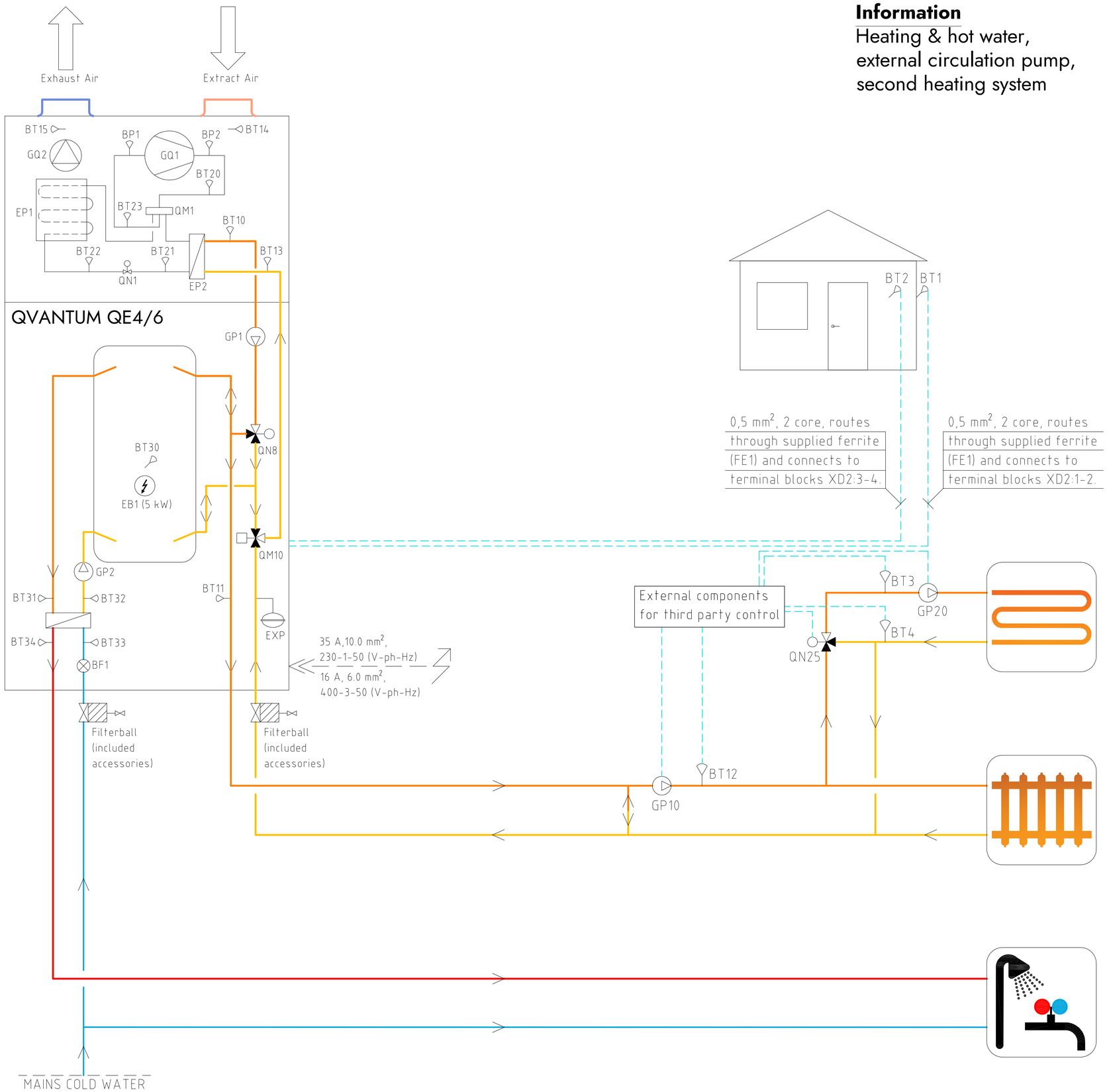
PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-006	
–		

Information

Heating & hot water,
external circulation pump,
second heating system



EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating
BT3	Heating flow, sec heating
BT4	Heating return, sec heating
GP20	Circulation pump, sec heating
QN25	Shunt valve, sec heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

A	XXX	phone XXX-XXX	fax XXX-XXX
K	XXX	phone XXX-XXX	fax XXX-XXX
E	XXX	phone XXX-XXX	fax XXX-XXX
V	XXX	phone XXX-XXX	fax XXX-XXX
SPR	XXX	phone XXX-XXX	fax XXX-XXX
BR	XXX	phone XXX-XXX	fax XXX-XXX
M	XXX	phone XXX-XXX	fax XXX-XXX
PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

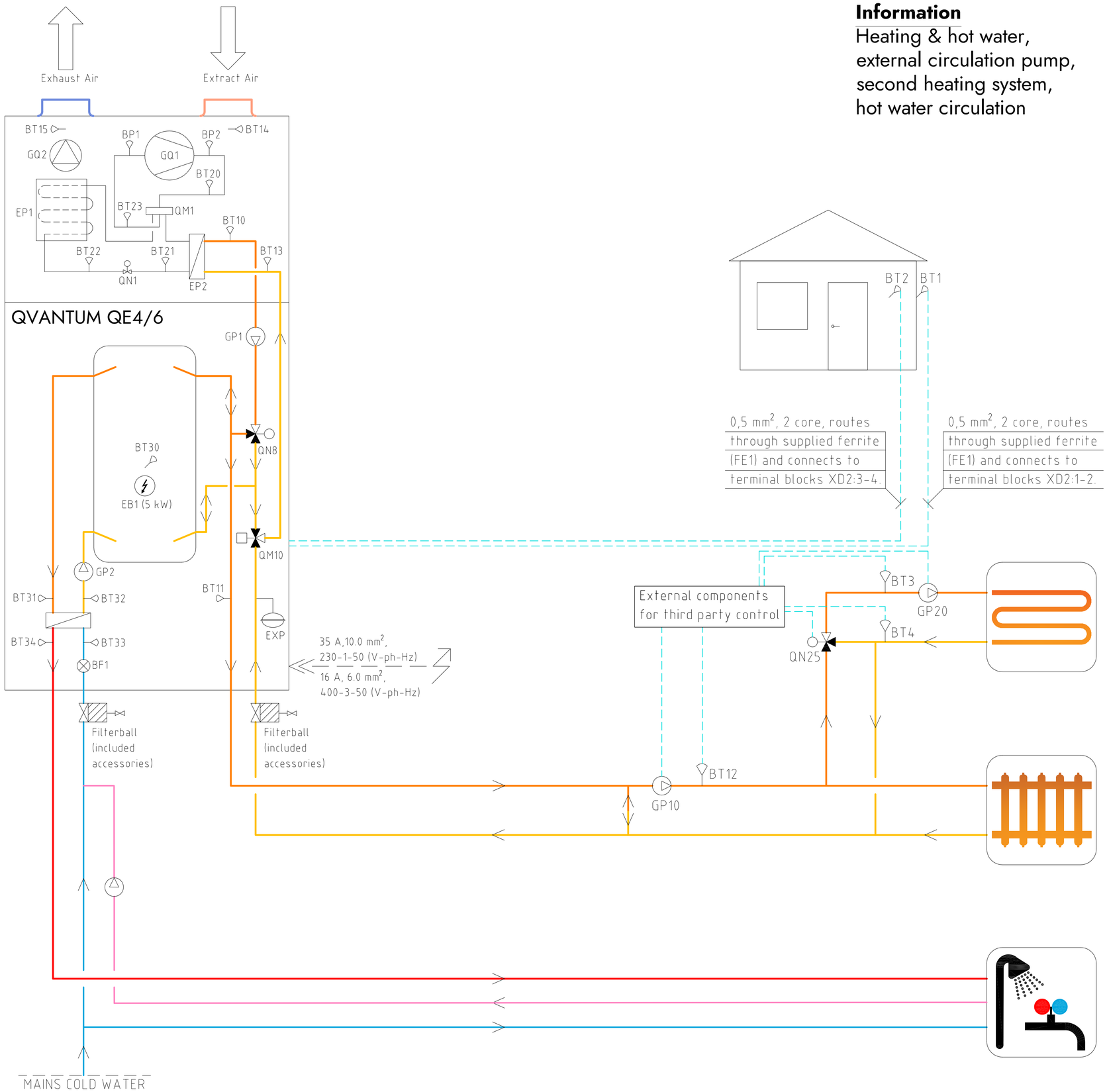
PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-007	

Information

Heating & hot water,
external circulation pump,
second heating system,
hot water circulation



EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating
BT3	Heating flow, sec heating
BT4	Heating return, sec heating
GP20	Circulation pump, sec heating
QN25	Shunt valve, sec heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

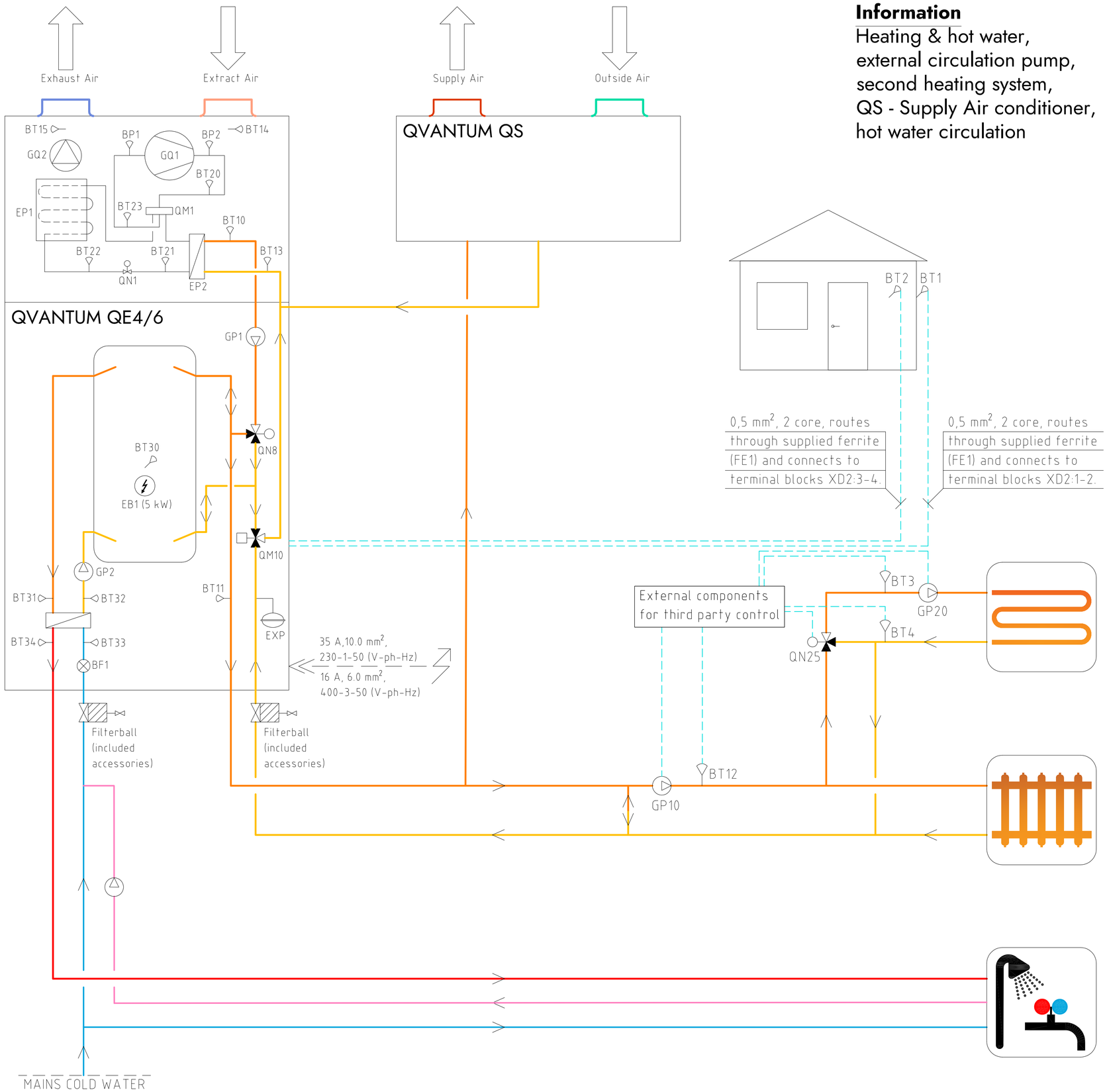
QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

A	XXX	phone XXX-XXX	fax XXX-XXX
K	XXX	phone XXX-XXX	fax XXX-XXX
E	XXX	phone XXX-XXX	fax XXX-XXX
V	XXX	phone XXX-XXX	fax XXX-XXX
SPR	XXX	phone XXX-XXX	fax XXX-XXX
BR	XXX	phone XXX-XXX	fax XXX-XXX
M	XXX	phone XXX-XXX	fax XXX-XXX
PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-56-8-008	



Information

Heating & hot water,
external circulation pump,
second heating system,
QS - Supply Air conditioner,
hot water circulation

EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor
BT12	External flow temperature
GP10	External circulation pump, heating
BT3	Heating flow, sec heating
BT4	Heating return, sec heating
GP20	Circulation pump, sec heating
QN25	Shunt valve, sec heating

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

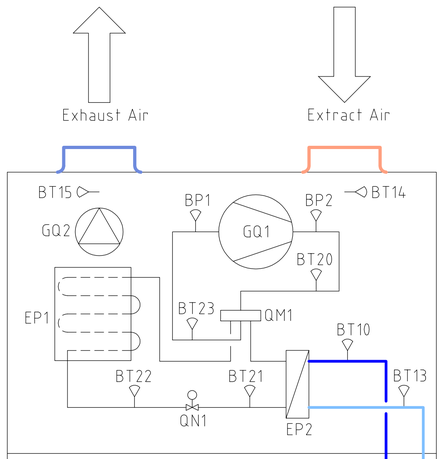
A	XXX	phone XXX-XXX	fax XXX-XXX
K	XXX	phone XXX-XXX	fax XXX-XXX
E	XXX	phone XXX-XXX	fax XXX-XXX
V	XXX	phone XXX-XXX	fax XXX-XXX
SPR	XXX	phone XXX-XXX	fax XXX-XXX
BR	XXX	phone XXX-XXX	fax XXX-XXX
M	XXX	phone XXX-XXX	fax XXX-XXX
PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

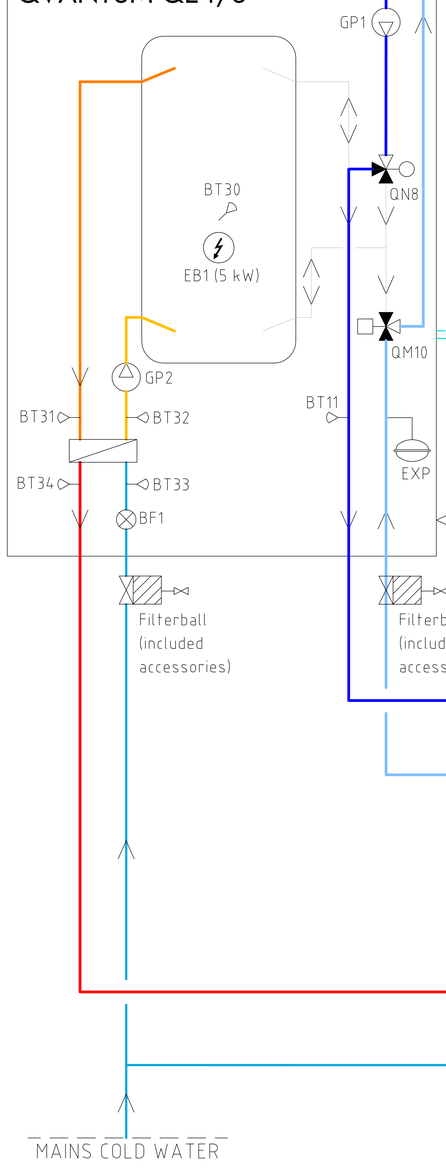
Qvantum Industries
QE series - docking principle
QE4 & QE6

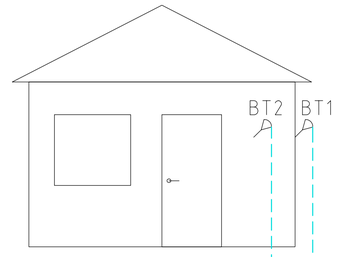
SCALE	DRAWING NUMBER	REV
–	QE46-56-8-009	

Information
Cooling & hot water



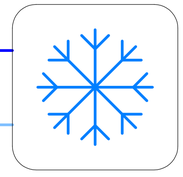
QVANTUM QE4/6

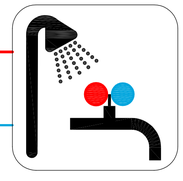




0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:3-4.

0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:1-2.





EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water
BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

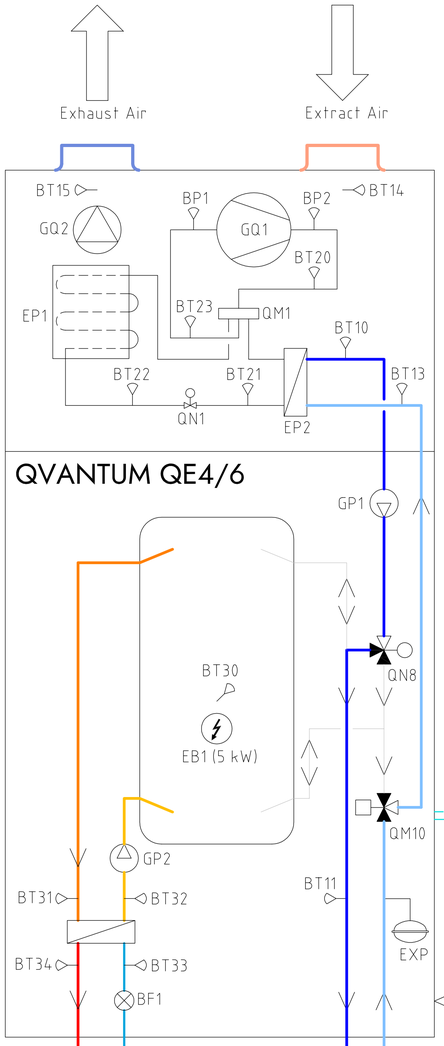
PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

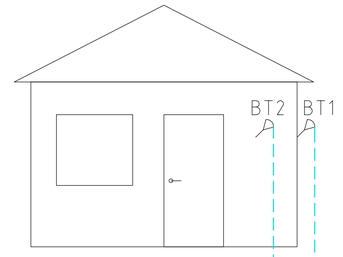
Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-55-8-001	
–		

Information

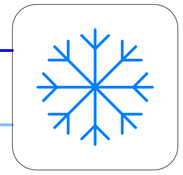
Cooling & hot water,
hot water circulation





0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:3-4.

0,5 mm², 2 core, routes through supplied ferrite (FE1) and connects to terminal blocks XD2:1-2.



EXPLANATION

GQ1	Compressor
GQ2	Fan
EP1	Evaporator
EP2	Condenser
QM1	4-way valve
QM10	Diverting valve
QN8	Shunt valve
EB1	Immersion heater
GP1	Circulation pump heating
GP2	Circulation pump hot water

BT1	Outdor sensor
BT2	Room sensor
BT10	Condenser outlet
BT11	Heating flow temperature
BT13	Condenser inlet
BT14	Extract air inlet
BT15	Exhaust air outlet
BT20	Discharge temperature
BT21	Liquid line temperature
BT22	Evaporating temperature
BT23	Suction gas temperature
BT30	Tank temperature
BT31	Plate heat exchanger inlet
BT32	Plate heat exchanger outet
BT33	Cold water inlet
BT34	Hot water outet
BP1	Suction gas pressure
BP2	Discharge pressure
BF1	Flow sensor

REV	REVISION TYPE	DATE	SIGN
PHASE	–		

QVANTUM INDUSTRIES
QE series- docking principle
QE4 & QE6

QVANTUM
HEAT PUMPS FOR SUSTAINABLE CITIES

	A	XXX	phone XXX-XXX	fax XXX-XXX
	K	XXX	phone XXX-XXX	fax XXX-XXX
	E	XXX	phone XXX-XXX	fax XXX-XXX
	V	XXX	phone XXX-XXX	fax XXX-XXX
	SPR	XXX	phone XXX-XXX	fax XXX-XXX
	BR	XXX	phone XXX-XXX	fax XXX-XXX
	M	XXX	phone XXX-XXX	fax XXX-XXX
X	PW	PIPEWORK	phone XXX-XXX	fax XXX-XXX

PROJECT NUMBER	DRAWN BY	MANAGED BY
–	J.E.	
DATE	APPROVED BY	
–		

Qvantum Industries
QE series - docking principle
QE4 & QE6

SCALE	DRAWING NUMBER	REV
–	QE46-55-8-002	
–		